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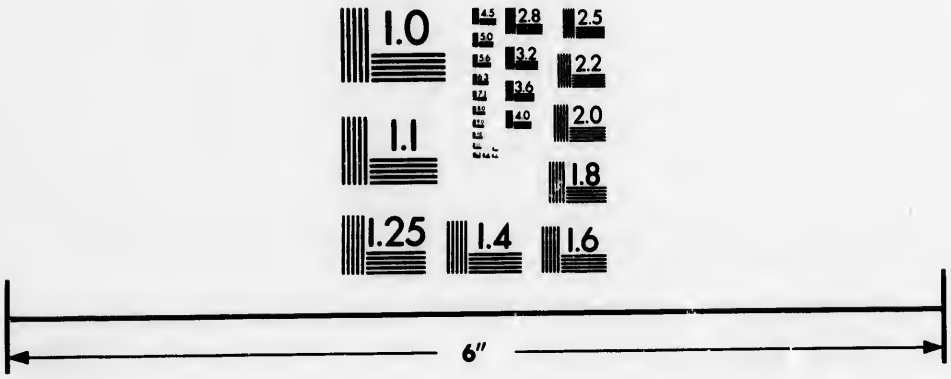

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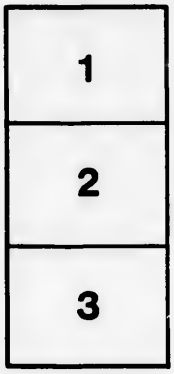

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PREFACE
TO ELDRIDGE'S COAST PILOT,
NO. 1.

After an experience of more than thirty years in surveying and compiling Charts of different parts of the coast of the United States of America, for the use of Mariners, and also obtaining information from every known source of marine intelligence which the country at the present time affords, the author is confident that this work will meet the wants of a large class of seamen who have heretofore given his publications the preference. His aim has not been beauty of style or language, but clearness and accuracy. The shifting nature of certain parts of the Coast, together with the change in Buoys, Lights, etc., may occasionally present deviations from the present directions. With these imperfections, he presents Pilot, No. 1, to the public, hoping that it may long prove a safe and unerring guide to those who navigate within its limits.

In a work of this kind absolute accuracy is nearly impossible. Mariners are therefore earnestly requested to note all errors or omissions which they may discover, and forward the same to the author.

GEORGE ELDRIDGE,
Hydrographer.

CHATHAM, MASS.

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IMPORTANT TO MARINERS.

My experience during the last thirty years in making surveys for the purpose of constructing Marine Charts, demonstrates great uncertainty in the use of the Mariner's Compass, both on sea and land. I have no doubt that many of the shipwrecks that are constantly occurring, are in consequence of its not being known that the Compass was deranged from the effects of the local attraction of iron or other magnetic substances accidentally placed within the reach of its influence on the needle on board the vessel. These unsuspected causes may also exist and powerfully attract the Compass in the iron used in the construction of the vessel, also in cargoes, such as iron, coal, etc.

In the construction of vessels no magnetic material should be allowed within ten feet of the Compass, and superintendents of building should allow none but the purest non-magnetic copper or composition which has been selected and carefully tested to be placed within the above mentioned distance from the Binnacle.

No class of men appear more ignorant of the uncertainties of the Magnetic Needle from various causes, than Mariners. The most of them make no effort to test their Compasses in fine weather, and are therefore helpless in ascertaining what course they are steering in thick or bad weather.

The Liquid Compass, though a superior instrument in many respects, especially in traversing quickly in smooth water, and not oscillating in rough water, is no protection as many suppose from the evils arising from local attraction.

From the above, the intelligent Mariner, by inspecting the Pilot, will readily perceive that an error in the course may lead to difficulty. In order therefore to insure confidence and safety in sailing at night or in thick weather into harbors, rivers, bays, and also through sounds, his Compass should be tested often.

GEORGE ELDRIDGE,
Hydrographer.

INDEX.

HARBORS, RIVERS, BAYS, SOUNDS, &c.

SAILING DIRECTIONS.

ANCHORAGES.

Dangers Off the Coast.

CURRENTS.

GEORGE'S SHOALS.

These shoals, which lie upon the Northwestern part of George's Bank, extend nearly **N.** by **W.** ½ **W.**, and **S.** by **E.** ½ **E.**, 17 miles. In 1856 the least depth of water upon them was 12 feet; this depth lies in Latitute 41° 39′ ½ **N.**, and Longitude 67° 42′ ½ **W.** The currents set strong across these shoals, and the depth of water upon them, undoubtedly, like those in the vicinity of Nantucket, varies with every heavy gale. By inspecting Eldridge's Chart, No. 2, from Cape Henry to Cape Sable, a better idea can be obtained of George's Bank and Shoals, than by any written description. Heavy draught vessels should beware of George's Shoals.

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Bearings and Distances from 12-foot Shoal on George's Bank.

	Distance.
New South Shoal Lightship, **W.** by **S.** ¼ **S.**	105 miles.
Chatham Lighthouses, **W.** by **N.** ⅛ **N.**	99 "
Cape Cod (Highland) Lighthouse, **NW.** by **W.** ⅞ **W.**	106 "
Thatchers Island Lighthouses, Cape Ann, **NW.** ¾ **W.**	139 "
Cape Elizabeth Lighthouses, **NW.** by **N.** ¼ **N.** . .	156 "
Seguin Lighthouse, **N.NW.**	151 "
Monhegan Island Lighthouse, **N.** by **W.** ½ **W.** . .	144 "
Mt. Desert Rock Lighthouse, **N.** ½ **E.**	138 "
Cape Sable Lighthouse, **NE.** by **E.**	139 "

Turning of the Current in South Channel, between George's Bank and Nantucket Shoals.

In this channel between George's Bank and Nantucket Shoals, in from 30 to 40 fathoms water, the current commences to run Northerly about the time of low water in Boston, and Southerly nearly the same time it is high water at that place. 15 miles to the Eastward of George's Shoals the current was found to turn about 45 minutes sooner than in the South Channel. The current, in changing, always goes round with the sun, and is seldom still.

CULTIVATOR SHOAL.

About 20 miles to the Westward of George's Shoals, near the Western edge of the Bank, are several spots having from 7 fathoms to 17 feet water upon them; this last named danger, which lies in Latitude 41° 37′ ½ **N.** and Longitude 68° 13′ **W.** is called Cultivator Shoal, so named from the ship Cultivator, which struck upon it when drawing twenty-two ft. water.

Bearings and Distances from Cultivator Shoal.

	Distance.
New South Shoal Light Ship, **W.** by **S.** ⅜ **S.** . .	86 miles.
Chatham Lighthouses, **W.** by **N.** ¼ **N.**	80 "
Cape Cod (Highland) Lighthouse, **NW.** by **W.** ½ **W.**	87 "
Cape Ann (Thatchers Island) Lighthouses, **NW.** ¼ **W.**	123 "
Cape Elizabeth Lighthouses, **NW.** by **N.** ¾ **N.** . .	146 "
Monhegan Island Lighthouse, **N.** ⅝ **W.**	137 "

Cashe's Ledge.

The shoalest part of this Ledge, which has 24 feet water upon it, is a white flat Rock, about one hundred yards in diameter, and known as Ammen's Rock. About 4 miles to the Southwest of Ammen's Rock is another with 30 feet water upon it; heavy draught vessels should give this Ledge a wide berth.

Bearings and Distances from Ammen's Rock.

	Distance.
Cape Cod (Highland) Lighthouse, **SW.** by **W.** ¼ **W.**	76 miles.
Boston Lighthouse, **W.** ¾ **S.**	97 "
Cape Ann, (Thatchers Island) Lighthouses, **West.** .	78 "
Cape Elizabeth Lighthouses, **NW.** ¼ **N.**	69 "
Monhegan Island Lighthouse, **N.** ½ **W.**	54 "

The Latitude of Ammen's Rock is 42° 55′ **N.**, and Longitude 68° 53′ W.

☞ **The Bearings in this Book are by Compass, and Distance in Nautical Miles.**

ELDRIDGE'S COAST PILOT.

From Pollock Rip to Highland Light.

Chatham Lights.

These two Lighthouses, which show fixed White Lights, are located upon the mainland called James' Head; they are 100 feet apart, ranging North and South, and bear about North from Pollock Rip Light-ship; distance 8½ miles.

Nauset Lights.

These three Lighthouses, which show fixed White Lights, are located upon the Eastern part of Cape Cod, and bear N. by E. 11 miles from Chatham Lights; they are 150 feet apart, and range North and South.

Cape Cod Highland Light.

This Lighthouse, which shows a fixed White Light, is located upon the Eastern part of Cape Cod, and bears N. by W. from Nauset Three Lights, distance 12 miles. A Fog Trumpet is placed near the Lighthouse, giving blasts of 8 seconds at intervals of 30 seconds.

Bearings and Distances from Cape Cod Highland Light.

Boston Lighthouse, NW. ¾ W.	distance	41 miles.
Baker's Island Lighthouses, NW. ¾ N. . . .	"	43 ¾ "
Eastern Point Lighthouse, entrance to Gloucester Harbor, NW. by N. ½ N., ...	distance	42 miles.
Thatcher's Island Lighthouses, N. by W. ¾ W. .	"	42 ½ "
Boon Island Lighthouse, N. ¼ W.	"	67 ½ "
Cape Elizabeth Lighthouses, N. ¾ E.	"	92 "
Seguin Lighthouse, N. by E. ¾ E.	"	101 "
Manhegan Lighthouse, NE. by N. ¼ N. . . .	"	108 "
Mt. Desert Rock Lighthouse, NE. ½ E. . . .	"	143 "
Cape Sable Lighthouse, E. ¾ N.	"	212 "

Dangers.

New Harbor Bars.

In April, 1851, an inlet was opened by the furious storm waves through Nauset Beach about 1½ miles Northeasterly from Chatham Lighthouses. The current of Ebb, by its great strength and velocity, has carried seaward into deep water large quantities of sand, forming the dangerous shoals called Chatham New Harbor Bars, which lie in the direct track of vessels, especially with off-shore winds, bound east or west by way of Vineyard Sound. For several years a Nun Buoy has been placed off these Bars, but at night-time, with a smooth sea, there are neither marks nor bearings to warn the mariner of his approach to these dangerous shoals, and he is liable to mistake the main land for the beach, the latter being very deceptive on account of its being elevated but little above the water. From the best authority that can be obtained at the present time, 1879, there have been ashore upon these Bars, since their formation, including steamers and all other classes, 246 vessels; of this number, from 50 to 100 have been total losses. The above facts, together with my personal experience and observations, show these Bars to be the most dangerous spot on the coast of the United States. Vessels passing Chatham in thick weather or night-time, bound to the northward, should, therefore, when the lights bear **W.NW.**, make use of the lead, and not approach these Bars in less than 7 or 8 fathoms water. The above is reversed, bound to the southward.

The furious storm waves have also been gradually wearing away the beach to the southeastward of Chatham Lights, leaving dangerous Sand Bars which now extend a long distance from shore. Vessels, therefore, passing Chatham should, especially at night-time, give these dangerous Bars a wide berth. Since the above was written, a Whistling Buoy* has been placed off these Bars in about 7 fathoms water.

Bearings and Distances from this Buoy.

Chatham Lighthouses,	**W.** ¾ **S.**,	distance,	2¼ miles.
Pollock Rip Light-ship,	**S.** by **W.** ¼ **W.**,	"	9¼ "
Monomoy Lighthouse,	**SW.** ¾ **S.**,	"	8½ "

* The Whistling Buoy off New Harbor Bars has been moved to a point about 3½ miles NE. ½ N. from Pollock Rip Light-ship. At this date (July, 1883), there is no buoy to mark these dangers.

Between New Harbor Bars and Cape Cod Highland Light there are Sand Bars which extend off some distance from shore. To avoid these dangers, vessels of 12 feet draught should not approach the land nearer than three quarters of a mile.

Sailing Directions from Pollock Rip to Cape Cod Highland Light in Daytime, with favorable winds and fair weather.

The Buoy off New Harbor Bars bears **N.** by **E.** ¼ **E.** from Pollock Light Ship; distance 9½ miles. Vessels leaving Broken Part of Pollock Rip, in either channel, should make good the course **N.NE.** until abreast of the Buoy off these bars, then follow the shore, keeping at least three quarters of a mile from it to Highland Light.

Sailing Directions from Pollock Rip to Cape Cod Highland Light at Night-time, with favorable winds and fair weather.

From Broken Part of Pollock Rip make good the course **NE.** by **N.** ½ **N.** 11 miles, or until Nauset (three) Lights bear **N.** by **W.** ½ **W.**, then steer **N.** ¼ **W.**; in running this last course, Nauset Lights and Cape Cod Light will be left from 2 to 3 miles to the westward.

Sailing Directions from Pollock Rip to Cape Cod Highland Light in thick weather.

In order to avoid New Harbor Bars, vessels leaving the Broken Part of Pollock Rip in thick weather, in either of the channels, especially on the first of the Western Tide, with light winds, should make good the course **NE.** by **N.** 10½ miles, or until the water deepens to 20 fathoms: Chatham Lights will then bear **W.** ½ **S.**; distance 5¾ miles; Nauset Lights **N.** by **W.** ½ **W.** 11 miles.

By running **N.** ¼ **W.** from this last point, Nauset and Highland Lights will be left about 2½ miles to the westward.

Beating around Cape Cod.

Vessels beating to windward bound to the northward, or around Cape Cod, when abreast of Chatham Lights, should keep in shore, as the current sets to the southward quite strong, most of the time off shore, during northerly winds.

Advice to Vessels in thick weather bound from Cape Cod to Boston, Salem, or Cape Ann.

To the Eastward of the Cape the Tide or Current turns much sooner in shore than it does off shore. In 40 fathoms water, about **NE.** 4 miles distant from Cape Cod Highland Light, the current commences to run into the Bay about the time of low water in Boston, and commences setting out about the time of high water at this place. In from 30 to 40 fathoms water off Northeast from Highland Light, the direct course to Boston Lighthouse is **NW.** by **W.** ¼ **W.**, distance about 42 miles. Vessels in thick weather leaving the Cape, bound to Boston, Salem, or Cape Ann, should make allowance for the current, which, for a considerable distance to the Northward of the Race, runs out and into Cape Cod Bay, especially at or near the full and change of the Moon, very strong.

From Highland Light to Provincetown or Cape Cod Harbor.

Highland Light.

This Lighthouse, which shows a fixed White Light, is located upon the Eastern part of Cape Cod. Race Point Lighthouse bears from it **W.NW.**, distance 8⅓ miles. At this date, 1879, a Fog Trumpet is placed near the Lighthouse, giving blasts of 8 seconds at intervals of 30 seconds.

Race Point Lighthouse.

This Lighthouse, which shows a fixed White Light, varied by white flashes, is located upon the extreme Northwesterly part of Cape Cod; Wood End Light bears from it **SE.** by **S.**, distance 3½ miles. At this date, 1879, a Steam Whistle is placed near the Lighthouse, giving blasts of 4 seconds, with alternate intervals of 8 and 44 seconds.

Wood End Lighthouse.

This Lighthouse, which shows a flashing Red Light, is located upon Wood End Beach. Long Point Light bears from it **NE.** by **E.** ½ **E.**; distance 1¼ miles.

Long Point Lighthouse.

This Lighthouse, which shows a fixed White Light, is located on the **SW.** side of entrance to Provincetown Harbor. Cape Cod

Highland Light bears from it **E. ½ S.**; distance about 5 miles. A Bell struck by machinery is placed near the Lighthouse.

Dangers in Sailing from Cape Cod Highland Light to Provincetown Harbor.

Shoal Spots.

From 1½ to 3 miles to the Northwestward of Cape Cod Light there are several Shoal Spots, some of which have as little as 12 feet water upon them at very low tides. These dangers lie about a half mile from land, with a narrow channel of from 3 to 5 fathoms water between them and the shore.

Peaked Hill Bars.

These dangerous Shoals lie from 4 to 7½ miles Northwesterly from Cape Cod Highland Light, and extend from ½ to ¾ mile from shore. In order to avoid these dangers when sailing between Cape Cod Light and Race Point, vessels of 12 feet draught or upwards should not, especially at low tide, approach the shore in less than 10 fathoms water.

Shoal Spots.

Northwesterly from Peaked Hill Bars there are several Shoal Spots with narrow channels of from 3 to 5 fathoms within them; the most dangerous one lies about ¾ mile from shore, and has as little as 8 feet water upon it at very low tides. Race Point Light * bears from this last-mentioned danger **SW.** by **W. ½ W.**; distance 2½ miles. 20 fathoms water was found about North one-tenth of a mile from this shoal; the lead, therefore, gives but little warning in approaching it from the Northward.

Shank Painter Bar.

This Bar, upon which there are fifteen feet of water at Low Tide, lies about half-way from Race Point to Wood End Light, and extends about ½ mile from shore. 24 fathoms water was found 150 yards to the westward of this shoal; the lead, therefore, gives but little warning in approaching this danger.

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* From Cape Cod Highland Light, bound to the Northwestward, Race Point Light cannot be seen from the deck of a vessel until it bears SW. ¾ W.

Herring Cove Anchorage.

If it blows so hard from the Eastward that you cannot beat into Provincetown Harbor, you may find shelter, with winds from **E.** by **S.** to **NE.** by **N.**, about 1 mile Southeasterly from Race Point Light, in what is called Herring Cove. The best anchorage for large vessels is about ¼ mile from shore in from 4 to 5 fathoms water; at low tide small vessels should anchor in from 3 to 4 fathoms water. A strict watch should be kept while lying here, and the Cove should be left on the first indication of a westerly wind.

Sailing Directions from Cape Cod Highland Light to Provincetown, or Cape Cod Harbor, in Daytime.

When abreast of Cape Cod Highland Light, follow the shore to the Northwestward, keeping at least a mile from it in order to avoid Peaked Hill Bars. When Race Point Light bears **SW.**, then run in **W.SW.**; give this Point or Lighthouse a berth of from ½ to ¾ of a mile, leaving it to the Eastward, and follow the shore to the Southeastward, keeping about ¾ of a mile from it; haul round Wood End and Long Point Lights at a distance of ½ mile. Leaving them on the port hand, run into the harbor, and anchor in from 3 to 10 fathoms water.

Sailing Directions from Cape Cod Light to Provincetown Harbor at Night, with fair weather.

When Cape Cod Light bears **SW.**, from 1 to 2 miles distant, make good the course **NW. ½ W.** about 8 miles, or until Race Point Light bears **SW.**, then run in **W.SW.** Leave this last-mentioned light about ¾ of a mile to the Eastward, and run **SE.** by **S. ½ S.** until Wood End and Long Point Lights are in range bearing **NE.** by **E. ½ E.**; the course is then **E.** by **S.** until Long Point Light* bears **N.NE.**, then run **NE.** and haul round Long Point Light at a distance of ½ mile. Leaving it on the port hand, run in **NW.** by **W.**, and anchor in from 5 to 10 fathoms water.

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*Vessels of 12 feet draught or upwards, bound into Provincetown Harbor, should not approach Long Point Lighthouse, especially at low tide, nearer than half a mile, until it bears west.

Thick Weather.

At this date, 1879, there is a Fog Trumpet at Cape Cod Light, a Steam Whistle at Race Point Light, and a Fog Bell at Long Point Light; the ear, assisted by the compass and lead, will therefore be the best pilot for vessels sailing in thick weather from Cape Cod Light to Provincetown Harbor.

Beating from Race Point to Wood End Light, bound into Provincetown Harbor.

With Southerly or Southeasterly winds, vessels of 12 ft. draught or upwards, beating from Race Point to Wood End Light, should not approach nearer the shore than ¾ of a mile, as it is very bold (especially after passing Herring Cove), and they will have 20 fathoms water at one cast of the lead, and be ashore at the next, before they can tack.

Beating from Wood End Light into Provincetown Harbor, with Northerly or Northeasterly Winds.

Vessels beating from Wood End Light bound into Provincetown Harbor, should keep the Eastern Shore aboard. Large vessels mı boldly approach this shore in 6 fathoms water, at night or day.

Anchorage under the Eastern Shore.

If it blows so hard from the **NE.** that you cannot beat into Provincetown Harbor, when abreast of Wood End Light, stand on close-hauled until the water shoals to 10 fathoms upon the Eastern Shore, then anchor. If the wind should back to the **NW.** and blow heavy, shelter may be found under Billingsgate Shoal. See *Directions for Wellfleet Harbor.*

Best Anchorage in Provincetown Harbor.

The Eastern part of this harbor is somewhat exposed to heavy southerly gales. In order, therefore, to find good shelter from all winds, vessels should anchor in from 8 to 10 fathoms water at low tide, — Long Point Light bearing from **SE.** to **E.** by **S.**; distance about ⅓ mile. In anchoring be careful to avoid the Western Shore opposite Long Point Light, as it is very bold, and you will have from 8 to 10 fathoms water within a stone's throw of the Flats.

High Water at Provincetown Harbor.

It is high water at this place 10 minutes before it is at Boston. Mean Rise and Fall of Tides about 9¼ feet.

Advice to Masters of Vessels in regard to Leaving the Race Light with strong Indications of a heavy Northeast Gale, accompanied with Snow.

If a vessel be off Cape Cod Light bound to Boston, with Easterly or Northeasterly winds, and strong indications of a heavy gale accompanied with snow, my advice is, to keep, if possible, the bearings of Race Point Light until it commences snowing; then, by the following directions, run into Cape Cod Bay. When Race Point Light (which, at this date, 1879, has a Steam Whistle* near it) bears **E.NE.** from 1 to 2 miles distant, haul up **SE.** by **S.** ½ **S.** and run four miles on this course, or until Wood End Light bears **NE.** If the wind blows so hard or it snows so thick that she cannot get into Provincetown Harbor, stand on close-hauled until the water shoals to 10 or 15 fathoms, then anchor; if she drags, cut away the spars until the anchors hold her.

I consider this anchorage in Cape Cod Bay, during a heavy Northeasterly gale, safer than the open roadstead of Vineyard Haven.

Wellfleet Harbor.

Billingsgate Light.

This Lighthouse, which shows a fixed White Light, is located upon the Southeastern part of Billingsgate Island. In sailing into Wellfleet Harbor, this Light is left to the Westward.

Bearings and Distances.

Billingsgate Light bears from Race Point Light **S.SE.**; distance 14 miles.

From Wood End Light, **S.** by **E.** ¾ **E.**; distance 10½ miles.

From Sandy Neck Light, Barnstable Harbor, **NE.** by **E.** ½ **E.**; distance 13 miles.

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* At this date, 1879, a powerful Steam Whistle is placed near the Race Light, giving blasts of 4 seconds with alternate intervals of 8 and 44 seconds. This whistle should in thick weather be heard at least 4 miles.

Mayo's Beach Light.

This Lighthouse, which shows a fixed White Light, is located at the head of Wellfleet Bay, upon Mayo's Beach, and bears from Billingsgate Light NE. by N.; distance 4 miles.

Dangers entering Wellfleet Harbor.

Billingsgate Shoal.

This Shoal extends off a long distance Southwesterly from Billingsgate Light. A Black Buoy (No. 1), placed in about two fathoms water at low tide, marks its outer part. This Buoy bears from Billingsgate Light W. by S. ½ S.; distance 4⅓ miles: from Race Point Light S. ¼ E.; distance 14⅛ miles: from Wood End Light S. ½ W.; distance 11⅓ miles. Vessels of not more than 7 feet draught may at low tide pass across this shoal from 1 to 1½ miles within the buoy; and vessels of not more than 10 or 11 feet draught may, after half flood, pass from 1 to 2 miles within it; but vessels of 9 feet draught or upwards, unacquainted, should not at low tide pass within it.

Bibb Rock.

This Rock, which is marked with a Buoy having Red and Black horizontal stripes, bears from Billingsgate Light S.; distance 2½ miles. At very low tides there are about 4 feet water upon this rock.

Other Dangers.

There are quite a number of Rocks (which, at this date, 1879, are not buoyed) at the entrance of Wellfleet Bay, some of which have but little water upon them at low tide. There are also extensive Flats on both sides of the Bay, and the place may at low tide be called a shoal-water harbor.

Sailing Directions for Wellfleet Bay and Harbor in Day-time, with favorable winds and fair weather.

Vessels from the Northward, of from 9 to 11 feet draught, may bring Race Point Light to bear N. ¼ W., distance 3 miles, and make good the course S. ¼ E. 11⅛ miles to Black Buoy No. 1, which lies on the Southwest part of Billingsgate Shoal; leave this Buoy a short distance to the Northward, and make good the course E. by S. until Billingsgate Light bears N. by E., then steer NE

by E. In running this last course you will see a Black Buoy, No. 3, which bears from the light S.SE. 1¼ miles. Leave this last-mentioned Buoy a short distance to the Westward, and run about N. by W. for the Red Buoy on Middle Ground. If it be low tide when the Lighthouse bears NW., it is advisable to anchor, and if bound up to town wait until about ¾ flood. From this anchorage run for Red Buoy No. 2, on Middle Ground, bearing about N. by W., leaving it a short distance to the Eastward, and make good the course NE. 1⅓ miles to Black Buoy No. 5. off Smalley's Bar. From this last-mentioned Buoy (which is left to the Westward) steer directly for the Lighthouse on Mayo's Beach, bearing N.NE.; distance 2¼ miles. When about ¼ mile from the lighthouse, steer more Easterly, and enter the harbor.

Beating up to Wellfleet Harbor.

Strangers should not attempt to beat up to Wellfleet Harbor without a Pilot, as there are many sunken Rocks in the Bay which are not buoyed at this date.

High Water.

It is High Water in Wellfleet Bay 30 minutes before it is at Boston. Common tides rise about 11¼ feet.

Anchorage during heavy Northerly Winds under Billingsgate Shoal.

If it blows so hard from the Northward that you cannot beat into Provincetown Harbor, a lee may be found under Billingsgate Shoal by the following directions: Bring Wood End Light to bear N. ½ E., on which bearing keep it and steer S. ½ W. In running this course, if you strike in less than 5 fathoms water before Billingsgate Light bears E.NE., haul to the Westward, and do not come nearer the shoal than this last-mentioned depth until the light bears E.NE., then make good the course E. by N., and when the water shoals to 4 or 5 fathoms at low tide, anchor, Billingsgate Light bearing about NE. ½ E.; distance 2½ miles. Small vessels of 8 or 9 feet draught may run E. by N. until the water shoals to 2½ fathoms at low tide, and anchor with the light

bearing N. by W.; distance 1½ miles. With winds from N.NW. to SW. by way of E., there is good anchorage in 4 fathoms water, about three and a half miles South from Billingsgate Light. The Red and Black horizontal Striped Buoy on Bibb Rock bears North from this anchorage; distance ¾ of a mile.

Rock Harbor.

The entrance to this Creek or Harbor, which is *dry at low tide*, bears S. by E ½ E. from Billingsgate Light; distance 5 miles.

Sailing Directions for Rock Harbor.

Vessels from the Northward may bring Race Point Light to bear N. ¼ W., distance 3 miles, and make good the course S. ¼ E. 11⅛ miles to Black Buoy, off Southwest part of Billingsgate Shoal. Leave this buoy a short distance to the Northward, and make good the course SE. by E. ½ E. until the water shoals to 2½ or 3 fathoms at low tide; then anchor and wait for a pilot. Billingsgate Light bears from this anchorage N. ¼ W.; distance about 4 miles.

High Water.

It is High Water at Rock Harbor about the same time it is in Wellfleet Bay.

Brewster Landing.

This Landing, which *is dry at low tide*, bears from Billingsgate Lighthouse about S.SW.; distance nearly 6⅛ miles.

Sailing Directions for Brewster Landing.

Vessels from the Northward may bring Race Point Light to bear N. ¼ W., distance 3 miles, and steer S. ¼ E. 11⅛ miles, until abreast of Buoy off Southwest part of Billingsgate Shoal. Leave this buoy a short distance to the Eastward and run SE. by S. ½ S., until the water shoals to 3 fathoms at low tide, then anchor, or lay off and on till high water.

High Water.

It is High Water at Brewster Landing about 10 minutes before it is at Boston.

Sursuit Creek, or East Dennis Landing.

The entrance to this Creek or Landing, which is dry at low tide, bears from Race Point Light south; distance about 19 miles. From Billingsgate Light SW. ¼ S.; distance 8 miles.

Sailing Directions for Sursuit Creek, or East Dennis Landing.

Vessels from the Northward may bring Race Point Light to bear North, distance 3 miles, and make good the course South to Sursuit Creek, distance 16 miles. On this course, the Black Buoy off Billingsgate Shoal will be left about 1 mile to the Eastward. Run in on this course until the water shoals to 4 fathoms at Low Tide, then anchor, or lay off and on until high water, when, in order to enter the Creek, a pilot will be necessary.

High Water.

It is High Water at this place about the same time as it is at Brewster Landing.

North Dennis Landing.

This Landing, which is dry at low tide, bears from Race Point Light S. ½ W.; distance about 19 miles.

Sailing Directions for North Dennis Landing.

Vessels from the Northward may bring Race Point Light to bear N. ½ E., distance 3 miles, and make good the course S. ½ W. 16 miles, to North Dennis Landing; run in until the water shoals to 4 fathoms at low tide, then anchor or lay off and on until high water.

High Water.

It is High Water at this place about 10 minutes before it is at Boston.

Barnstable Harbor.

Sandy Neck Lighthouse.

This Lighthouse, which shows a fixed White Light, is situated on Sandy Neck, West side of entrance to Barnstable Harbor.

Bearings and Distances.

Sandy Neck Light bears from Race Point Light S. by W. ½ W.; distance 20½ miles. From Wood End Light SW. by S. ¾ S.; distance 18⅛ miles. From Billingsgate Light SW. by W. ½

W.; distance 13 miles. From Gurnet Lights entrance to Plymouth Harbor, SE. by S. ½ S.; distance 22¼ miles.

Dangers.

This harbor is difficult of access on account of a Sand Bar which extends across its entrance, and there are usually not more than 6 or 7 feet water upon it at low tide; the best water across this bar is marked with a Red Buoy, which in sailing in is left to the westward. Sandy Neck Light bears from this Buoy SW. by S. ½ S.; distance 1½ miles. The harbor at low tide may be called a shoal-water place.

Sailing Directions for Barnstable Harbor in Daytime, with favorable Winds and fair weather.

Vessels from the Northward of not more than 10 or 11 ft. draught may bring Race Point Light to bear N. by E. ½ E., distance about 3 miles, and run S. by W. ½ W. 16 miles, to Red Buoy No. 2, at the entrance of Barnstable Harbor. After making this Buoy, anchor in 4 or 5 fathoms water, or lay off and on until about ¾ flood; then run in, leaving the Red or Bar Buoy a short distance to the Westward. When abreast of this Buoy make good the course S. by W. ¼ W., for Black Buoy No. 1, which is left to the Eastward. From this last-mentioned buoy steer for the Lighthouse until within 150 yards from the beach, then follow the shore to the Westward, keeping about 150 yards from it, and anchor in about 2½ fathoms water at low tide, the Light bearing NE.; distance 300 yards.

In running in from Black Buoy, No. 1, to Lighthouse Point, be careful to make good the course, as the flood tide sets strong to the Eastward over Yarmouth Flats.*

If bound to Yarmouth or Barnstable, it is advisable to take a Pilot at the anchorage.

Directions to enter this Harbor in heavy Northerly Winds.

At night, if a vessel of not more than 9 feet draught, with heavy Northerly winds, should be compelled to enter this harbor, it must

* Yarmouth Flats lie on the East side of the Channel, and are dry in some places at low tide. A Black Buoy, No. 3, has been placed upon the Horse Shoe Shoal in Barnstable harbor; this buoy in going to the Wharf is left on the port hand.

not be attempted until about ¾ flood; then bring Sandy Neck Light to bear **SW.** by **S.** ½ **S.** and run for it; as soon as she strikes 4 fathoms water, steer **S.** by **W.** until the Light bears **SW.** ½ **S.**; then make good the course for it till she is ½ mile from it; then steer a little more Southerly, keeping a sharp lookout for the Lighthouse Point,* and round it within a cable's length, and anchor with the light bearing **NE.**; distance 300 yards.

Sailing Directions for Vessels from the Northwestward.

When Gurnet Lights (entrance to Plymouth Harbor) bear **W.**, distance 3 or 4 miles, make good the course **S.SE.** 20¼ miles to Red Buoy No. 2, on bar at entrance of Barnstable Harbor; as soon as this Buoy is made follow the directions before given.

High Water.

It is High Water at Barnstable Harbor 7 minutes before it is at Boston. Common tides rise about 9¾ feet.

Sandwich Harbor.

The entrance to this Harbor, in which there is but little water at low tide, bears from Race Point Light **SW.**; distance 21 miles. It is High Water at this place about the same time as at Barnstable.

Plymouth Harbor.

Gurnet Lights.

These two Lighthouses, which show fixed White Lights, are located upon Gurnet Point, north side of entrance to Plymouth Harbor; they are 31 feet apart, and range **SE.** and **NW.**

Bearings and Distances.

Gurnet Lights bear from Race Point Light **W.**; distance 16⅓ miles. From Billingsgate Light **NW.** by **W.** ¼ **W.**; distance 25¼ miles. From Thatcher's Island Lights **S.** by **W.** ¼ **W.**; distance 38 miles.

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* The Lighthouse stands on the West side of entrance to this Harbor, and is 350 yards from the Point.

Duxbury Pier Light.

This Lighthouse, which shows a fixed White Light, is placed in 7 feet water at Low Tide, and bears from Gurnet Lights **W.** by **S.**; distance 2⅓ miles. In entering the Harbor this Light is left on the starboard hand.

Dangers in approaching Plymouth Harbor from the Northward.

Howland's Ledge.

This Ledge, which has but 5 feet water upon it at Low Tide, is marked with a Red Buoy, No. 4, which is placed off the East side of the Rocks. Gurnet Lights bear from this Buoy **S.**; distance 4½ miles. Vessels unacquainted should not attempt to pass between this buoy and the shore.

High Pine Ledge.

This Ledge, which has but little water upon it at very Low Tides, is marked with a Red Buoy, No. 6, which lies off its Eastern part. Gurnet Lights bear from this buoy **S.** ½ **W.**; distance 2 miles.

Dangers in approaching Plymouth Harbor from the Southeastward.

Vessels approaching Plymouth Harbor from the Southeastward should, in order to avoid the Rocks off Manomet Point, bring the Gurnet Lights in range, and run for them. These last-mentioned Rocks, which are not buoyed at this date (1879), bear about **S.SE.** from Gurnet Lights; distance about 6 miles.

Dangers in entering Plymouth Harbor.

Upon the Southern side of the Channel lies a Dangerous Shoal, dry in some places at Low Tide, called Brown's Bank, which extends off Northeasterly from Long Beach, and is marked upon its outer part with a Black Buoy, No. 1. Gurnet Lights bear from this Buoy about **N.NW.**; distance ¾ mile. In passing in, this Buoy is left to the Southward.

Gurnet Rock.

This Rock, which is marked with a Red Buoy No. 2, bears from Gurnet Lights **SE.** by **E.** ¾ **E.**; distance ⅓ mile. Between the

Buoy and the Lighthouses there are several Rocks having but little water upon them at Low Tide. In passing in, this Buoy is left to the Northward.

Bass Rock,

On which there are about 4 feet water at Low Tide, is marked with a Red Buoy, No. 4. This Buoy bears from Gurnet Lights S. ¼ W.; distance about ⅓ mile. In passing in, this Buoy is left to the Northward.

Sailing Directions for Plymouth Harbor in Day-time, with favorable winds and fair weather.

Vessels from the Northward may run for Plymouth Lights, bearing from S. by W. to S.SW.; * haul round the Lighthouse Point at a distance of ½ mile, leaving the Red Buoys upon Gurnet and Bass Rocks a short distance to the Northward. When abreast of this last-mentioned Buoy, which bears S. ¼ W. from the Lighthouses, make good the course W. ¾ S., leaving the Red Buoys to the Northward, and the Black Buoys off Brown's Bank to the Southward. When about midway between Duxbury Pier Lighthouse and a Black Buoy which bears from the Light about SW. by S. ½ S., distant ⅛ mile, make good the course N.NW., leaving the Lighthouse about one cable's length to the Eastward. When abreast of it you will see a Black Buoy bearing from it NW. ¼ N., distance ¼ mile. Leave this Buoy a short distance on the Port hand, and anchor about 200 yards from it, bearing S.SW., in from 3 to 5 fathoms water at low tide. This anchorage is called the Cow Yard, and is well sheltered in Easterly Gales.

Large vessels may anchor in from 5 to 7 fathoms water at Low Tide, the Light bearing from SE. by E. to E.SE.; distance 300 to 400 yards from it.

Vessels from the Eastward, or around Cape Cod, may bring Race Point Light to bear E., and make good the course W. As soon as the Gurnet Lights are made bring them to bear from W. to W. NW., and run for them until the Red Buoys on Gurnet and Bass Rocks are made, then follow the directions before given.

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* In order to clear Howland's and High Pine Ledges, Plymouth Lights must not bear South of S. by W.

From the Southeastward, bring the Gurnet Lights in range, bearing **NW.**, and run for them until they are distant about ½ mile, then proceed as before directed.

Sailing Directions for Plymouth Harbor at Night-time.

From the Northward, as soon as Plymouth Lights are made, bring them to bear **S.SW.**, and run for them on this course. Give these lights a berth of from 1 to 2 miles, leaving them to the Westward; continue the course to the Southward until Duxbury Pier Light bears **W.**, then run for it on this course; if there be no error in the compass, on this bearing you will pass in Mid-channel between Brown's Bank and Bass Rock. Continue the course **W.** for this light until the Gurnet Lights bear **NE.** by **E.**, then steer **W.** by **S.** until Duxbury Pier Light bears **W.** by **N.** ½ **N.**, distance ¾ mile; the course is then **W.** ½ **N.** Leaving this Light from 200 to 300 yards to the Northward, continue the course **W.** ½ **N.** until it bears **N.**,* then run **NW.** by **N.**, leaving it about two cables' lengths to the Eastward, and anchor with the Light bearing about **E.SE.** from 300 to 400 yards distant.

Depth of Water entering Plymouth Harbor.

In running into Plymouth Harbor at Night (according to directions before given), with strong winds, it is advisable, when the Gurnet Lights bear **NW.**, to shorten sail and use the lead. With Duxbury Pier Light bearing **W.**, if there be no error in the Compass, when Gurnet Lights bear from **N.NW.** to **N.**, from 3½ to 4½ fathoms water will be found. From **N.** to **NE.** by **E.**, 3¾ to 4½. On a **W.** by **S.** course to Duxbury Pier Light, bearing **W.** by **N.** ½ **N.** ¾ mile, from 3½ to 6 fathoms; from this last point, on a **W.** ½ **N.** course to the Light, bearing **N.**, distant three or four hundred yards, from 3½ to 11 fathoms; from this last point to the anchorage, from 5 to 12 fathoms. The depths above are all given at Low Tide, it will therefore be necessary at High Water to

* A Shoal extends about 200 yards Southeasterly from Duxbury Pier Lighthouse, and is very bold off its Southeastern part. Vessels bound into the Cow Yard should not approach nearer than 300 to 400 yards until the Light bears N.

make an addition of 1½ fathoms to them; at ⅓ flood ½ fathom should be added.

At Night from the Eastward, or around Cape Cod, bring Race Point Light to bear E., and make good the course W. for Gurnet Lights; as soon as Duxbury Pier Light is made, bring it to bear W. when the courses are as before given.

From the Southeastward, bring Plymouth, or Gurnet Lights, in range bearing NW., and run for them until Duxbury Pier Light bears W., then follow the directions before given.

Saquish Roads.

In these Roads vessels may find good shelter with winds from W. to N. The best anchorage is in about three fathoms at Low Tide, with Gurnet Lights bearing E.NE., distance ¾ mile. At High water vessels should anchor in 4½ fathoms.

Plymouth Inner Harbor.

If bound into this Harbor, follow the directions before given until abreast of the Red Buoy on Bass Rock, which bears S. ¼ W. from Gurnet Lighthouses, distance ⅓ mile. Leave this Buoy a short distance to the Northward and make good the course W. ¾ S., leaving the Red Buoys to the Northward and the Black Buoys off Brown's Bank to the Southward. As you approach Duxbury Pier Lighthouse you will see the Black Buoy off Dick's Flats bearing about SW. by S. ½ S., distant ⅕ mile from it. Haul round this Buoy, leaving it 50 feet to the Eastward, and make good the course SW. ½ S. As you sail in you will see on the port hand, near long Beach Point, a Beacon. Continue the course SW. ½ S. until the beacon is in range with Gurnet Lights, bearing E. by N. ¾ N., then anchor in from 2½ to 3½ fathoms water at Low Tide. This harbor should be used only by small vessels; large vessels should go into the Cow Yard. If bound up to Plymouth town it is advisable to take a pilot here, as the channel is both narrow and crooked.

Duxbury and Kingston.

Vessels unacquainted, bound to either of these places, should anchor a short distance to the Westward of Duxbury Pier Light, and take pilots.

Beating into Plymouth Harbor.

If you are bound into this Harbor you should not at Night-time attempt to beat into the Cow Yard, but may anchor in Saquish Roads. The best anchorage is in about 3 fathoms at Low Tide, and 4½ at High Tide, the Gurnet Lights bearing **E.NE.**, distance ¾ mile. It is advisable at Night-time to use the lead, and when Gurnet Lights bear **N.NW.** to stand in for the North side of the harbor until the water shoals to 3½ fathoms at Low Tide, and 5 at High Water; as soon as you have this depth tack ship, and do not stand to the Southward more than ⅕ mile * (about 400 yards), in order to avoid Brown's Bank, which lies on the South side of the Channel, and is very bold at some parts of it, and you will have 4 fathoms at one cast of the lead, and be ashore at the next before you can tack; but you may boldly stand into 3½ fathoms at Low Tide, and 5 fathoms at High Water, on the North side of the Channel, until you reach the above anchorage.

High Water.

It is High Water at Plymouth Harbor 12 minutes before it is at Boston. Mean rise and fall of tides 10¼ feet.

Scituate Harbor.

This Harbor is formed by a small shallow Cove, which at its entrance has a hard bed of stones and gravel, forming a Bar which varies but little in depth annually. The Northern point of the Harbor is marked with a Light Tower, from which a White Light was formerly exhibited, but for several years it has been discontinued. At this date (1879), however, a small light is shown from the tower by private enterprise. Also, at this date, the Harbor is well buoyed, and strangers, in vessels of from 8 to 9 feet draught, in case of emergency, might at high water run into it.

Sailing Directions for Scituate Harbor in Daytime, with favorable winds and fair weather.

From the Northward pass ¼ mile to the Eastward of Minot's Light and make good the course **SE.** by **S.**, in order to avoid the

* Or make short tacks.

Ledges which lie to the Northward of this harbor. A little before High Water bring the Light Tower to bear **W.** and run for it. When about ½ mile from the entrance of the harbor you will see two Buoys, one Red the other Black; then steer more Southerly, and enter about midway between them. When between these Buoys you will see in a westerly direction two Spindles or Beacons, one Black the other Red; anchor a short distance outside of them, where you will lie aground at Low Tide, or after passing between these Spindles run directly for the wharves.

If the Buoys at the entrance of this place should be gone (as they sometimes are), in entering it keep midway between the points of the Harbor, and pass the Spindles as before directed.

From the Southeastward, or round Cape Cod, bring Race Point Light to bear **SE.** by **E.**, and make good the course **NW.** by **W.** When the Light Tower is made, bring it to bear **W.** by **N.**; then follow the directions before given.

The Light Tower, which is located on the Northern side of the entrance to this Harbor, bears **S.** by **E.** ½ **E.**, about 4½ miles from Minot's Lighthouse. From Race Point Light, **NW.** by **W.** 23 miles.

High Water.

It is High Water at Scituate Bar 14 minutes before it is at Boston. Common Tides rise about 9½ feet.

Cohasset Harbor.

This Harbor is situated about 2¼ miles in a Southwesterly direction from Minot's Light, and has but little water in it at low tide. It is very difficult of access on account of the numerous Rocks and Ledges that lie off its entrance. In approaching this Harbor there are three Channels (generally used) called Brush Island Channel, Middle Channel, and Eastern Channel. In this work, however, we shall only give directions for Brush Island, or the Western Channel, which has the most water in it at Low Tide, and may be entered by strangers in Daytime, with favorable winds, when the Buoys can be seen.

Sailing Directions for Cohasset Harbor in Daytime, with favorable Winds and fair weather.

From the Southeastward leave Minot's Light about 300 yards to the Southward and run **W.** On this course you will see, on the port hand, two Buoys, one Black, the other Red. The Black Buoy No. 1 is placed near the western part of Hogshead Rock, and bears from Minot's Light **W.** ¼ **S.**; distance a little more than ½ mile. The Red Buoy No. 2 is placed off the Northeast part of Grampus Ledge, and bears about **W.** from Minot's Light; distance ⅞ mile. Both these Buoys should be left not less than 300 yards to the Southward. After passing the Red Buoy No. 2, off Grampus Ledge, a Black Buoy, No. 1, will be seen to the Southwestward; this Buoy lies off the West side of Chittenden Rock, which is bare at half tide, and bears from Minot's Light **W.** ¾ **S.**; distance 1¼ miles. Continue the course **W.** until this last-mentioned Buoy bears **SW.** by **S.**, then run for it on this course, leaving it 20 yards to the Eastward. When abreast of the last-mentioned Buoy, off Chittenden Rock, another Buoy will be seen (bearing **S.** by **E.**, distance ¼ mile), painted Red and Black in horizontal stripes. This Buoy lies on the Northern side of Barrel Rock, which is bare at half tide. Run directly for this Buoy, leaving it about 20 yards to the Eastward. When abreast of this Buoy, off the northern side of Barrel Rock, you will see a dry Rock, surrounded by ledges bare at low tide; these are called Sutton Rocks; and you will also, at the same time, see to the Westward of them another small, round, dry rock: this is called Quamino Rock: the Channel is between this and the Sutton Rocks. When you are abreast of the Red and Black horizontal-striped Buoy off Barrel Rock, run for Quamino Rock bearing **S.SW.**, leaving it 20 yards to the Westward. After passing it bring it to bear **N.NW.**, 75 yards distant, and run **S.SE.** about 200 yards; then anchor in about 8 feet water at low tide. If bound up to Cohasset, it is advisable to take a pilot here. By following the above directions, about 8 feet water at low tide can be brought up to this anchorage.

From the Northwestward pass about ¼ mile to the Eastward of Harding's Rocks, and bring the Beacon upon them to bear **NW.** ½ **N.**, distance 1 mile, and steer **SE.** ½ **S.** If there be no deviation from this course you will make the Red Buoy off the Grampuses a little on the port bow, and the Black Buoy off Chittenden

Rock on the starboard hand. When this last-mentioned Buoy bears S.SW. run for it, leaving it 20 yards to the eastward. When abreast of it, make good the course S. ½ W. into the harbor, passing between the Buoy on Barrel Rock, the Ledges on the West side of the Channel, Sutton Rocks, and Quamino Rock. When this last-mentioned rock bears N.NW., 75 yards distant, run S.SE. about 200 yards, then anchor. If bound up to Cohasset, wait at this place for high water and a pilot.

High Water.

It is High Water at Cohasset about 12 minutes before it is at Boston. Common tides rise 9½ feet.

Boston Harbor.

Dangers in approaching and entering this Harbor by the Main Ship Channel.

Minot's Ledge.

Upon one of the outermost of the Cohasset Rocks, on what is called the Outer Minot, which is bare at low tide, a Lighthouse has been erected, which (at this date, 1878,) has a Fog Bell and shows a Fixed White Light. From the deck of a common vessel this light should be visible at least 15 miles in clear weather.

The Bearings and Distances of this Light are as follows:

				Distance.	
From Cape Ann (Thatcher's Island),	SW. by S.			nearly 23½	miles.
" Whistling Buoy off NE. part Graves, ...	SE. by S.	¾ S.	"	7¾	"
" Boston Lighthouse, . . .	SE.	¼ E.	"	6¾	"
" Spindle on Harding's Ledge,	SE.	½ E.	"	4½	"
" Race Point (Cape Cod), . .	NW.	½ W.	"	26½	"
" Cape Cod Highland Light,	NW.	¾ W.	"	34⅓	"

To the Westward of Minot's Light there are many bare and sunken Ledges. Strangers, therefore, should not attempt to pass to the Westward of it.

Davis' Ledge.

This Ledge, on which there are about 12 feet water, is marked with a Black Buoy No. 1, which lies upon its Eastern part, and bears **E.** ¾ **S.** from Minot's Light, distance about ⅔ mile. There is a depth of 4 fathoms water about midway between the Buoy and Lighthouse. But large vessels should not attempt, excepting through stress of weather, to pass through it. To the Southward of this Lighthouse there are several Shoal Spots of from 12 to 15 feet, one of which bears **SE.** by **S.**; distance about ⅓ mile.

Harding's Ledge.

The dry part of this ledge is marked with an Iron Beacon 31½ feet in height, and also an Iron Bell Boat, which is moored a short distance Northeastward from the Beacon. These Rocks are quite bold, and the lead gives but little warning in approaching them.

Bearings and Distances from Beacon on Harding's Ledge.

		Distance.
Black Buoy No. 1, off Pt. Allerton,	**NW.** by **W.**	nearly 1⅝ miles.
Boston Lighthouse,*	**NW.**	" 2¼ "
Minot's Light, ...	**SE.** ½ **E.**	" 4½ "

SW., nearly ¼ mile from the Beacon on Harding's Ledge is a bare Rock. Between this rock and the Flats off Nantasket Beach is a good Channel for vessels of not more than 12 feet draught; but large vessels should use it with caution, as there are several Shoal Spots about half-way from the Beacon to the shore, having as little as 15 and 17 feet water upon them at Low Tide.

Thieves' Ledge.

Not less than 4½ fathoms of water has been found upon this Ledge. At this date, 1878, it is not buoyed; the spot of 4½ fathoms bears **E.** by **S.** ¼ **S.** from Boston Lighthouse; distance about 2⅜ miles.

The Graves.

These are very dangerous Ledges extending about ¼ mile in a **N.NE.** and **S.SW.** direction. About **NE.** ¾ **N.**, ¼ mile from the dry part of these Ledges, is a dangerous Rock called the "Northeast Grave," which is bare at Low Tide. At this date,

* Boston Lighthouse shows a Flashing White light. A Steam Whistle placed near it, gives two Blasts of five seconds' duration per minute, at intervals of 10 and 40 seconds.

1878, this rock is marked with an Automatic Whistling Buoy, which is placed a short distance Northeast from it.

Bearings and Distances from this Buoy.

			Distance.
Egg Rock Light (red), ...	N. by W.	nearly	4 miles.
Long Island Light, ...	W. by S. ¾ S.	"	4¾ "
Boston Lighthouse, ...	SW. ¾ S.	"	2¾ "
Minot's Light, ...	SE. by S. ¾ S.	"	7¾ "

SW. by W., about ¾ mile from the Dry Graves, are several dangerous Rocks called the "Roaring Bulls"; they extend about ⅓ mile in a NE. by E. ¼ E. and SW. by W. ¼ W. direction. Several of these rocks are bare at very low tides. Between the Graves and the last-mentioned rocks there is a Channel having a depth of from 5 to 8 fathoms. Strangers should not attempt to go through this passage. The Eastern part of the Graves are very bold, and there are 10 fathoms water within a stone's throw of the dry rocks. From the Eastward, therefore, in thick weather, the lead gives no warning in approaching these dangerous rocks: 10 fathoms water was found at a distance of about 200 yards N. by E. from the Northeast Grave, and 11 fathoms at a distance of 300 yards E. by S. from this rock.

Martin's Ledge.

Upon the Eastern part of this Ledge, in six fathoms water, is placed a Nun Buoy (No. 2). Boston Lighthouse bears from this buoy SW. by W. ¾ W.; distance 1¾ miles. From Whistling Buoy off the Graves S. ½ W.; distance 1⅗ miles. At very low tides there are but 14 feet water upon this Ledge.

Tewksbury Rock.

This Rock, which at very low tides has but 9 feet water upon it, bears W. ¾ N. from the Red Buoy on Martin's Ledge; distance ½ mile. This rock is not buoyed at this date (1878).

Boston Ledge.

This Ledge, which has 11 feet water upon it, is left to the Northward in passing in. It is now marked with a Red Buoy No. 4, which lies on the southeasterly side of it. Boston Lighthouse bears from this buoy W. by S. nearly; distance 1¼ miles. The Buoy on this Ledge bears from Martin's Ledge SW. ½ S.; distance ¾ mile.

Shag or Egg Rocks.

These are a group of bare Rocky Islets about 20 or 30 feet above high-water mark, and extending about ⅓ mile in an Easterly and Westerly direction. The Southern part of these Islets bear **E.** ¾ **N.** from Boston Lighthouse; distance about ½ mile. These rocks are bold, but they should not be approached nearer than ⅛ mile by vessels bound in.

Point Allerton Bar.

From this Point a rocky Shoal extends off in a Northerly direction. It is marked with a Beacon, and also a Black Nun Buoy (No. 3), which, in passing in, is left on the port hand. This Buoy bears from Boston Lighthouse **S.** by **E.** ½ **E.**; distance about ¾ mile.

Rock near Boston Lighthouse.

A Rock bearing **S.** by **E.** from Boston Lighthouse, distance about ⅕ mile, has frequently been struck, at very Low Tides, by vessels of not more than 12 feet draught; it is not buoyed at this date. Boston Light should not be approached nearer than ⅛ mile (250 yards) by vessels bound out or into the harbor.

Nash's Rock.

This Rock, on which there are 13 feet water at Low Tide, is marked with a Red Buoy (No. 6), which is placed in about 20 feet water off the Southern side of the shoal. The Narrows Lighthouse bears from this Buoy **W.** by **N.** nearly; distance about 1 mile. Boston Lighthouse **NE.**; distance ⅜ mile. Nash's Rock lies nearly mid-channel, and may be left on either hand passing in.

Kelp Ledges.

These Ledges, which have from 10 to 12 feet water upon them at Low Tide, lie nearly on a line and also about midway between Boston and Narrows Lighthouses; they are not marked with buoys at this date. In sailing up the Lighthouse Channel, these Ledges are left on the starboard hand.

Toddy Rocks.

These Rocks extend off about ⅓ mile in a Northerly direction from the base of Nantasket Hill. At a distance of ¼ mile from the shore there are, at Low Tide, not more than 2 or 3 feet water upon some of them. A Black Buoy (No. 1), which marks their

position, is placed in 20 feet water, on the Northern side of the Ledge. This Buoy bears **SW.** ½ **W.** from Boston Lighthouse; distance about 1⅙ mile. In passing in, this Buoy is left on the port hand.

Hunt's Ledge.

N.NE. about ⅕ mile from the Black Buoy off Toddy Rocks, a Buoy will be seen painted in Red and Black horizontal Stripes. This Buoy lies upon Hunt's Ledge, which has about 10 feet water upon it at Low Tide, and bears about **SW.** by **W.** from Boston Lighthouse; distance 1 mile. Between the Buoys off Toddy Rocks and Hunt's Ledge there is a good channel of from 4 to 5 fathoms water.

Centurion Rocks.

These Rocks, upon which there are about 12 feet water at Low Tide, extend **NW.** and **SE.**: they are marked with two Buoys, one Red, the other Black. The Red Buoy (No. 2) is placed on the Southeast end of the Ledge, and bears from Boston Lighthouse **W.SW.**; distance 1⅙ mile. From Narrows Lighthouse, **SE.** ¾ **S.**; distance about ½ mile. The Black Buoy (No. 5) is placed on the Northwest end of it, and bears from Narrows Lighthouse **SE.** ¾ **S.**; distance ⅜ mile. These Buoys, in sailing up the main Ship Channel, are both left on the port hand.

George's Island Rocks.

These Rocks extend off nearly ⅓ mile from the Eastern part of George's Island, and are marked with a Black Buoy (No. 7), which is placed on the Eastern part of them in 18 feet water. Narrows Lighthouse bears **N.** ¼ **E.**; distance about 400 yards from this Buoy. Between the last-mentioned Buoy and the two Buoys on the Centurion there is a Channel of about 4 fathoms water.

False Spit Beacon.

A little more than ¼ mile in an Easterly direction from the Narrows Lighthouse is a Beacon, which marks the Southeast part of a Sand Bar, called "False Spit." In passing in, this Beacon is left on the Starboard hand.

Narrows Lighthouse.

This Lighthouse is erected on the extreme Southwest part of the Sand Spit, which is on the Northern side of the main Ship Channel,

nearly opposite Fort Warren, and shows a Red Fixed Light. In order to avoid the shoal water extending from George's Island, vessels bound up through the Narrows should keep near to this Lighthouse.

Lovell's Island.

The Southeast part of this Island lies ¼ mile Northwesterly from the Narrows Lighthouse, and the Island also lies on the Northeasterly side of the Narrows. It is bold on its Southwestern side, but long Ledges, and a Shoal called "Seventy-four Bar," extend from its Northern and Northwestern parts. A Red Buoy (No. 10) marks the Northwestern part of this bar, which, in passing in, is left on the Starboard hand.

Galloup's Island.

This Island lies on the Western side of the Narrows, nearly opposite Lovell's Island: its sea-face is protected from the force of the waves by a granite sea-wall nearly a mile in length. The Eastern point of the Island is bold, but Shoal Water extends off from it in a Northerly and Northwesterly direction. A Beacon, painted Black, is erected about ⅜ mile from it, which will be seen on the port when sailing up the Narrows. This is called "Nix's Mate Beacon." Northeast about ⅛ mile from the Beacon is placed a Black Buoy (No. 9), which, in passing in, is left on the port hand.

Deer Island.

A dry Shoal extends off about ¼ mile in a Southerly direction from this Island, upon the South end of which is erected a Beacon, which is painted Red, and bears from Long Island Lighthouse * N. by E. ¾ E.; distance about ⅝ mile. In passing in, this Beacon is left on the Starboard hand.

Long and Spectacle Islands.

These Islands are both quite bold on their Northern parts. Shoal Water extends off in a Northerly direction about 200 yards from the first-mentioned Island, and about the same distance from the latter.

President Roads.

There is good anchorage between the Lower Middle, Governor's Island Flats, and Apple Island Flats on the North, Deer Island

* Long Island Lighthouse shows a fixed White Light.

on the East, Long and Spectacle Islands on the South, and Castle Island on the West. The above anchorage is called "President Roads."

Lower Middle.

A short distance to the Eastward of Fort Independence (Castle Island) is the Lower Middle, some parts of which are bare at Low Water. This shoal extends **E.SE.** and **W.NW.** about 1 mile, and is marked with two Red Buoys, one of which is placed on its Southeast part, the other on the Northwest part. The Red Buoy (No. 6) on the Southeast part of it, bears from Long Island Lighthouse **NW.** by **W.** ¼ **W.**; distance 1½ miles. From Deer Island Beacon **W.** ½ **N.**; distance 1½ miles. From Black Buoy (No. 9), off Nix's Mate, **W.** by **N.** ¾ **N.**; distance 2 miles. The Red Buoy (No. 10), upon the upper part of Lower Middle, bears from the wharf at Fort Independence **E.** by **N.** ¼ **N.**; distance ¼ mile. Between the Lower Middle and Governor's Island Flats is a narrow Channel having from 3½ to 5 fathoms water in it. Strangers should not attempt to go through this passage.

Castle Island Rocks and Shoals.

Shoal Water extends off in every direction from this Island, excepting its Northeast part, which is quite bold. Southeast, about ⅓ mile from the Island, is placed, in 18 feet water, a Black Nun Buoy (No. 7), which bears from Long Island Light **W.** by **N.** ¾ **N.**; distance 2⅛ miles. From Black Buoy (No. 9) off Nix's Mate, **W.** by **N.** ¼ **N.**; distance 2¾ miles. A short distance to the westward of this Buoy, upon some of the rocks, there is but little water. Vessels beating up, when abreast of this Buoy, should keep to the Eastward of a line drawn from the Buoy to the Western part of Governor's Island. This precaution should be strictly adhered to until more than half-way from the Buoy to the wharf * off Northeast part of the Fort.

State Ledge.

On the Northern side of the Channel, nearly opposite (and bearing **NE.** by **E.** ½ **E.** from Black Buoy, No. 7, off Castle Island), is a Red Nun Buoy (No. 8), which is placed a short distance South of the Ledge, which has but 3 or 4 feet water upon it at Low Tide. In passing in, this Buoy is left on the Starboard hand.

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* The outer part of this wharf is in sixteen feet water.

Governor's Island Flats.

These Flats extend Southwesterly about ¼ mile from the Southern point of the Island. Some parts of them are bare at Low Tide. A Red Buoy (No. 12), placed in 15 feet water, marks the Southwest end of this Shoal. The wharf at Fort Independence bears from this Buoy, **SW.** by **S.** ½ **S.**; distance about ¼ mile. This last-mentioned Buoy, and also the two Red Buoys on Northwest part of Lower Middle and State Ledge, lie nearly on a line. Beating up the harbor, vessels should not pass to the Eastward of this line.

Upper Middle.

From the Northern part of Castle Island, Shoal Water extends in a Northwesterly direction, nearly two miles, forming what is known as South Boston and Dorchester Flats. About ⅓ mile **N.NW.** from the wharf at Fort Independence is a small spot of 3 feet water at Low Tide; this spot is called the Upper Middle. Strictly speaking, this Shoal is not a Middle Ground, as there is not any Channel to the westward of it. The above-mentioned spot, called the "Upper Middle," is marked with a Black Buoy (No. 9), which is placed a short distance from its Eastern part. This Buoy bears **N.NW.** about ½ mile from the wharf at Fort Independence.

Governor's Island Northwest Flats.

These Flats extend about ¼ mile in a Westerly direction from the Northwest part of Governor's Island. A Black Buoy (No. 7) is placed on the Northwest part of these flats, which, in passing in, is left about ⅛ mile on the Starboard hand.

Slate Ledge.

About half-way from the Buoy on the Upper Middle to the city is a Black Buoy (No. 11). This Buoy lies in 17 feet water, upon the Northeastern part of this Ledge, some parts of which are bare at very Low Tides. There is no passage to the Westward of this Buoy excepting at High Water, and then for only light-draught vessels.

By Main Ship Channel.

Sailing Directions from Cape Cod to Boston in Day-time, with favorable winds and fair weather.

When Cape Cod Highland Light bears **SW.**, about 3 or 4 miles distance, the course to Boston Light (at this date, 1879 *) is **NW.** by **W.** ¼ **W.**; distance 42 miles. If there be no deviation from this course, Minot's Light will be left about 1⅓ miles to the Westward. As soon as Boston Lighthouse is made, bring it to bear **NW.** by **W.** ¼ **W.**, and run for it. On this course the Bell Buoy off Harding's Ledge will be left about ½ mile to the Westward. Continue the course **NW.** by **W.** ¼ **W.** for the Lighthouse, until Point Allerton † bears **SW.** by **W.** Boston Lighthouse will then be distant about 1⅛ mile. The course to enter the Lighthouse Channel is then **W.** ¾ **N.**, leaving the Beacon and Black Buoy off Point Allerton about ¼ mile on the Port hand. In sailing up the Channel, you will see on the Starboard bow the Red Buoy (No. 6) on Nash's Rock, which is left on the Starboard hand; you will also see on the Port, the Black Buoy on Toddy Rocks, the horizontal-striped Buoy on Hunt's Ledge, the two Buoys on the Centurion, one Black the other Red, and nearly ahead the Black Buoy off the Southeast part of George's Island: all these last-mentioned Buoys are left on the Port hand. Continue the course **W.** ¾ **N.** until the Narrows Lighthouse bears **NW.** ¾ **W.**; run for it on this course: give the Lighthouse a small berth of about 150 yards, leaving it on the Starboard hand, and run about **NW.** ½ **W.** with the eastern point of Galloup's Island on the Port bow. *In sailing this last course from Narrows Light to Lovell's Island, particular attention must be given to the setting of the Current, especially with light winds. The Flood sets in strong through Black Rock Channel ‡ on to George's Island, while the Ebb sets out strong through this channel.* Through the Narrows the Flood, during a

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* The variation of Compass at Cape Cod Highland Light in 1808 was 5° 30′ W. It is now (1879) 12° 00 W.

† This headland or point is on the South side of the entrance to the Main Ship Channel. It is a bare hill 115 feet high.

‡ The passage between Narrows Lighthouse and Southeast part of Lovell's Island is called Black Rock Channel. A ledge lies nearly midway the passage, having at very low tides but 7 feet water upon it.

part of its period, sets to the Southward, but is not strong; the Ebb, which is strong, sets to the Northward through this last-mentioned place. When abreast of the eastern part of Galloup's Island, the course is about **NW.** by **N.**, keeping nearest to Lovell's Island, which is quite bold. As you sail through the Narrows, you will see, on the port, Nix's Mate Beacon, and the Black Buoy No. 9, and also, on the starboard, the Red Buoy No. 8, on Seventy-Four Bar. Leave the Black Buoy off Nix's Mate a short distance to the Westward, and run **NW.** for Deer Island Beacon, about ⅕ mile, or until Long Island Light bears **W.SW.** From this last point make good the course **W.** ¾ **N.** until you see the Black Buoy No. 7, which lies off Southeast from Castle Island: you will also see the Red Buoy No. 8, which lies on State Ledge. Pass about midway between the two last-mentioned buoys, and steer about **NW.** ½ **N.**, keeping the Black Buoy No. 9, on the Upper Middle, a little on the Port bow. On this last course you will see the two Red Buoys, Nos. 10 and 12, on **NW.** part of Lower Middle and off Governor's Island, both of which are left on the Starboard hand. When abreast of Black Buoy No. 9, on Upper Middle (which must be left about fifty yards to the Westward), for the deepest water make good the course **NW.** ¾ **N.**, about ½ mile, leaving a Red Buoy a short distance on the Starboard hand. When abreast of this last-mentioned buoy, steer **NW.** by **W.** for the anchorage.

By Main Ship Channel.

Vessels approaching Boston Harbor at Night will find the following directions best adapted to winds from East to Southwest by the way of South.

Sailing Directions from Cape Cod to Boston in the Night-time, with favorable winds and fair weather.

Run **NW.** by **W.** ¼ **W.** from Cape Cod (Highland Light) as before directed. As soon as Boston Light is made, bring it to bear **NW.** by **W.** ¼ **W.**, and run for it. On this course Minot's Light will be left about 1⅓ mile to the Westward. Continue the course **NW.** by **W.** ¼ **W.** for the Light, until the Narrows Light (Red) is in range with Long Island Light, bearing **NW.** by

W. ¾ W.; then run in on this range * until Boston Light bears NW.: you are then about half-way from the Beacon on Harding's Ledge to Black Buoy off Point Allerton, and must run a little more Northerly (NW. by W. ½ W.), keeping the Red Light on Spit a little open to the Westward of Long Island Light in order to clear Point Allerton Ledge. When Boston Light bears N. by W. ½ W., you are then on a line with the Light and Point Allerton Buoy, and must make good the course W. by N. until the Narrows Light bears NW. ¾ W., on which bearing keep it and run for it, leaving it about 75 yards on the Starboard hand; then make allowance for the current as before directed. From this last-mentioned light to East point of Galloup's Island the course is NW. ½ W.; but at night the eye must be the pilot through the Narrows to the Black Buoy off Nix's Mate. It is therefore recommended to keep a sharp lookout for the Eastern part of Galloup's Island, and also the Southern part of Lovell's Island, both of which are bold. When abreast of the Eastern point of Galloup's Island, keep nearest to Lovell's Island. When abreast of Black Buoy off Nix's Mate, run NW. until Long Island Light bears W.SW.; then make good the course W. ½ N., until Long Island Light bears E. by S. ¾ S.; on which bearing keep it, and run W. by N. ¾ N.,† keeping a sharp lookout for the Buoy off Castle Island. In running this last course, use the lead, and as soon as the water shoals to 3½ fathoms at low tide (which will be five fathoms at high tide), you are then close aboard of the Buoy, and must steer N. by W. ½ W., about ¼ mile, then about NW. ¾ N., until up with the Black Buoy on the Upper Middle. Running the two last courses, do not go into less than 4 fathoms water. When abreast of the buoy on the Upper Middle, continue the course NW. ¾ N. about ⅓ mile, then run NW. by W. for the anchorage: upon the last two courses use the lead, and do not go into less than 3 fathoms.

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* In running in with Long Island and Narrows Light in range, the Beacon on Harding's Ledge will be left about ¼ mile to the Westward. This range also leads to Black Buoy No. 3, on Eight Foot Rock, off Point Allerton.

† If there be no error in the compass, this course W. by N. ¾ N. from Long Island Light leads direct to Black Buoy No. 7, off Southeast from Castle Island.

By Main Ship Channel.

Sailing Directions from Cape Ann to Boston in Daytime, with favorable Winds and fair weather.

Bring Thatcher's Island Lights to bear **NE. ¼ E.**, distance about two miles, on which bearing keep them, and run **SW. ¼ W.** for Point Allerton; distance 22 miles. If there be no deviation from this course, East Point Light will be left about 1½ miles to the Northwestward, Halfway Rock 2¾ miles, and Whistling Buoy off the Graves, 1½ miles to the Northward. You will also see the Red Buoys on Martin's and Boston Ledges, which are both left on the Starboard hand. Continue the course for Point Allerton (bearing **SW. ¼ W.**) until Boston Lighthouse bears **W. ½ N.**, then make good the course **W.** by **S.**, and follow the directions before given from Cape Cod to Boston in daytime, with favorable winds and fair weather.

At night, in fair weather, bring Thatcher's Island Lights to bear **NE. ¼ N.**, distance 3 or 4 miles, and run **SW. ¼ S.** If this course be made good, the following dangers — Halfway Rock, Graves, Martin's, and Boston Ledges — will all be left a good distance on the Starboard hand. When Boston Light bears **W.NW.** make good the course **W.** by **N.** for the Lighthouse Channel, taking care to keep the Narrows Light (Red) just open to the Westward of Long Island Light, until Boston Light bears **N.** by **W. ½ W.**, then follow the directions from Cape Cod to Boston in the Night-time, with favorable winds and fair weather. To guide the mariner in thick weather (at this date, 1878,) there is placed near the Lighthouses at Thatcher's Island a Steam Whistle; at Eastern Point, a Fog Bell; off the Graves, a Whistling Buoy; and at Boston Lighthouse, an Air Trumpet, all of which are sounded in Thick weather. The ear, therefore, assisted by the compass and lead, will be the pilot from Cape Ann to Boston Light, when the other Lights cannot be seen.

Broad Sound.

Dangers in entering Boston Harbor through this Sound.

The Graves.

In sailing into Broad Sound, these Dangerous Rocks are left on the Port hand. (See description of *Graves*, p. 29, &c.)

Maffit's Ledge.

This Ledge, on which there are 18 feet water at Low Tide, bears **NW.** by **N.** ½ **N.** from Green Island,* distance ¼ mile. It is not buoyed at this date (1878), and Light-Draught Vessels pay no attention to it passing into this Sound.

Commissioner's Ledge.

This Ledge, on which there are 15 feet water at Low Tide, is not buoyed at this date (1878). It bears from the Northern point of Green Island **NW.** by **W.** ½ **W.**, distance about ½ mile. In sailing into Broad Sound, this Ledge is left on the Port hand.

Devil's Back.

This Ledge, which in several places is bare at Low Tide, extends about 300 yards in a **NE.** by **N.** and **SW.** by **S.** direction. It is marked with a Black Can Buoy (No. 1), which is placed on the Northern side of the Ledge. Long Island Light bears from this Buoy **W.** by **S.** ⅞ **S.**, distance 2⅗ miles; Northern part of Green Island, **E.** ½ **S.**, distance about ⅗ mile. The Eastern part of these Rocks are very bold, and 5 fathoms water was found within a stone's-throw of them. From the Eastward, in thick weather, bound into the Sound, the lead, therefore, gives no warning in approaching them.

Alderidge's Ledge.

Which has but little water upon it at Low Tide, is marked with a Black Can Buoy (No. 3), which is placed on the Northwest part of it. Long Island Light bears from this buoy **W.** by **S.** ½ **S.**, distance 2⅛ miles; Narrows Light **S.** by **W.** ¾ **W.**, distance 1½ miles.

Strangers beating into the Sound should not pass to the Eastward of this buoy.

Ram Head Reef.

From the Northeastern part of Lovell's Island a Reef extends off about ½ mile in a **NE.** by **N.** direction. Some parts of this Shoal are bare at Low Tide. It is marked with a Black Can Buoy (No. 5), which is placed off its Northeast point. Long Island Light bears

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* Coming from the Northeastward, bound into Broad Sound, this is the first Island met with on the South side of the Channel.

from this Buoy **W.** by **S.** ½ **S.**, distance about 1½ miles; Narrows Light, **S.** ¼ **E.**, distance 1⅓ mile. From the Black Buoy on the Devil's Back to the Black Buoy off Ram Head Reef, the channel is narrow, and vessels beating into Broad Sound at Low Tide should not stand but a short distance to the Northwest, until after passing Ram Head Buoy. The lead gives but little warning in approaching this Reef.

Great Fawn Bar.

This Bar extends off from the middle of Deer Island in an Easterly direction more than 1½ miles, and is dry at Low Tide, about ⅗ mile from the shore. Upon the Eastern end of this part a Beacon is erected, which is painted red, and has a square granite base surmounted by a granite cap, with iron spindle and cage. This Beacon bears from Whistling Buoy, off the Graves, about **W.** ½ **S.**, distance 3¾ miles; from Nahant Head **SW.** by **S.**, distance 4¼ miles. About **E.SE.**, ½ mile from the Beacon, is placed in about 13 feet water, at Low Tide, a Red Can Buoy (No. 2), which is intended to mark the deepest water across this Bar. From ¼ to ½ mile in an Easterly direction from the Buoy there are several shoal spots of from 10 to 12 feet water. This Buoy bears from Whistling Buoy off the Graves **W.** ¾ **S.**, distance 3¼ miles; Long Island Light from it, **SW.** ½ **W.**, distance 1¾ miles. Passing in, this Buoy is left about 25 yards on the Starboard hand.

Little Fawn Bar.

This Shoal extends off about **E.** by **S.** 1¼ miles from the Southern part of Deer Island, and is dry at Low Tide about ⅜ mile from the shore. About 200 yards to the Eastward of the Dry Bar, in 13 feet water, is placed a Red Can Buoy (No. 4), which is intended to mark the deepest water at Low Tide (13 feet) across the Bar. About 250 yards East from the Buoy there are 10 feet water, and **E.** by **S.** ⅗ mile but 8 feet. This last spot is called the Middle Ground, and bears from the Red Buoy on Ram Head Reef **N.** by **W.** ¼ mile. Long Island Light bears from the Buoy on Little Fawn Bar **SW.** ⅛ **S.**, distance 1⅛ miles; Beacon off South Point of Deer Island, **SW.** by **W.** ¾ **W.**, distance ⅗ mile.

Remarks.

In entering Boston Harbor by the way of this Sound, there are two passages, called the North and South Channels. The North Channel, which is marked with two Red Can Buoys, is across Great and Little Fawn Bars, and has a depth of about 12 feet water at Low Tide. The South Channel (which at this date [1878] is marked with three Black Can Buoys) has a depth of about 20 feet at Low Tide. With favorable winds, entering Broad Sound, a vessel cannot sail in the deepest water on one direct course for Long Island Light, in either of these Channels.

Sailing Directions from Cape Ann to Boston, by the way of South Channel (Broad Sound), in Daytime, with favorable winds and fair weather.

Vessels passing between Thatcher's Island and the Londoner, will, after leaving the latter, steer **SW.** ½ **W.**, which is the direct course from the Londoner to the Graves. As soon as Long Island Lighthouse is made, bring it to bear **SW.** by **W.** ¾ **W.**, and run for it. On this last course, if there be no error in the compass, the Whistling Buoy off the Graves will be left on the Port hand about ⅗ mile; and as you approach nearer Long Island Lighthouse, you will see nearly in line three Black Can Buoys. The first is on the Northern part of Devil's Back; the second on Northwestern part of Alderidge's Ledge; and the third off Ram Head Ledge. Continue the course **SW.** by **W.** ¾ **W.** for the Lighthouse, until the first Black Can Buoy bears **S.** by **W.**; then steer more Southerly, leaving the three Black Buoys about 150 yards on the Port hand.* On these courses you will have a depth of not less than 20 feet water at Low Tide. When abreast the Black Buoy No. 5, off Ram Head Reef, make good the course **W.** by **S.** ½ **S.**, until Nix's Mate Beacon bears **S.** by **E.**; then follow the directions for Main Ship Channel from Cape Cod to Boston in Daytime, with fair weather. The Southern Channel of Broad Sound is perfectly safe for vessels of 20 feet draught, but should not be attempted by strangers in large or heavy-draught vessels when the Buoys cannot be seen.

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* The current of Ebb between the Buoys on Ram Head Ledge and Alderidge's Ledge sets strong to the Eastward; therefore, with light winds, bound out or in, care must be taken not to be carried on to Alderidge's Ledge.

Directions for Vessels of not more than 10 or 11 feet draught, entering Broad Sound in thick weather.

Having made the Whistling Buoy off the Graves, bring it to bear E. by N., about ½ mile distant, and make good the course W. by S.; when the water shoals to 3½ fathoms, at Low Tide, Long Island Light will bear SW. by W. ½ W., distance 2¾ miles. From this last point steer SW. by W. ¾ W., which course made good, leads across Fawn Bars, in about 11 feet water at Low Tide, into the Ship Channel. It is, however, advisable for vessels of more than 10 feet draught to wait, if possible, until at least ⅓ flood before running in upon these courses. In running W. by S. in thick weather, from the Whistling Buoy off the Graves until you shoal to 3½ fathoms water, it is highly important that allowance should be made for the Tide, which rises and falls about 1½ fathoms at this place. It must be evident, therefore, that 3½ fathoms, at ⅓ flood becomes 4 fathoms, at ⅔ flood 4½, and at high water 5 fathoms. The judicious mariner will therefore make allowance for this rise and fall as circumstances require, before running SW. by W. ¾ W. into the Harbor, or Ship Channel.

Directions for approaching Nantasket Roads in thick Weather.

Vessels of not more than 12 feet draught from the Eastward, making or hearing the Whistling Buoy off the Graves, may bring it to bear N. by E., distance ½ mile, and make good the course S. by W. 2¼ miles, or until the Fog Signal at Boston Lighthouse bears W. by N.; the course is then W. ½ S. into the Roads. In running this last course, the ear, assisted by the compass and lead, will be the pilot. The course made good S. by W. from Whistling Buoy off the Graves, passes ⅙ mile to the Westward of the Red Buoy No. 2, off Martin's Ledge, ⅙ mile to the Eastward of Red Buoy No. 4, off Boston Ledge, and 1¼ miles to the Eastward of Boston Lighthouse.

Sailing Directions from Cape Ann to Boston, by the way of North Channel (Broad Sound), in Day-time, with favorable winds and fair weather.

Vessels passing between Thatcher's Island and the Londoner * will, after leaving the latter, run SW. ⅞ W. for Long Island Light; if the course is made good, Halfway Rock will be left about 1¼ miles to the Westward, and Whistling Buoy off the Graves about the same distance to the Eastward. As soon as Long Island Lighthouse is made, bring it to bear SW. ½ W., and run for it on this bearing. As you approach it, you will see directly ahead a Red Can Buoy, No. 2, which marks the deepest water (about 12 feet at Low Tide) across Great Fawn Bar. Pass close to this Buoy, leaving it to the Westward, and run ⅗ mile SW. by W. ½ W. for Red Can Buoy No. 4, on Little Fawn Bar. This last Buoy marks the deepest water (about 12 feet at Low Tide) across the Bar, and must also be left a short distance to the Westward. When abreast of it, make good the course SW. for Long Island Light, and proceed according to directions before given.

Sailing Directions from Cape Ann to Boston (by way of Broad Sound) in the Night-time, with favorable winds and fair weather.

When Thatcher's Island Lights bear W.NW., distance about 3 miles, make good the course SW. by W. ¼ W., and as soon as Long Island Light is made, bring it to bear SW. by W., and run for it on this bearing. Continue this course until the Light is distant about ½ mile; then proceed according to directions before given from Cape Cod to Boston at Night-time.

Although this bearing SW. by W. for Long Island Light crosses both Great and Little Fawn Bars, where there is, in some places, not more than 11 feet water at Low Tide, yet I consider it the safest course for strangers at Night, in vessels of not more than 10 feet draught. If there should be a heavy sea on the Bars, it is recommended to wait until about half flood, when 14 feet may be

* The Londoner is a dangerous Ledge, dry at low tide, and extends in a NE. by N. and SW. by S. direction about ¼ mile. It is marked with an Iron Spindle 45 feet high, with an Octagonal Cage on top. This Spindle bears from the Northern Lighthouse on Thatcher's Island SE.; distance ½ mile nearly.

carried on this course over them without danger. From ⅓ to ½ flood, at Night, you may beat safely into Broad Sound if your vessel does not draw over 12 feet water, with Long Island Light bearing from SW. ½ W. to SW. by W. ½ W.

Nantasket Roads in Daytime, with favorable winds and fair weather.

Leave the Black Buoy No. 3, off Point Allerton, about 100 yards to the Southward, and make good the course W. by N. for the Horizontal-Striped Buoy off Northern part of Hunt's Ledge; leave this last-mentioned Buoy a few yards to the Southward, and run W. ½ S. until Long Island Lighthouse is well open to the Westward of George's Island; then haul up for it, bearing NW. ½ N., and run in, *under short sail*, midway between the Black Buoy No. 1, off Eastern part of Hospital Shoal and George's Island, and anchor in from 3½ to 5 fathoms water, the Northwestern part of George's Island bearing about E.NE.

Nantasket Roads at Night, with favorable winds and fair weather.

Follow the directions given from Cape Cod to Boston in the Night, with favorable winds and fair weather, until Boston Light bears NE. by E. ¾ E., on which bearing keep it, and run SW. by W. ¾ W., keeping a sharp lookout for the Buoy on the Centurion. If there be no deviation from this course, the Red Buoy No. 2, on Southeast part of the Centurion, will be left about 100 yards on the Starboard hand. When abreast of it, steer W. by S. ½ S., until Long Island Light bears NW. ½ N.; then run for it on this bearing *under short sail*, and anchor when Boston Light is shut in behind George's Island, in from 3¼ to 5 fathoms water. In running in SW. by W. ¾ W. from Boston Light, if you should not make the Buoy on the Centurion: When the Narrows Light bears NW. by N., steer W. by S. ½ S., until Long Island Light bears NW. ½ N.; then proceed as before directed. Vessels from the Eastward bound into Nantasket Roads may bring the Narrows Light to bear W. by N. ½ N., and run for it on this bearing, until Boston Light bears NE. by E. ¾ E.; then follow the directions before given. In Thick weather, at Daytime, when Boston Lighthouse cannot be seen, the ear, assisted by the

compass and eye, will be the pilot into Nantasket Roads. Vessels from Nantasket Roads bound to the city may pass between George's and Galloup's Island into the Narrows.

President Roads.

If intending to anchor in these Roads, follow the directions before given for Broad Sound and Main Ship Channel, at Night or Day, until Long Island Light bears W.SW.; then make good the course W. ½ N. until Long Island Lighthouse bears SE. by E.; then haul in SW. by S., and anchor in from 4½ to 5½ fathoms water, the Light bearing about E. by S. ½ S.

Back or Western Way.

The entrance to this Passage is between the Southwest end of Long Island, Moon Head, Thompson's and Spectacle Islands.

Sailing Directions for Back or Western Way in Daytime, with favorable winds and fair weather.

Follow the directions for Nantasket Roads in Daytime until abreast of Red Buoy No. 2, on Southeast part of Centurion; then run W.SW. until Long Island Lighthouse is well open to the Westward of George's Island, bearing NW. ½ N.; then run for it on this course, passing about midway between George's Island and Black Buoy No. 1, off Eastern part of Hospital Shoal. When the South part of George's Island bears E. by S., make good the course W. by N. until you open the Passage between Rainsford Island and the Southeast point of Long Island; then steer SW. by W., keeping about midway between the two Islands. Continue the course SW. by W. until the Back Way opens; then steer N.NW. through the Passage, keeping nearest to Long and Spectacle Islands. When the Northern part of the last-mentioned Island bears E. by S., run about N. until abreast of Black Buoy No. 7, off SE. part of Castle Island; then proceed according to directions before given. About 9 feet water can be carried through this Channel at Low Tide.

Vessels with strong NW. winds beating up the Harbor may, on the first of the flood, use this Channel; and vessels with SE. winds, on the first part of the ebb, beating down into Nantasket Roads or to sea, should make use of this Passage, as the current of

ebb sets strong to the Northward through the Narrows, and it requires a smart-working vessel to beat through this Passage with **SE.** winds and an Ebb Tide. In beating through the Back or Western Passage, the deepest water will be found nearest Long and Spectacle Islands.

Directions between Long and Spectacle Islands.

Vessels with **NW.** winds beating up the Back Way, when abreast of the **SW.** end of Long Island, will see on the Eastern side of the Channel a Red Buoy, No. 2, which lies off the **SE.** part of Sculpin Ledge,* and is intended to mark the Channel between Long and Spectacle Islands. When this Buoy is in range with Long Island Light, bearing about **NE.** by **E.**, run for it, leaving it about 20 yards on the Port hand. When abreast of it, make good the course **NE.** by **N.**, leaving the Black Buoy off Hotel Wharf about ⅙ mile to the Eastward. When this last-mentioned Buoy bears **SE.** by **S.**, haul sharp upon the wind into the Main Ship Channel. About 12 feet water at Low Tide can be carried through between Long and Spectacle Islands. This last-mentioned depth (12 feet) is about **SW.** by **W.** ¼ mile from the Red Buoy off Sculpin Ledge.

The space between Point Allerton and Point Shirley is full of Islands; the several Channels which lead into Boston Harbor are between them. The most common in use is the Main Ship Channel, North and South Broad Sound Channels, and Back or Western Way. The Hypocrite, Black Rock, and Shirley Gut Channels are considered *as being too intricate for strangers; sailing directions for them are, therefore, omitted.*

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* Sculpin Ledge lies about half-way and nearly on a line between the SW. and S. points of Long and Spectacle Islands. It is a long Reef extending E.SE. and W.NW. nearly 400 yards. Several of the rocks upon it are awash at low tide. A Red Buoy, No. 2, is placed off its SE. part. In beating up or down the Back Way, in order to clear this ledge, care must be taken to keep Governor's Island open to the westward of Spectacle Island.

Hingham Harbor.

For approaching and entering this Harbor, follow the directions before given for Nantasket Roads, in Daytime, with favorable winds and fair weather, when the eye, assisted by the compass, is pilot.

Bring Boston Lighthouse to bear **NE.** by **E.** ¾ **E.**, on which bearing keep it, and run **SW.** by **W.** ¾ **W.** until you open the Passage called Nantasket Gut; * then run through this Passage, keeping nearest Windmill Point, which is bold, and is left on the Port hand. When abreast of this Point, make good the course **S.** by **E.** ½ **E.** to Black Buoy No. 1, off Bumkin Island Shoal, which you will leave about 75 yards on the Port hand. From this Buoy steer **SE.** by **S.** ½ **S.**, leaving Bumkin Island (the Western point of which is quite bold) about 150 yards to the Eastward. When abreast of this Island you will see nearly ahead two Buoys, one Black, the other Red; leave the Red Buoy No. 2 about 20 yards to the Westward, and run **S.** ½ **W.** about ¼ mile; then **S.** by **E.** ¾ **E.**, for Crow Point Wharf (distance about ½ mile), which is left about 150 yards to the Westward. When abreast of this wharf, you will see nearly ahead a Black Buoy No. 3, which lies on the West side of Channel Rock. Run for this Buoy, bearing **S.** by **E.** ¾ **E.**, and haul round it at a distance of 50 yards, leaving it on the Port hand; then run **E.** ¼ **S.** about ⅛ mile, and anchor between Chandler's and Sailor's Islands in from 2½ to 3½ fathoms at Low Tide. About 12 feet water can be carried at Low Tide from Bumkin Island to this anchorage. From this point to the town, it is recommended for strangers to take pilots, as the Channel is both narrow and crooked. The Channel is to the Eastward of Sailor's Island, and about 8 feet water at this date (1878) can be carried at Low Tide to the first wharf.†

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* The passage between Peddock's Island on the West and Windmill Point on the East, is called Nantasket Gut. The entrance to this Gut bears South from George's Island; distance about one mile.

† In entering Hingham Harbor, three small Islands will be seen lying apparently in the middle of the passage. The most Northerly of these is called Chandler's Island, the most Westerly Ragged Island, and the most Easterly Sailor's Island.

Weymouth Back River.

The entrance to this River, which is between Grape Island on the North and Long Neck on the South, bears **S.SE.** from Pig Rock Beacon; distance 1 mile. At High Tide, about 17 feet water can be carried to the Bradley Fertilizer Company's Works, which is about ¾ mile from its entrance, and about 15 feet to the Coal Wharf, which is ½ mile above these works.

Sailing Directions for Weymouth Back River in Daytime, with favorable winds and fair weather.

By the following directions, at High Water, vessels of not more than 10 feet draught, with winds from **N.NW.** to **NE.**, may safely enter this River.

From the Southward or Eastward, follow the directions before given for Boston Harbor until Boston Lighthouse bears **NE.** by **E.** ¾ **E.**; then make good the course **SW.** by **W.** ¾ **W.** When the passage called Nantasket Gut * is fairly open, then run in, keeping nearest Windmill Point, which is on the Eastern side of this Gut; bring this last-mentioned Point to bear **NE.** by **N.** ½ **N.**, and make good the course **SW.** by **S.** ½ **S.** As you sail in, you will see to the Southwestward Pig Rock Beacon; continue the course **SW.** by **S.** ½ **S.** until this Beacon bears **SW.** by **W.**; then run for it on this course, passing between two small Islands called Prince Head and Sheep Island; the latter, which is low, is left on the Port hand. When about ½ mile from Pig Rock Beacon there will be seen, about ¾ mile to the Southward of Sheep Island, another Island, which is quite high; this is called Grape Island. When the Western part of this last-named Island bears **S.** ½ **E.**, run for it on this course until the Western part of Sheep Island bears **NE.** by **N.**; then steer **SW.** by **S.** until Pig Rock Beacon bears **N.** by **W.** If it is Low Tide, then anchor in from 3 to 4

* The passage between Peddock's Island on the West and Windmill Point on the East is called Nantasket Gut. The centre of this Gut bears South from George's Island; distance about 1 mile.

fathoms water, with the first Buoy (Black), at the entrance of the River, bearing **SE.**; distance about ⅓ mile. At ¾ Flood, in order to avoid the Shoal Water and Rocks which extend off from the Northwest part of Grape Island, steer from this anchorage **S.SE.** until the first Buoy (Black) at the entrance bears about East; then run for it, leaving it close to on the Port, and haul round the next Buoy (Red) close to, leaving it on the Starboard, and steer to the Southward, leaving one Black Buoy on the Port, and two Red Buoys on the Starboard hand; haul round the last Buoy off the Point, and if bound to the Bradley Fertilizer Company's Works, keep the outer end of the wharf a little on the Starboard bow; but if bound up to the Coal Wharf, after passing the above works keep about in the middle of the River. Strangers should not attempt to beat into Weymouth Back River.

It is advisable for vessels of more than 10 feet draught bound to this river, to anchor in Nantasket Roads and employ a Tug Boat. The distance from the above Roads to the entrance of Weymouth Back River is 3 miles.

High Water.

It is High Water in Weymouth Back River about the same time that it is at Boston. Common Tides rise about 9½ feet.

Quincy or Weymouth.

Sailing Directions for approaching and entering Weymouth Fore River in Daytime, with favorable Winds and fair weather.

After passing through Nantasket Gut, according to directions before given for Hingham Harbor, bring Windmill Point (which is on the Eastern side of the Gut) to bear **NE.** by **N.** ½ **N.**, on which bearing keep it, and run **SW.** by **S.** ½ **S.**, until Pig Rock Beacon bears **SW.** by **W.**; then run directly for it on this course, until midway between Prince Head on the Starboard, and Sheep Island * on your Port hand; then run for the Western part of Grape Island (which is quite high), bearing **S.** ½ **E.** On this last course Pig Rock Beacon will be left about ⅗ mile to the Westward, and Sheep Island about ⅕ mile to the Eastward. Continue the course **S.** ½ **E.** for the Western part of Grape Island, until the Western part of Sheep Island bears **NE.** ½ **N.**, on which bearing keep it, and run **SW.** ½ **S.** until you make three Buoys, which lie off to the Northward of Weymouth Great Hill. The first of these Buoys is No. 1, Black, and lies off the Northwest side of Jacknife Ledge; the second is Red, No. 2, and lies on the West side of the Channel; the third is Red and Black, horizontal-striped, and lies upon a large rock which is on the West side of the Channel. The Black Buoy is left on the Port, the others on the Starboard hand. After passing these Buoys, a pilot is necessary, as the river is both narrow and crooked. If the wind should not be strong enough to sail against the current through Nantasket Gut, bring the South part of George's Island to bear **NE.** ½ **E.**, on which bearing keep it, and run **SW.** ½ **W.**, which will take you between the Northwest point of Peddock's Island and Sunken Ledge Beacon. As you sail in on this course **SW.** ½ **W.**, you will see a Red Buoy, No. 4, which lies off the Northeast side of a rock. When this Buoy bears **SW.** by **S.** ½ **S.**, run for it, leaving it about 20 yards to the Westward, and steer **SE.** by **E.** ½ **E.**, leaving Pig Rock Beacon 250 yards to the Southward. When the Western part of Grape Island bears **S.** ½ **E.**, the courses are as before given.

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* This is a small island bearing E. ½ S. from Pig Rock Beacon; distance about ⅝ mile. At low tide, vessels of 10 feet draught may approach its western part as near as ⅛ mile.

At Low Tide, vessels of not more than 8 feet draught, from the city or Broad Sound, bound to Quincy or Weymouth, may leave Long Island Light about ½ mile to the Eastward, and run **SW.** by **S.**, leaving the Black Buoy No. 1, on rock off Hotel Wharf, ⅛ mile to the Eastward. As you sail between Long and Spectacle Islands, the Buoy No. 2, on Sculpin Ledge, will be seen nearly ahead. Bring this Buoy to bear **SW.** by **S.**, and run for it, leaving it on the Starboard hand about 20 yards, and steer for Moon Head, bearing **SW.** by **W.**, until the Southwest end of Long Island bears **E.** by **S.**; then run **SE.** by **S.** ½ **S.**, passing midway between Hangman's Island and Sunken Ledge Beacon. After passing the Beacon, you will see the Red Buoy No. 4, which bring to bear **SE.** by **S.** ½ **S.**, and steer for it, leaving it 20 yards to the Westward. From this last Buoy steer **SE.** by **E.** ½ **E.**, leaving Pig Rock Beacon 250 yards to the Southward; then proceed according to directions before given.

Neponset River.

Vessels bound into this river, when about ⅓ mile to the Northward of Spectacle Island, will see to the Southwestward, about ¾ mile distant, a Red Buoy,* No. 2. Bring this Buoy to bear **SW.** by **W.**, and run for it on this course, leaving it a short distance on the Starboard hand, and steer **W.** by **S.** ¾ **S.**, passing midway between two Buoys, one Red, the other Black. From this last-mentioned point the course is **SW.** ½ **W.** to Red Buoy No. 6. When abreast of this Buoy (which is left on the Starboard hand), it is recommended to anchor and take a pilot, as the Channel above this is both narrow and crooked.

* This Buoy bears from the Northern part of Spectacle Island W.; distance ½ mile. From NE. end of Thomson's Island, N. ½ W.; distance ½ mile.

Lynn Harbor.

This Harbor is between Boston Lighthouse and Nahant, or on the Northern side of what is called Broad Sound. Strangers in vessels of more than 7 feet draught should not attempt to enter this place without pilots, as the Channels are narrow, crooked, and shallow. With a good pilot, about 12 feet water (at this date, 1879,) can be carried to the city at High Water. With Northerly winds, it is usual for vessels to enter Boston Harbor and anchor in President Roads until the winds are favorable for entering this place.

Sailing Directions for approaching Lynn Harbor in Daytime, with favorable winds and fair weather.

Vessels from Cape Cod may bring Minot's Lighthouse to bear **SE.** by **S.** ¾ **S.**, and steer **NW.** by **N.** ¾ **N.** for Whistling Buoy off the Graves; distance 7¾ miles. Leave this Buoy a short distance to the Westward, and make good the course **NW.** for Bass Point.* When this point bears **NE.** by **E.**, distance ½ mile, then wait for a pilot.

Vessels passing between Thatcher's Island and the Londoner, will, after leaving the latter, steer **SW.** ½ **W.** until Nahant Head bears **W.**; then haul round it at a distance of ¾ mile, and wait for a pilot.

Strangers in vessels of not more than 7 feet draught may enter this Harbor at ¾ flood by the following directions:—Leave Bass Point (which is bold) ¼ mile to the Eastward, and run **NW.** by **N.** *As you sail in you will see two Buoys, one Black, the other Red.* The Red Buoy No. 2 lies off to the Southwestward of Lobster Rocks, which are bare at very Low Tides. The Black Buoy No. 1 lies to the Southward of White Rocks, which are awash at Low Tide. When this last-mentioned Black Buoy bears **N.NW.**, run for it, leaving it about 50 yards to the Westward. When abreast of it, steer **NE.**, leaving the Red Buoy No. 4, off Black Rocks, about 100 yards to the Eastward. From this last-mentioned Buoy make good the course **N.** by **E.** ½ **E.** for the city. These

* The western part of Nahant is called Bass Point. Vessels may approach it as near as ¼ mile without danger.

courses into Lynn Harbor should not be attempted until after ¾ flood.

It is High Water in Lynn Harbor 17 minutes before it is at Boston; common tides rise about 9½ feet. From Boston or President Roads bound to Lynn, see sailing directions for Broad Sound in Daytime.

Chelsea Creek and Saugus River.

Pine's Point, on the West side of the entrance to this River and Creek, bears about **N.NW.** from Bass Point, the Western part of Nahant, distance 1⅞ mile. Strangers without a pilot in vessels of about 7 feet draught may, with favorable winds, at ¾ flood, enter as far as the mouths of this Creek and River.

Sailing Directions for Chelsea Creek and Saugus River, in Daytime, with favorable winds and fair weather.

From the Southward or Eastward, follow the directions for Lynn Harbor, and at ¾ flood leave Bass Point (which is bold) ¼ mile to the Eastward, and run **NW.** by **N.** On this course you will see the Red Buoy on Lobster Rocks, and also the Black Buoy No. 1, off White Rocks.* Leave this last Buoy 100 yards to the Eastward, and run **N.** ¼ **W.**, leaving the two Black Buoys, Nos. 3 and 5, about 75 yards to the Westward. From the last Buoy the course is **N.** by **E.** ¼ **E.** until the Black Buoy No. 7, off Pine's Point, at the entrance of the River, bears **N.** by **W.**; then run for it, leaving it a short distance to the Westward. From this last Buoy haul up **NW.** ½ **W.**, leaving the Buoy No. 2, on Round Rock, 30 yards to the Eastward. When abreast of this Buoy, steer **W.NW.** until the draw in the Railroad Bridge bears **N.** by **W.** ½ **W.**; then anchor a short distance from it. Above this no intelligible directions can be given. Strangers, therefore, should not attempt to go above this anchorage without a pilot. It is High Water at the mouth of Chelsea Creek and Saugus River 15 minutes before it is at Boston. Common tides rise about 9½ feet.

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* Bound into Lynn, the Black Buoy off White Rocks is left to the Westward. Bound into Saugus River, it is left to the Eastward.

Nahant Harbor.

Sailing Directions for Nahant Harbor in Daytime, with favorable winds and fair weather.

Run for the **SE.** part of Nahant (generally called Nahant Head), bearing **NE.** until you make the Spindle on Bass Rock,* and the Black Buoy No. 1 on Joe Beach Ledge. This Ledge has but 3 feet water upon it at Low Tide. Continue the course **NE.** until this Buoy bears **N.** by **W.**; then steer for it, leaving it about 100 feet to the Westward. On this course you will also leave Shag Rocks and Pea Island (which are both bold) a short distance to the Eastward. When abreast of the Buoy, run **N.** by **W.** about 150 yards, and anchor in about 2 fathoms water at Low Tide (which will be 3¾ fathoms at High Tide). This Harbor is exposed to Southerly winds.

Swampscott Harbor.

Seven-eighths of a mile **N.NE.** from the Eastern point of Nahant is a small rocky Island called Egg Rock. This Island is bold, and extends nearly East and West about ⅛ mile, and is 60 feet in height. A Lighthouse has been erected upon its summit, which shows a Red Fixed Light, and is intended as a guide to Swampscott Harbor.

Sailing Directions for Swampscott Harbor in Daytime, and also at Night, when the Lights can be seen.

From Cape Cod, or the Southwestward, bring Egg Rock Light to bear **NW.** by **N.**, and run for it, leaving it about ¼ mile to the Westward. When abreast of the Light, run **N.NW.**, and anchor in from 5 to 7 fathoms water. At Night, run for the Light (as before given), until abreast of it; then haul round it to the West-

* This Rock is bare at half tide. There is a good channel between the Spindle on this rock and the Buoy on Joe Beach Ledge. Entering by this passage, do not approach nearer to the Spindle than 125 yards, and nearer than 75 yards to the Buoy.

ward at a distance of ½ mile from it, until it bears **S.** by **E.** ¾ **E.**; then run **N.** by **W.** ¾ **W.**, and anchor as before directed.

From the Northeastward, after passing between Thatcher's Island and the Londoner, make good the course **SW.** ¾ **W.** until Egg Rock Lighthouse bears **W.** by **S.**; then run for it on this course. If there be no error in the compass, Halfway Rock will be left 1½ mile to the Northward, and the Buoys off Great Pig Rocks ¾ mile to the Northward. When the Spindle on Dread Ledge * bears **NW.** by **W.** ½ **W.**, steer **W.** ½ **N.**, leaving it about ⅓ mile to Northward, and anchor in from 5 to 7 fathoms water. At Night, when Thatcher's Island Lights bear **W. NW.**, distance about 3 miles, make good the course **SW.** by **W.**, and as soon as the Red Light upon Egg Rock is made, bring it to bear West, and run for it on this bearing, leaving it ½ mile to the Southward. When the Light bears **S.** by **E.** ½ **E.**, run **N.** by **W.** ½ **W.**, and anchor as before directed. In coming from sea, Egg Rock Light may be safely run for on any bearing from **W.** ½ **S.** to **NW.** The Rock called the Roaring Bull is awash at Low Water, and is marked with a Red Buoy, No. 2. This Buoy bears from Marblehead Light **S.** by **W.** ½ **W.**, distance 1⅗ mile; from South part of Tinker's Island **SW.** by **S.**, distance ⅙ mile. Vessels from the Eastward bound to Swampscott or the Westward may leave the Buoy on the Roaring Bull about ⅛ mile to the Northward, and run **NW.** until it bears **NE.** by **E.** ¾ **E.**, on which bearing keep it, and run **SW.** by **W.** ¾ **W.** On this course the Great Pig Rocks (which are above water), Outer Breaker, Southern Shoal, and Southwest Breaker, will be left to the Southward; Middle Breaker, Dolphin Rock, Sammy's Rock, Ram Island, and Little Pig Rock, to the Northward. After passing these Rocks,† continue the course **SW.** by **W.** ¾ **W.**, until the Spindle on Dread Ledge bears **NW.** by **W.** ½ **W.**; then proceed and anchor as before directed.

Swampscott Harbor is exposed to winds from **S.** to **E.NE.**

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* This Ledge extends from Philips' Point, and is marked on its Southern part with a Spindle, which bears from Egg Rock Lighthouse N. by E. ½ E.; distance 1½ mile.

† The passage between these Rocks is about ¼ mile in width.

Marblehead Harbor.*

Dangers in entering this Harbor.

Halfway Rock.

This Rock is about 40 feet high, and very bold. Upon its summit there was formerly a Beacon; but all of this is now gone at this time, except the foundation, which shows as a white boulder on the top of it. It bears from Marblehead Light **E.** by **S.** ½ **S.**, distance 2⅝ miles.

Roaring Bull,

Which is awash at Low Tide, bears **S.** by **W.** ½ **W.** from Marblehead Light, distance 1⅗ mile. In going in, the Red Buoy No. 2 off this Rock is left to the Westward.

Tom Moore's Rocks.

These Rocks, which are bare at about ⅓ ebb, are marked off their Eastern part with a Black Buoy No. 1, which bears from Marblehead Light **S.** ½ **E.** about ⅝ mile. Bound in, this Buoy is left to the Westward.

Marblehead Rock.

This Rock, which is high out of water, is marked with a Beacon, which bears from Marblehead Light **SE.** by **E.**, distance ⅜ mile. It is bold on its Northern and Eastern sides. There is a Channel of 5 fathoms water between it and the shore.

Lasque's Ledge, called by some Half-Tide Rocks.

This is a Rocky Shoal, extending off to the Northeastward from Marblehead Light. At Low Tide, the Rocks are bare 160 yards from the shore. The Northeast end of the Ledge is marked with a Black Buoy No. 3, which bears from Marblehead Light **E.** ½ **N.**, distance about ⅓ mile. In passing in, this Buoy is left on the Port hand.

Gordon's Rock,

Which lies off 70 yards to the Northward of Marblehead Point, has 7 feet water upon it at Low Tide. It is marked with a Black

* South side of entrance to Marblehead Harbor is a Lighthouse which shows a fixed White Light.

Buoy No. 5, which bears from Marblehead Light N. by E. ¼ E., distance about 150 yards. In passing in, this Buoy is left to the Southward.

Boden's Rock,

Which lies off the Eastern shore of the Harbor, has 8 feet water upon it at Low Tide. It is marked with a Black Buoy No. 7, which bears from the light W.SW., distance about ½ mile.

Sailing Directions for Marblehead Harbor in Daytime, with favorable winds and fair weather.

The course from Cape Cod Highland Light to Marblehead Light, at this date, (1878,) is NW. ½ N., distance 44½ miles. Vessels, therefore, from the Southward bound to Marblehead will bring Cape Cod (Highland Light) to bear SE. ½ S., and make good the course NW. ½ N. As soon as Marblehead Lighthouse is made, bring it to bear NW. ½ N., and run for it on this course. As you sail in, you will see on the Starboard bow what appears to be two small high rocky Islands, which are connected at Low Water. This is called Marblehead Rock. On the top of the Northeastern part of this Rock a Beacon has been built, which is painted Black and White in Horizontal stripes. This Beacon must be left ⅛ mile to the Westward. When abreast of it, you will see about ⅓ mile to the Northwestward a Black Buoy, which must also be left to the Westward. From this Buoy run NW. until you open the Harbor; then run in, passing midway between Fort Sewall and the Lighthouse, and run up about SW. by W., and anchor off the town in from 3½ to 4 fathoms at Low Tide.

From Boston by Main Ship Channel or Broad Sound, bring the Whistling Buoy off the Graves to bear SW. by S. ¼ S., and run NE. by N. ¼ N. for Baker's Island Lights, distant 10½ miles. On this course the Buoy off Southern Shoal (Great Pig Rocks) will be left ¾ mile to the Northwestward. As soon as Baker's Island Lighthouses are made, bring them to bear NE. by N., on which bearing keep them, and run for them. On this course the Roaring Bull will be left about ¾ mile to the Westward. Continue the course NE. by N. for the Lighthouses, until Marblehead Light bears NW. ½ N.; then run in according to directions before given.

From the Eastward, after passing between Thatcher's Island and the Londoner, steer SW. by W. until you make Halfway Rock,

which must be brought to bear **W.** in order to clear the outer Breakers. The Southern part of these Breakers are marked with a Red Buoy, No. 2, Halfway Rock bears **SW.** by **W.** from this Buoy, distance ⅞ mile; Marblehead Light **W.** ½ **N.**, distance 3¼ miles; Baker's Island Lights **NW.** by **N.** ¾ **N.**, distance 1⅞ miles. Leave Halfway Rock 150 yards on either side, and run for Marblehead Light, bearing **W.** by **N.** ¼ **N.** until Marblehead Rock bears **SW.**; then proceed according to directions before given.

From the eastward, with Northerly winds, vessels may enter Marblehead Harbor by the following directions: When Baker's Island Lighthouses bear **W.** by **N.** ½ **N.**, run for them on this course, leaving the Black Buoy No. 5 off to the Northwest of them, about 150 yards to the Southward. As you sail in on this course (**W.** by **N.** ½ **N.**), you will see to the Southward the Black Buoy and Beacon on Hardy's Rocks, and the Horizontal-striped Buoy on House Ledge. After passing these, you will see the Beacon * on Bowditch's Ledge (which may be left 150 yards on either hand). After passing this last-mentioned Beacon a short distance, bring it to bear **NE.** ½ **E.**, on which bearing keep it and run **SW.** ½ **W.**, until the Red Buoy No. 6, which lies off Northwest from Eagle Island, is in range with Baker's Island Lights, bearing **E.** ¼ **N.**, then steer directly for Marblehead Lighthouse, bearing **SW.** by **S.** ½ **S.** On this course you will pass between Gray's Rock † and the Horizontal-striped Buoy on Chappel Ledge; this ledge lies in Mid-channel, and is not dangerous for small vessels, as not less than 14 feet water has been found upon it up to this date. Continue the course for the Light until you open the harbor, then run in about **SW.** ½ **W.** and anchor off the town.

Sailing Directions for Marblehead Harbor in the Night-time, with favorable winds and fair weather.

From the Southward run **NW.** ½ **N.** from Highland Light, Cape Cod, and as soon as Baker's Island Lights are made, bring

* The Beacon on Bowditch's Ledge is painted Black, and bears W.NW. from Baker's Island Lights; distance 1⅛ mile. The Ledge has but little water upon it at low tide.

† Gray's Rock is a small rocky Island. Marblehead Light bears from this Rock S. by W. ¾ W.; distance about ⅞ mile. Its Northeastern part may be approached as near as 125 yards, without danger.

them to bear **NE.** by **N.** ½ **N.**, and run for them on this course until Marblehead Light bears **W.NW.**, on which bearing keep it, and steer directly for it. On this last course Marblehead Rock will be left 150 yards to the Southward. Keep a sharp lookout for the rock, and when it bears **SW.**, run **NW.** ½ **N.** On this last course, the Buoy of Lasque's Ledge will be left about 75 yards to the Southwest; continue the course **NW.** ½ **N.**, until Marblehead Light bears **S.** by **W.**, then run **SW.** ½ **W.** into the harbor, and anchor off the town in from 3½ to 4½ fathoms water at low tide. If the darkness be so great that Marblehead Rock cannot be seen from 100 to 200 yards, run for the Light bearing **W.NW.** under short sail, until you judge you are about ½ mile from it, then steer **NW.** ½ **N.** until the light bears **W.** ½ **S.**, then haul round it and pass the Lighthouse point in not less than 5 fathoms water; when the light bears **E.** by **N.**, anchor in about 4½ fathoms water at low tide.

From Boston by Main Ship Channel, passing South of the Graves.

When abreast of the Whistling Buoy off the Graves, run **NE.** by **N.**, and as soon as Baker's Island Lights are made bring them to bear **NE.** by **N.** ½ **N.**, on which bearing keep them, and run for them until Marblehead Light bears **W.NW.**, when the courses are as before given.

From Boston, by way of Broad Sound, passing North of the Graves.

When abreast of Whistling Buoy, run **NE.** until Baker's Island Lights are made, then bring them to bear **NE.** by **N.** ½ **N.**, on which bearing keep them, and run for them until Marblehead Light bears **W.NW.**; then run in according to directions before given.

From the Eastward, when Thatcher's Island Lights bear **W. NW.**, 3 or 4 miles distance, run **SW.** by **W.** ½ **W.** until Marblehead Light bears **W.NW.**; on which bearing keep it and run for it. If there be no error in the compass on this last course, Halfway Rock will be left ⅓ mile to the Northward; it is, however, advisable, in a dark night, to keep a sharp lookout for this rock, which is bold. When Marblehead Rock bears **SW.**, run in according to directions before given. In beating into Marblehead Harbor the Light may be brought to bear from **N.NW.** to **W.NW.**, until up with Marblehead Rock. This harbor is exposed to **NE.** winds.

Salem Harbor.

Baker's Island Lights.

Upon this Island there are two Fixed Lights, which are intended as guides to Salem, Manchester, and Beverly Harbors. These lighthouses are 40 feet apart, and bear **SE.** and **NW.** from each other. The Southern light is the highest.

Hospital Point Light.

This is a Fixed White Light, and is intended as a guide to Salem Harbor: it is so arranged that it shows much brighter when a vessel is in Mid-channel.

Fort Pickering and Derby Wharf Range Lights.

On a bare Rock, on the North side of the harbor, ¾ mile East from the city of Salem, is erected a Lighthouse or Tower, which shows a Fixed White Light; and also upon Derby's Wharf is a Lighthouse which shows a Red Fixed Light. These two lights form a range to enter the harbor.

Dangers in entering Salem Harbor.

In entering this harbor there are many dangers, but we shall only describe those lying upon the sides of the Main Ship Channel.

Outer (or Southeast) Breakers.

This Ledge, upon which there are not more than 3 or 4 feet of water at low tide, is marked upon its Southern part with a Red Buoy No. 2; Baker's Island Lights bear from this Buoy **NW.** by **N.** ¾ **N.**, distance 1⅞ miles; Halfway Rock **SW.** by **W.**, distance ⅞ mile. There are many dangers between this Buoy and Baker's Island; strangers, therefore, should not attempt to pass between them. 10 fathoms water was found 200 yards in an Easterly direction from the rocks; the lead, therefore, gives but little warning in approaching it.

Middle Breakers.

These rocks, which are dry at low tide, are marked, off their Northeast part, with a Black Buoy, No. 1; Baker's Island Lights bear from this buoy **NW.** by **N.**; distance 1⅓ miles. 10 fath-

oms water was found 200 yards in a Southeasterly direction from these rocks; in approaching them from the southeast, the lead, therefore, gives but little warning. Bound in, the Buoy on these rocks is left to the Westward.

Searl's Rock.

This rock, upon which there are about 5 feet water at Low Tide, is marked, off its Northeast part, with a Black Buoy, No. 3. Baker's Island Lights bear from this Buoy **NW.**; distance about ½ mile. A little west of a line drawn from Searl's Rock to the Middle Breakers is an extensive Shoal, called the "Inner Breaker." Vessels should not approach nearer than 6 fathoms to this shoal. In sailing into Salem by Ship Channel, this buoy is left to the Westward.

Gale's Ledge.

This is a very dangerous Ledge, having but 2 or 3 feet water upon it at very Low Tides. It is marked off its South side with a Red Buoy, No. 2. Baker's Island Lights bear from this Buoy **SW.** by **W.** ¼ **W.**; distance 1¼ miles. 10 fathoms water was found ⅙ mile **E.SE.** from this Ledge. Bound into Salem by way of the Main Ship Channel, this Buoy is left to the Northward.

Pilgrim Ledge.

About ¼ mile to the Westward of Gale's Ledge is Pilgrim Ledge, which has 19 feet water upon it at Low tide. Baker's Island Lights bear from this Ledge **SW.** ¾ **W.**; distance about 1 mile.

Whale's Back.

This Ledge is dry at ¾ ebb, and lies in the passage from Baker's Island to Manchester; its centre is marked with a Red Spindle. Baker's Island Lights bear from this Spindle **S.** by **W.** ¼ **W.**; distance about ⅗ mile.

Little Misery Island.

Baker's Island Lights bear from the Southern point of this island **SE.** ½ **S.**; distance about ¾ mile. The South point of the island is bold, and vessels may approach as near to it as 100 yards without danger. The Main Ship Channel is between this and Baker's Island.

Misery Ledge.

This is a small Rock, having about 8 feet water upon it at Low Tide. It is marked with a Buoy having Red and Black Horizontal Stripes. Baker's Island Lights bear from this buoy **SE.** by **E.**; distance 1⅓ miles. Going in, this Buoy is left to the Northward. The Main Ship Channel passes between this Buoy and Bowditch's Ledge.

John's Ledge.

About ⅛ mile to the Westward of Misery Ledge will be seen another Buoy having Red and Black Horizontal Stripes; this is on John's Ledge, a small rock having 8 feet water upon it at Low Tide. Baker's Island Lights bear from this Buoy **SE.** by **E.** ¼ **E.**; distance 1⅓ miles. In going into Salem or Beverly by Main Ship Channel, Gale's Ledge, Pilgrim Ledge, Whale's Back, Little Misery Island, Misery Ledge, and John's Ledge, are all left to the Northward.

Baker's Island Shoal.

The Rocky Shoal extending off Northwest from Baker's Island is marked on its Northern part with a Black Buoy, No. 5. Baker's Island Lights bear from this buoy **SE.** by **S.** ½ **S.**; distance ⅓ mile.

Hardy's Rocks.

These Rocks are bare at half tide, and are marked with a Beacon painted Black, and also off their Northern part with a Black Buoy, No. 7. Baker's Island Lights bear from this Buoy **E.** by **S.** ¾ **S.**; distance ½ mile. In passing in, this Buoy is left to the Southward.

House Ledge.

In sailing in, a Buoy will be seen a short distance to the Northwest of Hardy's Rocks Beacon, having Red and Black Horizontal Stripes. This is on House Ledge, which is a small rock having 8 feet water upon it at Low Tide. Baker's Island Lights bear from this Buoy **SE.** by **E.** ½ **E.**; distance ¾ mile. This Buoy is left to the Southward in going into Salem Harbor.

Bowditch's Ledge.

After passing the Horizontal-striped Buoy on House Ledge, the next Beacon, with Cage on its top, painted Black,

is on Bowditch's Ledge, which has but little water on it at Low Tide. Baker's Island Lights bear from this Beacon **E.SE.**; distance 1⅛ miles. Bound into Salem or Beverly, Hardy's Rocks, House Ledge, and Bowditch's Ledge are all left to the Southward.

Little Haste Rock and Shoal.

When abreast of the Beacon on Bowditch's Ledge, you will see, about 1½ miles distant on the Port bow, a spar painted Black, with a Cask on its top. This Beacon is on Little Haste Rock, which is dry at low water. About **N.NW.** from the Beacon on the point of the Shoal extending from Little Haste Rock, is placed in 16 feet water, a Black Buoy, No. 13. Bowditch's Ledge Beacon bears from this buoy **E.** ½ **S.**; distance about 1½ miles. Baker's Island Lights **E.** by **S.** ¼ **S.**; distance 2½ miles. Bound in, this buoy is left to the Southward.

Middle Ground.

When abreast of the Black Buoy No. 15, on Haste Shoal, there will be seen, about ⅗ mile to the Southwest, a Black Buoy, No. 15; this is on the Northwest side of the Middle Ground. Fort Pickering Lighthouse bears from this buoy **W.** by **S.** ½ **S.**; distance ½ mile.

Great Aqua Vitæ.

When abreast of the Black Buoy off Middle Ground, about ¼ mile to the Southward, you will see a Black Beacon surmounted with wooden Staff and Cage. This is on a large bed of Rocks called "Great Aqua Vitæ," which are dry at ⅓ ebb. Fort Pickering Lighthouse bears from this Beacon **W.** by **N.** ½ **N.**; distance a little more than ⅓ mile. About **W.** by **S.** ½ **S.**, 200 yards from the Beacon, will be seen a Red Buoy, No. 10, which lies off South from Knapp's Rock, which has 7 feet water upon it at Low Tide. Bound into Salem by Main Ship Channel, the Beacon and Buoy on Haste Rock and Shoal, Buoy on Northwest part of Middle Ground, and Beacon on Great Aqua Vitæ, are all left to the Eastward.

Abbott's Rock.

NE. ¼ mile from Fort Pickering Lighthouse is a Monument painted Red, and surmounted with a wooden Staff with a Square

Cage on top. This Monument is built upon Abbott's Rock, which is bare at Low Tide.

Half Tide Rock.

After passing Fort Pickering Lighthouse, a short distance to the Southward, a Red Buoy, No. 12, will be seen, which lies near a rock called "Half-Tide Rock." This Rock is bare at very Low Tides. Bound into Salem Harbor, Abbott's Monument and Buoy off Half-Tide Rock are both left to the Westward.

Sailing Directions for Salem Harbor, by Main Ship Channel, in Daytime, with favorable winds and fair weather.

The course from Cape Cod Highland Light to Baker's Island Lights (at this date, 1878,) is **NW.** ¾ **N.**; distance 43¾ miles. Vessels, therefore, from the Southward, bound to Salem, will bring Cape Cod Highland Light to bear **SE.** ¾ **S.** and run **NW.** ¾ **N.** As soon as Baker's Island Lights are made, bring them to bear **NW.** ½ **W.**, and run in, keeping them a little on the Port bow; if there is no error in the compass, the **SE.** and Outer Breakers, and also Searl's Rock, will all be left to the Westward. Give Baker's Island Lights a berth of ¼ mile, leaving them to the Southward, and run for the Lighthouse on Hospital Point, bearing about **W.** by **N.** ¾ **N.** On this course the Black Buoy No. 5, off Northwest part of Baker's Island; Black Buoy No. 7, off Hardy's Rocks; Horizontal-striped Buoy off House Ledge; and Black Beacon on Bowditch's Ledge, will all be left to the Southward. Little Misery Island, Horizontal-striped Buoy off Misery Ledge; and Horizontal-striped Buoy off John's Ledge, will all be left to the Northward. When midway between Misery Ledge and Beacon on Bowditch's Ledge * (which has a Cage on its top painted Black), run about **W.** ¼ **N.**; as you sail in, you will see, on the Port bow, the beacon on Little Haste Rock. (See description of this Beacon, and also the Black Buoy off Haste Shoal.) Leave this last-mentioned Buoy about 200 yards to the Eastward, and run in about **SW.** by **W.**, leaving the Black Buoy off Northwest part of Middle Ground, Beacon on Great Aqua Vitæ Rocks, and Red Buoy off Knapp's Rock, all to the Eastward. Abbott's Monu-

* Between Bowditch's and Misery Ledges the channel is but ¼ mile in width.

ment, Fort Pickering Lighthouse, and Red Buoy off Half-tide Rock, all to the Westward. When Derby Wharf Light bears west, anchor in soft bottom, in from 3 to 3½ fathoms at Low Tide.

From Boston by Main Ship Channel, or Broad Sound.

Bring the Whistling Buoy off the Graves to bear **SW.** ½ **S.**, and make good the course **NE.** ½ **N.**, leaving Halfway Rock and Buoy on **SE.** Breaker, a short distance to the Northward. When Baker's Island Lights bear **NW.** ½ **W.**, run in as before directed.

From the Eastward.

After passing between Thatcher's Island Lights and the Londoner, steer **SW.** by **W.** until Baker's Island Lights bear **W.** by **N.**, then run for them, leaving them ¼ mile to the Southward, and proceed according to directions before given.

Sailing Directions for Salem Harbor by Main Ship Channel, at Night-time, with favorable Winds and fair weather.

From the Southward make good the course **NW.** ¾ **N.** from Cape Cod Highland Light, and as soon as Baker's Island Lights are made, bring them to bear **W.NW.**, and run for them with the low light open to the Eastward of the high light. Give Baker's Island a berth of ¼ mile, leaving it to the Southward, and bring Hospital Point Light * to bear from **W.** by **N.** ½ **N.** to **W.** by **N.** ¾ **N.**; on which bearing keep it, and run for it until the White Light on Fort Pickering and the Red Light on Derby's Wharf are in range, bearing **SW.** by **W.** ¾ **W.**; then run for them on this range until the Light upon Hospital Point bears **N.** by **E.**; then steer **SW.** ¾ **W.** into the harbor. When the Red Light on Derby's Wharf bears **W.**, then anchor in soft bottom in from 3 to 3½ fathoms water at Low Tide. On this last

* The ship channel into Salem Harbor is between Bowditch's Ledge and Misery Ledge; the distance between these dangers is but ¼ mile. In order, therefore, to guide vessels safely at night, the Light upon Hospital Point is so arranged that it shows brightest when in mid-channel; it is therefore highly necessary in sailing in to keep a sharp lookout for this light, and steer for it when it shows brightest, as ½ point error in the compass in sailing through this narrow passage may lead to difficulty.

course into the harbor it is recommended to use the lead and not go into less than four fathoms water at Low Tide, until the White range Light at Fort Pickering bears **N.NE.**

From Boston by way of Main Ship Channel or Broad Sound.

Bring the Whistling Buoy off the Graves to bear **SW. ½ W.**, and make good the course **NE. ½ E.**, until Baker's Island Lights bear **W.NW.**; then run in as before directed.

From the Eastward.

When Thatcher's Island Lights bear **W. NW.**, 3 or 4 miles distant, run **SW.** by **W.** until Baker's Island Lights bear **W.** by **N.**; then run for them and enter according to directions before given.

Thick Weather.

At this date (1878) a Fog Bell is placed near Baker's Island Lights, which is struck during thick weather. 13 fathoms water was found **E.** by **S.** 1/7 mile from the Southeast Breaker; 14 fathoms 1/5 mile **SE.**; 13 fathoms 150 yards **SW.**; and 15 fathoms **W.NW.** 1/10 mile from it. 14 fathoms water was found **E.** by **S.** ¼ mile from the Middle Breaker. In thick weather the Lead, therefore, gives but little warning in approaching these dangers.

Beating into Salem by Main Ship Channel.

In beating into Salem Harbor, if there is no error in your compass, Baker's Island Lights may be brought to bear from **NW. ½ W.** to **W.** by **S.** without danger. Another sure guide is, in standing to the Westward, not to bring Baker's Island Lights in range, but keep the low light open to the Eastward of the high one.

Cat Island Channel.

From the Southward, in Daytime, with favorable winds and fair weather, vessels bound to Salem may safely pass through this Channel. As soon as Baker's Island Lights are made, bring them to bear **N.NE.**, and run for them on this course. As you sail in you will see Halfway Rock on the Starboard (see description of this Rock), and another small bare rock on the Port, with a Red Spindle with round Cage; this rock is called "Satan." Continue the course for the Lighthouses bearing **N. NE.**, until Halfway Rock bears **SE. ½ E.**, on which bearing

keep it and steer **NW. ½ W.** On this last course the bare rock called Satan, the Black Buoy No. 1, off Northeast from a large Island called "Cat Island," and the Horizontal-striped Buoy off Chapel's Ledge, will all be left to the Westward. The Horizontal-striped Buoy off Gooseberry Ledge, the Black Buoy No. 3, off the Brimbles, and the Red Buoy No. 4, off Mid-channel Rock, will all be left to the Eastward. Continue the course **NW. ½ W.**, until the south point of Eagle Island * is in range with Baker's Island Lights, bearing **E.** by **N.** ¾ **N.**; you are then between the Horizontal-striped Buoy on Chappel's Ledge, and the Red Buoy No. 4 on Mid-channel Rock. From this point make good the course **N.** by **W.** ¾ **W.**, leaving three black buoys on the port, and one red buoy on the starboard. As you sail in on this course you will see on the port the Beacon on Little Haste Rock (as before described) and also the Black Buoy off Northwest from it. When this last-mentioned buoy bears **W.** by **N.**, run for it, leaving it 200 yards to the Southeastward, and run in **SW.** by **W.** in accordance with directions before given.

Gray's Rock Channel.

Vessels from the Southward bound to Salem may, in Daytime, with favorable winds and fair weather, safely run through this channel by the following directions. As soon as Baker's Island Lights are made bring them to bear **N.NE.**, and run for them until Marblehead Lighthouse bears **NW.** by **N.**; then run in **NW.** by **N.** ¾ **N.**, leaving Marblehead Rock (see description of this Rock) 200 yards to the Westward. Bring the beacon on this rock to bear **S.** ½ **W.**; distance ¼ mile. On this bearing keep it, and steer **N.** ½ **E.**, leaving Gray's Rock † ⅛ mile to the Westward, and the Horizontal-striped Buoy on Chappel's Ledge ⅛ mile to the Eastward. From Gray's Rock continue the course **N.** ½ **E.**, leaving three Black Buoys to the Westward. As you pass in, you will see on the Port the Beacon on the Little Haste Rock (which is a spar 35 feet long, painted black, with a cask on its top), and also the Black Buoy off Northwest from it. When this last-mentioned Buoy bears **W.** by **N.**, run for it, leaving it 200 yards to the Southeast,

* This is a small bare Island, extending NE. and SW. 200 yards; it bears N. by E. ½ E., ¾ mile from the hotel on Cat Island.

† Gray's Rock is a small Rocky Island. Marblehead Light bears from this rock S. by W. ¾ W., distance about ⅞ mile; its Northeastern part may be approached as near as 125 yards without danger.

and run in about SW. by W., in accordance with directions before given.

High Water.

It is high water at Salem Harbor 16 minutes before it is at Boston; common tides rise from 9 to 10 feet.

Beverly Harbor.

Sailing Directions for Beverly Harbor in Daytime, with favorable winds and fair weather.

Follow the directions for Salem Harbor by either channel, night or day, until abreast of the Beacon on Little Haste Rock. (See description of this Beacon.) Bring the Beacon to bear SE. by E. ½ E., and steer NW. by W. ½ W. As you sail in on this course, you will see on the Port bow a Black Buoy, No. 1, and Beacon; leave them both to the Southward, and haul round the Beacon at a distance of 75 yards from it, leaving it to the Eastward. When the Beacon bears East, 75 yards distant, you will see to the Southward two Red Buoys and a Beacon. The first Buoy, No. 4, is on the Middle-ground Ledge, and may be left 30 feet to the Westward; the second Buoy, No. 6,* lies off a shoal extending from Tuck's Point (Beverly), and may be left 25 yards to the Northwestward. The Beacon is on the East side of the Channel, and must be left to the Southeast. When abreast Buoy No. 6, you will see a Beacon bearing about NW. by W.; run for this last-mentioned Beacon, leaving it 100 yards on the port, and run for the Eastern part of the town, where, if you wish, you may anchor off the wharves in 3¼ fathoms water at low tide.

Danvers.

If bound to Danvers, it is advisable to take a pilot at Beverly.

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* From Buoy No. 4 to No. 6 the Channel, especially at Low Tide, is very narrow; it is therefore advisable, in sailing in between these buoys, to use the lead, and not go into less than 4 fathoms water, until past Buoy No. 6.

Manchester Harbor.

Bound into Manchester, Great and Little Misery Islands, and Sauli's Rock, which is bare at Low Tide, are left to the Westward. Whale's Back, which is dry at ¾ Ebb; White Ledge, dry at Low Water; House and Ram Islands, are all left to the Eastward.

Sailing Directions for Manchester Harbor in Daytime, with favorable Winds and fair weather.

You may run for Baker's Island Lights with them bearing from **NW.** ½ **W.** to **W.** by **S.**; give the Island a berth of ¼ mile, leaving it to the Southward; when abreast of the Lights, bring them to bear **S.** ½ **W.**, on which bearing keep them, and run **N.** ½ **E.** As you sail in, you will see on the Starboard bow the Spindle on the Whale's Back; and the Red buoy No. 2, which lies off White Ledge: both of which are left to the Eastward. You will also see on the Port bow a Black Buoy, No. 1, on Sauli's Rock which is left to the Westward. Continue the course **N.** ½ **E.** until the Northern part of Great Misery Island bears **W.SW.**; then anchor in about 3¼ fathoms water at Low Tide, which will be 5 at High Water. If bound to Manchester, wait for High Water; and it is also advisable to take a pilot here. High Water at Manchester village about the same time as at Boston.

Gloucester Harbor.

Eastern Point Lighthouse.

This Lighthouse is on the Eastern side of the entrance to this harbor. At this date, 1884, it shows a flashing Red Light. A Fog Bell is placed near the Lighthouse.

Ten Pound Island Lighthouse.

N. by **E.**, from Eastern Point Lighthouse, distance 1¼ miles, is a small Island called Ten Pound Island. Upon the Western part of this Island is a Lighthouse which, at this date, 1879, shows a fixed White Light.

Dangers entering this Harbor.*

Eastern Point Ledge.

This Ledge extends Southwesterly from the Lighthouse about ¼ mile; the least water upon it is on Webber's Rock, which has 7 feet at Low Tide. This rock is marked with a Red Buoy, No. 2, which is placed on the Southern side of it, and bears from the Lighthouse on Eastern Point **SW.** by **S.** about ¼ mile.

Dog Bar.

This Bar, which is dry in several places at Low Tide, extends from Eastern Point (a little North of the Lighthouse) about 400 yards in a Westerly direction; it is marked with a Red Buoy, No. 4, which bears from Eastern Point Light **NW.** by **W.** ¾ **W.**; distance ⅙ mile. Large vessels of more than 16 feet draught passing in should, at Low Tide, leave this Buoy 300 yards to the Eastward.

Norman's Woe Rock.

This is a dry rock about 100 yards square, and lies near the Western shore. Vessels beating out or into the harbor should not approach nearer to it than ¼ mile, as a Ledge extends off about **S.SE.** from it ⅛ mile. Eastern Point Light bears from this Rock **E.** by **S.**; distance 1¼ miles.

Round Rock Shoal.

This is a Ledge extending nearly North and South 300 yards, and has, at very Low Tides, as little as 11 feet water upon it. A Black Buoy, No. 1, placed in 3½ fathoms water, marks its Southern end. Eastern Point Light bears from this Buoy **SE.** by **E.** ¾ **E.**; distance ⅔ mile. In passing in, this Buoy, which is nearly in the middle of the harbor, is left to the Westward. Between Round Rock Shoal and Dog Bar the channel is about ¼ mile in width, and has a depth of about 5½ fathoms at Low Tide.

Field Rocks.

These are a group of Rocks lying near the Western shore, some of which are bare at Low Tide; they are marked upon their Southeast part with a Black Buoy, No. 3, which in passing in is left on

* Since this was written several of the Rocks in Gloucester Harbor have been removed.

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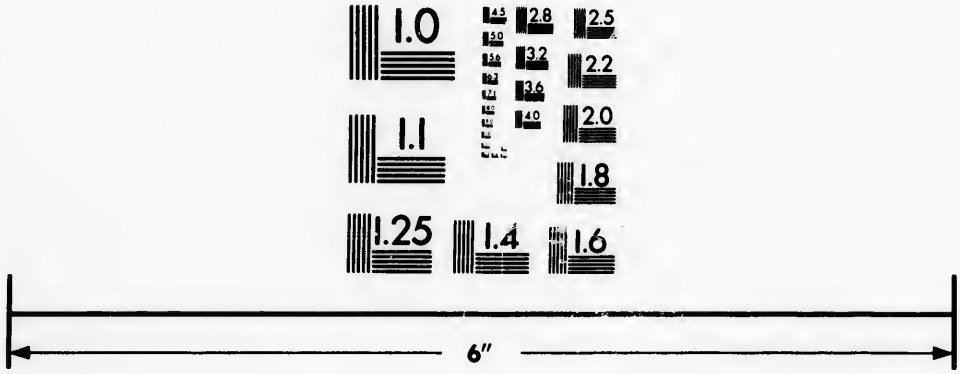

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the port hand. Ten Pound Island Light bears from this Buoy **E.** by **N.**; distance about ⅔ mile.

Ten Pound Ledge.

On this Rock or Ledge, at very Low Tides. there are but 8 feet water; a Red Buoy, No. 6, is placed on the West side of it. Ten Pound Island Light bears from it **NE.** ½ **E.**; distance ⅓ mile. This Ledge lies nearly in midchannel, but the best water is between it and Field Rocks, the channel being nearly ⅓ mile in width.

Babson's Ledge.

This Ledge, on which, at very Low Tides, there are but 9 feet water, is marked on its Southeast side with a Black Buoy, No. 5. Ten Pound Island Light bears from this Buoy **S.** ½**W.**; distance ¼ mile.

Black Rock.

This Rock, which is bare at Half Tide, lies about 150 yards from the Eastern shore, and is marked with a Spindle. Ten Pound Island Light bears from this Spindle **SW.**; distance about ¼ mile. The current of Ebb sets out of the harbor quite strong on to Black Rock, and vessels bound out or in with light winds must govern themselves accordingly.

Elisha's Ledge.

This Ledge, which is dry at Low Tide, lies near the shore on the Southern side of the harbor; it is marked with a Red Buoy, No. 8. This Buoy bears about **E.NE.** from the Spindle on Black Rock; distance ¼ mile.

Pinnacle Rock.

This Rock lies on the Northern side of the harbor, nearly opposite Elisha's Ledge; it has 9 feet water upon it at Low Tide, and is marked on its Southern part with a Black Buoy, No. 7, which bears about **E.** 300 yards from Fort Point Wharf.

Harbor Rock, or Spindle Rock.

NE., a little more than 100 yards from the Black Buoy, No. 7, off Pinnacle Rock, is a Spindle with an open-worked Ball on top;

the Spindle and Ball are both painted Black. This Spindle is on Harbor Rock, which is bare at Half Tide.

Little Harbor Rock.

NE. by E., about 100 yards from the Spindle on Harbor Rock, is a Black Buoy, No. 9, which lies off to the Southward of this Rock. Little Harbor Rock has about 6 feet water upon it at Low Tide.

Five Pound Island Ledge.

This Ledge, which is marked with a Spindle, is bare at Half Tide, and lies about 80 yards West from Five Pound Island.

Black Ledge,

which is bare at Low Tide, lies a short distance to the Eastward of Ten Pound Island; it is marked with a Red Buoy, which is placed a short distance Southwest from the Ledge. Vessels passing to the Eastward of Ten Pound Island should leave this Buoy about 30 feet to the Eastward. This passage is narrow, and about 8 feet water can be carried through it at Low Tide.

Clam Rock.

This Rock, which is dry at Low Tide, is marked on its Southern side with a Red Buoy, which bears NW. by W. ¾ W.; distant about 200 yards from the Black Buoy off Pinnacle Rock. Vessels bound to the Wharves in the Cove should leave this Buoy to the Northeastward.

Sailing Directions for Gloucester Harbor in Daytime, with favorable winds and fair weather.

The course (at this date, 1879) from Cape Cod Highland Light to Eastern Point Lighthouse is NW. by N. ½ N.; distance 42 miles. Vessels, therefore, from the Southward will bring Cape Cod Highland Light to bear SE. by S. ½ S., and steer NW. by N. ½ N. When Eastern Point Lighthouse is made, bring it to bear from N.W. to NNE., and run for it. When about ½ mile from the Lighthouse, you will see the two Red Buoys on Webber's Rock and Dog Bar; leave the Red Buoy, No. 4, on Dog Bar, about 300 yards on the Starboard, and steer N. by E. for the Red Buoy, No. 6, on Ten Pound Ledge. Leave this Buoy 50 feet to the Eastward, and continue the course N. by E. until Ten Pound Island Lighthouse bears E.SE.,

then run E.NE., and anchor near the Black Buoy off Babson's Ledge, Ten Pound Island Lighthouse bearing about S.SE.; distance ¼ mile.

If bound into the Inner Harbor, leave the Black Buoy on Babson's Ledge (which bears N. ½ E. ¼ mile from Ten Pound Island Lighthouse) to the Northward, and run in about E.NE., keeping midway of the harbor, and leaving the Spindle, and Red Buoy on Black Rock, and Elisha's Ledge, to the Eastward. When Five Pound Island, which is small, and lies nearly in the middle of the harbor, bears NE., 250 yards distant, then anchor in about 3 fathoms at Low Tide.

S. E. Harbor.

Leave the Red Buoy, No. 4, on Dog Bar (which bears NW. by W. ¾ W. from Eastern Point Lighthouse) about 100 yards to the Eastward, and run N. ½ E. until Eastern Point Lighthouse bears S. by E.; then run NE. by E., and anchor in about 5 fathoms water at Low Tide; Ten Pound Island Lighthouse bearing N. by W. ⅓ mile.

From Boston.

Vessels from Boston, by way of Broad Sound, or Main Ship Channel, bound to Gloucester, may bring the Whistling Buoy off the Graves to bear SW., and make good the course NE. When Eastern Point Lighthouse is made, bring it to bear NE., and run for it until within ½ mile from it, when the courses are as before given.

From the Eastward.

Vessels from the Eastward, passing between Thatcher's Island and the Londoner, may bring the Spindle on it to bear NE. by E., and steer SW. by W. until Eastern Point Lighthouse bears W.NW.; then haul round it at a distance of ½ mile, and proceed according to directions before given.

Sailing Directions for Gloucester Harbor, at Night-time, with favorable winds and fair weather.

From the Southward bring Cape Cod Highland Light to bear SE. by S. ½ S., and make good the course NW. by N. ½ N. When Eastern Point Light is made, bring it to bear about N.NW.,

and run for it on this course. Leave this Light about ½ mile to the Northeastward, and continue the course Northwesterly until Ten Pound Island Light bears NE. by N. ¼ N.; then run in on this bearing for it until Eastern Point Light bears S.SE.; then make good the course N. ¾ E. until Ten Pound Island Light bears E. by S.; then run E.NE. until Ten Pound Island Light bears S.SE.; then anchor. If bound into the Inner Harbor, or to the Wharves, wait at this anchorage until daylight; then proceed according to directions before given for daytime.

S. E. Harbor.

Run for Ten Pound Island Light, bearing NE. by N. ¼ N., according to direction before given, until Eastern Point Light bears S.SE.; then steer NE. ½ E. until Ten Pound Island Light bears N. by W.; then anchor in about 5 fathoms water at Low Tide. The Southeast Harbor is a good one to enter at night for vessels of more than 12 feet draught, especially at Low Tide.

From Boston.

From Boston, by the way of Broad Sound or Main Ship Channel, bring the Whistling Buoy off the Graves to bear SW. ½ W., and make good the course NE. ½ E. until Eastern Point Light bears NE. by N.; then run for it until ½ mile from the Light; then steer Northwesterly until Ten Pound Island Light bears NE. by N. ¼ N. The cours[illegible]re then in accordance with directions before given.

From the Eastward.

From the Eastward bring Eastern Point Light to bear W., and run for it; haul round the point at a distance of ½ mile from the Light, and run Northwesterly until Ten Pound Island Light bears NE. by N. ¼ N.; then proceed according to directions before given.

*Thick Weather.**

At this date, 1879, there is placed near the Lighthouses at Thatcher's Island a Steam-Whistle, and Fog Bells have also been placed at Eastern Point and Baker's Island. The ear, assisted by the Lead and Compass, will therefore be the Pilot for vessels bound to Gloucester Harbor in thick weather.

* A Whistling Buoy has been placed off Eastern Point, near the entrance to Gloucester Harbor, in 16¼ fathoms water. Eastern Point Lighthouse bears from this buoy N. by E., ¼ mile; Thatcher's Island outer Lighthouse, NE. by E., 5¼ miles.

High Water.

It is High Water at Gloucester Harbor 25 minutes before it is at Boston. Mean rise and fall of tides 9 feet.

Dangers in Sailing from Thatcher's Island to Boston.

The outermost dangers are the Londoner, Southeast or Outer Breaker off Baker's Island, Halfway Rock; off Baker's Island, Outer Breaker to the Southward of Marblehead Light, Graves, Martin's, and Boston Ledges; all of which have been previously described. (See Dangers in entering the different Harbors from Cape Ann to Boston.)

Depth of Water to avoid Dangers.

If a vessel should be compelled to haul off or lay by on account of thick weather, when running for Boston, Salem, Gloucester, or any of the harbors between Minot's Light and Thatcher's Island for safety, she should not approach nearer the coast than 20 fathoms water; if less than this is found, make good the course **E.** until it deepens to 20 fathoms. This depth will clear all dangers from rocks or shoals.

Thatcher's Island.

This Island extends **SW.** and **NE.** nearly ½ mile in length, and a little more than 300 yards in breadth. Its highest part is about 50 feet above High-Water Mark, and is destitute of trees.

Thatcher's Island Lights and Fog Signals.

Upon the summit of this Island stand two lofty Towers (bearing from each other **N.** by **E.** ¾ **E.**, and **S.** by **W.** ¾ **W.**, distance 895 feet apart) which show fixed White Lights of the first order of Freshnel, elevated 165 feet above sea-level. A powerful Steam-Whistle is placed near the Lighthouses, giving each minute a blast of 8 seconds, and one of 4 seconds, with alternate intervals of 4 and 44 seconds.

Bearings and Distances from Thatcher's Island Lighthouses.

		Distance.	
Cape Cod (Highland Light),	S. by E. ¾ E.,	42½	miles nearly.
Race Point Light, . . .	S. by E. . . .	37½	"
Gurnet Lights (Plymouth),	S. by W. ¼ W.	38	"
Minot's Light, ...	SW. by S. . .	24	"
Boston Light, ...	SW. ¼ W. .	23	"
Long Island Light, . . .	SW. ¾ W. .	25	"
Newburyport Lights, . .	NW. by N. . .	14½	"
Isles of Shoals Light, . .	N. ½ E. . . .	20	"
Boon Island Light, . .	N.NE. . . .	29½	"
Cape Elizabeth Lights, .	NE. by. N. ½ N.	58½	"
Seguin Light, ...	NE. ¼ N. . .	74	"
Monhegan Light, . . .	N E. ¾ E. . .	87½	"
Mount Desert Rock Light,	E.NE. . . .	133	"
Cape Sable Light, . . .	E. ⅜ S. . . .	222	"

Bearings and Distances of Dangers from Thatcher's Island Lights.

The Londoner.

This is a dangerous Ledge extending about NE. by N. and SW. by S. nearly ⅓ mile. On its Southern end, which is the dry part, is placed an Iron Spindle 45 feet high, with an Octagonal Cage on top. This Spindle bears from Thatcher's Island, Northern Lighthouse, SE.; distance ½ mile nearly. Between Thatcher's Island and the Londoner there is a Channel ¼ mile in width, having a depth of about 6 fathoms at Low Tide. The Eastern side of this Ledge, in thick weather, may be approached with the Lead without danger.

Oak Rock.

This Rock, which lies between Thatcher's Island and Cape Ann, is marked with a Red Buoy, No. 2, which bears W.NW. from the Northern Light upon Thatcher's Island; distance about ½ mile.

Thatcher's Island Bar.

A Bar extends from Thatcher's Island to Milk Island, and vessels of more than seven feet draught should not attempt this passage at Low Tide.

Milk Island Bar.

The passage between Milk Island and the main land is only used by boats at Low Tide.

Dry Salvages.

Upon the highest part of the Dry Salvages is a Tripod, the top of which is 65 feet above High-Water Mark. About ⅓ of the upper part of this Tripod is covered so as to present the appearance of a Pyramid, and is painted red. Thatcher's Island, Northern Light, bears from this Tripod S. by W. ¾ W.; distance 2 miles. This Ledge, including the bare and sunken Rocks, extende North and South about ¼ mile. Vessels, in thick weather, approaching this Ledge from the Eastward should proceed with caution, as 15 fathoms water was found East, ¼ mile from the Tripod, 13 fathoms South, ¼ mile, and 10 fathoms North, ¼ mile from it.

Little Salvages.

These Rocks, which are bare at Low Tide, lie about ¼ mile West from the Dry Salvages. Thatcher's Island, Northern Light, bears from this Reef S. by W. ¼ W. about two miles. The passage between the Dry and Little Salvages is 300 yards in width, but is not safe, as there is a rock lying in it. This rock bears about NW. from the Tripod, distance ⅙ mile, and is bare at Low Spring Tides.

Rockport Harbor.

Straitsmouth Island Light.

Upon the Northeast part of Straitsmouth Island * is a Lighthouse which shows a fixed White Light. This Lighthouse bears from the Northern Lighthouse upon Thatcher's Island N. by W. 1½ miles.

Dangers in approaching Rockport Harbor.

Avery's Ledge.

These are a sunken mass of Rocks about 200 yards square. Upon some of these rocks there are, at Low Tide, not more than

* There is not any passage for vessels between Straitsmouth Island and the main land.

4 feet water. A Red Buoy, No. 2, marks the Southwestern part of the Ledge. Straitsmouth Island Light bears from this Buoy **S.** by **W.** ¼ **W.**; distance ⅓ mile.

Dry Salvages.

Straitsmouth Island Light bears from the Tripod on the Dry Salvages **W.SW.**; distance 1⅛ miles.

Little Salvages.

These Rocks, which are bare at Low Tide, lie about ¼ mile West from the Dry Salvages. Straitsmouth Island Light bears from the centre of this Reef **SW.** by **W.** about 1 mile. The passage between the Dry and Little Salvages is 300 yards in width, but strangers should not attempt it on account of a rock which lies nearly midway between the two Ledges, and is dry at very Low Tides.

The Flat Ground

Are three Ledges extending North and South about ½ mile, and lie near each other. The Northernmost Ledge has 10 feet water upon it, the Middle Ledge 9 feet, and the Southernmost Rock is bare at very Low Tides. A Red Buoy, No. 2, is placed off to the Southward of this Rock. Straitsmouth Island Light bears from this Buoy **SW.** by **S.** ¾ **S.**; distance ⅞ mile; Rockport Breakwater **SW.** by **W.** ¾ **W.** 1½ miles. Vessels from seaward bound to Rockport generally pass about ¼ mile to the Northward of the Salvages, and a short distance South of this Buoy. At this date (1879) there is not any Buoy off the Northern part of the Flat Ground, and vessels from the Northward bound to any of the harbors in Sandy Bay should, in order to avoid this Ledge, keep not more than from ½ to ¾ mile from the main land.

Nine-Feet Rock.

This Rock, which is not Buoyed (at this date, 1879), has 9 feet water upon it at very Low Tides. Straitsmouth Island Light bears from this Rock **E.SE.**, distance about ½ mile; Rockport Breakwater **W.** ½ **S.**, distance ½ mile.

Sailing Directions for Rockport Harbor, in Daytime, with favorable winds and fair weather.

From the Southward, after passing Thatcher's Island and the Londoner, bring Straitsmouth Island Lighthouse to bear **NW.** ½ **N.**,

and run for it; give the Light a berth of about ¼ mile, leaving the Red Buoy No. 2, on Avery's Ledge, a short distance to the Northward, and run **W.** by **N.** until a large Granite Factory in the town bears **W.SW.**; then run in for it on this course, passing midway between the points of the harbor. If it be Low Tide, anchor, and wait until High Water; then run between the pier heads into the Basin, or Inner Harbor.

In running in **W.SW.** for the Stone Factory, the 9 foot Rock will be left 250 yards to the Southward. On this course, the Rock lying a short distance to the Eastward of the end of the Breakwater will be left to the Northward. This last-mentioned rock is nearly dry at Low Tide, and is marked with a Red Buoy.

From the Northward or Northeastward.

Bring Andrews Point, the Northeastern part of Cape Ann, to bear **SW.**, and run for it on this course until Straitsmouth Island Lighthouse is in range with the Northern Lighthouse on Thatcher's Island, bearing **S.** by **E.**; then run for them until the large Stone Factory bears **W.SW.**; then run in as before directed.

In order to clear the three Ledges called the Flat Ground, vessels at night bound to any of the harbors in Sandy Bay should keep well to the Northward, until the last-mentioned lights are in range.

Only 7 feet water can be carried into Rockport Harbor at Low Tide. Vessels of more than 7 feet draught, compelled in heavy easterly gales to enter this place as a harbor of refuge, should therefore wait until Half Flood.

It is High Water at Rockport 32 minutes before it is at Boston. Mean rise and fall of Tides 8¾ feet.

The Rockport Granite Company's Harbor.

By private enterprise a Granite Breakwater has been constructed here, which forms a small harbor, admitting vessels of 12 feet draught at Low Tide. The entrance to this harbor bears **W.NW.**, 1½ miles from Straitsmouth Island Lighthouse, and **NW. ½ N.** about ½ mile from the end of Rockport Breakwater.

Dangers in approaching this Harbor.

Dodge's Rock.

This Rock, which is bare, lies about ⅕ mile from the shore, and is marked with a Spindle, which bears **NW.** by **W.** ¼ **W.** from Straitsmouth Island Lighthouse; distance 1⅜ miles. Shoal ground extends in every direction from this Spindle, and vessels should not go near it. A Buoy is placed a short distance to the Southward of this ledge, which is left to the Northward in entering this harbor.

Mitchel's Rock.

This Rock, which is not buoyed at this date (1879), has about 4 feet water upon it at Low Tide, and lies about one-fifth of a mile from the shore. The Spindle on Dodge's Rock bears from it **S.** ½ **W.** ⅛ mile. There are from 3 to 4 fathoms water between these two last-mentioned rocks and the shore.

Sandy Bay Ledge.

This is a small rocky Island, which lies about two hundred yards from the Western shore, and bears **NW.** ½ mile from the outer end of Rockport Breakwater, and is left to the Southward by vessels bound into the Rockport Granite Company's Harbor.

Sailing Directions for the Rockport Granite Company's Harbor.

From the Southward give Straitsmouth Island Lighthouse a berth of ¼ mile, and run **NW.** until the Buoy on Avery's Ledge bears **E.** by **S.**, on which bearing keep it, and steer **W.** by **N.** As you sail in, you will see, on the Starboard bow, a Buoy, and the Spindle on Dodge's Rock; you will also see on the Port, a small rocky Island lying near the shore, called "Sandy Bay Ledge." The Buoy and Spindle are both left to the Northward; the Ledge to the Southward. When about midway between the Spindle and this Ledge, run for the outer end of the Breakwater, and pass into the harbor. In going in, when abreast of the end of the Breakwater, keep nearer to it than the shore.

From the Northward or Northeastward bring Andrews' Point (the Northeastern part of Cape Ann) to bear **SW.**, and run for it on this course until Straitsmouth Island Lighthouse is in range with the Northern Lighthouse on Thatcher's Island, bearing **S.** by

E.; then run for them on this course until the Tripod on the Dry Salvages bears East; then steer West, and pass into the harbor, leaving the Buoy, Spindle, and Ledge as before directed.

Pigeon Cove Harbor.

The entrance to this cove bears NW. ½ W. 1¾ miles from Straitsmouth Island Lighthouse, and N. by W. about 1 mile from the outer end of Rockport Breakwater. By private enterprise this Cove has been formed into a secure Harbor, and vessels of not more than 10 feet draught can enter it at low tide. It is said that a small charge is made to vessels using this cove as a harbor of refuge. The only danger to be avoided in entering it is Pigeon Rock, which lies a short distance south from the outer end of the Breakwater.

Sailing Directions for Pigeon-Cove Harbor, in Daytime, with favorable winds and fair weather.

From the Southward give Straitsmouth Island Lighthouse a berth of about ¼ mile, leaving the Red Buoy No. 2, on Avery's Ledge, a short distance to the Northward. When abreast of this Buoy, steer W. by N. until Straitsmouth Island Lighthouse bears SE. ½ E.; on which bearing keep it, and run NW. ½ W., leaving Mitchel's Rock and the Spindle on Dodge's Rock to the Westward; continue the course NW. ½ W. until you open the cove bearing about N.NW.; then run in, passing between the pier which extends from the Breakwater towards the Western shore, and anchor where you please. In entering this harbor, keep nearest the Western shore, to avoid Pigeon Rock, which lies a short distance to the Southward of the outer end of the Breakwater.

From the Northward or Northeastward.

Run for Andrew's Point (the Northeast part of Cape Ann) on any bearing from S. to SW. until about ¼ mile from the shore; then steer from S. by W. to S.SW. until you open the Cove; then run in as before directed.

Lane's Cove.

This Cove is situated upon the Northwestern shore of Cape Ann, about 1½ miles Southwesterly from Halibut Point.*

Sailing Directions for Lane's Cove, in Daytime, with favorable winds and fair weather.

Vessels from the Southward may give Straitsmouth Island Lighthouse a berth of ¼ mile, leaving the Red Buoy No. 2, on Avery's Ledge, a short distance to the Northward. When abreast of this Buoy, steer about **N.** by **W.** ½ **W.**, and haul round Halibut Point at a distance of ½ mile. When abreast of this Point bearing **S.**, steer about **W.SW.**, keeping ½ mile from the shore. As you sail to the Westward a settlement will appear, with a Church Tower rising above the houses; this small village is Lanesville, or Lane's Cove. Continue the course **W.SW.** until the entrance to the harbor bears **SE.**; then run in, passing midway between the points of the Breakwater.

In sailing in, the Black Buoy lying off to the Westward of this harbor is left about ¼ mile to the Southwestward.

About 12 feet water can be carried in between the points of the Breakwater at Low Tide.

Hodgkins' Cove, or Bay View.

This Cove lies upon the Northwestern shore of Cape Ann, about halfway between Lane's Cove and Annisquam.

Sailing Directions for Hodgkins' Cove, in Daytime, with favorable winds and fair weather.

From the Southward or Eastward haul round Halibut Point, the Northern extremity of Cape Ann, at a distance of ½ mile from the shore. When this point bears **S.**, steer about **W.SW.**, keeping about ½ mile from the land. When abreast of Lane's Cove, you will see to the Westward a Black Buoy, No. 1; this Buoy lies upon the Northern part of a Ledge which extends from the shore. Leave this Buoy a short distance to the Southward, and run **S.SW.** until the outer end of the wharf bears **S.SE.**; then run for it on

* Halibut Point, the Northern extremity of Cape Ann, bears from the Tripod on the Salvages, NW. by W. 3 miles.

this course. At this date (1879) there is at the outer end of this wharf from 8 to 10 feet water at Low Tide. The Eastern side of this wharf is somewhat exposed to Northerly winds.

It is High Water at Hodgkins' Cove 30 minutes before it is at Boston. Mean rise and fall of tides 9 feet.

There are extensive Granite Quarries both at Bay View and Lanesville.

Harbor of Annisquam.

The entrance to this harbor is about 2¾ miles in a Southwesterly direction from Halibut Point (the Northern extremity of Cape Ann), and there are usually about 6 feet water on the Bar at Low Tide.

Lighthouses.

A Lighthouse showing a fixed White Light is erected upon Wigwam Point. This Light in entering the harbor is left to the Eastward.

Dangers in entering this Harbor.

Harriden's Rock.

This Rock, which at very Low Tides has but 5 feet water upon it, is marked on its Western side with a Black Buoy, No. 3, which in entering the harbor is left to the Eastward. Annisquam Lighthouse bears from this Buoy **S.** by **W.** ½ **W.**, distance about ⅓ mile.

Lobster Rock.

A square Granite Beacon of open work, with its top painted black, is built upon this Rock, which is dry at Low Tide. This Beacon bears from Annisquam Lighthouse **SW.** by **S.** ½ **S.** about ¼ mile, and in passing in is left on the Port hand.

Barn Rocks.

These Rocks, which generally can be seen, are not Buoyed at this date, and lie on the Western side of the Channel. They are but a short distance from the Southern shore, and bear from Annisquam Lighthouse **SW.** by **S.** a little more than ½ mile. In passing in, these Rocks are left on the Starboard hand.

Sailing Directions for Annisquam Harbor in Day-time, with favorable winds and fair weather.

From the Eastward or Southward haul round Halibut Point (the Northern part of Cape Ann) at a distance of ¾ mile, and make good the course **W.SW.** until Annisquam Lighthouse is made. If your vessel draws as much as 10 feet water, wait until about ¾ Flood; then bring the Lighthouse to bear **S.**, and run for it on this course, passing about midway between the Red Buoy upon the Bar and the Black Buoy off Harriden's Rock. When this last-mentioned Black Buoy bears **N.NE.** make good the course **S.SW.**, leaving the Lighthouse not more than 125 yards to the Eastward, and the Beacon on Lobster Rock not more than 50 yards to the Eastward. When abreast of the Beacon, shorten sail, and steer **S.** by **W.** ¾ **W.** until you see another Beacon which stands off Lane's Point.

When this last-mentioned Beacon comes in range of Babson Point * bearing **SE.**, run **SE.** by **S.** (leaving Barn Rocks on the Starboard hand) until Lane's Point Beacon bears **N.** by **E.**; then anchor in from 3 to 4 fathoms water.

If bound into the Inner Harbor, when Lane's Point Beacon is on with Babson's Point, bearing **SE.**, run **SE.** by **S.** until the Beacon bears **E.** by **N.**; then run for it, leaving it close to on the Port hand. After passing the Beacon a short distance, run for the Wharves.

From the Northeastward bring the Isle of Shoals Light to bear **N.NE.**, and make good the course **S.SW.** to Annisquam Bar. From Newburyport Bar, bound to Annisquam, steer **S.** by **E.** ½ **E.**

At Night.

Strangers in vessels of much size should not attempt at night to enter this harbor except in cases of emergency, as the Channel is narrow, and a slight deviation from the course may lead to difficulty; but as it sometimes happens that, with heavy Northerly or Northeasterly gales, they are compelled to enter it in order to save the lives of those on board of them, the following directions may therefore be of great advantage.

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* Babson's Point is on the Northern side of the harbor, and bears NW. from Lane's Point Beacon; distance 300 yards.

Sailing Directions for Night-time.

If possible, wait until ¾ Flood; then bring Annisquam Light to bear S., and run for it under short sail, making use of the Lead. When the water shoals to 2¼ fathoms, the Light will be distant about ¼ mile. The course is then S. by W. ¾ W., leaving the Light and Beacon on Lobster Rock a short distance to the Eastward. After passing this Light about ⅓ mile, steer more Southerly, and in order to clear Barn Rocks haul round Babson's Point (the land on the Port bow) at a distance of 50 yards, and anchor with this point bearing N.

High Water.

It is High Water at Annisquam Bar 20 minutes before it is at Boston. Common Tides rise about 9 feet.

Remarks.

In entering Annisquam Outer Harbor, the Channel is narrow, and the shoalest water is upon the Bar, which at Low Tide is about 6 feet. The above directions were good for 1879.

Essex Harbor, or River.

The entrance to this River is 4¼ miles in a Southwesterly direction from Halibut Point (the Northern extremity of Cape Ann), and 2 miles Northwesterly from Annisquam Lighthouse. A Sand Bar having at Low Tide about 6 feet water upon it, extends across its entrance. The Channel across this Bar is constantly changing, and Buoys are placed upon it to mark its Northern and Southern spits, and likewise the Channel a part of the way up to Essex. This harbor may be called a shoal-water place.

Sailing Directions for Essex Harbor in Daytime, with favorable winds and fair weather.

Coming from the Southward around Cape Ann, leave Halibut Point about ¾ mile to the Southward, and steer W. by S. ½ S. until you make the Buoys (one Black, the other Red) upon Essex River Bar. These Buoys lie about midway between Annisquam

and Ipswich Lighthouses. After making these Buoys, anchor, or lay off and on until about ¾ Flood; then run to the Southwestward, crossing the Bar midway between the two Buoys, and run in, leaving the Beacon and Red Buoys on the Starboard hand close to. When you are abreast of the upper Buoy, or can see no other Buoy above you, then anchor. This harbor should not be attempted by vessels of much size, excepting when necessity compels. Small vessels may make a harbor by the above directions; but it is advisable, if bound up to Essex, to take a pilot.

Lighthouses.

At this date (1879) there is no Light at Essex Harbor.

High Water.

It is High Water at Essex River Bar 18 minutes before it is at Boston. Common Tides rise about 9 feet.

From the Northeastward bring the Isle of Shoals Light to bear **NE.** by **N.** ¾ **N.**, and make good the course **SW.** by **S.** ¾ **S.** to Essex Bar; then follow the directions before given.

Ipswich Harbor.

This Harbor or River is situated about 7 miles in a Northwesterly direction from Halibut Point (the Northern extremity of Cape Ann). The Bar at its entrance, like those of the other harbors in Ipswich Bay, is constantly changing, and the deepest water across it is usually not more than from 4½ to 6 feet at Low Tide. A movable Beacon, showing a fixed White Light, is placed in front of the main Lighthouse. This Beacon is shifted so as to be always in range with the main Light, and the line of best water over the Bar. Vessels can therefore, if necessity compels, run in on this range at night or day.

Lighthouses.

On Castle Neck, South side of the entrance to Ipswich Harbor, are located two Light Towers nearly 200 feet apart, ranging East and West. The Eastern Tower, which, at this date, is only lighted,

shows a fixed White Light, varied by White Flashes. The Western Light has long been discontinued. These Towers bear from Halibut Point (the Northern extremity of Cape Ann) **W.** ¾ **N.**, distance 6 miles; from Annisquam Lighthouse, **NW.** by **W.**, distance 4 miles; from Isle of Shoals Lighthouse, **SW.** by **S.**, distance 18¼ miles; from the Lighthouse on Whale's Back entrance to Portsmouth Harbor, **S.** by **W.** ¾ **W.**, distance 23 miles.

Ipswich Beacon Light.

This movable Beacon, which shows a fixed White Light, is placed near the shore in front of the Main Lighthouse, and is shifted as often as the Channel changes. In order, therefore, to cross the Bar in the deepest water, vessels in daytime should bring this Beacon in range with the Eastern Lighthouse.

Dangers.

A Sand Bar extends across the entrance of this harbor, and the depth of water upon it changes during every heavy gale. Sand Bars also extend from Plum Island Point and Castle Neck, which form the Northern and Southern sides of its entrance. This place may therefore be considered a shoal-water harbor.

Remarks.

Vessels bound to Ipswich should take pilots off the Bar; but as it sometimes happens that they are compelled to make this harbor in order to save their lives, the following directions may therefore in such cases be invaluable.

Sailing Directions for Ipswich Harbor in Daytime, with favorable winds and fair weather.

If your vessel draws as much as 10 feet water, wait, if possible, off the bar until about ¾ Flood; then bring the Beacon or Lighthouse near the shore in range with the Eastern Lighthouse, bearing Southwesterly, and run in on this range. As you approach the Lights, you will see the two Buoys (one red, the other black) on the Spits of the Bar. Pass between these two Buoys, and run about **SW.** by **W.** ¾ **W.** for the Inner Spit Buoy (which is red). Leave this last-mentioned Buoy close to on the Starboard hand, and

steer for the Beacon Light (bearing about **SW.**) until you are about 200 or 300 yards from the Beach; then follow the shore to the Northwestward, keeping about the same distance from it until abreast of Ipswich River (which is the first opening after passing the Lights). When abreast of this River, steer more Northerly for the middle of Plum Island Sound, and anchor in from 4 to 6 fathoms water, with Plum Island Point (which is on the Eastern side of the entrance) bearing about **SE.** from you. The anchorage in this Sound between Great Neck and Plum Island is somewhat exposed in heavy Easterly gales and very High Tides, and the holding-ground is said to be poor. If bound up to Ipswich, when abreast of the river a Pilot is necessary.

Coming from the Southward around Cape Ann, leave Halibut Point about ¾ mile to the Southward, and run **W.** ½ **N.** for Ipswich Bar. From the Northeastward bring the Isle of Shoals Light to bear **NE.** by **N.** ½ **N.**, and make good the course **SW.** by **S.** ½ **S.** for the above-mentioned Bar.

Plum Island Sound.

The entrance to Plum Island Sound bears about **NW.** by **N.** ½ **N.** from Ipswich Lights; distance 1½ miles. Upon the Western side of this Sound are several small shallow streams, one of which is called Parker River. The old town of Newbury is built upon the Northern bank of this River.

High Water.

It is High Water at Ipswich Bar about 20 minutes before it is at Boston. Common Tides rise about 9½ feet.

Dangers to be avoided in sailing into Ipswich Bay.

This Bay lies between Halibut Point (the Northern extremity of Cape Ann) and the Southern Point of Plum Island. The principal dangers to be avoided in entering it are as follows: Plum Cove Ledge, Annisquam, Essex, and Ipswich Bars. Plum Cove Ledge, which is dry at Low Tide, lies about ⅙ mile from shore, and is marked upon its Northwestern part with a Black Buoy, No. 1. This Buoy bears **NE.** ¼ **N.** from Annisquam Lighthouse; distance 1¼ mile. In order to avoid the above-mentioned Bars, use the Lead, and do not approach them in less than 5 fathoms water.

Beating into Ipswich Bay.

Vessels at night-time, or in thick weather, beating into Ipswich Bay should take care to avoid the Eastern shore, especially from Halibut Point to Lane's Cove,* as in some places the shores are very bold, and there are 9 fathoms water within a stone's throw of the rocks; but you may boldly stand into 5 or 6 fathoms water on the Western side of this Bay without danger.

The Coast from Ipswich Entrance to Newburyport Bar.

In sailing from Ipswich entrance to Newburyport Bar, the only dangers to be avoided are the Sand Bars, which extend from ¼ to ⅓ mile from shore. At night, use the Lead (which is a sure guide), and do not approach nearer the land than 5 fathoms water.

Newburyport Harbor.

The entrance to this harbor (off the Bar in 6 fathoms water) bears from Halibut Point (the Northern extremity of Cape Ann) **NW.** by **N.**, distance 10½ miles; from the Isle of Shoals Light, **SW.** ¾ **W.**, distance 12¼ miles; from Annisquam Lighthouse, **N.** by **W.** ½ **W.**, distance 10½ miles; from Ipswich Bar, **N.** ½ **W.**, distance 7½ miles; from Light on Whale's Back, **SW.** by **S.** ½ **S.**, distance 15¾ miles.

Lighthouses.

Upon the Northern end of Plum Island, South side of entrance to Newburyport Harbor, a Lighthouse is built, which shows a fixed White Light.

Newburyport Beacon.

This movable Beacon, which shows a fixed White Light, is placed in front of the Main Lighthouse, and is shifted as often as the Channel changes. In order, therefore, to cross the Bar in the deepest water, vessels should bring this Beacon in range with the Lighthouse.†

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* Lane's Cove is situated about 1½ miles Southwesterly from Halibut Point.

† A Whistling Buoy has been placed off Newburyport Bar in 9 fathoms water. Newburyport Main Lighthouse bears W. ½ S. from this Buoy.

Upper Harbor Beacons.

In front of the city of Newburyport are placed two Range Lights. The Tower of the front Light (which stands upon Bailey's Wharf) is painted black, and shows a Red Fixed Light. The Rear Lighthouse is a Pyramidical Tower, red brick color, lantern black, and shows a Green Fixed Light. These Lighthouses, when in range bearing **W. ½ S.**, lead midway between the two piers to the anchorage off the town.

Dangers in entering this Harbor.

A Sand Bar extends across the entrance of this harbor, and the depth of water upon it (which is usually from 4 to 6 feet) changes during every heavy gale. Buoys are placed upon this Bar; and, in order to show the best water across it, are shifted by the pilots whenever it is necessary. The Beacon in front of the Lighthouse is also moved, so as to be in range with the Light and Bar Buoys.

Extensive Flats, which are dry at Low Tide, lie on both sides of the Channel leading to the city. There are also several rocks, some of which are bare at Low Tide.

Black Rocks.

These Rocks, upon which a Beacon is built, lie upon the Northern side of the Channel, and are bare at Half Tide. This Beacon, which is painted red, bears from Newburyport Main Lighthouse about **N.NW.**; distance ⅓ mile.

About **SE.** by **E.** ½ **E.**, ⅓ mile from Black Rock Beacon, is a bare rock, which lies about 20 yards from shore.

Lunt's Rock.

This Rock, which is bare at ¾ Ebb, lies upon the Northern side of the Channel, and is marked on its Southern side with a Red Buoy, No. 2. Newburyport Main Lighthouse bears from this Buoy about **SE.**; distance ⅝ mile.

Gangway Rock.

This Rock, which at very Low Tide has but little water upon it, is marked with a Buoy painted in black and white perpendicular stripes. This is called Midchannel Buoy, and bears **SE.** ½ **S.** from the Northern Pier, distance 100 yards, and East 250 yards

from the Southern Pier. In order to avoid this Rock, bring the harbor lights in range, and run for them. This range will carry you nearly midway between the Northern and Southern Piers, and about 50 yards to the Northward of Gangway Rock.

Half-Tide Rock.

On the Western side of the Channel, about 300 yards **W.** ¾ **S.** from Channel Rock Buoy, is a large rock bare at Half Tide. There are several smaller rocks near it also bare at Low tide.*

The Boilers.

These are two sunken Rocks which lie close to the end of Custom-House Wharf.

The Sow and Pigs.

These Rocks, some of which are bare at Low Tide, lie on the Northern side of the river, about 100 yards **SE.** from the Ferry Ways, at Ferry Village.

Remarks.

Upon Newburyport Bar at High Tide, in the best of the water, there is usually not less than 12 feet; but as the depth and location of the Channel is constantly changing, it is therefore advisable for vessels of more than 9 feet draught, except in cases of great necessity, to take pilots. It must be also borne in mind that in Easterly gales this Bar cannot be safely crossed. In such weather, vessels should, if possible, make some other harbor.

Sailing Directions for Newburyport Harbor in Daytime, with favorable winds and fair weather.

From the Southeastward bring Halibut Point (the Northern extremity of Cape Ann) to bear **SE.** by **S.**, and make good the course **NW.** by **N.** for Newburyport Bar. If your vessel draws as much as 10 feet water, wait, if possible, until nearly High Water. Then bring the Lighthouses in range bearing about **W.**, and steer for them until you make the black and white perpendicular-striped Buoy upon the outer Bar. Bring this Buoy in range with the main Lighthouse, and run in, leaving it close to on either hand.

* An appropriation has been made by the United States Government for the improvement of the Channel leading into Newburyport Harbor; it is therefore probable that some of these Rocks were removed before the publication of this work.

When abreast of it, keep the Lights in range until you see another black and white perpendicular-striped Buoy. This last is the Inner Bar Buoy. Leave this last-mentioned Buoy close to on the Port hand, and steer for the Black Buoy off Plum Island Spit, leaving it on the Port hand; thence between another Black Buoy and Beacon. When about midway between this Buoy and Beacon, steer for the town, leaving the Black Buoys on the Port, and the Red ones on the Starboard hand. As you sail in, you will see two more Beacons or Lighthouses. Bring them in range, and steer for them. On this range you will pass about 50 yards to the Northward of the Buoy off Gangway Rock, and also midway between the piers to the anchorage off the city.

From the Northeastward bring the Isle of Shoals Light to bear **NE. ¾ E.**, and make good the course **SW. ¾ W.** for Newburyport Bar, then follow the directions before given.

Sailing Directions for Night-time.

Strangers should not at night attempt to enter this harbor except in cases of emergency, but if necessity compels, if possible, do not come nearer the bar than 10 fathoms of water until nearly high tide; then bring the lights in range and run in for them, keeping a sharp lookout for the Buoys. When abreast of the Inner Bar Buoy, haul more Northerly and pass in, keeping nearer Salisbury Point* than the Lighthouse. When the main or Western Light bears **S.** by **E.**, steer **W.** by **N. ½ N.**, leaving the Beacon upon Black Rocks about 150 yards on the Starboard hand, until the Red and Green Lights in front of the city are in one; then run for them on this range, which will take you between the piers to the anchorage off the town.

In crossing the Bar, with the Lights in range, if you should not make the Buoys, when you judge the Lights are ¼ mile from you, haul more Northerly for Salsbury Point, leaving it about 150 yards on the Starboard hand, and proceed as before directed.

Merrimac River.

The entrance to this River is across Newburyport Bar.

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* Salisbury Point is opposite Newburyport Lights, and forms the Northern side of entrance to the Harbor. The passage between this point and the Lights is about ¼ mile in width, and the Channel is usually nearest to this point.

ıh Water.

It is High Water at Newburyport Bar about 20 minutes before it is at Boston. Common tides rise about 7¾ feet.

Hampton Harbor.

This harbor is about 5 miles North from Newburyport entrance, and at this date (1879) is not buoyed. A number of dangerous rocks and ledges lie off its entrance, and the harbor has but little water in it at Low Tide. Vessels therefore, bound into this place, should take pilots.

Rye Harbor.

This harbor lies about 4 miles Southwesterly from the light on Whale's Back (entrance to Portsmouth Harbor), and is of but little consequence.

The Coast from Newburyport Bar to Entrance off Portsmouth Harbor.

From Newburyport Bar to Whale's Back Lighthouse the course is **NE.** by **N.** ½ **N.**; distance 15¾ miles. Vessels in sailing from Newburyport Bar to the entrance of Portsmouth Harbor should keep at least a mile from shore, as there are numerous rocks and shoals that lie off this part of the coast. In thick weather or night-time use the lead, and do not approach nearer to it than 10 fathoms water at Low Tide, and 11½ at High Tide.

Portsmouth Harbor.

The entrance to this harbor is nearly North from Cape Ann, distant about 25 miles; Southwesterly from Cape Elizabeth, distant 37 miles; and Northeasterly from Newburyport Bar, distant about 15 miles.

Whale's Back Lighthouse.

This Lighthouse, which shows a fixed White Light varied by white flashes, is located upon a Ledge of Rocks called Whale's Back. In entering the harbor. this light is left on the Starboard hand. A Fog Trumpet (at this date) is placed near the Light-

house, giving blasts of 8 seconds' duration, at intervals of 22 seconds. This Lighthouse bears from Thatcher's Island Lights (Cape Ann) North about 26 miles; from the Isle of Shoals Light N. by W. ¾ W., distance 6½ miles; from Newburyport Bar NE. by N. ½ N., distance 15¾ miles; from Boon Island Lighthouse W. ¾ S., distance 10½ miles.

Portsmouth Harbor Lighthouse.

This Lighthouse, which shows a fixed White Light, is located at Newcastle, and in entering the harbor is left on the Port hand. This last-mentioned Lighthouse bears from the Light upon Whale's Back N.NW.; distance about 1 mile.

Dangers in approaching Portsmouth Harbor.

York Ledge.

This dangerous Ledge, which extends Northeasterly and Southwesterly about ¾ mile, is bare at three-quarters ebb, and is marked with an Iron Spindle 28 feet high, with an Iron Cage on top. From this Spindle the sunken portion of the Ledge extends about NE. nearly ½ mile. Vessels therefore from the Northeastward should give this Spindle a berth of 1 mile, and from the Southwestward should not approach it nearer than ½ mile. Ten fathoms water was found 125 yards South from this Ledge, and 9 fathoms 200 yards North from it. In thick weather or night-time, the lead, therefore, gives but little or no warning in approaching it. Boon Island Light bears from this Spindle E. ½ N., distance 5½ miles; Isle of Shoals Light, S.SW., distance 7¾ miles; Whale's Back Light, W. by S., distance 5 miles; Stone's Rocks, NW. ¾ W., distance 2 miles. Cape Neddick Light N. by E. ⅛ E. 4⅓ miles.

Stone's Rocks.

This Ledge, which lies nearly ½ mile from the shore, abreast of York Ledge, is bare at Low Tide, and is marked with a Spindle, and also upon its outer part with a Black Buoy, which in sailing along the shore are both left to the Westward. York Ledge Spindle bears from this Buoy SE. ¾ E. The Channel between York Ledge and Stone's Rocks is about 2 miles in width, with not less than from 4½ to 12 fathoms water in it.

Triangles, or Murray's Rock.

These Ledges extend nearly North and South about ½ mile. Upon the Southern Ledge is a rock, having at very low tides but 5 feet water upon it. This is called Murray's Rock, and is marked off its Southern part with a Buoy having Red and black horizontal stripes. Boon Island Lighthouse bears from this Buoy **E.** by **N.** ¼ **N.**, distance 6½ miles; Isle of Shoals Light, **S.** by **W.** ¾ **W.**, distance 6¼ miles; Whale's Back Light, **W.**, distance 4 miles; York Ledge Spindle, **NE.** ¼ **N.**, distance 1½ miles. The Channel between York Ledge and Murray's Rock is about 1½ miles in width; heavy-draught vessels, in passing between them, should keep nearest York Ledge.

Dangers on Eastern Side of Entrance to Portsmouth Harbor.

Eastern Sister.

This is a small bare rock, surrounded by sunken ledges, lying about ¼ mile from shore, and bears from Whale's Back Light **E.** by **N.**; distance 1½ miles.

Western Sister.

This rock is bare at Low Tide, and is also surrounded by sunken ledges; it is marked off its Southern part with a Red Buoy No. 2, which, in coming from the Eastward, is left on the Starboard hand. Whale's Back Lighthouse bears from this Buoy **W.** ¾ **N.**; distance about 1 mile.

Philip's Rocks.

These Rocks, which at very Low Tides have but 9 feet water upon them, are not Buoyed at this date (1879). They lie about **SW.**, distance ¼ mile, from the Buoy on the Western Sister, and **E.** by **S.**, a little more than ¾ mile from Whale's Back Lighthouse. Vessels of more than 8 feet draught at Low Tide should give these Rocks a wide berth.

Kitt's Rocks.

These sunken Ledges, which have at very Low Tides about 11 feet water upon them, are marked off their Southern part with a Bell Buoy, No. 4, which in passing in is left on the Starboard hand. Whale's Back Lighthouse bears from this Buoy **N.** by **W.**; dis-

tance ½ mile. Vessels of more than 8 feet draught at Low Tide should not pass between this Buoy and the Lighthouse, as there are several sunken rocks in this Channel.

Dangers on Western Side of Entrance to Portsmouth Harbor.

Gun-Boat Ledge.

This Ledge, which lies about 1 mile from shore, has at Low Tide about 20 feet water upon it. Whale's Back Light bears from the centre of this Ledge, N. by E. ½ E., distance 2¼ miles; Isle of Shoals Light, SE. by S., distance 4¾ miles.

Stilesman's Rocks.

These Rocks, which extend about ⅓ mile from the Western shore, lie ¼ mile S. by W. from Portsmouth Lighthouse, and are marked on their outer part with a Black Buoy, No. 3, which in sailing in is left on the Port hand.

Remarks.

The depth of water in entering Portsmouth Harbor is sufficient to admit vessels of the heaviest draught, even at the lowest Tides. With an Ebb Tide and light winds, or winds ahead, the harbor is difficult of access on account of the current, which sets out very strong. The shores in entering are very bold, and the Lead gives but little warning in approaching them.

Sailing Directions for Portsmouth Harbor, in Daytime, with favorable winds and fair weather.

From the Southward, after passing the Tripod or Spindle on the Dry Salvages, bring Thatcher's Island Lighthouses to bear South, and make good the course North for Whale's Back Lighthouse at the entrance of Portsmouth Harbor. If there is no deviation from this course, the Isle of Shoals Lighthouse will be left about 2 miles to the Eastward. As soon as the Lighthouse upon Whale's Back is made, bring it to bear North, and run for it on this course. When from 1 to 2 miles from this Lighthouse, haul to the Northwestward until you open the entrance to the harbor; then run in about N. ¾ E., keeping midway between Whale's Back Lighthouse and the

Western shore. Continue the course N. ¾ E., leaving the Black Buoy off Stilesman's Rocks and Portsmouth Lighthouse, both on the Port hand; haul round the point on which the Fort stands at a distance of about 200 yards. As you enter the harbor, you will see the Black Buoy, No. 5, off Cod Rock. This Buoy lies about 250 yards NW. from the Northeastern part of Fort Constitution.* Leave this Buoy close to on the Port hand, and make good the course NW. by W. about ¼ mile; then haul up about W. ½ N., keeping in mid-channel, leaving the Black Buoy No. 9, off Goat Island Ledge, about 50 yards on the Port hand. Continue the course W. ½ N. until you open the two large Ship Houses at the Navy Yard from behind Seavy Point (which is on the Starboard hand); then steer about N.NW., passing in mid-channel through the Narrows. As you sail in, you will see on the Port hand a Black Beacon, and also two Buoys, one black, the other painted in red and black horizontal stripes. Leave the Beacon and last-mentioned Buoys on the Port hand, and haul in for the Wharves, leaving another Black Buoy, No. 13, on the Port hand.

It is advisable for vessels intending to anchor off the Wharves to have a long scope of Cable overhauled around the Windlass, as there is from 10 to 12 fathoms water in the harbor at Low Tide.

From the Northeastward.

From the Northeastward leave Cape Neddick Light (which bears NW. ½ W. from Boon Island Lighthouse, distance 5¾ miles) about 1 mile to the Westward, and make good the course SW. ½ S., passing midway between the Spindle on York Ledge and the Buoy and Spindle on Stone's Rocks, and also midway between the Buoy on Murray's Rock and shore. Continue the course SW. ½ S. (leaving the Red Buoy on the Western Sister on the Starboard hand) until Whale's Back Lighthouse bears W.NW.; then run about West, leaving the Red Buoy off Kitt's Rocks upon the Starboard hand. After passing this last-mentioned Buoy, run Northwesterly until the entrance to the harbor is fairly open; then run in midway between Whale's Back Lighthouse and the Western shore, and proceed as before directed.

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* Fort Constitution is about 100 yards Northwest from Portsmouth Lighthouse.

Coming from Seaward or the Eastward.

After passing Boon Island Lighthouse about 2 miles, bring it to bear **E.NE.**; on which bearing keep it, and steer **W.SW.**, leaving the red and black horizontal-striped Buoy on Murray's Rock to the Northward. Continue the course **W.SW.** until Whale's Back Lighthouse bears **W.NW.**; then steer about **W.** by **N.**, leaving the Red Buoy off Kitt's Rocks on the Starboard hand. After passing this Buoy, run Northwesterly until the harbor is fairly open; then run in midway, and proceed as before directed.

Anchorage in Daytime.

In order to avoid the strong current or tide, the following, in daytime, are the best places for anchorage in Portsmouth Lower Harbor.

After passing the Lighthouse Point in accordance with directions before given, bring Portsmouth Lighthouse to bear **SE. ½ S.** (distance about ¼ mile); on which bearing keep it, and steer **NW. ½ N.** As you sail in, you will see on the Port hand Clark's Island, which is small, and another nearly ahead; this is Jamacia Island; and on the Starboard a Red Buoy, No. 8, which lies off the Southwest part of Hick's Rocks. Continue the course **NW. ½ N.**, passing about midway between this last-mentioned Buoy and Clark's Island. When the Buoy bears **E.** by **S. ½ S.**, steer **W.** by **N. ½ N.**, and anchor about midway between these two last-mentioned Islands in from 4 to 6 fathoms water. Or you may run **NW. ½ N.** from Portsmouth Lighthouse until abreast of the Red Buoy No. 8, which leave about 100 yards on the Starboard hand, and run up about **N.** by **E. ½ E.**, and anchor in mid-channel near the Bridge in from 5 to 6 fathoms water. In running this last course, **N.** by **E. ½ E.**, the Black Buoy No. 7, which lies off Jamaica Ledge, is left on the Port hand.

Beating into Portsmouth Harbor, in Daytime.

In daytime, beating between the Isle of Shoals and main land, bound into Portsmouth Harbor, do not approach the Western shore nearer than 1 mile until abreast of Odiorne's Point, which bears from Whale's Back Lighthouse **SW.**; distance 1¼ miles. From Jerry's Point (which bears West from Whale's Back Lighthouse) to Stilesman's Rocks, the Western shore may be approached within 350 yards without danger.

Sailing Directions for Portsmouth Harbor at Night-time, with favorable winds and fair weather.

From the Southward leave Thatcher's Island Lights 3 or 4 miles to the Westward, and when they bear **W.** by **N.**, run **N.** ½ **W.** for the Isle of Shoals Light; (on this course the Salvages will be left about 3 miles to the Westward.) Leave this last-mentioned Light (which is Red and White Flashing) about 2 miles to the Eastward, and steer **N.** ½ **W.** for Portsmouth Harbor. When about 3 miles from the entrance, bring Portsmouth Light (which is Fixed) to bear **N.** ½ **W.**, and run for it on this course. If there is no error in the Compass, Whale's Back Light (which is Flashing) will be left ¼ mile to the Eastward. Continue the course **N.** ½ **W.** for Portsmouth Light until Whale's Back Light bears **E.SE.**; then haul up **N.** ¾ **E.**, keeping a sharp lookout for Wood Island, and also the Buoy off Stilesman's Rocks, the former of which is left on the Starboard, and the latter on the Port hand. If the night is very dark when abreast of Whale's Back Light, use the Lead, which is a sure guide, and do not go into less than 7 fathoms at Low Tide, and 8½ at High Tide. When abreast of Portsmouth Lighthouse, haul round the point (which is bold) at a distance of from 200 to 300 yards. If bound up to the city, when the Light bears **S.SE.**, distance about ⅓ mile, anchor in from 8 to 10 fathoms water, and wait until daylight.

Coming from the Northeastward, leave Cape Neddick, which is bold, about ½ mile to the Westward. When Cape Neddick Light bears **NW.**, steer **SW.** by **W.** until it bears **NE.** by **N.** ½ **N.**; on which bearing keep it, and run **SW.** by **S.** ½ **S.**, passing about midway between York Ledge and Stone's Rocks. When Whale's Back Light bears **W.NW.**, make good the course **W.** ¾ **N.** until Portsmouth Light is well open to the Westward of Whale's Back Light, bearing **N.** ½ **W.**; then run for it on this course, and proceed as before directed.

From the Eastward or Seaward, leave Boon Island 2 or 3 miles to the Northward, and steer **W.NW.** until it bears **NE.** by **E.** ½ **E.**; then run in as before directed.

Best Anchorages at Night-time.

Haul round the Lighthouse Point (which is bold) at a distance of from 200 to 300 yards, in accordance with directions before given.

When Portsmouth Light bears **SW.**, haul up **W.NW.**, and anchor in from 8 to 10 fathoms water, the Light bearing **S.SE.**, distance about ⅓ mile. Or when Portsmouth Light bears **S.** by **W.** ½ **W.** make good the course **N.** by **E.** ½ **E.** until the water shoals to 4 fathoms at Low Tide, and 5½ at High Tide; then anchor to the Westward of the Beacon upon Logy Ledge. This last place is somewhat exposed in heavy Southerly winds.

Beating into Portsmouth Harbor at Night.

Beating into Portsmouth Harbor, it is not prudent at night to stand to the Westward further than to bring Portsmouth Light to bear **N.** ½ **E.**; and in order to clear Kitt's Rocks in standing to the Eastward, it is necessary to keep Portsmouth Light well open to the Westward of Whale's Back Light. When abreast of this last-mentioned Light, use the Lead, and do not approach either shore nearer than 7 fathoms water at Low Tide, and 8½ at High Tide. When about half-way from Whale's Back Light to Portsmouth Light, keep the Eastern shore best aboard in order to avoid Stilesman's Rocks which extend off from the Western shore, and bear **S.** by **W.** from Portsmouth Light; distance ¼ mile.

Entering Portsmouth Harbor in Thick Weather.

At this date (1879) there is a Fog Trumpet at Whale's Back (East side of entrance to this harbor) giving blasts of 8 seconds' duration at intervals of 22 seconds. As soon as this Trumpet or Fog Signal is heard, bring it to bear from North to **N.** ½ **E.**, and run for it on this course, leaving Whale's Back Lighthouse about 200 yards to the Eastward. When abreast this last-mentioned Light, steer about **N.** ½ **W.**, keeping in not less than 7 fathoms water at Low Tide, and 8½ at High Tide, until past Portsmouth Light; then anchor.

Piscataqua River.

The entrance to Dover and other places upon this River is by way of Portsmouth Harbor.

High Water.

It is High Water in Portsmouth Harbor 5 minutes after it is at Boston. Common Tides rise about 9 feet.

Isles of Shoals.

These are a group of rocky Islets (with many sunken Ledges near them) lying about 6 miles Southeasterly from the entrance of Portsmouth Harbor, and extend Northeasterly and Southwesterly about 3 miles.

Isle of Shoals Lighthouse.

This Lighthouse, which shows a flashing Red and White Light, is situated upon the Southern end of White Island, which is the Southwestern Island of this group.

Bearings and Distances from Isle of Shoals Lighthouse.

		Distance.	
Cape Cod Highland Light, . . .	S. by E., . .	61	miles.
Thatcher's Island Lights, . . .	S. ⅝ W., . .	20	"
Newburyport Lights, ...	SW. by W., .	12½	"
Whale's Back Light (entrance to Portsmouth Harbor), ...	N. by W. ¾ W.,	6½	"
Boon Island Lighthouse, . . .	NE. ¼ E., .	11⅓	"

Dangers.

There are numerous Rocks and Ledges lying near these Islands, some of which extend more than ¾ mile from shore. The principal dangers, however, to be avoided in passing to the Eastward of them are Anderson's and Cedar Island Ledges, both of which are bare at Low Tide. Isle of Shoals Light bears from Anderson's Ledge, NW. by W. ½ W., distance ⅞ mile; from Cedar Island Ledge, W. by S., distance 1¼ miles. There is a Channel of 20 fathoms water between these Ledges and the Islands, but vessels passing to the Eastward of the Isles of Shoals should give these dangers a wide berth, as neither of them at this date are Buoyed. In passing to the Westward of these Islands, they may be approached at a distance of a mile from them without danger.

Isles of Shoals, or Gosport Harbor.

Remarks.

These Roads, which lie about **NE.** by **N.**, one mile from the Isle of Shoals Lighthouse, are situated between Hog and Smuttynose Islands on the Northeastward, and Cedar and Star Islands on the Southward, and only afford good shelter with winds from **N.NE.** to **SSW.** by way of East.

Sailing Directions for Isles of Shoals, or Gosport Harbor, in Daytime, with favorable winds and fair weather.

From the Southward leave the Isles of Shoals about 1 mile to the Eastward, and when the Lighthouse bears East, steer **N.NE.**, leaving Lunging Island (which is the first North of the Lighthouse) a little more than ½ mile to the Eastward in order to avoid the Ledges which extend Northwesterly about ¼ mile from it. When the Northern part of this last-mentioned Island bears **SE. ½ E.** about ½ mile, steer **E.SE.** until the water shoals to 7 fathoms at Low Tide, and 8½ at High Tide; then anchor. On the last course, the Red and Black Horizontal-striped Buoy on Halfway Rocks, which are nearly bare at Low Tide, will be left about 350 yards to the Southward. The Western part of Hog Island, the largest of the group, bears from this anchorage **NW.** by **N. ½ N.** Or you may bring the Isle of Shoals Lighthouse to bear **N.** by **W.**, and run for it on this course. Leave the Lighthouse 200 or 300 yards to the Westward, and steer **N. ½ E.** After passing it, you will see nearly ahead a Buoy having red and black horizontal stripes, which lies to the Southward of Halfway Rocks, which are nearly bare at Low Tide; and on the Port hand Lunging Island, which is small. Run in midway between the Buoy and Island, and when about 300 yards past the Buoy, haul in about **E.** by **S.** for the anchorage.

From Seaward you may bring the Isle of Shoals Light to bear **W.** by **N.**, and run for it, passing between Cedar Island and Anderson's Ledges. When about ¼ mile from the Lighthouse, steer about **N.** by **W.**, passing about midway between Buoy off Halfway Rocks and Lunging Island (which is the first island North of the Lighthouse, and its Eastern part is bold). After passing the Buoy off Halfway Rock, according to directions before given, haul in and anchor.

From Portsmouth, after passing the Buoy off Kitt's Rocks (which bears **S.** by **E.** from Whale's Back Light, distant ⅓ mile), bring the said light to bear **NW.** by **N.** ¾ **N.**, and make good the course **SE.** by **S.** ¾ **S.**, leaving Hog Island (which is bold on its Western end, and is also the largest of the group) about 300 yards to the Eastward. After passing the Western part of this last-mentioned Island, run in and anchor as before directed.

From the Eastward give Duck Island, which is the Northeasternmost of the group, a good berth, in order to avoid the ledges which extend off from it in every direction. When the Isle of Shoals Lighthouse bears **S.** by **W.**, run for it. On this course the **SW.** Ledges, extending from Duck Island, will be left about ½ mile on the Port hand, and Hog Island, which is quite bold, about ¼ mile also on the Port. After passing the Western part of this last-mentioned Island, haul in and anchor according to directions before given.

Passages between the Isles of Shoals.

Duck Island, which is surrounded by rocks and ledges, is the Northernmost of the group. Between this and Hog Island there is a Channel, having a width of more than ½ mile, with from 7 to 10 fathoms water in it. Vessels passing through this Channel should keep nearest to Hog Island.

There is a Channel of 6 fathoms water between Hog and Smuttynose Islands, but it is so narrow that strangers should not attempt it except in cases of emergency. In such times keep nearest Smuttynose Island.

With **NW.** winds shelter may be found under the South side of Smuttynose Island. In coming in, pass to the Northward of Cedar Island Ledge and anchor close in to the shore, as tnere are 20 fathoms water ¼ mile to the Eastward of the Island. The Isle of Shoals Lighthouse bears from this anchorage **SW.** by **W.** ½ **W.**; distance 1⅛ miles.

High Water.

It is High Water at the Isles of Shoals 20 minutes before it is at Boston. Common Tides rise about 8 feet.

The Isles of Shoals Roads, or Gosport Harbor, is exposed to both Westerly and Northerly winds.

Boon Island.

This is a small, low Rocky Island, lying about 10 miles North-easterly from the Isles of Shoals, and about 6 miles from the coast; it is destitute of all vegetation except grass.

Boon Island Lighthouse.

Upon this Island is erected a lofty Tower, which shows a fixed White Light.

Bearings and Distances from Boon Island Lighthouse.

		Distance.
Cape Cod (Highland Light), . . .	S. ¼ E. . .	67½ miles.
Thatcher's Island Lights, ...	S.SW. . .	29½ "
Whale's Back Lighthouse, (entrance to Portsmouth Harbor,)	W. ¾ S. .	10½ "
Cape Elizabeth Lights, ...	NE. ¾ N. .	29 "
Seguin Island Light, ...	NE. ⅞ E. .	46½ "
Monhegan Island Light, ...	NE. by E. ⅞ E.	63 "
Mount Desert Rock Light, ...	E. by N. ¼ N.	114 "

Dangers.

Pollock Rock.

This Rock, which at this date (1879) is not buoyed, bears from Boon Island Lighthouse W.SW., distant a little more than ¾ mile; and at very Low Tides there are 15 feet of water upon it. Small vessels may approach within ⅓ of a mile of Boon Island without danger, but heavy-draught vessels should give it a wide berth.

Boon Island Ledge.

This Ledge, which is bare at very Low Tides, is marked on its SE. part with a Buoy having Red and Black Horizontal stripes.* This Buoy bears from Boon Island Lighthouse E. ¾ S.; distance about 3 miles. 24 fathoms water was found 400 yards SW. from this Ledge; 30 fathoms ⅕ mile North from it; and 13 fathoms ⅓ mile East from it. The lead, therefore, gives but little warning in approaching it in thick weather or at night-time. About East from Boon Island 1¾ miles, are several rocky places, which break in rough weather. At very Low Tides as little as 24 feet water has been found upon some of them. Heavy-draught vessels should

* A Whistling Buoy, with the Letters B. I. L. upon it, has been moored 300 yards SE. by S. from this Ledge.

not therefore attempt to pass between Boon Island Ledge and the Lighthouse.

York River.

The entrance to this River, which lies between Sweat's Point on the South, and East Point on the North, is about 5½ miles Northeasterly from Portsmouth entrance; **SW.** ½ **W.** 2½ miles from Cape Neddick Light; **W.** by **N.** ½ **N.** 6¾ miles from Boon Island Lighthouse; and **NW.** by **N.** ½ **N.** 2½ miles from York Ledge Spindle. At this date (1879) there is no light at the entrance to this River.

Dangers.

The first danger to be met with in approaching this River is Black Rock, which lies on the Northern side of the Channel, and is marked with a Red Buoy, No. 2. This Buoy bears from East Point about **SW.** by **W.**, distant a little more than ⅓ mile.

Sweat's Point Reef.

This Ledge, which extends off from Sweat's Point, is marked with a Black Buoy, No. 1.

Fort Point Rock.

This Ledge, which is dry at Low Tide, is marked with a Red Buoy, No. 4, which lies about 50 feet Southeast from the Rock.

Rock's Nose.

This is a ledge of Rocks bare at Low Tide, lying about ¼ mile above Sweat's Point, and extending off about 200 yards from the Southern shore of the River. In passing in, this danger is left on the Port hand.

Remarks.

The Channel leading into this River is both narrow and crooked, and vessels should enter it upon the flood, as in case of getting ashore they may, with the rising tide, get off again soon. About 8 feet water can be taken up to the anchorage at Low Tide.

The current of ebb sets strongly upon Stage Neck Point, which is opposite the narrowest part of this River; vessels, therefore, in rounding it, — especially with light winds, — should, if possible, keep in the middle of the River.

Sailing Directions for York River in Daytime, with favorable winds and fair weather.

Coming from the Eastward, leave Cape Neddick Light, which bears **NW.** ½ **W.** from Boon Island Light, about a mile to the Westward, and make good the course **SW.** by **W.**, taking care not to approach nearer the shore than ½ mile. When the River is fairly open, run in, leaving the Red Buoy off Black Rock on the Starboard and the Black Buoy off Sweat's Point on the Port hand. As you sail in, you will see another Red Buoy, which lies off Fort Point; leave this Buoy about 20 yards on the Starboard hand, and steer about **W.** ½ **S.**, with the Red Buoy off Stage Neck Point a little on the Starboard bow. On this last course, the ledge called the Rock's Nose will be left on the Port hand. Between this last-mentioned Ledge and the Northern shore of the River the Channel is very narrow; leave the last-mentioned Buoy on the Starboard hand and haul round Stage Neck Point in mid-channel, and run up for the first wharf on the Eastern side of the River, bearing **NE.** ½ **N.**, and anchor about 75 yards from it. If the wind should be light, with ebb tide, so that you cannot get up past Stage Neck Point, haul over and anchor in from 2 to 3 fathoms water, the point bearing **NE.** by **E.**; distance about 200 yards.

From the Southwestward, leave the Lighthouse upon the Whale's Back (entrance to Portsmouth Harbor) about 1½ miles to the Westward, and steer **NE.** ½ **E.**, passing about midway between York Ledge and Stone's Rocks. When the Spindle upon York Ledge bears **S.SE.**, run **N.NW.** until the River is fairly open; then run in as before directed.

High Water.

It is High Water at York River the same time as at Boston. Common tides rise about 8 feet.

Cape Neddick.

This prominent headland extends out about 1 mile **SE.** by **E.** from the main shore. At a distance of about 50 yards from the Eastern point of this Cape lies an Island called Cape Neddick Knubble, which at low water is connected by a sand bar with the shore. Upon this Knubble a Lighthouse is erected, which shows a

fixed Red Light.* Boon Island Lighthouse bears from Cape Neddick Light **SE.** ¼ **E.**, distance 5¾ miles; Cape Elizabeth Lights, **NE.** ½ **E.** 28½ miles; Isle of Shoals Lighthouse, **S.** by **W.** ¾ **W.**, 12 miles; Spindle upon York Ledge, **S.** by **W.**, 4¼ miles.

Remarks.

There is good anchorage on either side of this Cape. On the Northern side, vessels may find shelter with winds from **SW.** to **N.NW.** by way of West; and on the Southern side from West to **N.NE.** by way of West.

Sailing Directions for Cape Neddick Roads in Daytime, with favorable winds and fair weather.

Vessels from the Northward or Southward may leave Cape Neddick Light about ½ mile to the Westward, and with Northerly winds anchor in about 6 fathoms water at low tide, and 7½ at High Tide, the light bearing about **E.** by **N.**; distance ¾ mile. With Westerly winds, anchor in 6 fathoms water at Low Tide, and 7½ at High Tide, the light bearing about South; distance ¾ mile.

The Coast from Whale's Back Light (entrance to Portsmouth Harbor) to Cape Neddick.

The principal dangers are the Sisters, Stone's Rocks, Murray's Rock, York Ledge, and the ledges to the Northeastward of York River. In order to avoid these dangers, vessels sailing from Whale's Back Light to Cape Neddick should not approach nearer than 1 mile to the shore. By following this last direction, Murray's Rock and York Ledge will be left more than a mile to the Eastward.

The Coast from Cape Neddick to Kennebunk River.

From Cape Neddick to entrance of Kennebunk River the course is **NE.** ¾ **N.**; distance about 12 miles. There are several creeks or small streams between these places, but they are of little importance to commerce. There are also several rocks off this part of the coast. To avoid these dangers, vessels should not approach the shore nearer than 1¼ miles.

* A Fog-bell is placed near this lighthouse.

Kennebunk River.

The entrance to this River is 2½ miles to the Westward of Cape Porpoise Lighthouse, and N. by E. 13¼ miles from Boon Island Lighthouse.

Lighthouses.

Upon the Eastern pier at the entrance of the River there was formerly a lighthouse, but it was destroyed by a gale some time since. At this date (1879) there is, therefore, no light at the entrance of this Harbor.

Dangers in approaching and entering Kennebunk River.

Fishing Rocks.

These dangerous Rocks, some of which are bare at half tide, are marked upon their Eastern part with an Iron Spindle, which bears S.SW. from the Lighthouse Pier at the entrance of the River; distance ⅝ mile. This Spindle, in entering Kennebunk River, is left on the Port hand.

Little Fishing Rocks.

These Rocks, which are awash at very Low Tides, are marked off their Southeast part with a Black Buoy, No. 3. The Lighthouse Pier bears from this Buoy N. ½ E., distance ½ mile; Spindle upon Fishing Rocks, West, about 200 yards. Bound into Kennebunk River, this Buoy is left on the Port hand.

*Seven-Feet Rock.**

About half a mile SE. from the Spindle upon Fishing Rocks is a dangerous Ledge, having at Low Tides but 7 feet water upon it. In order to avoid this Ledge, vessels bound into Kennebunk River should carefully watch the Spindle and Buoy upon Fishing Rocks. The pier at the entrance of the river should bear North before attempting to run in.

Remarks.

The entrance to this river is between two piers which were built for the purpose of improving the Channel. About 3 feet water at Low Tide, and 11 feet at High Tide, can be carried into this place; but strangers should not attempt to enter it without a pilot. Ves-

* A Black Buoy, No. 1, has been placed off the South side of this Rock.

sels may find shelter off the mouth of the river in from 3 to 4 fathoms water, with winds from West to North.

Sailing Directions for approaching Kennebunk River in Daytime, with favorable winds and fair weather.

From the Westward, leave Cape Neddick Light about ½ mile on the Port hand, and make good the course **NE.** by **N.** until Cape Porpoise Lighthouse bears **NE.** by **E.**; then run for it, keeping a sharp lookout for the Spindle and Black Buoy off to the Eastward of the Fishing Rocks. As soon as these are made, bring the end of the pier on the Eastern side of the river to bear North, and run in, and anchor off the entrance of the river in from 3 to 4 fathoms water. On this last course, the Black Buoy off the Fishing Rocks will be left a short distance to the Westward, and buoy off Seven-feet Rock to the Eastward.

From the Eastward, when abreast Cape Porpoise Light, do not approach nearer the shore than one mile until you make the Spindle and Buoy off Fishing Rocks; then bring the Pier to bear North, and run in, leaving the Buoy and Spindle as before directed.

High Water.

It is High Water upon Kennebunk Bar about 15 minutes before it is at Boston. Common tides rise about 8 feet.

Cape Porpoise Harbor.

This small harbor of refuge, which lies between a number of Islands, is situated 16 miles Southwesterly from Cape Elizabeth, and Northeasterly 22 miles from the entrance to Portsmouth Harbor.

Goat Island Lighthouse.

This Lighthouse, which shows a fixed White Light, is built upon the Southwestern end of Goat Island, North side of entrance to this harbor. Cape Elizabeth Lights bear from Goat Island Lighthouse, **NE.** ¾ **E.**, distance 16 miles; Seguin Lighthouse, **E.NE.**, distance 36 miles; Boon Island Lighthouse, **S.** by **W.** ¾ **W.**, distance 14¼ miles; Cape Neddick Light **SW.**, distance 14 miles.

Dangers in approaching and entering Cape Porpoise Harbor.

The Old Prince.

This Ledge, which at very Low Tides has but 8 feet water upon it, extends nearly North and South 200 yards, and is marked upon its Southern part with a Red Buoy, No. 2. Goat Island Light bears from this Buoy about N.NW.; distance ¼ mile. In entering the harbor, this Buoy is left on the Starboard hand.

Goat Island Point Ledge.

This Ledge, which is bare at Half Tide, extends off about W.SW., 150 yards from the Southwestern point of Goat Island. The Western part, which is very bold, is marked with a Red Buoy, No. 4. Goat Island Lighthouse bears from this Buoy, NE. ½ E.; distance about 225 yards. Bound into the harbor, this Buoy is left close to on the Starboard hand.

Folly Island Point Ledge.

About 350 yards W.SW. from Cape Porpoise Lighthouse is a small Island destitute of grass or trees, which is called Folly Island. The Channel leading into the harbor is between this Island and the Lighthouse.

A dangerous Reef extends off about S. by W., nearly ⅓ mile from the Southern point of this Island, and for half that distance is bare at Low Tide. At this date (1879) there is no Buoy upon this danger, but the sea generally breaks upon it. In entering the harbor, this Ledge is left on the Port hand.

Gangway Rock.

This Ledge, upon which there are but 6 feet water at Low Tide, is marked upon its Northeastern part with a Black Buoy, No. 1. Goat Island Light bears from this Buoy E. ½ N. ½ mile. In passing in, this Ledge is left on the Port hand.

Remarks.

The Channel leading into Cape Porpoise is narrow, and the place for anchorage small, most of the harbor being dry at Low Tide; but with these disadvantages, it is sometimes of great importance, especially to vessels of light draught, when overtaken by a storm.

The holding ground is excellent, and when once into it, you may lie secure from all winds. The current of both Flood and Ebb in running in and out of this harbor sets strong in several places upon the Ledges. Strangers should not therefore attempt to pass in or out of it unless they have a fair and commanding breeze.

Sailing Directions for Cape Porpoise Harbor in Daytime, with favorable winds and fair weather.

From the Southwestward, leave Cape Neddick Light about ½ mile to the Westward, and make good the course **NE.** ¼ **E.**, taking care not to approach nearer to Cape Porpoise than 1 mile. When Cape Porpoise Lighthouse bears **N.** by **W.** ¼ **W.**, run for it, keeping a sharp lookout for the Red Buoy off the Old Prince. Leave this Buoy 75 yards on the Starboard hand, and steer about **NW.** by **N.** for the Red Buoy off Southwest from the Lighthouse, leaving it on the Starboard hand close to. When abreast this last-mentioned Buoy, you will see to the Northward a pile of stones, surmounted by a pole, which stands upon a Dry Ledge (this is called the Pilot Beacon). Run in with this Beacon a little on the Starboard bow, and anchor with it bearing **E.** by **S.** in about 13 feet water at Low Tide. In very heavy weather, it is best to run upon the Flats, where you will ground, at Half Tide, soft, muddy bottom, and lie secure from all winds.

From the Northeastward, leave Wood Island Light about 1½ miles to the Westward, and steer **SW.** until Cape Porpoise Light bears **N.** by **W.** ¼ **W.**; then run in, and follow the directions before given. Strangers should not attempt to beat out or into this harbor.

High Water.

It is High Water at Cape Porpoise Harbor 15 minutes before it is at Boston. Common Tides rise from 8 to 9 feet.

Stage Island Harbor.

This Harbor, which lies a short distance to the Northward of Cape Porpoise Light, is formed by a group of Islands lying off the main land. It will afford shelter for vessels of light draught, but strangers should not attempt to enter it without a pilot.

The Coast from Cape Porpoise to Wood Island.

From Cape Porpoise to Wood Island the course is **NE. ½ E.**; distance 7½ miles. There are several small streams between these places, but they are of no commercial importance. There are also several dangers lying off this part of the coast. Strangers should not therefore approach nearer than 1 mile to it.

Wood Island, or Winter Harbor.

This Harbor lies about 9 miles Southwest from Cape Elizabeth, and about 7 miles Northeast from Cape Porpoise Lighthouse.

Wood Island Lighthouse.

Upon the Eastern extremity of Wood Island is a Lighthouse which shows a flashing Red Light. A Fog Bell, struck by machinery, is placed near the Lighthouse, and is struck two blows in rapid succession; then a pause of 25 seconds, then a single blow.

Bearings and Distances from Wood Island Light.

		Distance.
Cape Elizabeth Lights, . . .	NE. ¾ E. . . .	8½ miles.
Seguin Island Light, ...	E. by N. ¾ N. . .	29 "
Monhegan Island Light, . .	E. by N.	48 "
Mount Desert Rock Light, . .	E. ¼ N.	100 "
Cape Porpoise Light,. . . .	SW. ½ W. . . .	7½ "
Boon Island Light, ...	SW. by S. ¼ S. .	21 "
Cape Cod (Highland Light), .	S. ½ W. . . .	86 "

Dangers in approaching and entering Wood Island Harbor by the Southern Passage.

Hussey's Rock.

This Rock, upon which there are but 5 feet water at Low Tide, is marked off its Southern side with a Black Buoy, No. 1. Wood Island Light bears from this Buoy **NE.** by **N. ¼ N.**; distance 1½ miles. In passing in, this Buoy is left on the Port hand.

Dancebury Reef.

This Reef, upon which there is but 5 feet water, extends nearly 350 yards North and South, and is marked off its Southern part with a Red Buoy, No. 2. Wood Island Light bears from this Buoy **N.** ¾ **W.**; distance a little more than ½ mile. At this date, this Ledge is not properly Buoyed, as the Channel between it and the shore is only 300 yards in width. It is therefore advisable for strangers to leave this Buoy at least 400 yards on the Port hand.

Dangers in approaching Wood Island Harbor by the Northern Passage.

Negro Island Ledge.

This Ledge, upon which there is 8 feet water at Low Tide, is marked on its Northern side with a Black Buoy, No. 3. Wood Island Light bears from this Buoy **SE.**; distance ½ mile. Between this Buoy and Wood Island there is a Channel 300 yards in width, having 4 fathoms water in it. The best and widest Channel, however, is to the Northward of this Buoy.

Remarks.

This harbor, which has from 8 feet to 3 fathoms water in it, lies between Stage and Negro Islands (the former of which has a Monument upon it 40 feet in height). About 12 feet water at Low Tide can be carried through the Channel South of Wood Island into the harbor; but strangers should only attempt this passage with fair winds, as it is very narrow in some places. The best Channel is to the Northward of the Island between the Black Buoy No. 3, on Negro Ledge, and the Red Buoy No. 6, off Ram Island Ledge. Between these two Buoys the Channel is about ⅓ mile in width, and has a depth of 7 fathoms water at Low Tide. This harbor is exposed to Northerly winds, but vessels may run up into the Pool, where they will lie secure from all winds.

Sailing Directions for Wood Island Harbor in Daytime, with favorable winds and fair weather.

Ship Channel.

From the Southwestward, leave Cape Porpoise Light 3 or 4 miles to the Westward, and make good the course **NE.** ½ **E.** until

Wood Island Lighthouse bears **NW.**; then run in about **NW.** ½ **N.**, leaving the Lighthouse about ¼ mile upon the Port hand. When this Lighthouse bears **W.SW.**, you will see about ½ mile to the Westward the Black Buoy off Negro Ledge; haul round this Buoy at a distance of 250 yards from it, leaving it to the Southward. When abreast this Buoy, you will see, about ⅓ mile to the Southward, Negro Island, which is small; and also Stage Island, with a Monument upon its Northeastern part. Run in, and anchor about midway between this last-mentioned Island and the Red Buoy off the Southern Point of Negro Island, in from 2½ to 4 fathoms water, the Monument bearing about **NW.** by **W.**

From the Eastward, after passing the Ledges off Cape Elizabeth, or Cape Elizabeth Lights, bear **N.** by **E.** ½ **E.**; bring Wood Island Lighthouse to bear from **W.** to **W.SW.**, and run for it on this course. When about a mile from this Light, steer **NW.** by **W.**, leaving the Black Buoy off Negro Ledge upon the Port hand. Continue the course **NW.** by **W.** until the Monument upon Stage Island bears **W.SW.**; then run into the harbor. When abreast of the Black Buoy off Negro Ledge (which is left on the Port hand), steer more Southerly, and anchor in from 2½ to 4 fathoms water, midway between the Monument and Red Buoy off to the Southward of Negro Island.

Directions to run in to the Southward of Wood Island.

Steer **NE.** ½ **E.** from Cape Porpoise, as before directed, until Wood Island Light bears **NW.** by **N.**; then run for it upon this course, leaving the Buoy off Dancebury Ledge (before described) about ¼ mile upon the Port hand. When about ¼ mile from the Lighthouse, you will be past the Northern part of this Ledge, and must steer about **W.** by **N.** ¼ **N.**, keeping about 200 yards from the Southern part of Wood Island. As you sail in, you will see the Red Buoy which lies a short distance to the Southward of Negro Island. Leave this Buoy about 100 yards on the Starboard hand, and anchor in about 2½ fathoms at Low Tide, about midway between the Buoy and Monument. Vessels of more than 10 feet draught should not attempt this passage at Low Tide, or with winds ahead.

Directions to enter the Pool.

If it blows strong from the Northeast, when midway between the Monument upon Stage Island and the Buoy off the Southern part of Negro Island, steer about **SW.**, leaving the Spindle upon Half-tide Rock 150 yards on the Port hand. When the entrance (which is about 100 yards in width) is fairly open, run in midway, and anchor as soon as you are through it. From the outer anchorage about 8 feet water, at Low Tide, can be taken into the Pool. The current of Flood and Ebb sets strong in and out directly through this passage.

Strangers should not attempt to enter Wood Island Harbor at night.

High Water.

It is High Water at Wood Island about 30 minutes before it is at Boston. Common Tides rise about 9 feet.

Saco River.

To enter this River, leave Wood Island Light about ½ mile to the Southward, and steer **W.** by **N.** As you sail in, you will see the Black Buoy off Negro Ledge; leave this Buoy 150 yards on the Port hand, and steer **W.** by N., leaving the Red Buoy, No. 6, off Ram Island Ledge, and the Red Buoy, No. 8, off Sharp's Rocks, both to the Northward. When abreast the last-mentioned Buoy, you will see the lower bar Buoy, which is painted in Black and White perpendicular stripes. This last Buoy lies at the entrance of the river; in entering, the Channel is to the Westward of the Breakwater. It is advisable for vessels bound to Saco to enter Wood Island Harbor and take pilots, as the frequent changes of the bar at the mouth of the river render it impossible to give any correct sailing directions. It is High Water upon Saco Bar the same time as at Wood Island Harbor.

From the mouth of the River to Saco or Biddeford the distance is from 3 to 4 miles.

Islands in Saco Bay.

Ram Island.

This Island, which is very small, bears from Wood Island Light **NW.** ½ **W.**, distance 1⅓ miles, and lies Northeast about ¼ mile from the Buoy on the Bar at the entrance of Saco River. This

Island is surrounded by shoals, and vessels should give it a good berth.

Eagle Island.

This Island is small, and bears from Wood Island Lighthouse **NW.** by **N.** ¼ **N.**, distance 2 miles, and lies about 1 mile from shore. Vessels of 11 feet draught may, at Low Tide, approach it at a distance of ⅓ mile without danger.

Stratton and Bluff Islands.

These two Islands, which lie near each other, bear from Wood Island Lighthouse about **N.NE.**; distance 3 miles. Sunken rocks extend off ⅓ mile to the Eastward of these Islands, and vessels bound to Old Orchard Beach should give them a berth of at least ½ mile. There is no passage for vessels between these two last-mentioned Islands.

Richmond's Island Roads.

These Roads lie 2½ miles Southwesterly from Cape Elizabeth Lights, and 6¼ miles Northeast from Wood Island Lighthouse.

Dangers.

There are not really any dangers to be avoided in entering these Roads. There are two Rocks, called the Old Proprietor and Chimney Rock, both of which lie on the Northwestern side, and are buoyed. The Old Proprietor, which is bare a little before Low Tide, bears **W.** by **N.** from the Western part of Richmond's Island; distance 2 miles. Chimney Rock is bare at Low Tide, and bears, from the Western part of Richmond's Island, **NW.** by **N.** ½ **N.**, about ⅔ mile. Neither of these rocks lie in the way, except you are obliged to beat in.

Remarks.

These Roads make an excellent harbor with winds from West to South by way of North, and can be easily entered in daytime, even by the largest vessels, when they cannot get into Portland. The holding-ground is good, and I can see no reason why a large vessel, anchoring in from 7 to 8 fathoms water, could not safely ride out a heavy Northeast gale.

Sailing Directions for Richmond's Island Roads, in Daytime, with favorable winds and fair weather.

Coming from the Westward, leave Wood Island Light about 1½ miles to the Northwestward, and as soon as Cape Elizabeth Lighthouses are made bring them to bear **NE.** and run for them until the Western part of Richmond's Island bears North; then run in about **N.** by **W.** ½ **W.**, and haul round the West part of Richmond's Island at a distance of ½ mile (leaving it to the Eastward), and anchor in from 4 to 6 fathoms water, good holding-ground. The best anchorage for large vessels is ¼ mile **S.SE.** from the Black Buoy off Chimney Rock. Small or light-draught vessels may go up to the head of the cove and anchor at their pleasure.

From the Northeastward.

Coming from the Northeastward, bring the Lighthouse upon Half-way Rock to bear **NE.** by **E.** ¼ **E.**, and make good the course **SW.** by **W.** ¼ **W.** On this course the Black Buoy off Taylor's Reef (bearing **SE.** ¼ **S.** from Cape Elizabeth Lights, distance ¾ mile) will be left about ⅓ mile on the Starboard, and Alden's Rock about ¾ mile upon the Port hand. When Cape Elizabeth Lights bear **N.NE.**, haul round Richmond's Island at a distance of ½ mile, and anchor as before directed. In order to avoid the Ledges in beating in, do not approach nearer to Richmond's Island than ½ mile, until past the Western point. The first Cove to the Westward of Cape Elizabeth Lights is Seal Cove, which is full of Rocks and Ledges. Strangers should therefore be careful and not mistake this for Richmond's Island Roads. The centre of Richmond's Island bears from Cape Elizabeth Lights **SW.** by **W.** ½ **W.**, distance 2 miles; and the passage into the Roads is to the Westward of this Island.

Portland Harbor.

This harbor, which is the principal maritime port of the State of Maine, lies 42 miles Northeast from the city of Portsmouth, and 62 miles Northeasterly from Cape Ann.

Cape Elizabeth Lights.

Upon Cape Elizabeth are erected two lofty Light Towers, painted brown, with white masonry bases, 923 feet apart, ranging **SW.** by **W.** and **NE.** by **E.** The Eastern Tower shows a fixed White Light; the Western, a flashing White Light. A Fog Signal is placed near the Lighthouses, giving two blasts of 5 seconds each, with an interval of 8 seconds between them, and then a pause of 42 seconds.

Bearings and Distances from Cape Elizabeth Lights.

		Distance.	
Cape Cod (Highland Light), .	**S.** ¾ **W.**, . .	92	miles.
Thatcher's Island Lights, ...	**SW.** by **S.** ½ **S.**,	58½	"
Boon Island Light, ...	**SW.** ¾ **S.**, . .	29	"
Seguin Island Light, ...	**E.** by **N.**, . .	21	"
Monhegan Island Light, ...	**E.** ⅜ **N.**, . .	40	"
Matinicus Island Light, ...	**E.** ¼ **S.**, . .	59	"
Seal Island Light (Cape Sable), .	**E.** by **S.** ¾ **S.**,	181	"
Half-way Rock Light, ...	**E.NE.**, ...	9	"
Portland Light, ...	**N.** ¾ **E.**, . .	3½	"

Half-Way Rock Light.

This Lighthouse, which shows a fixed White Light varied by Red flashes, is built upon a small rocky Islet, called Half-way Rock. Webster Rock, upon which there are 8 feet water at Low Tide, bears from this Light North; distance 450 yards. This Rock is marked on its Northern part with a Black Buoy, No. 7. There is no passage for vessels between this Rock and the Lighthouse. Rocks also extend off nearly ¼ mile to the Westward of this Light.

Bearings and Distances from Half-way Rock Light.

		Distance.	
Cape Elizabeth Lights, ...	**W.SW.**,	9	miles.
Portland Head Light, ...	**W.** ⅛ **S.**,	7¾	"
Seguin Island Light, ...	**E.**, . .	12½	"

Since the above was written, a Whistling Buoy has been placed off Half-way Rock Lighthouse, in 19 fathoms water.

Bearings and Distances from this Buoy.

Half-way Rock Lighthouse, ...	North	1 mile.
Portland Lighthouse, ...	**W.** ½ **N.**	8 miles.
Seguin Lighthouse, ...	**E.** ½ **N.**	12 "

Portland Head Light.

This Lighthouse, which shows a fixed White Light, is built on Portland Head. A Fog Signal is placed near it which gives blasts of 8 seconds at intervals of 40 seconds. Half-way Rock bears from Portland Head Light **E.** ⅛ **N.**; distance 7¾ miles.

Portland Breakwater Light.

This Lighthouse, which shows a flashing Red Light, is erected upon the outer end of the Breakwater, which, in entering Portland Harbor, is left on the Port hand.

Dangers to be avoided in Passing Cape Elizabeth by the Inshore Channel.

Old Anthony, or Vapor Rock.

This Rock, which has 18 feet water upon it at very Low Tides, is marked on its Southern part with a Buoy painted in Red and Black Horizontal stripes, and also having the white letters O. A. upon it. Cape Elizabeth Eastern Light bears from this Buoy **N.** by **W.** ½ **W.**; distance 1¾ miles. Vessels passing Cape Elizabeth by the Inshore Channel will leave this Buoy to the Southeastward.

Taylor's Reef.

This Reef, which at very Low Tides has 11 feet water upon it, extends **E.NE.** and **W.SW.** nearly ½ mile. It is marked upon its Southeastern part with a Black Buoy, having the white letters T. R. upon it. Cape Elizabeth Eastern Light bears from this Buoy **NW.** ¼ **N.**; distance ¾ mile. Vessels passing Cape Elizabeth by the Inshore Channel generally leave this Buoy to the Northwestward; but there is a good Channel of 6 fathoms water inside this Reef close to the Cape Shore.

Alden's Rock.

This dangerous Rock, which at very Low Tides has but 4 feet water upon it, is marked with a Black Buoy having the white letters A. R. upon it. This Buoy lies about ¼ mile Southeast from the Rock. Cape Elizabeth Eastern Light bears from it **NW.** by **W.**; distance 2¼ miles. Vessels passing Cape Elizabeth by the Inshore Channel should leave this Buoy at least ¾ mile to the Southeastward.

Corwin Rock.

This Rock, upon which there are 18 feet water at Low Tide, is marked upon its Southern part with a Buoy painted in Black and Red Horizontal stripes, and also having the white letters C. R. upon it. Cape Elizabeth Eastern Light bears from this Buoy **NW.** by **W.** ¾ **W.**; distance 2½ miles. Vessels passing Cape Elizabeth by the Inshore Channel should leave this Buoy to the Southeastward.

West Cod Ledge.

This Ledge (which at this date is not Buoyed) has 4½ fathoms water upon it at Low Tide. Cape Elizabeth Eastern Light bears from it **W.** ½ **N.**; distance a little over 3 miles. Vessels passing Cape Elizabeth by the Inshore Channel should leave this Ledge to the Southeastward.

Mitchell's Rock.

This Rock (which at this date is not Buoyed) has 5¼ fathoms water upon it at Low Tide. Vessels bound around Cape Elizabeth by the Inshore Channel generally pass to the Eastward of it. This Rock is not considered dangerous except in rough weather, when the sea breaks heavily upon it. Cape Elizabeth Eastern Light bears from this Rock **W.** 1⅓ miles.

Broad Cove Rock.

This Rock, which has about 7 feet water upon it, is marked off its Eastern part with a Black Buoy having the white letters B. C. R. upon it. Cape Elizabeth Eastern Light bears from this Buoy **SW.**; distance 1¼ miles. Vessels passing Cape Elizabeth by the Inshore Channel must leave this Buoy to the Westward.

Trundy Reef.

This Reef extends off about ¾ mile in a Northeasterly direction from Trundy Point. Trundy Point is 1¼ miles to the Northward of Cape Elizabeth Lights. The Reef is dry at Low Tide, about ⅓ mile from shore. A Black Buoy, having the white letters T. R. upon it, is placed off the Northeast part of this Reef. Cape Elizabeth Eastern Light bears from it **SW.** by **S.** ½ **S.**; distance 1⅞ miles. Rocky Bottom extends off to the Northeast of this Reef, and the current of Flood sets on to it. Large vessels should there-

fore give it a wide berth. Portland Light bears from it N. by W. ¼ W.; distance 1¾ miles.

Dangers to be avoided in passing Cape Elizabeth by the Offshore Channel.

West Hue and Cry.

This Ledge (which is not Buoyed at this date) has 4½ fathoms water upon it at Low Tide. Cape Elizabeth Eastern Light bears from it N.NW. 2¾ miles.

East Hue and Cry.

This is a dangerous Ledge with 16 feet water upon it at Low Tide. It is marked upon its Southeastern part with a Black Buoy, No. 1. Cape Elizabeth Eastern Light bears from this Buoy NW. ¾ N.; distance 3¼ miles. Vessels passing Cape Elizabeth by the Offshore Channel will leave this Buoy to the Northwestward.

Bache Rock.

This Rock (which is not Buoyed at this date) has 4 fathoms water upon it at Low Tide. Cape Elizabeth Eastern Light bears from this Rock, W. ½ S., distance 5 miles; Portland Head Light, NW. by W., 5½ miles. In Easterly gales the sea breaks heavily upon this Rock.

Round Rock.

This Rock (which is not Buoyed at this date) has 4½ fathoms water upon it at Low Tide. Cape Elizabeth Eastern Light bears from this Rock W. ¼ S.; distance 7¼ miles.

Bulwark Shoal.

This dangerous Ledge, which has but 12 feet water upon it at very Low Tides, is marked upon its Southeastern part with a Buoy painted in red and black horizontal stripes. Cape Elizabeth Eastern Light bears from this Buoy W. ½ S., 6¼ miles; Light upon Half-way Rock, NE. by N., 3¾ miles; Portland Head Light, NW. by W. ¾ W., distance 6⅓ miles. Heavy-draught vessels passing Cape Elizabeth, bound to Portland, should give all these Ledges a wide berth, leaving them to the Northwestward.

Dangers to be avoided in approaching and entering Portland Harbor.

Jordan's Ledge, or Bell Rock.

This Ledge, upon which there are 18 feet water at Low Tide, is marked upon its Southeastern part with a Buoy painted in Red and Black Horizontal stripes. Portland Head Light bears from this Buoy **NW.** by **W.**; distance 1 mile.

Pine-Tree Ledge.

This Ledge, which has 20 feet water upon it at Low Tide, is not Buoyed at this date. Portland Head Light bears from it **NW.** ¼ **W.**; distance 1½ miles nearly. The sea breaks heavily upon this Ledge during heavy Southeasterly gales.

Witch Rock.

This Rock, upon which there are 18 feet water at Low Tide, is marked off its Southeastern part with a Red Buoy having the white letters W. R. upon it. Portland Head Light bears from this Buoy **W.** by **N.**, 1½ miles; the Buoy upon Jordan's Reef bears **W.** by **S.** ¾ **S.**; distance ¾ mile from the Buoy upon Witch Rock. The Ship Channel into Portland is between these two Buoys.

Ram Island Ledge.

This Ledge, which extends off to the Southward about ¼ mile from the Southwestern part of Ram Island, is marked upon its outer part with a Day Beacon 50 feet in height. Portland Head Light bears from this Beacon **W.** by **S.** ¼ **S.**; distance about 1 mile. In passing into Portland, this Beacon is left on the Starboard hand.

Catfish Rock.

This Rock, which has 18 feet water upon it at Low Tide, lies 150 yards from the Southwestern part of Bang's Island. A Red Buoy, No. 2, is placed near it. Portland Head Light bears from this Buoy **S.** by **W.** ¼ **W.**; distance ⅝ mile.

Bang's Island Ledge.

This Ledge, which has 2 feet water upon it at Low Tide, lies near the Northwestern part of Bang's Island, and is marked upon its Northwestern part with a Red Buoy, No. 4.

Mill Rock.

This Rock, which lies near the Western shore, about ½ mile to the Southward of Fort Preble, has 2 feet water upon it at Low Tide, and is marked off its Northeast part with a Black Buoy, No. 11.

Spring Point Ledge.

This Ledge, some parts of which are bare at Low Tide, extends off Northeast 350 yards from Fort Preble. It is marked on its outer part with a Black Buoy having the white letters S. P. L. upon it. Portland Breakwater Light bears from it **NW.** by **W.**; distance ⅝ mile.

Stanford's Ledge.

This Ledge extends off **NE.** by **E.** 250 yards from Portland Breakwater Light. It is marked upon its outer part with a Black Buoy having the white letters S. L. upon it.

Portland Harbor Rocks.

These Rocks, which lie in the harbor upon the Southern side of the Channel, have but 4 feet water upon them at Low Tide. They are marked upon their Northwestern part with a Black Buoy, No. 3. Portland Breakwater Light bears from this Buoy **E.** by **N.**; distance a little more than ½ mile.

Remarks.

On account of the Ledges that lie off its entrance, the approaches to Portland Harbor are exceedingly dangerous for large vessels. Small ones should give Alden's Rock, upon which there are but 4 feet water at Low Tide, a wide berth. The heaviest draught vessels may enter the Outer Harbor at Low Tide; and 21 feet water, at this date, can be carried into the Inner Harbor at this time of Tide.

Sailing Directions for Portland Harbor in Daytime, with favorable winds and fair weather.

Cape Elizabeth Inshore Channel.

Coming from the Southwestward, as soon as Cape Elizabeth Lights are made, bring them to bear from **NE.** by **N.** to **N.NE.**, and run for them. On this course, as you approach these Lighthouses, you

will see, on the Starboard bow, the Black Buoy off Taylor's Reef, which has about 11 feet water upon it at Low Tide. (Cape Elizabeth Eastern Light bears from this Buoy **NW.** ¼ **N.**; distance ¾ mile.) As soon as this Buoy is made, you will remember that you can pass it on either side. If you intend to go within it, you must keep midway between the Buoy and shore, and there will be no danger. If you wish to go without it, when it bears **NE.** by **E.**, steer for it and leave it close to on the Port hand. When abreast this Buoy (which may be known by the white letters T. R. upon it, and also by the bearings of Cape Elizabeth Eastern Light) steer **N.NE.** until Portland Head Light bears **NW.** by **N.** ¼ **N.**; then run for it. On these two last courses, you will leave the Black Buoys on Broad Cove Rock and Trundy Reef both on the Port, and the Buoy painted in Red and Black Horizontal Stripes, off Jordan's Reef, on the Starboard hand. After passing this last-mentioned Buoy, or, you are about ¾ mile from Portland Head Light, steer more Northerly, leaving the Lighthouse ¼ mile to the Westward. When abreast it, you will see the Red Buoy off the Southwest part of Bang's Island. Leave this Buoy 200 yards on the Starboard hand, and run up about **N.** ¾ **W.** in midchannel, leaving the Black Buoy off Fort Preble close to on the Port hand. When abreast this Buoy, you will see to the Northwestward another Black Buoy, which lies off Portland Breakwater Light, and also a Red Buoy; pass midway between them and run in, keeping nearest to the city side of the harbor.

Channel between Corwin Rock and West Cod Ledge.

Coming from Seaward or the Southward, do not approach nearer Cape Elizabeth than 4 or 5 miles, or keep outside all the Buoys upon the Ledges until Portland Head Light bears **NW.** by **N.** ¼ **N.**; then run for it on this course, leaving the Buoy painted in Black and Red Horizontal Stripes, off Corwin Rock, a little more than ½ mile on the Port hand. When about ¾ mile from Portland Head Light, follow the directions before given.

Ship Channel.

From Seaward or the Southward, do not approach nearer Cape Elizabeth than 10 miles until the Light upon Halfway Rock (before described) is made; then bring this Light to bear North, and run

for it until Portland Head Lighthouse bears **W.** by **N.** ¾ **N.**; then run for this last-mentioned Lighthouse on this course until about ¼ mile from it, and proceed according to directions before given. This last course (**W.** by **N.** ¾ **N.**) passes ¾ mile to the Northeastward of the Buoy upon Bulwark Shoal, and about midway, in 9 fathoms water, between the Buoys upon Jordan's Reef and Witch Rock.

Northern Channel.

Coming from the Eastward, leave Seguin Lighthouse 3 or 4 miles to the Northward, and bring the Lighthouse upon Halfway Rock to bear **W.** by **N.**, leaving it about ¾ mile to the Northward. When past this last-mentioned Lighthouse, bring Portland Head Light to bear **W.** ¼ **N.**, and run for it upon this bearing until ¼ mile from it; then follow the directions before given. Upon this last course (**W.** ¼ **N.** from Halfway Rock), Outer Green Island and the Beacon upon Ram Island Ledge will both be left to the Northward; and the Red Buoy off Witch Rock ¼ mile to the Southward.

White Head Passage.

Remarks.

The narrow channel leading into Portland Harbor between the Northern shore of Bang's Island and the Southern shore of Peak's Island is called White Head Passage. Strangers should not attempt to pass in or out this channel unless they have a fair wind, and in no case with light winds, as there is danger of being carried ashore by the current, upon the Ledges.

Sailing Directions.

From the Eastward, to enter Portland Harbor by White Head Passage, leave the Lighthouse on Halfway Rock about ½ mile to the Northward, and steer about **W.** ¼ **N.** until the first Island (Outer Green Island) bears North; then steer about **W.NW.**, leaving Ram Island on the Port hand. As you sail in, you will see two Spindles in the passage; pass midway between them and run in, keeping the Southern shore best aboard. You may go on either side of House Island. If you pass to the Southward of it keep nearest to it, in order to avoid the shoal water that extends off

some distance from the Northern part of Bang's Island. There are from 4 to 6 fathoms water in White Head Passage between Bang's and Peak's Islands; but the Channel is narrow; it is therefore advisable to proceed with caution.

Hog Island Roads, or Portland Outer Harbor.

When abreast of Portland Head Light, if you wish to make a harbor, follow the directions before given for Portland Inner Harbor, until abreast the Black Buoy off Fort Preble; then steer **NE.** until Portland Breakwater Light bears West, then steer East, and anchor midway between Little Hog and House Islands, in about 5 fathoms water at Low Tide. During heavy Northeasterly gales, Hog Island Roads affords better shelter than Portland Inner Harbor.

Sailing Directions for Portland Harbor at Night-time, with favorable winds and fair weather.

A Whistling Buoy is placed off Cape Elizabeth in 18 fathoms water. Cape Elizabeth Eastern Light bears from it about **N.** by **W.** ¼ **W.**, distance 2¼ miles; Buoy off Old Anthony, **N.NE.**, distance about ½ mile; Alden's Rock, **NE.** ½ **E.**, distance 1¾ miles.

From the Southward or Southwestward, do not approach Cape Elizabeth nearer than 5 miles until Cape Elizabeth Eastern Light bears **N.** by **W.**; then run for it, keeping a sharp lookout for the Whistling Buoy. When you make or hear it, leave it close to on the Port hand, and steer **NE.** by **N.** ½ **N.** On this course, Alden's Rock will be left ½ mile on the Starboard hand. Continue the course **NE.** by **N.** ½ **N.** until Portland Head Light bears **NW.** by **N.** ¼ **N.**; then run for it on this course, and pass it on the Port hand close to. When abreast of this Light, run about **N.** by **W.**, keeping in mid-channel until about half-way from Portland Head Light to Breakwater Light; then haul a little more Northerly, keeping nearer Fort Scammel * in order to avoid the Ledge off Fort Preble. When the Breakwater Light bears **W.** by **N.** ½ **N.**, you are past this Ledge, and may haul in **NW.** and round this last-mentioned Light at a distance of ¼ mile, and anchor nearest the city side. If

* Fort Scammel is upon House Island, and in passing in is left on the Starboard hand.

the night is very dark, after passing Fort Preble, use the lead, and do not go into less than 3¼ fathoms water until the Breakwater Light bears **S.SW.**; then haul in for the city.

Hog Island Roads, or Portland Outer Harbor.

If you do not like to pass the Breakwater Light at night, when between Fort Preble and Fort Scammel, run **N.** by **E.**, and anchor in from 5 to 7 fathoms water, the Breakwater Light bearing West; distance about ¾ mile.

Channel between Corwin Rock and West Cod Ledge.

The channel between this Rock and Ledge is 1¼ miles in width, and the heaviest-draught vessels may safely pass through it at night, provided there is no error in their compass.

Coming from the Southward, do not approach nearer Cape Elizabeth than 4 or 5 miles, and as soon as you make Portland Head Light bring it to bear **NW.** by **N.** ¼ **N.**, and run for it, leaving this Light 250 yards, or close to, on the Port hand, and proceed according to directions before given.

Ship Channel.

From Seaward or the Southward, do not approach nearer Cape Elizabeth than 10 miles until the Light upon Halfway Rock is made; then bring this Light to bear North, and steer for it until Portland Head Light bears **W.** by **N.** ¾ **N.**; then run for it on this course, until about ¼ mile from it, and proceed as before directed. This last course (**W.** by **N.** ¾ **N.**) passes ¾ mile to the Northeastward of the Buoy upon Bulwark Shoal, and about midway in 9 fathoms water between the Buoys upon Jordan's Reef and Witch Rock.

Northern Channel.

From the Eastward, as soon as the Light upon Halfway Rock is made, bring it to bear **W.** by **N.** (which course will clear all the Ledges), and run for this Light, leaving it about ¾ mile to the Northward. When abreast this last-mentioned Lighthouse, bring Portland Head Light to bear **W.** ¼ **N.**, and steer for it on this bearing until ¼ mile from it, or close to it; then follow the directions before given. Upon this last course (**W.** ¼ **N.** from Halfway

Rock), Outer Green Island and the Beacon upon Ram Island Ledge will both be left to the Northward, and the Buoy off Witch Rock ¼ mile to the Southward.

Beating into Portland Harbor at Night.

At night or day, vessels of not more than 13 feet draught, from the Southwestward, with strong **NW.** winds, at Half Tide, may, as soon as Cape Elizabeth Lights are made, bring them to bear from **NE.** by **N.** to **N.NE.**, and run for them on this bearing, leaving the Cape Shore about ¼ mile to the Northwestward. When Cape Elizabeth Eastern Light bears **NW.** by **W.**, steer **NE.** by **N.** until Portland Head Light bears **NW.** by **N.** ¼ **N.**; then haul sharp on the wind, or for this last-mentioned Light. In passing Cape Elizabeth at Half Tide, the only danger for vessels of not more than 13 feet draught is Alden's Rock. Remember this Rock bears from Cape Elizabeth Eastern Light **SE.** by **E.**; distance 2 miles.

At night or day, after passing Cape Elizabeth Lights by the Inshore Channel, vessels of not more than 15 feet draught may stand to the Eastward until Portland Head Light bears **W.** ½ **N.**, and to the Westward until it bears **NW.** by **N.** ¼ **N.** At night, vessels beating in may stand pretty close to the Western shore, after passing Portland Head Light, until abreast of the Southern end of Bang's Island. After passing this to Fort Preble, give the Western shore a wide berth; and in order to avoid the Ledge that makes off from this Fort, when passing it, keep nearest to House Island.

Ship Channel.

Beating into Portland Harbor in Ship Channel at night or day, when Halfway Rock Light bears North, you may stand to the Northward until Portland Head Light bears **W.** ½ **N.**, and to the Southward until it bears **W.** by **N.** ¾ **N.** When Cape Elizabeth Lights bear **SW.**, heavy-draught vessels may anchor, and wait for daylight in order to pass Jordan's Reef and Witch Rock.

Sailing Directions for approaching and entering Portland Harbor in Thick Weather.*

A Whistling Buoy is placed in 18 fathoms water, bearing about **S.** by **E.**, ¼ **E.** 2¼ miles from Cape Elizabeth Eastern Light. Fog Signals are also placed at Cape Elizabeth and Portland Head Light.

* A Bell Buoy has been placed ½ mile **S.SW.** from Bangs Island Point. This Buoy is left on the Starboard hand by vessels bound into Portland. From this Buoy, Portland Head Lighthouse bears **S.** by **W.**, ½ mile.

Vessels from the Southwest, Southward, or Seaward, making or hearing the Whistling Buoy off Cape Elizabeth, will run for it, bearing from **NW.** to **NE.** Leave it close to on either hand, and make good the course **NE.** by **N.** ½ **N.** until the Fog Signal upon Cape Elizabeth (before described) bears **W.** by **S.** ½ **S.** (Portland Head Light will then bear **NW.** by **N.** ¼ **N.**, distance 3¼ miles); then run for Portland Head Light on this last bearing, and when you hear the Fog Signal near this Lighthouse, pass it close to in 7 or 8 fathoms water, and steer about **N.** by **W.**, keeping in not less than 7 or 8 fathoms water until past Fort Preble, when you may haul more Westerly, and round the Lighthouse in not less than 3½ fathoms, and anchor.

Vessels from the Eastward making or hearing the Whistling Buoy which lies about South 1 mile from the Light upon Halfway Rock, may leave it close to on either hand, and make good the course **W.** ½ **N.** for Portland Head Light. As soon as the Fog Signal is heard at this Lighthouse, bring it to bear **W.** ½ **N.**, and run for it on this bearing, and follow the directions before given.

High Water.

It is High Water in Portland Harbor 12 minutes before it is at Boston. Common Tides rise about 9 feet.

Yarmouth River, or Harbor.

The entrance to this River is in Casco Bay, about 9 miles Northeasterly from the city of Portland. From its mouth to Yarmouth Falls Village (which is situated upon its Western Bank), the distance is 1¾ miles. In going up, the Channel is extremely narrow, and has but little water in it at Low Tide. In approaching this River, there are two ways, the most direct of which is through Hussey's Sound; the other by the way of Portland.

Hussey's Sound.

The passage into Casco Bay between Peak's Island and Long Island is called Hussey's Sound. By keeping in the middle of this passage, the heaviest-draught vessels may pass through it in safety.

Sailing Directions for Yarmouth River in Daytime, with favorable winds and fair weather.

By Way of Hussey's Sound.

Coming from the Southwestward, Southward, or Seaward, do not approach Cape Elizabeth nearer than 4 or 5 miles until Portland Head Light bears **NW.** by **N.** ½ **N.**; then run for it on this course until Cape Elizabeth Lights are in range, bearing **SW.** by **W.**; then steer **N.** by **E.** ½ **E.** On this last course, the Red Buoy off Witch Rock, and Tripod upon the Southern part of Ram Island, will both be left on the Port; and Outer Green Island, and the Buoy painted in Red and Black Horizontal stripes off Hussey's Ledge, on the Starboard hand. Continue the course **N.** by **E.** ½ **E.** until Portland Head Light is in range with the Northern point of Ram Island, bearing **SW.** by **W.** Hussey's Sound will then be fairly open, and you may run in about **N.** by **W.**, keeping in the middle of it.

When abreast of the Northern part of Peak's Island, you will see on the Port hand a little round Islet called Pumpkin Knob. When the centre of this Islet bears **SW.**, the course is **N.** by **E.** ½ **E.**, and distance 3 miles to Red Buoy, No. 6, which lies about 100 feet Southeast from Upper Clapboard Ledge. This last-mentioned Ledge has 5 feet water upon it at Low Tide.

Leave this last-mentioned Buoy 150 yards on the Port hand, and steer **NE.** ½ **N.**, leaving Birch Point, which is bold, about 400 yards on the Starboard hand. When this last-mentioned Point bears **S.** by **W.** ½ **W.**, anchor in from 3 to 5 fathoms water, and take a pilot, as beyond this the channel is so crooked and narrow that no correct sailing directions can be given. Birch Point bears **NE.** from the Red Buoy No. 6, off Upper Clapboard Ledge; distance 1⅓ miles.

From the Eastward, leave the Lighthouse on Halfway Rock about ½ mile to the Northward, and steer **W.** ¼ **N.**, leaving the first Island (Outer Green Island) about ½ mile on the Starboard hand. When this last-named Island bears **NE.**, haul in about **NW.**, leaving the Buoy painted in Horizontal stripes off Hussey's Rock on the Starboard hand. After passing this Buoy, Hussey's Sound will be open; then proceed as before directed.

By Way of Portland.

From Portland bound to Yarmouth River, bring the Lighthouse on Portland Breakwater to bear **SW.** ¼ **W.**, and make good the course **NE.** ¼ **E.**, leaving Fort George ¼ mile to the Southward, and carrying nothing less than 14 feet water at Low Tide past it. When abreast this Fort, you will see nearly ahead the Red Buoy No. 2, off Hog Island Ledge. Leave this Buoy close to on the Starboard hand, and continue the course, leaving another Red Buoy No. 4, off Brimstone Ledge, also close to on the Starboard hand. When abreast this last-mentioned Buoy, you will see the Spindle and Black Buoy No. 1, off Cow Island Ledge, bearing about **NE.** by **E.** Leave this last-mentioned Buoy on the Port hand, and make good the course **NE.** by **N.** ¼ **N.** for the Red Buoy, No. 6, upon Upper Clapboard Ledge, which may be left on the Port hand. When abreast this last-mentioned Buoy, proceed as before directed.

High Water.

It is High Water in Yarmouth River about 20 minutes before it is at Boston. Common Tides rise about 9¼ feet.

Freeport River.

The entrance to this River is in Casco Bay, about 11 miles Northeasterly from the city of Portland. There are several ways to approach this place, but the most direct one, especially for strangers, is by the way of Broad Sound.

Sailing Directions for Freeport River, or Strout's Point Village, in Daytime, with favorable winds and fair weather.

By Way of Broad Sound.

From the Southward, Southwestward, or Seaward, keep outside of all the Ledges off Cape Elizabeth, and as soon as the Lighthouse upon Halfway Rock is made, bring it to bear North, and run for it on this course. Leave this Lighthouse about ¼ mile to the Westward, and steer **N.** by **W.** ½ **W.**, leaving the Black Buoy

off Webster Rock (which lies a short distance to the Northward of this Lighthouse) on the Port hand. When Halfway Rock Light bears **S.** ¼ **E.**, Broad Sound will be fairly open, and you must make good the course **N.** ½ **W.** As you sail in, you will see on the Starboard hand the Buoy painted in Black and Red Horizontal stripes, off Drunker's Ledge, and also Mark and Eagle Islands. The former Island has a stone Monument upon it 50 feet in height. These are all left to the Eastward. On the Port hand, you will see a small bare Island with ledges around it; this is called the Brown Cow, and is left to the Westward. Continue the course **N.** ½ **W.** until you make the Red Buoy No. 14, off Whaleboat Ledge. (This last-mentioned Buoy bears **N.** ½ **W.** from Halfway Rock Light; distance 6 miles.)

Leave this Buoy on the Starboard hand close to, and steer **N.** by **W.** ½ **W.** 1¼ miles, leaving the Red Buoy No. 12, off Green Island Ledge, close to on the Starboard hand. (This last-mentioned Buoy lies Northeast about ½ mile from the Northeast point of Great Chebeag Island.) From this Buoy run **N.NE.** 1⅓ miles to Black Buoy No. 1, off Mosher Ledge. Leave this Buoy close to on the Port hand, and steer **N.** by **W.** ½ **W.**, when you will see another Red Buoy, No. 2, (which lies upon Freeport Upper Ledge.) Continue the course until this Buoy bears **NW.**; then run for it, leaving it close to on the Starboard hand. When abreast this Buoy, you will see at the entrance of the River the Black Buoy No. 3, off Bowman's Ledge. Leave this last-mentioned Buoy close to on the Port hand, and run up about **N.** ¾ **E.**, and anchor off the village; not less than 4 fathoms may be carried from sea to this anchorage. If bound farther up, a pilot will be necessary. In running in, the Channel between the two last-mentioned Buoys is very narrow; it is therefore necessary to proceed with caution.

By Way of Portland.

From Portland, bound to Freeport River, bring the Lighthouse on Portland Breakwater to bear **SW.** ¼ **W.**, and make good the course **NE.** ¼ **E.**, leaving Fort George ¼ mile to the Southward, and carrying nothing less than 14 feet water at Low Tide past it. When abreast this Fort, you will see nearly ahead the Red Buoy No. 2, off Hog Island Ledge. Leave this Buoy close to on the Starboard hand, and continue the course, leaving another Red Buoy, No. 4, off Brimstone Ledge, also close to on the Starboard

hand. When abreast this last-mentioned Buoy, you will see the Spindle and Black Buoy No. 1, off Cow Island Ledge, bearing about **NE.** by **E.** Leave this last-mentioned Buoy close to on the Port hand, and make good the course **NE.** by **E.** 2⅛ miles to Spindle and Black Buoy No. 7, off Lower Basket Ledge. Leave this Buoy close to on the Port hand, and run **NE.** ½ **E.** 2 miles to Red Buoy No. 10, off Great Chebeag Bar, leaving it on the Starboard hand. On this last course the Red Buoy No. 8, off Seal Ledge, will be left on the Starboard hand. The passage between the Red Buoy off Great Chebeag Bar and Little John's Island is narrow, but there is not less than 8 fathoms water in it at Low Tide. When abreast this last-mentioned Buoy, steer **E.** by **N.** 1¾ miles to Red Buoy No. 12, off Green Island Ledge. On this last course the Black Buoy off the Northeastern part of Great Chebeag will be left on the Starboard hand. Continue the course **E.** by **N.** for the Red Buoy off Green Island Ledge until about 100 yards from it; then steer **N.NE.** 1⅓ miles to Black Buoy No. 1, off Mosher Ledge, and follow the directions before given.

High Water.

It is High Water in Freeport River about 20 minutes before it is at Boston. Common Tides rise about 9¼ feet.

Harpswell Harbor, or Stover's Cove.

This Harbor is situated in Harpswell Sound, about 6¾ miles Northeasterly from the Lighthouse upon Halfway Rock. The only obstructions in entering it from the Sound is the shoal water extending from Stover's Point and Stover's Ledge. Both these dangers are marked with Black Buoys, which in entering are left on the Port hand.

Sailing Directions for Harpswell Harbor, or Stover's Cove, in Daytime, with favorable winds and fair weather.

From the Southwestward, Southward, or Seaward, keep outside of all the Ledges off Cape Elizabeth, and as soon as the Lighthouse upon Halfway Rock is made, bring it to bear North, and run for it

on this course, leaving it about ¼ mile to the Westward. After passing the Black Buoy off Webster Rock (which lies off a short distance to the Northward of this Light), bring the Lighthouse to bear **S.** by **W.** ½ **W.**; on which bearing keep it, and run **N.** by **E.** ½ **E.** As you sail in, you will see on the Starboard hand the Buoy painted in Black and Red Horizontal stripes off Drunker's Ledge. This last-mentioned Buoy bears **N.NE.** from Halfway Rock Lighthouse, distance 2 miles, is bare at Half Tide, and in passing in is left to the Eastward. You will also see nearly ahead the Monument on Little Mark Island; bring this Monument to bear **N.** by **E.** ½ **E.**, and steer for it on this course. When about ¾ mile from it, you will see on the Starboard hand the Black Buoy No. 1, off Mark Island Ledge. When this Buoy bears **E.** by **N.**, distance ⅓ mile, and the Monument **N.** by **E.** ½ **E.**, distance about ½ mile, steer about **NE.** ¼ **N.** 4 miles to Black Buoy off Stover's Point. On this last course, you will pass about midway between Great Mark Island and the Red Buoy off Turnip Ledge. After passing this last-mentioned Island and Buoy, keep in the middle of the Sound until you make the Black Buoy No. 1, which lies off Stover's Point on the Western side of the Sound; haul round this last-mentioned Buoy, leaving it close to on the Port, and run in, leaving another Black Buoy which lies off Stover's Ledge also on the Port hand. When this last-mentioned Buoy bears **SE.**, distance about 400 yards, anchor in from 3 to 4½ fathoms water.

From the Eastward, bound to Harpswell Harbor, as soon as Halfway Rock Lighthouse is made, in order to clear all the Ledges, bring it to bear **W.** by **N.**, and run for it on this course. When about ½ mile from it, proceed according to directions before given.

Strangers from the Eastward, with favorable winds, bound to Harpswell Sound, by observing the following directions, may safely pass inshore between the Ledges.

Leave Cape Small Point (which bears **W.** ½ **N.**, distance 3⅓ miles from Seguin Island Lighthouse) about 1 mile to the Northward; and when it bears **N.NE.**, steer **W.NW.** 8½ miles to Monument on Little Mark Island. As soon as this Monument is made, bring it to bear **W.NW.**, and run for it on this course. When about ¼ mile from it, if bound to Harpswell Harbor, run up according to directions before given.

Pott's Harbor.

This excellent Harbor of refuge for small vessels is situated at the entrance of Casco Bay, about half-way between the city of Portland and entrance to Kennebec River, and bears **N.** by **E.** ½ **E.** about 5 miles from the Lighthouse upon Halfway Rock. There are two entrances to this harbor: one by way of Broad Sound, the other (which is Buoyed) by way of Harpswell Sound. Vessels at many times overtaken by a Southeasterly storm, when sailing between Cape Elizabeth and Kennebec River, will find this a very convenient place.

Sailing Directions for Pott's Harbor in Daytime, with favorable winds and fair weather.

From the Southwestward, Southward, or Seaward, keep outside of all the Ledges off Cape Elizabeth, and as soon as the Lighthouse upon Halfway Rock is made, bring it to bear North, and run for it on this course, leaving it about ¼ mile to the Westward. After passing the Black Buoy off Webster Rock (which lies off a short distance to the Northward of the Light), bring this Lighthouse to bear **S.** by **W.** ½ **W.**; on which bearing keep it, and steer **N.** by **E.** ½ **E.** As you sail in, you will see on the Starboard hand the Buoy painted in Black and Red Horizontal stripes off Drunker's Ledge. This last-mentioned Buoy bears **N.NE.** from Halfway Rock Light, distance 2 miles, is bare at Half Tide, and in passing in is left to the Eastward. You will also see nearly ahead the Monument on Little Mark Island; bring this Monument to bear **N.** by **E.** ½ **E.**, and steer for it on this course. When about ¾ mile from it, you will see on the Starboard hand the Black Buoy No. 1, off Mark Island Ledge. When this Buoy bears **E.** by **N.**, distance ⅓ mile, and the Monument **N.** by **E.** ½ **E.**, distance ½ mile, steer about **NE.** ½ **N.** On this last course you will pass between Great Mark Island, which bears **NE.** ½ **N.** from the Monument, a little more than ⅓ mile, and the Red Buoy No. 2, off Turnip Ledge. After passing this last-mentioned Island, you will see the Red Buoy No. 4, off Ram Island. When this last-mentioned Buoy bears North, steer for it, and leave it close to on the Starboard hand. From this last Buoy run **N.NW.** about 200 yards; then haul up about **W.** by **N.**, leaving the Red Buoy No. 2, off Pott's Point, close to on the Starboard hand. When past this

Buoy, run in **N.NE.**, leaving two black Buoys on the Port hand, and anchor in from 4 to 6 fathoms water, with the Upper Buoy bearing about **W.SW.**; distance from 300 to 500 yards.

From the Eastward, leave Cape Small Point, which bears **W. ½ N.**, distance 3⅓ miles from Seguin Island Light, about 1 mile to the Northward; and when it bears **N.NE.**, steer **W.NW.** 8½ miles to Monument upon Little Mark Island. As soon as the Monument is made, bring it to bear **W.NW.**, and run for it on this course. When about ¼ mile from it, proceed as before directed. This course (**W.NW.**) from Cape Small Point passes within the Buoys upon Lumbo's Ledge, Drunker's Ledge, and also Mark Island Ledge.

If the wind is unfavorable to leave this harbor by the passage leading into Harpswell Sound, you may, by the following directions, go out by the Western passage into Broad Sound. Leave the Upper Black Buoy No. 7, off Thrum Cap Ledge, close to on the Port hand, and steer about **W.** by **S. ½ S.**, leaving Horse Island (which is the first to the Westward of this Buoy) not more than 200 yards on the Starboard hand; continue the course until Halfway Rock Lighthouse bears **S. ½ E.** Broad Sound will then be fairly open, and you may run out with this Light bearing **S. ½ E.**

In leaving Pott's Harbor by the Western passage, when abreast of Little Birch Island, which is the first to the Westward of Horse Island, you may steer **W. ½ N.** about one mile, leaving the Black Buoy off the Northeast part of Stove Island close to on the Port hand. When abreast this last-mentioned Buoy, continue the course **W. ½ N.** about 200 or 300 yards. Luckse's Sound will then be fairly open, and you may boldly steer out **SW.** by **W.** for Portland Head Lighthouse, passing about midway between Ram Island and Bang's Island. The Northern part of Ram Island bears **NE.** by **E.** from Portland Head Light; distance 1¼ miles.

Mackerel Cove.

The entrance to this small harbor bears **E.NE.** about 1½ miles from the Monument upon Little Mark Island. The Cove is about ½ mile in length, and its general width is about 200 yards. There

are no dangers in entering it from the Sound, and the holding-ground is said to be good, although somewhat exposed to **SW.** winds.

Sailing Directions for Mackerel Cove in Daytime.

Follow the directions for either Harpswell or Pott's Harbors, and when the Monument upon little Mark Island bears **W.SW.**, make good the course **E.NE.** When at the entrance, keep mid-channel and run in, and anchor near the head of the Cove in from 5 to 7 fathoms water.

High Water.

It is High Water in Harpswell Sound about 30 minutes before it is at Boston. Common Tides rise about 9¼ feet.

Quahaug (or Quohog) Bay.

The entrance to this Bay bears about **NE.** from Halfway Rock Lighthouse; distance 8 miles. In entering it, there are numerous dry and sunken Ledges, which lie off its mouth, and at this date (1879) are not buoyed. No proper sailing directions can therefore be given for this place.

New Meadows River.

The entrance to this River bears **NE.** by **E.** from Halfway Rock Lighthouse; distance about 9½ miles.

Sailing Directions for New Meadows River in Daytime, with favorable winds and fair weather.

Vessels from the Southwestward, Southward, or Seaward, may, as soon as the Lighthouse upon Halfway Rock is made, bring it to bear North, and run for it on this course. Leave the Light about ½ mile to the Westward and steer **N.NE.** until it bears **W.SW.**, on which bearing keep it, and steer **E.NE.** for the small Island called the White Bull. This last Island bears **E.NE.** from the Lighthouse upon Halfway Rock, distance 6 miles, and is the first met with on this course. It may also be known by the Islands called the Brown Cow and Mark Island. The former bears from

the White Bull **SE.** ½ **E.**, distance 1⅔ miles; the latter, **E.** ¾ **S.**, distance 1⅛ miles. When up with this Island, the Buoy painted in Red and Black Horizontal Stripes, off Lumbo's Ledge, will be seen bearing **S.SW.**; distance 2⅓ miles. As soon as the Island called the White Bull is made, keep it a little on the Port bow, in order to clear the rock called Bold Dick, which bears **W.** by **S.** a little more than ½ mile from the Southwest Point of this last-mentioned Island, and is bare at half tide. Leave the White Bull, which is bold, about 200 yards on the Port hand, and make good the course **NE.** ½ **N.** about 2½ miles. On this course and distance you will pass between Flag's Island on the South, and Long Ledge upon the North; keep nearer the latter. After passing this Island and Ledge, you will see nearly ahead the Red Spindle upon Goudy Ledge, which may be left on either hand. When past these, the river will be fairly open, bearing about **N.NE.**; you can then run up, keeping the Starboard hand best aboard for about 3 miles, in order to avoid Sheep Island Ledge. After passing this Ledge, anchor where you can find less than 10 fathoms water.

From the Eastward, leave Cape Small Point, which bears **W.** ½ **N.**, distance 3⅓ miles from Seguin Island Light, about 1 mile to the Northward, and when it bears **N.NE.** steer **NW.** ½ **W.** 2½ miles, when you will be abreast the small Island called the Brown Cow. This Island bears **W.NW.**, distance 2¼ miles, from Cape Small Point, and is bold. Leave the Island about 200 or 300 yards on the Starboard hand, and steer **NW.** ½ **W.** 1½ miles, to the White Bull. When about 200 yards from it, proceed as before directed.

Horse Island Harbor.

This small harbor, in which there is excellent anchorage in all winds, in from 2 to 6 fathoms water at Low Tide, is North about 4½ miles from Cape Small Point, and East Northerly about 10 miles from the Lighthouse upon Halfway Rock.

Sailing Directions for Horse Island Harbor in Daytime, with favorable winds and fair weather.

From the Westward, pass a short distance to the Southward of the Lighthouse upon Halfway Rock, and bring it to bear **W.** ½

S., on which bearing keep it, and steer E. ½ N. for Bald Head, which is distant about 8½ miles from this Lighthouse, and is the first Head to the Northwestward of Cape Small Point. As you approach Bald Head, you will see the Buoy painted in Red and Black Horizontal stripes, off the Southwest part of Lumbo's Ledge, which has about 9 feet water upon it at Low Tide. Leave this Buoy at least ¼ mile on the Starboard hand, and after passing it continue the course E. ½ N. for Bald Head until about ¾ mile from it; then steer about N. ½ E., leaving the low, bare, rocky Islet called the Brown Cow, and Mark Island (which is wooded), and also Wyman's Ledge,* which has but 3 feet water upon it, all on the Port hand; the Red Buoy off Gooseberry Ledge, and also Wood Island, which lies about 1 mile North from the last-mentioned Buoy, on the Starboard hand. After passing Wood Island, keep a sharp lookout for the Black Spindle on the Southern part of Jamison's Ledge. When this Spindle is made, leave it 250 yards on the Port and steer about NE. by N. ½ N. As you sail in, you will see on the Starboard a bare rocky Islet, called North Blacksnake, which may be left a short distance on the Starboard hand. When about 250 yards past this last Islet, haul more Easterly, and when the harbor is fairly open, bearing about N.NE., run in midway and anchor in about 3¼ fathoms at Low Tide, which will be 5 at High Tide.

From the Eastward, haul round Cape Small Point at a distance of about 1 mile, leaving all the Ledges off this point well on the Starboard hand. When Bald Head, which lies Northwest about ¾ mile from Cape Small Point, bears E. ½ N., distance ¾ mile, follow the directions before given.

High Water.

It is High Water in Horse Island Harbor about 21 minutes before it is at Boston. Common Tides rise about 9 feet.

* This dangerous Ledge, which has but 3 feet water upon it at low tide, lies about ¼ mile E. by S. from the Southern end of Mark Island, and about 1¼ miles NW. ¼ W. from Bald Head. At this date, 1880, it is not buoyed.

Cundiz Harbor.

This small harbor, in which there is good anchorage in from 3¼ to 4½ fathoms water at Low Tide, lies on the Northwestern side of New Meadows River, about 2 miles to the Northward of entrance to Horse Island Harbor.

Sailing Directions for Cundiz Harbor in Daytime, with favorable winds and fair weather.

From the Eastward or Westward, follow the directions before given for Horse Island Harbor until you make the Black Spindle off the Southern part of Jamison's Ledge. Leave this Spindle about 300 yards on the Port, and make good the course about **N. ½ W.**, leaving North Blacksnake on the Starboard, and the Red Spindle on Goudy Ledge on the Port. After passing this last-mentioned Spindle, New Meadows River will be fairly open, bearing about **N.** by **E. ½ E.**; then run up, keeping midway the entrance. As you sail in, you will see, on the Western side of the River, about 1¾ miles from the last-mentioned Spindle, a group of bare Rocks, lying **N.NE.** and **S.SW.** These are Cedar Ledges, which form the Eastern side of Cundiz Harbor. Continue the course of the River until this harbor is fairly open; then run in about midway, leaving the last-mentioned Rocks on the Starboard, and anchor in from 3¼ to 4½ fathoms water at Low Tide.

Cape Small Point Harbor.

This Harbor bears from the Lighthouse upon Halfway Rock about **E.NE.**, distance 9¾ miles; from Cape Small Point, North 2¾ miles. A Bar, having but little water upon it at Low Tide, extends across its mouth, making it only available for light-draught vessels.

Sailing Directions for Cape Small Point Harbor in Daytime, with favorable winds and fair weather.

Vessels from the Westward, bound to this Harbor, may bring the Lighthouse upon Halfway Rock to bear **W.** by **S.**, distance about ¾ mile; on which bearing keep it, and steer **E.** by **N.** for the small Island called the Brown Cow; distance 7 miles from this last-mentioned Lighthouse. On this course, the Buoy painted in Red and Black Horizontal Stripes, off Lumbo's Ledge, will be left a little more than ½ mile upon the Starboard hand. When up with the Brown Cow (which is the first Island met with on this course from Halfway Rock Lighthouse), you may leave it 150 yards on the Port hand, and steer **E.** by **N.** 1⅓ miles to Red Buoy No. 2, off Gooseberry Ledge. Leave this Buoy close to on the Starboard hand, and run **N.** by **E.** ¼ **E.** 1 mile, leaving Great and Little Wood Islands both on the Port hand, and the Buoy painted in Black and Red Horizontal Stripes, off Middle Ledge, about 150 yards on the Starboard hand. After passing this Buoy continue the course **N.** by **E.** ¼ **E.**, about ¼ mile; then haul up **E.** by **N.**, leaving the Red Buoy No. 4, off Pitch Pine Ledge, about 100 yards on the Starboard hand, and anchor in from 3½ to 5 fathoms water, the last-mentioned Buoy bearing **SW.** by **W.**, distance 300 yards. Above this, a pilot is necessary.

From the Eastward, haul round Cape Small Point at a distance of about 1 mile, leaving Bald Head Ledge—which bears **W.** ¼ **N.** from Cape Small Point, distance ¾ mile, and is bare at half tide—about ¼ mile to the Eastward. When Cape Small Point bears **E.** by **S.**, steer **N.** by **E.** for the Red Buoy off Gooseberry Ledge, and proceed as before directed.

High Water.

It is High Water at Cape Small Point Harbor about 20 minutes before it is at Boston. Common Tides rise about 9¼ feet.

Kennebeck River.

The entrance to this River is about East, 22 miles from the city of Portland; 74 miles Northeasterly from Cape Ann; and 19 miles **W.** by **N.** from Monhegan Island Lighthouse.

Seguin Island Lighthouse.

Upon the highest part of Seguin Island is built a Lighthouse, which shows a fixed White Light. A Steam Whistle, giving blasts of 8 seconds' duration at intervals of 52 seconds, is placed near this Lighthouse.

Bearings and Distances from Seguin Island Lighthouse.

		Distance.	
Cape Cod Highland Lighthouse,	S. by W. ¾ W.,	101	miles.
Thatcher's Island Lighthouses,	SW. ¼ S., . .	74	"
Boon Island Lighthouse, . .	SW. ⅞ W., . .	46½	"
Cape Elizabeth Lighthouses, .	W. by S., . .	21	"
Whistling Buoy off Cape Elizabeth, ...	W. by S. ½ S.,	21⅛	"
Monhegan Island Lighthouse, .	E. ¼ S., . . .	19	"
Matinicus Island Lighthouse, .	E. ¾ S., . . .	39	"
Seal Island Lighthouse, . . .	E.SE., . . .	163	"
Pond Island Lighthouse, entrance to Kennebec River, .	N., ...	2	"
Light upon Halfway Rock, . .	W., ...	12½	"

Pond Island Lighthouse.

Upon Pond Island, Western side of entrance to Kennebec River, is built a Lighthouse, which shows a fixed White Light. A Fog Bell is placed near this Lighthouse. Seguin Island Lighthouse bears from Pond Island Lighthouse South; distance 2 miles.

Dangers to be avoided in entering the Kennebec River to the Westward of Seguin Lighthouse.

Fuller's Rock.

This small, rocky Island bears West from Seguin Island Lighthouse, distance 3¼ miles; and South, about ¼ mile, from Cape Small Point. At Low Tide, vessels of more than 9 feet draught should not attempt to pass within this Island.

Mile Ledge.

This Ledge, upon which 11 feet water has been found, is marked upon its Southern part with a Buoy, having Red and Black Horizontal Stripes. Seguin Lighthouse bears from this Buoy N. ¼ E.; distance 1 mile. There is a good channel between this Ledge and Seguin Island.

Jack-knife Ledge.

This dangerous Ledge, which has but 5 feet water upon it at very Low Tides, is marked upon its Southern part with a Black Buoy. Seguin Lighthouse bears from this Buoy **SE.** by **S.**, 1¼ miles. This Buoy has the letters J. K. upon it.

Dangers to be avoided in entering the Kennebec River to the Eastward of Seguin Lighthouse.

Bantum Ledge.

This dangerous Ledge, which is bare at Low Tide, is marked upon its Southwestern part with a Red Buoy, No. 10. Seguin Light bears from this Buoy West; distance 6 miles. 25 fathoms water was found ¼ mile **E.** by **S.** from this Ledge; 24 fathoms West 400 yards from it; and 11 fathoms South 300 yards from it. In approaching this Ledge in thick weather or night-time, the lead, therefore, gives but little warning. There is a good channel between it and Damiscove Islands.

Tom's Rock.

This dangerous Rock, upon which there is but little water at Low Tide, is marked upon its Southwestern part with a Red Buoy, No. 2. Seguin Light bears from this Buoy **SW.** by **W.** ¾ **W.**; distance 2⅓ miles. Vessels passing to the Eastward of Seguin Island, bound into the Kennebec River, must leave this Buoy upon the Starboard hand.

White Ledge.

This Ledge, upon which there is 7 feet water at Low Tide, is marked upon its Eastern side with a Black Buoy, No. 1. Seguin Light bears from this Buoy **SW.** by **S.** ½ **S.**; distance 1½ miles. Vessels passing to the Eastward of Seguin Island, bound into the Kennebec River, must leave this Buoy upon the Port hand. Between this Buoy and the Northern point of Seguin there are several Ledges. Strangers should not, therefore, attempt to pass through between them.

Remarks.

The depth of water in the Kennebec River from Pond Island Light to the city of Bath is sufficient to admit even the heaviest-draught vessels; but the navigation is somewhat dangerous, on account of

the current, which in many parts runs very strong. Strangers should not, therefore, attempt to enter this River without a pilot, unless they have a fair and commanding wind.

Sailing Directions for the Kennebec River in Daytime, with favorable winds and fair weather.

From the Westward, pass without the Ledges off Cape Elizabeth, and as soon as Seguin Lighthouse is made, bring it to bear **E. NE.**, and run for it on this course until Pond Island Lighthouse bears **N.** by **E.** ¼ E.; then run for it on this bearing. On this last course, Seguin Lighthouse will be left a little more than ½ mile to the Eastward, and the Black Buoy off Jack-knife Ledge will be left on the Port hand. As you approach Pond Island Lighthouse you will see a little on the Starboard bow the Black Buoy No. 3. This Buoy lies off Pond Island Bar, and bears from the Lighthouse South, ⅝ mile. Leave this last-mentioned Buoy close to on the Port hand and run in, leaving the Lighthouse about 300 yards to the Westward. When abreast of it, or when it bears West, the course is about **NW.** by **N.** to Hunniwell's Point, or Fort Popham. As you sail in, you will see, nearly in mid-channel, two small, bare Rocky Islets, which are called the Sugar Loaves. You can go on either side of these, but the most direct course is to the Westward of them. The current of Flood sets strong upon these Islets, and it is advisable, when past Pond Island Light, — especially with light winds, — to haul over for the Western shore, in order to pass them in mid-channel. When abreast Fort Popham, the course is **N.** ½ **E.**, 1½ miles to the Buoy painted in Red and Black Horizontal Stripes, off Perkins' Ledge. On this last course, Shag Rock, which is small, will be left on the Starboard, and Cox Head, which is bold, on the Port hand. Leave this last-mentioned Buoy on the Starboard hand, and then steer **N.** by **E.** 1¾ miles to Bald Head. On this last course, you will pass about midway between the Black Buoy No. 1, off Parker's Ledge, and Perkins' Island. There is good anchorage between the last Island and Bald Head in from 4 to 7 fathoms water. As you approach this last-mentioned Head you will see to the Northeastward another opening, which is the entrance to Back River. When Bald Head Point is distant about 300 yards, steer **NW.** by **N.** about 1 mile, leaving the Spindle upon Seal Rocks on the Port hand. You will then be abreast of

Phipsburg Centre, which is on the Western side of the river. From this point the course is about N.NE., leaving some small, Rocky Islets and also the Black Buoy off Lee's Rock all on the Port, and Pettis's Rocks — which are above water — and the Spindle on the Northern part of Ram Island, on the Starboard hand. When past this last Spindle, which you must go close to, haul a little over toward the Eastern shore and keep in the middle of the river until you make the Black Buoy off Lithgow Ledge, which may be left 50 yards on either hand. From the Spindle upon the Northern point of Ram Island to this last Buoy the course is about N. by E. ½ E.; distance 2¼ miles. About ⅓ mile above this Buoy the river suddenly turns to the Westward, having a width of about 300 yards, with a very strong and dangerous current. This sudden turn is called Fiddler's Reach. There are no obstructions in this Reach, but on account of the rapid current and baffling winds it may be considered one of the most dangerous places in the river. With a head tide, unless the wind is strong and nearly aft, vessels must not attempt to pass through it, but when nearly up with the last-mentioned Buoy, must haul in, and anchor in from 4 to 6 fathoms water in Morris Cove. The best anchorage is about SW. by W. from the Black Buoy off Lithgow Ledge; distance about ¼ mile. In order to avoid the Ledges, after passing Fiddler's Reach, keep the Eastern shore best aboard to the city of Bath. The distance from Pond Island Light to Bath is about 11 miles. Strangers bound farther up the river should take a pilot at Bath.

From the Eastward, in order to clear Bantum Ledge, as soon as Seguin Light is made, bring it to bear W. ¾ N., and run for it on this course until Pond Island Lighthouse bears NW. by W.; then run for this last-mentioned Lighthouse on this course, leaving the Red Buoy No. 2, off Tom's Rock, on the Starboard, and Seguin Dry Ledges and the Black Buoy off White Ledge, upon the Port hand. Continue the course NW. by W. for this Light until about 300 yards from it; then follow the directions before given.

Anchorage, for Daytime.

If the wind and tide are both ahead, and you wish to find anchorage, follow the directions for entering the Kennebec River until abreast Pond Island; then bring the Light to bear SW. by W. ½ W., on which bearing keep it and run NE. by E. ½ E. until the

water shoals to 5 fathoms at High Tide, and 3½ at Low Tide; then anchor between Stage and Salter's Islands.

If you wish to make a harbor when off Seguin, follow the directions before given for Kennebec River, and anchor upon Parker's Flats in from 3½ to 6 fathoms water, where you may lie secure from all winds.

This anchorage is above Parker's Head, which is the second High Bluff on the Western side of the river above Hunniwell's Point, or Fort Popham. This anchorage is also about 3½ miles from Pond Island Lighthouses.

Strangers should not attempt to enter the Kennebec River at night.

High Water.

It is High Water at Hunniwell's Point, near the entrance to the Kennebec River, about 12 minutes before it is at Boston. Common Tides rise about 8 feet.

Sheepscot River.

The entrance to this River is about 5 miles Northeast from Seguin Lighthouse.

Hendrick's Head Lighthouse.

Upon Hendrick's Head, the Eastern side of the mouth of this River is erected a Lighthouse, which shows a revolving White Light.

Remarks.

The depth of water in this River is sufficient to admit the heaviest-draught vessels, 7 fathoms being the shoalest in the channel from the mouth to the town of Wiscasset, a distance of nearly 14 miles. There are quite a number of obstructions near the entrance, and also within the river, but they are all marked with Buoys and Spindles in the channel-way. The current in some parts of it runs very strong, and strangers should not attempt to enter it unless they have a fair and commanding wind.

Sailing Directions for Sheepscot River in Daytime, with favorable Winds and fair weather.

Coming from the Westward, leave Seguin Island about ½ mile on the Port hand, and when the Lighthouse bears North, steer **NE.** by **E.** ½ **E.** On this course you will see the Red Buoy No. 2, off Tom's Rock; this Buoy bears **NE.** by **E.** ¾ **E.** from Seguin Light; distance 2⅓ miles. Leave this Buoy close to on the Port hand, and steer for Hendrick's Head Light, bearing about **N.NE.** As you sail in on this course, you will see on the Port hand several Dry Ledges, and also the Buoy painted in Red and Black Horizontal stripes off Griffith's Ledge. On the Starboard hand will be seen a small Islet, with several dry rocks about one mile to the Northward of it; this Island is called Lower Mark Island. Leave Hendrick's Head Light about 300 yards to the Eastward, and make good the course **N.** by **E.** ½ **E.** On this course the following Buoys, Islands, and Spindle will be left on the Port: First, a Buoy painted in Red and Black Horizontal stripes; second, Middle Mark Island; third, a Spindle; fourth, another Buoy painted in Red and Black Horizontal stripes; fifth, Upper Mark Island; and sixth, the Black Buoy No. 3, off Hogdon's Ledge. This last Buoy is 3½ miles from the Lighthouse on Hendrick's Head. On this course, two Red Buoys will be left on the Starboard hand: the first is 2¼ miles above the Lighthouse, and nearly opposite the Spindle; the second is a little more than 3½ miles from the Lighthouse, and nearly opposite Hogdon's Ledge. After passing the two last Buoys, keep the middle of the River for 2¼ miles, until abreast the Black Buoy off Greenleaf's Ledge. Leave this Ledge upon the Port hand, and if the current is running up, keep the Western shore best aboard, to avoid being carried ashore or into Cross River. After passing this place, keep the middle of the River again, course about **N.NE.**, 2¼ miles to the Spindle on Merrill's Ledge, which is left on the Starboard hand. A little before you come up with this last-mentioned Ledge, keep the Western shore aboard until well past it; then keep the middle until up with the Narrows; here the river turns suddenly to the Westward. In passing through the Narrows, with an Ebb Tide, keep the Northern side best aboard, to avoid Seal Rock, which is marked with a Black Buoy; but if the tide is running up, keep in the middle of the passage, leaving the Buoy on the Port hand. From this Buoy make good the course about **N.** by **W.** for the town of Wiscasset.

From the Eastward, bring Seguin Lighthouse to bear **W.** ½ **N.**, and run for it until abreast the Buoy off Bantum Ledge (before described in dangers entering the Kennebec River). Leave this Buoy about ¼ mile to the Northward, and make good the course **NW.** by **N.** ½ **N.** until Hendrick's Head Lighthouse bears **N.** by **E.** ¾ **E.**; then follow the directions before given.

Strangers should not attempt to run up the Sheepscot River at night.

High Water.

It is High Water in the Sheepscot River about 16 minutes before it is at Boston. Common tides rise from 8 to 9 feet.

In running up the Sheepscot River, be careful to avoid a Ledge having about 10 feet water upon it. This danger bears about South from Hendrick's Head Light, distance ¼ mile, and at this date (1879) is not Buoyed.

Ebenicook Harbor.

This safe and convenient Harbor is on the Northwest end of Southport Island, East side of the Sheepscot River, about 8½ miles **NE.** by **N.** from Seguin Light, and 1¼ miles above Hendrick's Head Lighthouse; it is easy of access, and is said to be free from ice in the winter. There are no obstructions at its entrance, and any stranger can safely enter it in the daytime by the following directions.

Sailing Directions for Ebenicook Harbor in Daytime, with favorable winds and fair weather.

Coming from the Westward, leave Seguin Island about ½ mile on the Port hand, and when the Lighthouse bears North, steer **NE.** by **E.** ½ **E.** On this course you will see the Red Buoy No. 2, off Tom's Rock; this Buoy bears **NE.** by **E.** ¾ **E.** from Seguin Light, distance 2⅓ miles. Leave this Buoy close to on the Port hand, and steer for Hendrick's Head Light, bearing about **N.NE.** As you sail in on this course, you will see on the Port hand several Dry Ledges, and also the Buoy painted in Red and Black Horizontal stripes off Griffith's Ledge. On the Starboard hand will be seen a small Islet, with several dry Rocks to the northward of it;

this Islet is called Lower Mark Island. Leave this last-mentioned Lighthouse 300 or 400 yards to the Eastward, and steer in about **N.** by **E.** ½ **E.**; the first opening above Hendrick's Head Light upon the Eastern side is the entrance to this harbor. Continue the course until this entrance is fairly open; then run in midway (course about **E.** by **S.**) until past the Southern point of Green Island, which is left on the Port hand; then steer more Northerly, and anchor where you please.

From the Eastward, bring Seguin Lighthouse to bear **W.** ½ **N.**, and run for it until abreast the Buoy off Bantum Ledge (before described in dangers entering the Kennebec River). Leave this Buoy about ¼ mile to the Northward, and make good the course **NW.** by **N.** ½ **N.** until Hendrick's Head Lighthouse bears **N.** by **E.** ¾ **E.**; then follow the directions before given.

If your vessel draws more than 14 feet water, be careful to avoid a Ledge which bears **N.** by **E.** ½ **E.** from Hendrick's Head Lighthouse; distance ⅝ mile.

Booth Bay, or Townsend Harbor.

This excellent harbor of refuge lies about 10 miles Northeast from Seguin Lighthouse, and Northwest about 15 miles from Monhegan Island Lighthouse.

Burnt Island Lighthouse.

Upon Burnt Island, West side of entrance to this Harbor, is a Lighthouse which, at this date (1884), shows a fixed White Light; at this time a fog Bell is placed near this Lighthouse. Ram Island Lighthouse bears from Burnt Island Lighthouse **SE.** ½ **S.**, 2¼ miles.

Ram Island Lighthouse.

Upon Ram Island, on the Eastern and Southern side of the approaches to Booth Bay Harbor, is a Tower built of Granite to a height of 20 feet and of Red Brick above; the keeper's dwelling is located 280 feet Southeast from the Lighthouse. At this date (1884), this Lighthouse shows a fixed White Light; also, between the bearings of **W.** ¼ **N.** and **W.** ¾ **N.**, a *Red Ray*, and another between **NE.** and **NE.** by **E.** Vessels from the Eastward may leave this Lighthouse about 200 yards on the Port hand, and vessels from the Westward may leave it about 200 yards on the Starboard hand.

Dangers in approaching Booth Bay Harbor from the Westward.

Bantum Ledge.

This dangerous Rock, or Ledge (before described in dangers for entering Kennebec River) is bare at Low Tide. Seguin Island Lighthouse bears West from it, distance 6 miles; Southern point of Damiscove Island (the nearest land to it) **NE.** by **N.** ¼ **N.**, distance, 1⅓ miles. It is marked upon its Southwest part with a Red Buoy No. 10.

Squirrel Island Ledge.

This danger, which extends **W.NW.** about ¼ mile from the Northern end of Squirrel Island, has from 6 to 11 feet water upon it at Low Tide, and is marked on its outer part with a Red Buoy. Burnt Island Lighthouse bears from this Buoy **N.** ½ **E.**, ⅝ mile.

Remarks.

In approaching and entering Booth Bay Harbor there are but few obstructions. The depth of water in the passage leading to the Southward of Squirrel Island is sufficient to admit the heaviest draught vessel, and the shores are generally bold, with but little current in the channels.

Sailing Directions for Booth Bay Harbor in Daytime, with favorable winds and fair weather.

By the Western Passage.

From the Westward leave Seguin about ½ mile on the Port hand, passing about midway between the Buoy upon Mile Ledge and the Southern point of the Island. When the Lighthouse bears North, steer **NE.** by **E.** ½ **E.** On this course you will leave the Red Buoy off Tom's Rock on the Port hand; and you will also see the Beacon upon one of the bare rocks called the Cuckolds — this Beacon is 57 feet high, and the upper half is covered with boards painted Black. Leave this Beacon about 400 yards on the Port hand and steer for Burnt Island Lighthouse, bearing **N.** by **E.**, ¾ **E.**, distant 2¾ miles. As you sail in you will see on the Starboard hand a Red Buoy, which lies off Squirrel Island Ledge; leave this Buoy close to on the Starboard hand and make good the course **N.** by **E.** ½ **E.**, leaving Burnt Island Lighthouse about 200

yards on the Port hand, and another Island to the Northward of it called Mouse Island also on the Port hand, and Tumbler Island, which is small, on the Starboard hand. When past this last-mentioned Island haul gradually to the Eastward, and anchor in East Harbor, in from 3 to 4 fathoms water; or, when past Tumbler Island, which bears **NE.** by **N.** from Burnt Island Lighthouse, haul gradually to the Westward and anchor in West Harbor, in from 4½ to 5 fathoms water.

At Low Tide, vessels of more than 21 feet draught, from the Eastward or Westward, may, when past Bantum Ledge and the Beacon on the Cuckolds, haul round Squirrel Island at a distance of about ¼ mile, leaving it on the Port hand and carrying deep water; when Burnt Island Lighthouse bears **NW.** ¾ **N.** then run for it on this course, leaving the Red Buoys off Spruce and Tumbler Island Ledges well on the Starboard hand; when about 300 yards from this Lighthouse follow the directions before given.

Sailing Directions for Booth Bay Harbor at Night-time, with favorable winds and fair weather.

By the Western Passage.

From the Westward, in order to avoid Mile Ledge, leave Seguin Light from 2 to 3 miles to the Northward, and when it bears **N.** by **W.** then steer **NE.** ½ **E.**, and as soon as Ram Island Light is made, bring it to bear **NE.** ½ **E.**, which will bring you into the *Red Light*, continue the course for the last-named light, keeping in the *Red Ray* until you judge you are about a mile from it, then gradually haul to the Northward until Burnt Island Light bears **NW.** ¾ **N.**, then run for it on this course, leaving the Ledges well on the Starboard hand, until about 200 yards from it, the course is then **N.** by **E.** ½ **E.** about a mile, when you may anchor in from 5 to 7 fathoms water. In running this last course, **N.** by **E.** ½ **E.** into the Harbor, it is advisable to keep a sharp lookout for Tumbler Island, which lies on the Eastern side, and is small and low, but it is bold on its Western side.

Beating in at Night.

From the Westward, with Northeasterly winds, when Ram Island Light is made, keep in the *Red Ray* until about 1½ miles from it, then work up between Squirrel Island and Ram Island Light until Burnt Island Light bears **NW.** ¾ **N.**, then run for it

on this course until about ¼ mile from it, then haul up sharp to the wind, leaving Tumbler Ledge, which lies about ½ mile E ½ N. from Burnt Island Light and has 11 feet of water upon it at Low Tide, well on the Starboard hand. When past the last-named Light there are no dangers in the channel-way; it is, therefore, only necessary to keep off the shores, which are bold on both sides.

From the Westward, with Northwesterly winds, it is advisable to go to the Northward of Squirrel Island; providing there is no error in the compass, when Burnt Island Light is made, bring it to bear N. by E. ½ E., and run for it on this course until about ¼ mile from it, you are then past Squirrel Island Ledge, and may steer more Easterly, leaving the Light 200 yards on the Port hand; when past it, run in about N. by E. ½ E. about a mile, where you may anchor in from 5 to 7 fathoms water.

At Night or Day, with strong winds blowing out of the harbor, if you have long Cables, you may anchor on either side of Squirrel Island, with good holding-ground, in from 10 to 20 fathoms water.

Dangers in approaching Booth Bay Harbor from the Eastward.

Pemaquid Ledge.

This Ledge, upon which there are 9 feet water at Low Tide, is marked upon its Southeastern part with a Buoy painted in Red and Black Horizontal Stripes. Ram Island Lighthouse bears from this Buoy West 3½ miles, Pemaquid Point Lighthouse, NE. ½ N., 1¼ miles.

Outer Herring Island Ledge.

This Ledge, upon which there is but little water at Low Tide, is marked off its Eastern part with a Buoy painted in Red and Black Horizontal Stripes. Pemaquid Point Lighthouse bears from this Buoy NE. 4¾ miles, Northern White Island, N. ½ W., 1½ miles.

Gangway Ledge.

This Ledge, which lies on the Northeastern side of the approach to Booth Bay Harbor, has about 6 feet of water upon it at Low Tide, and is marked off its Southwestern part with a Red Buoy, which bears from Ram Island Lighthouse N. by W. ½ W., ⅜ mile.

Card's Ledge and Rock.

About ⅜ mile Northwest from Gangway Ledge is Card's Ledge and Rock, which is marked off its Southwest part with a Red Buoy,

which bears from Ram Island Lighthouse **NW.** by **N.**, nearly ¾ mile; Burnt Island Lighthouse bears from this Buoy **NW.** ¼ **N.**, about 1½ miles. In approaching Booth Bay Harbor this Buoy is left on the Starboard hand.

Spruce Point Ledges.

About ¾ mile Northwesterly from Card's Ledge, and near the entrance to Linekin's Bay, are Spruce Point Ledges, which extend nearly north and south nearly 400 yards, and are bare in some places at Low Tide. At this date (1884) this danger is marked off its Southwest part with a Red Buoy, which bears from Ram Island Lighthouse **N.NW.**, nearly 1⅜ miles. Burnt Island Lighthouse bears from this Buoy about **W.NW.**, nearly a mile. In approaching Booth Bay Harbor, this Buoy is left on the Starboard hand.

Tumbler Island Ledge.

This Ledge, which is small, lies at the entrance of Booth Bay Harbor, has about 11 feet water upon it at Low Tide, and is surrounded by deep water. At this date (1884) this danger is marked off its Western side with a Red Buoy. Burnt Island Lighthouse bears from this Buoy **W.** ½ **S.**, about ½ mile. The widest channel in entering the Harbor is between this Ledge and Burnt Island Lighthouse.

Sailing Directions for Booth Bay Harbor in Daytime, with favorable winds and fair weather.

By the Eastern Passage.

From the Eastward, when Ram Island Lighthouse is made, bring it to bear **W.** ½ **N.**, and run for it on this course, leaving the Buoy painted in Red and Black Horizontal Stripes off Pemaquid Ledge well on the Starboard hand, and the White Islands, which are bold, on the Port hand; when about ¾ mile from Ram Island Lighthouse steer more Northerly, leaving it and the Bell Buoy off Hypocrite Ledge * both about 200 yards on the Port hand; when past this Lighthouse steer **W.** by **N.** until Burnt Island Lighthouse bears **NW.** ¾ **N.**, then run for it on this course, leaving the Red Buoys off Gangway Ledge, Card's Ledge, Spruce Point Ledges, and Tumbler Island Ledge, all on the Starboard hand. When about 200 yards from the last-named Lighthouse follow the directions before given.

* Ram Island Lighthouse bears from the Bell Buoy off Hypocrite Ledge W. by N. ¾ mile.

Sailing Directions for Booth Bay Harbor at Night-time, with favorable winds and fair weather.

By the Eastern Passage.

At Night-time, from the Eastward, as soon as Ram Island Light is made, bring it to bear **W.** ½ **N.**, it will then show a *Red Light;* continue the course for it, keeping in the *Red Ray*, until you judge you are about ¾ mile from it, then gradually haul to the Northward, leaving it and the Bell Buoy off Hypocrite Ledge both about 200 yards on the Port hand, and steer **W.** by **N.** until Burnt Island Lighthouse bears **NW.** ¾ **N.**, then run for it on this course until about 200 yards from it, then follow the directions before given.

Beating in at Night by the Eastern Passage.

Beating in by this passage at Night, keep in the *Red Ray* of Ram Island Light until you judge you are about a mile from it, then work in with this Light bearing from West to **W.** by **S.** ½ **S.** When past Ram Island Light, in order to avoid the Ledges which lie on the Eastern side, do not bring Burnt Island Light to bear to the Westward of **NW.** ½ **N.**

Currents.

The current of Flood sets strong to the Northward across Bantum Ledge, and also the Ledges South of Damiscove Islands; it is, therefore, necessary for vessels in thick weather passing without them to proceed with caution.

High Water.

It is High Water at Booth Bay 27 minutes before it is at Boston. Common Tides rise about 9½ feet.

Linekin's Bay.

This Bay, which is only separated from Booth Bay by a Peninsula called Spruce Point, is about 2½ miles in length, and about 1 mile in breadth. The entrance or channel (which has a width of from 500 to 600 yards) is between Spruce Point Ledge and Negro Island, the former of which is marked upon its Southeastern part with a Red Buoy No. 6, which in entering is left on the Port hand. Burnt Island Lighthouse bears from this Buoy **W.NW.**; distance 1 mile. There are several Ledges within this Bay, which at this time are not Buoyed; but 5 fathoms water can be carried at Low Tide up to the head of it.

Sailing Directions for Linekin's Bay, with favorable winds and fair weather.

Leave the Beacon upon the Cuckolds (before described in directions for Booth Bay Harbor) about 400 yards on the Port hand, and steer for Burnt Island Lighthouse, bearing **N.** by **E.** ¾ **E.**; distance 2¾ miles. As you sail in, you will see on the Starboard hand a Red Buoy No. 12, which lies off Squirrel Island Ledge. Leave this Buoy close to on the Starboard hand, and steer **E.** ¾ **N.** one mile to Red Buoy No. 6, which lies off the Southeast part of Spruce Point Ledge. Leave this Buoy close to on the Port hand, and run about **NE.** As you enter the Bay you will see, a little on the Port bow, Cabbage Island. From the Southern part of this Island shoal water extends off to the Southward 300 yards; but its Eastern and Western sides are bold. In order to avoid Holbrook's Ledge, which lies 600 yards to the Eastward of this Island, and is bare at Low Tide, you should not leave the Island more than 250 yards to the Westward. When abreast it, make good the course **NE.** by **N.**, leaving Seal Rocks (which lie **NE.** ¼ mile from the Northern end of Cabbage Island, and have but 4 feet water upon them at Low Tide) on the Port hand, and anchor at the Head of the Bay in from 5 to 7 fathoms water. Or you may leave Cabbage Island to the Eastward and run in about midway between it and the Western shore. When abreast the Island, haul in about **N.** by **W.** ½ **W.**, and anchor on the Eastern side of Lewis Cove in from 4 to 6 fathoms water.

From the Eastward, when Ram Island Lighthouse is made, bring it to bear about **W.** ½ **N.**, and run for it on this course, leaving the Buoy painted in Red and Black Horizontal Stripes off Pemaquid Ledge well on the Starboard hand, and the White Islands, which are bold, on the Port hand; when about ¾ mile from Ram Island Lighthouse steer more Northerly, leaving it and the Bell Buoy about 200 yards on the Port hand; when past this Lighthouse steer **W.** by **N.** until Burnt Island Lighthouse bears **NW.** ¾ **N.**, then run for it on this course, leaving the Red Buoys off Gangway Ledge and Card's Ledge well on the Starboard hand; when the Red Buoy off the Southwest part of Spruce Point Ledge bears **N.** by **E.**, then run for it, leaving it a short distance on the Port hand, and Negro Island, which is bold, on the Starboard hand. If bound up

the Bay, follow the directions before given. Or when abreast of the Buoy off Spruce Point Ledge, you may run E. by N. ½ N. about ¾ mile; then haul gradually to the Southward, and anchor near the shore, which is bold, in from 9 to 12 fathoms water.

Upon the Eastern side of Linekin's Bay there are extensive Porgy Factories.

High Water.

It is High Water in Linegan's Bay about the same time as at Booth Bay.

Damariscotta River.

The entrance to this River is about 3 miles to the Eastward of Booth Bay, and about the same distance to the Westward of the Lighthouse upon Pemaquid Point. From its mouth to the towns of Damariscotta and Newcastle, the former place of which is situated on its Eastern Bank, the latter upon its Western, the distance is about 14 miles. From Hogdon's Mills (which is situated on its Western side, about 3 miles above the entrance) to Damariscotta there are a number of dangers which, at this time, are not Buoyed; it is therefore advisable for strangers bound up to the last-mentioned place to take pilots.

Sailing Directions for Damariscotta River in Daytime, with favorable winds and fair weather.

From the Westward follow the directions before given for Booth Bay Harbor until Ram Island Lighthouse is made, then bring it to bear NE. ½ E. and run for it on this course; haul round this Lighthouse at a distance of about 200 yards, leaving it on the Starboard hand, and when past it steer NE. by E. ½ E., keeping a sharp lookout for the Red Buoy No. 2, which lies off the Western side of Inner Heron Island Ledge, which is on the Eastern side of the entrance to Damariscotta River. This Buoy bears from Ram Island Lighthouse NE. by E. ½ E., 1¾ miles.

Leave this Buoy close to on the Starboard hand, and run up about N. by E. ½ E., keeping in the middle of the river until abreast Varnum's Point; this point is upon the Western side of the river (about 2⅓ miles from the last-mentioned Buoy). When abreast Varnum's Point, you will see Hogdon's Mills on the Western side of the River; anchor abreast of them, near the middle, in about 5 fathoms water, where you may lie safe from all winds. If bound up to Damariscotta, it is advisable to take a pilot here.

Directions to pass without the Damiscove Islands.

From the Westward, leave Seguin Island 2 or 3 miles to the Northward, and when the Lighthouse bears North, steer E. by N., leaving the Buoy off Bantum Ledge well to the Northward. Continue the course until Pemaquid Point Lighthouse bears NE. by N.; then run for it on this course, leaving Pumpkin and Outer Heron Island Ledges well to the Westward. When the Northern White Island bears NW. ½ N., run for it on this course. Leave this Island about 300 yards on the Port hand, and when it bears S. by W. ¾ W., steer N. by E. ¾ E., keeping a sharp lookout for the Red Buoy No. 2, off the Western part of Inner Heron Island Ledge. Leave this Buoy close to on the Starboard hand, and proceed as before directed.

Coming from the Eastward, or Seaward, when Ram Island Lighthouse is made, bring it to bear W. ½ N., and run for it on this course, leaving the Buoy painted in Red and Black Horizontal Stripes off Pemaquid Ledge well on the Starboard hand; when the Northern White Island bears S. by W. ¾ W., then steer N. by E. ¾ E., and follow the directions before given.

It is High Water at Hogdon's Mills about 30 minutes before it is at Boston.

John's Bay.

The entrance to this Bay is from 4 to 5 miles to the Eastward of Booth Bay, and about 10 miles NW. ¾ W. from Monhegan Island Lighthouse.

Pemaquid Point Lighthouse.

Upon Pemaquid Point, East side of entrance to John's Bay, there is a Lighthouse which shows a fixed White Light.

Bearings and Distances from Pemaquid Lighthouse.

		Distance.
Monhegan Island Lighthouse, . . .	SE. ¼ E., .	9½ miles.
Franklin Island Lighthouse, . . .	E. by N. ½ N.,	6⅔ "
Old Man's Ledge, off George's Island,	E. by S. ¼ S.,	8¼ "

Dangers.

Pemaquid Ledge.

This Ledge, which lies off the entrance to this Bay, has 9 feet water upon it at Low Tide, and is marked on its Southeast part with a Buoy painted in Red and Black Horizontal stripes. Pemaquid Lighthouse bears from this Buoy NE. ¼ N.; distance 1¼ miles.

In the Lower part of the Bay, from this Buoy to John's Island, a distance of 3 miles, there are no dangers excepting those which lie near the shore.

Sailing Directions for John's Bay in Daytime, with favorable winds and fair weather.

Directions to pass within the Damiscove Islands.

From the Westward, follow the directions before given for Booth Bay Harbor, until Ram Island Lighthouse is made, then bring it to bear NE. ½ E., and run for it on this course; haul round this Lighthouse at a distance of about 200 yards, leaving it on the Starboard hand; when past it make good the course East, leaving Thrumcap Island, which is bold off its Southern end, on the Port hand, and the Buoy painted in Red and Black Horizontal Stripes, off Pemaquid Ledge, well on the Starboard hand. When this last-mentioned Buoy bears South, steer North. As you sail in you will see in the middle of the Bay, and nearly ahead, about 2¼ miles above the Lighthouse, John's Island, the Western part of which is quite high. Leave this Island, the Western part of which is high, about 200 yards on the Starboard, and when abreast

it, steer **N.** ¼ **W.**, leaving Thurston's Ledge, which is ⅓ mile North from John's Island, on the Starboard, and McFarling's Ledge, which is ⅝ mile **NW.** ½ **N.** from this last-mentioned Island, on the Port hand. After passing McFarling's Ledge, keep in the middle of the river, and run up about 1¼ miles, or where it is wider. At this place you will find good anchorage in from 4 to 5 fathoms water.

McFarling's Cove.

If you wish to enter this Cove, when abreast the Northern point of John's Island you will see Beaver Island, which is small, and lies about 300 yards to the Northward of John's Island. Continue the course **N.** ¼ **W.** until the centre of Beaver Island bears **E.** by **S.** ½ **S.**; then make good the course **W.** by **N.** ½ **N.**, leaving McFarling's Ledge, some parts of which are above water, on the Starboard, and Corbett's Ledge, which has but 4 feet water upon it at Low Tide, upon the Port hand. When the Cove is fairly open, haul to the Southwestward, and anchor in from 4 to 5 fathoms water.

At the Southern end of this Cove there is a large Porgy Factory. There is also a good harbor nearly opposite McFarling's Cove, near the entrance to Pemaquid River. If you wish to enter this last-mentioned place, leave Beaver Island (before described) about 75 yards on the Starboard hand, and haul in about **E.** ½ **S.**, and anchor in from 4 to 7 fathoms water. When you are in this harbor, there will be seen to the Southward, nearly in mid-channel, between John's Island and the mainland, Knowle's Rocks. There is a narrow Channel of 10 fathoms water between these Rocks and John's Island.

Directions to pass without the Damiscove Islands.

From the Westward, leave Seguin Island from 2 to 3 miles to the Northward, and when the Lighthouse bears North, steer **E.** by **N.** On this course Bantum Ledge will be left well to the Northward. When Pemaquid Lighthouse bears **N.NE.**, run for it on this course. When from 2 to 3 miles from this last-mentioned Lighthouse, keep a sharp lookout for the Buoy painted in Red and Black Horizontal stripes off the Southeast part of Pemaquid Ledge.

Leave this Buoy about 100 yards on the Port hand, and run in **N.** by **W.** until it bears South; then steer North up the Bay for John's Island, and follow the directions before given.

From the Eastward or Seaward, after passing Monhegan Island, run for Pemaquid Point Lighthouse on any bearing from **W.** by **N.** ½ **N.** to **N.NE.** Leave the point (which bears **SW.** by **W.** ½ **W.** from the Lighthouse) about ½ mile on the Starboard hand, and run up the Bay about North, leaving John's Island on the Starboard hand, and proceed as before directed.

Vessels of more than 15 feet draught should take care to avoid a Ledge having about 16 feet water upon it at Low Tide, and at this date is not Buoyed. Pemaquid Point Light bears from this Ledge **NW.** ¾ **W.**; distance 3¾ miles.

In beating in or out of John's Bay there are no obstructions until past John's Island; vessels may therefore approach near the shores without danger. After passing this last-mentioned Island, the principal danger to be avoided is Corbett's Rock, which has but 4 feet water upon it at Low Tide, and bears from the Northern point of John's Island **W.** by **N.** ½ **N.**, distance ½ mile. The Western part of this last-mentioned Island is bold; a part of Thurston's and McFarling's Ledges are above water.

John's Bay and River are excellent harbors of refuge for vessels bound to the Westward, especially during a heavy Westerly gale; and there are so few dangers that strangers may enter them without fear by following the above directions.

High Water.

It is High Water in John's Bay about 30 minutes before it is at Boston. Common Tides rise about 9 feet.

New Harbor.

The entrance to this small harbor is 2½ miles **NE.** ½ **N.** from Pemaquid Point Lighthouse; 10 miles **NW.** by **N.** from Monhegan Island Lighthouse, and about 5¾ miles West from Franklin Island Lighthouse. The harbor extends nearly East and West ½ mile, with an average width of about 175 yards. The water at the mouth is deep, but very narrow and crooked. With a good pilot, 14 feet

water at Low Tide may be carried in for about 150 yards above the Buoy; the remaining part of the Cove is shoal water.

Sailing Directions for New Harbor in Daytime.

From the Westward, run for Pemaquid Point Light, bearing **NE.** by **N.** ½ **N.** Leave it about ½ mile on the Port hand, and when it bears West, steer about **NE.** ½ **N.** 2 miles. On this course you will see two dry Rocks or Ledges, and a small Island lying near the shore, which are all left on the Port hand. After passing this Island, the harbor will open, and you will see the Red Buoy, which, in passing in, is left on the Starboard hand. On account of the Channel being narrow and crooked, it is advisable for strangers bound in to take a pilot.

From the Eastward or Seaward, after passing Monhegan Island, run for Pemaquid Point Lighthouse on any bearing from **W.** by **N.** ½ **N.** to **N.NE.**, and follow the directions before given.

High Water.

It is High Water at New Harbor 22 minutes before it is at Boston. Common tides rise about 9 feet.

Round Pond Harbor.

The entrance to this harbor (which is situated on the Western side of Muscongus Sound) is 6¾ miles **NE.** by **N.** from Pemaquid Point Lighthouse. The harbor is a round Cove, a little less than ¼ mile in diameter, with good anchorage in all winds, with from 12 to 15 feet water at Low Tide.

Sailing Directions for Round Pond Harbor in Daytime.

From the Westward, run for Pemaquid Point Lighthouse, bearing **NE.** by **N.** ½ **N.** Leave it about ½ mile on the Port hand, and when it bears West, steer **NE.** ½ **N.** When about 2 miles past the Lighthouse, you will see two dry Ledges, and also a small Island lying near the shore; these are all left about ¼ mile on the Port hand. After passing the Island, you will open New Harbor

When the entrance to this harbor bears **W.** by **S.**, haul in more Northerly; and in order to avoid Brown's Head Ledge, follow the shore (which is bold), keeping not more than 300 yards from it.

As you enter Muscongus Sound, you will see to the Eastward the Red Buoys Nos. 2 and 4, off Weber's and Bar Island Ledges, both of which should be left well to the Eastward. After passing this last-mentioned Ledge, you will see nearly ahead, and about 300 yards from shore, two Black Buoys, Nos. 1 and 3, which lie off Poland's North and South Ledges; these Buoys are both left on the Port hand. After passing these last-mentioned Buoys, steer about **N.** by **E.** ½ **E.** until the harbor is fairly open, bearing about **W.** by **N.** ½ **N.**; then run in, and anchor in about 2½ fathoms water at Low Tide, and 4 fathoms at High Tide. A Ledge extends off Northerly about 200 yards from the Southern point of this harbor; vessels, therefore, in entering it should not keep more than 75 yards from its Northern point.

From the Eastward or Seaward, after passing Monhegan Island, run for Pemaquid Point Lighthouse on any bearing from **W.** by **N.** ½ **N.** to **N.NE.**, and follow the directions before given.

High Water.

It is High Water in Round Pond Harbor about 20 minutes before it is at Boston. Common tides rise about 9 feet.

Muscongus Harbor and Greenland Cove.

Between Round Pond Harbor and the Head of Muscongus Sound there are two Coves called Muscongus Harbor and Greenland Cove: the former lies about 1½ miles **NE.** by **N.** from Round Pond, the latter 3½ miles **NE.** ¾ **N.** from Round Pond; both these Coves have but little water in them at Low Tide.

Waldoboro' Harbor.

The town of Waldoboro' is situated upon the Eastern bank of the Medomak River, about 8 miles from its mouth, and 16½ miles **NE.** by **N.** from Pemaquid Point Lighthouse. At a distance of 3 or 4 miles below the town, the water commences to shoal, so that

at Low Tide but 2 feet can be carried up to it. The passage to this River leads up through Muscongus Bay, in which there are many Rocks, Ledges, Shoals, and Islands. Near the mouth of the River are two Islands called Cow Island and Bremen Long Island which divide the entrance into an Eastern and Western Channel. The Eastern Channel, which lies between the Eastern part of Bremen Long Island and Hungry Island, is very narrow, and on account of the current which rushes through it with great strength and velocity, it is called the Flying Passage. The Western Passage, which is on the Western side of Bremen Long Island, is called the Hocomock Channel, and is also narrow, with a rapid current in it. In this work, however, we shall only give directions for the Eastern Passage as far as Hungry Island, which is near the entrance to the Flying Passage.

Sailing Directions for Muscongus Bay in Daytime, with favorable winds and fair weather.

From the Westward, bound to Waldoboro', bring Pemaquid Point Light to bear **NE.** by **N.** ½ **N.**, and run for it on this course. Leave the Lighthouse from ½ to ¾ mile on the Port hand, and when it bears **W.** ¾ **S.**, make good the course **E.** ¾ **N.**, leaving the Red Buoy No. 8, off New Harbor Ledges, close to on the Port hand. Pemaquid Point Lighthouse bears from this Buoy **W.** by **S.**; distance 3 miles. When abreast this Buoy, run for Franklin Island Lighthouse, bearing **E.** by **N.** ¾ **N.** On this course the Western Egg Rock, and Western Egg Rock Ledge (upon which the sea always breaks), will be left ¼ mile on the Port hand. As you approach Franklin Island Lighthouse, the Tripod upon the Eastern Egg Rock will be seen on the Starboard hand; this Tripod is 54 feet high, and the upper half is covered with boards. Continue the course until this Tripod bears South; on which bearing keep it, and steer North for Wreck Island; distance 1⅝ miles. When Franklin Island Lighthouse bears **SE.** ½ **E.**, and is just on with the Southwestern part of Crane Island (you are then past the Ledge called the Devil's Back, which is bare at ¾ Ebb), and is left on the Port hand, and must steer Northwesterly, leaving Wreck Island at least ⅓ mile upon the Starboard hand. In order to avoid the Ledges which lie off its Northern part, when the centre of this last-mentioned Island bears **SE.**, distance about ⅓ mile, the course is **NE.** ½ **N.**, leaving the Red Buoy No. 2, off Garden Island

Ledges, about ⅓ mile on the Starboard, and the Black Buoy No. 1, off Cow Island Ledges, about ½ mile on the Port hand. As you sail up the Bay, you will see on the Starboard hand two small bare Islets (connected at Low Tide) called Gull Rocks. Leave these Rocks about ¼ mile on the Starboard hand, and steer up about **N.NE.** 1¾ miles, and anchor to the Southward of Hungry Island in from 7 to 9 fathoms water. It is advisable to take a pilot here.

Coming from the Eastward, between George's Islands and Monhegan Island, leave the Buoy off the Old Man's Ledge about ¼ mile to the Northward, and steer **W.** by **N.** ½ **N.**, leaving Shark Island, which is bold, about ¼ mile on the Starboard hand. When the Tripod upon the Eastern Egg Rock (before described) is in range with Franklin Island Lighthouse, bearing **N.NE.**, run **N.** by **W.** ½ **W.** for the Western Egg Rock until the last-mentioned Light bears **NE.**; then steer for it until the Tripod bears South; then follow the directions before given.

High Water.

It is High Water in Waldoboro' Harbor 33 minutes before it is at Boston. Common Tides rise about 10 feet.

Friendship Harbor.

Vessels bound to this harbor may follow the directions before given for Waldoboro' Harbor or Muscongus Bay. Until they make the Gull Rocks these Islets may be left about ¼ mile on the Port hand; and when they bear **W.** ¾ **S.** make good the course **E.** ¾ **N.** about 1 mile, which will take you to the mouth of the harbor. You may then run in about **E.NE.** After passing the entrance, keep about in mid-channel and run up from ⅓ to ½ mile, and anchor in from 3½ to 5 fathoms water.

St. George's River.

The entrance to this River is about 10 miles **E.NE.** from Pemaquid Point Lighthouse; and about the same distance **N.** by **E.** ½ **E.** from Monhegan Island Lighthouse.

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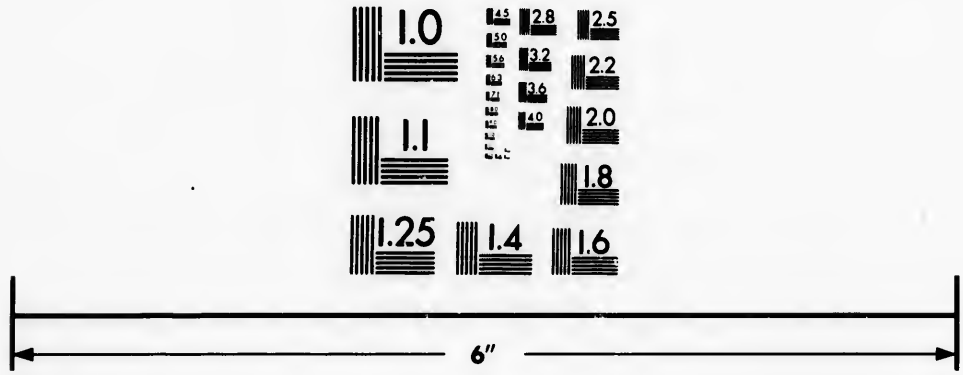

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Franklin Island Lighthouse.

About 4 miles **SW.** by **W.** ½ **W.** from the entrance of St. George's River is Franklin Island, upon the Northern part of which is a Lighthouse showing a fixed Light, varied by White Flashes. This Lighthouse bears from Pemaquid Point Light **E.** by **N.** ½ **N.**, distance 6⅔ miles; from Monhegan Lighthouse, **N.** ¼ **W.**, distance 8¼ miles.

Remarks.

The approaches to this River have a sufficient depth of water for the heaviest-draught vessels, but they are rendered extremely difficult to strangers on account of the numerous Ledges and Shoals which lie to the Southwest of it. There are usually five or six passages used by coasters, but in this work we shall only give three, which are the most direct for vessels coming from the Eastward, Westward, or Seaward. The general course of this River, from the entrance to Thomaston, the head of navigation, is **NE.** by **E.**, and distance 10 miles. About 7 feet water can be taken up to this place at Low Tide.

Sailing Directions for St. George's River in Daytime, with favorable winds and fair weather.

From the Westward, bring Pemaquid Point Light to bear **NE.** by **N.** ½ **N.**, and run for it on this course. Leave it about ¾ mile on the Port hand, and as soon as Franklin Island Lighthouse is made, bring it to bear **E.NE.**, and run for it on this bearing, leaving the Lighthouse close aboard on the Starboard hand. When past this Light, steer about **NE.** by **E.** ¾ **E.**, and leave the Red Buoy No. 2, off the Northwest part of Jenks' Ledge, about 250 yards on the Starboard hand; distance from the last-mentioned Light, 3 miles. Thence, ⅞ of a mile farther in, you will leave on the Port hand the Buoy painted in Red and Black Horizontal Stripes, off Goose Island Ledge, and ¾ mile farther on the same hand, the Black Buoy No. 1, off the Southern part of Gay Cove Ledge. After passing this last-mentioned Buoy, steer about **NE.** ½ **E.**, keeping in the middle of the River, leaving the Black Buoy No. 3, off the Eastern part of Henderson's Ledge, on the Port hand. When you are past the Narrows, there will be seen ahead, nearly in the middle of the River, a Black Buoy, No. 5, which lies off the Eastern

part of Bailey's Ledge (which is bare at Low Spring Tides). Leave this last-mentioned Buoy on the Port hand, and steer up about **NE.** by **E.**, keeping in the middle of the River until abreast Fort St. George. Above this the channel is narrow, and the water gradually shoals to Thomaston; it is therefore advisable to take a pilot here. From the Eastward, after passing Monhegan Island, bring the Lighthouse to bear **S.SE.**, and run **N.NW.**, until Franklin Island Lighthouse bears **E.NE.**; then proceed as before directed.

Directions for George's Island, Western Channel.

From the Eastward, Westward, or Seaward, leave Monhegan Island about 1½ miles on either hand, and after passing the Duck Rocks (the farthest of which is about ¾ mile to the Northward of this Island) bring the Lighthouse to bear **S. ¾ W.**, on which bearing keep it, and steer **N. ¾ E.**, with the Southwest point of the Outer George's Island a little on the Starboard bow. As you sail in, you will see, on the Starboard hand, the Red Buoy No. 6, off the Southwest part of the Old Man's Ledge, which is bare about two hours before Low Tide; and ½ mile farther to the Northward, the Old Woman's Ledge, which is bare at Half Tide. Both these last-mentioned dangers are left on the Starboard hand. Continue the course **N. ¾ E.**, leaving the Southwest point of the Outer George's Island (which is bold) about 300 yards to the Eastward, and also several small Islands and Ledges to the Westward. When Franklin Island Lighthouse bears **NW.**, the Black Buoy No. 1 off the Northeast part of Seal Ledges, will be in range of this Light; and about 1 mile farther in you will see the Red Buoy No. 2, off the Northeast part of the Ledge called the Kegs, which are bare at Low Tide. Both these last-mentioned Buoys are left on the Port hand. Continue the course **N. ¾ E.**, until Franklin Island Lighthouse bears **SW.** by **W. ¾ W.**; then follow the directions before given.

Directions for George's Island, Eastern Channel.

Coming from the Eastward, outside of Matinicus Island, in order to clear all the Ledges, bring the Lighthouses upon the said Island to bear **E.** by **S. ½ S.**, and steer **W.** by **N. ½ N.**, until Monhegan Island Lighthouse bears **SW.** by **S. ½ S.**; then make good the course **NE.** by **N. ½ N.**, with the Southeastern part of Burnt

Island just on the Port bow. Leave this Island (which is bold) about 300 yards on the Port hand, and when you have passed it, steer **N.** ¾ **E.** 1¾ miles, to the Black Buoy off the Northwestern part of the Sisters, leaving it close to on the Starboard hand. When abreast this last-mentioned Buoy, steer **N.** ¼ **E.**, or directly for the Southeast point of Teal's Island; distance 1¼ miles from the Buoy on the Sisters. On this last course, the Spindle on the Old Horse Ledge will be left on the Port hand. When about 250 yards from the Southeast point of this Island, steer **NE.** ¾ **E.** for Hooper's Point; distance 1⅛ miles. On this last course you will see, to the Northward, the Buoy painted in Red and Black Horizontal Stripes, which lies off the Southern part of Channel Rock. This Rock has 5 feet water upon it at Low Tide, and bears from Hooper's Point **W.** by **N.**; distance ¼ mile. Continue the course **NE.** ¾ **E.**, until this Buoy bears **N.** by **W.**; then leave it 100 yards upon either hand, and continue the course **N.** by **W.**, until the River is fairly open, then run up about **NE.** ½ **E.**, as before directed.

High Water.

It is High Water in St. George's River about 20 minutes before it is at Boston. Common Tides rise about 9½ feet.

Davis Straits.

These Straits (which lie between George's Islands) have a width of about 300 yards, and are distant 2½ miles **W.SW.** from Marshal's Point Lighthouse, which is on the Eastern side of the entrance to Herring Gut Harbor. A Ledge, having about 8 feet water upon it at Low Tide, lies near the middle of the passage, and is marked on its Southeast part with a Red Buoy No. 8, which in going East is left on the Port hand. Between the Ledge and the Southern shore there is a narrow channel at Low Tide of 4½ fathoms water. Davis Straits at many times are of great advantage to coasters, especially with strong Northerly or Southerly winds.

Sailing Directions for Davis Straits in Daytime, with favorable Winds and fair weather.

From the Westward, bring Pemaquid Point Lighthouse to bear **NE.** by **N.** ½ **N.**, and run for it on this course. Leave the Lighthouse about ¾ mile on the Port hand, and when it bears **W.** ¼ **S.**, steer **E.** ¼ **N.** As you enter the Bay, you will soon see ahead, upon the Eastern Egg Rock (which bears **E.** ¼ **N.** from Pemaquid Point Lighthouse, distance 5¾ miles), a Beacon 54 feet high, the upper half of which is covered with boards. As you approach it, you will also see, about ¼ mile to the Northward of it, the Red Buoy No. 4, which lies off a Ledge which is awash at Low Tide. Pass about midway between the Beacon and Buoy, and steer **E.** by **N.**, leaving the Black Buoy No. 1, off the Northern part of Seal Ledges (which is distant 2 miles from Egg Rock Beacon), on the Starboard hand. Continue the course **E.** by **N.** from this last Buoy, and as soon as the Red Buoy in the Straits is made, bring it to bear **E NE.**, and run for it, leaving it close to on the Port hand; and when about 20 yards past it, steer **NE.** by **E.** about 300 yards, to avoid the shoal water that makes off from the point on the Starboard hand. When you are through the Straits you will see the Black Buoy No. 5, off the Northwest part of the Sisters (bearing about **E.NE.**), which you will leave close to on the Starboard hand, and steer about **N.** by **E.** ½ **E.**, for the Black Buoy No. 3 off the Northwestern part of Allen's Ledge. On this last course, a Spindle and Red Buoy will be left on the Port hand. When past this last Black Buoy, Herring Gut Harbor will be fairly open, and if bound into it, you may run in about midway of the entrance, leaving a Black Buoy on the Port hand, and anchor where you please. If bound farther Eastward, leave the Red Buoy off Herring Gut Lighthouse close to on the Port hand, and run **E.** ¼ **S.**, leaving the next Buoy, which is Red, off the Southeast part of Mosquito Island Ledge, on the Port hand. When abreast the last-mentioned Buoy steer about **SE.** by **E.**, leaving Great Mosquito Island about 300 yards on the Port hand. The above courses from Great Mosquito Island through Davis Straits are reversed by vessels bound to the Westward.

George's Harbor.

This small harbor, or place of anchorage, which has a depth of from 4 to 12 fathoms water in it, is between the George's Islands, and bears N. by E. ½ E., from Monhegan Island Lighthouse, distance 7 miles; and SW. by W. 3 miles from the Lighthouse at Herring Gut Harbor. This place of anchorage is somewhat exposed to winds from W.NW. to South, by way of East, but affords shelter with winds from South to W.NW. by way of West.

Sailing Directions for George's Harbor in Daytime, with favorable winds and fair weather.

Directions to enter this Harbor to the Westward of George's Islands.

From the Westward, leave Monhegan Island from 2 to 3 miles on the Starboard hand, and when the Lighthouse bears S. ¾ W., make good the course N. ¾ E., with the Southwest point of the Outer George's Island a little on the Starboard Bow. As you sail in, you will see the Buoy off the Old Man's Ledge, and ½ mile further in the Old Woman's Ledge, both of which are left on the Starboard hand. Leave the Southwest point of the Outer George's Island, which is bold, about 300 yards on the Starboard hand, and when you are abreast it, steer N.NE. As you enter the Bay, you will see on the Starboard hand the narrow passage between Benner's and Allen's Islands which leads into George's Harbor; but you must still continue the course N.NE. about ¾ mile farther. Then the entrance to the harbor will be fairly open, bearing about S.SE. You may then run in, keeping midway of the entrance, and anchor in from 5 to 10 fathoms water, the entrance to the Gut bearing SW. by W. about 300 yards from you.

Coming from the Westward, through Egg Rock Channel, follow the directions for Davis Straits, and when abreast the Black Buoy No. 1, off the Northern part of Seal Ledges (which is left on the Starboard hand), steer E. ¾ N. about 1¼ miles. The entrance to the harbor will then be fairly open, bearing about S.SE.; then run in, and anchor as before directed.

Directions to enter this Harbor to the Eastward of George's Islands.

Coming from the Eastward, outside of Matinic Island, when past the Ledges which lie to the Southwest of it, bring Burnt Island, which is the Southeasternmost of the George's Islands, to bear **N.NW.**, and run for it on this course. Leave the Southeastern point of this Island (which is bold) about 300 yards on the Port hand, and when you are past it, steer **N.** ½ **E.** from ½ to ¾ mile. The entrance to the harbor will then be fairly open, and you may run in about **W.NW.**, leaving Little Burnt Island not less than 350 yards on the Port hand, and the next point, which is the Northeast part of Allen's Island, not less than 200 yards on the same hand, and when the Gut bears **SW.** by **W.**, anchor as before directed.

From White Head, when the Northern part of Burnt Island bears West, run for it on this course, and proceed according to directions before given.

Vessels passing in or out of this harbor should take care to avoid a Ledge which makes off about 150 yards from its Southern shore.

High Water.

It is High Water in George's Harbor 30 minutes before it is at Boston. Common Tides rise about 9½ feet.

Monhegan Island.

This Island, which is quite high, lies **NE.** and **SW.**, and is a mile and one-third long. Its Southwest, Southern, Southeastern, and Eastern shores, are very bold. Near the middle of the Island, on a bare summit, is built a Lighthouse which shows a flashing White Light.

Fog Signal.

About 200 yards from the Western shore of Monhegan is a small bare Island called Mananas Island. Upon the Southwest point of this Island is a Fog Signal, giving blasts of 15 seconds at intervals of 40 seconds.

Bearings and Distances from Monhegan Island Lighthouse.

		Distance.	
Cape Cod Highland Light, . .	SW. by S. ¼ S.,	108	miles.
Thatcher's Island Lights, . . .	SW. ¾ W., . .	87½	"
Isle of Shoals Lighthouse, . .	SW. by W. ¾ W.,	74	"
Boon Island Lighthouse, . . .	SW. by W. ⅞ W.,	63	"
Cape Elizabeth Lights, . . .	W. ⅜ S., . . .	40	"
Seguin Island Lighthouse, . .	W. ¼ N., . . .	19	"
Pemaquid Point Lighthouse, .	NW. ¼ W., . .	9¼	"
White Head Lighthouse, . . .	NE. ¼ E., . .	15¼	"
Matinicus Rock Light, . . .	E. by S., . . .	20	"
Seal Island Light (off Cape Sable),	SE. by E. ¾ E.,	148	"

Duck Rocks.

These are four bare rocky Islets, the farthest of which lies off about ¾ mile from the Northern and Northwestern shores of Monhegan Island. Upon the Western Duck Rock a Beacon 57 feet high has been built. Monhegan Island Lighthouse bears from it about S.SE.; distance ⅞ mile. About N. by W., ¼ mile from this Beacon, in 18 fathoms water, is placed a Whistling Buoy.

Bearings and Distances from the Whistling Buoy off to the Northward of Monhegan Island.

		Distance.	
Seguin Island Lighthouse, . .	W., ...	19	miles.
Bantum Ledge, ...	W., ...	13⅛	"
Northern White Island, . . .	W. by N. ¾ N.,	10⅓	"
Pemaquid Point Lighthouse, .	NW. ½ W., . .	8⅓	"
Beacon upon Eastern Egg Rock,	N. by W., . . .	5½	"
Buoy off the Southern part of Old Man's Ledge, ...	NE. by N. ¾ N.,	3⅝	"
Southeastern part of Burnt Island, ...	NE. ¾ N., . .	5½	"
Roaring Bull, ...	NE. by E. ¾ E.,	7½	"
White Head Lighthouse, . .	NE. ½ E., . .	15	"
Fog Signal on Southwest part of Mananas Island, . . .	S. ½ W., . . .	1⅛	"
Monhegan Island Lighthouse, .	S. by E. ¾ E., .	1¼	"
Lighthouse upon Matinicus Rock, ...	E. by S. ¼ S., .	21	"

Bearings and Distances of Dangerous Rocks and Ledges.

Moser's Ledge.

This Ledge (which at this date is not Buoyed) has 16 feet water upon it at Low Tide. Monhegan Island Lighthouse bears from it SE.; distance 5½ miles.

Sunken Duck Rock.

This Rock, upon which there are 5 feet water at Low Tide, is marked off its Northern side with a Black Buoy, No. 3. Monhegan Island Lighthouse bears from it S. by E.; distance 1 mile.

Old Man's Ledge.

This Ledge, which is bare at about Half Tide, is marked off its Southern part with a Red Buoy, No. 6. Monhegan Lighthouse bears from this Buoy S. by W. ¼ W.; distance 4½ miles.

Roaring Bull.

This Ledge (which is awash at Low Tide) is marked on its Northwestern part with a Black Buoy, No. 1. Monhegan Island Lighthouse bears from this Buoy SW. by W. 7¾ miles.

Southeast Breaker.

This Ledge (some parts of which are dry at Low Tide) extends E.NE. and W.SW. about ½ mile, and at this date is not Buoyed. Monhegan Island Lighthouse bears from it W.SW.; distance 7¾ miles.

Haddock Ledge.

This Rock (which at this date is not Buoyed) has 12 feet water upon it at Low Tide. Monhegan Island Lighthouse bears from it W. by S. ¼ S.; distance 7½ miles.

Monhegan Harbor.

This small harbor of refuge (the entrance of which bears W.SW. from Monhegan Lighthouse, distance about ⅛ mile) has a width of from 150 to 250 yards, and there are no obstructions or dangers in entering it from the Westward. It is exposed to Southwesterly winds.

Sailing Directions for Daytime.

Bring Monhegan Lighthouse to bear **E.NE.**, and run for it on this course. As soon as the harbor is fairly open, bearing **NE.** ½ **N.**, run in, and anchor in mid-channel in from 5½ to 7 fathoms water. From the anchorage in the harbor there will be seen to the Northeastward, nearly in mid-channel, two small bare Islets; there is a narrow Channel of 16 feet water at Low Tide between these Islets and the Western shore of Monhegan. If the wind is so strong from the Southwestward that you cannot beat out by the Western Passage, you may run out the Eastern Channel by keeping midway between the Islets and Monhegan. When you are out of the harbor, leave the first small Island about 100 yards on the Starboard hand, and run out between the Duck Islands about **NE.** by **N.**

Herring Gut Harbor.

This Harbor, which is much frequented by coasters, bears **NE.** by **N.** ½ **N.** from Monhegan Island Lighthouse, distance 9¾ miles; and **E.** by **N.** from Pemaquid Point Lighthouse, distance 11¾ miles.

Marshall's Point Lighthouse.

Upon Marshall's Point, East side of entrance to this Harbor, is a Lighthouse which shows a fixed White Light.

Sailing Directions for Herring Gut Harbor in Daytime, with favorable winds and fair weather.

Coming from the Westward, outside of George's Islands, give Monhegan Island a berth of about 2 miles, leaving it to the Southward. When Monhegan Lighthouse bears **SW.**, make good the course **NE.** until Herring Gut Lighthouse bears **N.** by **W.**; then run for it on this course. As you sail in, you will see on the Port the Red Buoy No. 4, off the Eastern part of the Ledge, called the Old Cilley, which is dry at Low Tide; and also Black Rock, and Hart Island, all of which are left to the Westward. On the Starboard will be seen several Rocky Islets, the Westernmost of which are called the Gunning Rocks. Leave these last-mentioned

Rocks, which bear from Herring Gut Lighthouse **S.SE.** ⅝ mile, and are bold, about 150 yards on the Starboard hand, and when past them, steer about **N.NW.** until the harbor is open; then run in, keeping about mid-channel, and anchor where you please.

Coming from the Westward, through George's Islands Passage, bound to Herring Gut Harbor, see sailing directions for Davis Straits.

From the Eastward, by way of White Head, after passing Great Mosquito Island, the centre of which bears **SW.** by **W.** ½ **W.** from White Head Light, distance 5½ miles, you will open Herring Gut Lighthouse, bearing about **W.NW.** Give the Southern point of this last-mentioned Island a berth of about 300 yards, and steer **NW.** by **W.**, when you will see nearly ahead the Red Buoy upon the Southern part of Mosquito Ledge. Leave this Buoy close to on the Starboard hand, and run about West, leaving the Red Buoy off the Lighthouse upon the same hand. After passing this last Buoy, haul gradually to the Northward, and when the harbor is open, run in about midway, and anchor where you please.

Beating into this Harbor in Daytime.

In beating in, the Lighthouse must be kept open to the Westward of the Westernmost Gunning Rock in order to avoid Gunning Rock Shoal, which has but 4 feet water upon it at Low Tide. This danger lies upon the Eastern side of the Channel, nearly opposite Black Rock, and bears **S.SE.** from the Lighthouse; distance about 1 mile. Care should also be taken to avoid a small Rock having but 14 feet water upon it at Low Tide; this danger lies nearly in mid-channel, about 400 yards **W.** by **S.** from the Western Gunning Rock. To avoid this danger, it is advisable, at Low Tide, when up with the Western Gunning Rock, to make short tacks to the Westward until past it. The Westernmost Gunning Rock is very bold, and may be approached within 100 yards without danger.

Vessels from the Eastward or Westward may, when Herring Gut Lighthouse bears **W.NW.**, steer for it on this course, leaving Great Mosquito Island, the Red Buoy off Mosquito Ledge, and the Red Buoy off the Lighthouse, all on the Starboard hand, and four rocky Islets, and a shoal spot of four feet, on the Port. The Lighthouse bears from the latter danger **NW.** by **W.** ¼ **W.**; distance ⅝ mile.

This last Channel is the best for entering Herring Gut Harbor, with winds from North to NE. by E.

Sailing Directions for Herring Gut Harbor, at Night-time.

From the Westward, after passing Monhegan Island, bring the Light to bear SW., and steer NE. until Herring Gut Light bears N. ¾ W.; then run for it on this bearing, leaving it from 200 to 300 yards on the Starboard hand. When abreast the Light, haul gradually to the Eastward, and anchor anywhere above it in mid-channel.

From White Head, steer SW. by W. until Herring Gut Light bears N. ¾ W.; then follow the directions before given.

It is not advisable for strangers to attempt to beat into Herring Gut Harbor at night.

High Water.

It is High Water in Herring Gut Harbor 30 minutes before it is at Boston. Common Tides rise 9½ feet.

Mosquito Harbor.

This Harbor lies about 2 miles Northeast from Herring Gut Lighthouse, and the entrance to it, which is between Great Mosquito Island on the South, and Mosquito Head on the North, is about 2⅓ miles Southwest from the Lighthouse at Tennant's Harbor; or it is the first opening to the Southwestward of the last-mentioned Lighthouse. The harbor has an average width of ⅛ mile, and length of ⅝ mile, with from 4 to 10 feet water in it at Low Tide.

Sailing Directions for Mosquito Harbor in Day-time, with favorable winds and fair weather.

From the Westward, after passing Great Mosquito Island, the body of which bears E. ½ S. from the entrance to Herring Gut Harbor, distance 2 miles; Herring Gut Lighthouse will open to the Northward of this last-mentioned Island, bearing about W. ½ S.

When this last-mentioned Lighthouse is open, bearing about **W.** ½ **S.**, run in, leaving the Southwest point of Mosquito Head about 200 yards on the Starboard hand. When abreast this point, haul up **W.** by **N.** until the harbor is fairly open, bearing about **N.** by **E.** ½ **E.**; then run in, keeping about midway of it, and anchor in from 4 to 10 feet water at Low Tide.

From the Eastward, after passing White Head, bring the Light to bear **E.NE.**, and steer **W.SW.**, leaving the Southwest point of Mosquito Head about 200 yards on the Starboard hand, and proceed as before directed.

High Water.

It is High Water in Mosquito Harbor about the same time it is at Herring Gut Harbor. Common Tides rise about 9½ feet.

Tennant's Harbor.

The entrance to this excellent Harbor lies about **W.** ½ **S.** from White Head Lighthouse, distance 2¾ miles; and **NE.** ½ **N.** from Monhegan Lighthouse; distance 13⅓ miles. It is about 1¼ miles in length, with an average width of about 500 yards.

Tennant's Harbor Lighthouse.

Upon the Eastern end of Southern Island, South side of entrance to this Harbor, a Lighthouse has been built which shows a revolving Red Light.

Sailing Directions for Tennant's Harbor in Daytime, with favorable winds and fair weather.

From the Westward, bring Monhegan Island Lighthouse to bear **SW.**, and make good the course **NE.**, leaving Mosquito Island about 1 mile to the Westward. When Tennant's Harbor Light bears North, steer **N.** by **E.**, leaving it at least 300 yards on the Port hand. When the harbor is fairly open, run in midway (course about **W.** by **N.** ½ **N.**), and anchor about ½ mile above the Lighthouse in from 3½ to 5 fathoms water.

From the Eastward, after passing the Bell Boat off White Head, bring Tennant's Harbor Lighthouse to bear **W.** ¼ **S.**, and steer for it. When about ½ mile from this Lighthouse, run about **W.** by **N.** ½ **N.**, and anchor as before directed.

Coming from the Eastward, through Two Bush Island Channel, when the Lighthouse at Tennant's Harbor bears **NW.** by **W.** ¾ **W.**, run for it on this course, and follow the directions before given.

Beating into Tennant's Harbor.

Metinic Ledge, which has 7 feet water upon it at Low Tide, is marked off its Southwest part with a Buoy, having Red and Black Horizontal Stripes. Herring Gut Lighthouse bears from this Buoy **NW.** by **W.**; distance 4⅛ miles. From the Westward, after passing this Ledge, you may bring Tennant's Harbor Light to bear from North to **W.NW.**, until you are ¾ mile from it; then stand farther to the Northward until the Lighthouse bears **W.** by **S.** Give the shores a small berth, as there are no dangers in the harbor excepting a Ledge, which lies off the Western shore about ¾ mile above the Lighthouse; these last directions will apply to Night-time.

Sailing Directions for Tennant's Harbor at Night-time, with favorable winds and fair weather.

From the Westward, give Monhegan Island a berth of from 2 to 3 miles, leaving it to the Southward. When the Light bears **SW.** make good the course **NE.**, leaving George's Islands, the Old Cilley, and Mosquito Island, all to the Westward. On this course, the Roaring Bull, and the other Ledges Northeast from it, will be left well to the Eastward. Continue the course **NE.**, until the Light at Tennant's Harbor bears **N.** by **W.**, then run for it. Leave this Light from 300 to 400 yards on the Port hand, and gradually haul to the Westward. When it bears **S.SW.** about 400 yards, haul up **W.** by **N.** ½ **N.**, and run in about ½ mile, taking care not to approach the shores in less than 4 fathoms water, and anchor in from 4 to 6 fathoms.*

High Water.

It is High Water in Tennant's Harbor 44 minutes before it is at Boston. Common Tides rise about 9½ feet.

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* If a vessel with strong NE. winds and ebb tide should reach White Head Light she should not attempt (especially at night) to beat into Seal Harbor, but may safely run into Tennant's Harbor by the following directions: After passing the Bell Buoy off White Head, bring Tennant's Harbor Light to bear West, and run for it until you judge you are about ¼ mile from it, then steer about W.NW., taking care not to approach either side in less than 4 fathoms. When the light bears SE., anchor in from 5 to 7 fathoms water.

White Head Lighthouse.

This Lighthouse, which shows a fixed White Light, is built upon the Southeastern part of White Head Island, and is intended as a guide for vessels bound into Seal Harbor, and also through the Muscle Ridge Channel into Penobscot Bay.

Fog Signal.

A Steam Whistle has been placed near this Lighthouse, giving blasts of 8 seconds at intervals of 52 seconds.

Bearings and Distances.

		Distance.
White Head Lighthouse bears from		
Monhegan Island Lighthouse,	NE. ¼ E.,	15¼ miles.
From Matinicus Rock Lighthouses,	NW. by N. ½ N.,	17 "
From Owl's Head Lighthouse,	SW. ¼ S.,	7¾ "

Owl's Head Lighthouse.

Upon the summit of a prominent headland, called Owl's Head, is built a Lighthouse, which shows a fixed White Light. This Lighthouse is intended to guide vessels into Penobscot Bay. A Fog Bell is placed near this Lighthouse.

Bearings and Distances from Owl's Head Lighthouse.

		Distance.
White Head Lighthouse,	SW. ¼ S.,	7¾ miles.
Brown's Head Lighthouse, entrance to Fox Island Thoroughfare,	E. ½ S.,	6 "
Indian Island Lighthouse, entrance to Rockport Harbor,	N. ½ E.,	4¾ "
Negro Island, entrance to Camden Harbor,	N. by E. ¼ E.,	6¾ "
The Rocky Island, called the Graves,	N. by E. ¾ E.,	5½ "
Spruce Head,	NE. by N. ½ N.,	12¾ "
Matinicus Rock Lighthouse,	S. ¾ E.,	20 "

Sailing Directions from Monhegan Island (by way of Muscle Ridge Channel) to Bangor in Daytime, with favorable winds and fair weather.

Coming from Seaward or the Westward, leave Monhegan Island from 2 to 3 miles on either hand, and after passing the Duck Rocks bring the Lighthouse upon the said Island to bear **SW. ¼ W.**, on which bearing keep it, and steer **NE. ¼ E.**, for White Head.

If there is no error in the compass, on this course the Southeast Breaker, Roaring Bull, and Matinic Island Ledge will all be left well to the Eastward. On the other hand, George's Islands, the Ledge called the Old Cilley, and Great Mosquito Island will all be left to the Westward. As soon as White Head Lighthouse is made, bring it to bear **NE.** ¼ **E.**, and run for it on this course, leaving the Bell Boat off the Western part of the South Breaker about ¼ mile on the Starboard hand. When abreast White Head Lighthouse, which must be left about 250 yards on the Port hand, steer **NE.** by **E.** As you enter the Muscle Ridge Channel, you will see, on the Starboard hand, the Red Spindle on Yellow Ledge, which is left to the Eastward. On the Port will be seen the Black Buoy off Hay Island Ledge, and farther in the Buoy painted in Red and Black Horizontal Stripes, off the Southwest part of Lower Gangway Ledge, both of which are left to the Westward. Leave this last-mentioned Buoy off Lower Gangway Ledge, which bears about **NE.** by **E.** from Whitehead Lighthouse ¾ mile, about 150 yards on the Port hand, and make good the course **NE.** ¼ **E.** 3⅞ miles to the Beacon on the Eastern point of Ash Island. On this last course, from the Lower Gangway Ledge to Ash Point Beacon, the following will be left on the Starboard hand: First, the Red Buoy No. 2, off the Northern part of Hurricane Ledge; second, a small bare Rock; third, Otter Island, the Western part of which is bold; fourth, the Buoy painted in Red and Black Horizontal Stripes, off the Southwest part of Upper Gangway Ledge. This last-mentioned Buoy bears from the Beacon upon Ash Island Point **S.** ¾ **W.**, distance ½ mile; and lastly, the Red Buoy, No. 4, off the Northwest part of the Inner Grindstone Ledges. On the Port hand will be left, first, the Black Buoy, No. 5, off the Southeast part of a Sunken Ledge; second, the Black Spindle on Garden Island Ledge; third, the Black Spindle on Otter Island Ledge; fourth, the Black Buoy, No. 7, off the Southeast part of Ash Island Ledge. The Beacon upon Ash Island Point is 57 feet high, and is painted White and Brown. Leave this Beacon about ⅕ mile on the Port hand, and gradually haul to the Northward until it bears West; then run **NE.** by **N.** ¾ **N.** 1¾ miles, to the Red Buoy, No. 2, off Sheep Island Bar. On this last course, the Buoy painted in Red and Black Horizontal Stripes, off the Southwest part of NW. Ledge, will be left about ¼ mile on the Starboard hand. When abreast the Buoy off Sheep Island Bar, which may be left close to on the Starboard hand, steer **NE.**, leaving the Black Spindle off

Dodge's Point, and the Black Buoy off South from Owl's Head Light, both on the Port hand.

Sailing Directions from Owl's Head Lighthouse through West Penobscot Bay to Fort Point Lighthouse.

After passing Owl's Head about 1 mile, bring the Lighthouse to bear **SW.** by **S.** ⅛ **S.**, and steer **NE.** by **N.** ⅛ **N.**, 18 miles. If there is no error in the compass, this course and distance will bring you up with Brown's Head, which is the Southwest point of entrance to Belfast Bay. As you enter the Penobscot Bay on this course, **NE.** by **N.** ⅛ **N.**, when from 5 to 10 miles from Owl's Head, a number of small Islands will be left from 1 to 1½ miles on the Starboard hand. You will next pass, on the same hand, Seven Hundred Acre Island, and about 2 miles farther in a Lighthouse, which stands upon Grindel's Point, the Western part of Long Island. About 3 miles above this Lighthouse you will see, on the same hand, three small Islands, which must be left well to the Eastward, as there are several Sunken Ledges which extend about ¾ mile **NE.** by **N.** from the Northeasternmost Island. On the Port hand will be seen Rockland Harbor, the Lighthouse on Indian Island, entrance to Rockport Harbor, the small Rocky Islet called the Graves, the Lighthouse upon Negro Island at the entrance to Camden Harbor; and 6½ miles above this last-mentioned Lighthouse, Spruce Head. When you are abreast this last-mentioned Head, the Lighthouse upon Grindel's Point, the Western point of Long Island will bear **SE.** About 2 miles above this last-mentioned Head is Great Spruce Head, and about 1 mile farther up a small Inlet called Saturday Cove, and lastly, Brown's Head, which having passed, Belfast Bay will be seen to the Northwest. When past this last-named Head, steer about **E. NE.** As you sail up the Bay on this last course, you will see on the Starboard hand the Eastern part of Long Island, called Turtle Head, which must be left at least ⅓ mile on the Starboard hand. When this Head bears **S.** ½ **W.**, a Black Buoy, No. 1, will be seen bearing **N.** ½ **E.** This Buoy lies off the Southwest part of Brigadier Island Ledge, and must be left on the Port hand by vessels bound into the Penobscot River. After passing this Buoy, and Turtle Head, continue the course **E.NE.** until the Lighthouse at Fort Point bears **NE.**; then run for it on this course. As you approach the Lighthouse there will be seen, about ⅓ mile

South from it, a Beacon, with a Pole and Keg on its top; this is on Fort Point Ledge. Leave this Beacon ⅛ mile on the Starboard hand, and the Black Buoy, which lies about ¼ mile to the Eastward of the Lighthouse, on the Port hand.

Sailing Directions from Fort Point Lighthouse to Bangor.

After passing the Black Buoy off Fort Point Reef, bring the Lighthouse to bear **SW.** by **S.** ¼ **S.**, on which bearing keep it and steer **NE.** by **N.** ¼ **N.**, leaving the Black Buoy off Sandy Point Ledge, well on the Port hand. As you sail up you will see the Beacon on Odum's Ledge, when it bears North run for it on this course, until about ½ mile from it, then steer more Easterly, passing about midway between it and the Eastern Shore. When past this Beacon, keep about midway, passing through Bucksport Narrows. When about a mile past Fort Knox, which is on the Western side, keep the Eastern side best aboard, until you make the Red Buoys off Frankport Flats. When the Southern Buoy bears **NW.** by **W.**, then run for it on this course, leaving them both on the Starboard hand. When past these Buoys, gradually haul to the Northeastward, leaving Winterport on the Port hand. When past this place keep about midway, leaving the Red Spindle on Buck's Ledge, and the Red Buoy off Bald Hill Flats, both on the Starboard hand, then keep about midway the River to Bangor.*

It is High Water at Bangor about 37 minutes before it is at Boston. Mean rise and fall of Tides 13½ feet.

Two Bush Channel at Night.

If you are bound into the Penobscot Bay it is not advisable, at Night, to attempt the Muscle Ridge Channel; but if there is no error in your compass, you may pass safely through Two Bush Channel into this Bay. This last-mentioned Channel is free from Rocks and Shoals, and from Crow Island Ledges to Alden's Rock, and the Ledge called the Northern Triangle, the passage is 2⅓ miles in width.

Sailing Directions for Two Bush Island Channel at Night-time, with favorable winds and fair weather.

Coming from Seaward or the Westward, leave Monhegan Island from 2 to 3 miles on the Starboard hand, and when the Light bears

* At Low Tide about 13 ft. water can be carried through a narrow Channel, from Hampden to the city of Bangor; but, as the River at this date (1883) is not Buoyed between these places, it is therefore advisable for Vessels of more than 8 or 9 ft. draught, at Low Tide to anchor at Hampden, which is about 4¾ miles below the city, and wait until at least ¼ flood.

South, steer E.NE. until it bears SW. ¼ W., on which bearing keep it, and steer NE. ¼ E. for White Head Light. On this course the Roaring Bull and Matinic Ledge will be left well to the Eastward. Continue the course for White Head Light until the Red Revolving Light on the Port hand at Tennant's Harbor bears NW. by W. ½ W., on which bearing keep it, and steer SE. by E. ½ E., until the Fixed Light at White Head bears NW. by N.; then make good the course NE. by E. As you sail in, you will see, on the Starboard hand, the Fixed Red Light upon Green Island, the Southernmost of the Fox Islands, and will also make the Fixed White Light at Brown's Head (Fox Island Thoroughfare). Bring this last-named Light to bear NE., and run for it on this course until Owl's Head Light opens to the Eastward of Monroe Island, or bears N.NW., and the Red Fixed Light on the Starboard at Green Island bears about E. by S. ¾ S.; then steer N. by W., leaving Owl's Head Lighthouse about 1½ miles on the Port hand. Continue the course N. by W. until the last-mentioned Light bears SW. by S. ¼ S.; then follow the directions before given from Owl's Head Lighthouse through West Penobscot Bay to Fort Point Lighthouse.

Two Bush Channel in Daytime.

Run NE. ½ E. from Monhegan Island Lighthouse, leaving the Black Buoy off the Roaring Bull on the Starboard hand. When up with the Buoy painted in Red and Black Horizontal stripes off the Southwest part of Matinic Island Ledge (the Northern part of Matinic Island bears E. by S. from this Buoy, distance 2 miles), steer E. by N. ½ N. until White Head Lighthouse bears NW.; then steer NE. by E. about 4 miles.* You may then run up about N. ½ E., leaving several Islands from 1 to 1½ miles on the Port hand. After passing Owl's Head, proceed as before directed.

Sailing Directions to enter West Penobscot Bay by way of the Middle Channel, in Daytime.

When you come from sea, and make Matinicus Rock Lighthouse, you may run for it on any bearing from NW. to NE. Leave the Buoy painted in Red and Black Horizontal stripes off the Southeast Ledge (which bears NW. by W., distance 1⅝ miles from the last-named Lighthouses) about 200 yards on the Starboard hand,

* A Red Buoy No. 2 has been placed off the Southwest part of Crow Island Ledges. This Buoy is left well on the Port hand by vessels bound to the Eastward through Two Bush Channel. White Head Lighthouse bears N.NW. from this Buoy, distance about 2 miles.

and steer about **NW.** by **N.** about 3½ miles, leaving the Buoy painted in Red and Black Horizontal stripes off Bantum Ledge (which bears **NW.** ½ **N.** from Matinicus Rock Lighthouses, distance 5 miles) a short distance on the Starboard, and steer **N.** ½ **E.**, leaving Ragged Island, Matinicus Island, and the Buoy painted in Red and Black Horizontal Stripes off Foster's Ledge, all on the Starboard hand, Green Island Ledges, and the Black Buoy No. 1, off the Ledge called the Northern Triangles, on the Port hand. Continue the course **N.** ½ **E.** until Owl's Head Lighthouse opens to the Eastward of Monroe Island, or bears **N.NW.**; then steer **N.** by **W.**, leaving Owl's Head Lighthouse about 1½ miles on the Port hand, and proceed as before directed. This last Channel should not be attempted by strangers at *night.*

Sailing Directions for East Penobscot Bay in Daytime, with favorable winds and fair weather.

From the Eastward, after passing Mount Desert Rock Lighthouse, bring it to bear **E.** by **S.**, and steer **W.** by **N.** On this course the Southern part of Isle au Haut, which bears from Mount Desert Rock Lighthouse **W.** by **N.** ¾ **N.**, distance 21 miles, will be left about 4 miles to the Northward. Continue the course **W.** by **N.** until you make the Lighthouse upon Saddleback Ledge;* this Ledge is a high Black Rock, formed somewhat like a Saddle, and lies about 3 miles **W.NW.** from the Southwestern point of the Isle au Haut. Bring the last-named Lighthouse to bear **NW.** by **N.**, and run for it, leaving it about ¼ mile on the Port hand, and make good the course **N.** ¾ **E.** about 13 miles to Eagle Island Lighthouse.† Give this last-mentioned Lighthouse a berth of about ⅓ mile, leaving it on the Port hand, and when it bears West, steer **N.NW.** 6 miles. In running this last course (**N.NW.**), you will pass between several Islands, the Northernmost of which is called Western Island. About ⅛ mile to the Westward of this last-named Island is a bare rock called Green Ledge. Cape Rozier, a high Bluff Head, with White Rocks here and there upon its surface, bears **N.** by **E.** ½ **E.** from this Ledge; distance 1⅓ miles. Leave Green Ledge about ¼ mile on the Starboard hand, and steer about **N.** by **E.** 7 miles. On this last course, Cape Rozier, which is bold,

* Upon Saddleback Ledge is a Lighthouse which shows a fixed White Light.

† This Lighthouse shows a fixed White Light. About ¾ mile South from this Light is a Ledge having but 16 feet water upon it at Low Tide.

and Dice Head Lighthouse (entrance to Castine Harbor) will both be left on the Starboard hand, and Black Buoy off Long Island Ledge on the Port hand. When Fort Point Lighthouse bears **NE.** by **N.**, follow the directions before given, from Monhegan to Bangor, by way of Muscle Ridge Channel.

Seal Harbor.

This Harbor lies about one mile to the Northward of White Head Lighthouse.

Sailing Directions for Seal Harbor in Daytime, with favorable winds and fair weather.

Coming from the Westward, follow the directions before given from Monhegan to Bangor, by way of Muscle Ridge Channel, until White Head Lighthouse (before described) bears **NE.** ¼ **E.**; then run for it on this course, leaving the Bell Buoy off the Western part of the South Breaker about ¼ mile on the Starboard hand. When abreast White Head Lighthouse, which must be left about 250 yards on the Port hand, steer **NE.** about ½ mile, leaving the Black Buoy No. 1, off the Eastern part of Hay Island Ledge (White Head Light bears from this last-named Buoy **SW.** ½ **W.**, distance ½ mile), close to on the Port hand, and run in about **N.NW.**, leaving the Black Buoy No. 1, off the Northeast part of Long Ledge, about 200 yards on the Port hand. When about 200 or 300 yards past this last-mentioned Buoy, anchor in from 3 to 4 fathoms water. In entering this harbor, after passing the Black Buoy off Hay Island Ledge, two Buoys will be left on the Starboard, one Black, the other Red.

Seal Harbor is somewhat exposed to Southeasterly gales. In order therefore to find good shelter, with indications of such gales, it is advisable for vessels of not more than 12 feet draught to haul round the Black Buoy off Long Ledge, and run up about **W.** by **N.** ½ **N.** ¼ mile, and anchor under Long Ledge in about 2½ fathoms water at Low Tide. White Head Lighthouse bears from this anchorage **S.** ¾ **E.**; distance about one mile.

High Water.

It is High Water in Seal Harbor 40 minutes before it is in Boston. Common Tides rise 9½ feet.

Owl's Head Harbor.

From the Westward, follow the directions before given from Monhegan to Bangor, by way of Muscle Ridge Channel, until the Beacon upon Ash Island Point bears West about ⅕ mile; then steer **NE.** by **N.** ¾ **N.** 1¾ miles to the Red Buoy No. 2, off Sheep Island Bar. When abreast this Buoy, which may be left close to on the Starboard hand, steer **NE.** by **N.** until you open the Cove; then haul in, and anchor in from 3½ to 5 fathoms water, the Spindle on Dodge's Point Ledge bearing **NE.** by **E.**; distance about ¼ mile. At night-time, in order to avoid Dodge's Ledge, vessels entering this harbor from the Northeastward should, after passing Owl's Head Light, keep the Southern shore, which is bold, best aboard.

High Water.

It is High water in Owl's Head Harbor 23 minutes before it is at Boston. Common Tides rise about 9¼ feet.

Rockland Harbor.

This Harbor, which lies Northwesterly from Owl's Head Lighthouse, is exposed to Easterly winds.

Sailing Directions for Rockland Harbor in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given from Monhegan to Bangor, by way of Muscle Ridge Channel, until Owl's Head Lighthouse bears **SW.** about ⅓ mile; then haul up **W.** by **N.** ½ **N.** for the town. As you sail in, you will see on the Port the Black Buoy No. 1, off Spear Rock, and farther in the Red Buoy off the Southern part of South Ledge. Leave this last-mentioned Buoy on the Starboard hand, and when about ¼ mile past it, anchor in from 4½ to 6 fathoms water. If bound to any of the Wharves, wait until High Water.

If it is night when you pass Monhegan, follow the directions before given for Two-Bush Channel, and haul round Owl's Head at a distance of ½ mile, leaving it on the Port hand. When Owl's

Head Light bears **SE.**, make good the course **NW.**, and anchor in from 5 to 7 fathoms water.

From the Northeastward, when past the small rocky Islet called the Graves (Camden Light bears from this Islet **N.** by **W.**, distance 1¼ miles), steer **SW.** ½ **S.** for Jameson's Point,* leaving Rockport Lighthouse, the Beacon on Portersfield Ledge, Brewster Point Ledge, and the Red Buoy No. 4, off Jameson's Point, all on the Starboard hand. After passing the last-named Buoy, which may be left close to on the Starboard hand, steer **W.SW.**, leaving the Buoy painted in Red and Black Horizontal stripes off the Southwestern part of Jameson's Ledge on the Starboard, and the Black Buoy on a shoal spot on the Port hand. After passing these Buoys, anchor in from 3 to 4½ fathoms water.

High Water.

It is High Water in Rockland Harbor 27 minutes before it is at Boston. Common Tides rise about 9½ feet.

Rockport Harbor.

The entrance to this Harbor bears North from Owl's Head; distance 4½ miles.

Rockport Lighthouse.

On the Southern point of Indian Island, East side of entrance to Rockport Harbor, is a Lighthouse which shows a fixed Red Light. This Lighthouse bears from Owl's Head Lighthouse **N.** ½ **E.** 4½ miles.

Sailing Directions for Rockport Harbor in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given from Monhegan to Bangor, by way of Muscle Ridge Channel. When past Owl's Head, bring the Lighthouse to bear South, and steer North, leaving the Black Buoy No. 1, off the Northeast part of Ram Island, on the Port, and the Beacon on Portersfield Ledge (Rockport Lighthouse bears from this Beacon **N.** by **E.** ½ **E.**,

* At this date, 1884, a Breakwater is in course of construction, extending off to the Southward from Jameson's Point, Northern side of entrance to Rockland Harbor.

distance about ¾ n. about ¼ mile upon the Starboard hand. When the Beacon up Portersfield Ledge bears East about ¼ mile, then run N. by E., leaving the Lighthouse and the two Red Spindles, one below and the other above the Lighthouse, both on the Starboard hand. When past the Upper Spindle, keep midway the harbor, leaving the stone Beacon upon Harbor Ledge upon the Port hand. When past this last-mentioned Beacon, anchor nearest the Eastern shore in from 4 to 6 fathoms water.

Rockport Lighthouse bears from the Spindle off Lowell Rock N. ¼ E.; distance about ⅙ mile. Vessels therefore from the Northward or Eastward may leave this Spindle about ⅛ mile upon the Starboard hand, and steer North, and anchor above the Beacon as before directed.

At Night.

Portersfield Ledge, which is marked with a Beacon, is bold all around it. Rockport Light bears from this Beacon N. by E. ½ E.; distance about ¾ mile. Vessels bound into this harbor at night should not approach Rockport Lighthouse nearer than 1 mile until it bears North; then run for it on this bearing.

On this last course, the Beacon upon Portersfield Ledge will be left about ¼ mile on the Port hand. Continue the course for the Light until you are ½ mile from it, or judge you are past Portersfield Ledge; then haul more Westerly, leaving the Spindle off Lowell Rock and Light about ¼ mile on the Starboard hand, and steer up about N. ¼ E., keeping midway the harbor, and anchor to the Southward of the Beacon.

In beating into this harbor at night or day, the principal dangers to be avoided are Portersfield Ledge (before described), Lowell Rock, which lies about ⅙ mile to the Southward of the Lighthouse, and Seal Ledge, which lies near the shore, about ⅝ mile above the Lighthouse. This last-mentioned Ledge, which is marked with a Spindle, is bare at Half Tide.

High Water.

It is High Water in Rockport Harbor 28 minutes before it is at Boston. Common Tides rise about 9 feet.

Camden Harbor.

The entrance to this Harbor is about 6¾ miles Northeasterly from Owl's Head Lighthouse.

Camden Lighthouse.

Upon Negro Island, West side of entrance to Camden Harbor, is a Lighthouse which shows a fixed White Light. This Lighthouse bears from Owl's Head Lighthouse **N.** by **E.** ¼ **E.**; distance 6¾ miles.

Dangers in entering this Harbor.

Outer Ledges.

These are a group of dangerous Rocks (bare at Half Tide) lying Northeast about ⅓ mile from Camden Lighthouse; they are marked with a Spindle painted Black, and two Buoys, one Red, the other Black. The Red Buoy, No. 2, is placed a short distance from the Southwest part of the Ledge, and bears from the Lighthouse **NE.** by **E.** ½ **E.** ¼ mile; the Ship Channel is between this Buoy and the Lighthouse. The Black Buoy, No. 1, is placed off the Northern part of the Ledge.

Inner Ledges.

These Ledges, which are bare at Low Tide, are separated from the outer Ledges by a Channel about 100 yards wide, with over 3 fathoms water in it at Low Tide. They are marked with an Iron Spindle painted Red, which bears about **N.NE.** from the Lighthouse; distance ⅓ mile.

Harbor Ledge.

This Ledge, which has about 2 feet water upon it at very Low Tides, is marked upon its Eastern part with a Black Buoy, No. 3, which in entering the harbor is left on the Port hand. This last-named Ledge bears from Camden Lighthouse **N.** by **W.** ¼ **W.**; distance about ¼ mile.

Sailing Directions for Camden Harbor in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given from Monhegan to Bangor, by way of Muscle Ridge Channel. When

past Owl's Head, bring the Lighthouse to bear **S.SW.**, and steer **N.NE.**, leaving the small rocky Islet called the Graves about ¼ mile upon the Port hand. Camden Light bears from this Islet, which is bold all around it, **N.** by **W.** 1¼ miles. When past the Graves, run for Camden Lighthouse, bearing about **N.NW.** As you sail in, you will see the Red Buoy No. 2, off the Southwest part of the Outer Ledges; this Buoy bears from the Lighthouse **NE.** by **E.** ½ **E.**, distance ¼ mile. Pass about midway between this last-named Buoy and the Lighthouse, leaving the latter on the Port, and steer **N.** by **W.** ¾ **W.** On this last course you will also pass midway between the Spindle upon the Inner Ledges and the Black Buoy No. 3, off the Eastern part of Harbor Ledge. When past the Spindle on the Inner Ledges, haul a little more Northerly, and anchor in Sherman's Cove in from 3 to 5 fathoms water, the Lighthouse bearing **S.** ¼ **W.**; distance about ⅝ mile.

There is a Channel between the Northeast point of the harbor and the Outer and Inner Ledges. This passage is frequently used in coming down the Bay by those acquainted with it, but it is not advisable for strangers to attempt this Channel. The best way for them is to run down the Bay until Camden Lighthouse bears West; then run for it on this course, and pass in the Ship Channel, according to directions before given.

Beating into Camden Harbor.

In beating into this Harbor, after passing the Graves, you may bring the Lighthouse to bear from West to North. When abreast Negro Island, upon which the Lighthouse stands, the channel between the Ledges is a little more than ⅛ mile wide. Negro Island may be approached in beating in at a distance of 150 yards without danger.

Sailing Directions for Night-time.

From the Westward, after passing Owl's Head, bring the Light to bear **SW.** by **S.** ½ **S.**, and make good the course **NE.** by **N.** ½ **N.** until Camden Light bears **NW.** by **N.**; then run for it on this course. Give the Light a berth of about 200 yards, leaving it on the Port hand; and when abreast it steer **N.NW.** into the harbor and anchor in from 4 to 5½ fathoms water, the Light bearing South from you.

Coming from the Northeastward down the Penobscot Bay, keep

in the middle of it until Camden Light bears NW.; then run for it, and follow the directions before given.

Strangers should not attempt to beat into this Harbor at Night, when the Buoys cannot be seen.

If you are bound to town, it will be necessary, in order to reach the wharves, to wait until High Water.

High Water.

It is High Water in Camden Harbor 22 minutes before it is at Boston. Common tides rise 9½ feet.

Lincolnville, or Duck Trap Harbor.

This Harbor, which lies upon the Western side of the Penobscot Bay, bears NE. by N. ½ N. from Owl's Head Lighthouse; distance about 12½ miles. It is somewhat exposed to S.SW. winds.

Sailing Directions for Lincolnville, or Duck Trap Harbor, in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given from Monhegan to Bangor, by way of Muscle Ridge Channel, until the Lighthouse upon Grindel's Point, North side of entrance to Gilkey's Harbor, bears SE. by E.; then run NW. by W. As you sail in on this last-named course you will see on the Port the Red Buoy No. 2, off the Southern part of Haddock Ledge, which has but little water upon it at Low Tide. On the Starboard will be seen Spruce Head, which is quite bold. Pass about midway between the Buoy and Head, and when the former bears South, steer North until Spruce Head bears E. by S.; then anchor in from 5½ to 7½ fathoms water.

Coming down the Bay, haul round Spruce Head at a distance of 300 or 400 yards, and anchor as before directed. Spruce Head is on the Western side of the Penobscot Bay, and bears from the Lighthouse at Gilkey's Harbor about NW.; distance 1¾ miles.

High Water.

It is High Water at Lincolnville, or Duck Trap Harbor, 25 minutes before it is at Boston. Common tides rise about 9½ feet.

Gilkey's Harbor.

This Harbor, which lies on the Western shore of Long Island, is well sheltered, and is easy of access; in fact, it is one of the best in the whole Bay. Its entrance is Northeasterly 12½ miles from Owl's Head, and about **NE.** by **E.** 6¾ miles from Camden Lighthouse.

Grindel's Point Lighthouse.

Upon Grindel's Point, North side of entrance to this Harbor, is a Lighthouse, which shows a fixed White Light. This Lighthouse bears from Camden Lighthouse **NE.** by **E.** ¼ **E.**, distance 6¾ miles; from Great Spruce Head, **S.** ¼ **W.**, distance 2⅝ miles. A Fog Bell is placed near this lighthouse.

Dangers.

There are no dangers in approaching this Harbor from Penobscot Bay, but there are several inside it, which at this date (1879) are not Buoyed.

Lobster Rock.

The first danger met with after passing the Lighthouse is called Lobster Rock, which is bare at Half Tide. This Rock bears **SE.** ¾ **E.** from Gilkey's Point Lighthouse; distance ⅔ mile. Shoal water extends Northeasterly some distance from this Rock.

Long Ledge.

This Ledge is bare at Low Tide at a distance of ¼ mile from the Eastern shore of the Harbor, and its centre bears from Grindel's Point Lighthouse **SE.** ½ **E.**; distance about ¾ mile.

Sailing Directions for Gilkey's Harbor in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given from Monhegan Island to Bangor by way of Muscle Ridge Channel,

until the Lighthouse at Gilkey's Harbor bears East; then run for it on this course until you are about ¼ mile from it, or the passage into the Harbor is fairly open; then run in, leaving the Lighthouse on the Port hand, and keeping in mid-channel in not less than 5 fathoms water until it bears **NW.** by **N.**; then haul up **E.** ½ **N.** and anchor to the Northwest of Lobster Rock in from 3 to 5 fathoms water, the Lighthouse bearing about **NW.** by **W.** ½ **W.** from you.

Coming down the Penobscot Bay, keep in the middle of it until the Lighthouse at Gilkey's Harbor bears **S.SE.**; then run in, keeping it a little on the Port bow, and when the passage leading into the Harbor is fairly open, run in and anchor as before directed. Or when you are in the Harbor, if the Lobster Rock can be seen, leave it about 200 yards on the Port hand, and steer **S.** by **E.**, keeping in not less than 5 fathoms water, and anchor to the Southwest of Long Ledge in from 5 to 7½ fathoms water. There is another passage from the Southward into this Harbor, but at this date there are neither Lighthouses nor Buoys to mark the channel.

In beating into Gilkey's Harbor, after passing the Lighthouse, or when it bears **N.NW.**, the channel is narrow for a short distance; it therefore requires a good working vessel to safely enter it, especially at Low Tide.

High Water.

It is High Water in Gilkey's Harbor 26 minutes before it is at Boston. Common tides rise about 9½ feet.

Seal Harbor.

This Harbor, which has no obstructions in entering it, lies on the Western shore of Long Island, nearly opposite Great Spruce Head, and about 3 miles Northeasterly from the Lighthouse at Gilkey's Harbor.

Sailing Directions for Seal Harbor in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given from Monhegan to Bangor until the Lighthouse at Gilkey's Harbor bears

East; then run in, leaving the last-named Lighthouse on the Starboard hand, and follow the shore to the Northeastward, keeping not less than ½ mile from it. As you sail in, you will see on the Port a small, low, flat, grassy Island; run in about midway between this Island and the Eastern shore, and anchor in the Cove in from 6 to 8 fathoms water, the last-named Island bearing about **W.** by **S.**; distance 1¼ miles from you.

Coming down the Penobscot Bay, bring the Lighthouse at Gilkey's Harbor to bear **S.** by **W.** ½ **W.**, and run for it on this course until past the small, low, flat, grassy Island before mentioned; then haul in and anchor in the Cove as before directed.

Saturday Cove.

This small Cove, which lies on the Western shore of Penobscot Bay, bears about **N.** by **E.** from the Lighthouse at Gilkey's Harbor; distance 3½ miles.

In running up or down the Penobscot Bay, when the Cove is fairly open, run in until you strike 6 or 7 fathoms water; then anchor. This Cove is somewhat exposed to winds from **NE.** by **N.** to **S.SW.** by way of South.

Belfast Harbor.

From Owl's Head Lighthouse through West Penobscot Bay to Brown's Head, South side of entrance to Belfast Bay, the course is **NE.** by **N.** ¼ **N.**, distance 18 miles; thence Northwesterly about 4 miles to the city of Belfast, which is on the West side of the River.

Remarks.

About 12 feet water can be carried up abreast the city at Low Tide, and 11 feet water can be taken to some of the wharves at Low Water. With heavy Southeast winds the Harbor abreast the city is somewhat exposed at High Water, but vessels at such times, of not more than 12 feet draught, can find good shelter between the Northeast part of the City and Bridge.

Danger.

The principal danger in entering Belfast Harbor is Steel's Ledge,

which lies on the Eastern side of the Channel, about 1 mile below the City, and is marked upon its Southern part with a Beacon and Red Buoy No. 2, and on its Northern part with the Red Buoy No. 4.

Sailing Directions for Belfast Harbor in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given from Monhegan Island to Bangor by way of Muscle Ridge Channel until past Brown's Head. When Belfast Bay is fairly open to the Northwest, run in, keeping about ⅓ mile from the Western shore, which is quite bold and free from dangers. If bound to any of the wharves, at Low Tide, it will be necessary for vessels of 12 feet draught or upwards to anchor a little below the City in from 2½ to 3 fathoms water, and wait until at least two-thirds Flood.

From Penobscot River or the Eastward, when past the Black Buoy No. 1, off the Southwest part of Brigadier Ledge, steer **W.** by **N.**, leaving the Monument and Red Buoy No. 2, off the Southern part of Steel's Ledge, on the Starboard hand. When past the last-named Ledge, run in as before directed. Turtle Head, the Eastern part of Long Island, bears from the Black Buoy No. 1, off the Southwest part of Brigadier Ledge, **S. ½ W.** The above-named Ledge is bare at Low Tide.

The above directions for Belfast Harbor will answer for Night as well as Day.

Beating into Belfast Harbor in Daytime.

After passing Brown's Head (before described) you may approach the Western shore at a distance of ⅓ mile without danger until you are abreast of the Southern part of the City, when it will be necessary for vessels of 12 feet draught to anchor and wait for Flood Tide.

Beating in at Night, after passing Brown's Head, use the Lead, and stand over to the Western shore until the water shoals to 4 fathoms at Low Tide, and 5½ at High Tide, taking care to avoid Steel's Ledge (before described), and anchor below the city as before directed.

High Water.

It is High Water in Belfast Harbor 25 minutes before it is at Boston. Common tides rise about 9¾ feet.

Searsport Harbor.

This Harbor, which has no dangers in entering it except Brigadier Island Ledge (before described), lies about 4 miles to the Eastward of Belfast.

Sailing Directions for Searsport Harbor in Daytime, with favorable winds and fair weather.

From the Westward, bound to Searsport Harbor, follow the directions before given from Monhegan to Bangor by way of Muscle Ridge Channel until the centre of the Village of Searsport bears **N.** ½ **W.**, then run in on this course, leaving the Black Buoy of Brigadier Ledge well on the Starboard hand. As you sail in you will see on the Eastern side of the Harbor, the Red Buoy off the Southwestern side of Long Cove Ledge, which is awash at very Low Tides; leave this last named Buoy about ¼ mile on the Starboard hand, and anchor off the Village in from 3½ to 4½ fathoms of water at Low Tide.

Coming through the East Penobscot Bay, or from the Southeastward, when Dice Head (near the entrance to Castine) bears East ½ mile, steer **NW.** by **N.**, leaving Turtle Head, the Eastern part of Long Island, about ½ mile on the Port. After passing this last-named Head, bring it to bear **S.** by **E.**, and steer **N.** by **W.**, which course will lead to the anchorage.

From the Penobscot River, when past Fort Point Lighthouse, keep about ¾ mile from the Southern part of Brigadier Island until past the Black Buoy off Brigadier Island Ledge. When Turtle Head bears **S.** by **E.**, run in **N.** by **W.** as before mentioned.

Searsport Harbor is exposed to Southerly winds.

Stockton, or Cape Jellison Harbor.

This Harbor, which is exposed to Southerly winds, lies between Brigadier Island and Cape Jellison, about 3 miles to the Westward of Fort Point Lighthouse.

Dangers.

The Eastern point of entrance to this harbor is called Squaw Point. It is a sandy Bluff, about 20 feet high, and from it extends

out a long Ledge, which is bare at Low Tide; this is called Squaw Point Ledge, and is the only danger in entering the harbor. In order to avoid this Ledge, vessels bound into this harbor should keep nearest Brigadier Island.

Sailing Directions for Stockton, or Cape Jellison Harbor in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given from Monhegan Island to Bangor, by way of Muscle Ridge Channel, until about 1 mile past the Black Buoy off the Southwest part of Brigadier Island Ledge; then run in N. by E. ¼ E., taking care to keep nearest Brigadier Island, or the Western side of the harbor, and anchor where you please.

From East Penobscot Bay, when Dice Head Lighthouse bears E. by S. about ¾ mile, steer N. by W. ¼ W. until you make the Black Buoy off Brigadier Island Ledge; then run in as before directed.

From Penobscot River, after passing Fort Point Lighthouse, keep about ¾ mile from shore until the Harbor opens; then run in according to directions before given.

High Water.

It is High Water in Stockton or Cape Jellison Harbor 26 minutes before it is at Boston. Common Tides rise about 9¾ feet.

Fort Point Harbor.

This Harbor, which is on the West side of entrance to Penobscot River, affords excellent anchorage and good shelter.

Fort Point Lighthouse.

Upon Old Fort Point, West side of entrance to Penobscot River, is a Lighthouse which shows a fixed White Light.

Dangers.

The principal dangers in entering this harbor are Fort Point Ledge, Fort Point Reef, and Sandy Point Ledge. The former, Fort

Point Ledge, has a stone Beacon upon it, which bears from the Lighthouse **S.** ¼ **W.**; distance ⅓ mile. The second, Fort Point Reef, which extends from the shore, is marked upon its outer part with a Black Buoy, No. 3; this last Buoy bears from the Lighthouse **E.** ½ N., distance ¼ mile. The latter, Sandy Point Reef, extends off about ⅓ mile from the Western shore, and is marked with a Black Buoy, No. 5. Fort Point Lighthouse bears from this Buoy **SW.** by **S.** ½ **S.**; distance 1⅝ miles.

Sailing Directions for Fort Point Harbor in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given from Monhegan Island to Bangor, by way of West Penobscot Bay, until past the Black Buoy off Fort Point Reef; then haul to the Northward, and run boldly up into the harbor, and anchor according to draught. Shoal water extends off a long distance from the Western side of this Harbor.

From the Eastward, follow the directions before given for East Penobscot Bay until Fort Point Lighthouse bears **NE.** by **N.**; then follow the directions before given.

Castine Harbor.

The entrance to this Harbor, which lies between Dice Head upon the North, and the Northern part of Cape Rozier on the South, is Southwesterly about 6 miles from Fort Point Lighthouse, and 20 miles Northeasterly from Owl's Head.

Dice Head Lighthouse.

Upon Dice Head, North side of entrance to Castine Harbor, is a Lighthouse which shows a fixed White Light. This Lighthouse is about 4 miles Northeasterly from Cape Rozier, 3 miles Southeasterly from Turtle Head, the Eastern extremity of Long Island, 5½ miles Southwesterly from Fort Point Lighthouse, and 21 miles Northeasterly from Owl's Head Lighthouse.

Remarks.

From Owl's Head, the most direct way to this harbor is to the Eastward of Long Island, the distance being 4 miles less than by the Channel to the Westward of this Island.

Sailing Directions from Owl's Head Lighthouse to Castine Harbor, by the Channel to the Eastward of Long Island, in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given from Monhegan Island to Bangor, by way of Muscle Ridge Channel, until past Owl's Head; then bring the Lighthouse to bear **SW.** by **W.** ½ **W.**; on which bearing keep it, and steer **NE.** by **E.** ½ **E.**, leaving the Buoy painted in Red and Black Horizontal stripes off the Southwest part of McIntosh Ledge about ⅓ mile on the Port Hand. Owl's Head Lighthouse bears from this Ledge, which is nearly dry at Low Tide, **SW.** by **W.**; distance 5¼ miles.

When abreast this last-mentioned Buoy, steer **NE.** ¼ **E.**, 7½ miles distance, to Mark Island. On this last course, before you are abreast of Long Island, several Islands and dry Rocks will be left on the Port hand. The Egg Rock Ledges, which are dry at Low Tide, will be left at least 1½ miles on the Starboard. When you are abreast of the Southern part of Long Island, you will see Mark Island, which lies **N.NE.** and **S.SW.**, is nearly ½ mile in length, and about 60 feet in height, and is the Westernmost of a group of Islands. Cape Rozier bears from this last-named Island **NE.** ½ **N.**; distance 3½ miles. Leave Mark Island, which is bold, about ⅓ mile on the Starboard hand, and steer **NE.** by **N.** ½ **N.** until you make the Lighthouse upon Dice Head, North side of entrance to Castine Harbor; bring this Lighthouse to bear **NE.** ½ **N.**, and run for it on this course, leaving the Black Buoy off Long Island Ledge well to the Westward. As you approach the Lighthouse, you will see, about ½ mile Southeast from it, a Black Buoy No. 1, which lies off Otter Rock, and farther in the stone Monument on Hosmer's Ledge, which bears **E.SE.** from the Lighthouse; distance about 1 mile. Leave the Black Buoy off the Lighthouse on the Port, and the Monument on the Ledge a short distance on the Starboard hand. When abreast the Monument, a Red Buoy will be seen to the Northeast; this is off the Middle

Ground and must be left on the Starboard hand. When past this last Buoy, anchor anywhere above it in from 8 to 10 fathoms water. If you wish to go above this, leave the Black Buoy off the Southern part of Trott's Ledge, on the Port hand, and anchor about ¼ mile above it, in from 4 to 9 fathoms.

Coming through the West Penobscot Bay, from Owl's Head to Turtle Head, the Eastern part of Long Island, follow the directions before given, from Monhegan Island to Bangor, until past the last-mentioned Head, which leave about ½ mile on the Starboard hand, and run **SE.** by **S.**, leaving Dice Head at least 1 mile on the Port hand. When the Lighthouse bears **NE.** by **N.**, then run for it until about ½ mile from it; then steer about **E.** by **N.**, leaving the Black Buoy off Otter Rock about 200 yards on the Port, and the stone Monument on Hosmer's Ledge about 200 yards on the Starboard hand, and follow the directions before given.

Coming through East Penobscot Bay, follow the Sailing Directions before given for this Bay until Dice Head Lighthouse bears **NE.** by **N.**; then run in as before directed.

High Water.

It is High Water in Castine Harbor 18 minutes before it is in Boston. Common tides rise about 9½ feet.

Dangers to be avoided by Vessels beating from Owl's Head to Fort Point, through West Penobscot Bay.

The following are the principal dangers, excepting those which lie near the shores.

Portersfield Ledge.

This Ledge, which is dry at Low Tide, lies ¾ mile from the Western shore, and is marked with a stone Beacon 20 feet high. Rockport Lighthouse bears from this Beacon **N.** by **E.** ½ **E.**; distance ¾ mile.

Graves.

This is a small rocky Islet, with bold shores. Camden Lighthouse bears from the Graves **N.** by **W.**; distance 1¼ miles.

Dillingham's Ledge.

This Ledge, which is marked on its Eastern side with a Black Buoy, has 7 feet water upon it at very Low Tides, and lies ½ mile

from the Western shore. Camden Lighthouse bears from this Ledge **SW.** ¼ **S.**; distance 1¾ miles.

Ledge.

A Ledge, with 7 feet water upon it, lying on the Eastern side of the Bay, about ⅓ mile from two small Islands called Ensign Islands. Camden Lighthouse bears from this Ledge **W.** by **S.** ¼ **S.**; distance 4 miles.

Haddock Ledge.

This Ledge, which is nearly dry at very Low Tides, is marked off its Southwest part with a Red Buoy, No. 2. Gilkey's Harbor Lighthouse bears from this Buoy **E.SE.**; distance about 2 miles. The Ledge lies about ⅝ mile from the Western shore.

Long Ledge.

A little more than one-half mile from the Western shore of Long Island is a long Ledge extending **N.NE.** and **S.SW.**, and having but little water upon it at Low Tide. This Ledge lies to the Northeastward of three small Islets, which are nearly opposite Saturday Cove.

Brigadier Island Ledge.

This Ledge, which is bare at Low Tide, extends off in a Southwesterly direction from the Southwest point of Brigadier Island; it is marked upon its Southwest part with a Black Buoy, No. 1. Turtle Head, the Eastern part of Long Island, bears **S.** ½ **W.** from this Buoy.

Fort Point Ledge.

This Ledge is marked with a square stone Beacon, with Mast and Keg on top. Fort Point Lighthouse bears from this Beacon North; distance ½ mile, nearly.

Matinicus Rock Lights.

Upon the highest part of this Rock, near its Southwest end, are built two Lighthouses which show two Fixed White Lights.*

* The Lighthouse Board give notice that after July 1, 1883, there will be but one Light shown at Matinicus Rock, and that will be Fixed Red.

Steam Whistle and Fog Bell.

In thick weather a Steam-Whistle is sounded, giving blasts of 5 seconds at intervals of 25 seconds. In case of accident to the Whistle, a Fog Bell, struck by machinery, will be sounded during thick weather.

Bearings and Distances from Matinicus Rock Lighthouses.

		Distance.
Cape Cod (Highland Light), .	SW. ½ S., . . .	116 miles.
Boston Light, ...	SW. by W. ⅜ W.,	124 "
Thatcher's Island Lights, . .	SW. by W. ½ W.,	102 "
Boon Island Light, ...	W. by S. ⅛ S., .	81 "
Cape Elizabeth Lights, . . .	W. ⅛ N., . . .	60 "
Monhegan Island Light, . .	W by N., ...	20 "
Mount Desert Rock Light, . .	E. ½ N., ...	34 "
Seal Island Light (Cape Sable),	SE. by E. ⅝ E., .	125 "

Dangers to the Northward of Matinicus Lights.

Southeast Ledge.

This Ledge, which is small, with deep water all around it, has 6 feet water upon it at Low Tide. It is marked with a Buoy, having Red and Black Horizontal stripes. Matinicus Rock Lights bear from this Buoy SE. by E. about 1⅝ miles.

Bantum Ledge.

This Ledge, which is bare at Half Tide, has deep water all around it. A Buoy, painted in Red and Black Horizontal stripes, marks its position. Matinicus Rock Lights bear from this Buoy SE. ½ S.; distance 5 miles.

Foster's Ledge.

This Ledge, which has 6 feet water upon it at Low Tide, is marked off its Southern part with a Buoy painted in Red and Black Horizontal stripes. No-Man's Land, a small wooded Island, lying about ⅞ mile to the Eastward of the Northeast point of Matinicus Island, bears from this Buoy E. ¼ N., distance about 3 miles; Matinicus Rock Lights, S.SE., 6½ miles. Vessels bound up the Bay may leave the three last-mentioned Buoys on the Starboard hand, and the Green Islands, with the Black Buoy No. 1, off the Northern Triangles, on the Port hand.

Malcom Ledges.

These dangerous Ledges, which are bare at Low Tide, lie nearly midway between Seal Island and Wooden Ball. Matinicus Rock Lights bear from them about **SW.** ½ **W.**, distance 6 miles.

Matinicus Island.

This Island lies about ¾ mile to the Northward of Ragged Island, and a little more than 4 miles **N.** by **W.** from Matinicus Rock Lights. Upon its Eastern shore are several coves, some of which afford anchorage for vessels of light draught; but there are many bad Ledges both to the Eastward of this and Ragged Island, some of which are nearly a mile from shore.

Matinicus Roads.

These Roads lie between Matinicus and Ragged Islands, and the anchorage is only suitable for vessels in moderate weather.

Carver's Harbor.

This Harbor, which is on the Southwest part of the Southern Large Fox Island, lies East Northerly 26 miles from Monhegan Light; Southeasterly 9 miles from Owl's Head Lighthouse; Northeasterly 16 miles from Matinicus Rock Lighthouses; and Northwesterly 5 miles from Saddleback Lighthouse.

Heron Neck Lighthouse.

Upon the South Point of Green Island is a Lighthouse which shows a fixed Red Light. This Lighthouse bears from Owl's Head Light **SE.** nearly, distance 9 miles; from Matinicus Rock Lights, **N.** by **E.** ¼ **E.**, distance 15 miles; from Monhegan Island Light, **NE.** by **E.** ¾ **E.**, distance 25 miles; from Saddleback Ledge Light, **W.NW.**, distance 6 miles.

Bay Ledge.

This dangerous Ledge, which is bare at Low Tide, is marked off its Southwest part with a Red Buoy, No. 2. Heron Neck Light bears from this Buoy **N.** by **E.** ½ **E.**, distance about 3½ miles; Saddleback Lighthouse, **E.** by **N.**, about 6½ miles.

Remarks on Carver's Harbor.

This is not a very good harbor under any circumstances, and in approaching it there are many Ledges and sunken Rocks (but few of which are Buoyed); it is therefore not advisable for strangers to attempt to enter it without a pilot unless necessity compels.

Sailing Directions for Carver's Harbor in Daytime, with favorable winds and fair weather.

From the Southward and Westward, bring Heron Neck Lighthouse to bear **NE.**, and run for it on this course, leaving Heron Neck Ledge (which bears **S.** by **W.** from the Lighthouse ¼ mile) a short distance on the Starboard hand. Leave the Lighthouse Point, which is quite bold, about 200 yards on the Port hand, and steer **E.** ½ **N.** across Deep Cove, keeping the Southeast point of Green Island close aboard; haul round the last-named point at a distance of 150 yards from it, passing midway between a dry Ledge and the Island in not less than 3½ fathoms water.

After passing this Ledge, you will see to the Northeastward two Buoys, one Black, the other Red, lying at the mouth of the harbor; run in between them, leaving the Black Buoy close to on the Port hand. After passing this Buoy, the harbor will be fairly open; then run in about **NE.** by **E.**, and anchor in from 3 to 5 fathoms water, about 200 yards above the Northern point. The water is shoal above this.

Coming from the Southeastward, and making the Lighthouse upon Saddleback Ledge (see directions for East Penobscot Bay), bring it to bear **NW.** by **N.**, and run for it until you judge you are about 4 miles from it; then steer **W.** by **N.** ½ **N.**, leaving the Brimstone Islands well to the Northward, and keeping a sharp lookout for the Red Buoy off Bay Ledge (before described). After passing this Buoy, which may be left ½ mile on either hand, run **NW.** by **N.** until Heron Neck Lighthouse bears **NE.**; then run in as before directed.

High Water.

It is High Water in Carver's Harbor 27 minutes before it is at Boston. Common Tides rise about 9¾ feet.

Fox Island Thoroughfare.

This important passage, which has a depth of not less than 15 feet water at Low Tide, is much used by coasters bound East or West; its entrance is East Southerly about 4 miles from Owl's Head.

Brown's Head Lighthouse.

Upon Brown's Head, South side of entrance to Fox Island Thoroughfare, is a Lighthouse which shows a fixed White Light. This Lighthouse bears about **E. ½ S.** from Owl's Head Lighthouse, distance 6 miles; from Beacon upon East side of Ash Island Point, **E.** by **N. ½ N.**, distance 8 miles.

Whistling Buoy.

A Whistling Buoy has been placed off the entrance of this Thoroughfare in 21 fathoms water, about midway between the Red Buoy No. 6, off the Northern part of Inner Bay Ledge, and Spindle on Drunkard's Ledge.

Bearings and Distances of Prominent Objects from Whistling Buoy off entrance to Fox Island Thoroughfare.

		Distance.
Brown's Head Lighthouse, . . .	**E.** by **N.** ½ **N.**, .	2⅓ miles.
Owl's Head Lighthouse, . . .	**W.** by **N.** ½ **N.**,	3⅔ "
Beacon upon Eastern part of Ash Island, ...	**W.** by **S.** ½ **S.**, .	5¾ "
Rockport Lighthouse, ...	**NW.** by **N.** ¼ **N.**,	6⅓ "
Camden Lighthouse, ...	**N.** by **W.** ½ **W.**,	8 "

Bearings and Distances of Dangers from Whistling Buoy off Fox Island Thoroughfare.

		Distance.
Red Buoy No. 6, off Northern part of Inner Bay Ledge., ...	**S.SW.**, . . .	½ mile.
Spindle upon Drunkard's Ledge, .	**N.NE.**, . . .	⅝ "
Spindle on Northern part of Dog Fish Ledge, ...	**E.**, ...	1¼ "
Beacon upon Southwest part of Fiddler's Ledge, ...	**NE.** by **E.** ½ **E.**,	⅞ "

Between the Whistling Buoy, off entrance to Fox Island Thoroughfare, and the Lighthouse on Heron Neck, entrance to Carver's Harbor, there are many Islands, sunken Rocks, and Ledges, few of which are Buoyed at this date.

Sailing Directions for Fox Island Thoroughfare in Daytime, with favorable winds and fair weather.

From the Westward by way of Muscle Ridge Channel, follow the directions before given from Monhegan Island to Bangor until past the Beacon upon Ash Island Point. Bring this last-named Beacon to bear **W.** by **S.** ½ **S.**, on which bearing keep it and steer **E.** by **N.** ½ **N.**, leaving the buoy painted in Red and Black Horizontal Stripes off N. W. Ledge, and the Black Buoy No. 1 off Sheep Island Shoal, both on the Port, and the Red Buoy No 2 off Grindstone Ledge on the Starboard hand. As soon as the Lighthouse upon Brown's Head (entrance to the Thoroughfare) is made, bring it to bear **E.** by **N.** ½ **N.**, and run for it on this course. As you approach the Lighthouse you will see on the Starboard the Red Buoys upon Inner Bay Ledge, and nearly ahead the Whistling Buoy. Leave the last-named Buoy close to on the Port and run for the Lighthouse, bearing about **E.** by **N.** ½ **N.**, passing nearly midway between the Spindle and Beacon upon Fiddler's and Dog Fish Ledges. When a short distance from the Lighthouse you will see on the Port two large, bare Round Rocks, of a peculiar Orange color — these are called the Sugar Loaves — and a short distance to the Northeast of them the Spindle on the Fox's Ears, pass about midway between the Sugar Loaves and Lighthouse. When you are abreast the last-named Spindle, which is left on the Port hand, you will see the Buoy painted in Red and Black Horizontal Stripes off Calderwood's Ledge, and the Red Buoy No. 10 off Cross Island Ledge, both of which are left on the Port hand. After passing this last-mentioned Buoy, haul gradually to the Southeastward, keeping in mid-channel and leaving the Black Spindle off Young's Point on the Starboard hand. When nearly abreast the village of North Haven (which is on the Northern side of the passage), there will be seen nearly ahead two Buoys, — the first is painted in Red and Black Horizontal Stripes, and lies off the Southwest part of Post-Office Ledge, the second is Red No. 8, and lies off the Southeast part of Lobster Ledge. Leave both these last-named Buoys about 75 yards on the Port, and steer about **E.** by **S.** ½ S. passing about midway between the Red Buoy No. 6 off the southeast part of Grindstone Ledge and the Spindle upon Iron Point Ledge. When about 150 yards past the last-named Spindle, haul over towards the Southern shore in order to avoid a Rock, having at very Low Tides but 7 feet water upon it; this Rock, which at this date is not Buoyed, lies nearly in the Channel, and bears about **NNE.** from the Spindle upon Iron Point Ledge (the last

one named) distance 250 yards. After passing the last-named Spindle you will see to the Northeastward in the passage two Buoys; the first is painted in Red and Black Horizontal Stripes, and lies off the South part of Waterman's Ledge; the second is Red No. 4, and lies off the South Point of Fish Point Ledge, both these last-named Buoys are left on the Port hand. When abreast the Red Buoy No. 4, which is left close to, steer about **E.** by **S.** ⅝ mile to the Spindle upon the Goose Rocks; leave this Spindle about 150 yards on the Port, and the Black Buoy off Bradstreet's Rock on the Starboard hand, and steer about **SE.** by **E.**, when you will see ahead Channel Rock, which is bold, and lies at the Eastern entrance of Fox Island Thoroughfare.

Coming through Two Bush Channel, follow the directions before given for entering the West Penobscot Bay by this Channel, until Brown's Head Lighthouse bears **E.** by **N.** ½ **N.**; then follow the directions before given for entering the Thoroughfare.

Entering the West Penobscot Bay by the Middle Channel West of Matinicus Rock Lights, follow the directions before given for that passage until Brown's Head Lighthouse bears **E.** by **N.** ½ **N.**; then run into the Thoroughfare as before directed.

Beating In.

In beating into Fox Island Thoroughfare, do not approach Brown's Head Lighthouse nearer than 3 or 4 miles until it bears **E.** by **N.** ½ **N.** The narrowest part of the Channel, which is about one-half mile in width, lies between Fiddler's and Dog Fish Ledges; the former is marked with a Beacon, the latter with a Spindle. The Channel between the Red Buoy upon the Northern part of Inner Bay Ledge, and the Spindle upon Drunkard's Ledge, the two first dangers met with in beating into this Thoroughfare, is about 1¼ miles in width.

Sailing Directions to enter Fox Island Thoroughfare at Night-time.*

From the Westward, follow the directions before given for Two Bush Island Channel until Brown's Head Light bears **E.** by **N.** ¾

* The White light at Brown's Head, Western entrance to Fox Island Thoroughfare, will (after Sept. 15, 1880) show a Red light, between the bearings of NE. by E. ¾ E., and E. by N. ¼ N. Vessels therefore at night, entering or leaving the Western entrance of the Thoroughfare, will clear the ledges by keeping in the Red light.

N.; then run for it on this course. If there is no error in the Compass, you will pass midway between Fiddler's and Dog Fish Ledges. Continue the course for the Lighthouse, and, in order to avoid the Sugar Loaves, leave it not more than 250 yards on the Starboard hand. If you have smooth water when you are abreast the Light, anchor; but if the wind is strong from the Westward, run farther in under short sail, and in order to avoid the Ledges upon the Port side, do not keep more than 200 yards from the Southeastern shore. As soon as the water becomes smooth, anchor in from 5½ to 7 fathoms.

In running up the Bay at night, in order to avoid the Ledges which extend off to the Westward of the Fox Islands, do not approach the Light upon Brown's Head nearer than 4 or 5 miles until it bears **E.** by **N.** ¾ **N.**

Southern Harbor.

This Harbor is about 1½ miles Northeasterly from Brown's Head Lighthouse, entrance to Fox Island Thoroughfare.

Sailing Directions for the Southern Harbor in Daytime, with favorable winds and fair weather.

Bound to Southern Harbor, follow the directions before given for Fox Island Thoroughfare until about ½ mile from the Lighthouse on Brown's Head, when you will see two large round bare Rocks of a peculiar Orange color; these are called the Sugar Loaves, and are bold on their Southwest part. Leave the Sugar Loaves about 250 yards on the Starboard hand, and make good the course **N.** by **E.** about ½ mile, when the harbor will be fairly open; then run up about **E.NE.**, keeping in mid-channel, and anchor in from 3½ to 5 fathoms water.

The Large Fox Islands.

There are two large Islands known as the Fox Islands: the Southernmost is called Vinal Haven, the Northernmost North Haven.

Harbors.

On the Eastern shore of Vinal Haven there are one or two good harbors which are not, however, safe for strangers to enter without a pilot. On the Northern shore of North Haven there are also several small harbors which have good water in them, but as there are neither Lighthouses or Buoys to mark the dangers, it is thought not advisable to give directions to enter them.

High Water.

It is High Water at North Haven, Northern side of Fox Island Thoroughfare, 24 minutes before it is at Boston. Common Tides rise about 10 feet.

Deer Island Thoroughfare.

This Thoroughfare, which has a depth of from 10 to 14 feet water at Low Tide, commences near the Southern part of Deer Isle; its whole length is little more than 6 miles. Its width varies somewhat, the narrowest part being abreast of Green's Head, where it is a little over 200 yards wide; its widest part is near its Eastern end, between Lazy Gut Island and Eastern Mark Island, where it is about ⅞ mile wide.

Mark Island Lighthouse.

Upon Mark Island, Western entrance to Deer Island Thoroughfare, is a Lighthouse which shows a fixed White Light. A Fog Trumpet is placed near this Lighthouse.

Note.

Masters of vessels from the Westward, bound to the Eastward, through this Thoroughfare, will remember that all Black Buoys in this passage, and also York Narrows, are left on the Starboard, and all Red Buoys on the Port hand. Buoys, painted in Red and Black Horizontal stripes, are placed upon Obstructions in the Channel.

Sailing Directions in Daytime, with favorable winds and fair weather, from the Eastern part of Fox Island Thoroughfare, through Deer Island Thoroughfare, across Jericho Sound and through York Narrows. Strangers should proceed with caution.

Coming from the Westward through Fox Island Thoroughfare, follow the directions before given for this passage until you make Channel Rock, which lies near its Eastern entrance. Leave this Rock a short distance on the Port hand, and steer about **E.** by **S.**, leaving the Red Buoy off the Southeast part of Black Ledge, on the Port hand. After passing this Buoy, you will see nearly ahead the Lighthouse at the entrance of Deer Island Thoroughfare; bring it to bear **E.** by **S.**, and run across Isle Haut Bay for it. As you draw near this Lighthouse, you will see about ⅝ mile to the Northwest of it the Red Buoy No. 2, off the Southern part of Mark Island Ledge; leave this Buoy on the Port and the Lighthouse on the Starboard hand. When abreast the Lighthouse, there will be seen to the Eastward of it a Black Buoy No. 13, off Field's Ledge; next, the Buoy painted in Red and Black Horizontal stripes on Gangway Rock; leave the first Buoy 75 yards on the Starboard, and for the deepest water the Buoy with Horizontal stripes about the same distance on the Port hand. After passing this last-named Buoy, a Black Buoy No. 11 will be seen off the Northern part of Crotch Island; leave this last Buoy (which bears from the Lighthouse **E.** by **N.** ½ **N.** about 1¼ miles) on the Starboard hand. When past this last-named Buoy, the Red Buoy off Staple's Ledge will be seen; leave this Buoy on the Port hand. When past it, the course is East nearly, leaving the Black Buoy No. 9 off Russ Island, and the Black Buoy No. 7 off Bold Island Ledge, both on the Starboard hand; the Red Buoy No. 10 off Door Rock, Red Buoy No. 8 off Haskell's Ledge, and also the Red Buoy No. 6 off White Rock, all on the Port hand. There is good anchorage Northeast from this last-mentioned Buoy. After passing the Red Buoy off White Rock a Black Spindle will be seen; this is on Haycock Rock, which is bare at low tide, and may be left about 25 yards on the Starboard hand. When abreast the Spindle, a Black Buoy, No. 3, will be seen lying about **N.** ¼ mile from an Island; this Buoy is off East Mark Island Ledge, and may be left on the Starboard hand. When past this last Buoy, steer about

E. by **S.** leaving the Red Buoy No. 4 off Lazygut Island, on the Port hand. When past this last-named Buoy, the Red Buoy No. 2, off Long Ledge, will be seen; leave this Buoy on the Port hand and make good the course **E. ½ S.**, when you will soon see the Buoy painted in Red and Black Horizontal stripes off Sunken Egg Rock; you must leave this last-named Buoy not less than 200 yards on either hand. After passing this last Buoy, you will then be near the entrance to York Narrows, and in going through them will leave on the Port hand three Buoys: the first, No. 6 Red, is off the Western part of Long Ledge; the second is No. 4 Red, and lies off the Southeastern end of Long Ledge; and the last, No. 2 Red, is off the Northeast point of Long Ledge. Near this last-named Buoy the Channel is narrow; the Buoy, which sets in about 2½ fathoms, should therefore be passed close to.

The distance from Mark Island Lighthouse through Deer Island Thoroughfare, across Jericho Sound, and through York Narrows, is about 11 miles.

When past the last-named Buoy, at the Eastern entrance of York Narrows, you will then be in Blue Hill Bay, and if bound farther Eastward, may steer about East, leaving a Black Buoy on the Starboard, and the Lighthouse at Bass Harbor, Mount Desert, not more than ¼ mile upon the Port hand. On this last run, when this Lighthouse bears **N.** by **E. ½ E.**, you will cross Bass Harbor Bar in about 14 feet water at Low Tide, and when it bears North make good the course **E.SE.**, which will take you well to the Southward of Baker's Island, clear of all dangers.

Eggemoggin Reach.

This important Reach or Strait, which connects Penobscot Bay with Blue Hill Bay, has a depth of five fathoms at Low Tide. It lies between the villages of Brooklin, Sedgwick, and Brooksville on the North, and Deer Isle and Little Deer Island on the South. The length of this Reach is about 15 miles, and its general course **NW.** and **SE.**; its width varies from ⅓ to 3 miles.

Pumpkin Island Lighthouse.

This Lighthouse, which is on the Southwest side of the Reach at its Western end, shows a Fixed White Light, and in passing through from the Westward, is left on the Starboard hand. A Fog Bell is placed near this Lighthouse.

Masters of vessels from the Westward, bound to the Eastward, through Eggemoggin Reach, should bear in mind that all Black Buoys in the passage are left on the Starboard, and all Red Buoys on the Port hand. Buoys painted in Red and Black Horizontal stripes are placed upon obstructions in the channel.

Sailing Directions for Eggemoggin Reach, in Daytime, with favorable winds and fair weather.

From the Penobscot River, bound through this passage, after passing the Beacon on Fort Point Ledge, steer about **SW.** by **S.** ½ **S.**, passing about midway between Dice Head and the Eastern part of Long Island; haul round the Western part of Cape Rozier, passing about midway between it and Western Island. This Island bears about **S.** by **W.** from the Western part of Cape Rozier; distance 1¼ miles. When you are midway between this last-named Island and Cape, you will see to the Eastward the Lighthouse upon Pumpkin Island, which is on the Western side of entrance to the Reach; bring this Lighthouse to bear East and run for it. On this last course you will pass nearly midway between the Buoy painted in Red and Black Horizontal stripes, off the Western part of Two-Bush Ledge, and the Red Buoy No. 10, off the Southern part of Heron Island Ledge. The Lighthouse bears from the first-named Buoy **E.** by **N.** ½ **N.** 1 mile; from the latter **E.** by **S.** 1¼ miles. As you draw nearer the Lighthouse you will see the following Buoys and Spindle: First, the Black Buoy No. 13, off the Northwest part of Meriman's Ledge (the Lighthouse bears from this Buoy **E.** ½ **S.** ⅜ mile); second, a Black Spindle on a dry Rock, about 200 yards Northeast from the Lighthouse; third, the Black Buoy No. 11, off Northwest part of Pumpkin Island Ledge (the Lighthouse bears from this Buoy **SE.** ½ mile); fourth, the Black Buoy No. 9, off Western part of Triangles (the Lighthouse bears from this Buoy **W.SW.** ½ mile); fifth, the Black Buoy No. 7, off Eastern end of Triangles (the Lighthouse bears from this Buoy **W.** by **S.** ½ **S.**, distance ½ mile); and lastly, the Black Buoy No. 5, off Northern part of Howard Ledges. The Lighthouse bears from this last-mentioned Buoy **NW.**; distance 1¼ miles. All these Black Buoys, going East through the Reach, are left on the Starboard hand. When past the Black Buoy off the Northern part of Howard Ledges, the course is about **SE.**, keeping nearly in the middle of the passage. As you sail in, Billing's or Sargent

Cove will be seen on the Northern side. On the Southern side will be seen the passage between Little Deer Island and Deer Isle; farther in the village of Sedgwick, which is on the West bank of Benjamin River. Stump Cove Ledge makes off about ⅓ mile from the Western point of entrance to this River, and is marked off its Southern part with a Red Buoy No. 8, which in going to the Eastward is left on the Port hand.* About 1¾ miles from the entrance to the last-named River, is a Red Buoy No. 6; this is off the West part of Torrey's Ledge, entrance to Centre Harbor, and must be left on the Port hand. When past this last-named Buoy, Torrey's Islands will be seen, a short distance to the Westward of which is a remarkable bare Rock with a Reddish color, having two large White Boulders or Rocks on its summit. This is called Torrey's Castle, and is left about 300 yards on the Port hand. After passing Torrey's Castle, a Black Buoy No. 3 will be seen; this lies off the Northern part of Conary Ledge, and must be left on the Starboard hand. The Northeast point of Conary Island bears from this Buoy **S.SE.**; distance ¾ mile. When abreast this last-mentioned Island, which is left on the Starboard hand, steer about **SE.** by **S.**, passing between Hog and White Islands, the former of which lies on the Eastern side of the channel, and close in with the Main Land. When coming from the Westward, it appears like a mass of bare White Rock, and shows a bold bluff-head called Devil's Head. Its Northern end is also high, bare, and rocky, and when coming from the Westward the Island appears like two Rocky Hills with a small valley between them. There is good anchorage between this last-named Island and the Main Land, near the Porgy Factory. When past Devil's Head (the Southern part of Hog Island), a Black Buoy No. 1 will be seen; this is off the Northern part of Eastern Half-tide Rock, and must be left on the Starboard hand. Devil's Head bears from this last-named Buoy **N.** by **E.** about ½ mile. Another Buoy will also be seen painted in Red and Black Horizontal stripes; this lies off the Western part of Hog Island Ledge, and is left on the Port hand. When past the last-named Buoy, steer about **E.**, passing between

* From 1 to 1¾ miles SE. by S. ½ S. from the Red Buoy off Stump Cove Ledge, and nearly in the middle of the passage, are two Ledges having but 11 and 13 feet water upon them at Low tide. In order to avoid these Ledges, vessels of more than 11 feet draught sailing from Benjamin River to the remarkable Rock called Torrey's Castle, should keep nearest Deer Isle.

Mahoney and Smuttynose Islands; the former Island is small, low, and dotted here and there with scrubby trees, and has a Red Buoy off its Western part, which is left on the Starboard hand; the latter is simply a bare Rock destitute of trees. When past these Islands you are then through the Reach and may steer **E.NE.**, leaving Pond Island * and the Black Buoy off its Northern part close to on the Starboard hand; after passing the last-named Buoy steer about **SE. ½ E.**, leaving Ship Island and two small Islets, called the East and West Barge, all on the Port hand. Upon one of the Rocks called the Ship and Barge (which is bare at two thirds Ebb) is placed a Black Spindle 30 feet high, which is left on the Starboard hand by vessels bound to the Eastward. After passing this Spindle you are in Blue Hill Bay, and must steer about **E.SE.** for Bass Head, leaving it and the Lighthouse not more than ¼ mile upon the Port hand. On this last run, when the Light bears **N.** by **E. ½ E.**, you will cross Bass Harbor Bar in not less than 14 feet at Low Tide. When the Lighthouse bears North, make good the course **E.SE.**, which will take you well to the Eastward of Baker's Island, clear of all dangers.

If you intend to pass through Eggemoggin Reach, and are from Owl's Head, or any place in the West Penobscot Bay, follow the directions before given for Castine Harbor until you make Cape Rozier; then follow the directions for this Reach.

Buck's Harbor.

This excellent harbor, which is sheltered from all winds, lies on the Northern side of entrance to Eggemoggin Reach, about 2 miles Northeasterly from the Lighthouse upon Pumpkin Island.

Remarks.

When approaching Buck's Harbor from the Westward, it may be known by what appears to be a remarkable straight White path running from the summit of the hills down their almost perpendicular sides.

Sailing Directions for Buck's Harbor in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given for Eggemoggin Reach until Pumpkin Island Lighthouse, on Western side of

* Pond Island is the first large Island met with after passing between Mahoney and Smuttynose Islands.

entrance to the Reach bears about **S.SW.**; then steer **N.NE.** As you sail in, you will see on the Northern shore the large Cove called Buck's Harbor, with an Island lying nearly in the middle of it; the best Channel is between this Island and the Western point, which is high and quite bold. Run in about midway between this last-named Point and Island, and anchor a short distance to the Westward of the Buoy off Buck's Harbor Ledge, in from 4 to 5 fathoms water at Low Tide, where you may lie secure from all winds.

High Water.

It is High Water in Buck's Harbor about 25 minutes before it is at Boston. Common Tides rise about 9½ feet.

Sedgwick Village, or Benjamin River.

The entrance to this River lies upon the Northern side of Eggemoggin Reach, about 5 miles from Pumpkin Island Lighthouse.

Sailing Directions for Benjamin River in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given for Eggemoggin Reach until you make the Red Buoy off the Southern part of Stump Cove Ledge. Leave this Buoy on the Port hand, and when the end of the Steamboat Wharf on the West bank of the River bears **N.** by **E.** ½ **E.**, then steer in, with the end of the Wharf a little on the Port bow; this course will lead about midway between the two shores. In order to avoid a Sand Bar which extends off from the Eastern side of the River, when abreast the Steamboat Wharf, keep the Western shore best aboard, and anchor at your pleasure. About 18 feet water can be carried to this anchorage at Low Tide.

Blue Hill Harbor.

This Harbor, which lies at the Head of Blue Hill Bay, is about North 10 miles from Green Island Lighthouse, and 15½ miles Northwesterly from the Lighthouse at Bass Harbor, Mount Desert.

Green Island Lighthouse.

This Lighthouse, which shows a fixed White Light, is built upon a low bare rocky Islet called Green Island, which is Northeasterly from Eastern entrance to Eggemoggin Reach. This Light is intended as a guide to Blue Hill and Ellsworth.

Sailing Directions for approaching and entering Blue Hill Harbor in Daytime, with favorable winds and fair weather.

From the Westward, by way of Eggemoggin Reach, follow the directions before given, passing about midway between Mahoney and Smuttynose Islands. The former Island is small, low, and dotted here and there with scrubby trees; the latter is simply a bare Rock, destitute of trees. When past these Islands, steer about **E.NE.**, 1¾ miles, leaving the Black Buoy off the Northern part of Pond Island close to on the Starboard hand; Green Island Lighthouse bears from this Buoy **NW.** by **N.**, about a mile; when past this Buoy steer about **NE.** by **N.**, leaving Channel Rock and the Shoal water which extends off Southeast from it well on the Port hand. When Green Island Lighthouse bears **W.** by **N.**, then run up about **NW.** by **N.** ½ **N.**, leaving Sand Island, which is small and low, well on the Port hand; as you sail in you will see off the Northwestern end of Tinker's Island the two Red Buoys off the Cow and Calf Ledges, both of which should be left a short distance on the Starboard hand. When past the Northern Buoy, steer about N. by **W.**, for the Western part of Long Island (which is bold and free from dangers), leaving Harriman's Ledge, which has 14 feet water on it, well on the Port hand, then keep midway between Long Island and the Mainland; when the Northern end of the last-named Island bears **SE.** by **E.**, steer **NW.** by **W.**, and anchor in Blue Hill Harbor when the water shoals to 5½ fathoms. If bound into the Inner Harbor, a pilot is necessary at this anchorage.

From the Eastward, bound to Blue Hill Bay Harbor, leave Baker's Island about 2 miles to the Northeastward, and steer **W.NW.** As soon as the Lighthouse at Bass Harbor Head, Mount Desert, is made, bring it to bear **NW.** by **W.**, and run for it on this course, leaving the Red Spindle off Bunker's Ledge well on the Starboard. Leave this last-named Lighthouse not more than 350 yards on the Starboard, and steer about **W.** by **N.** ¼ **N.** until it bears **N.** by **E.** ½ **E.**, when you will cross Bass Harbor Bar in about 14 feet water at Low Tide. Continue the course **W.** by **N.** ¼ **N.** until Bass Harbor Head Light bears **E.** ¼ **S.**, and the extremity of the Western point of this harbor bears **N.** ½ **E.**; then steer about

NW. by N. along the West shore of Mount Desert Island for the Southern point of Long Island; distance about 8 miles. As you sail up the Bay on this course, the Spindle upon the Barges will be seen, which are left about 1¼ miles on the Port; and about 2 miles farther up, Tinker's Island, which is quite large. Continue the course towards Long Island until the Northern end of Tinker's Island bears West, when the Red Buoy on the Cow and Calf will be seen; this Buoy lies off about ½ mile NW. from the Northwest part of the last-named Island. Leave this Buoy well on the Port hand, and steer about NW. ½ N. for the Western shore until Blue Hill Bay is fairly open; then run up as before directed. Before attempting to cross Bass Harbor Bar, it is advisable for vessels of more than 14 feet draught to wait until at least one-half Flood.

High Water.

It is High Water on Bass Harbor Bar 40 minutes before it is at Boston. Common Tides rise about 9¼ feet.

Union River and Ellsworth.

The entrance to this River, which is 13 miles Northwesterly from the Lighthouse at Bass Harbor Head, Mount Desert, and about 10 miles Northeasterly from Green Island Lighthouse (Eastern entrance to Eggemoggin Reach), lies between Oak Point on the East, and Newbury Head upon the West, running in a N.NE. direction for about 10 miles to Ellsworth. It has an average width of about a mile and a half for about 7 miles to Weymouth Point, where it suddenly contracts, and becomes a narrow stream only a few hundred yards wide, and gradually diminishing to about 150 yards at the town of Ellsworth.

Sailing Directions for Union River in Daytime, with favorable winds and fair weather.

From the Westward, by way of Eggemoggin Reach, follow the directions before given for that passage until past Mahoney and Smuttynose Islands. The former Island is small, low, and dotted here and there with scrubby trees; the latter is simply a bare rock, destitute of trees. When past these Islands steer about E.NE.,

1¾ miles, leaving the Black Buoy off the Northern part of Pond Island close to on the Starboard hand; Green Island Lighthouse bears from this Buoy **NW.** by **N.**, about a mile; when past this Buoy steer **NE.** by **N.**, leaving Channel Rock and the Shoal water which extends off Southeast from it, well on the Port hand. When Green Island Lighthouse bears **W.** by **N.** then run up about **NW.** by **N.** ½ **N.**, leaving Sand Island, which is small and low, well on the Port hand. When the two Red Buoys on the Cow and Calf Ledges off the Northwestern part of Tinker's Island is made, leave them both a short distance on the Starboard hand and steer about **NE.** by **E.** ½ **E.**, about 2 miles, passing about midway between the Southern end of Long Island and Harwood Island, then run up **N.** by **E.**, about 2 miles, passing about midway between Bartlett's Island and the Eastern part of Long Island; you will then see Newbury Head, which is high, and lies on the Western side of entrance to Union River; then steer more Easterly until the entrance is fairly open; then run up about **N.NE.**, keeping about midway, until the Black Buoy off the Eastern part of Tupper's Ledge is made; then leave this Buoy a short distance on the Port hand, and anchor above it in about 4 fathoms water at low tide. A pilot is necessary from this anchorage to Ellsworth.

From Newbury Head, Western side of entrance to Union River, to the Black Buoy off Eastern part of Tupper's Ledge, the distance is about 5½ miles, and there are no obstructions in the passage excepting those lying near the shores.

Coming from the Eastward or Westward bound to Ellsworth, keep outside of all dangers until you make the Lighthouse at Bass Harbor Head, Mount Desert; then bring it to bear **NW.** ½ **W.**, and run for it on this course, leaving the Red Spindle on Bunker's Ledge well on the Starboard hand. Leave this last-named Lighthouse not more than ¼ mile on the Starboard, and steer about **W.** by **N.** ¼ **N.** until it bears **N.** by **E.** ½ **E.**, when you will cross Bass Harbor Bar in about 14 feet water at Low Tide. Continue the course **W.** by **N.** ¼ **N.** until Bass Harbor Head Light bears **E.** ¼ **S.**, and the extremity of the Western point of this harbor bears **N.** ½ **E.**, then steer about **NW.** by **N.** along the West shore of Mount Desert Island, for the Southeast point of Long Island; distance about 8 miles. As you sail up the Bay on this last course, the Spindle upon the Barges will be seen, which are left about 1¼ miles on the Port hand; and also about 4 miles

farther up on the Starboard, Harwood Island, which lies about 1¼ miles to the Southeastward of the Southern end of Long Island. Pass about midway between this last-named Island and the Southeast end of Long Island, and follow the directions before given.

Before attempting to cross Bass Harbor Bar, it is advisable for vessels of more than 14 feet draught to wait until at least one-half Flood.

High Water.

It is High Water on Bass Harbor Bar 40 minutes before it is at Boston. Common tides rise about 9¼ feet.

Deer Isle.

Upon the Western part of this Island there are several harbors, which are seldom used except by the people belonging to it; they lie somewhat out of the track of vessels bound East or West, and much better harbors can be found both among the Fox Islands and in Eggemoggin Reach. Strangers should not, therefore, attempt to enter them without a pilot.

Southeast Harbor, Deer Isle.

This Harbor lies upon the Southeast part of Deer Isle; its entrance, which is between Sheep and Lazygut Islands, is East Northerly about 6 miles from Mark Island Lighthouse, West entrance to Deer Island Thoroughfare, and West about 12 miles from Bass Harbor Lighthouse.

Sailing Directions for Southeast Harbor in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given for Deer Island Thoroughfare until past the Black Spindle upon Haycock Rock, which is bare at Low Tide. After passing this last Rock and Spindle, you will see to the Eastward a Black Buoy. This is off East Mark Island Ledge. When about 300 yards from it, or that distance to the Westward of it, steer about North. As you sail in, you will see the Buoy, painted in Red and Black Horizontal stripes, which lies off the Eastern part of the Boat or Channel Rock; leave this last-named Buoy 200 yards on the Port hand, and steer more

Westerly, when a Black Buoy will be seen on the Port. This lies off the Northeast part of the Whale's Back Ledge, and must also be left on the Port hand. When past this last-named Buoy, steer about **NW.** by **N.** for the anchorage. If you wish to go into the Inner Harbor, a pilot will be necessary.

Head Harbor (Isle au Haut).

This small Harbor, the entrance of which is near the **SE.** end of Isle Au Haut, bears **NE.** ¾ **E.** from Matinicus Rock Lights, distance 17 miles; from Mount Desert Rock Lighthouse, **W.** by **N.** ¾ **N.**, distance 20 miles.

Sailing Directions for Head Harbor in Daytime, with favorable winds and fair weather.

From the Westward, leave Matinicus Rock Lights from 2 to 3 miles to the Northward, and steer about **NE.** by **E.**, leaving Wooden Ball, Seal Rock, and the Ledges, well to the Northward. When the **SE.** Head of Isle Au Haut, which is a High Bluff, bears **NE.** by **N.**, then run for it on this course until about 3 miles from it, then steer more Northerly until this Head bears **E.NE.**; then run for it, keeping a sharp lookout for the Ledge called the Roaring Bull. The Eastern Head of Isle Au Haut bears from this Ledge **NE.** ¼ **E.**; distance about 1⅓ miles. Continue the course **E.NE.** for the Eastern Head, until about 1 mile from it; then haul in **NE.** ½ **N.**, leaving Flagstaff Point, which is bold, and lies on the Northern side of the entrance, about 250 yards on the Port hand. When abreast this last point, steer about **E.NE.** ⅓ mile, leaving the next point at the entrance of the harbor about 75 yards on the Port hand. After passing this last point about 200 yards, anchor midway the harbor in about 12 feet water at Low Tide. Farther up, the water is shallow.

From the Eastward, after passing Mount Desert Rock Light, bring it to bear **E.** by **S.**, and make good the course **W.** by **N.** until the Western Head of Isle Au Haut bears **NW.**; then run for it on this course, keeping a sharp lookout for the Ledge called the Roaring Bull. The highest part of the Western Head bears

from this Ledge **NW.** by **N.** ½ **N.**; distance 1¼ miles. Continue the course **NW.** for the Western Head, until the Eastern Head bears **E.NE.**; then run in as before directed.

Vessels from the Eastward or Westward, bound into this harbor, should endeavor to make the Ledge called the Roaring Bull.* It lies about 1¼ miles off the South shore of the Island, about midway between the Eastern and Western Heads, and breaks with a little motion of the sea. After making this Ledge, you may pass it on either hand, and bring it to bear **S.SW.**, on which bearing keep it, and run **N.NE.** for Flagstaff Point; distance 1½ miles. This point is bold, and may be left about 250 yards on the Port hand, when the course into the harbor is as before given. In order to avoid the Ledges which lie off the Eastern Head, vessels with a smooth sea should not approach it nearer than 1½ miles until the Western Head bears **NW.**

High Water.

It is High Water in Head Harbor (Isle Au Haut) 58 minutes before it is at Boston. Common tides rise about 9¾ feet.

Burnt Coat Harbor.

This Harbor, which is capable of sheltering a large number of vessels, is one of the best on the coast of Maine. It lies on the South shore of Burnt Coat Island. Its entrance bears from Mount Desert Rock Light **NW.** ¾ **N.**, distance about 16½ miles; from Matinicus Rock Lights, **NE.** by **E.**, about 28 miles. About 5 fathoms water can be taken into this harbor.

Range Lights.†

Upon Hockomock Head, Northwest side of entrance to Burnt Coat Harbor, are two Lighthouses about 100 feet apart, ranging nearly **NE.** ¾ **N.** and **SW.** ¾ **S.**, which show fixed white lights.

Sailing Directions for Burnt Coat Harbor, in Daytime, with favorable winds and fair weather.

From the Westward, pass about 3 miles South of Matinicus Rock Lighthouses, and make good the course **NE.** by **E.**, leaving

* An Iron Spindle has been placed upon this Ledge.

† One of the Range Lights at Burnt Coat Harbor has been discontinued.

the dangerous Ledge called the Roaring Bull (which lies about 1½ miles South from the Southern shore of Isle Au Haut) well on the Port hand, and also Spoon Island, Black Ledge, and Heron Island well on the same hand. As soon as the Lighthouse at Burnt Coat Harbor is made, bring it to bear **NE.** ¾ **N.**, and run for it on this course. When about 3 miles from the Lighthouse, you will see the Black Buoy No. 1, off the Southwest part of Heron Island Ledge, which will be left a short distance on the Port hand. As you approach the Lighthouse, you will also see, about ½ mile to the Westward of it, the Black Buoy No. 3, off the Southeast part of Gooseberry Island Ledge, which is left on the Port hand; and farther in, at the entrance of the harbor, about ¼ mile to the Southward of the Lighthouse, in nearly mid-channel, a Red Spindle, which is on Harbor Ledge. Give this Spindle a berth of about 50 yards, leaving it on the Starboard hand, and run up about ⅓ mile, and anchor in the Harbor.

From the Eastward, bring Mount Desert Rock Light to bear **SE.** ¼ **E.**, on which bearing keep it, and steer **NW.** ¼ **W.**, leaving Long Island about 3 miles upon the Starboard hand. When abreast this last-mentioned Island, keep a sharp lookout for the large Red Buoy No. 2, off the Southwest part of John's Island Ledge. Long Island bears from it **E.** ½ **S.**, about 2 miles. Leave this last-named Buoy about ½ mile on the Starboard hand, and steer **NW.** ½ **W.** until the Harbor Light bears **NE.** ¾ **N.**; then run in as before directed.

Dangers to be avoided in beating in.

In beating into this Harbor, care should be taken to avoid Heron Island Ledge, which is marked off its Southern part with a Black Buoy, No. 1. The Lighthouses bear from this Buoy **NE.** ½ **N.**; distance about 2 miles. Also Gooseberry Ledge, which is marked off its Southern part with a Black Buoy, No. 3. The Lighthouse bears from this Buoy **E.NE.**; distance ½ mile. The Lighthouse bears from Harbor Island Ledge (which is marked with a Spindle) **N.** by **W.**; distance about ¼ mile. The Channel, which is between this Ledge and Lighthouse, is therefore narrow, but the Head on which the Lighthouses stand is bold, and may be safely approached within a cable's length.

Sailing Directions for Night-time.

From the Eastward or Westward, keep outside all the Islands and Ledges until the Light at Burnt Coat Harbor bears **NE.** ¾ **N.**, then run for it on this course until you judge you are about 150 yards from the shore, or the Light is close aboard; then run **E.** by **N.** about ¼ mile to the anchorage. In running this last course, **E.** by **N.**, keep a sharp lookout for the Spindle on Harbor Island Ledge, which lies **S.** by **E.** from the Northern Light, distance ¼ mile, and in going it may be left 100 feet on the Starboard hand. Burnt Coat Harbor should not be attempted at Night, if there is any error in the compass, as a slight deviation from the course may lead to difficulty.

Bass Harbor.

This Harbor is situated upon the Southwest extremity of Mount Desert Island. Its entrance bears **N.** by **W.** ¼ **W.** from Mount Desert Rock Lighthouse, distance 18 miles; from Baker's Island Lighthouse, **W.** ½ **N.**, distance 6½ miles. About 7 fathoms water can be carried into the outer harbor.

Bass Harbor Head Lighthouse.

Upon Bass Harbor Head, which is on East side of entrance to this Harbor, is a Lighthouse which shows a fixed Red Light. At this date (1879) a Fog Bell is placed near this Lighthouse.

Sailing Directions for Bass Harbor in Daytime, with favorable winds and fair weather.

Coming from the Westward, outside of all the Ledges and Islands, as soon as Baker's Island Lighthouse is made, bring it to bear **N.NE.**, and run for it on this course, leaving the Great and Little Duck Islands about 2 miles on the Port hand. When past these two last-named Islands, haul in about **N.NW.** until the Lighthouse at Bass Harbor bears **NW.** ½ **W.**, then run in for it on this course, leaving it about 350 yards on the Starboard hand, and steer about **W.** by **N.** When the Lighthouse bears **N.** by **E.** ½ **E.**, you will cross Bass Harbor Bar in about 14 feet water at Low Tide. Continue this course **W.** by **N.** across the Bar, when the Harbor will open, and you will see, about a mile to the Northwestward of

the Lighthouse, two Buoys. The Red Buoy, No. 2, lies off the Western part of Weaver's Ledge, which is dry at Low Tide; the Black Buoy, No. 1, lies off the Eastern part. When this last-mentioned Buoy bears **N.** by **W.**, run in about North, leaving it on the Port hand. Large or heavy-draught vessels may anchor when past this Buoy a short distance; but wishing to enter the Inner Harbor, when the Western point of the harbor bears **W.SW.**, run up about **N.NE.** through the Narrows, leaving the Black Buoy off Harbor Point Ledge on the Port hand. When past this Buoy, and abreast the Eastern Long Wharf on the Eastern shore of the Narrows, steer about 300 yards **N.NW.** and anchor in about 3 fathoms water off the wharves. It is not safe for strangers to go above this.

From the Westward, by way of Eggemoggin Reach, or coming through Deer Island Thoroughfare and York Narrows, follow the directions before given for those passages until you make Bass Harbor Head Lighthouse; then bring it to bear about **E.** by **S.** ½ **S.**, and run for it, leaving the Black Buoy No. 1, off the Eastern part of Weaver's Ledge, on the Port hand, and follow the directions before given.

From the Eastward, leave Baker's Island Lighthouse about 2 miles on the Starboard hand, and steer about **W.** by **N.** until Bass Harbor Lighthouse bears **NW.**; then run in as before directed.

Beating into Bass Harbor.

From Seaward, beating into this Harbor at Night or Day, you may stand to the Westward until the Red Light at the entrance bears **NW.** ½ **W.**, and to the Eastward until it bears **W.NW.** The channel between the Lighthouse and Eastern part of Weaver's Ledge (which is marked with a Black Buoy, No. 1) is about ¼ mile wide; it is therefore necessary, after passing the Lighthouse, to keep the Eastern shore best aboard. The Lighthouse bears from this last-mentioned Buoy on Eastern part of Weaver's Ledge, **SE.** by **E.** about ¾ mile.

Sailing Directions for Bass Harbor at Night-time, with favorable winds and fair weather.

From Seaward, as soon as the Red Light at Bass Harbor is made, bring it to bear **NW.** ½ **W.**, and run for it on this course. Leave

this Light not more than 350 yards on the Starboard hand, and haul round it, keeping a sharp lookout for the Buoy off the Eastern part of Weaver's Ledge, and follow the Eastern shore, course about **N.** by **W.** (keeping about ¼ mile from it), into the Harbor. When the Light bears about **SE.** ½ **S.**, anchor in the Outer Harbor in from 6 to 8 fathoms water. By keeping about ¼ mile from the Eastern shore you will pass in midway between it and the Buoy off Eastern part of Weaver's Ledge.

In running into Bass Harbor from Seaward, when the Light bears **N.** by **E.** ½ **E.** 350 yards, you will cross the Bar in about 14 feet water at Low Tide. It is, therefore, advisable for heavy-draught vessels to wait until at least half Flood before attempting to cross this Bar.

High Water.

It is High Water in Bass Harbor 28 minutes before it is at Boston. Common tides rise about 10 feet. It is High Water on Bass Harbor Bar a little before it is in the harbor.

Mount Desert Rock Lighthouse.

This Lighthouse, which shows a fixed White Light, is erected upon a small barren Islet called Mount Desert Rock. At this date (1879) a Fog Bell is placed near this Lighthouse.

Dangers near Mount Desert Rock Lighthouse.

It is said that **SW.** by **S.**, a little more than ½ mile from this Lighthouse, is a dangerous Rock, having but 18 feet water upon it at Low Tide.

Bearings and Distances from Mount Desert Rock Lighthouse.

		Distance.	
Cape Cod (Highland) Lighthouse,	**SW.** ½ **W.**,	143	miles.
Thatcher's Island Lighthouses (Cape Ann), ...	**W. SW.**,	133	"
Boon Island Lighthouse, . . .	**W.** by **S.** ¼ **S.**,	114	"
Matinicus Rock Lighthouses, . .	**W.** ½ **S.**,	34	"
Baker's Island Lighthouse, . .	**N.** ½ **E.**, . . .	16½	"
Petit Menan Lighthouse, . . .	**NE.** ¼ **N.**, . .	27	"
Machias Seal Island Lighthouses,	**E.** by **N.** ¾ **N.**,	54	"
Northern part of Grand Menan,	**NE.** by **E.** ¾ **E.**,	76	"

		Distance.
Brier's Island Lighthouse, North side of entrance to St. Mary's Bay, ...	E. ¼ S., . . .	77 miles.
Cape Forchu Lighthouse, entrance to Yarmouth Harbor, . . .	E.SE., . . .	86 "
Seal Island Lighthouse (Cape Sable), ...	SE. ¾ E., . .	98½ "

South-West Harbor (Mount Desert).

This fine harbor, which is on the Southern part of Mount Desert Island, lies Northeast 38 miles from Matinicus Rock Lighthouses; Northwesterly 20 miles from Mount Desert Rock Lighthouse; and 20 miles to the Westward of Petit Menan Lighthouse.

Baker's Island Lighthouse.

Upon Baker's Island, the Southeasternmost of the group lying off the South shore of Mount Desert, is a Lighthouse which shows a fixed Light varied by White flashes. The Lighthouse at Winter Harbor bears from Baker's Island Lighthouse **NE.** ½ **E.**; distance 9 miles. Petit Menan Lighthouse bears from Baker's Island Lighthouse **E.** by **N.**; distance 16½ miles. There is no passage for vessels between Baker's Island and Little Cranberry Island.

Bear Island Lighthouse.

About 4 miles Northwesterly from Baker's Island Lighthouse, upon the Southwest part of Bear Island, North side of entrance to Southwest Harbor, is a Lighthouse which shows a fixed White Light. This Light is also a guide to Northeast Harbor. A Fog Bell is placed near this Lighthouse.

Remarks.

Southwest Harbor is more than a mile in length in an **E.SE.** and **W.NW.** direction, with an average width of about ⅓ mile. The holding-ground is excellent, the shelter good, and about 6 fathoms water can be carried into it at Low Tide, thus affording anchorage for the heaviest-draught vessels. There are three passages into

this harbor. First, the Western, which leads in between Great Cranberry Island and Mount Desert. The entrance to this channel is about 4 miles West from Baker's Island Lighthouse, and has a depth of about 14 feet water in it at Low Tide. Second, the one North of Baker's Island, between Sutton's and Great and Little Cranberry Islands, which has a depth of 4 fathoms water; and lastly, the Main Ship Channel, which is about 3 miles North of Baker's Island. This last channel is between Bunker's Ledge and Bear Island Lighthouse on the North, and Sutton's Island on the South.

Western Passage.

Sailing Directions to enter Southwest Harbor by the Western Passage, in Daytime, with favorable winds and fair weather.

From the Westward, leave Matinicus Rock Lighthouses about 2 or 3 miles on the Port hand, and steer **E.NE.** If this course is made good, all the Islands and Ledges will be left well on the Port hand. As soon as Baker's Island Lighthouse is made, bring it to bear **N.NE.**, and run for it on this course until the Lighthouse at Bass Harbor bears **NW.** (Baker's Island Lighthouse will then be distant 4 miles); then steer **NW.** by **N.**, keeping a sharp look-out for Long and South Bunker's Ledges. The former extends off about ½ mile from the Mount Desert shore, and is marked on its outer part with a Black Buoy, No. 3.* The latter is marked with a Red Spindle. Baker's Island Lighthouse bears from it **E.** ¼ **S.**; distance 3¾ miles. The Black Buoy No. 1, off Long Ledge, bears from this Spindle West; distance ¾ mile. The channel is between this Spindle and Buoy. When the Buoy and Spindle are made, pass in between them, giving the latter a berth of at least 250 yards, leaving it on the Starboard, and steer about **NE.** by **N.** As you sail in, you will see about ¾ mile to the Northeastward of the Spindle two Buoys, one Black, the other Red. The Black Buoy, No. 5, lies off the Eastern part of Flynn's Ledge, which has 5 feet water upon it at Low Tide. The Red Buoy, No. 2, lies off the Southwest part of Cranberry Island Ledge, which has but 4 feet water upon it at Low Tide. The channel, which is between these two Buoys, is 275 yards wide, and has a depth of 3½ fathoms water. Pass in between these two last-named Buoys, leaving the Black one about 50 yards on the Port,

* The outer part of Long Ledge at this date (1882) is marked with an Automatic Bell Buoy.

and steer about **N.** by **E.**, keeping in about mid-channel, and crossing Cranberry Island Bar in about 14 feet water at Low Tide. After passing this Bar, continue the course **N.** by **E.** for about 1¼ miles, leaving the Red Buoy off Cow Ledge on the Starboard hand. When the Southwest Harbor is open, bearing about **W.NW.**, then run in about midway, leaving the Red Buoy off Greening's Ledge on the Starboard hand, and anchor near the Head of the harbor in from 3½ to 6 fathoms water. At Night-time strangers should not attempt to enter Southwest Harbor by this channel.

Coming from the Westward, through Eggemoggin Reach or Deer Island Thoroughfare, bound to Southwest Harbor by the Western channel, follow the directions before given for those passages until past Bass Harbor Bar, then bring the Lighthouse at Bass Harbor Head to bear **W.NW.**, and steer **E.SE.** until the Black Buoy off Long Ledge and the Red Spindle on South Bunker's Ledge are both made; then follow the directions before given.

Sailing Directions to enter Southwest Harbor by Ship Channel, in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given for the Western passage until Baker's Island Lighthouse is made; then leave it about 1 mile on the Port hand, and when it bears West steer **NW.** by **N.** ¾ **N.**, leaving the Black Buoy No. 1, off the Eastern part of Harding's Ledge (which extends off from Little Cranberry Island), on the Port hand. Continue the course **NW.** by **N.** ¾ **N.** until Bear Island Lighthouse (East side of entrance to Northeast Harbor) bears **NW.** by **W.** ½ **W.**; then steer for it on this course. The Monument on East Bunker's Ledge, and the Red Buoys on Bowden's Ledge and Long Point Ledge, will all be left well on the Starboard hand; and Sutton's Island on the Port hand. When abreast the Northeast part of this last-named Island, or about 1 mile from Bear Island Lighthouse, haul up about **W.** by **N.**, passing about midway between the Western part of Sutton's Island and the Lighthouse. Continue the course **W.** by **N.** until the last-named Lighthouse bears **E.NE.**; then steer **W.SW.**, leaving the Southeast part of Greening's Island about ¼ mile on the Starboard hand. When Southwest Harbor opens, bearing about **W.NW.**, run in and anchor as before directed.

Beating into Southwest Harbor by way of Ship Channel.

At Night or Day, in beating into this Harbor, the shores are bold, and the principal dangers to be avoided are Harding's Ledge, East Bunker's Ledge, and Long Point Ledge. The first-named danger extends off about East ¼ mile from the Southeast part of Little Cranberry Island, and is marked off its Eastern part with a Black Buoy, No. 1. Baker's Island Light bears from this Buoy about South; distance 1¼ miles. The second danger is East Bunker's Ledge, which is marked with a White square stone Beacon. Bear Island Light bears from this Beacon about **W.NW.**; distance 2 miles. In beating in Ship Channel, this last-named Ledge, which is quite bold, may be approached upon its Southern side within 250 yards; but vessels passing North of it should give the Monument a berth of at least ⅓ mile. The third and last danger is Long Point Ledge, which has 5 feet water upon it at Low Tide, and is marked off its Southern part with a Red Buoy, No. 6. Bear Island Lighthouse bears from this Buoy **W.** by **N.** ½ **N.**, ⅝ mile. In beating in at Night, in order to avoid this Ledge, Bear Island Light should not bear to the Westward of **W.NW.** Greening's Ledge, which has but little water upon it at Low Tide, lies off about ¼ mile from Greening's Island, which is on the North side of Southwest Harbor. In order to avoid this Ledge, in going in, keep the Southern shore of the harbor best aboard. In beating in, the Southern side may be approached by vessels of 14 feet draught within 200 yards without danger.

At Night or Day, coming from the Eastward or Westward, and intending to beat into Southwest Harbor, when Baker's Island Light bears **S.** by **W.**, bring Bear Island Light to bear **NW.** by **W.** ½ **W.**; then keep a sharp lookout to avoid the shores, and likewise the dangers I have described, and you will work safely into Southwest Harbor.

Sailing Directions for Southwest Harbor, by way of Ship Channel, at Night-time, with favorable winds and fair weather.

From the Eastward or Westward, when Baker's Island Light bears **SW.**, bring Bear Island Light to bear **NW.** by **W.** ¼ **W.** If there is no error in the compass, this last course will take you

nearly in mid-channel. When Baker's Island Light is shut in behind Little Cranberry Island, or bears **S.** by **E.** ¼ **E.**, you are then past East Bunker's Ledge. Continue the course **NW.** by **W.** ¼ **W.** for the Light until you judge you are from ¾ to 1 mile from it; then haul up **W.** by **N.**, passing about midway between Bear Island Light and Sutton's Island. The channel between the last-mentioned Island and Light is about ½ mile wide. When Bear Island Light bears **E.** by **N.** ¾ **N.**, steer **W.** by **S.** ¾ **S.**, keeping a sharp lookout for the Southeast point of Greening's Island, which is left on the Starboard hand. When past this point, haul up about **W.** by **N.** into the harbor, and anchor in from 3½ to 10 fathoms water. The Southern shore of Southwest Harbor is bold; in order, therefore, to avoid Greening's Ledge at Night, keep this side best aboard.

If you do not think proper to attempt to enter Southwest Harbor at Night, when Bear Island Light bears **E.NE.**, you may anchor in from 10 to 12 fathoms water and wait until daylight. This last anchorage is exposed to winds from East to Southeast.

High Water.

It is High Water in Southwest Harbor, Mount Desert, 28 minutes before it is at Boston. Common tides rise about 10 feet.

Northeast Harbor (Mount Desert).

This Harbor lies about 5 miles Northwesterly from Baker's Island Lighthouse, and about 1½ miles Northeasterly from Southwest Harbor. Upon Bear Island, Eastern side of entrance to this harbor, is a Lighthouse (before described).

Remarks.

This Harbor, which is narrow, is about ¾ mile in length, and has good anchorage, and also good holding-ground, in from 2 to 3¼ fathoms water at Low Tide.

Sailing Directions for Northeast Harbor in Daytime, with favorable winds and fair weather.

Coming from the Westward outside of all dangers, or through Eggemoggin Reach, or Deer Island Thoroughfare, follow the direc-

tions before given for the Western passage into Southwest Harbor until past Cranberry Island Bar and abreast the Northwest part of Great Cranberry Island; then steer **N.NE.** 1½ miles, leaving the Lighthouse on Bear Island about ⅓ mile on the Starboard hand. As you sail in, you will see, about ⅓ mile Northwest from it, the Red Buoy which lies off the Northwest part of Northeast Harbor Ledge (which is bare at Low Tide). Leave this Buoy about 50 yards on the Starboard hand, and steer in about North, keeping midway of the harbor, and anchor about ½ mile North from the Buoy in about 3¼ fathoms at Low Tide. Above this, or about ⅓ mile from the head of the harbor, the water is shoal.

By Ship Channel.

Entering Northeast Harbor by this Channel, follow the directions before given for Southwest Harbor until Bear Island Lighthouse bears **E.NE.**, when you will see, about ⅓ mile to the Northwest of it, the Red Buoy off the Northwest part of Northeast Harbor Ledge. Leave this Buoy about 50 yards on the Starboard hand, and proceed as before directed.

Southeast Rock off Petit Menan.

This Rock, which has but 5 feet water upon it at Low Tide, is marked with a Buoy (painted in Red and Black Horizontal stripes) which lies about 100 feet Southwest from it. From this Buoy, Petit Menan Lighthouse bears **NW.** by **N.** ¼ **N.** about 3¼ miles.

From the Eastward.

Vessels from the Eastward, bound to either Northeast or Southwest Harbors, may leave the Buoy on this last-mentioned Rock about ⅛ mile on the Starboard hand, and steer **W.** ¼ **N.** for Baker's Island Lighthouse; distance 17 miles. When about 4 miles from it, haul in **W.NW.**, and when the Beacon upon East Bunker's Ledge is made, bring it to bear **W.NW.**, and run for it, leaving it ¼ mile upon the Starboard hand, and follow the directions before given.

Beating into Northeast Harbor by way of Ship Channel.

At Night or Day, beating into this Harbor, follow the directions before given for beating into Southwest Harbor by Ship Channel

until past Bear Island Light; then keep the Western shore of the harbor (which is bold after the Lighthouse bears **SE.** by **E.**) best aboard, taking care to avoid Northeast Harbor Ledge, which is marked off its Northwest part with a Red Buoy. Bear Island Lighthouse bears from this Buoy **SE.** ½ **E.**; distance ¼ mile. At Night, after passing this Buoy, or the Light bears **SE.** by **S.**, distance about ½ mile, anchor in from 5½ to 6½ fathoms water.

Sailing Directions for Northeast Harbor at Night-time, with favorable winds and fair weather.

From the Eastward or Westward, run in according to directions before given for Southwest Harbor, by way of Ship Channel, until Bear Island Light bears North; then, in order to avoid Northeast Harbor Ledge, haul to the Northeastward around the Light, leaving it not more than 250 yards on the Starboard. When it bears **SE.** by **S.** ½ **S.**, steer **NW.** by **N.** ½ **N.**, and anchor at the mouth of the harbor in from 5½ to 7 fathoms water. Northeast Harbor Ledge, which is bare at Low Tide, lies **NW.** 500 yards from the Lighthouse; the Red Buoy is placed about 80 feet **W.NW.** from its Western part. There is another Ledge on the Eastern side of the harbor which has 4 feet water upon it. This last Ledge bears **N.** by **W.** from Bear Island Light; distance 750 yards.

High Water.

For time of High Water in Northeast Harbor, see directions for Southwest Harbor.

Cranberry Island, or Hadlock's Harbor.

This Harbor, which has from 2 to 4 fathoms water in it, lies between Great and Little Cranberry Islands. Its entrance is about **E.SE.** 2½ miles from Southwest Harbor, and 1½ miles South from Bear Island Lighthouse.

Sailing Directions for Cranberry Island Harbor in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given for Southwest Harbor, by way of the Western passage, until past Cranberry Island Bar and the Red Buoy off Cow Ledge; then haul to the Northeastward around the Northwest part of Great Cranberry Island, leaving it about ¼ mile on the Starboard hand, and steer about East. As you pass in, you will see the Red Buoy which lies off the Northern part of Sperlin Rock. Leave this Buoy a short distance upon the Starboard hand, and run in **S.SE.** about ½ mile, and anchor abreast Long Point, in about 3 fathoms water at Low Tide, which will be nearly 5¾ fathoms at High Tide.

From the Eastward or Westward, bound into this Harbor, follow the directions before given for Southwest Harbor, by way of Ship Channel in daytime, until the Monument upon East Bunker's Ledge bears **E.NE.**; then steer **W.SW.** until the harbor is fairly open; then run in about midway, and anchor as before directed. In beating in, after passing the Red Buoy No. 2, off Sperlin Rock, use the lead, and do not approach either shore at Low Tide in less than 3 fathoms water. It is not advisable for vessels of more than 14 feet draught to attempt to enter this harbor, as there are several shoal spots of 15 feet in it, some of which lie nearly midway the entrance.

Upon the Western side of Cranberry Island Harbor is a shallow Cove called The Pool. Only 2 feet water can be taken into it at Low Tide, and vessels that enter it at High Water must lie aground when the Tide falls.

High Water.

For time of High Water in Cranberry Island Harbor, see directions for South-West Harbor.

Somes, or Somesville, Harbor.

This Harbor is situated near the Head of Somes Sound, and bears **N. ½ E.** about 5½ miles from South-West Harbor. About 3 fathoms water can be carried at Low Tide up the Sound abreast the village, but in order to reach it vessels must wait until High Water. In sailing through this Sound from Bear Island Lighthouse there are but few obstructions to Navigation, but it is advisable for

strangers to take a pilot either at North-East or South-West Harbors, as the sudden gusts and heavy flaws of wind from the Mountain are apt to capsize or carry a vessel ashore.

Frenchman's Bay.

The entrance to this Bay, which is between Mount Desert Island on the West, and Schoodick Point (the Mainland) on the East, is about 6 miles wide, and lies about 20 miles Northeasterly from Mount Desert Rock Lighthouse, 5 miles East-Northerly from Baker's Island Lighthouse, and about 12 miles to the Westward of Petit Manan Lighthouse.

Remarks.

Frenchman's Bay is about 11 miles in length, 6 miles in breadth at its entrance, and about 7 miles at its widest part, and has a general course of nearly North and South. Within it is West Goldsboro' Harbor, Sullivan and West Sullivan Harbors, Bar Harbor, Hull's Cove, and Winter Harbor, the latter being one of the best on the Coast. There are three large shallow streams which empty into its Northern part, called Jordan's River, Skillings River, and Sullivan River, all of which are of some Commercial importance. There are also several Islands in this Bay, most of which have bold Shores, with deep water surrounding them.

Egg Rock Lighthouse.

Upon a small bare rocky Islet, called Egg Rock, which is nearly in the middle of Frenchman's Bay, is a Lighthouse, which at this date (1883) shows a fixed Red Light; at this time a Bell is placed near this Lighthouse, which is struck in thick weather. Shoal water extends off both Northeasterly and Southwesterly from this Lighthouse, and vessels passing to the Westward of it, bound up the Bay, should leave it at least ¾ mile on the Starboard hand, and vessels passing to the Eastward of it not less than ⅓ mile on the Port hand.

Bearings and Distances from Egg Rock Lighthouse.

		Distance.
Baker's Island Lighthouse, ...	SW. ½ S.,	7¼ miles.
Whistling Buoy off Schoodic Point, .	SE. ¼ E., .	5 "
Southern end of Turtle Island West side of entrance to Winter Harbor, . .	E.SE., . .	1¾ "
Otter Creek Point, Southeast extremity Mount Desert Island, ...	SW. ¾ W.,	3½ "
Southern end of Iron-Bound Island, .	N. by E., .	1⅜ "
Eastern end of Round Porcupine Island,	NW. by N. ¾ N.,	2¾ "

Bar Harbor.

This Harbor, which is formed by the Northeastern shore of Mount Desert and Harbor, and Porcupine Islands, is on the Western side of Frenchman's Bay, and lies about 9½ miles Northeasterly from Baker's Island Light, and about 3½ miles Northwesterly from Egg Rock Lighthouse.

Remarks.

In approaching and entering this Harbor there are but few dangers to be avoided. With Westerly and Northerly winds there is good anchorage off the Wharf in from 4 to 5 fathoms water, with good holding-ground; but the Harbor is somewhat exposed to gales from East to S. by E. by way of East. This place has recently become famous as a watering-place, but it is said to be rarely used by coasters as a harbor of refuge.

Sailing Directions for Bar Harbor in Daytime, with favorable winds and fair weather.

From the Westward, give Baker's Island Lighthouse a berth of about a mile, leaving it on the Port hand; when it bears west, steer about N.NE., leaving the shore of Mount Desert Island well on the Port hand. As you sail in you will see a remarkable, bare, perpendicular Bluff, a part of which, at a distance, appears like a schooner with her three lower sails set; this is called Schooner Head.

When abreast this Head there will be seen to the Northward, lying near the shore, a small Island which is bold, and farther in the Porcupine Islands. The first, which lies about ½ mile from the Western shore, is high, and has a peculiar white spot on its South side; this is called Round Porcupine. As you approach this last-mentioned Island, you will see, a short distance to the Westward of it, a dry Ledge; pass in about midway between this Ledge and the Western shore, taking care not to approach the latter nearer than 300 yards. When the end of the Long Wharf bears west then run for it until the water shoals to 5 fathoms at Low Tide, then anchor.

If you are bound to Bar Harbor, and wish to pass to the Northward, or inside the Cranberry Islands, follow the directions before given for entering the Southwest Harbor by the Western passage until past Cranberry Island Bar and the Red Buoy off Cow Ledge. When abreast the latter, steer **N.** by **E.** ½ **E.**, until Bear Island Lighthouse bears **NE.**, then run for it, passing between Greening's and Sutton's Islands. Continue the course for the Lighthouse until about ¼ mile from it, then steer **E.** ½ S., leaving the Red Buoys off Long Point and Bowden's Ledges well on the Port hand, and the Monument on East Bunker's Ledge and the Black Buoy off the Northeast part of Lewis Rock both on the Starboard hand; the latter lies about 400 yards to the Northward of the Monument. After passing the Monument and Buoy it is only necessary to give Mount Desert Island a good berth and follow the directions before given.

From the Eastward, give the Lighthouse upon Egg Rock a berth of about a mile, leaving it on the Starboard hand, and steer **N.** ½ **W.** until you make the Round Porcupine Island (before described). Leave this Island about 200 yards on the Port hand and haul in about **W.NW.**, and anchor in about 5 fathoms water at Low Tide, with the end of the Long Wharf bearing West.

In beating into this Harbor between the Porcupine Islands there are no dangers, and vessels may stand to the Northwestward after they have passed these Islands until the end of the Wharf bears **SW.** by **W.**, it is then necessary to tack ship, as there is a Shoal Bar which extends from the largest Island to the Western shore.

High Water.

It is High Water in Bar Harbor 32 minutes before it is at Boston. Common Tides rise about 10½ feet.

Hull's Cove.

This small, shallow Cove, which is the first to the Northwestward of Bar Harbor, lies on the Western side of Frenchman's Bay, and about 6 miles above Egg Rock Lighthouse.

Remarks.

With Westerly winds there is good anchorage in Hull's Cove for small or light draught vessels, but it is somewhat exposed to Easterly winds.

Sailing Directions for Hull's Cove in Daytime, with favorable winds and fair weather.

Small or light draught vessels, from the Eastward or Westward, may pass about midway between Egg Rock Lighthouse and Mount Desert Island, and steer about North, leaving the Round Porcupine Island (before described) about ¼ mile on the Port hand, and steer N. by W. ½ W., passing between Sheep and Burnt Islands, when past these Islands keep a sharp lookout for the Black Buoy, which lies on the Northeastern side of Bald Rock Ledges (some of which are above water). When this Buoy is made leave it a short distance on the Port hand, and run in about West, and anchor off the mouth of the Cove in from 3 to 4 fathoms water at Low Tide.

Salisbury Cove.

This small Cove, some part of which is dry at Low Tide, is on the Northern side of Mount Desert Island, about 7½ miles above Egg Rock Lighthouse; the Village of Eden is built on the shore of this Cove.

Sailing Directions for Salisbury Cove.

From the Eastward or Westward follow the directions before given for Hull's Cove, until past the Black Buoy off Bald Rock Ledges, then steer NW. ½ N., leaving a Rock above water, and the Black Buoy off Sunken Ledge well on the Port hand, when past this Buoy follow the Shore to the Westward, keeping about 300 yards from it, and anchor off the Cove in from 3 to 5 fathoms water.

Jordan's River.

The entrance to this Shallow River, which is nearly opposite Mount Desert Narrows, lies at the extreme Northwestern part of Frenchman's Bay, about 11½ miles Northwesterly from Egg Rock Lighthouse.

Remarks.

Jordan's River is a Shallow Stream emptying into the Northwestern part of Frenchman's Bay; with a good Pilot, at Low Tide, about 8 feet water can be taken up nearly abreast the village of Lamoine, which is on the Eastern side, about 2 miles above the entrance, and a short distance above this it is dry at Low Tide.

Sailing Directions for Jordan's River in Daytime, with favorable winds and fair weather.

From the Eastward or Westward, follow the directions before given for Salisbury Cove, until abreast the anchorage; you will then see about ½ mile to the Northward, the Red Buoys off Googin's Ledge; leave the Southwestern Buoy off this danger a short distance on the Starboard hand, and run up about 2½ miles, keeping about midway the Narrows, and anchor off the mouth of the River, in from 3 to 5 fathoms water at Low Tide; a pilot is necessary at this anchorage.

High Water.

It is High Water at the mouth of Jordan's River 30 minutes before it is at Boston. Common Tides rise 10½ feet.

Skilling's River.

The entrance to this River, which is at the head of Frenchman's Bay, is between Crabtree Point on the East, and Meadow Point on the West, and is about 1⅝ miles wide, and lies about 8 miles Northwesterly from Egg Rock Lighthouse.

Remarks.

The entrance to Skilling's River, which is between Crabtree and Meadow Points, is about 1⅝ miles wide, but this width rapidly diminishes until about 2 miles above its mouth, where it is only about 350 yards wide; above this it widens into a sort of Bay, of irregular shape, about 1¼ miles wide. Deep water can be carried up as far as the Narrows, but at this time there are no Buoys above this place; it is, therefore, not prudent to go above the Narrows without a pilot.

Sailing Directions for Skilling's River in Daytime, with favorable winds and fair weather.

From the Eastward or Westward, pass about midway between the Lighthouse upon Egg Rock and Mount Desert Island, and steer North, leaving the Round Porcupine Island (before described) about ¼ mile on the Port hand, and steer N. by W. ½ W., passing about midway between Sheep and Burnt Islands; when past these Islands continue the course N. by W. ½ W. about 1⅝ miles, to the Black Buoy off the Northeast part of Bald Rock Ledges; leave this Buoy a short distance on the Port hand, and make good the course N. by W. ½ W. about 3 miles, which will take you to the mouth of the River; you may then run up, keeping the Eastern side, which is bold and free from dangers (best aboard), and anchor below the Narrows. Above this a pilot is necessary.

Sullivan Harbor, or River.

The entrance to this Harbor, which is on the Northern side of Frenchman's Bay, is between Bean's Point on the East and Crabtree Point on the West, and lies about 7½ miles to the Northward of Egg Rock Lighthouse.

Remarks.

The course of this Harbor, or River, is **N.NE.**, about 3 miles to Sullivan, which is on the Eastern side, then **NW.** by **N.** nearly 3 miles through the Narrows, thence the distance is about 3 miles Northeasterly through Taunton Bay to Franklin. There is sufficient depth of water for the heaviest draught vessels from the entrance to Sullivan; above this it is not safe to go without a pilot, as there are dangerous Rapids known as the Falls.

Sailing Directions for Sullivan Harbor, or River, in Daytime, with favorable winds and fair weather.

From the Eastward or Westward, pass about midway between the Lighthouse upon Egg Rock, and Mount Desert Island, and steer North, leaving the Round Porcupine Island (before described) about ¼ mile on the Port hand, and steer **N.** by **W.** ½ **W.**, passing about midway between Sheep, and Burnt Islands. When past these Islands continue the course **N.** by **W.** ½ **W.** about 1⅝ miles to the Black Buoy off the Northeast part of Bald Rock Ledges, leave this Buoy a short distance on the Port hand, and steer **N.** by **E.** about 2½ miles, which will take you to the entrance; you will then see nearly in the middle, Bean's Island, which is low and rocky, and appears white with scattering trees here and there on its summit; a little more than ¼ mile to the Westward of this Island, there will also be seen a Black Buoy, which lies off the Southeastern part of Eaton's Ledge; pass about midway between the last-named Island and Buoy, and steer about **N.** by **W.** about ½ mile; you will then see to the Northeastward, two Spindles, one Black the other Red; when the former bears **NE.** by **N.** then run up, passing about midway between them; when past these Spindles run up about **NE.** ½ **N.**, carrying from 6 to 10 fathoms water at Low Tide, and anchor off the Village in from 4 to 6 fathoms water; if bound farther up, a pilot is necessary.

High Water.

It is High Water at the entrance to Sullivan Harbor 30 minutes before it is at Boston. Common Tides rise about 10½ feet.

West Gouldsborough Harbor.

This small, shallow Harbor, which is on the Eastern side of Frenchman's Bay, lies Northeasterly about 7 miles from Egg Rock Lighthouse.

Remarks.

West Gouldsborough Harbor is a Cove of irregular shape, about ¾ mile wide at its mouth. Hog Island, which is nearly ½ mile in length, lies directly across the entrance, making two narrow passages. The principal Channel leading into this Harbor is to the Southward of this Island, and has from 5 to 9 feet water in it at Low Tide.

Sailing Directions for West Gouldsborough Harbor in Daytime, with favorable winds and fair weather.

From the Eastward or Westward pass about midway between the Lighthouse upon Egg Rock and Mount Desert Island, and steer North, leaving the Round Porcupine Island (before described) about ¼ mile on the Port hand, and steer **N.** by **W.** ½ **W.** passing, about midway between Sheep and Burnt Islands. When past these Islands, bring the middle of Sheep Island * to bear **SW.** ¾ **W.**, and make good the course **NE.** ¾ **E.** about 2½ miles, keeping a sharp lookout for the Red and Black Buoys off Stave and Calf Islands. As soon as these Buoys are made, bring the Southernmost, or Red Buoy, to bear **NE.** ½ **E.**, and run for it on this course, leaving two small Islets called Little Calf and the Thrumbcap, well on the Port, and Stave Island on the Starboard hand; haul round the Red Buoy, leaving it close to on the Starboard hand, carrying not less than 11 feet water at Low Tide, and steer about **E.NE.** about ½ mile, leaving the Black Buoy off the Southeastern part of Half Tide Ledge a short distance on the Port hand, and anchor about ¼ mile **E.NE.** from it, near the entrance to the Harbor, in from 5 to 7 fathoms, and wait for high water and a pilot.

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* Sheep Island, which is nearly round, is about ¼ mile in diameter, is quite high, and lies NE. by E. about ¾ mile from the Wharves at Bar Harbor.

High Water.

It is High Water at the entrance of West Gouldsborough Harbor about 15 minutes before it is at Boston. Common Tides rise about 10½ feet.

Bass Cove, or East Sullivan Harbor.

The entrance to this Cove, or Harbor, which is between Ash Island on the West and the mainland on the East, lies about 2 miles Northwesterly from West Gouldsborough Harbor.

Remarks.

This Harbor, which is irregular in shape, is nearly 2½ miles long. The village of East Sullivan occupies its Eastern shore. From 3 to 7 fathoms water can be taken into it at Low Tide, where vessels may lie secure from all winds. In crossing the Bar between Stave and Calf Islands, bound to Bass Cove, there are but 11 feet water at Low Tide, but there is deep water in the narrow passage leading in between the Northern End of Calf and Preble's Island.

Sailing Directions for Bass Cove, or East Sullivan Harbor, in Daytime, with favorable winds and fair weather.

Vessels bound to Bass Cove, or East Sullivan Harbor, may follow the directions before given for West Gouldsborough Harbor until past the Black Buoy off the Southeast end of Half Tide Ledge; when past this Buoy (which is left on the port hand), steer about N. by W., leaving the Black Buoy off the Eastern side of Sunken Ledge, about 100 yards on the Port hand, and run up about NW. by N., and anchor in the Cove in about 4 fathoms water at Low Tide, secure from all winds.

Stave Island Harbor.

The entrance to this excellent Harbor, which is between Jordan's Island on the South and Stave Island on the North, is about ½

mile wide, and lies Northeasterly about 4 miles from Egg Rock Lighthouse, and East-Northerly about 3½ miles from the Wharves at Bar Harbor.

Remarks.

This excellent Harbor, which is both commodious and easy of access for strangers, will admit at Low Tide vessels of the heaviest draught; in entering, the shores are bold and there are no dangers; it is therefore only necessary to keep off the shores; the holding ground is superior to any Harbor on the coast of the United States.

Sailing Directions for Stave Island Harbor in Daytime, with favorable winds and fair weather.

From the Eastward or Westward, pass about midway between Egg Rock Lighthouse and Mount Desert Island, and steer North leaving Round Porcupine Island (which lies NW. by N. ½ N. 2¾ miles from Egg Rock Lighthouse) about ¼ mile on the Port hand. When the centre of this Island bears West, steer NE. by E., leaving Long Porcupine Island on the Port hand. As you sail in you will see on the Starboard, Jordan's Island, and close to its Northwestern end, at the Southern side of the entrance to the Harbor, a small low Islet; this is called Yellow Island; leave this Islet a short distance on the Starboard hand, and run up and anchor in the Southern part of the Harbor, in from 5 to 7 fathoms water at Low Tide, where you may lie secure from all winds. In the Northern part of this Harbor the water is shallow.

High Water.

It is High Water in Stave Island Harbor 33 minutes before it is at Boston. Common Tides rise about 10½ feet.

Schoodic Harbor.

The entrance to this Harbor, which is between Spruce Point on the Northeast, and Schoodic Point on the Southwest, lies West-Northerly, about 7½ miles from Petit Menan Lighthouse, and 1½ miles Northeasterly from Schoodic Point.

Remarks.

There is good anchorage in Schoodic Harbor, with winds from **SW.** to **E.NE.** by way of North, but it is exposed to Southerly, Southeasterly, and Easterly winds. In entering by the passage to the Northeastward of Schoodic Island, there are several dangers which at this date (1883) are not buoyed; but the channel between Schoodic Island and Schoodic Point, which is about ½ mile wide, is free from dangers, and may with favorable winds be safely entered in daytime; about 5 fathoms water can be taken into this Harbor at Low Tide.

Sailing Directions for Schoodic Harbor in Daytime, with favorable winds and fair weather.

From the Westward, bring Baker's Island Lighthouse to bear **W.** by **S.** ½ **S.**, and make good the course **E.** by **N.** ½ **N.** about 8 miles, keeping a sharp lookout for the Whistling Buoy, which lies off to the Southward of Schoodic Island. When this Buoy is made, leave it about ½ mile on the Starboard hand, and steer about **N.NE.**, passing about midway between the last-named Island and Schoodic Point. When past Schoodic Island, in order to avoid a Ledge which lies to the Northward of this Island, gradually haul to the Northward, keeping not more than 250 yards from the Western shore. As you sail in you will see an Islet, which may be left a short distance on either hand, and anchor not more than 300 yards above it in from 5 to 6 fathoms water at Low Tide.

From the Eastward, leave the Whistling Buoy off Schoodic Island about ½ mile on the Starboard hand, and proceed as before directed.

Whistling Buoy.

At this date (1884) a Whistling Buoy has been placed in about 17 fathoms water, ⅓ mile to the Southward of Schoodic Island.

Bearings and Distances from Whistling Buoy off Schoodic Island.

		Distance.
Mount Desert Rock Lighthouse, .	**SW.** by **S.** ½ **S.**	21½ miles.
Baker's Island Lighthouse, . . .	**W.** by **S.** ½ **S.**	8½ "
Egg Rock Lighthouse, ...	**NW.** ¼ **W.**	5 "

Red Buoy off Old Woman Ledge, East Side of Entrance to Prospect Harbor,	. . . .	NE. ½ N.	3⅓ miles.
Buoy off Moulton's Ledge,	. . .	E. by N. ½ N.	5 "
Petit Menan Lighthouse,	. . .	E. ½ N.	7¾ "
Buoy off Southeast Rock,	. . .	E. by S. ⅛ S.	9½ "

Winter (or Mosquito) Harbor.

The entrance to this Harbor bears about **NE.** ½ **E.** distance 9 miles from Baker's Island Lighthouse; and **SE.** by **E.** ½ **E.**, 2¼ miles from Egg Rock Lighthouse.

Mark Island Lighthouse.

Upon the South point of Mark Island, West side of entrance to this harbor, is a Lighthouse, which shows a fixed White Light.

Sailing Directions for Winter Harbor in Daytime, with favorable winds and fair weather.

From the Westward, after passing Baker's Island, bring the Lighthouse to bear **SW.** ½ **S.**, and steer **NE.** ½ **N.** for Egg Rock Lighthouse; distance 7¼ miles. As soon as this Lighthouse is made, keep it on the Port bow, and leave it about ½ mile on the Port hand. When it bears North, steer **E.** by **S.**, leaving the Southern part of Turtle Island, which is bold, about ¼ mile on the Port. After passing this point, Winter Harbor Sound will open, and you will see Mark Island Lighthouse, which in entering the Sound is left on the Port hand. Continue the course **E.** by **S.** until this Lighthouse bears **N.** by **E.**; then run in about midway between it and the Eastern shore. When abreast the Lighthouse, steer **N.** by **E.** ½ **E.** As you sail in you will see, ½ mile to the Northward of it, a Black Spindle with Cage on top, which is on Grindstone Ledge; pass about midway between this Spindle and the Eastern shore, and continue the course **N.** by **E.** ½ **E.** about ¾ mile, when you will see Winter Harbor Point, which is left on the Port hand. On the Starboard will be seen the Red Buoy off the Northwest part of Abijah's Ledge; leave this Buoy about 100 yards on the Starboard, and when it bears **SE.** ½ **S.**, haul up

NW. ½ **N.** into the harbor, leaving the Red Buoy and Spindle on Guptill's Ledge on the Starboard hand. When about 100 yards past this last-named Buoy, anchor in about 2½ fathoms water at Low Tide. Farther up the water is shoal.

Petit Menan Lighthouse bears from the Buoy painted in Red and Black Horizontal stripes, off the Southern part of Southeast Rock, **NW.** by **N.** ¼ **N.**; distance about 3¼ miles. Vessels, therefore, coming from the Eastward, may leave this Buoy about ¼ mile on the Starboard hand, and steer **W.** by **N.** ¼ **N.** 12 miles, leaving the Whistling Buoy off Schoodic Point and Island well on the Starboard hand. When the Lighthouse on Mark Island bears **N.** ½ **E.**, run for it on this course, leaving it on the Port hand, and follow the directions before given.

Beating into Winter Harbor.

In beating into this Harbor the shores are bold, and may be approached within 200 yards without danger. The principal obstructions are Grindstone, Abijah's, and Guptill's Ledges. The first-named (Grindstone Ledge), which lies upon the Western side of the Channel, is marked with a Black Spindle which bears from Mark Island Lighthouse **N.** by **E.** ½ **E.**, distance ½ mile; the second (Abijah's Ledge), which lies on the East side of the Channel, at the entrance of the harbor, is marked on its Northwestern side with a Red Buoy No. 2, which bears from Mark Island Lighthouse **NE.** by **N.** ½ **N.**, distance 1½ miles; and lastly, Guptill's Ledge, which lies on the Northern side of the harbor, and is marked off its South part with a Red Buoy No. 4, which bears **NW.** by **N.** ¼ mile from the Red Buoy off Abijah's Ledge. In beating in at night or day, bring the Light to bear from **N.NE.** to **N.** At night, after passing it, in order to avoid Grindstone Ledge, keep the Eastern shore best aboard until you judge you are past it; then keep the Western shore best aboard, and anchor in Sand Cove in from 5 to 8 fathoms water. This Cove is on the Western side of Winter Harbor Sound, about 1½ miles above the Light.

Sand Cove Harbor.

Strangers should not attempt to enter Winter Harbor at night, but may by the following directions run safely into this Cove. This fine harbor, which lies on the Western side of Winter Harbor Sound, is a large commodious Cove, easy of access to the heaviest-draught vessels. The holding-ground is good, the depth of water about 5½ fathoms, and there are no dangers in it. After passing the Light, the only danger to be avoided is Grindstone Ledge, which lies ⅛ mile from the Southeast point of Grindstone Island, and is marked with a Black Spindle with a large Cage on top. This Spindle bears **N.** by **E.** ½ **E.** from the Lighthouse; distance ½ mile.

Sailing Directions for Sand Cove Harbor, in Night-time, with favorable winds and fair weather.

Coming from the Eastward or Westward, bring Winter Harbor Light to bear from **N.NE.** to **N.** by **E.**, and run for it. As you approach the Light, haul gradually to the Eastward, leaving it about 300 yards on the Port hand. When abreast it, steer **N.** by **E.** ½ **E.**, and if the night is very dark, use the Lead, and do not go into less than 10 fathoms water until past the Spindle on Grindstone Ledge. When you judge you are about a mile past the Light, haul up **N.** by **W.**, run ½ mile, and anchor in the Cove in from 5½ to 7 fathoms water. After passing Grindstone Ledge there are no obstructions, and the shores may be approached within 100 yards without danger.

High Water.

It is High Water in Winter Harbor 37 minutes before it is at Boston. Common Tides rise about 10½ feet.

Mosquito Harbor.

This small shallow Cove, which is only fit for small vessels to enter, lies on the Eastern shore of Winter Harbor Sound. Its entrance bears **NE.** ½ **N.** from Winter Harbor Lighthouse; distance about 1 mile.

Sailing Directions for Mosquito Harbor in Daytime.

Coming from the Eastward or Westward, follow the directions before given for Winter Harbor in daytime until abreast the Lighthouse; then steer **NE.** by **N.** ½ **N.** a little more than a mile, when the Harbor will be fairly open, bearing **S.SE.**; then run in about midway, and anchor when the water shoals to 2 fathoms at Low Tide, which will be about 3¾ fathoms at High Tide.

High Water.

It is High Water in Mosquito Harbor about the same time it is at Winter Harbor.

Prospect Harbor.

The entrance to this Harbor is East Northerly about 12 miles from Baker's Island Lighthouse, and West Northerly about 6 miles from Petit Menan Lighthouse.

Prospect Harbor Lighthouse.

Upon Prospect Point, East side of entrance to this Harbor, is a Lighthouse which shows a Flashing Red and White Light. This Lighthouse bears from Baker's Island Lighthouse **NE.** by **E.**, distance 13 miles; from Petit Menan Lighthouse, about **NW.** by **W.**, distance 6½ miles.

Sailing Directions for Prospect Harbor in Daytime, with favorable winds and fair weather.

From the Westward, after passing Baker's Island, bring the Lighthouse to bear **W.** by **S.**, on which bearing keep it, and steer **E.** by **N.** 9 miles, leaving the Whistling Buoy on the port hand. Continue the course **E.** by **N.** until the Lighthouse at Prospect Harbor bears **N.** by **E.**; then run for it on this course, leaving the Black Buoy off the Eastern part of Harbor Ledge on the Port, and the Red Buoy off the Western part of the Old Woman Ledge on the Starboard hand. When past the last-named Buoy, steer more Easterly until the Lighthouse bears North, then run for it on this course until about

¼ mile from it; then steer **NW.** by **W.** ¾ **W.**, leaving the Black Spindle, with wheel and pendant on top, on the Port hand. When the Lighthouse bears **E.** by **N.**, anchor in the Inner Harbor in from 3 to 5 fathoms water. Above this, the water is shoal.

Petit Menan Lighthouse bears from the Buoy off Southeast Rock **NW.** by **N.** ¼ **N.**; distance 3¼ miles. Vessels from the Eastward may leave this Buoy ½ mile on the Starboard hand and steer **NW.** by **W.** ½ **W.** until Prospect Harbor Lighthouse (which is on the keeper's dwelling) bears **N.** by **E.**; then run in as before directed.

There is a Ledge which makes off to the Southwestward about 250 yards from the Lighthouse Point, and at this date (1879) is not Buoyed. Vessels in running in North for the Lighthouse should not, therefore, approach it nearer than 400 yards.

High Water.

It is High Water in Prospect Harbor 32 minutes before it is at Boston. Common tides rise about 10¾ feet.

Petit Menan Lighthouse.

Upon the Southern part of a small Rocky Islet called Petit Menan a lofty Tower has been erected, which shows a Fixed Light varied by Flashes.

Fog Signal.

Near this Lighthouse is a Steam Whistle, which at this date (1879) gives two blasts of 5 seconds each per minute, with intervals between the blasts of 8 seconds and 42 seconds.

Bearings and Distances of Lighthouses from Petit Menan Lighthouse.

		Distance.
Mt. Desert Rock Lighthouse, . .	**SW.** ¼ **S.**, . .	27 miles.
Baker's Island Lighthouse, . .	**W.** by **S.** . .	16½ "
Nash's Island Lighthouse, . . .	**NE.** by **E.**, . .	7½ "
Machias Seal Island Lighthouses,	**E.** ¼ **S.**, . .	34 "
Bryer's Island Lighthouse, entrance to St. Mary's Bay, . .	**E.SE.**, . . .	64 "

Petit Menan Island is surrounded by dangerous Ledges, Rocks, and Shoals, some of which are more than 3 miles from it. On its North side lie the two shoals known as Inner and Outer Bars. On its East, West, South, and Southeastern are several dangerous Rocks, most of which are at this time Buoyed.

Bearings and Distances of Dangers.

Moulton's Ledge.

This Ledge, which is bare at Low Tide, extends in a **NE.** and **SW.** direction about 100 yards, and is marked off its Southwest part with a Buoy painted in Red and Black Horizontal stripes. Petit Menan Lighthouse bears from this Buoy **E.** by **S.** ¼ **S.**, about 3 miles.

Petit Menan Reef.

This Reef extends off from the Southern part of Petit Menan Island, and is marked off its Southern part with a Red Buoy, No. 4. Petit Menan Lighthouse bears from this Buoy **N.** ¾ **E.** about ½ mile.

Simm's Rock.

This dangerous Ledge, which has but 6 feet water upon it at Low Tide, is marked off its Southern part with a Buoy painted in Red and Black Horizontal stripes. Petit Menan Lighthouse bears from this Buoy **N.** ¼ **W.** about 2 miles. The channel between Simm's Rock and the Buoy off Petit Menan Reef is a little more than a mile wide, and has not less than 12 fathoms water in it.

Southeast Rock.

This Ledge, which has but 5 feet water upon it at very Low Tides, is the outermost danger to the Southward of Petit Menan; it is marked off its Southwest part with a Buoy painted in Red and Black Horizontal stripes. Petit Menan Lighthouse bears from this Buoy **NW.** by **N.** ¼ **N.**; distance about 3¼ miles; Whistling Buoy, off Schoodic Island **W.** by **N.** ⅛ **N.**, 9½ miles.

Jordan's Delight Ledge.

This Ledge, which extends off about **S.** by **E.** over a mile from the Island called Jordan's Delight, is marked upon its Southern part with a Red Buoy No. 2. Petit Menan Lighthouse bears from this Buoy **SW.** ¾ **S.**, distance 3 miles; Nash's Island Lighthouse, **E.** by **N.** ½ **N.**, distance 5 miles. Vessels running from Petit Menan

to Nash's Island should not go to the Northward of this Buoy, as there are many dangerous Rocks lying between it and the Island called Jordan's Delight.

Jackson's Ledge.

This dangerous Ledge, which at this date (1879) is not Buoyed, has but 9 feet water upon it at very Low Tides. Petit Menan Lighthouse bears from it **W.** ¾ **S.**; distance about 4 miles.

Petit Menan Channel.

In Daytime, vessels from the Westward, especially with strong Northerly winds, may bring Petit Menan Lighthouse to bear E. by **N.**, and run for it on this course. As they approach this Lighthouse it is necessary to keep a sharp lookout for the large Red Buoy off Petit Menan Reef. The Lighthouse bears from this Buoy **N.** ¾ **E.**; distance about ½ mile. Leave this Buoy about ¼ mile on the Port, and in order to clear Jackson's Ledge, make good the course **E.SE.** From the Eastward, as soon as Petit Menan Lighthouse is made, in order to clear Jackson's Ledge, bring it to bear **W.NW.**, and run for it on this course, leaving the Red Buoy off Petit Menan Reef on the Starboard hand. After passing this, make good the course **W.** by **S.** The channel between Petit Menan Reef and Simm's Rock is about 1¼ miles in width, and has a depth of not less than 12 fathoms water at Low Tide. Strangers should not attempt this channel at Night, and in passing Petit Menan Light at that time should keep at least 5 miles to the Southward of it.

Gouldsborough Bay and Harbor.

A little more than 2 miles to the Eastward of Prospect Point Lighthouse, and **NW.** ½ **N.** about 4 miles from Petit Menan Lighthouse, is the entrance to Gouldsborough Bay. This Bay, which makes in nearly North and South, has an average width of about 1¼ miles to the Narrows, which is 5 miles above its mouth; between the Narrows and Steuben the water is shoal. At the entrance of this Bay there are several small Islands; the channel, which is about ¼ mile wide, leads in to the Westward of the Eastern-

most Island. This Island lies just to the Southwestward of Dyer's Point, and is bare except in the middle, where there is, at this time, a small grove of bushes. The next Island to the Westward of this last named has no trees upon it, and is covered with moss and grass.

Sailing Directions for Gouldsborough Bay and Harbor in Daytime, with favorable winds and fair weather.

From the Westward, after passing Schoodic Point and Island, bring Petit Menan Lighthouse to bear **E.** ½ **N.**, and run for it on this course until you make the Buoy painted in Red and Black Horizontal stripes, off the Southwest part of Moulton's Ledge. Petit Menan Lighthouse bears from this Buoy **E.** by **S.** ¼ **S.**; distance about 3 miles. Leave the Buoy about ¼ mile on the Starboard hand, and steer **N.NE.** until the passage between the two Eastern Islands at the entrance of Gouldsborough Bay is fairly open, bearing **N.** ½ **W.**; then run in midway between them. When past these Islands, steer **N.NW.** about a mile, when you will be abreast of Ward's Cove, which is on the Western side of the Bay. From this Cove steer about North 3½ miles, and anchor between Garden and Roger's Points, at the mouth of the Narrows, in from 3 to 5 fathoms water at Low Tide, with good holding-ground. If you wish to go above the Narrows, a pilot will be necessary. From the Eastward, bring Petit Menan Lighthouse to bear **W.NW.**, and run for it, leaving Jackson's Ledge well on the Starboard hand. As you approach Petit Menan Lighthouse, keep a sharp lookout for the large Red Buoy off Petit Menan Reef. Petit Menan Lighthouse bears from this Buoy **N.** ¾ **E.**; distance a little more than ½ mile. Leave this last-mentioned Buoy about ¼ mile on the Starboard hand, and steer **W.NW.** until the last-named Lighthouse bears **NE.** by **E.** ½ **E.** about 1 mile; then run **NW.** by **N.** until you make the passage between the two Eastern Islands at the mouth of Gouldsborough Bay. When this passage is fairly open, bearing **N.** ½ **W.**, then run in, and proceed as before directed.

High Water.

It is High Water in Gouldsborough Bay about the same time that it is at Prospect Harbor.

Dyer's Bay.

The next opening, which is about 1 mile to the Eastward of Gouldsborough Bay, is the entrance to Dyer's Bay. Petit Menan Point, which lies on the East side of this entrance, is low, and there extends off from it at Low Tide a long Ledge. This last-named Point bears from Petit Menan Lighthouse **NW.** by **N.** ¾ **N.**; distance about 2¼ miles. On the West side of entrance is Dyer's Point, which bears from Petit Menan Point **NW.** 1¾ miles. Several Rocks and Ledges lie off to the Southward of this last-named point, rendering it dangerous of approach. From Petit Menan Point to the Head of the Bay the distance is about 6 miles. In entering this Bay there is a good channel which leads in close to the Dyer's Bay Ledges, which are on the West side; and there is also, about 3½ miles above this entrance, excellent anchorage in from 4 to 5 fathoms water. About 3¼ fathoms water at Low Tide can be taken into this Bay.

Sailing Directions for Dyer's Bay in Daytime, with favorable winds and fair weather.

From the Westward, after passing Schoodic Point and Island, bring Petit Menan Lighthouse to bear **E.** by **N.**, and run for it on this course until you make the Buoy with Red and Black Horizontal stripes off the Southwest part of Moulton's Ledge. Petit Menan Lighthouse bears from this Buoy **E.** by **S.** ¼ **S.**; distance about 3 miles. Leave the Buoy about ¼ mile on the Port hand, and steer about **NE.** by **N.** When the entrance to Dyer's Bay is fairly open, run in, leaving the dry Rock called the Castle (which is on the Western side of the Channel) close to on the Port hand; and in order to avoid a Ledge which extends off about ¼ mile from a Sand Bluff on the Eastern shore, steer about **N.** ½ **E.** ¾ mile for Stanley's Point, which is a White Rocky Head on the Western shore. When abreast this last-named point, keep in the middle of the Bay, course about **N.** by **E** ½ **E.** As you sail in, you will see ahead the two Sheep Islands; run for the Western point of the Northernmost Island, which is Yellow. After passing these last-named Islands, which are on the Starboard hand, anchor anywhere to the Northward of them in from 4 to 5 fathoms at Low Tide. Small vessels may run further up, and anchor in Dyer's Cove.

From the Eastward, in order to clear Jackson's Ledge, bring Petit Menan Light to bear **W.NW.**, and run for it on this course,

keeping a sharp lookout for the large Red Buoy off Petit Menan Reef. The Lighthouse bears from this Buoy **N.** ¾ **E.**; distance ½ mile. Leave this Buoy close to on the Starboard hand, and haul gradually to the Northwestward, leaving the Lighthouse about ½ mile to the Eastward, and steer about **N.NW.** for Dyer's Point, which is the Western entrance to the Bay. Leave the Ledges off this point close to on the Port hand, and follow the directions before given. In running this last course, **N.NW.**, for Dyer's Point, you will leave the Rock called the Old Bull about 300 yards on the Starboard hand. This Rock lies about 2 miles to the Northwestward of Petit Menan Lighthouse, is bare at Low Tide, and breaks with a little motion of the sea.

Pond Island Lighthouse.

Upon the Southeastern part of Pond Island is a Lighthouse which shows a fixed White Light, and is intended to guide vessels into Narraguagus and Pigeon Hill Bays. The Lantern is upon the Keeper's dwelling. Pond Island Lighthouse bears from Petit Menan Lighthouse **NE.** by **N.** ¼ **N.**, distance 5¼ miles; from Nash's Island Lighthouse **W.** ¾ **N.**, distance about 4 miles.

Fog Signal.

A Bell, struck by hand, is placed near this Lighthouse.

Pigeon-Hill Bay, or Bowbear Harbor.

The entrance to this Bay bears about **N.** ½ **E.** from Petit Menan Lighthouse; distance about 3 miles. This is a good harbor of refuge for small vessels.

Sailing Directions for Pigeon-Hill Bay in Daytime, with favorable winds and fair weather.

From the Westward, after passing Schoodic Point, bring Petit Menan Lighthouse to bear **E.** by **N.**, and run for it on this course, keeping a sharp lookout for the large Red Buoy off Petit Menan Reef. Petit Menan Lighthouse bears from this Buoy **N.** ¾

E.; distance ½ mile. When the Buoy is made, leave it close to on the Port hand, and steer NE. by E. about 1 mile; then haul in N. NW., keeping a sharp lookout for Egg Rock, and also the Rock called the Whale. Egg Rock is simply a small bare rocky Islet about 10 feet high; the Whale, which is bare at ⅓ Ebb, lies S. by W. ⅓ mile from Egg Rock. Leave both these Rocks ¼ mile on the Starboard hand, and steer about N. ½ E., keeping midway the Channel, and anchor nearly abreast Pigeon Hill, in from 2½ to 3 fathoms water at Low Tide. Above this it is not prudent to go without a pilot, as the Lobster Rocks (which are not buoyed) extend from the Western shore more than half way across the Channel.

Beating into Pigeon Bay.

In beating into this Bay, after passing the Egg Rock and the Whale Rock (before described), the first danger to be avoided is a Rock (bare at Low Tide) lying off about 100 yards from Wood's Pond Point, which is on the Western side. One-half mile above this point, about ¼ mile from shore, is another Rock, bare at very Low Tides. Above this last-mentioned Rock, on the Eastern side, is Bowbear Ledge which extends off about 300 yards from the Eastern shore, and is bare at Half Tide. From this last Ledge the passage is clear to the Lobster Rocks.

From the Eastward, bring Petit Menan Lighthouse to bear W. NW., leaving Jackson's Ledge well to the Northward. Continue this course for the Lighthouse until about ¾ mile from it; then steer N. by W. ½ W. until you make Egg Rock and the Whale Rock (before described); then follow the directions before given.

Douglass Harbor.

This convenient Harbor, which lies between Pond Island on the East and the Douglass Islands on the West, bears about N.NE. 5 miles from Petit Menan Lighthouse. There is good anchorage in it

in about 8 fathoms water, with good holding-ground. It is easy of access, and is said to be free from ice in the winter.

Sailing Directions for Douglass Harbor in Daytime, with favorable winds and fair weather.

From the Westward, after passing Schoodic Point and Island, bring Petit Menan Lighthouse to bear about **NE.** by **E.**, and run for it. As you approach it, keep a sharp lookout for the large Red Buoy off Petit Menan Reef. Petit Menan Lighthouse bears from this Buoy **N.** ¾ **E.**; distance ½ mile. Leave this Buoy a short distance on the Port hand, and when Pond Island Lighthouse bears **N.** by **E.** ¾ **E.**, run for it on this course. As you approach this last-named Lighthouse, you will see on the Port bow a large Island showing a bare White Rocky surface without grass or trees upon it; this is Bowbear Island. To the Eastward of this will be seen the Douglass Islands, which are well wooded. The two Southernmost of the group present a peculiar appearance, which has given them the name of the Horse Heads; the Channel is between these last-named and Bowbear Island. When this passage is fairly open, run about **N.** ½ **W.**, passing midway between them, leaving Bowbear Island on the Port, and the Douglass Islands on the Starboard hand. Continue the course **N.** ½ **W.** until about ½ mile to the Northward of the Western Douglass Island; then steer **E.** ½ **N.** toward Pond Island, passing about 200 yards to the Northward of the East Douglass Island; haul round this last-named Island, and run to the Southward, and anchor between it and Pond Island in about 8 fathoms water, good holding-ground.

In beating in or out of this harbor, care should be taken to avoid a Ledge lying off about ¼ mile from the North end of the Western Douglass Island, and also another Ledge on the Western side of the passage about 250 yards from shore.

Narraguagus Bay and River.

The entrance to this Bay is about 6 miles **NE.** by **N.** from Petit Menan Lighthouse, and about 3 miles **W.** by **N.** from Nash's Island Light. It is over 2 miles wide, and its general course is about North over 4 miles to the entrance of Narraguagus River. About

4¾ miles from Pond Island Lighthouse, upon the Western bank of this River, is the village of Millbridge. About 7 feet water can be carried up to this place at Low Tide.

Sailing Directions for Narraguagus Bay and River in Daytime, with fair weather and favorable winds.

From the Westward, after passing Schoodic Point, bring Petit Menan Lighthouse to bear **NE.** by **E.**, and run for it on this course, keeping a sharp lookout for the large Red Buoy off Petit Menan Reef. Petit Menan Lighthouse bears from this Buoy **N.** ¾ **E.**; distance ½ mile. When the Buoy is made, leave it close to on the Port hand, and gradually haul to the Northward until Petit Menan Lighthouse bears **SW.** ¾ **W.**; on which bearing keep it, and steer **NE.** ¾ **E.** for Nash's Island Light, keeping a sharp lookout for the Red Buoy which lies off the Southern part of Jordan's Delight Ledge. Petit Menan Lighthouse bears from this Buoy **SW.** ¾ **S.** about 3 miles. When this last-named Buoy is made, leave it well on the Port hand, and continue the course **NE.** ¾ **E.** past Jordan's Delight Island, until Pond Island Lighthouse opens to the Eastward of it; then steer in about **N.** by **W.**, leaving Pond Island about ½ mile on the Port hand. When abreast this last-named Island, or its Southeast part bears West, haul up **NW.** by **N.**, leaving the Black Buoy off the North part of Pond Island on the Port hand. As you sail in, you will see on the Starboard an Island having some peculiar White Rocks in its middle; this is Trafton's Island. Haul gradually round the West end of this Island, leaving it about ¼ mile on the Starboard hand, and steer **N.** by **E.** ½ **E.** On this course you will see a Red Spindle with Wheel on top; this is on Trafton's Island Ledge, and is left on the Starboard hand. When abreast this last-named Spindle, steer more Westerly, leaving the Black Buoy No. 3, on the Lower Middle Ground, on the Port hand, and the Red Buoy No. 2, off lower end of Upper Middle, on the Starboard hand. If bound up to Millbridge, it is advisable to anchor off the lower Steamboat Wharf, and take a pilot. Vessels of more than 12 feet draught should, at Low Tide, anchor between Trafton's Island and the Red Spindle on Trafton's Island Ledge.

From the Eastward, leave Nash's Island Lighthouse about ½

mile on the Starboard hand, and steer for Pond Island Lighthouse, bearing about **W.** by **N.** When about ½ mile from it, and the town opens to the Westward of Trafton's Island, steer **NW.** by **N.**, and follow the directions before given.

Nash's Island Lighthouse.

Upon a bare rocky Islet called Nash's Island is a Lighthouse which shows a fixed Red Light. This Lighthouse bears from Petit Menan Lighthouse **NE.** by **E.**, distance about 8 miles, and is intended to guide vessels into Pleasant Bay, Cape Split Harbor, and Moose-A-Bec Reach.

Harrington River.

The entrance to this River bears about **N.NW.** from Nash's Island Lighthouse; distance 4 miles. The general course of this River from its entrance is **N.NE.** for 5 miles; then **N.NW.** 1¼ miles to the village of Harrington. About 6 feet water at Low Tide can be carried up to Nash's Point, which is about 5 miles from the entrance. Above this, there is no channel at Low Tide. On account of the numerous shoals and ledges in this River (none of which are Buoyed at this time), it is advisable for strangers bound to this place to take a pilot.

Pleasant Bay and River.

The entrance to this Bay is about 3 miles North from Nash's Island Lighthouse. Its general course and distance from its mouth to the entrance of Pleasant River is about **N.NE.** 3½ miles; from the mouth of Pleasant River to Addison the course is about **N.NE.** 3¼ miles. There are many dangerous Rocks and Ledges in this Bay and River, which at this date (1880) are not Buoyed. Strangers should not, therefore, attempt to enter them without a pilot.

Cape Split Harbor.

The entrance to this convenient harbor of refuge, which is easy of access, bears about **NE.** by **N.** from Nash's Island Lighthouse; distance 2 miles. This Harbor is a wide cove about 1¼ miles in

length, and more than ½ mile in breadth; 3 fathoms water can be found at the anchorage, with excellent holding-ground. It is exposed to Southerly or Southwest winds.

Sailing Directions for Cape Split Harbor in Day-time, with favorable winds and fair weather.

From the Westward, after passing Schoodic Point, bring Petit Menan Lighthouse to bear **NE.** by **E.**, and run for it on this course, keeping a sharp lookout for the large Red Buoy off Petit Menan Reef. Petit Menan Lighthouse bears from this Buoy **N.** ¾ **E.** ½ mile. When the Buoy is made, leave it close to on the Port hand, and gradually haul to the Northward until Petit Menan Lighthouse bears **SW.** ¾ **W.**, on which bearing keep it, and steer **NE.** ¾ **E.** for Nash's Island Lighthouse, keeping a sharp lookout for the Red Buoy which lies off the Southern part of Jordan's Delight Ledge.* Petit Menan Lighthouse bears from this Buoy **SW.** ¾ **S.** about 3 miles. When this last Buoy is made, leave it well on the Port hand, and run for Nash's Island Lighthouse, keeping it a little on the Port bow. As you approach it, you will see Cone Island, which is the first to the Eastward of the Lighthouse; and also Flat Island, which bears from Nash's Island Lighthouse **E.SE.**, distance 1¾ miles. Pass in midway between these two last-named Islands, and steer **N.** ½ **E.**, leaving a remarkable-looking Islet, called Ladle Island, about ⅓ mile on the Port hand. When past this last-named Island, the Harbor will be open; then run in, keeping the Western shore best aboard, and anchor where you please, in about 3 fathoms water at Low Tide. With strong Southerly or Southwest winds, it is advisable to anchor in Tabbott's Cove, which is on the East side of this harbor, about ¼ mile above its entrance. Here you may moor **NW.** and **SE.** and lie safe from all winds.

Channel to the Northward of Nash's Island Lighthouse.

After passing the Red Buoy which lies off the Southwest part of Jordan's Delight Ledge, steer **NE.** ½ **E.** As you approach Nash's Island Light, you will see, about 1 mile to the Northward of it, a

* There is said to be a Ledge, with 18 feet water upon it, lying about NE. ¾ E. 2¼ miles from Petit Menan Light.

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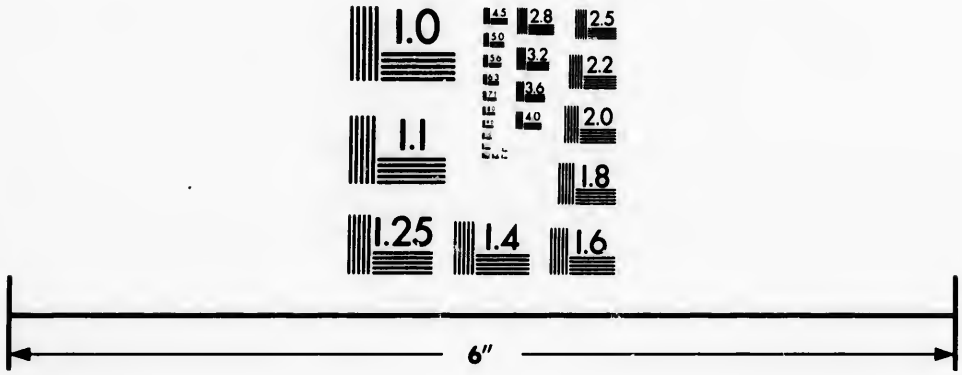

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small, high, bare, rocky Islet. This is called the Big Pot; and about ⅔ mile to the Eastward of this, a remarkable-looking Island called the Ladle. Leave both of these last-named Islands about ½ mile on the Starboard hand, and the Black Spindle on Norton's Rock a short distance on the Port hand. When the entrance to the harbor (which bears **NE.** by **N.** from Nash's Island Lighthouse) is fairly open, bearing about **N.NE.**, then run in, keeping the Western shore best aboard, and proceed as before directed.

Coming from the Eastward, outside of all the Ledges and Islands, when Nash's Island Light bears **N.** by **W.**, run for it on this course until the passage between Cone and Flat Islands (before described) is fairly open; then run in as before directed.

High Water.

It is High Water in Cape Split Harbor 30 minutes before it is at Boston. Common Tides rise about 11½ feet.

Moose-A-Bec Reach.

The Western entrance to this passage is about 2¾ miles North-east from Nash's Island Lighthouse. It lies between the main land on the North, and a group of Islands on the South. Its length from Tabbott's Narrows to Mark Island is about 8 miles, and in some places it is very narrow. The least water in this Reach is about 14 feet (at Low Tide), which is upon Moose-A-Bec Bar, near its Eastern entrance. There are many dangers in it, but those lying in and near the channels are marked with Spindles and Buoys. Good anchorage is also found in all winds, and strangers may safely pass through it by carefully observing the following directions.

Sailing Directions for Moose-A-Bec Reach in Day-time, with favorable winds and fair weather.

Note.

Masters of vessels should bear in mind that in sailing from Nash's Island Light through Moose-A-Bec Reach, Black Buoys and Black Spindles must be left on the Starboard hand, and Red Buoys and Red Spindles on the Port hand. In sailing to the Westward

through this Reach Red Buoys and Red Spindles must be left on the Starboard hand, and Black Buoys and Black Spindles on the Port hand.

From the Westward follow the directions before given for Cape Split Harbor, and run for Nash's Island Lighthouse, bearing **NE.** ½ **E.** Leave this Lighthouse about ⅓ mile on the Starboard hand, passing about midway between it and the Islands called the Big Pot and Ladle (before described). When Nash's Island Lighthouse bears **SW.** by **W.** ¼ **W.**, keep it on that bearing and steer **NE.** by **E.** ¼ **E.** for the entrance of Tabbott's Narrows. As you sail in, you will see on the Port, Sheep Island, which lies close to the Main Land. This is a remarkable looking Island, being high, rocky, and nearly bare. On the Starboard will be seen Ram Island, which is smaller than Sheep Island, and at this time is covered with a thick growth of trees. The Narrows, which are about ⅓ mile wide, lie between these two Islands. As you enter this passage, keep a sharp lookout for the Black and Red Buoys, off Tabbott's Rock and Ram Island Ledge. When these are made, pass midway between them, carrying about 6 fathoms water, and make good the course **NE.** by **E.**, leaving Shabbitt Island, which is low and wooded, about 400 yards on the Starboard hand. Continue the course **NE.** by **E.** As you enter the Reach, you will see on the Starboard a Red Spindle with round Cage on top. When this Spindle bears **E.** ¼ **N.** steer **E.** ½ **S.**, leaving it about 250 yards on the Port hand, and make good the course **E.** ½ **S.**, 2⅓ miles to Red Buoy off Cumming's Ledge. Leave this Buoy about 150 yards on the Port hand, and continue the course **E.** ½ **S.** 1⅛ miles to the Black Buoy off the Northern part of Horse Ledge. If it is Low Tide, and your vessel draws more than 6 ft. water, and the wind is not favorable to run through the Seguin Passage, you must anchor off the village of Jonesport, and, in order to cross the bar safely, wait for Flood Tide. There is about 18 feet upon Moose-A-Bec Bar at High Water. Leave the Black Buoy off Horse Ledge, close to on the Starboard hand, and steer about **E.** by **S.** ¼ **S.**, leaving the Black Buoys and Spindle on the Starboard, and the Red Buoys on the Port hand. When about midway between the Red Buoy No. 6 and Black Buoy No. 1,* you will then be on the shoalest part of the Bar, and must make good the course East, leaving the two small, bare, Rocky Islets called the Virgin's Breasts, the Black Spindle on Gilchrist's Rock and Mark

* The Black Buoy No. 1 has been discontinued.

Island (which is the first) on the Starboard hand, and the Red Buoy off Leighton's Ledge and Bay Ledges on the Port hand. In order to clear the dangerous shoals called the Eastern Ledges, when abreast Mark Island, which is bold on the Northern part, continue the course East about 2 miles; then make good the course **E.SE.**, leaving Libby Island Lighthouse well on the Port hand.

Mark Island bears from the Eastern Ledges, which are bare at Low Tide, **W.** by **N.** ½ **N.**; distance 1¼ miles.

Seguin Passage.

In sailing through Moose-A-Bec Reach at Low Tide, with winds from **W.** by **S.** to **N.** by **E.** by way of North, you may safely carry 11 feet water through this passage by carefully observing the following directions.

After passing the village of Jonesport, keep a sharp lookout for the Black Buoy No. 7, off North part of Horse Ledge. Leave this Buoy close to on the Starboard hand, and make good the course **E.** by **S.** ½ **S.**, leaving the following Buoys and Spindle on the Starboard hand. First, the Black Buoy No. 5, off Sand Ledge; second, the Black Spindle on Snow's Rock with Cage on top; and lastly, the Black Buoy No. 3, off the Northern part of Little Ledge. Haul round this last Buoy, leaving it close to on the Starboard hand, and steer **S.** ½ **W.**, leaving the Red Buoy No. 2 off the South end of Little Ledge on the Port, and the Red Buoy, No. 4 and No. 2 off Nova's Rock and Southwest Ledge, both on the Port hand; leave the last-named off Southwest Ledge close to on the Port hand, and steer **SE.** by **E.** ½ **E.** about ¾ mile, then **E.** by **S.** about ½ mile, leaving the Red Buoys on the Port, and the Black Buoys and Black Spindle with Cage on top on Moose Rock, on the Starboard hand. If bound to the Eastward, after passing the Black Buoy No. 1, off Seguin Ledge, which is the last in the passage, make good the course **E.SE.**, leaving the dangerous shoals called the Eastern Ledges well on the Port hand.

Mark Island.

This Island, which lies near the Eastern part of the entrance to Moose-A-Bec Reach, is the landmark for vessels bound to the West-

ward through this passage. It is high and rocky, and at this time is covered with trees. In coming from the Eastward, a large round Head will be seen on its Western part, which appears over the trees as if it were in the middle. The Northern part of this Island is bold, but a Ledge extends off about ⅛ mile from its Southern part. Vessels bound through the Seguin Passage must leave this Island to the Northward, but those bound over Moose-A-Bec Bar leave it to the Southward.

Sailing Directions for Moose-A-Bec Reach in Daytime, with favorable winds and fair weather.

Note.

At Low Tide there are about 6 feet water upon Moose-A-Bec Bar, at Half Flood 12 ft., and at High Water 18 feet. Vessels, therefore, of more than 6 feet draught must wait for Flood Tide.

From the Eastward, leave Libby Island about 2 miles on the Starboard hand, and when the Lighthouse bears North, steer **W.** ½ **N.** about 5 miles, then Mark Island, which lies near the Eastern entrance to Moose-A-Bec Reach, will be distant about 3 miles; then haul more Northerly, keeping a sharp lookout for the dangerous shoals called the Eastern Ledges. Mark Island bears from them **W.** by **N.** ½ **N.**; distance 1¼ miles. When this last-mentioned Island bears West, run for it on this course and leave it about 300 yards on the Port hand. As you sail in, you will first see on the Starboard the Red Buoy No. 2, off the South part of the Bay Ledges. On the Port will be seen the Black Spindle on Gilchrist's Rock, and farther in the Red and Black Buoys on Moose-A-Bec Bar; leave the Red Buoys and Red Spindles on the Starboard, and the Black Buoys and Black Spindles on the Port hand. When midway between the Red Buoy No. 6 and Black Buoy No. 1, you are then on the shoalest part of the Bar, and must steer about **W.** by **N.** ½ **N.** ¾ mile to Black Buoy No. 7, off the North part of Horse Ledge; leave this Buoy close to on the Port, and make good the course **W.** ½ **N.** 1⅛ miles to Red Buoy off South part Cumming's Ledge; leave this Buoy on the Starboard hand, and continue the course **W.** ½ **N.** 2⅜ miles to the Red Spindle on Fessenden's Ledge. Leave this Spindle about 200 yards on the Starboard, and continue the course about ¾ mile; then steer **SW.** by **W.** for Tabbott's Narrows, leaving

Shabbit's Island about 400 yards on the Port hand. When past this Island, keep a sharp lookout for the Red and Black Buoys at the entrance of the Narrows. When these are made, pass midway between them, and steer **SW.** by **W.** ¼ **W.**, leaving Nash's Island Lighthouse about ⅓ mile on the Port, and also passing about midway between it and the Islands called the Big Pot and Ladle (before described). If bound inside the Petit Menan Ledges, bring Nash's Island Lighthouse to bear **NE.** ¾ **E.**, and steer **SW.** ¾ **W.** until you make Petit Menan Lighthouse; then bring it to bear **SW.** ¾ **W.**, and steer for it, leaving the Red Buoy off Jordan's Delight Ledge well on the Starboard hand. After passing this Buoy, haul more Southerly, and leave the large Red Buoy off Petit Menan Reef on the Starboard hand. Petit Menan Lighthouse bears from this last-named Buoy **N.** ¾ **E.** about ½ mile.

Directions for the Seguin Passage from the Eastward.

If it is Low Tide, and your vessel draws more than 6 and not more than 11 feet water, you may (with winds from **E.NE.** to **S.SW.** by way of South) safely pass through this Channel by carefully observing the following directions.

From the Eastward, leave Libby Island about 2 miles on the Starboard hand, and when the Lighthouse bears North, steer **W.** ½ **N.** about 5 miles, then Mark Island, which lies near the Eastern entrance to Moose-A-Bec Reach, will be distant about 3 miles. Bring this Island to bear **NW.** by **W.** ½ **W.**, and run in, keeping it a little on the Starboard bow. On this last course the dangerous shoals called the Eastern Ledges will be left well on the Starboard hand. Mark Island bears from these last-named dangers **W.** by **N.** ½ **N.**; distance 1¼ miles. When about ½ mile from the Island, you will see on the Port the Buoys and Spindle which mark the entrance to the Seguin Passage; the Easternmost Buoy, which is Black, No. 1, lies off the Northern part of Seguin Ledge, and bears from the Eastern part of Mark Island **SW.** by **S.** ½ mile. As soon as this Buoy is made, run for it, and leave it close to on the Port hand. When past it, steer about **W.** by **N.** ⅓ mile leaving two Red Buoys on the Starboard, and one Black Spindle and one Black Buoy on the Port. After passing these, steer about **NW.** by **W.** ½ **W.** about one mile, leaving the Red Buoy No. 6, off the Southwest part of Long Ledge, on the Starboard

hand; continue the course **NW.** by **W.** ½ **W.** for the Red Buoy No. 2, leaving it on the Starboard hand. After passing it, haul up **N.** ½ **E.**, leaving the Red Buoy No. 4 on the Starboard, and the Black Buoy No. 3, off Little Ledge, close to on the Port hand. When past this last Buoy, steer about **W.** by **N.** ½ **N.** for the Buoy off the North part of Horse Ledge, leaving it close to on the Port, and follow the directions before given.

High Water.

It is High Water on Moose-A-Bec Bar 32 minutes before it is at Boston. Common Tides rise about 11¾ feet.

Jonesport Harbor.

This Harbor, which is a small shallow Cove, lies on the Northern side of Moose-A-Bec Reach near its Eastern entrance. Vessels from the Eastward or Westward bound to this place should follow the directions before given for this Reach, and at Low Tide anchor off the village in from 7 to 9 fathoms water.

Head Harbor.

Lighthouses.

Upon Mistake Island, which forms the Southern side of Head Harbor, is a Lighthouse which shows a flashing White Light. This Light is intended to guide vessels into this Harbor, and also into Englishman's Bay.

Sailing Directions for Head Harbor in Daytime, with favorable winds and fair weather.

Coming from the Westward, outside Petit Menan Ledges, as soon as the Lighthouse on Mistake Island is made, bring it to bear **NE.** by **N.**, and run for it on this course. Leave this Lighthouse about ¾ mile on the Port hand, and when Head Harbor is fairly open, bearing North, then run in, keeping midway the passage, and anchor off White Point, or run up into the Cow Yard, or Inner

Harbor; the latter has from 2 to 4 fathoms water in it at Low Tide, and is well sheltered from all winds.

From the Eastward, leave Libby Island Lighthouse about 2 miles on the Starboard hand, and steer W. by S. As soon as the Lighthouse on Mistake Island is made, bring it to bear W. by S., and run for it on this course until Head Harbor is fairly open, bearing North; then run in, leaving the Lighthouse to the Westward, and follow the directions before given.

Whistling Buoy.

A Whistling Buoy has been placed off about 2 miles S. by E. ¾ E. from the Lighthouse on Mistake Island.

Machias Bay and River.

The entrance to this Bay, which lies between Libby Island on the West and Cross Island on the East, is NE. by E. ¼ E. from Mount Desert Rock Lighthouse, distance about 49 miles, and W. SW. from West Quoddy Head; distance about 21 miles. About 6 miles from the entrance is Machias River, which empties into this Bay. Machiasport is situated on the West bank of this River, near its mouth, and about 4 miles above the port is the city of Machias. About 14 feet water may be carried up to the anchorage off Machiasport at Low Tide. About 12 feet water can be carried from Machiasport to the Bridge, but there is not more than 8 or 10 feet in the Channel up to Machias.

Libby Island Lighthouse.

Upon the Southern part of this Island is a Lighthouse which shows a fixed White Light. At this date (1880) a Fog Bell is placed near it.

Bearings and Distances from Libby Island Lighthouse.

		Distance.
Machias Seal Island Lighthouses, .	SE. ½ E., . .	12 miles.
Bryer's Island Lighthouse, . . .	SE. ½ E., . .	46 "
Seal Island (Cape Sable) Lighthouse,	SE. by S. ¾ S.,	92 "
Mount Desert Rock Lighthouse, .	SW. by W. ⅛ W.,	49 "

Avery's Rock.

A Lighthouse has been built upon this Rock which shows a fixed Red Light. It bears from the Lighthouse upon Libby Island **NE.** by **N.**; distance 5½ miles.

Sailing Directions for Machiasport in Daytime, with favorable winds and fair weather.

Coming from the Westward outside Petit Menan Ledges, when up with the Whistling Buoy off to the Southward of the Lighthouse on Mistake Island, steer about **NE.** by **E.** ¼ **E.**, leaving the Lighthouse on Libby Island about ¾ mile on the Port hand. After passing this Lighthouse, haul gradually to the Northward until it bears **SW.** by **S.**; then steer **NE.** by **N.** As you sail in, you will see on the Starboard the large Red Buoy No. 2, which lies off the Southwest end of Cross Island Ledge; this Ledge extends from Cross Island, and the Buoy, which is left on the Starboard hand, bears **NE.** by **E.** ½ **E.** from Libby Island Light. On the Port will be seen the Lighthouse on Avery's Rock, which may be left close to on the Port hand. When abreast this last-mentioned Lighthouse, steer **N.** ½ **E.** for Round Island, leaving it on the Port hand. When past it, you will see, a short distance to the Northward of it, a Black Buoy No. 3, which is left on the Port hand. When past this Buoy, steer **NW.** by **N.** for the Black Buoy No. 5, off the Middle Ground; leave this Buoy on the Port, and steer about **W.NW.**, keeping the Southwestern shore best aboard, in order to avoid the flats which lie upon the opposite side of the Channel. As you enter the River you will see the Red Buoy No. 2, which marks the Western end of Holmes Point Flats; leave this Buoy close to on the Starboard hand, and steer about **N.** by **E.** ½ **E.**, keeping in the middle of the River to the anchorage off Machiasport. On the above courses there will be deep water as far as the Lighthouse upon Avery's Rock, and from that point not less (in the Channel) than 14 feet to Machiasport. If bound up to Machias, it is advisable to take a pilot at Machiasport. You will have good anchorage a short distance to the Northwest of the Black Buoy, which lies to the Northward of Round Island.

Coming from West Quoddy Head or the Northeastward, steer about **SW.** by **W.** ½ **W.** along the shore, and as soon as Libby Island Lighthouse is made, bring it to bear **W.** by **N.**, and run for

it on this course until about 2 miles from it; then steer **NW.** until it bears **SW.** by **S.** when the course is as before given.

High Water.

It is High Water in Machias Bay 29 minutes before it is at Boston. Common Tides rise about 13½ feet.

Little River.

The entrance to this excellent harbor of refuge is about 10 miles Northeasterly from Libby Island Lighthouse, and about 13 miles **SW.** by **W.** ½ **W.** from West Quoddy Head.

Little River Lighthouse.

This Lighthouse is built upon an Island lying in the middle of the entrance to this River, and shows a Fixed Light varied by White Flashes. At this date a Fog Bell is placed near this Lighthouse.

Remarks.

The Ship Channel into this River is between the Lighthouse on the Southwest and a high steep rocky Head on the Northeast (with a few trees upon it) called Eastern Knubble; to the Eastward of this Knubble is a high square bare Tower-like Head called Great Head. Little River Head, which is on the Southwest side of the entrance, is of moderate height. The Rocks on the Southern and Eastern faces of this Head have large White spots painted on them just below the top of the Cliffs; these are for the purpose of enabling vessels from the Westward to recognize the entrance, as no opening can be seen until past this Head.

Sailing Directions for Little River in Daytime, with favorable winds and fair weather.

From the Westward, when Libby Island Lighthouse bears **N. NW.**, distance 3 or 4 miles, steer about **E.NE.** 9½ miles. As soon as Little River Head is made (which may be known by the White Spots painted near it), haul more Northerly, and when the Lighthouse is open, run in, leaving it close to on the Port hand, and in order to avoid Eastern Head Ledge, which lies off the Northeastern shore, and is dry at Low Spring Tides, keep the Southwestern shore best aboard, and anchor near the lower part of the town

in from 4 to 5 fathoms water at Low Tide with good holding-ground. To the Westward of the Lighthouse is a passage into this River which is about 400 yards in width, and has a depth of about 7 feet water in it at Low Tide. Strangers should not attempt this Channel, as there are several Ledges which extend off from both shores.

From the Eastward, when the Lighthouse at Little River is made, bring it to bear about West, and run for it on this course until close to it; then follow the directions before given. In beating in, the shores are bold, and the only danger to be avoided is Eastern Head Ledge, which lies off the Northeastern shore. This Ledge extends about 50 yards **NW.** and **SE.**, and is bare at very Low Tides.

Currents.

Off Little River the current of Flood runs strong to the Eastward, and that of the Ebb to the Westward.

Machias Seal Island.

This Island, which is about 600 yards in length and 400 yards in breadth, is elevated about 20 feet above high water. A ledge extends about ½ mile Northeastward from its Northern end, upon the middle of which is a rock always above water and connected with the Island by a part of the ledge which is dry at low tide. About ⅓ mile to the Eastward of this Island there is a shoal spot of 12 feet, at low tide, with 13 fathoms water between it and the Island; on the other sides there is deep water close to it. Near the middle of this Island are two Lighthouses which, at this date (1882), show two Fixed White Lights; these Lighthouses are 64 feet apart, and when in range bear **W.** by **N.** ½ **N.** and **E.** by **S.** ½ **S.**

Fog Whistle.

Near the Lighthouses is a Fog Whistle which in thick weather sounds 5 seconds every ½ minute.

Bearings and Distances from Machias Seal Island Lighthouses.

		Distance.
Mount Desert Rock Lighthouse, .	**W.** by **S.** ¾ **S.**,	54 miles.
Seal Island Lighthouse (Cape Sable),	**S.** by **E.** ¾ **E.**, .	80 "
Petit Menan Lighthouse, ...	**W.** ¼ **N.**, . .	34 "
Libby Island Lighthouse, ...	**NW.** ½ **W.**, .	12 "
West Quoddy Head Lighthouse, .	**NE.** ¾ **N.**, . .	20 "

Dangers.

From **N.** by **W.** to **S.** by **E.** by way of East from these Lighthouses there are many Shoals, Rocks, and sunken Ledges. We shall therefore only give bearings and distances of a few of the dangers lying to the Northward and Northeastward of them, as no stranger should attempt to pass between Machias Seal Island Lights and the Gannett Rock Lighthouse.

North Shoal.

Machias Seal Island Lighthouses bear from this Shoal (which has but 7 feet water upon it at Low Tide) **S.** by **E.**; distance 3 miles.

North Rock.

Machias Seal Island Lighthouses bear from this Rock (which is bare) **SW.** by **S.**; distance 2¼ miles. Between the North Shoal and this Rock there are several spots having from 6 to 8 feet water upon them.

Middle Shoal.

Machias Seal Island Lighthouses bear from this Shoal (which has 17 feet water upon it) **W.SW.**; distance 5 miles.

It is said that a Rock, upon which several large vessels have been wrecked, lies about West 3½ miles from these Lighthouses; the author of this work searched for it in 1857 without success. It is, however, advisable for vessels bound up the Bay of Fundy, and intending to pass to the Northward of Grand Menan Island, to give these Lighthouses a good berth to the Southward.

Passamaquoddy Bay and St. Croix River.

This large deep Bay, which separates the British Provinces from the United States, lies about **NE.** and **SW.** between the shores of Maine and New Brunswick. Into the Northwest corner of Passamaquoddy Bay empties the St. Croix River, which also separates the Province of New Brunswick from the State of Maine. The town of Calais is situated on the Western bank, about 13 miles from its mouth; the town of Eastport is situated on Moose Island, about 10 miles below the mouth of this River.

Passages into Passamaquoddy Bay.

There are several passages into this Bay: the Main Ship Channel, which lies between East Quoddy Head and Deer Island; the Southern, through Lubec Narrows, which opens between West Quoddy Head and the Southern part of Campobello Island. Only 6 feet water can be carried through Lubec Narrows at Low Tide. An appropriation, however, has been recently made by the United States government for the purpose of improving this channel.*

West Quoddy Head Lighthouse.

Upon West Quoddy Head, South side of entrance to Lubec Narrows, is a Lighthouse which shows a fixed White Light. Near this Lighthouse is placed a Steam Whistle, giving blasts of 8 seconds at intervals of 52 seconds.

Bearings and Distances from West Quoddy Head Lighthouse.

		Distance.
Machias Seal Island Lighthouses, .	SW. ¾ S., .	20 miles.
South Wolf Island Lighthouse, . .	E. by N. ¾ N.,	12 "
Point Lepreau Lighthouses, . . .	E. by N. ½ N.,	26 "
Cape Spencer Lighthouse, . . .	E. by N., . .	51 "

East Quoddy Head Lighthouse.

Upon East Quoddy Head, South side of entrance to Passamaquoddy Bay, by Ship Channel, is a Lighthouse which shows a Fixed Light.

Bearings and Distances from East Quoddy Head Lighthouse.

		Distance.
West Quoddy Head Lighthouse,	Southwesterly, .	9 miles.
Lighthouse at Bliss Harbor, . .	NE. ½ E., . .	4¼ "
South Wolf Island Lighthouse, .	SE. by E. ¾ E.,	7½ "
Lighthouse on Swallow's Tail (Grand Menan), ...	S. by E., . . .	14 "

* At this date, 1884, it is said that 12 feet water at Low Tide can be taken through Lubec Narrows.

Eastport Harbor.

This Harbor is situated at the end of Passamaquoddy Bay. It has two entrances: the Main Ship Channel, which lies between East Quoddy Head and Deer Island; and the Southern, by way of Lubec Narrows. The latter passage, however, at this date (1879) is only fit at Low Tide for light-draught vessels.

Sailing Directions by Ship Channel for Eastport Harbor, in Daytime, with favorable winds and fair weather.

From the Westward, when past Mount Desert Rock (which may be left about a mile on either hand), bring the Lighthouse to bear **SW.** by **W.** ¾ **W.**, and steer **NE.** by **E.** ¾ **E.**, for West Quoddy Head; distance from Mount Desert Rock, 72 miles. If this course is made good, the large Buoy off Southeast Rock, painted in Red and Black Horizontal stripes (and which bears **SE.** by **S.** ¼ **S.** 4 miles from Petit Menan Lighthouse), will be left 6 miles on the Port hand; the Whistling Buoy which lies **S.** by **W.** 2 miles from Moose-A-Bec Lighthouse, 3 miles on the Port hand; Libby Island Lighthouse, 4¼ miles on the Port; Little River Lighthouse, 2½ miles on the Port; and West Quoddy Head Lighthouse about 3¼ miles on the same hand. Machias Seal Island Lighthouses will be left about 7 miles on the Starboard hand. Continue the course **NE.** by **E.** ¾ **E.** until West Quoddy Head Lighthouse bears **W.NW.**, distance about 3¼ miles; then steer about **NE.** by **N.** ½ **N.**, along the shore of Campobello Island until you make East Quoddy Head Lighthouse. When this bears from **NW.** by **N.** to **N.NW.**, run in, and, with light winds and Flood Tide, haul round this Head, which is bold, leaving it not more than ⅛ mile upon the Port hand. When past this last-mentioned Lighthouse, steer Southwesterly, and in order to avoid the Ledges on the Starboard hand, do not keep more than from ⅛ to ¼ mile from the Campobello shore, which is bold and free from dangers. Continue the course along it, leaving several Islands and Ledges on the Starboard, and a deep opening called Harbor Delute on the Port hand. When the town of Eastport bears **W.SW.**, then run for it on this course. If bound to this place, in order to avoid the deep water and strong current, anchor close in to the Wharves. In passing near the Wharves at Low Tide, heavy-draught vessels must be care-

ful to avoid two Rocks, one having 14 feet water on it, the other 16 feet. The anchorage off Eastport is called Friars' Roads, but the water in them is very deep, with a strong current. These Roads are also exposed to Northeast winds. For vessels only making a harbor here, it is advisable to anchor in Broad Cove, which lies near the Southern part of the town, is free from current, and is also sheltered from all winds. This Cove is the real harbor of Eastport. In running into Broad Cove, in order to avoid Shackford Ledge, which lies on the Port hand off Shackford Head, keep the Eastern shore best aboard, and anchor in from 4 to 5 fathoms water at Low Tide. Here you will have excellent holding-ground. In beating from East Quoddy Head to Eastport, keep the Campobello shore best aboard, as this is bold and free from dangers. Mariners should bear in mind that after passing Machias Seal Island Lights, bound to Eastport or up the Bay of Fundy, the tide rises from 18 to 20 feet. In passing East Quoddy Head Light, with light winds, haul close round the Head, as the first of the Flood sets directly on some of the Ledges on the Starboard hand.

Upon the South Wolf Island is a Lighthouse which shows a White Revolving Light. East Quoddy Head Lighthouse bears from this Light on the South Wolf **NW.** by **W.** ¾ **W.** 7½ miles. Vessels from the Eastward, bound to Eastport, when the Light on the South Wolf Island is made, may bring it to bear **W.** ½ **N.**, and run for it on this course, leaving it about ¾ mile on the Starboard hand. When past it, steer **NW.** by **W.** for East Quoddy Head Light, and follow the directions before given.

Head Harbor.

About ¼ mile to the Southwest of the Lighthouse on East Quoddy Head is Head Harbor Island. Between this Island and the Northeast part of Campobello Island is Head Harbor, which is about ¼ mile in width. In entering this harbor by the Eastern passage there are no dangers, and about 5 fathoms water can be carried into it at Low Tide.

A Fog Trumpet has been placed at this harbor near the Lighthouse, and in thick weather will sound blasts of 8 seconds duration, with intervals of 35 seconds between them.

Sailing Directions.

From the Westward, follow the directions before given for Eastport Harbor until the Lighthouse at East Quoddy Head bears **NW.** by **N.**; then run for it until the harbor is fairly open, bearing West, when you may run in, leaving this Lighthouse about 300 yards on the Starboard hand, and anchor near the Southwest part of the Island in from 5 to 8 fathoms water at Low Tide.

There is a passage into this harbor to the Westward of Head Harbor Island in which there are about 2½ fathoms water at Low Tide, but it is narrow. Strangers will, therefore, unless necessity compels, enter by the Eastern passage.

From the Eastward, bound into Head Harbor, after passing the Lighthouse on the South Wolf Island, run for East Quoddy Head Light, bearing **NW.** by **W.** until about 300 yards from it; then steer about **W.** by **S.** into the harbor, and gradually haul Southerly, and anchor as before directed.

Harbor Delute.

This Harbor, which has but few dangers in it, lies on the Northern side of Campobello Island; its entrance is about 2 miles **E.** by **N.** from the town of Eastport, and Southwesterly about 3 miles from the Lighthouse at East Quoddy Head.

Sailing Directions in Daytime.

From the Eastward or Westward, follow the directions for Eastport Harbor by Ship Channel until Harbor Delute opens; then run in, leaving Windmill Point, which is the first on the Northeastern side, about ⅛ mile on the Port hand. When past this point, steer about **SE.** by **S.** ½ **S.**, leaving two small coves on the Port hand. After passing these (in order to avoid Racer Rock, which lies in the middle of the harbor, and has 9 feet water upon it at Low Tide), keep the Eastern shore best aboard, and anchor in from 8 to 10 fathoms water at Low Tide.

The Southwest arm of this Harbor extends well up into the land, and is sheltered from all winds. About 15 feet water can be taken into it at Low Tide; but the channel is narrow. In entering

keep in the middle, and when in, keep the Southeastern shore best aboard, and anchor in from 4 to 5 fathoms water at Low Tide.

Sailing Directions for Eastport Harbor by way of Lubec Narrows, in Daytime, with favorable winds and fair weather.

Coming from the Westward, follow the directions before given for Eastport Harbor by way of Ship Channel, until West Quoddy Head Lighthouse bears **N.NE.**; then run about **NE.** by **N.** In order to avoid Sail Rock and the dangerous Whirlpool (which both lie Southeasterly from this Lighthouse), do not approach West Quoddy Head Lighthouse nearer than ¾ mile until it bears **NW.** by **W.** You are then past these dangers, and may haul to the Northwestward, keeping about 300 yards from West Quoddy Head, which is quite bold. When past this Head, steer about **NW.**, keeping a sharp lookout for the Red Buoy, No. 2, off the Middle Ground. West Quoddy Head bears from this Buoy **SE.** by **S.** ½ **S.**; distance ¾ mile. Leave this last-named Buoy close to on the Starboard hand, and steer **N.** by **W.** ½ **W.** As you sail in, you will see the Black Wooden Beacon, with Tripod on top, on the Western Bar. Leave this about 25 yards on the Port, and steer about **N.** by **E.**, carrying about 8 feet at Low Tide, and leaving the Red Buoy No. 4 close to on the Starboard. When past this last Buoy, steer about **NE.** by **N.** ½ **N.**, leaving the Black Buoy No. 1 (off Eastern part of a Ledge), on the Port hand. From this last Buoy, steer **N.** by **W.** for the Eastern end of Lubec Wharves, and when abreast Leadbury Point (which is the first on the Port hand), steer through the Narrows, keeping in about mid-channel. When a short distance past the town of Lubec, you will cross the Bar, which at this date (1884) has about 12 feet water upon it at Low Tide. When you are through the Narrows, the first Island is called Pope's Folly. Leave this small Island about 250 yards on the Starboard hand, and steer up about **NE.** by **N.**, leaving Dudley's and Treat's Islands (which are both bold on their Eastern part) on the Port hand. When past these Islands, follow the directions before given for Ship Channel. Or when you are through Lubec Narrows, you may steer up **NW.** ¾ **N.** about 1 mile, passing to the Westward of these Islands, Gull Rock, and Burial Island (which is small). When past this last-named Island, haul more Northerly, and anchor off the town or in Broad Cove.

The Flood and Ebb sets strong through Lubec Narrows; sailing-vessels, therefore, cannot pass through them unless they have strong favorable winds. When you pass West Quoddy Head, if the tide is low, or wind unfavorable, anchor in Quoddy Roads about 200 yards to the Southwest of the Red Buoy No. 2, off the Middle Ground, in about 3½ fathoms water at Low Tide.

Quoddy Roads.

These Roads, which lie a short distance to the Northward of West Quoddy Head Lighthouse, are exposed to Southeasterly winds, but have a good anchorage in from 3 to 7 fathoms water, with winds from South to **N.NE.** by way of West.

Sailing Directions for Quoddy Roads at Night-time, with favorable winds and fair weather.

From the Westward, leave West Quoddy Head Light at least ¾ mile to the Northward, and when it bears **W.NW.** haul in, leaving the Head, which is quite bold, about 300 yards on the Port. When past the Northern point of Quoddy Head, run from **N.** by **W.** to **N.NW.** ⅓ mile, and anchor in about 3½ fathoms water at Low Tide, and about 6½ at High Tide.

From the Eastward, with Easterly or Northeasterly winds, as soon as West Quoddy Head Light is made, bring it to bear West, and run for it on this course. In order to clear Liberty Point Ledge, which is on the Northern side of the harbor, continue the course until you judge you are ¼ mile from this Light, then haul in about North, and anchor with the Light bearing about **S.SW.**, in about 4 fathoms water at Low Tide, and 7 at High Tide.

Beating in at Night.

From the Westward, leave Quoddy Head Light at least ¾ mile to the Northward, and when it bears **NW.** by **W.** haul sharp on the wind, and in order to avoid Liberty Point Ledge (which bears from West Quoddy Head Light **NE.** by **E.** ¼ **E.**, distance 1 mile) keep this Head best aboard, and anchor in from 4 to 6 fathoms water at Low Tide, the Light bearing from **S.SW.** to **SW.** from you. From

the Eastward, run for West Quoddy Head Light, bearing West, and do not haul up into the Roads until you are ½ mile from it; then anchor as before directed. After passing the Northern point of West Quoddy Head, be careful to avoid Wormell's Ledges, which lie **E.SE.** and **W.NW.** nearly ½ mile, and are bare at very low tides; their Northern part bears **NW. ½ W.** from the Northern part of West Quoddy Head; distance about ¼ mile.

Both Coves on the Southwestern and Northeastern sides of Quoddy Roads are full of Shoals, with some Rocks and Ledges; and Flats extend off on the Northern part in some places nearly ½ mile. In summer the Fish Weirs are excellent guides, as their outer parts are always on the edges of the channel.

Campobello Island.

The Eastern shore of this Island is bold and quite free from dangers. Vessels bound East or West, with tide and wind ahead, may anchor in any of the coves on this shore, in from 5 to 10 fathoms water.

Steam Whistle.

A Steam Whistle is placed near West Quoddy Head Lighthouse, which gives blasts in thick weather of 8 seconds at intervals of 52 seconds. Vessels, therefore, in thick weather, coming from the Westward, should keep off at least ¾ mile from the Lighthouse until it bears **W.NW.**; then run for it on this course until you judge you are about 300 yards from the Whistle, then haul in about North, keeping about 300 yards from the head, and anchor about ¼ mile North of it in the Roads, in from 3½ to 5 fathoms water at Low Tide.

From the Eastward, in thick weather, as soon as the Whistle is heard at West Quoddy Head, bring it to bear West, and run for it on this course, until about 300 yards from it; then follow the directions before given.

Morton's Rock.

Vessels passing West Quoddy Head should beware of this Rock, which lies near the shore about 2½ miles to the Westward of the Lighthouse on this Head. This Rock is now marked with a Red Buoy.

Lubec.

If you are bound to this place, follow the sailing directions before given for Eastport Harbor, by way of Lubec Narrows. If it is Low Water when you arrive at West Quoddy Head, anchor in the Roads and wait for High Water, when you will have slack tide to go to the Wharves.

High Water.

It is High Water at Eastport on the days of the full and change of the moon at 11h. 8m., or about 21 minutes before it is at Boston. Common Tides rise about 18 feet.

Cobscook Bay and Pembroke River.

The entrance to this Bay lies between Estes Head (which is the extreme Southern part of the town of Eastport) on the North, and Seward's Neck on the South. The entrance to Pembroke River is Northwesterly about 5 miles from Eastport. The town of Pembroke is situated about 4 miles from the entrance to this River. There are many dangers in entering Cobscook Bay and Pembroke River, and the current, which runs very strong, sets in several places on to them; it is therefore advisable for strangers bound to Pembroke to take pilots at Eastport.

St. Croix River.

The entrance to this River is about **N. ¾ W.** from Eastport; distance about 10 miles. About 5 fathoms water at Low Tide can be carried up about 7½ miles above its entrance; here, the River divides, the main branch turning abruptly to the Westward, and running with some changes of course for about 5½ miles to the town of Calais. This town is built on the South bank of the River, 13 miles above its mouth, and 23 miles from Eastport. About 11 feet water at Low Tide can be carried up to Hackman's Point (which is on the North bank of this River about 2 miles below Calais), and 6 feet from this last point to Calais.

Dochet Island Lighthouse.

Upon Dochet Island, which lies about 5½ miles from the mouth of the St. Croix River; and nearly in the middle, is a Lighthouse which shows a Fixed Light varied by flashes.

Sailing Directions for St. Croix River in Daytime, with favorable winds and fair weather.

From the Eastward or Westward follow the directions before given for Eastport Harbor until you are abreast this town; then, if you intend to go up without a pilot, and have the tide with you, and also a favorable wind, with a commanding breeze, keep about 250 yards from the Wharves. When you are nearly abreast the Northern part of the town, you will see Dog Island, which is small. In order to avoid the Whirls on the Eastern side of the passage, give this last-mentioned Island a berth of 200 yards, leaving it on the Port hand. When past Dog Island, steer about **NW.** by **N.** ½ **N.** for Kendall's Head; distance about 1⅓ miles. Leave this Head about 350 yards on the Port, and when past it you will soon see the Black Buoy No. 1, which lies off the Eastern part of Frost's Ledges, which are about 2 miles above Kendall's Head, opposite Clam Cove Head; leave this Buoy on the Port, and steer about **N.** ½ **W.** 5½ miles across Passamaquoddy Bay to the entrance of the River. As you enter this River, you will see on the Starboard the Port of St. Andrews, and likewise a low sandy Island South of this place called Navy Island; the Beacon to the Northwest of it is on Navy Island Reef. After passing this Beacon, keep about in the middle of the River, passing the village of Robbiston. As you sail up, you will see the Lighthouse, which is on Dochet Island, nearly in the middle of the River, and also, about 1½ miles South of this Lighthouse, the Black Buoy off the Southern part of Middle Ground. You may leave this Buoy on either hand, but the Channel to the Eastward of the Lighthouse is the widest; you will therefore leave this Buoy and the Red Buoy on Half-Tide Ledge, together with the Lighthouse, all on the Port hand. After passing this Lighthouse there will be seen to the Northward of it another Red Buoy, which must be left on the Port hand. When past this last Buoy, in order to clear the Shoals which lie off Sandy Point (which is on the Starboard side), steer for Devil's Head, which is on the Western side of the River, about 2 miles above the Light-

house; haul close round this Head, and when past it, steer about **NW.**, leaving two Black Buoys close to on the Port hand. This last course leads up to the Beacon on the Ledge; this Beacon is 3 miles below Calais, and in going up is left on the Port hand. It is advisable to anchor here, where you can lie afloat at Low Water, and take a pilot to Calais.

St. Andrew's Harbor.

This Harbor, which is well sheltered, and has from 12 to 14 feet water in it at Low Tide, lies on the East side of the entrance to the St. Croix River, about 10½ miles above the town of Eastport. There are two entrances, one of which is to the Northwest of Navy Island, the other to the Southeast of it; both these passages are narrow, and have but little water in them at Low Tide.

Sailing Directions for St. Andrew's Harbor.

Vessels from the Eastward or Westward bound to this harbor may follow the directions before given for Eastport Harbor and St. Croix River until they make the Beacon off the Northwest part of Navy Island Reef. Leave this Beacon about ⅓ mile on the Starboard hand, and when the Lighthouse at the Southeastern part of the town bears **SE.** by **E.** ¾ **E.**, run for it, passing about midway between this Beacon and the Northern shore of the harbor, and anchor off the town. If it is Low Tide when you make the Beacon, anchor about ⅓ mile Northwest of it in about 4 fathoms water, and wait for Flood Tide.

At High Water, with Southeasterly winds, you may enter this harbor to the Southeastward of Navy Island by the following directions: Leave the Southeast point of this last-named Island (which is opposite the town) about ¾ mile on the Port hand, and when the Lighthouse at the Southeastern part of the town bears **NW.** ½ **W.**, run in between the Beacons on this course, leaving the Lighthouse close to on the Starboard hand, and anchor off the town.

High Water.

It is High Water in St. Andrew's Harbor on the days of the Full and Change of the Moon 10h. 50m., or about 39 minutes before it is at Boston. Common Tides rise about 23 feet.

There is another entrance to Passamaquoddy Bay called the Letite Pass. This Pass bears **NW.** by **N.** from the Lighthouse on the South Wolf Island, distance about 10 miles. This last-named Channel is narrow, and has a number of dangers at the entrance, and also within it. Strangers bound to St. Andrew's should therefore go by the way of Eastport.

Bliss Harbor.

The Western entrance to this excellent Harbor bears from the Lighthouse at East Quoddy Head **NE.**; distance about 4 miles. It has two entrances, one of which is to the Westward of Bliss Island, the other to the Eastward.

Bliss Island Lighthouse.

Upon Bliss Island, Southeastern side of entrance to this harbor, is a Lighthouse which shows a Red Fixed Light.

Bearings and Distances from Bliss Island Lighthouse.

		Distance.
East Quoddy Head Lighthouse, .	**SW.** ½ **W.**, .	4½ miles.
Lighthouse at South Wolf Island, .	**SE.** by **S.** ½ **S.**,	7 "
Lighthouse at Point Lepreau, . .	**E.** by **S.**, . .	17 "

Sailing Directions for Bliss Harbor in Daytime, with favorable winds and fair weather.

From the Westward follow the directions before given for Eastport Harbor (by Ship Channel) until you make the Lighthouse at East Quoddy Head. Leave this Lighthouse about 1½ miles on the Port, and make good the course **NE.** by **E.** until the Lighthouse at Bliss Harbor bears **N.** by **W.**; then run for it on this course, leaving the Island called the White Horse and also the Ledges called the North and South Rocks well to the Westward. In order to avoid the shoal water which extends off Southwest from the Lighthouse point, give it a berth of about ⅓ mile, leaving it to the Eastward. When the Lighthouse bears East, haul up into the harbor, and in order to avoid Man-of-War Rocks, which bear from the Lighthouse **NE.** by **N.** about ½ mile, and are bare at Half-Tide,

follow the shore on Starboard hand (which is quite bold), keeping about 150 yards from it. When Fisherman's Cove opens, which is the first to the Southward after passing the Lighthouse, haul in midway, and anchor in about 7 fathoms water at Low Tide. The Lighthouse bears from this anchorage **W.** by **S.**; distance about ⅝ mile.

Coming from the Southeastward, leave the Lighthouse on the South Wolf Island from ½ to ¾ mile on the Starboard hand, and make good the course **N.NW.** for Bliss Island Lighthouse. When the Lighthouse at this harbor is made, bring it to bear **N.NW.**, and follow the directions before given.

From the Eastward, with Easterly winds, bound to Bliss Harbor, you may enter it by the Eastern Passage by the following directions. Leave the Lighthouse at Point Lepreau about 1½ miles to the Northward, and when it bears **N.** by **E.**, steer about **W.** by **N.** ¼ **N.**, leaving the Lighthouse at Beaver Harbor on the Starboard, and the East Wolf Island well on the Port hand. When you make the Lighthouse on the East side of entrance to L'Etang Harbor, which is about 2 miles to the Eastward of the Lighthouse on Bliss Island, continue the course until L'Etang Light bears **NW.** by **N.**; then run for it. Give this Light a berth of about ¼ mile, leaving it on the Starboard hand, and steer in about **N.NW.**, leaving several Rocks, some of which are only bare at Half-Tide, on the Port, and the Roaring Bull (which lies about 300 yards Northwest from the Lighthouse, and is awash at High Water) on the Starboard hand. As you sail in, you will see on the Port Mink Island, which is small, and bears from the Lighthouse **W.** by **N.**: haul round it at a distance of 250 yards, leaving it on the Port, and when it bears South, steer about **W.** by **S.**, leaving Flea Island, which is also small, on the Starboard. When past this last-named Island, run for the Lighthouse on Bliss Island, bearing **SW.** by **W.**, until Fisherman's Cove, which is the first on the Port hand, opens; then run in, and anchor as before directed.

High Water.

It is High Water in Bliss Harbor on the days of the Full and Change of the Moon at 11h. 15m., or about 14 minutes before it is at Boston. Common Tides rise about 22 feet.

L'Etang Harbor.

The entrance to this Harbor is **NE.** by **E.** 6 miles from the Lighthouse at East Quoddy Head, and **W.** by **N.** ¼ **N.** from Point Lepreau Lighthouse; distance 15 miles.

Pea Island Lighthouse.

Upon Pea Island, East side of entrance to L'Etang Harbor, is a Lighthouse which at this date shows a Green Fixed Light.

Bearings and Distances from Pea Island Lighthouse.

		Distance.
East Quoddy Head Lighthouse .	**SW.** by **W.**, .	6½ miles.
Lighthouse on South Wolf Island,	**S.** ¾ **E.**, . .	7 "
Point Lepreau Lighthouse, . . .	**E.** by **S.** ¼ **S.**,	15½ "

Sailing Directions for L'Etang Harbor in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given for Eastport Harbor, by Ship Channel, until you make the Lighthouse at East Quoddy Head. Leave this Lighthouse about 1½ miles on the Port, and make good the course **NE.** by **E.**, leaving the White Horse and the Ledges called the North and South Rocks, and also Bliss Island Lighthouse, well on the Port hand. When the Lighthouse at the entrance of L'Etang Harbor is made, bring it to bear **N.NE.**, and run for it on this course until about ⅓ mile from the Lighthouse; then haul in for a high Bluff (on the West side of the entrance), bearing **N.** by **W.** ½ **W.**, leaving the Colt and Mare Rocks (the former of which is bare at Half-Tide) on the Port, and the Rock called the Roaring Bull, which lies a short distance Northwest from the Lighthouse, on the Starboard hand. When the Lighthouse bears **E.SE.**, steer **N.** by **E.** until it bears **S.SE.**; on which bearing keep it, and run **N.NW.**, passing about midway between McCann Island and L'Etang Head; the shore of the latter, which is on the Starboard, is very bold. When past this last-named Head, steer about **N.** ½ **W.**, and anchor at Low Tide in from 7 to 9 fathoms water, the Southeastern part of the town bearing from **NE.** by **E.** to **E.NE.**

Vessels from the Westward, with Southerly or Westerly winds, bound to L'Etang Harbor, may follow the directions before given

for Bliss Harbor until past Man-of-War Rock (which bears **NE.** by **N.** from the Lighthouse on Bliss Island, distance ½ mile, and is bare at Half-Tide); then steer about **NE.** by **E.** ¾ **E.**, leaving Flea and McCann's Islands, which are both bold, on the Port hand. When L'Etang Lighthouse bears **S.SE.**, steer **N.NW.**, and follow the directions before given for this harbor.

From the Eastward, leave the Lighthouse at Point Lepreau about 1½ miles to the Northward, and when it bears **N.** by **E.**, steer about **W.** by **N.** ¼ **N.**, leaving the Lighthouse at Beaver Harbor on the Starboard, and the East Wolf Island well on the Port hand. When you make the Lighthouse on the East side of entrance to L'Etang, which is about 2 miles to the Eastward of the Lighthouse at Bliss Harbor, continue the course until L'Etang Light bears **NW.** by **N.**; then run for it. Give this Light a berth of about ¼ mile, leaving it on the Starboard hand, and steer in about **N.NW.**, leaving several Rocks, some of which are only bare at Half-Tide, on the Port hand, and the Roaring Bull, which lies about 300 yards Northwest from the Lighthouse (and is awash at High Water), on the Starboard hand. After passing this last danger, haul more Northerly until the Lighthouse bears **S.SE.**; then steer **N.NW.**, and follow the directions before given.

High Water.

It is High Water in L'Etang Harbor on the days of the Full and Change of the Moon at 11h. 16m., or about 13 minutes before it is at Boston. Common Tides rise about 23 feet.

Wolf Island Lighthouse.

Upon the Southeast point of Southwest Wolf Island is a Lighthouse which shows a White Light which revolves every 1½ minutes; this Lighthouse is square, and is painted White.

Bearings and Distances from Light on Southwest Wolf Island.

		Distance.	
West Quoddy Head, ...	**W.** by **S.**. ¾ **S.**, .	12	miles
Fog Whistle on Northeastern part of Grand Menan, . . .	**SW.** by **S.**, . . .	9	"
East Quoddy Head Lighthouse,	**NW.** by **W.** ¾ **W.**,	7½	"
Point Lepreau Lighthouse, .	**E.** by **N.** ¼ **N.**, .	14	"

Dangers.

The Southern part of this Island is bold, and may be approached as near as ⅕ mile without danger.

Point Lepreau Lighthouse.

Upon Point Lepreau are two Fixed Lights, one above the other. The Lighthouse is painted in Red and White Horizontal stripes.

Bearings and Distances from Point Lepreau Lights.

		Distance.
Steam Whistle on Northern part of Grand Menan Island, . .	SW. by W. ¼ W.,	21¼ miles.
Lighthouse on South Wolf Island,	W. by S. ¼ S., .	14 "
Revolving Red and White Light at Cape Spencer, ...	E., ...	25 "
Lighthouse at Point Prim, Digby Gut, ...	SE. by S., . . .	36 "
Isle Haut Lighthouse, . . .	E. ¾ S., ...	64 "

Steam Whistle.

A Steam Whistle is placed near this Lighthouse, which is sounded twice a minute in thick weather.

Dangers.

Point Lepreau is very bold off its Southern part; the only danger near it is a Ledge, which has 12 feet water upon it at Low Tide. This danger bears from the Lighthouse NW. by W. ½ W.; distance about ½ mile.

Beaver Harbor.

The entrance to this Harbor bears from the Lighthouse at East Quoddy Head about E.NE., distance 9½ miles, and W. by N. ½ N., 11 miles from Point Lepreau Lights.

Beaver Harbor Lighthouse.

On Drew's Head, West side of entrance to Beaver Harbor, is a Lighthouse which shows a fixed White Light.

Sailing Directions for Beaver Harbor in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given for Eastport Harbor by way of Ship Channel, until you make the Lighthouse at East Quoddy Head. Leave this Lighthouse about 2 miles on the Port, and make good the course **NE.** by **E.** ½ **E.**, leaving the Island called the White Horse, and also Bliss and L'Etang Harbor Lights, on the Port, and the Wolf Islands well on the Starboard hand. When the Lighthouse at Beaver Harbor is made, bring it to bear **N.** by **W.** ½ **W.**, and run for it on this course until you judge you are about ⅓ mile from it; then steer more Northerly, leaving the Lighthouse a short distance to the Westward, and anchor on the Western side, close in to the village, in about 2 fathoms water at Low Tide.

From the Eastward, give Point Lepreau Lighthouse a berth of about ¾ mile, leaving it to the Northward, and steer **W.** by **N.** ½ **N.**, leaving the Eastern Wolf Island well on the Port hand. When Beaver Harbor Lighthouse bears **N.NW.**, follow the directions before given.

This harbor is exposed to Southerly winds, but vessels will find shelter on the Western side, close to the village. A sunken Rock lies about **S.** by **E.** from the Lighthouse; distance about 300 yards. There is also a shoal spot of 13 feet about ⅓ mile Northeasterly from this Lighthouse.

High Water.

It is High Water at Beaver Harbor about 10 minutes before it is at Boston. Common Tides rise about 22 feet.

Musquash Harbor.

The entrance to this Harbor bears from Point Lepreau Lighthouse **E.** by **N.**, distance 10½ miles, and **W.** ¼ **N.** from Cape Spencer Lighthouse, distance 14¼ miles.

Musquash Harbor Lighthouse.

Upon the Eastern point of entrance to this Harbor is a Lighthouse which shows from seaward a Green Fixed Light, and White in the harbor.*

Remarks.

The entrance to this Harbor is about ½ mile wide, and there is good anchorage a little way in, with 3½ fathoms at Low Tide; but farther in a Bar extends across the harbor, upon which there is but little water at Low Tide. Vessels can cross this Bar at High Water, and run into the River, where there is a narrow Channel having from 2 to 3 fathoms water in it at Low Tide.

Sailing Directions for Musquash Harbor in Daytime, with favorable winds and fair weather.

From the Westward, give Point Lepreau Lighthouse a berth of about ¾ mile, leaving it to the Northward. When it bears North, make good the course **E.** ½ **N.** 10 miles, or until Musquash Harbor Lighthouse bears **NE.** by **N.**; then run for it on this course. When the Harbor is fairly open, run in about **N.** by **E.**, keeping nearest the Lighthouse, which is left on the Starboard, and anchor in about 3½ fathoms water at Low Tide. The Lighthouse bears from this anchorage (which is exposed to Southerly winds) **S.SE.** about ½ mile. Farther in the water is shoal at Low Tide.

From the Eastward, give Cape Spencer a berth of about 1 mile, leaving it to the Northward. When the Lighthouse bears North, make good the course **W.** ¼ **N.** 14½ miles, or until the Lighthouse on the East side of Musquash Harbor bears **N.** by **W.**; then run in, and anchor as before directed.

High Water.

It is High Water at Musquash Harbor about the same time as at Boston. Common Tides rise about 24 feet.

Harbor of St. John.

The entrance to this Harbor, by Ship Channel, is Northeasterly about 47 miles from the Lighthouse at West Quoddy Head,

* A Whistling Buoy has been moored in about 30 fathoms water, about 1½ miles South from Musquash Lighthouse. Partridge Island Lighthouse bears from this Buoy NE. by E. ¾ E. 10¼ miles; Cape Spencer Lighthouse E. ¼ N. 14 miles.

and about 21 miles in the same direction from Point Lepreau Lights.

Partridge Island Lighthouse.

Upon Partridge Island, entrance to this Harbor, is a Lighthouse which is painted in Red and White Vertical stripes, and shows a fixed White Light.

Bearings and Distances from Lighthouse upon Partridge Island.

		Distance.
Bryer's Island Lighthouse, . .	SW. by S., . .	61 miles.
Boar's Head (entrance to Petit Pass), ...	SW. by S. ½ S.,	51 "
Prim Point (entrance to Digby Gut), ...	S.	35½ "

Steam Whistle.

A Steam Whistle is placed near this Lighthouse which sounds in thick weather 10 seconds every minute.

Breakwater Light.

At this date a Red fixed Light is placed on the outer end of the Breakwater off Negro Point. This Light, which bears from Partridge Island Lighthouse N. by W., distance ¼ mile, is said to be uncertain.

St. John Harbor Light.

To the Northward of Partridge Island, on a Spit or Bar, which extends off nearly ½ mile from the Western shore, is erected a Lighthouse which is painted in Red and White Vertical stripes, and shows a fixed White Light. This Lighthouse bears from Partridge Island Light N. by E. ¼ E.; distance nearly 1 mile.

Remarks.

There are two entrances to this Harbor. The Ship Channel, which has a depth of about 16 feet at very Low Tides, leads into the Eastward of Partridge Island; but 12 feet of water, however, at Low Tide, can be carried through it on a direct course for the Harbor Light. The other passage, which is to the Westward of Partridge Island, has about 8 feet water in it at Low Tide.

Sailing Directions for the Harbor of St. John in Daytime, with favorable winds and fair weather.

From the Westward, when past Mount Desert Rock, which may be left about a mile on either hand, bring the Lighthouse to bear **SW.** by **W.** ¾ **W.**, and steer **NE.** by **E.** ¾ **E.** for Point Lepreau Lighthouse; distance 98 miles. If this course is made good, the large Buoy off Southeast Rock, painted in Red and Black Horizontal stripes, and which bears **S.E.** by **S.** ¼ **S.** 4 miles from Petit Menan Lighthouse, will be left 6 miles on the Port hand; the Whistling Buoy, which lies **S.** by **W.** 2 miles from Moose-A-Bec Lighthouse, 3 miles on the Port; Libby Island Lighthouse, 4½ miles on the Port; Little River Lighthouse, 2¾ miles on the Port; West Quoddy Head Lighthouse, 3¼ miles on the Port; and the Lighthouse on the South Wolf Island, 2¾ miles on the Port hand. Machias Seal Island Lighthouses will be left about 6¾ miles on the Starboard hand; Northern part of Grand Menan Island, which is bold and free from dangers, about 2¼ miles on the Starboard hand. When Point Lepreau Lights are made, bring them to bear **NE.** by **E.** ¾ **E.**, and run for it on this course. Give this Lighthouse a berth of about 1 mile, leaving it on the Port, and when it bears North, make good the course about **E.** ½ **N.** along the shore, keeping not less than ¾ mile from it. When Partridge Island Lighthouse bears **NE.** by **N.**, then run for it on this course. If intending to enter the Harbor by the Ship Channel, give Partridge Island a berth of ½ mile, leaving it to the Westward; and in order to avoid the Reefs which lie to the Northeast of this Island, keep a sharp lookout for the Bell Boat, which bears from Partridge Island Lighthouse **E.** ½ **S.**; distance about ⅓ mile. When this Bell Boat is made, leave it close to on the Port, and steer **N.** by **W.** As you sail in, you will see a Red Buoy, which is left close to on the Starboard hand, and when past it, steer North for the Harbor Lighthouse, which may be left about 100 yards on the Port hand. When past the Lighthouse, make good the course **N.** ½ **W.** up the harbor. In order to avoid the deep water and strong current, anchor close in near the Northern part of the city, or a little below the Southern Wharves on the West side of the river, in from 3 to 5 fathoms at Low Tide. About 12 feet water may be taken in on the above courses at Low Tide.

If you intend to enter the Harbor to the Westward of Partridge

Island, follow the directions before given until the Lighthouse on this last-named Island bears **NE.** by **N.**; then run for it on this course until you make the outer end of the Breakwater off Negro Point; then haul to the Westward until the end of the Breakwater bears **NE.** ½ **N.**; then run for it, and leave it close to on the Port. When past it, steer **NE.** ¼ **N.** for a Red Buoy; leave this Buoy close to on the Starboard and run for the Harbor Light, bearing North, and follow the directions before given. About 8 feet water can be carried through this passage at Low Tide.

From the Eastward, after passing Cape Spencer Lighthouse, bring the Lighthouse on Partridge Island to bear **N.** by **W.** ½ **W.**, and run for it until about ½ mile from it; then steer about **N.** by **E.**, keeping a sharp lookout for the Bell Boat, which lies to the Eastward of Partridge Island Reef. When this is made, leave it close to on the Port, and follow the directions before given.

Sailing Directions for the Harbor of St. John, at Night-time, with favorable winds and fair weather.

If a vessel at Night, with favorable winds, take her departure from Mount Desert Rock Light, bound to St. John, her best course is **NE.** by **E.** ¾ **E.** for Point Lepreau; distance 98 miles. If this course is made good, the Fixed Light, varied by White Flashes, upon Petit Menan Island, will be left 10 miles to the Northward; 15 miles farther, the Flashing Light upon Mistake Island, 5 miles to Northward; the Fixed White Light on Libby Island, 4½ miles to the Northward; the Fixed Light varied by White Flashes, at Little River, 2¾ miles to the Northward; the Fixed White Light at West Quoddy Head, 3¼ miles to the Northward; the Revolving Light upon the South Wolf Island, 2¾ miles to the Northward. After passing this last-named Light, you will make the two Fixed Lights, one above the other, upon Point Lepreau. On this course, **NE.** by **E.** ¾ **E.**, from Mount Desert Rock Light, the Machias Seal Island Lights will be left 6¾ miles on the Starboard hand; the Northern part of Grand Menan Island, which is bold and free from dangers, 2¼ miles on the Starboard hand.

In running up the Bay of Fundy, from Mount Desert Rock Light to Point Lepreau, if you judge your vessel is off the line of the above course, you can haul more Northerly or Southerly as circumstances require.

From Point Lepreau Lights to St. John Harbor.

At Night, when the two Fixed Lights, one above the other, are made, upon Point Lepreau, give them a berth of about 1½ miles, leaving them on the Port hand; and as soon as they bear North make good the course **E.** ½ **N.** for the Revolving Red and White Light at Cape Spencer, distance 26 miles. On this course, the Green Fixed Light at Musquash Harbor will be left about 2½ miles on the Port hand. When Cape Spencer Light is made, bring it to bear **E.** ½ **N.**, and run for it on this course until the Fixed White Light on Partridge Island, entrance to the harbor of St. John, bears **N.NE.**; then steer **NE.** by **N.** As you sail in, you will see, a short distance to the Northward of the Light on Partridge Island, the Red Fixed Light upon the outer end of the Breakwater, and also the Harbor Light, which is a fixed White Light. Continue the course **NE.** by **N.** until this last-named Light bears **N.** ¾ **W.**; then run for it on this course, leaving Partridge Island Light about ½ mile on the Port. Give the Harbor Light a berth of about 100 yards, leaving it on the Port hand. and make good the course **N.** ½ **W.** up the harbor, and anchor off the city.

In entering this Harbor at Night, after passing Partridge Island Light, a careful attention to the current is necessary. It is also a good plan to have plenty of chain overhauled, as the water in the harbor is very deep in some places.

Vessels of more than 12 feet draught, bound into the harbor of St. John, should not attempt to cross the Bar until at least ¼ Flood.

Thick Weather.

In sailing from Mount Desert Rock up the Bay of Fundy, in thick weather, captains will bear in mind that at this time (1880) there is placed at Petit Menan Lighthouse a Fog Whistle; about 2 miles **S.** by **W.** from Moose-A-Bec Lighthouse, a Whistling Buoy; at Machias Seal Island Lighthouses, a Fog Whistle; at West Quoddy Head, a Fog Whistle; at Bishop's Head, Northern part of Grand Menan, a Fog Whistle; at Point Lepreau, a Fog Whistle; and at Partridge Island, entrance to the Harbor of St. John, a Fog Whistle. All these, in thick weather, should be heard from 5 to 10 miles; therefore, in navigating this part of the coast, the ear, assisted by the compass and lead. will be pil

High Water.

It is High Water in the Harbor of St. John on the days of the Full and Change of the Moon at 11h. 21m.; or about 8 minutes before it is at Boston. Common Tides rise about 25 feet.

Grand Menan.

This Island, which is about 12 miles in length, has a width of from 1¼ to 6 miles. On its Western side the cliffs are nearly perpendicular, and from 150 to 400 feet above the level of the sea.

Dangers.

Off the Western part of Grand Menan, from its Northeast to Southwest Heads, there are no dangers excepting a few Rocks which lie near the Southwest Head, close in with the shore; but there are many Rocks, Shoals, and Ledges which lie off to the Southwest, Southward, Southeast, and Eastward of this Island. The current of Ebb and Flood sets very strong across these Ledges, making the navigation, especially in thick weather, extremely dangerous in this vicinity. A better knowledge of these dangers can be obtained by closely inspecting the charts than by any written description.

Seal Cove, or Wood Island Harbor.

This Harbor, which has a depth of from 5 to 7 fathoms water in it at Low Tide, lies near the Southern part of Grand Menan, and is easy of access.

Gull Head Lighthouse.

Upon Gull Head (Southwest part of Grand Menan), West side of entrance to Seal Cove, is a Lighthouse which shows a flashing Red and White Light.

Bearings and Distances from Gull Head Lighthouse.

		Distance.	
West Quoddy Head Lighthouse, .	N. ¾ E., . .	13	miles.
Little River Lighthouse, ...	NW. by W., .	13	"
Machias Seal Island Lighthouses, .	W. by S. ½ S.,	10½	"
Gannet Rock Lighthouse, . . .	SE. by S. ½ S.,	7½	"

Sailing Directions for Seal Cove in Daytime, with favorable winds and fair weather.

From the Westward, as soon as the Lighthouse on Gull Head is made, bring it to bear **E.** by **S.**, and run for it on this course; haul round this Lighthouse at a distance of about ½ mile, leaving it on the Port hand. When the harbor is fairly open, bearing about **NE.**, run in, and in order to avoid Buck's Ledge, which lies off about ⅓ mile from the Western side, a little above the entrance, and is left on the Port hand, keep nearly midway the entrance, and anchor near the Western shore, at the head of the harbor, in about 5 fathoms water at Low Tide, and 8 at High Tide.

From the Eastward, as soon as the Gannet Rock Lighthouse is made, bring it to bear **W.** ½ **N.**, and run for it on this course, leaving the Spindle on the Old Proprietor about 1½ miles on the Starboard hand; give the last-named Lighthouse a berth of about ½ mile, leaving it on the Port hand. When it bears **SE.** by **S.** ½ **S.**, keep it on this bearing, and steer **NW.** by **N.** ½ **N.** for Gull Head Lighthouse, and follow the directions before given.

In beating into this harbor, after passing Buck's Rock (before described), there are no dangers near the Western shore, and it may be approached at a distance of ⅛ mile without danger.

High Water.

It is High Water at Seal Cove (or Wood Island Harbor) on the days of the Full and Change of the Moon at 10h. 54m., or about 35 minutes before it is at Boston. Common Tides rise about 18 feet.

Grand Harbor.

The entrance to this Harbor, which is on the Southeastern part of Grand Menan Island, is about 7 miles East Northerly from Gull Head Lighthouse, and about **NE.** by **N.** ¾ **N.** 8 miles from Gannet Rock Lighthouse.

Remarks.

About 9 feet water can be carried into this harbor at Low Tide, and there is a narrow Channel of about 12 feet water a short distance above the Lighthouse. Above this the water is shoal, but vessels may lie aground on mud secure from all winds.

Grand Harbor Lighthouse.

Upon Ross Island, East side of entrance to Grand Harbor, is a Lighthouse which shows a fixed White Light. This Lighthouse bears from Gannet Rock Lighthouse **NE.** by **N.** ¾ **N.**; distance 9½ miles.

Sailing Directions for Grand Harbor in Daytime, with favorable winds and fair weather.

From the Westward, as soon as Gull Head Lighthouse is made, bring it to bear **E.** by **S.**, and run for it on this course. Give this Lighthouse a berth of about ½ mile, leaving it on the Port hand, and make good the course **E.** by **S.** ½ **S.** As you sail in, you will see on the Port hand the Wood Islands, the largest of which is quite high, and nearly ahead will also be seen the Three Islands. The best Channel into Grand Harbor, which is about 1¼ miles wide, is between the Wood Islands and Three Islands. When this passage is fairly open, run in, with the Lighthouse bearing about **NE.**, keeping about midway the passage, leaving Green Island, which is small, on the Starboard hand. When well past this last-named Island, haul more Easterly until the Lighthouse bears **NE.** by **N.**; then, with the harbor fairly open, run in, keeping nearest the Lighthouse, and anchor about ½ mile above it in about 2 fathoms water at Low Tide, and 5 at High Tide. Above this the water is shoal. A short distance below the Lighthouse, in nearly mid-channel, there is said to be a Rock. Strangers entering this harbor at Low Tide should therefore shorten sail, and proceed with caution.

From the Eastward, as soon as the Gannet Rock Lighthouse is

made, bring it to bear **W. ½ N.**, and run for it on this course, leaving the Spindle on the Old Proprietor about 1½ miles on the Starboard hand; give the last-named Lighthouse a berth of about ½ mile, leaving it on the Port hand. When it bears South, keep it on this bearing, and steer North until the passage between the Wood Islands and Three Islands is fairly open; then run in as before directed.

In beating in, keep about midway between the Wood Islands and Three Islands, as there are Ledges which extend off some distance from them.

Vessels of more than 9 feet draught bound into Grand Harbor should anchor near its mouth in from 5 to 8 fathoms water at Low Tide, and wait until at least ¼ Flood before attempting to enter it.

High Water.

It is High Water in Grand Harbor on the days of the Full and Change of the Moon at 11h. 9m., or about 20 minutes before it is in Boston. Common Tides rise about 19 feet.

Flag Cove.

This deep Cove, which is easy of access, is situated upon the Northern side of Long Island Bay, which is on the Eastern side of Grand Menan Island, about 2½ miles from its Northeast Head.

Swallow Tail Lighthouse.

Upon Swallow Tail, north side of entrance to Flag Cove, is a Lighthouse which shows a fixed White Light.

Bearings and Distances from Swallow Tail Lighthouse.

		Distance.	
East Quoddy Head Lighthouse, .	**N.** by **W.**, . .	13	miles.
South Wolf Lighthouse, ...	**N.** by **E.** ½ **E.**,	10½	"
Point Lepreau Lighthouse, . . .	**NE.** ½ **E.**, .	21	"
Cape Spencer Lighthouse, . . .	**E.** by **N.** ¾ **N.**,	44	"
Point Prim Lighthouse, entrance to Digby Gut, ...	**E.SE.**, . . .	41	"

Sailing Directions for Flag Cove in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given for Eastport Harbor (by Ship Channel) until Bishop Head, the Northeast part of Grand Menan, bears **E.** by **S.**; then run for it on this course. Leave this last-named Head about ¾ mile on the Starboard hand, and steer about **S.SE.**, and haul round the Lighthouse on the Swallow Tail at a distance of about ½ mile, leaving Flag Point, which is the first point to the Westward of the Lighthouse, about ½ mile on the Starboard hand. After passing this last-named point, haul in to the Northwestward, and as soon as you strike 4 fathoms water at Low Tide, which will be 7 at High Tide, anchor with the outer part of Flag Point bearing about **E.NE.**

From the Eastward, run for the Lighthouse on Swallow Tail on any bearing from **SW.** to **NW.**, and follow the directions before given.

In beating into this Cove the only danger to be avoided is a Ledge of Rocks which lies off about ⅓ mile Southeast from Flag's Point, and is bare at ¾ Ebb.

This Cove is somewhat exposed to Southeasterly winds, but the holding-ground is excellent.

Whale Cove.

This deep Cove, which is exposed to Northeasterly winds, is about 1½ miles Southeasterly from the Northeast Head of Grand Menan. Vessels beating down the Bay may anchor here, and wait for the turning of the Tide. The best anchorage is in from 10 to 15 fathoms water, about ⅓ mile from shore. Vessels entering this Cove should *always sound before letting the anchor go.*

Steam Whistle.

On Bishop Head, Northeastern part of Grand Menan, is a Steam Whistle, which sounds in thick weather. West Quoddy Head Lighthouse bears from this Steam Whistle **NW.** by **W.** ¾ **W.**, distance 7½ miles; East Quoddy Head Lighthouse, **N.** by **W.**, distance 10¾ miles; Lighthouse on South Wolf Island, **NE.** by

N. ¼ **N.**, distance 9 miles; Point Lepreau Lights, **NE.** by **E.** ¼ **E.**, distance 20¾ miles.

Anchorage.

There are several more good places of anchorage upon both the Eastern and Southeastern part of Grand Menan Island, but in no case should vessels attempt to enter them without a pilot.

Currents.

The currents around Grand Menan Island, especially near its Southern, Southeastern and Eastern parts, run very strong. Vessels should not, therefore, attempt to navigate in this vicinity without a commanding breeze.

Cape Spencer Lighthouse.

Upon Cape Spencer, Northern side of Bay of Fundy, is a square white building with tower on top, which at this date (1884) shows a Revolving Red and White Light.

Bearings and Distances from Cape Spencer Lighthouse.

		Distance.
Revolving Light upon Southwest Wolf Island, . . .	**W.** ½ **S.**, . . .	38 ½ miles.
Swallow Tail Lighthouse (**NE.** part Grand Manan),	**W.** by **S.** ¾ **S.**, . .	44½ "
Gannet Rock Lighthouse, .	**SW.** by **W.** ¼ **W.**,	55¾ "
Boar's Head Lighthouse (entrance to Petit Passage), .	**SW.** by **S.**, . . .	50 "
Point Prim Lighthouse (entrance to Annapolis Basin),	**S.** ¾ **W.**, . . .	31½ "
Haute Island Lighthouse, .	**E.** by **S.** ¼ **S.**, . .	39 "
Quaco Head Lighthouse, . .	**E.** ½ **N.**, ...	18 "
Quaco Ledge, ...	**E.** by **S.** ¼ **S.**, nearly	23¾ "
Sisters Ledge, ...	**E.** by **N.**, nearly .	6¼ "

Quaco Head Lighthouse.

Upon Quaco Head, Northern side of Bay of Fundy, is a Tower, painted white, with keeper's dwelling attached. At this date (1884) this Lighthouse shows a Revolving Light.

Bearings and Distances from Quaco Head Lighthouse.

		Distance.
Cape Spencer Lighthouse, .	**W.** ½ **S.**, ...	18 miles.
Point Prim Lighthouse (entrance to Annapolis Basin),	**SW.** by **S.**, . . .	40 "
Haute Island Lighthouse, .	**SE.** by **E.** ¼ **E.**, .	22¾ "
Apple River Lighthouse, . .	**E.** ¼ **S.**, ...	30 "
Cape Enrage Lighthouse, .	**E.** ¾ **N.**, ...	36¼ "
Quaco Ledge, ...	**SE.** by **S.**, nearly .	8¾ "

Inlets between Cape Spencer and Quaco Head.

Between Cape Spencer and Quaco Head, a distance of about 18 miles, there are several small Inlets or Creeks, which, however, are but little importance to navigation at Low Tide. Black River, about 5½ miles Northeast from Cape Spencer, although dry at Half Tide, is a safe Inlet for a small vessel.

Dangers lying off the Coast from Cape Spencer to Quaco Head.

From Cape Spencer to Quaco Head, a distance of about 18 miles, the principal danger is a small cluster of Rocks called the Sisters. This danger, which is about 6¼ miles to the Eastward of Cape Spencer, lies about one-half mile from land, and is covered at High Water. There is a narrow Channel of 6 fathoms water between these Rocks and the shore.

Quaco Ledge.

This dangerous Ridge of Rocks, which is about ¼ mile in length, is bare about an hour after Half Ebb. When covered they show a heavy Tide Rip. At Low Tide 11 fathoms water was found ¼ mile Southwest from this danger; 8 fathoms **E.** ¼ **N.** ¼ mile from it; and 12 fathoms ⅓ mile North from it. In night-time or

thick weather the lead, therefore, gives no warning in approaching it.

Bearings and Distances from Quaco Ledge.

		Distance.
Quaco Head Lighthouse, . .	**NW.** by **N.**, . .	8¾ miles.
Haute Island Lighthouse, . .	**E.** by **S.** ½ **S.**, .	15½ "
Cape Spencer Lighthouse, .	**W.** by **N.** ¼ **N.**, .	23¾ "

Chignecto Channel.

This Channel, which lies between Cape Chignecto on the South and the Main-land on the North, is really the Northeastern branch of the Bay of Fundy. Its width in entering is about 13 miles, with no dangers excepting those which lie near the shores.

Cape Enrage Lighthouse.

Upon the Northern side of Chignecto Bay, near the pitch of the Cape,* is a white square building, which at this date (1884) shows a Fixed White Light, visible from **NW.** to **NE.** by way of South. At this time a Steam Fog Whistle is placed near this Lighthouse, which in thick weather is sounded 4 seconds in each minute. Quaco Head Lighthouse bears from Cape Enrage Lighthouse **W.** ¾ **S.**, distance 36¼ miles. Apple River Lighthouse, **SW.**, 8¼ miles. Grindstone Island Lighthouse, **NE.** by **E.** ½ **E.**, 10½ miles.

Salisbury Bay.

This Bay, which lies between Mathews Head and Cape Enrage Lighthouse, has anchorage in it with winds from West to East by way of North.

Sailing Directions.

Vessels with Northeasterly Winds and an Ebb Tide, bound up the Bay, may leave Cape Enrage Lighthouse about two miles to the

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* A dry Ledge extends off S.SW. from Cape Enrage Lighthouse nearly ¾ mile. Vessels in thick weather or night-time should therefore leave this Lighthouse at least a mile to the Northward.

Eastward, and run in about **N.** by **W.**, leaving Salisbury Shoal (which has 20 feet water on it at Low Tide) well on the Port hand, and anchor about a mile from shore in about 5 fathoms water at Low Tide.

Inlets between Quaco Head Lighthouse and Cape Enrage Lighthouse.

On the Northern side of the Bay of Fundy, between Quaco Head and Cape Enrage, a distance of about 36 miles, there are several small Rivers or Creeks, among which are the Salmon Rivers and also Wolf River. The entrance to Salmon River lies Northeasterly 8 miles from Quaco Head Lighthouse; the entrance to Little Salmon River is Northeasterly 14 miles from this Lighthouse; the entrance to Wolf River lies Northeasterly about 25 miles from Quaco Head Lighthouse, and about 11 miles to the Westward of Cape Enrage Lighthouse; the entrance to the third Salmon River lies West-Northerly, about 7 miles from the Lighthouse at Cape Enrage. These Inlets are of little importance to vessels at Low Tide.

Dangers lying off the Coast from Quaco Head Lighthouse to Cape Enrage Lighthouse.

Quaco Shoal.

This Shoal, which lies about a mile from shore, extends **NE.** and **SW.** one mile, and has at Low Tide as little as 8 feet water upon it. This depth lies **NE.** ½ **E.** about a mile from Quaco Head Lighthouse. There is a narrow Channel of 6 fathoms water between this danger and the shore.

St. Martin's Head.

This Rock, which is elevated about 100 feet above the water, lies East-Northerly 17¾ miles from Quaco Head Lighthouse, and about ½ mile from land; there is no passage for vessels between this danger and the shore.

Salisbury Shoal.

This small spot, which lies about 2 miles from shore, has at Low Tide not less than 20 feet of water upon it. The centre of this

danger bears from Cape Enrage Lighthouse **W.** by **N.** ½ **N.** 3½ miles. Between this Shoal and the shore there is a Channel of about 5 fathoms water at Low Tide. This passage has a width of about a mile. Between Quaco Head and Cape Enrage, in several places shoal water extends off some distance from the shore. Vessels, therefore, navigating this part of the coast, should, after passing Quaco Shoal, keep at least a mile from this part of the coast.

High Water.

It is High Water at Quaco Head on the days of the Full and Change of the Moon at 11h. 35m., or about 6 minutes after it is at Boston. Mean rise and fall of Tides, 28ft. From Cape Spencer to Cape Enrage, the currents of both Flood and Ebb set along the coast from 1½ to 2 knots.

PETIT COUDIAC RIVER.

The entrance to this River, which is at the head of the North-eastern branch of the Bay of Fundy, lies East-Northerly about 65 miles from Cape Spencer, about 47 miles East-Northerly from Quaco Head Lighthouse, and 11 miles East-Northerly from the Lighthouse on Cape Enrage.

Grindstone Island Lighthouse.

Upon the Western side of Grindstone Island, West side of entrance to Petit Coudiac River, is a small white octagonal building, which at this date (1884) shows a fixed White Light. A Fog Trumpet is placed near this Lighthouse, which in thick weather sounds blasts of four seconds in every minute. Cape Enrage Lighthouse bears from Grindstone Island Lighthouse **SW.** by **W.** ½ **W.** 10½ miles.

Grindstone Shoal.

This Shoal, which is about two hundred yards wide, extends **NE.** by **E.** and **SW.** by **W.** about one mile, and at Low Tide has about 9 ft. water upon it. Grindstone Island Lighthouse bears

from this last-named depth **NE.** by **N.** ¾ **N.**, distance ¾ mile. Between the Northeastern end of this danger and Grindstone Island, there is a passage of about 4½ fathoms water at low tide.

Hillsborough Wharf Lighthouse.

On the West side of the River Petit Coudiac, on the end of the wharf leading to the coal mines, is an open frame, which, at this date (1884), shows a fixed White Light. This Lighthouse is about 13½ miles above Grindstone Island Lighthouse, and is intended to guide vessels up the River and to the coal and plaster wharves.

Remarks.

Shoal water extends off from both sides of the Petit Coudiac River. At Low Tide about 4 fathoms water can be carried up through a narrow Channel as far as Cole's Head, which is on the Eastern side about 9 miles above the entrance; and from this Head to Moncton (which is 18 miles further), there is in some places but little water in this River at Low Tide. From Moncton to Salisbury, a distance of 12 miles, the direction of this River changes from North to West.

Dangers.

About 6½ miles above Grindstone Island Lighthouse, on the Eastern side of the Channel, at the entrance to Grand Anse Bay, are some Rocks called Grand Anse Ledge. This danger covers at about one-half Flood. On the Eastern side of the Channel, a little below Cole's Head (before mentioned), there are also Rocks called Memramcook Spit. Both the Grand Anse Ledge and Memramcook Spit can be avoided by keeping in the middle of this River.

Currents in the Petit Coudiac River.

From the entrance to Cole's Head (before mentioned) the Current of Flood sets up from 2½ to 3½ knots, and from this last-named Head to Hillsborough Wharves from 3½ to 4 knots.

Sailing Directions for Petit Coudiac River in Daytime with favorable winds and fair weather.

Vessels coming up the Bay of Fundy, bound up the Petit Coudiac River, may leave Quaco Head about 1½ miles on the Port

hand, and when the Lighthouse on this Head bears North, make good the course **E.** ¾ **N.** about 35½ miles to Cape Enrage. In order to avoid the dangers off this Cape, leave the Lighthouse about 1¼ miles on the Port hand; when past this last-named Lighthouse, haul up about **E.NE.**, leaving Grindstone Shoal (before described) well on the Port hand; then at *about ⅓ flood*, with a commanding breeze, with the entrance to the River well open, run in about midway, leaving Grindstone Island about 1¼ miles on the Port hand, and run up about **NE.** 3 miles, carrying from 11 to 6 fathoms water, and leaving the Ripples on the Port hand. When Cole's Head,* which is on the eastern side, bears **N.NE.**, then run for it on this course, leaving Grand Anse Ledge on the Starboard, and the Middle Ground on the Port hand; continue the course **N.NE.**, carrying not less than 5 fathoms water, until about 1½ miles from Cole's Head; then haul up about **N.NW.**, leaving the Rocks called Memramcook Spit well on the Starboard hand, and keep the middle of the River to Hillsborough Wharves. If bound farther up, a pilot is necessary.

It is advisable for strangers not to attempt to enter this River against the Current of Ebb, or at Low Tide, but to enter at about ⅓ Flood, as in case of getting ashore they may soon get off with the rising Tide.

High Water.

It is High Water at Grindstone Island entrance to the Petit Coudiac River on the days of the Full and the Change of the Moon at 11h. 47m., or about 18 minutes after it is in Boston. Mean rise and fall of tides, 37½ feet.

MEMRAMCOOK RIVER.

The entrance to this River, which is on the Eastern side of the Petit Coudiac, lies about 9 miles above Grindstone Island Lighthouse.

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* Cole's Head is 146 feet high, and lies on the Eastern side of the River, nearly opposite Folly Point; between this last-named Point and Cole's Head, is the entrance to the Memramcook River.

Remarks.

About 4 feet water at Low Tide can be carried up as far as Dorchester Island, which lies on the Eastern side of the Channel, about 1½ miles from the entrance. Above this last named Island there is in some places but little water at this time of tide. In order to avoid Memramcook Spit, vessels in entering this River should keep nearer Folly Point, which is on the Port side. This River is so narrow that it is advisable for strangers bound up to take pilots.

Anchorage to the Northward of Grindstone Island.

There is good Anchorage in 3½ fathoms water at Low Tide, about $\frac{8}{10}$ mile to the Northward of Grindstone Island. In entering, the Channel between Grindstone Island and St. Mary Ledge* is narrow. About 3½ fathoms water can be taken in to this anchorage at low tide.

Sailing Directions.

Coming up the Bay of Fundy, when past Cape Enrage bring Grindstone Island Lighthouse to bear **NE.** by **E.**, and run for it on this course, leaving Grindstone Shoal, before described, on the Starboard hand. When about ¾ mile from the Lighthouse steer **NE.** by **N.**, passing between St. Mary and Jones Ledges, and carrying not less than 3½ fathoms water at Low Tide through the narrow Channel. When Grindstone Island Lighthouse bears **S.** ½ **W.**, then anchor in about 3½ fathoms water, at Low Tide, muddy bottom. At Low Tide there is no passage for vessels to the Northward of Grindstone Island.

SHEPODY RIVER.

The entrance to this River lies about 2¼ miles Northwesterly from Grindstone Island Lighthouse.

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* The Eastern end of St. Mary Ledge, which extends off Northeastly from St. Mary Island, bears from the Western part of Grindstone Island NW. by N., distance six-tenth mile.

Remarks.

The Shepody River is very narrow and crooked, with but little water at Low Tide at the entrance. It is therefore advisable for strangers bound up to take pilots.

Albert Quarry.

This Quarry is located upon the Southern part of St. Mary Island, and may be approached within ¼ mile by vessels at Low Tide. This Quarry lies West about 1¼ miles from the Western end of Grindstone Island.

Remarks.

About 12 miles above Cape Enrage, the Northeast Branch of the Bay of Fundy divides into two branches, one leading to the Petit Coudiac River, the other to Cumberland Basin. It is said that the Cumberland branch is navigable to within 13 miles of Verte Bay in the Gulf of St. Lawrence.

CUMBERLAND BASIN.

The entrance to this Basin, which is about 1½ miles wide, lies between Cape Maringouin on the North and Boss Point on the South. In entering there are extensive Flats, which extend off in some places a long distance from both sides. At Low Tide from 2¼ to 9 fathoms water can be carried up as far as Woody Point, which is on the Northern side, about 7½ miles from the entrance. Above this there is at Low Tide but little water to Sackville. There are several Rivers which empty into the Cumberland Basin, among which are Herbert River, Macan River, Napan River, Amherst River, Missiquash River, Oulac River and Tantremar River. Most of these Rivers are navigable at High Water.

Cape Maringouin Shoals.

Dangerous Shoals, some of which have but little water upon them at Low Tide, extend off nearly 2 miles in a Southwesterly direction from Cape Maringouin, which is on the Northern side of entrance to the Cumberland Basin. Grindstone Island Light-

house bears from the outer end of this danger **NW.**, distance about 3¼ miles.

Currents.

In entering Cumberland Basin the currents of Flood and Ebb set in and out from 4 to 5 knots.

Sailing Directions for Cumberland Basin in Daytime, with Favorable Winds and Fair Weather.

Vessels coming up the Bay of Fundy, bound to Cumberland Basin, may leave Cape Enrage about a mile to the Northward. When the Lighthouse on this Cape bears **NW.**, make good the course **E.** ¾ **N.**, leaving Cape Maringouin Shoals (before described) well on the Port hand; then, on the first of the Flood, with the passage leading to Cumberland Basin well open, *and also with a commanding breeze*, run in about midway; when past Boss Point (which is the first on the Starboard hand in entering) keep the Port side best aboard. There is at Low Tide good anchorage a short distance above Woody Point,* in about 3½ to 4 fathoms water. If bound to any of the Rivers in Cumberland Basin a pilot is necessary at this Anchorage.

High Water.

It is High Water in Cumberland Basin on the days of the Full and Change of the Moon, at 11 h. 55 m., or about 26 minutes after it is in Boston. Mean rise and fall of Tides about 42 ft.

APPLE RIVER.

The entrance to this River, which is on the Southeast side of the Northeast branch of the Bay of Fundy, lies East-Southerly, 30 miles from Quaco Head Lighthouse, Northeasterly 9 miles from Cape Chinecto, Southwest 8½ miles from Cape Enrage Lighthouse, and West-Southerly about 19 miles from Grindstone Island Lighthouse.

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* Woody Point is on the Northern side about 7½ miles from the entrance.

Apple River Lighthouse.

Upon Hetty or Capstan Point, north side of entrance to Apple River, is a White oblong building with tower on top, which, at this date (1884), shows a fixed White Light.

Bearings and Distances from Apple River Lighthouse.

		Distances.	
Quaco Head Lighthouse, . . .	**W.** ¼ **N.**, . .	30	miles.
Cape Enrage Lighthouse, . . .	**NE.**, ...	8¼	"
Grindstone Island Lighthouse, .	**NE.** ¾ **E.**, . .	18½	"
Quaco Ledge, ...	**W.** by S. ¼ **S.**,	26	"

Remarks.

At Low Tide about 6 feet water can be taken into Apple River about a mile past the Lighthouse. Above this it is only navigable at High Tide. In entering keep nearer the Lighthouse Point.

High Water.

It is High Water at Apple River on the days of the Full and Change of the Moon at 11 h. 35 m., or about 9 minutes after it is at Boston. Mean rise and fall of Tides, 34 ft.

Dangers lying off the Coast from Boss Point (entrance to Cumberland Basin) to Apple River Lighthouse.

Between Boss Point and Apple River Lighthouse, a distance of 24 miles, there are no dangers excepting those lying near the shore. Vessels, therefore, bound up or down the Northeast branch of the Bay of Fundy, may approach this part of the coast within a mile without danger.

Inlets between Boss Point (entrance to Cumberland Basin) and Apple River Lighthouse.

Between Boss Point and Apple River Lighthouse, a distance of 24 miles, there are several Creeks or small Inlets which are of little importance to vessels, especially at Low Tide.

Cape Chignecto.

This Cape, which is steep Cliffs of Rocks and Red Earth, with deep water close to it, is elevated about 800 feet above mean Low Water, and lies Southwesterly about 10 miles from Apple River Lighthouse. From this Cape to the last-named Lighthouse, there are no dangers excepting those lying near the shore. Vessels may therefore approach this part of the coast within ½ mile without danger. Haute Island Lighthouse bears from Cape Chignecto **SW.** ½ **W.**, distance, 5½ miles; Cape D'Or Fog Whistle, **SE.** by **E.**, 7½ miles.

Cape D'Or.

This Cape, which is elevated about 500 feet above the level of the sea, is bold, and bears from Cape Chignecto about **SE.** by **E.**, distance, 7½ miles. On the Flood Tide heavy Rips extend off about 1½ miles to the Southward of this Cape.

Cape D'Or Fog Whistle.

Upon the extreme point of Cape D'Or, North side of entrance to the Basin of Mines, is a Fog Whistle, which in thick weather is sounded 6 seconds in every 30 seconds. In thick weather or night-time this Whistle may be approached close to without danger.

Bearings and Distances from Cape D'Or Fog Whistle.

		Distances.
Cape Chignecto, ...	**NW.** by **W.**, . . .	7½ miles.
Haute Island Lighthouse, .	**W.** ½ **N.**, . . .	10½ "
Black Rock Lighthouse, . .	**S.** by **W.** ¼ **W.**, .	7¼ "
Cape Spencer, ...	**E.** ½ **N.**, ...	3½ "
Cape Split, ...	**E.** ¾ **S.**, ...	12½ "

High Water.

It is High Water at Cape D'Or on the days of the Full and Change of the Moon at 11 h. 42 m., or 13 minutes after it is in Boston. Mean rise and fall of Tides, 36 ft. The Currents of Ebb and Flood run by Cape D'Or from 5 to 6 knots.

ADVOCATE BAY.

This Bay, which lies between Cape Chignecto and Cape D'Or, has at Low Tide a depth of from 10 to 18 fathoms water in it. Shoal water extends off from the Southeastern part of this Bay, but the Northwestern part is bold.

Isle Haute Lighthouse.

Upon the highest part of Haute Island, at the entrance of the Gut leading into the Basin of Mines, is a white square wooden building nearly hidden by trees, which at this date (1884) shows an Intermitting White Light 40 seconds in every minute. The Island is bold on all sides excepting its Eastern end. From this part Shoal Water extends off about ½ mile in an Easterly direction. From the Eastern part of this Island heavy Rips extend off about a mile to the Northward, and there are also Rips to the Southward of it.

Bearings and Distances from Isle Haute Lighthouse.

		Distances.	
Cape Spencer Lighthouse,	**W.** by **N.** ¼ **N.**, . .	39	miles.
Quaco Head Lighthouse, .	**NW.** by **W.** ¼ **W**, .	22¾	"
Cape Chignecto, . . .	**NE.** ½ **E.**, ...	5½	"
Black Rock Lighthouse, .	**SE.**, ...	11½	"
Fog Signal on Cape D'Or,	**E.** ½ **S.**, ...	10½	"
Cape Split, ...	**E.** ½ **S.**, ...	22½	"

Cape Spencer.

This Cape, which is on the Northern side of the entrance to the Basin of Mines, has deep water close to it, and lies **E.** ½ **N.**, about 3½ miles from Cape D'Or. The currents of Flood and Ebb set in and out from 5 to 6 knots by Cape Spencer.

Spencer Island.

This Island, which is small, lies about a mile **NE.** ½ **E.** from Cape Spencer, and about ¾ mile from shore. Between this Island and the Main-land there is a Channel of 2 fathoms water at Low Tide.

Anchorage.

About a mile to the Northward of Spencer Island there is good Anchorage about ½ mile from shore in 5 fathoms water at Low Tide. This is a good place for vessels waiting for winds or tides.

Cape Sharp.

This Cape, which has deep water close to it, is on the Northern side of entrance to the Basin of Mines, and lies **E.** ½ **S.** 14 miles from Cape Spencer, and **E.** ½ **N.** 5 miles from Cape Split.

Black Rock.

West-Northerly, about a mile from Cape Sharp and ½ mile from shore is Black Rock. There is a narrow Channel between this Rock and shore. Strangers should not attempt this passage except in cases of emergency. At such times keep nearer the Rock.

Dangers between Cape Sharp and Spencer Island.

From Spencer Island to Black Rock (before described), a distance of about 12 miles, there are no dangers excepting those lying near the shore. Vessels navigating this part of the coast may therefore approach the shore within ½ mile without danger.

Inlets between Cape Spencer and Cape Sharp.

Between Cape Spencer and Cape Sharp there are but few Inlets, which are of little importance to commerce.

Cape Split.

This Cape, which lies on the Southwest side of entrance to the Basin of Mines, is elevated about 400 feet above the level of the sea, and lies **E.** ¾ **S.** 12½ miles from the Fog Whistle at Cape D'Or. A Rocky Shoal extends off Northwesterly nearly a mile from the Northwest point of this Cape, over which the currents of Flood and Ebb set in and out with great strength and velocity. At the time of the Full and Change of the Moon there are Whirlpools which are said to be dangerous.

BASIN OF MINES.

The entrance to the Basin of Mines, which is between Cape Split on the Southwest and Cape Sharp on the Northeast, is in its narrowest part about 3 miles wide, and lies about 15 miles to the Eastward of Cape D'Or.

Remarks.

The length of the Basin of Mines from Cape Split to Economy Point (the Northern side of entrance to Cobequid Bay) is about 26 miles, and its average width about 12 miles. There are extensive flats or shoals which at Low Tide extend off from both sides. The principal Inlets on the Northern side are Parrsboro River and East River, both of which are not navigable at Low Tide. On the Southern side are Cornwallis River, Horton River and Avon River, the latter of which at Low Tide is navigable for very light draught vessels as far as Hantsport. On account of the great strength and velocity of the currents there are but few good places of anchorage in the Basin of Mines.

Anchorage in the Basin of Mines.

EDEN COVE.

The entrance to this Cove, which is on the Northern side of entrance to the Basin of Mines, lies between Cape Sharp on the West and Partridge Island on the East, and bears East from Cape Split distance about 6 miles, and from Cape Blomidon North about 5 miles. On the last of the Flood it is advisable for strangers (especially with light winds) when past Cape Split to haul in and anchor in this Cove, in about 11 fathoms at High Water, which will be 5 fathoms at Low Tide. Then, if bound to Windsor or Cornwallis, get under way a little before Low Water, in order to get into the stream which runs to the Southward by Cape Blomidon* into the Cornwallis and Avon Rivers; otherwise,

* Cape Blomidon, which is elevated about 600 feet above the level of the sea, has deep water close to it, and lies about 7½ miles to the Southeastward of Cape Split, which is on the Southwest side of entrance to the Basin of Mines.

with light winds, there is danger of being carried up with the Cobequid Bay tide, which runs with great strength and velocity.

Anchorage to the Southward of Cape Blomidon.

Vessels bound to this Anchorage may leave Cape Blomidon about a mile to the Westward and make good the course **SS.W.** When the water shoals to 4 fathoms at Low Tide then anchor. This depth will be about 12 fathoms at High Tide. Masters of vessels will therefore govern themselves according to time of tide. Cape Blomidon bears from this Anchorage **N.** by **E.** about 5 miles.

CORNWALLIS RIVER.

The entrance to this River, which is near the Southwest side of the Basin of Mines, lies Southwesterly about 12 miles from Cape Blomidon. About 3 miles above the entrance, on the South side of this River, is Cornwallis.

Kingsport Lighthouse.

Upon Oak Point Pier, West side of entrance to Cornwallis River, is an open frame painted brown; the upper part, which is enclosed, is painted white, and at this date (1884) shows a fixed White Light.

Remarks.

Cornwallis River, which is narrow and crooked, is not navigable at Low Tide. Strangers bound to this place should therefore employ pilots.

Sailing Directions for Cornwallis River in Daytime, with favorable Winds and fair Weather.

Strangers coming up the Bay of Fundy bound to Cornwallis River, may, with a commanding breeze, on the first of the Flood, leave Cape Spencer (before described) about a mile on the Port hand, and make good the course **E.** by **N.**, leaving the Tide Rips and Whirlpools off Cape Split well on the Starboard hand. When the

la c-named Cape bears **SE.** by **S.**, steer more easterly, passing in about midway; leave Cape Blomidon about a mile on the Starboard, and haul up about **S.SW.** When the water shoals to 4 fathoms at low tide, then anchor. A pilot is necessary here. Cape Blomindon bears from this anchorage **N.** by **E.** about 5 miles. With light winds and the last of the Flood, when abreast Cape Spencer, it is advisable for strangers to haul in and anchor about a mile to the Northward of Spencer Island in about 5 fathoms at Low Tide.

AVON RIVER.

The entrance to this River, which is on the southern side of the Basin of Mines, lies between Horton Bluff on the Southwest and Indian Point on the Northeast, and bears from Cape Blomidon about South 12 miles.

Horton Bluff Lighthouse.

Upon Horton Bluff, West side of entrance to Avon River, is a white square building which at this date (1884) shows a fixed White Light.

Remarks.

The approaches to Avon River are rendered extremely difficult on account of extensive Flats which extend off to the Northward more than 5 miles from the entrance. On account of the rapid current these Flats are constantly changing, leaving narrow channels without any well-defined leading marks. No stranger should therefore, under any circumstances, attempt to enter this River without a local pilot. From Horton Bluff Lighthouse to Hantsport (which is on the West side), the distance is 3¼ miles; thence about 5 miles to Windsor.

Sailing Directions for Avon River in Day-time, with favorable Winds and fair Weather.

Strangers coming up the Bay of Fundy bound to Avon River or Windsor, may with a commanding breeze, on the first of the Flood, leave Cape Spencer (before described) about a mile on the Port

hand, and make good the course **E.** by **N.**, leaving the Tide Rips and Whirlpools of Cape Split well on the Starboard hand. When the last-named Cape bears **SE.** by **S.**, steer more easterly, passing in about midway. Leave Cape Blomidon about a mile on the Starboard hand, and haul up about **S.SW.** When the water shoals to 4 fathoms at Low Tide, which is about 11 at High Water, then anchor, and take a pilot to Avon River. With light winds and the last of the Flood, when abreast Cape Spencer, it is advisable for strangers to haul in and anchor about a mile to the Northward of Spencer Island in about 5 fathoms water at Low Tide. See directions for this Anchorage before given.

High Water.

It is High Water in the Avon River on the days of the Full and Change of the Moon at 12 h. 30 m., or 1 h. 1 m. after it is in Boston. Mean rise and fall of Tides, 44 ft.

WALTON HARBOR.

The entrance to this small Harbor, which is on the Southern side of the Basin of Mines, lies East-Northerly 11 miles from the entrance to the Avon River, West-Southerly 10 miles from the Lighthouse at Burntcoat Head, and East-Southerly 14 miles from Cape Blomidon.

Walton Harbor Lighthouse.

Upon the Northeast side of entrance to Walton Harbor is a square white building which at this date (1884) shows a fixed Red Light.

Remarks.

A Bar which is dry at Low Tide, extends off Northerly nearly 2 miles from the entrance of this Harbor. Strangers should not therefore attempt to enter this narrow shallow place without a pilot.

Upon the Southern side of the Basin of Mines there are several small Creeks and Rivers, which are of little importance to commerce at Low Tide.

PARRSBORO RIVER.

The entrance to this River, which is on the Northern side of the Basin of Mines near the entrance, lies about 8 miles East from Cape Split, and about 6 miles Northeasterly from Cape Blomidon.

Parrsboro Lighthouse.

Upon the West side of entrance to Parrsboro River, is a Square White Dwelling with lantern on top which at this date (1884) shows a fixed White Light.

Remarks.

Parrsboro River is only navigable at High Water. Strangers bound to Parrsboro should anchor in Eden Cove (before described), and take pilots into this place.

High Water.

It is High Water at the entrance of Parrsboro River on the days of the Full and Change of the Moon, at 12 h. 05 m., or 36 m. after it is at Boston. Mean rise and fall of tides, 40 feet.

Remarks.

On the Northern side of the Basin of Mines, from Partridge Island (West side of entrance to Parrsboro River) to Economy Point, there are several Rivers, among which are North River, East River and Economy River. The entrance to the two former lies Northeasterly from the Five Islands; the latter lies on the Western side of Economy Point. These Rivers are only navigable at High Water, and to safely enter them the services of a pilot are necessary.

COBEQUID BAY.

The entrance to this Bay, which is at the Eastern part of the Basin of Mines, is about 4 miles wide, and lies between Economy Point on the North, and Burncoat Head on the South. The en-

trance to this Bay bears from Cape Blomidon **E.** by **S.** ½ **S.**, distance 21 miles. The length of this Bay from Burncoat Head Lighthouse to Truro is 21 miles.

Burncoat Head Lighthouse.

Upon Burncoat Head, South side of entrance to Cobequid Bay, is a Square White Dwelling with lantern on top, which at this date (1884) shows a fixed White Light. Cape Blomidon bears from this Lighthouse **W.** by **N.** ½ **N.** 22½ miles, Western part of the Brick-kiln Ledges **NW.** by **W.** ½ **W.** 6½ miles, and Economy Point **NW.** ¾ **N.** 4 miles. Vessels bound in or out of Cobequid Bay may at Low Tide approach Burncoat Head within a mile without danger.

Economy Point.

This Point is on the Northern side of entrance to Cobequid Bay. Rocky Shoals called the Brick-kiln Ledges extend off to the Westward nearly 4 miles from it. The Southern part of these dangers bears from Economy Point West about 3 miles. In order to avoid these dangers vessels bound up or down Cobequid Bay should keep nearer the Southern side.

Spencer Point Lighthouse.

Upon Spencer Point, North side of Cobequid Bay, is a small Building which at this date (1884) shows from one of the windows a fixed White Light. Burncoat Head Lighthouse bears from Spencer Point Lighthouse **W.** ¾ **S.** 9½ miles.

Remarks.

By keeping in the middle, at Low Tide about 5 fathoms water can be carried up about 4 miles past Burncoat Head Lighthouse. Above this there are extensive Flats, most of which at this time of Tide are dry. Between Burncoat Head and Point Economy (entrance to this Bay) the current of Flood and Ebb sets out and in from 4 to 5 knots.

SHUBENACADIE RIVER.

The entrance to this River, which is on the South side of Cobequid Bay near its head, lies East-Southerly about 13 miles from Burncoat Head Lighthouse, and Southeasterly 6½ miles from Spencer Point Lighthouse.

Remarks.

From the entrance to Welsford, a distance of about 15 miles, the Shubenacadie River is navigable at High Tide. Upon the the Western side of the entrance of this River is Maitland.

Truro.

About 8 miles to the Eastward of the entrance to Shubenacadie River, near the head of the Bay, is Truro. Vessels at High Tide can pass up to this place.

Inlets on the Northern Side of Cobequid Bay.

Upon the Northern side of Cobequid Bay, there are several small Inlets or Rivers, none of which are navigable at Low Tide.

High Water.

It is High Water in Cobequid Bay on the days of the Full and Change of the Moon at 12 h. 41 m., or about 1 h. 12 m. after it is at Boston. Mean rise and fall of Tides, 48 ft. This is the highest rise in Bay of Fundy.

Black Rock Lighthouse.

Upon the Southern side of the Bay of Fundy is a White Square Building with lantern on top, which at this date (1884) shows a fixed White Light. Haute Island Lighthouse bears from Black Rock Lighthouse **NW**. 11½ miles; Fog Whistle on Cape D'Or, **N.** by **E.** ¼ **E.**, 7¼ miles; Cape Split, **E.** by **N.** ¾ **N.** 15 miles.

SCOTSMAN'S COVE.

To the Southward of Cape Split is a large deep bend called Scotsman's Cove, which has but little water in it at Low Tide. Vessels navigating this part of the coast should therefore give this Cove a wide berth.

Dangers between Scotsman's Cove and Black Rock Lighthouse.

Between Scotsman's Cove and Black Rock Lighthouse there are no dangers excepting those lying near the shore. Vessels therefore navigating this part of the coast may keep about ¾ mile from the shore without danger.

Margaretville Lighthouse.

Upon the extremity of the Point (South side of Bay of Fundy) is a Lighthouse painted in Horizontal Black and White Stripes. At this date (1884) this Lighthouse shows a fixed Red Light.

A short distance to the Eastward of this Lighthouse is a small Pier or Breakwater. Black Rock Lighthouse bears from Margaretville Lighthouse **E.** by **N.** 15 miles, Haute Island Lighthouse **NE.** by **N.** ¼ **N.** 12½ miles, and Fog Whistle on Cape D'Or **NE.** by **E.** ¼ **E.** 19 miles.

Dangers between Black Rock Lighthouse and Margaretville Lighthouse.

Margaretville Shoal.

This Shoal, which is about ¾ mile from shore, lies **E.NE.** and **W.SW.** about ¾ mile, and at Low Tide has but little water upon it. The shoalest part of this danger bears from Margaretville Lighthouse **NE.** by **E.** ¼ **E.** about a mile. There is a narrow Channel between this obstruction and the shore. There are no other dangers off this part of the coast, and vessels bound up or down the Bay may approach the shore within a mile without danger.

Port Williams or Marshall Cove Lighthouse.

Upon the South side of Bay of Fundy is a White Square Building with lantern on top. At this date (1884) two fixed White Lights (one above the other) are shown from this Lighthouse. A short distance to the Westward of this Lighthouse is a small Pier or Breakwater. Point Prim Lighthouse, entrance to Annapolis Basin, bears from Port Williams Lighthouse **W.** by **S.** ¼ **S.**, 27 miles; and Margaretville Lighthouse, **E.** by **N.** ½ **N**, 10¾ miles.

Dangers between Margaretville Lighthouse and Port Williams Lighthouse.

Between Margaretville Lighthouse and Port Williams Lighthouse there are not any dangers excepting those which lie near the shore. Vessels bound up or down the Bay of Fundy may approach this shore within ¾ mile without danger.

Currents between Port Williams Lighthouse and Black Rock Lighthouse.

Between Port Williams Lighthouse and Black Rock Lighthouse, a distance of about 26 miles, the currents of Flood and Ebb set up and down the Bay from 2 to 3 knots. The current turns out of the Bay off shore about 20 minutes after High Water, and turns in about 20 minutes after Low Water.

High Water.

It is High Water at Port Williams Lighthouse on the days of the Full and Change of the Moon, at 11 h. 15 m., or about 14 minutes before it is at Boston. Mean rise and fall of tides 25 feet.

St. Croix Bay.

This small Bay or Cove lies about 2½ miles to the Westward of Port Williams Lighthouse. In Summer, with good weather and winds off the land, small vessels may anchor in this place in about 5 fathoms of water at Low Tide.

ANNAPOLIS BASIN.

The entrance to this Basin, which is by the narrow passage called Digby Gut, lies West-Southerly about 26 miles from Port Williams Lighthouse, about 35 miles **S.** ¼ **E.** from Partridge Island Lighthouse, entrance to the Harbor of St. John; East-Southerly 44 miles from the Northeast part of Grand Manan, and East-Northerly about 26 miles from Boar's Head, entrance to the Petit Passage.

Point Prim Lighthouse.

Upon Point Prim, Southern side of the Bay of Fundy, and West side of entrance to Annapolis Basin, is a Lighthouse painted in Red and White vertical Stripes, with square Tower. At this date (1884) this Lighthouse shows a fixed White Light. A Whistle is placed near the Lighthouse which in thick weather sounds 8 seconds in each minute.

Bearings and Distances from Point Prim Lighthouse.

		Distance.
Port Williams Lighthouse, . .	**E.** by **N.** ¼ **N.**, .	27 miles.
Partridge Island Lighthouse, entrance to St. John, . . .	**North**, ...	35 "
Swallow Tail Lighthouse, . .	**NW.** by **W.** ¾ **W.**,	41 "
Gannet Rock Lighthouse, . .	**W.** ¼ **N.**, . . .	44 "
Boar's Head Lighthouse, entrance to Petit Passage, . .	**SW.** by **W.** ¾ **W.**,	25 "

Remarks.

There is but little water at Low Tide in the Southern and Eastern part of Annapolis Basin; but there is good Anchorage at Low Tide on the Western side in about 6 fathoms water; this Anchorage is about 3½ miles above the Lighthouse, and about ¾ mile Northeasterly from the town of Digby; this last named place, which lies in the Southwesterly corner of this Basin, is about 4 miles from the entrance. The currents of Flood and Ebb set in and out through the Gut from 4 to 5 knots.

Sailing Directions for Annapolis Basin in Daytime, with favorable winds and fair weather.

Vessels bound to Annapolis Basin may, with a commanding breeze on the Flood, run in, keeping the Eastern side of the Gut best aboard until past Man-of-War Rock, which is on the Western side about 1¼ miles above the Lighthouse, then haul over for the Western side, leaving the Black Buoy off the end of the Spit, about 200 yards on the Port hand, and anchor a short distance Southwest from it, in from 5 to 6 fathoms water. If bound to Digby it will be necessary to wait at this Anchorage until High Water.

Rivers emptying into Annapolis Basin.

The principal Rivers which empty into Annapolis Basin are Bear River and Annapolis River. The entrance to the former, which lies Southeasterly about 6 miles from Point Prim Lighthouse, is navigable for some distance at High Tide; the latter, which runs parallel with the Bay of Fundy for a considerable distance, is separated from it only by a narrow tract of hilly land not more than 3 or 4 miles wide. On the banks of the Annapolis River are the towns of Annapolis and Bridgetown.

Remarks.

From the entrance of Digby Gut to Annapolis the distance is about 14 miles, and from thence to Bridgetown about 12 miles. At Low Tide about 19 feet water can be taken up abreast Annapolis, and from this point the river is not navigable to Bridgetown at Low Tide.

Sailing Directions for Annapolis River in Daytime, with favorable winds and fair weather.

Light draught vessels bound up the Annapolis River may, with a commanding breeze on the first of the Flood, run in, keeping the Eastern side of the Gut best aboard. When through this Gut make good the course **SE.**, until the Northern part of the town of Digby bears **W.** by **S.** ½ **S.**; then make good the course **E.** by **N.** ½ **N.**, carrying from 4 to 6 fathoms through the narrow channel. As you sail up you will see, nearly in the middle, Goat Island; when about a mile from this Island, haul more northerly,

passing about midway between it and the Northern shore; when past this Island keep midway in the river, carrying deep water to Annapolis. If bound farther up, a pilot is necessary. When past Annapolis there is good anchorage on the Southern side of the river in from 4 to 10 fathoms water at Low Tide. Strangers in large vessels bound up the Annapolis River should take pilots at Digby Anchorage.

BEAR RIVER.

The entrance to this River, which is on the South side of Annapolis Basin, lies about 6 miles Southeasterly from Point Prim Lighthouse. Strangers bound to this River should take pilots at Digby Anchorage.

High Water.

It is High Water at Annapolis Basin on the days of the Full and Change of the Moon at 11 h. 0 m., or about 29 minutes before it is in Boston. Mean rise and fall of tides 26 feet.

Dangers between Port Williams Lighthouse and Point Prim (entrance to Digby Gut).

From Port Williams Lighthouse to Digby Gut (entrance), a distance of about 26 miles, there are no dangers excepting those lying near the shore. Vessels navigating this part of the coast may therefore approach the shore within ½ mile without danger.

Gulliver Hole.

This small Cove, in which there is temporary Anchorage in from 5 to 8 fathoms water, lies West-Southerly 7½ miles from Point Prim Lighthouse, and East-Northerly about 18 miles from Boar's Head Lighthouse, entrance to the Petit Passage. This place only affords safe Anchorage in summer, with settled weather and winds blowing off the land.

PETIT PASSAGE.

The entrance to this narrow Passage, which leads into St. Mary Bay, is on the Southern side of the Bay of Fundy, and lies Southwesterly about 25 miles from Point Prim Lighthouse, Southwesterly about 51 miles from Partridge Island Lighthouse, entrance to the Harbor of St. John, East-Southerly 25 miles from Gannet Rock Lighthouse, and East-Northerly about 9 miles from the entrance to the Grand Passage.

Boar's Head Lighthouse.

Upon Boar's Head, West side of North entrance to Petit Passage, is a White Square Building which at this date (1884) shows alternately every minute a Revolving Red and White Light.

Bearings and Distances from Boar's Head Lighthouse.

		Distances.
Point Prim Lighthouse, entrance to Digby Gut, . .	**NE.** by **E.** ¾ **E**, .	25 miles.
Partridge Island Lighthouse, entrance to the Harbor of St. John, ...	**NE.** by **N.** ¾**N.**, .	51 "
Point Lepreau Lighthouse, .	**N.** ¼ **E.**, ...	41 "
Swallow Tail Lighthouse, .	**NW.** by **N.** ½**N.**, .	31 "
Gannet Rock Lighthouse, .	**NW.** by **W.** ¼ **W.**,	25 "
Bryer Island Lighthouse, .	**SW.** by **W.**, . . .	12 "
Northwest Ledge, . . .	**W.** by **S.** ½ **S.**, . .	9½ "

Remarks.

Petit Passage is about 2 miles long, and about ¼ mile wide, with a depth of from 6 to 20 fathoms water at Low Tide. In navigating this Passage the principal danger is Boar's Head Shoal, which lies at the Northern entrance, and at Low Tide has 7 feet water upon it. Boar's Head Lighthouse bears from this danger **SW.** by **S.** ⅓ mile. There is a narrow Channel of 4 fathoms water between this Shoal and the Lighthouse. Strangers should not, however, attempt to pass through this last-named passage except in cases of emergency.

Currents.

The current of Flood sets to the Northward through this passage at the rate of about 7 knots, while the Ebb sets through to the Southward with about the same strength and velocity. Strangers should not therefore attempt this passage with light winds.

Sailing Directions for Petit Passage in Daytime, with favorable winds and fair weather.

Vessels coming down the Bay of Fundy, and wishing to pass through the Petit Passage into St. Mary Bay, may, with a commanding breeze, on the Ebb, run through, keeping about midway the Passage. In order to avoid Boar's Head Shoal (before described), in entering, keep nearer the Eastern side.

Vessels from St. Mary Bay, wishing to pass through the Petit Passage into the Bay of Fundy, may, with a commanding breeze, on the Flood, run through, keeping midway the passage. In order to avoid Boar's Head Shoal, when abreast the Lighthouse keep nearer the Eastern side.

High Water.

It is High Water at the entrance of the Petit Passage on the days of the Full and Change of the Moon at 10 h. 41 m., or about 48 minutes before it is at Boston. Mean Rise and Fall of Tides, 20 feet.

Dangers between Point Prim Lighthouse (entrance to Annapolis Basin) and Boar's Head Lighthouse (entrance to the Petit Passage).

Between Point Prim Lighthouse and Boar's Head Lighthouse, a distance of 25 miles, there are no dangers excepting those lying near the shore. Vessels, therefore, bound up or down the Bay of Fundy, may approach this part of the coast within ¾ mile without danger.

Currents.

The currents of Flood and Ebb from Point Prim Lighthouse to Petit Passage set along the shore at the rate of from 2 to 2½ knots.

Grand Passage.

The entrance to this Passage which leads into the entrance of St. Mary Bay, is on the Southern side of the Bay of Fundy, and lies West-Southerly about 9 miles from Boar's Head Lighthouse; Southwesterly 58 miles from Partridge Island Lighthouse; Southwesterly about 47 miles from Point Lepreau Lighthouse; Southeasterly about 23½ miles from the Gannet Rock Lighthouse, and East-Northerly 3¼ miles from Bryer Island Lighthouse.

Westport Lighthouse.

Upon Peters Island near the middle of the Southern entrance to the Grand Passage is a White, Square Building, which at this date (1884) shows two fixed White Lights 24 feet apart; these lights are visible from the Northward between the bearings of **S.** by **W.**, and **S.SW.**, and from the Southward between the bearings of **NE.** by **E.**, and **NW.** by **N.** ¾ **N**

Dangers in Navigating the Grand Passage.

Peters Island Ledge.

This Ledge extends off about ¼ mile to the Northward of the Lighthouse on Peters Island; but the Eastern, Western and Southern sides of this Island are quite bold.

Passage Shoal.

This small Rocky Shoal, which at Low Tide has about 19 feet water upon it, lies nearly in the middle of the Passage, and has deep water on both sides of it. Peters Island Lighthouse bears from this danger **S.** ¼ **W.** ½ mile. Heavy draught vessels should avoid this danger.

Cow Ledge.

About ½ mile from the Northern entrance to the Grand Passage, upon the Eastern side of the Channel, is Cow Ledge. This danger, which extends off from the Eastern side about ¼ mile, is bold on its Western side. In order to avoid this danger, vessels navigating this Passage should keep the Western shore close aboard.

Cow Ledge Shoal.

At the Northern entrance to the Grand Passage, nearly in the middle of the Channel, is Cow Ledge Shoal, which at Low Tide has about 13 feet water upon it. The best Channel is to the Westward of this danger. Shoal water also extends off about 250 yards Northeasterly from the Northern Point of Bryer Island, West side of entrance to this passage.

Remarks.

The length of the Grand Passage from the Northern entrance to Peters Island, which is near the Southern entrance, is 1¾ miles; its width varies from ⅓ to ¾ mile. At Low Tide about 6 fathoms water can be taken through this Passage.

Currents.

The currents of Flood and Ebb run through this Passage at the rate of from 5 to 6 miles an hour; the Flood sets to the Northward, while that of the Ebb runs to the Southward. With light winds strangers should not attempt this Passage.

Sailing Directions for the Grand Passage in Daytime, with favorable winds and fair weather.

Vessels from the Bay of Fundy intending to pass through the Grand Passage may, with a commanding breeze and Ebb Tide, run through; in order to avoid Cow Ledge Shoal and Cow Ledge (both of which have before been described), keep the Western shore close aboard; when past Cow Ledge large or heavy draught vessels should run for Peters Island Lighthouse, bearing **S.** by **W.** ¼ **W.**, leaving Passage Shoal on the starboard hand; when about ½ mile from the Lighthouse, steer more Southerly, leaving it not more than 300 yards on the Starboard hand; when past this Lighthouse steer **S.SW.** out of the Passage.

Vessels from St. Mary Bay bound through the Grand Passage may, with a commanding breeze and Flood Tide, leave the Lighthouse on Peters Island about 300 yards on the Port hand, and steer about North (leaving Passage Shoal which has 19 feet water upon it at Low Tide) on the Port hand; when past this danger, in order to avoid Cow Ledge and Cow Ledge Shoal, keep the Western shore close aboard, and run out of the Passage.

Anchorage in the Grand Passage.

There is Anchorage on the Western side of this Passage (opposite the village of Westport), about ½ mile above Peters Island, in from 7 to 9 fathoms water at Low Tide.

Vessels bound either way through the Grand Passage may haul in and anchor in from 7 to 9 fathoms water at Low Tide; the Northeast end of Peters Island bears about **SE.** by **S.**, ½ mile from this Anchorage.

At Low Tide, by keeping midway the channel, which is narrow, vessels of not more than 12 feet draught can enter the Grand Passage to the Westward of Peters Island.

High Water.

It is High Water in the Grand Passage on the days of the Full and Change of the Moon, 10 h. 43 m., or about 46 m. before it is at Boston. Mean rise and fall of tides, 19 feet.

Bryer Island Lighthouse.

Upon the Northwestern point of Bryer Island is a White Octagonal Building, which at this date (1884) shows a fixed White Light.

A Steam Whistle is placed near this Lighthouse, which in thick weather sounds three blasts of 4 seconds duration, with intervals of 4 seconds between them, in each minute. Gannet Rock Lighthouse bears from Bryer Island Lighthouse **NW.** by **N.** ½ **N.** 23 miles.

Remarks.

The Northwestern side of Bryer Island from the entrance of the Grand Passage to the Lighthouse, is quite bold, and there are no dangers excepting those lying near the shore. Vessels may, therefore, approach this part of the Island within ½ mile without danger.

From the Southwest end of Bryer Island, a Rocky Shoal, which is dry at about ⅓ Ebb, extends off Southwest about 1½ miles, and terminates with a small Rock called Gull Rock. This last-named danger is about 6 feet above High Water, and has deep water close to it except on its Southwest side. Bryer Island Lighthouse bears from Gull Rock **N.** by **E.** 2⅓ miles. Vessels bound out or into St. Mary Bay should beware of this danger.

Bryer Island S. W. Ledge.

This Ledge, which is small, has at Low Tide about 12 feet water upon it. Gull Rock (before described) bears from the centre of this danger **NE.** by **E.** ½ **E.** about 2 miles, Bryer Island Lighthouse **NE.** ¾ **N.** about 4 miles. One-half mile **S.SW.** from this danger 8 fathoms water is found; **SE.** by **S.** ½ **S.**, ¾ mile, 14 fathoms; **E.NE.** ½ mile, 7 fathoms; **W. NW.** ¼ mile, 5 fathoms; and North ½ mile, 20 fathoms. In approaching this danger in thick weather or night-time, the lead therefore gives but little warning.

Currents near S. W. Ledge.

The currents of Flood and Ebb run strong across the S. W. Ledge making a heavy Tide Rip; there are also strong Ripples between the Gull Rock and this danger, but the Channel between them, which is nearly 2 miles wide, has from 6 to 13 fathoms water in it.

Northwest Ledge.

This small, dangerous Ledge has but 4 or 5 feet water on it at Low Tide. Bryer Island Lighthouse bears from it **S.** by **W.** about 4 miles. This danger is very bold on its Northern, Northeastern and Northwestern parts, and cannot be approached by the lead.

Beatson Ledge.

This small Ledge, which at Low Tide has about 12 feet water upon it, lies West-Southerly about a mile from the Northwest Ledge. This danger is also bold, and cannot be approached by the lead. Bryer Island Lighthouse bears from Beatson Ledge **S.** ¼ **E.**, 3¾ miles, to the Southeastward and Southwestward of Beatson and Northwest Ledges. There are several spots of from 5 to 10 fathoms water. Between these dangers and Bryer Island Lighthouse the Channel is about 3 miles wide, with a depth of from 20 to 30 fathoms water.

Currents.

The currents of Flood and Ebb set strong across these dangers, forming heavy Tide Rips; and there are also strong Tide Ripples in this vicinity. With light winds vessels bound up or down the Bay of Fundy should give these dangers a wide berth.

ST. MARY BAY.

This Bay lies between Cape St. Mary and the Mainland on the South, and Bryer Island, Long Island and the narrow Peninsula called Digby Neck on the North, and extends Northeasterly and Southwesterly about 30 miles. At the entrance it is about 11 miles wide, and gradually diminishes to 4 miles near its Head. Near the entrance the depth of water is from 20 to 30 fathoms, but gradually decreases to 10 and 5 fathoms. Near its Head it is dry at Low Tide.

Cape St. Mary Lighthouse.

Upon Cape St. Mary, South side of entrance to St. Mary Bay, is a White Octagonal Building, which at this date (1884) shows a Revolving Red and White Light every minute.

Bearings and Distances from Cape St. Mary Lighthouse.

		Distance.
Cape Fourchu, ...	**S.** by **W.**, . . .	17½ miles.
Peters Island Lighthouse, South entrance to the Grand Pass, ...	**N.** by **W.**, . . .	11½ "
South entrance to the Petit Pass, ...	**NE.** by **E** ½ **E.**, .	17½ "
Trinity Rock, ...	**SW.** ¾ **W.**, . .	7 "
Bryer Island S. W. Ledge, .	**NW.** ½ **N.**, . .	11 "

Upon the Northern side of Cape St Mary the shore is bold, and vessels may approach within ¼ mile without danger; but a Rocky Shoal runs off Southwesterly nearly ¾ mile from the Lighthouse, over which the current runs strong, showing a heavy Tide Rip.

Montegan Lighthouse.

Upon the Southern side of St. Mary Bay about 8½ miles Northeasterly from Cape St. Mary Lighthouse, upon the extreme end of the Breakwater, is a Lighthouse painted in Red Vertical Stripes on the seaward side, Lantern Black. At this date (1884) this Lighthouse shows a Green Fixed Light. The tide leaves the Breakwater upon which the Lighthouse stands, about an hour before Low Tide. Southern entrance to Grand Passage bears

from Montegan Lighthouse **NW.** by **W.** ¼ **W.** 8½ miles. South entrance to Petit Passage, **N.** ¼ **E.** 10 miles.

From Montegan Lighthouse Shoal Water extends off Northwesterly about a mile, and vessels bound up or down St. Mary Bay should beware of this danger.

Church Point Lighthouse.

About 15½ miles Northeasterly from Cape St. Mary Lighthouse, upon Church Point, which is on the Southern side of St. Mary Bay, is a White Square Wooden Building, which at this date (1884) shows a Red Fixed Light. South entrance to Grand Passage bears from Church Point Lighthouse **W.** by **S** ¼ **S.** 10½ miles; South entrance to Petit Passage, **NW.** ¾ **N.** 4¼ miles.

Between Montegan Lighthouse and Church Point Lighthouse Shoal Water extends off in some places nearly a mile. A Rocky Shoal also makes off a considerable distance Northeasterly from the last-named Point. Vessels bound up or down St. Mary Bay should not therefore approach this part of the coast nearer than 1¼ miles.

SISSIBOU RIVER.

The entrance to this River, which is on the Southern side of St. Mary Bay, lies Northeasterly 23 miles from Cape St. Mary Lighthouse, East-Northerly 18 miles from the South entrance to the Grand Pass, and East-Northerly 9 miles from the South entrance to the Petit Pass.

Sissibou River Lighthouse.

Upon the Southern side of St. Mary Bay, about 8 miles Northeasterly from Church Point Lighthouse, and on the South side of entrance to Sissibou River, is a White Square Wooden Building, which at this date (1884) shows a fixed White Light.

Remarks.

On account of a Bar which lies near the entrance, the Sissibou River is only navigable for vessels, at High Water, of from 14 to

17 feet draught. Near its entrance upon its Eastern side is the village of Weymouth. From Church Point Lighthouse to the entrance of this River in some places Shoal Water makes off nearly a mile from shore. Vessels bound up or down St. Mary Bay should beware of this danger.

East Sandy Cove.

This Cove, which is on the Northern side of St. Mary Bay, is very small, and lies about 8½ miles above the Southern entrance to the Petit Passage, and nearly opposite the entrance to Sissibou River. At High Water about 6 feet can be taken into this Cove.

St. Mary Shoal.

This Shoal, which is about 4 miles above the entrance of the Sissibou River, extends Northeast and Southwest about 2 miles, and has a general width of about a mile. Near the middle of the shoal is a small rocky spot of 4 feet. With this exception the soundings upon it at Low Tide range from 9 to 18 feet. Between this danger and the Northern side of the Bay, close to the shore, there is a narrow Channel of 5 fathoms at Low Tide, and there is also a Channel of from 5 to 15 fathoms between it and the Southern shore. Above St. Mary Shoal, to the head of the Bay there, is but little deep water at Low Tide. The Northern side of this Bay, from St. Mary Shoal to the entrance of the Grand Passage, is very bold, and vessels may approach it within ¼ mile without danger.

High Water.

It is High Water in St. Mary Bay on the days of the Full and Change of the Moon at 10 h. 45 m., or about 44 minutes before it is at Boston. Mean Rise and Fall of Tides, 19 ft.

Gannet Rock Lighthouse.

Gannet Rock, which is small, is elevated about 25 feet above water at High Tide. The Lighthouse, which is an Octagonal Tower, is painted in Vertical Stripes, Black and White, and at this date (1884) shows a Flashing White Light. A Gun is fired to answer signals in thick weather.

Bearings and Distances from Gannet Rock Lighthouse.

		Distance.	
Point Prim Lighthouse (entrance to Annapolis Basin),	**E.** ¼ **S.**, ...	44	miles.
Boar's Head Lighthouse (entrance to Petit Passage), .	**SE.** by **E.** ¼ **E.**, .	25	"
Bryer Island Lighthouse, .	**SE.** by **S.** ½ **S.**, .	23	"
Machais Seal Island Lighthouses, ...	**W.** by **N.** ¼ **N.**, .	14	"
Gull Head Lighthouse (Grand Manan), ...	**NW.** by **N.** ½ **N.**,	7½	"
Beacon on Old Proprietor, .	**E.** by **N.**, . . .	5½	"

Remarks.

Both to the Eastward and Westward of Gannet Rock Lighthouse there are many Rocks, Shoals and Ledges, with deep water close to them. The current of Flood and Ebb sets very strong across these shoals, making the navigation (especially in thick weather) extremely dangerous in this vicinity. A better knowledge of these dangers can be obtained by closely inspecting the charts of this locality than by any written description. We shall, however, attempt to describe some of the most prominent dangers in the vicinity of this Lighthouse.

Murr Ledges.

These Ledges, some of which are above water, lie to the Westward of the Gannet Rock Lighthouse, and extend North and South about 4 miles, with deep water around and between them. The Flood runs to the Eastward and Ebb to the Westward over these dangers with a velocity of from 3 to 4 knots. No stranger should, therefore, attempt to go between them.

St. Mary Ledge.

This Ledge, which is the Southermost of the Murr Ledges, is very small, and only covered at High Water. Gannet Rock Lighthouse bears from St. Mary Ledge **E.** by **N.** ¾ **N.** 2¾ miles. Yellow Ledge (Southern Rock 10 feet above water) bears from St. Mary Ledge **NW.** by **W.** ½ **W.** ¾ mile. Between St. Mary Ledge and the Southern Rock (of Yellow Ledge) there is a Sunken Rock having but 4 feet water on it at Low Tide.

Long Ledge.

The Northern part of this Ledge, some parts of which are bare at Half Tide, extends **N.NE.** and **S.SW.** more than a mile, with deep water close to it. Gannet Rock Lighthouse bears from the centre of this danger **E.** by **S.** ¾ **S.** 3¼ miles; St. Mary Ledge, **S.** by **E.** ½ **E.** 2¼ miles. Between Long Ledge and St. Mary Ledge there are a number of dangers which are too numerous to mention here.

West Ledge.

This Ledge, the Northern part of which is awash at High Tide, has deep water all round it. Gannet Rock Lighthouse bears from this danger **E.SE.** 4 miles. Between West Ledge and the Northern part of Long Ledge there is a Channel ⅞ mile wide, with a depth of 10 fathoms water at Low Tide.

Wallace Ledge.

This small Ledge, which is bare at about ½ Ebb, is the Northernmost of the Murr Ledges, and has deep water all round it. Gannet Rock Lighthouse bears from this danger **SE.** by **E.** 4¼ miles; Gull Head Lighthouse (Southwest Head Grand Manan) **N.** ¼ **E.** 4½ miles; Machias Seal Island Lighthouses, **W.** ⅝ **N.** 10 miles. Between Wallace Ledge and the Southwest Head of Grand Manan there is a clear Channel 4 miles wide, having a depth of from 10 to 20 fathoms water; but between this last-named Ledge and Machias Seal Island Lighthouses there are two dangerous Rocks called the Bull and S.E. Shoal. The former is bare at Low Tide, while the latter has about 9 feet water upon it at this time of tide.

Bull Rock.

This small Rock, which is dry at Low Tide, has deep water all round it. Gannet Rock Lighthouse bears from this danger **E.** by **S.** ¼ **S.**, 7 miles; Gull Head Lighthouse (Southwest Head Grand Manan), **NE.** by **N.**, 6¼ miles; Machias Seal Island Lighthouses, **W.** by **N.** ½ **N.**, 7 miles.

Southeast Ledge.

This danger, on which the sea breaks in heavy weather, has not less than 5 fathoms water upon it at Low Tide. The current of

Flood and Ebb sets strong across this Ledge, forming heavy Tide Rips. Gannet Rock Lighthouse bears from Southeast Ledge **E.** ½ **N.** 10 miles; Machias Seal Island Lighthouses **NW.** ½ **N.**, 5 ½ miles.

Southeast Shoal.

This is a small, Rocky Shoal, having but 7 feet water upon it at Low Tide. Machias Seal Island Lighthouses bear from this danger **NW.** 1¼ miles.

Machias Seal Island Ledge.

This danger, upon which there are about 12 feet water at Low Tide, lies **E.** by **S.** ½ **S.**, from Machias Seal Island Lighthouses, distance ⅓ mile.

Cross Jack Ledge.

This danger, which is above water, has deep water all round it. Gannet Rock Lighthouse bears from it **E.** by **S.**, 2 miles.

Half-Tide Rock.

This danger, which has deep water all round it, lies **W.** ½ **N.** about ½ mile from Gannet Rock Lighthouse.

Gannet Rock Ledge.

This Ledge, which has 12 feet water upon it at Low Tide, lies about ⅓ mile **SE.** by **S.** ½ **S.** from Gannet Rock Lighthouse.

Manan Ledges.

The Ledges which lie to the Southward of White Head Island* are Black Rock, the Northeasternmost of which is above water; the Brazils, which are bare at Low Tide; the Tinker, Northwesternmost, dry at Low Tide; the Diamonds, which are also dry at Low Tide; the Rans, or Westernmost; the Proprietor, just seen at Low Tide, with Shoal Water about ¾ mile to the Southward of it; and lastly, the Old Proprietor, or the Outer or Southernmost of these dangers.

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* White Head Island lies Southeasterly about 3 miles from the Southeast end of Grand Manan Island.

Old Proprietor.

This dangerous Ledge, which is the outermost of the Manan Ledges, is bare at about half-tide, and at this date (1884) is marked with a Beacon painted Red, with cage on top; this cage is elevated about 30 feet above High Water; 30 fathoms water was found ½ mile South from this Beacon; 8 fathoms **SW.** by **W.**, 1 mile from it, and 40 fathoms **E.NE.**, ½ mile from it; when covered, the current of Flood and Ebb sets with great strength and velocity over this danger. Gannet Rock Lighthouse bears from this Beacon **W.** by **S.** 5½ miles; South Point of the Three Islands **NW.** by **W.** ¼ **W.**, 4 miles.

Between the Beacon on the Old Proprietor and White Head Island there are many dangers over which the currents of Flood and Ebb set with great strength and velocity, forming Tide Rips and Ripples, which in some places are said to be dangerous. Strangers should not, therefore, attempt to pass to the Northward of this Beacon.

Gannet Rock Channel.

Between the Beacon on the Old Proprietor and Gannet Rock Lighthouse there is a passage about 5 miles wide, with from 10 to 20 fathoms water in it. The principal danger for heavy draught vessels in this Channel is Kent Shoal, which has at Low Tide about 20 feet water upon it. Gannet Rock Lighthouse bears from this danger **SW.** by **S.** ½ **S.** 2¼ miles.

Sailing Directions for Gannet Rock Channel, with favorable winds and fair weather.

Vessels from the Eastward, with a commanding breeze, may, as soon as the Gannet Rock Lighthouse is made, bring it to bear **W.** ½ **N.**, and run for it on this course, leaving the Beacon on the Old Proprietor about 1½ miles on the Starboard hand; when about ½ mile from this Lighthouse make good the course **NW.** by **N.** ½ **N.**, and as soon as Gull Head Lighthouse is made, bring it to bear **NW.** by **N.** ½ **N.**, and run for it on this course. If bound to the Northward leave Gull Head, which is bold and free from dangers, about ¾ mile on the Starboard hand.

From the Northward or Westward, wishing to pass through Gannet Rock Channel, leave Gull Head Lighthouse about ¾ mile

on the Port hand, and when the Lighthouse bears North, make good the course **SE.** by **S.** As soon as Gannet Rock Lighthouse is made, bring it to bear **SE.** by **S.** ½ **S.**, and run for it on this course, leaving it about ½ mile on the Starboard hand.

High Water.

It is High Water at Gannet Rock Lighthouse on the days of the Full and Change of the Moon at 10 h. 50 m., or about 39 minutes before it is at Boston. Mean rise and fall of tides 18 feet.

Trinity Ledge.

This Ledge, which in some parts is bare at Low Tide, lies about 6 miles from the Nova Scotia coast, and extends **E.NE.** and **W.SW.** about ½ mile, and has a width of about ¼ mile. At this time it is marked off its Western side with a Bell Buoy. Cape St. Mary Lighthouse bears from this Buoy **NE.** by **E.** 7 miles; Bryer Island Lighthouse, **N.** ¼ **E.** 15½ miles; Cape Fourchu, **S.** by **E.** 13¼ miles; Whistling Buoy, off Lurcher Shoal, **SW.** by **W.** 12½ miles; **N.**, ½ mile from this Ledge, 8 fathoms water was found; **NE.** by **E.** 1½ miles, 6 fathoms; **E.SE.** ½ mile, 9 fathoms; **S.**, ¾ mile, 7 fathoms, and **W.**, 1¼ miles, 30 fathoms. The current of Flood and Ebb sets strong over this danger; the Flood sets North 2½ knots, and the Ebb South, with about the same velocity.

Lurcher Shoal.

This dangerous Shoal, which lies about 14 miles from the Nova Scotia shore, extends about **NE.** and **SW.** about 3½ miles, and has from 9 feet to 8 fathoms water on it. A Whistling Buoy has been placed in 13 fathoms water about ⅓ mile to the Westward of this danger. Cape Fourchu bears from this Buoy **SE.** by **E.** ¾**E.** 14½ miles; Cape St. Mary Lighthouse **NE.** by **E.** 19½ miles; Bryer Island Lighthouse **NE.** by **N.** ½ **N.** 25¼ miles; Gannet Rock Lighthouse **N.** 42¼ miles; Machias Seal Island Lighthouses **N.** by **W.** ½ **W.** 47½ miles; Bell Buoy of Trinity Ledge **NE.** by **E.** 12½ miles. All round and close to this Ledge there are from 8 to 13 fathoms water and a little farther off on all sides, excepting the Northern, from 20 to 30 fathoms.

Between the Lurcher Shoal and Trinity Ledge there is a Chan-

nel 10 miles wide, having from 10 to 30 fathoms water in it. The current of Flood sets strong to the Northward across the Lurcher Shoal, while that of the Ebb sets to the Southward. Both these currents make a heavy Tide Rip upon this danger.

Coast from Cape St. Mary to Cape Fourchu.

From Cape St. Mary the coast runs Southwesterly about 17½ miles to Cape Fourchu. Between the two last-named Capes there are several Inlets which are of little importance to commerce.

Dangers.

From Cape St. Mary to Cape Fourchu there are but few dangers excepting those lying near the shore. Vessels, therefore, navigating this part of the coast may approach it within a mile without danger.

YARMOUTH HARBOR.

The entrance to this Harbor, which is on the Western coast of Nova Scotia, lies about North 24½ miles from Seal Island Lighthouse, Southwesterly 18 miles from Cape St. Mary, Southeasterly 29½ miles from Bryer Island Lighthouse, Southeasterly about 51 miles from the Gannet Rock Lighthouse, and Southeasterly about 59 miles from Machias Seal Island Lighthouses.

Yarmouth Lighthouse.

About ⅓ mile from the Southern point of East Cape, West side of entrance to Yarmouth Harbor, is an Octagonal Tower painted in Red and White Vertical Stripes, which at this date (1884) shows a Revolving White Light. A Steam Whistle is placed near this Lighthouse, which in thick weather sounds 10 seconds every minute.

Bearings and Distances from Yarmouth Lighthouse.

		Distance.
Gannet Rock Lighthouse, .	**N.** by **W.** ¼ **W.**, .	51 miles.
Machias Seal Island Lighthouses, ...	**NW.** by **N.** ⅝ **N.**, .	59 "

Seal Island Lighthouse, .	**S.** ¼ **W.**, ...	24½ miles.
Bunker Island Lighthouse (Yarmouth Harbor), . .	**NE.**, ...	1¼ "
Whistling Buoy off Lurcher Shoal, ...	**NW.** by **W.** ½ **W.**,	15¼ "
Roaring Bull (about 3 feet above Low Water), . .	**S.** by **W.** ¼ **W.**, .	2½ "
Southern Point Cape Fourchu, ...	**NW.** by **W.**, . . .	½ mile.

Between East Cape and Cape Fourchu is Outer False Bay. This entrance must not be mistaken by strangers bound to Yarmouth, as the entrance to the last-named place is to the Eastward of the above Lighthouse.

Bunker's Island Lighthouse.

Upon the end of Reef off Southwest point of Bunker's Island, East side of entrance to Yarmouth Harbor, is a Dwelling, with Lantern on top, which at this date (1884) shows a Fixed Red Light, which in entering may be left close to on the Starboard hand. Yarmouth Lighthouse bears from Bunker's Island Lighthouse **SW.** 1¼ miles. This Light, which is intended to guide vessels into Yarmouth Harbor, is only visible from the Southward between the bearings of **N.** ¾ **E.** and **NE.** by **N.**

Dangers in approaching and entering Yarmouth Harbor.

Roaring Bull.

This small Rock, which has deep water all round it, lies about a mile from shore, and is about 3 feet above Low Water. Yarmouth Lighthouse bears from this danger **N.** by **E.** ¼ **E.** 2½ miles. Between the Roaring Bull and entrance to Yarmouth Harbor there are no dangers for common vessels excepting those lying near the shore.

Foul Ground.

About ¾ mile to the Southward of the Roaring Bull and ¾ mile from shore, is a spot of Foul Ground having from 7 to 12 feet water upon it at Low Tide. The current of Flood and Ebb

makes a Tide Rip over this danger. In entering the Harbor there are also two obstructions lying near the channel-way, one a short distance below Bunker's Island Lighthouse, the other above it. Both these dangers are said to be marked at this time with Buoys.

Remarks.

In entering Yarmouth Harbor, Shoal Water extends off from both sides, making the Channel in some places very narrow. At Low Tide about 18 feet water can be carried up abreast Bunker's Island Lighthouse, and from this about 10 feet water can be taken to the end of the Long Wharf. With winds from West to South by way of North, there is Anchorage in about 4 fathoms water at Low Tide, about ⅓ mile **E.** by **S.** from Yarmouth Lighthouse; and there is also good Anchorage about ½ mile above Bunker's Island Lighthouse. At this time it is said that the Channel leading up to Yarmouth is well marked with Beacons and Buoys. In entering, Red Buoys should be left on the Starboard, and Black on the Port hand.

Sailing Directions for Yarmouth Harbor in Day-time, with favorable winds and fair weather.

Vessels from the Bay of Fundy bound to Yarmouth Harbor, may, when past Trinity Ledge and the Lurcher Shoal (before described) bring Yarmouth Lighthouse to bear East, and run for it on this course, leaving it at least ½ mile on the Port hand. When the entrance to Yarmouth Sound is well open, then run in about midway until Bunker's Island Lighthouse is made; bring this Lighthouse to bear **N.** by **E.** ¾ **E.**, and run for it, leaving the Hen and Chickens, which lie on the Eastern side and are covered at ⅓ Flood, well on the Starboard hand. When well past Yarmouth Lighthouse, leave the Red Buoys, Red Beacons and Bunker's Island Lighthouse on the Starboard, and Black Buoys and Beacons on the Port hand, as they are placed to mark the narrow Channel up to the wharves. At Low Tide vessels bound to the wharves should anchor about ½ mile above Bunker's Island Lighthouse, and wait for High Water.

Vessels from the Southward bound to Yarmouth Harbor should leave the outer dangers, Gannet Ledge (which is bare at about Half Tide), the Gannet Rock above water, and Green

Island, all on the Starboard hand, and as soon as Yarmouth Lighthouse is made, bring it to bear **NE.** by **N.**, and run for it on this course, leaving the Rock called the Roaring Bull well on the Starboard hand. When Yarmouth Sound is well open, proceed as before directed.

Beating into Yarmouth Harbor.

In beating into Yarmouth Harbor, when the Lighthouse is made, bring it to bear from **E.** to **NE.** by **N.** ½ **N.** until past the Roaring Bull (before described). You may then stand farther in until about ½ mile from shore, and anchor at the entrance in about 3 fathoms water at Low Tide, the Lighthouse bearing **W.** by **N.** about ⅓ mile. Strangers should not attempt to beat into this Harbor, as the Channel in some places is very narrow.

Sailing Directions for Yarmouth Harbor at Night-time, with favorable winds and fair weather.

When Yarmouth Light is made, bring it to bear from **NE.** to **E.NE.**, and run for it on this course, until you judge you are about a mile from it; then steer more Easterly, leaving this Lighthouse not less than ¾ mile on the Port hand. When Bunker's Island Light (Red fixed) bears **N.** by **E.** ¾ **E.**, then run for it on this course, carrying not less than 3 fathoms water at Low Tide, until Yarmouth Lighthouse bears **W.SW.**; then anchor in from 3½ to 5 fathoms water, and wait for daylight.

Thick Weather.

In thick weather, as soon as the Whistle at the Lighthouse is heard, bring it to bear **NE.** by **N.**, and run for it on this course under short sail, until you judge you are about ¾ mile from it; then, in about 12 fathoms water at Low Tide, haul to the Eastward, carrying not less than 5½ fathoms at Low Tide, until it bears North; then steer about **N.NE.**, and when the water shoals to 4 fathoms at Low Tide, then anchor with the Lighthouse bearing about **W.** by **N.** ⅓ mile distant.

It is advisable for large or heavy draught vessels bound to Yarmouth to take pilots.

High Water.

It is High Water in Yarmouth Harbor on the days of the Full and Change of the Moon at 10 h. 9 m., or about 1 h. 20 m. before it is at Boston. Mean rise and fall of Tides, 15 feet.

JEBOUGE RIVER.

The entrance to this River, which is between Cape Jebouge* on the North, and Reef Island on the South, lies about 4½ miles Southeasterly from Yarmouth Lighthouse, and 20½ miles Northeasterly from Seal Island Lighthouse.

Dangers in approaching this River.

Jebouge Ledge.

This Ledge, which has but little water upon it at Low Tide, generally breaks with an ordinary swell. The current of Flood and Ebb sets across this danger, making Tide Rips which can be plainly seen, especially in moderate weather. Cape Jebouge bears from this Ledge **NE.** ½ **E.** about a mile; Southern point of Reef Island (which is about 50 feet high), **E.** by **S.** about 2 miles.

Jebouge Point Shoal.

This Shoal, which lies between Jebouge Ledge and Cape Jebouge, has not less than 13 feet water upon it at Low Tide. Cape Jebouge bears from this danger **NE.** by **N.** ¼ **N.** about ¾ mile; South point of Reef Island **E.** by **S.** ½ **S.** 1⅔ miles. About midway between this Shoal and Cape Jebouge there is a Channel of about 4 fathoms water at Low Tide.

Reef Shoal.

This Shoal, which has about 12 feet water upon it at Low Tide, has deep water close to it, and generally shows by the Tide

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* Cape Jebouge, which is 30 feet high, lies S. ¼ E. about 4 miles from Yarmouth Lighthouse.

Rips upon it. Cape Jebouge bears from this danger **N.** ½ **W.** about 1½ miles; South point Reef Island, **E.** by **N.** ½ **N.** about a mile. There is a good Channel of not less than 6 fathoms between this Shoal and the Jebouge Ledge.

Reef Island Ledge.

This Ledge shows at about ¼ Ebb. Shoal Water extends to the Southward from it about a mile, and Shoal Water also makes off to the Westward and Northward some distance from it. Cape Jebouge bears from the centre of this danger **NW.** by **N.** ½ **N.** 1¼ miles; Southern part of Reef Island, **E.** by **S.** ½ **S.**, a little more than ½ mile.

Remarks.

Near the entrance to Jebouge River is Fox Island, which divides the entrance into two passages. The entrance to the Western passage, which is about ¾ mile wide, lies between Cape Jebouge and the Southwest part of Fox Island, which is about 40 feet high, and is called Garden Head. The entrance to the Eastern Passage, which is narrow, lies to the Eastward of Robbins Head, which is the Southeast part of the last named Island.

There is good anchorage on both sides of Fox Island. By the Western Passage about 12 feet water at Low Tide can be carried up to the Anchorage, which is about a mile from the entrance; by the Eastern Passage about 7 feet at Low Tide can be taken to the Anchorage, which is a little more than a mile from the entrance. Above Fox Island there is in some places but little water at Low Tide.

Sailing Directions for Jebouge River in Day-time, with favorable winds and fair weather.

At Low Tide vessels of not more than 10 or 11 feet draught, from the Northward with a commanding breeze, may, as soon as Cape Jebouge is made, bring it to bear **E.SE.**, and run for it on this course, leaving the Roaring Bull and Foul Ground (before described) well on the Port hand. When about a mile from the Cape steer more Southerly, leaving it about ½ mile on the Port, and Jebouge Ledge (before described) about the same distance

on the Starboard hand. When Garden Head,* the Southwest part of Fox Island, bears **E.NE.**, then run for it on this course, carrying from 3½ to 4 fathoms water. Continue the course until about ½ mile from this Head; then, in about 3½ fathoms at Low Tide, steer **NE.** by **N.** ½ **N.**, keeping not more than 200 yards from the Northern part of Fox Island, and carrying at Low Tide from 12 feet to 6 fathoms through the narrow Channel, and anchor about 250 yards to the Northward of the last named Island, in from 3 to 4½ fathoms water at Low Tide.

The Channel leading up to the anchorage to the Eastward of Fox Island is considered too intricate for strangers.

Vessels with a commanding breeze from the Soutwestward may leave Green Island,† which is 50 feet high, and is bold on its Northern side, about ¼ mile on the Starboard hand, and steer East until the highest part of this Island bears **SW.**, on which bearing keep it and steer **NE.**, leaving Jebouge Ledge (before described) well on the Port hand. Continue the course **NE.** until Garden Head, the Southwest part of Fox Island, bears **E.NE.**; then run for it, and follow the directions before given.

High Water.

It is High Water in Jebouge River on the days of the Full and Change of the Moon at 10 h. 4m., or about 1 h. 25 m. before it is at Boston. Mean rise and fall of tides, 13½ feet.

LITTLE RIVER.

The entrance to this River, which is between the main land on the East and Pinkney Point on the West, is about a mile wide, and lies Southeasterly about 4 miles from Cape Jebouge, and **E.** by **S.** 4½ miles from Green Island.

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* Garden Head is 40 feet high, and bears E. by S. ¼ S. from Cape Jebouge, distance about a mile.

† Cape Jebouge bears from Green Island, which is small, NE. ½ N., 2¾ miles.

Remarks.

The Channel leading up this River in some places is very narrow. About 8 feet water at Low Tide can be taken about 2 miles above the entrance. There are several Sunken Rocks lying in the Channel-way. It is therefore advisable for strangers bound up to take pilots.

Tusket Islands.

The centre of these Islands lie Southeasterly about 10 miles from Yarmouth Lighthouse, 7 miles Southeasterly from Cape Jebouge, and Northeasterly about 15 miles from Seal Island Lighthouse.

Pease Island Lighthouse.

Upon the Southern part of one of the Tusket Islands is a White Square Wooden Dwelling, which at this date (1884) shows two lights, one above the other. The upper light is a Revolving Red and White, the lower Fixed Red.

Bearings and Distances from Pease Island Lighthouse.

		Distance.
Seal Island Lighthouse, .	**S.** by **W.** ¼ **W.**, . .	14 miles.
White Head Lighthouse, .	**E.**, ...	7⅓ "

There are many Rocks, Shoals and Ledges in the vicinity of this Lighthouse. We shall, however, only attempt to describe some of the most dangerous. The current of Flood and Ebb sets strong across these dangers, and strangers should beware of this part of the coast, especially with light winds and thick weather. By inspecting the charts of this locality a better idea of the dangers can be obtained than by any written description.

Bearings and Distances of Dangers from Pease Island Lighthouse.

Old Woman's Rock.

This danger, which has Shoal Water all round it, is bare at 2 hours Ebb. Pease Island Lighthouse bears from this Rock **W.** ¼ **N.** 2¼ miles.

Old Man's Rocks.

Shoal Water extends about ½ mile to the Southward of these Rocks, which are bare about 1 hour before Low Tide. Pease

Island Lighthouse bears from this danger **NW**. by **N**. ¾ **N**., 1½ miles.

Cleopatra Shoal.

This danger, over which the current sets strong, making a heavy Tide Rip, has at Low Tide about 11 feet water upon it. Pease Island Lighthouse bears from this Shoal **N**. nearly 3½ miles, and Bald Tusket, 50 feet high (the Southernmost of the Tusket Isles), **N**. by **W**. 1¾ miles.

Thirteen Foot Spot.

Between Cleopatra Shoal and Bald Tusket is a small spot having about 13 feet water upon it at Low Tide. Pease Island Lighthouse bears from this danger **N**. nearly 2½ miles; Bald Tusket, **N.NW**. ⅞ mile.

Soldier Ledge.

Shoal Water extends Northerly about ½ mile from this dangerous Ledge, which is bare about 2 hours after High Water, and the sea generally breaks upon it when covered. Pease Island Lighthouse bears from this danger **NE**. by **N**. ¾ **N**. 5½ miles; Northern Mud Island **S.SE**. 2⅓ miles; Bald Tusket, which is the Southernmost of the Tusket Isles, **NE**. by **N**. ¼ **N**. 3¾ miles; Cleopatra Shoal **NE**. ¾ **N**. 2¾ miles. Between Soldier Ledge and Cleopatra Shoal there is a Channel more than 2 miles wide, with a depth of from 5 to 7 fathoms water. From the Bald Tusket to Soldier Ledge, a distance of 3¾ miles, the current of Flood and Ebb sets strong, forming heavy Tide Rips, which at times are said to be dangerous to small and deeply-laden vessels. The Flood sets about **NW**., and Ebb **SE**.

Jacko Ridge.

This Ridge, which is the Southwesternmost danger lying off the Tusket Isles, consists of two small spots having at Low Tide about 25 feet water upon them. Seal Island Lighthouse bears from Jacko Ridge **S**. by **E**. ½ **E**. 10 miles; Pease Island Lighthouse, **NE**. by **E**. ½ **E**. 7½ miles; Flat Island, the Northwesternmost of the Mud Islands, **SE**. by **E**. 6¼ miles; Gannet Dry Ledge, **N**. ¼ **E**. 4¾ miles; Gannet Dry Rock, **N**. by **E**. ½ **E**. 6⅛ miles. The current of Flood and Ebb sets strong across the

Jacko Ridge, forming heavy Tide Rips; and the sea is said to break upon it in heavy weather.

Gannet South Shoal.

This small spot, which has about 24 feet water upon it at Low Tide, has deep water all round it. Pease Island Lighthouse bears from this danger **NE.** by **E.** ¾ **E.** 5½ miles; Soldier Ledge, **SE.** 3¾ miles. The current of Flood and Ebb sets strong across it, causing Ripples, which sometimes break in a heavy sea.

Gannet SW. Shoal.

This Shoal, which has about 18 feet water upon its Northern part, extends about ⅓ mile North and South, with deep water all round it. Pease Island Lighthouse bears from this danger **E.** ½ **N.** 6½ miles; Soldier Ledge, **SE.** 6 miles; Gannet Dry Ledge, **N.** about 1¾ miles. This Shoal shows a small Ripple, and the sea breaks upon it in heavy weather.

Gannet Dry Ledge.

This Ledge, which is the Westernmost danger lying off the Tusket Isles, extends North and South about ⅓ mile, and is bare at about two hours Ebb. Seal Island Lighthouse bears from this Ledge **S.** by **E.** 14¾ miles; Pease Island Lighthouse, **E.** ¾ **S.** 6½ miles. Yarmouth Lighthouse, **NN.E.** 10¾ miles; Gannet Rock (50 feet above water), **NE.** by **E.** 1¾ miles; Green Island (50 feet above water), **NE.** by **N.** 4¾ miles; Southeast Rock, **E.** ½ **S.** 1¾ miles; South Rock, covered at ½ tide, **E.** by **N.** 1⅓ miles.

Southeast Rock.

This Rock, upon which the sea generally breaks in heavy weather, has about 15 feet water upon it at Low Tide, and from 5 to 10 fathoms round it. Pease Island Lighthouse bears from this danger **E.** by **S.** 4¾ miles; Gannet Rock (50 feet above water), **N.** by **W.** ¼ **W.** 1½ miles.

Gannet Rock.

This is a small Rock, about 50 feet above High Water, and whitened by the dung of birds. Pease Island Lighthouse bears from this Rock **E.SE.** 5⅓ miles; Green Island (50 feet above High Water), **NN.E.** 3 miles.

South Rock.

This Rock, which is small, lies nearly midway between the Gannet Rock and Southeast Rock, and is bare at about Half Tide.

North Rock.

This small Rock, which is bare at Half Tide, lies North about ⅓ mile from the Gannet Rock, and has deep water all round it.

Green Island.

This Island, from which Shoal Water extends off to the Southward nearly ½ mile, is about 50 feet above High Water. Between this and Gannet Rock there is a good Channel two miles wide, having from 5 to 18 fathoms water in it. Pease Island Lighthouse bears from Green Island **SE.** ¾ **S.** 6⅓ miles; Spectacle Island, the Westernmost of the Tusket Isles, **SE.** by **S.** ½ **S.** 5 miles; Cape Jebouge, **NE.** ½ **N.** 2¾ miles; Yarmouth Lighthouse, **N.** by **E.** 6⅓ miles. Green Island is the Northernmost danger lying off the Tusket Isles.

Harriet Ledge.

This Ledge, which lies about a mile to the Northward of the Bald Tusket (which is the Southernmost of the Tusket Isles), is bare at Low Tide. Pease Island Lighthouse bears from this danger **NE.** 1¼ miles.

Spectacle Ledge.

This Ledge, which lies about a mile Southwesterly from Spectacle Island (which is the Westernmost of the Tusket Isles), has about 9 feet water upon it at Low Tide. Pease Island Lighthouse bears from this danger **E.** by **N.** ½ **N.** 1¾ miles. Between Spectacle Ledge and Harriet Ledge there is a Channel nearly a mile wide, having from 8 to 10 fathoms water in it. There is also a good Channel 3¼ miles wide, between Spectacle Ledge and the Gannet Rock (before described) having from 6 to 15 fathoms water in it.

Remarks.

There are many Shoals, Rocks and Ledges among the Tusket Islands, and there are several Passages leading through, among

which are the Ellenwood and Schooner Passages. About 18 feet water at Low Tide can be taken through the former, and 4 fathoms can be carried through the latter, but these Passages are considered too intricate for strangers. There are also several places of Anchorage where vessels may lie secure from all winds, but it is not advisable for strangers to undertake to enter these places excepting in cases of emergency. *We shall therefore only give directions to enter when a pilot cannot be obtained.*

Sailing Directions for the Tusket Islands in Daytime, with favorable winds and fair weather.

Vessels of not more than 14 feet draught, from the Northward and compelled to seek shelter among the Tusket Islands, may, after making Green Island (before described), leave it about ¼ mile on the Starboard hand, and make good the course **S.** by **E.**, leaving the North Rock, Gannet Rock, South Rock and Southeast Rock (all of which have been described) well on the Starboard, and Spectacle Island, the Westernmost of the Tusket Islands, well on the Port hand; when past this last Island, keep a sharp lookout for the Lighthouse on the Southern part of Pease Island. When this Lighthouse is made, bring it to bear **E.**, and run for it on this course, carrying about 3 fathoms water at Low Tide. When about ½ mile from this Lighthouse, steer **N.NE.** for the Eastern part of Allen Island, passing about midway between Pease and Mark Island.* When past the latter, which is left on the Port hand, haul up about **N.NW.**, and anchor to the Westward of Bird Rock, between Allen and Ellenwood Islands, in from 6 to 7 fathoms water at Low Tide. This is called Ellenwood Anchorage.

The shore on the Western side of this Anchorage is quite bold and free from dangers, while on the Eastern side there is Foul Ground with Sunken Rocks.

Between the Tusket Islands the current of Flood sets to the Northward, while that of the Ebb sets to the Southward.

From the Westward, as soon as the Lighthouse on Pease Island is made, bring it to bear **E.**, and run for it on this course,

* Mark Island lies about ¾ mile NW. from Pease Island Lighthouse.

leaving the Gannet Dry Ledge and South Rock well on the Port hand, and follow the directions before given

High Water.

It it High Water at Ellenwood Anchorage (Tusket Islands) on the days of the Full and Change of the Moon 9 h. 54 m., or 1 h. 35 m. before it is in Boston. Mean rise and fall of tides, 12 feet.

Seal Island.

This Island, which lies about 17 miles to the Westward of Cape Sable, is a little more than 2 miles in length from North to South, and its average width is about ½ mile. This is the outermost Island off the Western part of Nova Scotia, and at this date (1884) its Northern and Southern parts are thickly wooded. Seal Island is surrounded by Shoal Water which on its Southern and Western parts, extends off nearly ½ mile from shore.

Seal Island Lighthouse.

Near the South point of this Island is a White Octagonal Tower which at this date (1884) shows a Fixed White Light. A Fog Whistle is placed near this Lighthouse, which in thick weather sounds blasts of 5 seconds duration with intervals of 5 seconds.

Bearings and Distances from Seal Island Lighthouse.

		Distance.
Cape Sable Lighthouse, . .	**E.** by **S.** ½ **S.**, . .	17⅓ miles.
Bon-portage Lighthouse, .	**E.**, ...	12½ "
Pubnico Harbor Lighthouse,	**NE.** by **E.**, . . .	16 "
White Head Island Lighthouse, ...	**NE.** ½ **N.**, . . .	17½ "
Tusket River Lighthouse, .	**NE.** by **N.** ¾ **N.**, .	19 "
Pease Island Lighthouse, .	**N.** by **E.** ¼ **E.**, . .	14 "
Yarmouth Lighthouse, . .	**N.** ¼ **E.**, ...	24½ "
Machias Seal Island Lighthouses, ...	**N.** by **W.** ¾ **W.**, .	80 "
Mt. Desert Rock Lighthouse,	**NW.** ¾ **W.**, . .	98½ "
Matinicus Rock Lighthouse,	**NW.** by **W.** ⅝ **W.**,	125 "
Monhegan Island Lighthouse,	**NW.** by **W.** ¾ **W.**,	148 "
Cape Elizabeth Lighthouses,	**W.** by **N.** ¾ **N.** .	181 "

Thatcher's Island Lighthouses, ...	**W.** ⅛ **N.** (nearly),	205½ miles.
Cape Cod (Highland) Lighthouse, ...	**W.** by **S.** (nearly), .	197 "
Whistling Buoy off Blonde Rock, ...	**S.** ¼ **E.**, ...	4 "

Dangers in the Vicinity of Seal Island.

Elbow Shoal.

This Shoal, which extends North and South about ¾ mile, has from 24 to 15 feet water upon it at Low Tide, but near the middle there is a Rock which is called Elbow Rock, which has less water upon it Seal Island Lighthouse bears from this danger **N.** by **E.** ¼ **E.** 1⅜ miles. The current of Flood and Ebb runs strong across the Elbow Shoal, forming a heavy Tide Rip both to the Northward and Southward of it. The Flood sets to the Westward, and that of the Ebb to the Eastward. Between this Shoal and Seal Island there is a Channel about ½ mile wide, having from 6 to 8 fathoms water in it.

Blonde Rock.

This Rock, upon which the sea generally breaks, is bare at Low Tide, and has from 5 to 10 fathoms waters close to it. With light winds it is very dangerous, as the current of the Ebb sets directly for it, forming heavy Tide Rips to the Southward of it. At this date (1884) a Whistling Buoy has been placed in about 11 fathoms water, ½ mile to the Southward of this Rock. Seal Island Lighthouse bears from this Buoy **N.** ¼ **W.** 4 miles; Cape Sable Lighthouse, **E.** ½ **S.** 16¼ miles; Elbow Rock, **N.** by **W.** 2⅔ miles; Purdy Rock, **NE.** by **N.** ¼ **N.** 3⅓ miles. The Blonde Rock is the Southernmost danger lying off Seal Island.

About a mile to the Westward of the Blonde Rock are some very heavy Tide Rips, which at certain times have the appearance of Breakers; but not less than 9 fathoms water have been found upon and around them.

Zetland Shoal.

This Shoal, which lies a mile to the Westward of the Elbow Rock, has at Low Tide about 20 feet water upon it. Seal Island

Lighthouse bears from this danger **NE.** ¼ **N.** 1⅞ miles; Whistling Buoy, off Blonde Rock, **SE.** by **S.** ½ **S.** 3 miles.

The Zetland Shoal is the Southwesternmost danger lying off Seal Island. About **NE.** ½ mile from Zetland Shoal there are several spots of broken ground, having from 4½ to 6 fathoms water upon them at Low Tide.

Purdy Rock.

This Rock, which is small, has about 13 feet water upon it at Low Tide, with deep water all round it, and breaks in heavy weather. Seal Island Lighthouse bears from this danger **NW.** by **W.** ¼ **W.** 2¼ miles; Whistling Buoy, off Blonde Rock, **SW.** by **S.** ¼ **S.** 3⅓ miles. Between Purdy Rock and Seal Island there is a passage about 1¼ miles wide, with a depth of from 6 to 12 fathoms. Vessels navigating this Channel should keep nearer the Rock. Purdy Rock is the Easternmost danger lying off Seal Island.

Devil's Limb.

This Ledge is about 8 feet above High Water. Seal Island Lighthouse bears from it **SE.** ¼ **E.** 1¼ miles; the Ledge called the Limb's Limb, **N.** by **E.** ½ **E.** ⅔ mile. About ¼ mile to the Southward of the Devil's Limb are some Rocks called Loch Foyne, which are bare at Low Tide. Between these last named dangers and the Devil's Limb there is a Channel of 15 feet water at Low Tide; but strangers should attempt it only in cases of emergency. In thick weather vessels from the Southwestward or Westward should not approach the Devil's Limb in less than 15 fathoms water.

Limb's Limb.

This Ledge is bare about one hour after high water. Shoal Water, with Sunken Rocks, extends about ¼ mile Southeasterly from it. Seal Island Lighthouse bears from the centre of this danger **SE.** by **S.** ½ **S.** 1⅔ miles. The Ledges called Limb's Limb, and Devil's Limb, are the Westernmost dangers lying off Seal Island. Between these last mentioned dangers and Seal Island there is a narrow passage of 3 fathoms water at Low Tide. This Channel should not be attempted by strangers excepting in cases of emergency; at such times keep nearer the Ledges.

Anchorage under Seal Island.

With Westerly winds vessels may Anchor off the Bend on the Eastern side of Seal Island, in from 5 to 6 fathoms water at Low Tide, and there is also Anchorage with Easterly winds on the Western side, in what is called Crowell Cove, in from 4 to 5 fathoms water at Low Tide.

Sailing Directions for Seal Island Anchorage in Daytime.

Vessels from the Westward with Westerly winds, may, as soon as Seal Island is made, bring the Northern end to bear about **E.SE.**, and run for it on this course, leaving it about ½ mile on the Starboard hand; and gradually haul to the Southward, and Anchor with the Lighthouse bearing **S.W.** by **W.** ½ **W.**, in from 4½ to 5½ fathoms water at Low Tide.

Directions to pass to the Southward of Seal Island.

From the Westward, as soon as Seal Island Lighthouse is made, bring it to bear about East, and run for it on this course In order to avoid the Shoal Water which extends off from the South point of the Island, leave it about ¾ mile to the Northward, and the Elbow Rock and Shoal (before described) well to the Southward, carrying about 6 fathoms at Low Tide. When the Lighthouse bears **NW.**, then gradually haul to the Northward, and anchor with it bearing **SW.** by **W.** ½ **W.**, in from 4½ to 5½ fathoms water at Low Tide.

Directions for Crowell Cove.

From the Eastward, with Easterly winds, as soon as Seal Island is made, bring the Northern end to bear **W.NW.**, and run for it on this course and haul round it at a distance of ½ mile, leaving it to the Southward; when the Lighthouse on this Island bears **S.** ¾ **E.**, then run for it on this course until the water shoals to 4 or 4½ fathoms at Low Tide; then Anchor in Crowell Cove.

A strict watch should be kept while lying here, and the Cove, especially in autumn, winter or spring, should be left on the first indications of a Northwesterly wind, which brings in heavy sea.

High Water.

It is High Water at Seal Island on the days of the Full and Change of the Moon, at 9 h. 2 m., or about 2 h. 27 m. before it is at Boston. Mean rise and fall of tides, 10¼ feet.

Mud Islands.

These Islets, which lie from 2½ to 5 miles Northeasterly from the Northern end of Seal Island, extend North and South about 3 miles. Commencing from the Southernmost they are called Noddy Island, Mud Island, Round Island, and Flat Island. Round Island, the highest of the cluster, has an elevation of 25 feet above High Water, and is wooded, as is also Mud Island, the largest and central of the group. These Islets are surrounded by Shoal Water with from 12 to 18 feet between them at Low Tide. These passages should be attempted by strangers only in light draught vessels, and then only in cases of emergency. In going through between them keep about midway the passages.

Black Ledge.

About a mile to the Westward of Mud Island, the largest of the group, is Black Ledge, which is covered at High Water; the Southern part of the last named Island bears from the centre of this danger **SE.** ½ **E.** about a mile; **N.** by **E.** ½ **E.**, about ½ mile from Black Ledge, are several Sunken Rocks, and near this last danger is a Shoal spot of 15 feet at Low Tide.

Mud Island Shoal.

This Shoal, upon which the sea breaks in heavy weather, is surrounded by deep water, and at Low Tide has not less than 24 feet water upon it. The Southern part of Mud Island (the largest of the group) bears from this danger **E.** by **S.** ¾ **S.** 2¼ miles. Mud Island Shoal is the Westernmost danger lying off the Mud Island.

Anchorage under the Mud Islands.

There is Anchorage on both sides of these Islands where vessels may find moderate protection in both Easterly and Westerly winds.

Upon the Eastern side of Noddy Island, Mud Island, and

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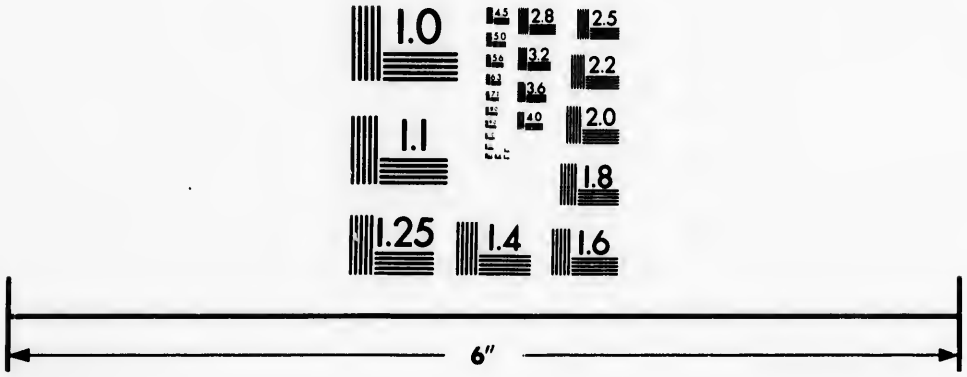

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Round Island, there are no dangers excepting those lying near the shore. Vessels may therefore approach them on this side within ⅓ mile without danger.

Sailing Directions for Mud Island Anchorage in Daytime.

With Westerly winds, vessels from the Westward should, as soon as the Mud Islands are made (in order to avoid the Shoal Water which extends off to the Northward from them), leave the Northwesternmost about a mile on the Starboard hand, and gradually haul to the Southward, leaving Round Island about ½ mile on the Starboard hand, and anchor abreast Mud Island (the largest of the group) about ⅓ mile from shore in from 5 to 8 fathoms water at Low Tide.

Vessels from the Westward may pass to the Southward of these Islands by the following directions: as soon as the Islands are made, bring Noddy Island, the Southernmost (which is 18 feet high), to bear **E.** by **S.**, and run for it on this course, leaving it about ½ mile on the Port hand, and crossing the Tide Rips which lie to the Southward of it, in not less than 6 fathoms water. When past the last-named Island, haul gradually to the Northward, and anchor abreast Mud Island (which is the largest of the group), about ⅓ mile from shore, in from 5 to 8 to fathoms water at Low Tide.

With Southeasterly winds there is Anchorage on the Northwest side of Flat Island (the Northwesternmost of the group) in about 5½ fathoms water at Low Tide. There is, however, very little shelter here except in moderate weather.

High Water.

It is High Water at the Mud Islands on the days of the Full and Change of the Moon at 9 h. 2 m., or about 2 h. 27 m. before it is at Boston. Mean rise and fall of tides, 10 feet.

Between the Northern part of Seal Island and Noddy Island (the Southernmost of the Mud Islands), there is a clear Channel 2½ miles wide, having from 6 to 18 fathoms water in it at Low Tide. The current of Flood and Ebb sets through this Passage from 3 to 4 miles per hour. The Flood runs **NW.**, and Ebb **SE.**

Between Soldier Ledge (before described) and Flat Island (the

Northwesternmost of the Mud Islands), there is a clear Channel 1½ miles wide, having from 4½ to 6 fathoms water in it at Low Tide. The current of Flood and Ebb sets through this Passage from 2 to 3 miles per hour. The Flood runs **NW.**, and Ebb **SE.**

TUSKET RIVER.

The entrance to this River is Northeasterly 19 miles from Seal Island Lighthouse, East-Northerly 5½ miles from Pease Island Lighthouse, Northwesterly 24 miles from Cape Sable Lighthouse, and Northwesterly 4½ miles from White Head Lighthouse.

Tusket River Lighthouse.

Upon the Southwest point of Big Fish Island, at the entrance of Tusket River, is a Square White Wooden Building which at this date (1884) shows two fixed White Lights 24 feet apart. These lights are intended to guide vessels into Tusket River.

Bearings and Distances from Tusket River Lighthouse.

		Distance.
Seal Island Lighthouse, . .	**SW.** by **S.** ¾ **S.**, .	19 miles.
Bon-portage Island Lighthouse, ...	**S.** by **E.** ¼ **E.**, . .	17¾ "
White Head Lighthouse, . .	**SE.** ½ **S.**, . . .	4½ "

Dangers in approaching Tusket River.

In approaching Tusket River there are many dangers lying in the Bay, some of which are sunken, and some are above water. We shall only attempt to describe those lying in the Channel-way.

Gull Ledge.

This Ledge has about 8 feet water upon it at Low Tide. Tusket River Lighthouse bears from it **N.** ¼ **W.** 5 miles; White Head Lighthouse, **NE.** by **E.** ¼ **E.** 3 miles; Pease Island Lighthouse, **W.** by **N.** ¾ **N.** 5¼ miles.

Southwest Shoal.

This Shoal has about 14 feet water upon it at Low Tide. Tusket River Lighthouse bears from this danger **N.** ¾ **E.** 3 miles; White Head Lighthouse, **E.** ¾ **S.** 3¼ miles; Pease Island Lighthouse, **W.** ¼ **S.** 4¼ miles.

Fish Ledge.

This Ledge, which is bare at Half Tide, lies on the Eastern side of the Channel. Tusket River Lighthouse bears from this danger **N.** ¾ **W.** about a mile; Little Fish Island **N.** by **W.** ½ **W.** a little more than ⅓ mile.

Big Fish Rocks.

These Rocks, which are bare at Low Tide, lie nearly in the Channel-way. At Low Tide about 19 feet water can be carried up to the Westward of this danger, and about 15 feet to the Eastward of it. Tusket River Lighthouse bears from these Rocks **SE.** by **S.** ¾ **S.** $\frac{3}{10}$ mile.

Remarks.

By the Channel to the Westward of Big Fish Rocks about 19 feet water at Low Tide can be carried up to the Anchorage above Tucker Island, and about 15 feet to the Eastward of these Rocks. From Tucker Island Anchorage to Tusket Village (which is on the Eastern side of the River), the distance is about 9 miles, and in some places there is but little water in the River at Low Tide. A pilot is therefore necessary from the above Anchorage to the Village.

Sailing Directions for Tusket River in Daytime, with favorable winds and fair weather.

From the Southwestward, when Seal Island is made, bring the Northern end to bear **E.** by **S.**, and run for it on this course, leaving it about ½ mile on the Starboard hand; when past the Northern end of this Island, haul gradually to the Northward, leaving the Mud Islands about ¾ mile on the Port hand. Bring Round Island (which is the highest of the Mud Islands) to bear **S.SW.**, on which bearing keep it, and steer **N.NE.**, leaving Cleopatra Shoal, Old Man Ledge, and Old Woman Ledge, all of

which have heretofore been described, on the Port hand. As soon as Tusket Island Lighthouse is made, bring it to bear **N.NE.**, and run for it on this course, leaving Gull Ledge, Southwest Shoal, and Fish Ledge, and lastly Little Fish Island, which lies about ½ mile to the Southward of the Lighthouse, all on the Starboard hand. Continue the course for the Lighthouse until about ½ mile from it; then gradually haul to the Westward, carrying about 3 fathoms water at Low Tide. Leave the Lighthouse not more than 200 yards on the Starboard hand; when abreast it make good the course **N.** by **E.** ½ **E.** until it bears **S.**, on which bearing keep it. and steer **N.**, carrying about 15 feet water across the Flat Ground, and leaving Big Fish Rocks on the Port hand; continue the course **N.**, until the water deepens to 4½ fathoms at Low Tide, then haul up about **NE** by **N.** ½ **N.**, carrying not less than 4 fathoms water at Low Tide through the narrow Channel, and leaving Tucker Island, which is the first to the Northeastward of the Lighthouse, about 400 yards on the Starboard, and Tucker Island Ledge which lies on the Western side of the Channel, nearly opposite this Island on the Port hand; when about ½ mile past the last named Island steer more Easterly, and anchor with the Northern point of it bearing **S.** by **W.** ½ mile, in from 6 to 7 fathoms water at Low Tide. Above this a pilot is necessary.

From the Southeastward, when past Cape Sable, leave Bonportage Island Lighthouse about 2 miles on the Starboard hand, and make good the course **N.** by **W.** ½ **W.**, leaving Gull Ledge and Southwest Shoal (both of which have been described) well on the Starboard hand; when Tusket Island Lighthouse is made, bring it to bear **N.NE.**, and follow the directions before given.

Directions to pass between the Tusket Islands.

From the Northward leave Green Island (before described) about ¼ mile on the Starboard hand, and make good the course **S.** by **E.** When Pease Island Lighthouse is made, bring it to bear East, and run for it on this course, carrying not less than 16 feet water at Low Tide, and leaving Spectacle Island on the Port, and Half Bald Island, and Little Half Bald Island on the Starboard hand; when about ⅓ mile from the Lighthouse steer about **SE.** by **E.** ½ **E.**, passing about midway between the last named

Island and Lighthouse; when this Lighthouse bears **NW.** make good the course **E.** by **S.**, leaving the Old Woman Ledge (before described) well on the Port hand; when Tusket Island Lighthouse bears **N.NE.**, then follow the directions before given.

High Water.

It is High Water at the entrance of Tusket River on the days of the Full and Change of the Moon, 9 h. 30 m., or about 2 hours before it is at Boston. Mean rise and fall of tides, 12 feet.

Jones Anchorage, or Argyle Harbor.

This Anchorage, which is among the Islands, lies 2¾ miles to the Northward of White Head Lighthouse.

Argyle Lighthouse.

Upon the South Point of White Head Island is a White, Square Wooden Building, which at this date (1884) shows a Red Fixed Light. This Lighthouse is intended to guide vessels to Argyle, and also to Jones Anchorage.

Bearings and Distances from Argyle Lighthouse.

		Distance.
Seal Island Lighthouse, . . .	**SW.** ½ **S.**, . .	17½ miles.
Bon-portage Lighthouse, . . .	**S.** ¼ **E.**, . . .	14 "
Pease Island Lighthouse, . . .	**West**, (nearly)	7⅓ "
Tusket Island Lighthouse, . .	**NW.** ½ **N.**, .	4½ "

Bearings and Distances of Dangers in approaching Jones Anchorage and Argyle.

In approaching Jones Anchorage and Argyle there are many dangers. We shall only describe some of the most prominent lying in the Channel-way.

St. Ann Shoal.

This danger has about 13 feet water upon it at Low Tide. White Head Island Lighthouse bears from it North about 3½ miles; centre of Gull Island **NW.** by **N.** ½ **N.** 4¾ miles; Pease Island Lighthouse, **NW.** by **W.** ½ **W.** 8 ½ miles; Gull

Ledge, **NW**. ½ **W**. 3⅓ miles. The current of Flood and Ebb sets strong across this Shoal, forming Tide Rips, which are plainly visible excepting at Slack Water.

Gull Ledge.

This Ledge has about 8 feet water upon it at Low Tide. Tusket River Lighthouse bears from it **N**. ¼ **W**. 5 miles; White Head Island Lighthouse, **NE**. by **E**. ¼ **E**. 3 miles; Pease Island Lighthouse, **W**. by **N**. ¾ **N**. 5¼ miles; St. Ann Shoal, **SE**. ½ **E**. 3⅓ miles.

White Head Ledge.

This Ledge, which is bare at very Low Tides, has Shoal Water around it. White Head Island Lighthouse bears from this danger **W**. ¾ **N**. ¾ miles.

West Shoal.

This Shoal has about 11 feet water upon it at very Low Tides. White Head Island Lighthouse bears from the centre of it **SE**. about ½ mile.

Between West Shoal and White Head Island Lighthouse there is a Channel about ¼ mile wide, with a depth of 6 fathoms water at Low Tide.

Pumpkin Ledge.

This Ledge, which lies in the Channel-way, is about ½ mile to the Eastward of Pumpkin Island, and has but 5 feet water upon it at Low Tide. White Head Island Lighthouse bears from this danger **SW**. by **W**. ⅞ mile; between this Ledge and Pumpkin Island, which is the first to the Northward of the Lighthouse, there is a Channel ⅓ mile wide, having from 4 to 6 fathoms water in it at Low Tide.

Jones Ledge.

This Ledge, which extends **N.NE**. and **S.SW**. nearly ½ mile, lies to the Northwest of Pumpkin Island, and in some places has but little water upon it at Low Tide. White Head Island Lighthouse bears from the centre of this danger **S**. ¼ **E**. 1⅓ miles.

Remarks.

Vessels bound to Jones Anchorage can pass on either side of White Head Island Lighthouse. The Channel leading in is the

widest to the Eastward of this Lighthouse. After passing Pumpkin Island, keep nearer Jones Islands, which lie on the Western side about 2½ miles to the Northward of the Lighthouse. When past Pumpkin Island (which is the first to the Northward of the Lighthouse), from 5 to 7 fathoms water can be taken to the Anchorage.

Sailing Directions for Jones Anchorage in Daytime, with favorable winds and fair weather.

From the Southwestward, when Seal Island is made, bring the Northern end to bear **E.** by **S.**, and run for it on this course, leaving it about ½ mile on the Starboard hand. When past the Northern end of this Island, haul gradually to the Northward, leaving the Mud Islands about ¾ mile on the Port hand. Bring Round Island, which is the highest of the Mud Islands, to bear **SW.** ½ **W.**, on which bearing keep it, and steer **NE.** ½ **E.** When White Head Island Lighthouse is made, bring it to bear **N.NE.**, and run for it on this course, leaving St. Ann Shoal on the Starboard, and Gull Ledge on the Port hand. Leave the Lighthouse about ⅓ mile on the Port hand, and when it bears **W.**, make good the course **N.** by **E.** ¼ **E.**, carrying not less than 3¼ fathoms water at Low Tide, and leaving White Head Ledge and Pumpkin Ledge both well on the Starboard hand. As you sail in, you will see on the Port, Pumpkin Island, which is the first to the Northward of the Lighthouse. Leave the Northern point of this Island, which is quite bold, not more than 300 yards on the Port, and gradually haul to the Northwestward until the centre of this Island bears **S.** ¼ **E.**, on which bearing keep it, carrying not less than 5 fathoms water at Low Tide, leaving Thrum Island and Lear Island (the former of which is small) on on the Starboard, and Jones Island (the Eastern parts of which are bold) on the Port hand. When about 2 miles above Pumpkin Island, anchor in from 6 to 7 fathoms water. If bound to Abraham River a pilot is necessary at this Anchorage.

From the Southeastward, when past Cape Sable, leave Bonportage Island Lighthouse about 2 miles on the Starboard hand, and when it bears **E.**, make good the course **N.** by **W.**, leaving St. John's Ledge well on the Starboard hand. When White Head Island Lighthouse is made, bring it to bear **N.NE.**, and run for it on this course, and follow the directions before given.

Directions to pass between the Tusket Islands.

From the Northward, leave Green Island (before described) about ¼ mile on the Starboard hand, and make good the course **S.** by **E.** When Pease Island Lighthouse is made, bring it to bear **E.**, and run for it on this course, carrying not less than 16 feet water at Low Tide, and leaving Spectacle Island on the Port, and Half Bald Island and Little Half Bald Island on the Starboard hand. When about ⅓ mile from the Lighthouse, steer about **SE.** by **E.** ½ **E.**, passing about midway between the last-named Island and Lighthouse. When this Lighthouse bears **NW.**, make good the course **E.** ½ **S.**, leaving the Old Woman Ledge (before described) on the Port, and Gull Ledge w on the Starboard hand. When White Head Island Lighthouse bears **N.NE.**, then follow the directions before given.

High Water.

It is High Water at Jones Anchorage (Argyle) on the days of the Full and Change of the Moon, 9 h. 27 m., or 2 h. 2 m. before it is at Boston. Mean rise and fall of Tides, 12 feet.

PUBNICO HARBOR.

The entrance to this Harbor is 14 miles Northwesterly from Cape Sable Lighthouse, 8 miles North from Bon-portage Lighthouse, East-Northerly about 10 miles from the Mud Islands, and East-Southerly about 11 miles from Pease Island Lighthouse.

Pubnico Harbor Lighthouse.

Upon Beach Point, Eastern side of entrance to Pubnico Harbor, about 120 yards from Low Water mark, is a Square White Building which at this date (1884) shows a fixed White Light.*

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* The Canadian government gives notice that this Light has been discontinued until further notice.

Bearings and Distances from Pubnico Harbor Lighthouse.

		Distance.
Seal Island Lighthouse, . .	**SW.** by **W.**	16 miles.
Round Island (the North-easternmost of the Mud Islands), ...	**W.** by **S** ¼**S.**, . .	10½ "

Remarks.

The entrance to this Harbor, which is between St. Ann Point on the West, and the Main Land on the East, is about a mile wide, and gradually contracts to Beach Point, where the Lighthouse stands, to less than ½ mile. From this last point the Bay runs up Northeasterly nearly 6 miles, and the greater part of it is occupied with Flats, which are dry at Low Tide, with a narrow winding Channel between them. Eight fathoms water, at Low Tide, can be carried to the Anchorage, which is about a mile above the Lighthouse.

Sailing Directions for Pubnico Harbor in Day-time, with favorable winds and fair weather.

Vessels of not more than 14 feet draught, from the Northward, may, after making Green Island (before described), leave it about ¼ mile on the Starboard hand, and make good the course **S.** by **E.**, leaving the North Rock, Gannet Rock, South Rock, and Southeast Rock (all of which have been described), well on the Starboard, and Spectacle Island, the Westernmost of the Tusket Islands, well on the Port hand. When past this last Island keep a sharp lookout for the Lighthouse, on the Southern part of Pease Island; when the Lighthouse is made, bring it to bear East and run for it on this course, carrying about 16 feet at Low Tide; when about ⅓ mile from this Lighthouse, steer about **SE.** by **E.** ½ **E.**, passing about midway between Little Bald Island and the Lighthouse; when about a mile past this Lighthouse bring it to bear **NW.** by **W.**, on which bearing keep it and steer **SE.** by **E.**, leaving Gull Ledge and St. Ann Shoal well on the Port hand; when the Lighthouse in Pubnico Harbor is made, bring it to bear **NE.** by **E.**, and run for it on this course until about ½ mile from it, then gradually haul to the Northward and leave it about 200 yards on the Starboard hand; when past it, bring it to bear **S.** by **W.** ¾

W., and make good the course **N.** by **E.** ¾ **E.**, leaving the buoy which lies off the Eastern part of a Ledge which is about ⅛ mile from the Lighthouse, close to on the Port hand, and carrying from 7 to 10 fathoms water through the narrow Channel; when about a mile past the Lighthouse anchor in from 7 to 10 fathoms water at Low Tide. If bound further up it is advisable to take a pilot at this Anchorage, as there are several dangers which are only seen at Low Tide.

From the Southwestward, as soon as Seal Island is made, bring the Northern end to bear about **E.** by **S.**, and run for it on this course, leaving it about ½ mile on the Starboard hand; when past the Island continue the course **E.** by **S.** until Seal Island Lighthouse bears **SW.** by **W.**, on which bearing keep it and steer **NE.** by **E.**; when Pubnico Harbor Lighthouse is made; bring it to bear **NE.** by **E.**, and run for it on this course and follow the directions before given.

From Cape Sable, leave Bon-portage Island Lighthouse about 2 miles on the Starboard hand, and make good the course **N.** by **W.**, leaving St. John's Ledge and St. John's Island, the former of which generally breaks, both well on the Starboard hand; when Pubnico Harbor Lighthouse bears **NE.** by **E.**, then run for it on this course and follow the directions before given.

In beating into Pubnico Harbor, in order to avoid St. John's Ledge (which generally breaks), keep Pubnico Harbor Lighthouse open to the Westward of John's Island;* when near the entrance of the Harbor, in order to avoid the dangers lying near the shores on both sides, keep nearly in mid-channel, and anchor about ⅓ mile to the Southwestward of the Lighthouse, in from 5 to 10 fathoms water at Low Tide. Strangers should not attempt to enter Pubnico Harbor at night-time.

High Water.

It is High Water in Pubnico Harbor on the days of the Full and Change of the Moon, 9 h. 25 m., or about 2 h. 4 m. before it is at Boston. Mean rise and fall of tides 11 feet.

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* Pubnico Harbor Lighthouse bears from the centre of John's Island, which is 30 feet high, NE. by N. 3¼ miles.

Cockerwit Passage.

This passage, which is between Bon-portage, Mutton and St. John Islands on the West, and the Main Land on the East, is from 1¼ miles to ¼ mile in breadth, and about 6 miles in length. Its Northern entrance, which is narrow and shallow, is about 2½ miles Southwest from Pubnico Harbor Lighthouse. The Southern entrance, which lies between Bon-portage Island and Stoddard Island, is more than a mile wide, and is called Shag Harbor Sound. This last named entrance is East 14 miles from Seal Island Lighthouse, and Northwesterly about 6 miles from Cape Sable Lighthouse.

Bon-portage Island Lighthouse.

Upon the South Point of Bon-portage Island is a White, Square, Wooden Building, which at this date (1884) shows a Red, Revolving Light, which is intended to guide vessels into Shag Harbor Sound, and also Barrington West Bay.

About 1¼ miles to the Southwestward of Bon-portage Lighthouse are heavy Tide Rips, which extend North and South about 2 miles. Not less than 7 fathoms water at Low Tide has been found upon these Rips.

Bearings and Distances from Bon-portage Island Lighthouse.

		Distance.
Cape Sable Lighthouse, . . .	**SE.** ¾ **S.**, . .	6¾ miles.
Seal Island Lighthouse, . . .	**West,** . . .	12½ "
Pease Island Lighthouse, . . .	**NW.** by **N.**, .	16½ "
Stoddard Island Lighthouse, . .	**NE.** by **E.** ¼ **E.**,	1⅝ "

Stoddard Island Lighthouse.

Upon the Northwest Point of Stoddard Island is a small, White, Square Tower, which at this date (1884) shows a fixed Red Light which is intended to guide vessels to the Anchorage in Stoddard Harbor, and also into Shag Harbor Sound. Bon-portage Lighthouse bears from Stoddard Island Lighthouse **SW.** by **W.** ¼ **W.**, 1⅝ miles.

Remarks.

About 7 feet water, at Low Tide, can be taken through the Cockerwit Passage, but as there are many obstructions lying in

the Channel-way, it is therefore considered too dangerous for strangers. Vessels passing outside of Bon-portage Island and Mutton Islands, should, in order to avoid the Rocks and Shoals which lie off these Islands, give them a wide berth. The outermost of these dangers is called John's Ledge, which generally breaks. Pubnico Harbor Lighthouse, open to the Westward of John's Island, clears this danger. See directions for Pubnico Harbor.

Shag Harbor Sound.

The entrance to this Sound, which is between Bon-portage Island Lighthouse on the West, and Stoddard Island Lighthouse on the East, is a little more than a mile wide. There is good shelter in this Sound with winds from **N.NE.** to **S.SE.** by way of **E.** and there is also moderate protection with winds from **SW.** to **N.NE.**, by way of **W.**, but the Sound is open to Southerly winds. In entering Shag Harbor Sound from the Southward, there are no dangers excepting those lying near the shores. About 6 fathoms water can be taken up about 2 miles above Stoddard Island Lighthouse; above this there are obstructions lying in the Channel-way. The current of Flood runs to the Northward through Shag Harbor Sound, and Cockerwit Passage, and that of the Ebb to the Southward.

Sailing Directions for Shag Harbor Sound in Daytime, with favorable winds and fair weather.

Vessels from the Northward, bound to Shag Harbor Sound, may follow the directions before given for Pubnico Harbor, passing between the Tusket Isles; when about three miles past Pease Island Lighthouse, then make good the course **S.** by **E.** ½ **E.**, leaving the Old Man Ledge on the Starboard, and John's Ledge well on the Port hand; when Bon-portage Lighthouse is made, bring it to bear East, and run for it on this course, and haul round it at a distance of ¾ mile, leaving it on the Port hand, and run up about midway the Sound, and anchor with Stoddard Island Lighthouse bearing **S.SE.**, distance about 1½ miles, in from 5 to 7 fathoms water at Low Tide.

From the Southwestward, as soon as Seal Island is made, bring the Northern Point to bear **E.** by **S.**, and run for it on this course, leaving it about ½ mile on the Starboard hand; when

past this Island make good the course **E.** by **S.** ½ **S.**; when Bon-portage Island Lighthouse is made, bring it to bear East, and follow the directions before given.

From the Southward, when past the Southwest Ledge, which lies about 1¾ miles to the Westward of Cape Sable Lighthouse, run for Bon-portage Lighthouse, bearing from North to **N.NE.**; leave this Lighthouse about ¾ mile on the Port hand, and follow the directions before given.

In beating into Shag Harbor Sound, there are no obstructions excepting those extending from the shores. Vessels may therefore keep midway until past Stoddard Island Lighthouse; then keep nearer the Eastern side.

High Water.

It is High Water in Shag Harbor Sound on the days of the Full and Change of the Moon at 8 h. 58 m., or 2 h. 31 m. before it is at Boston. Mean rise and fall of Tides, 9½ feet.

Stoddard Cove.

This small Cove, which lies between Stoddard Island Lighthouse and the Southwest end of Prospect Island, is about ¼ mile wide, and has good Anchorage, at Low Tide, for small vessels of from 9 to 12 feet draught, in winds from **N.** by **W.** to **W.SW.** by way of **E.**

Sailing Directions for Stoddard Cove in Daytime, with favorable winds and fair weather.

Vessels bound to Stoddard Cove may follow the directions before given for Shag Harbor Sound until Stoddard Island Lighthouse is made. Then run in, and haul round it at a distance of not more than 300 yards, leaving it on the Starboard hand, and anchor with the Lighthouse bearing from **SW.** to **W.SW.**, in from 9 to 12 feet at Low Tide. In entering this Cove, be careful to avoid a Ledge which is bare at very low Tides. Stoddard Island Lighthouse bears from this danger about **S.** by **W.** 500 yards. The Channel is between this obstruction and the Lighthouse. It is High Water in Stoddard Cove the same time that it is in Shag Harbor Sound.

CLARK HARBOR

The entrance to this Harbor, which is on the Western side of Cape Sable Island, lies about **SE.** by **E.** 4 miles from Bon-portage Lighthouse and about 3½ miles to the Northward of Cape Sable Lighthouse.

Remarks.

About 3 fathoms water, at Low Tide, can be taken through a narrow Channel to the Anchorage in this Harbor, which is somewhat exposed to Northwesterly winds; but as there are many Rocks, Ledges and Shoals lying near the entrance, and also in the Harbor, it is advisable for strangers not to undertake to enter it without a pilot.

Cape Sable Lighthouse.

Upon the Southern point of Cape Sable is a White Octagonal Tower which at this date (1884) shows a White Revolving Light. A Steam Whistle at this time is placed near this Lighthouse, which in thick weather sounds a blast of 10 seconds duration each minute.

Bearings and Distances from Cape Sable Lighthouse.

		Distance.
Seal Island Lighthouse, .	**W.** by **N.** ½ **N.**, .	17⅓ miles.
Thatcher's Island Lighthouses (Cape Ann), . .	**W.** ⅜ **N.**, . . .	222 "
Boston Lighthouse, . . .	**W.** nearly, . . .	239 "
Cape Cod (Highland) Lighthouse, ...	**W.** ¾ **S.**, ...	212 "
Nauset (3) Lighthouses, .	**W.** by **S.**, ...	212 "
Chatham Lighthouses, . .	**W.** by **S.** ¼ **S.** nearly,	217 "
Sable Island Lighthouse (West end), ...	**E.** by **S.** ⅛ **S.**, . .	236 "
Sambro Island Lighthouse,	East-Northerly, . .	108 "
Cranberry Island Lighthouse (Cape Canso), . .	East-Northerly, . .	230 "
Bon-portage Island Lighthouse, ...	**NW.** ¾ **N.**, . . .	6¾ "

Baccaro Point Lighthouse,	**E.** by **N.**, ...	7½ miles.
Whistling Buoy off Blonde Rock, ...	**W.** ½ **N.**, . . .	16¼ "
Bell Buoy off South part Brazil Rock, ...	**SE.** by **E.** ¼ **E.**, .	8 "

Dangers in the Vicinity of Cape Sable.

Green Island.

This small Island, which is about 20 feet high, lies **NW.** by **N.** about 3 miles from Cape Sable Lighthouse. Green Island is quite bold on its Northwestern and Northern sides, but Shoal Water, with Rocks and Ledges, extends off a long distance from its Southern, Southwestern and Eastern parts. Strangers should in no case attempt to pass between this Island and Cape Sable Island.

Southwest Ledge.

Cape Sable Lighthouse bears from this Ledge (upon which the sea generally breaks heavily) **E.** by **N.** ½ **N.** 1¾ miles. About ⅓ mile Northeasterly from this danger, there are several Rocks, which are bare at Low Tide. Between Southwest Ledge and the shore there are several Shoal spots, over which the current of Flood and Ebb sets very strong, forming heavy Tide Rips which are visible excepting at Slack Water. Between the last-named danger and Green Island there are also Ledges. It is therefore advisable for strangers to give this part of the coast a wide berth. The Southwest Ledge is the Westernmost danger lying near Cape Sable.

Columbia Rock.

This dangerous Rock, which is surrounded by Shoal Water, has, at very low Tides, as little as 6 feet water upon it. Cape Sable Lighthouse bears from this danger **N.** by **W.** ½ **W.** about a mile. Shoal Water extends off nearly a mile to the Southward of this Rock, over which the current of Flood and Ebb sets very strong, forming heavy Tide Rips which are seen excepting at Slack Water. About ½ mile to the Southward of Cape Sable Lighthouse, there is a Channel of 4 fathoms water at Low Tide. Small or light draught vessels may therefore pass about midway between Columbia Rock and the Lighthouse.

Shoal Spot.

This Spot, upon which there are Ripples, has about 14 feet water upon it Low Tide. Cape Sable Lighthouse bears from it **NW.** ¼ **N.** about a mile. Between this danger and the Lighthouse there is a Channel having from 4 to 6 fathoms water in it at Low Tide.

Black Rock.

This Rock, which always shows, has deep water all round it. Cape Sable Lighthouse bears from it **W.** ¼ **N.** ⅝ mile. Between this danger and the shore there is a narrow Channel of 4 fathoms water at Low Tide.

White Knoll Ledge.

This Ledge, which lies off about a mile from the Eastern shore of Cape Sable Island, has about 10 feet water upon it at Low Tide, and only breaks with a heavy sea. Cape Sable Lighthouse bears from this danger **SW.** by **W.** ¼**W.** 2¾ miles. There are many Rocks, Shoals and Ledges, which lie off the Eastern shore of Cape Sable Island. In order to avoid these dangers, vessels bound out or into Barrington Eastern Bay should not approach nearer than a mile to this part of the Island.

In order to avoid the Blonde Rock, Brazil Rock and also the other dangers lying off to the Southward of Cape Sable, vessels in thick weather, should not approach this part of the coast in less than 20 fathoms water.

High Water.

It is High Water on the days of the Full and Change of the Moon at Cape Sable at 8 h. 30 m., or 3 hours before it is at Boston. Mean rise and fall of tides 8 feet. The current of Flood sets to the Westward, and that of the Ebb to the Eastward, by Cape Sable.

Remarks on approaching and entering the Bay of Fundy.

If a Chart of the Southwest part of Nova Scotia be examined, the mariner will readily perceive that on account of the Rocks, Ledges, and Shoals, the navigation must be extremely dangerous

in this locality; but when we take into consideration that the atmosphere, during spring and summer, is almost constantly enveloped in thick fog, with the currents setting with great strength and velocity over these dangers, and a difficulty of obtaining anchorage on account of the depth of the water, it must be obvious to every intelligent mariner, at such times, that the only remedy to prevent disaster is to use the deep-sea lead often.

It is therefore advisable in thick weather for vessels from Europe or the Eastward, bound to the Bay of Fundy, to round Cape Sable and Seal Island in not less than 40 fathoms water; when past the latter haul gradually to the Northward, passing to the Westward of the Lurcher Shoal (before described) in not less than 55 fathoms, and also to the Westward of Machias Seal Island Lighthouses, in not less than 45 fathoms. The passage to the Westward of Grand Manan Island is considered safer than to the Eastward of it, and there are also better shelter in the Harbors, with less current, on the Northern side of the Bay of Fundy than on the Southern side. At this date (1884) there is a Whistling Buoy about 2 miles to the Southward of Mistake Island Lighthouse; a Steam Whistle at Machias Seal Island Lighthouses, which in thick weather sounds 5 seconds in ½ minute; a Steam Whistle at West Quoddy Head which sounds 8 seconds at intervals of 52 seconds; and a Steam Whistle on the extreme Northern end of Grand Manan, which sounds 4 seconds duration, with intervals of 16 seconds. Between the coast of Maine and Grand Manan Island the passage is free from danger, the soundings varying from 10 to 50 fathoms water; the shores are bold, and the tidal currents regular. The Channel between Grand Manan and the coast of Maine is therefore recommended as the best and safest for vessels bound out or into the Bay of Fundy, especially in thick weather. When running between Grand Manan and Bryer's Island, the utmost caution is requisite, especially in thick weather and with light winds, as vessels are sometimes drawn by the current among the Ledges and Rocks; at such times it is advisable to have the anchors and cables ready for immediate use. The author of this work spent most of the summer of 1851 in exploring this part of the coast, and found by experience that the only safety in thick weather, with light winds or calms, was the cables and anchors.

Barrington (West) Bay.

This passage, which is between the Northwestern part of Cape Sable Island and the Main Land, leads to Barrington. About 3 fathoms water at Low Tide can be taken through a narrow, winding Channel, as far as the Lightship, but there are so many Rocks, Ledges, and Shoals lying in the Channel-way, and also a rapid current, that no stranger should attempt this passage without a pilot.

Barrington (East) Bay.

The entrance to Barrington (East) Bay, which is between the Eastern part of Cape Sable Island on the West, and Baccaro Point on the East, is about 4 miles wide, and lies about 6½ miles Northeasterly from Cape Sable Lighthouse.

Baccaro Point Lighthouse.

Upon Baccaro Point, East side of entrance to Barrington Bay, is a White Square Building with Black Ball to Seaward; at this date (1884) this Lighthouse shows a fixed Red Light. Rocks, with Shoal Water, extend off about ½ mile Southwesterly from this Lighthouse.

Bearings and Distances from Baccaro Point Lighthouse.

		Distance.
Cape Sable Lighthouse, . . .	**W.** by **S.**, . . .	7½ miles.
Barrington Bay Lightship, . .	**NW.** by **N.** ¼ **N.**,	6¼ "
Brazil Rock (Bell Buoy), . .	**S.** ½ **W.**, . . .	5⅝ "

Bearings and Distances of Dangers from Baccaro Lighthouse in entering Barrington East Bay, from the Eastward.

Brazil Rock.

This dangerous Rock, which has deep water all round it, has as little as 11 feet water upon it at very Low Tides. At this date (1884) it is marked off its Southeastern part with a Bell Buoy.

The sea breaks heavily upon this Rock in heavy weather, and in fine weather only shows itself by a Tide Rip. In thick weather, or night-time, the lead gives no warning in approaching this danger. Baccaro Point Lighthouse bears from Bell Buoy off

Brazil Rock **N.** ½ **E.** 5⅝ miles. Cape Sable Lighthouse, **NW.** by **W.** ¼ **W.** 8 miles. Cape Negro Lighthouse, **NE.** ¼ **N.** 10⅓ miles.

Baccaro Outer Ledge.

This Ledge has about 20 feet water upon it at Low Tide. Baccaro Point Lighthouse bears from it **NW.** ¼ **W.**, about 1½ miles.

Bantam Rocks.

These Rocks, which are bare at very Low Tide, generally break with a little motion of the sea. Baccaro Point Lighthouse bears from these dangers **NE.** about 1¼ miles; there is a Passage about ¾ mile wide between Bantam Rocks and Baccaro Point, having from 5 to 8 fathoms water in it; vessels passing through this Channel should keep nearer Bantam Rocks, as Shoal Water with rocks extends off to the Southwestward, nearly ½ mile from Baccaro Point.

Stony Island Shoal.

This small Shoal, which has about 20 feet water upon it at Low Tide, lies nearly midway to the entrance of Barrington East Bay. Baccaro Point Lighthouse bears from this danger **E.** by **S.** ¼ **S.** 3¼ miles.

Barrington Bay Lightship.

In Barrington East Bay, in mid-channel, in about 6 fathoms water, is placed a Lightship which is painted Red, with the word Barrington in White letters on both sides. This Lightship at this date (1884) shows a fixed White Light, and is intended as a guide to Barrington East and West Bays. Baccaro Point Lighthouse bears from this Lightship **SE.** by **S.** ¼ **S.** 6¼ miles.

Remarks.

Shoal Water, with many Rocks upon it, extends off from both sides of Barrington East Bay. Vessels, therefore, bound up to Barrington, should keep about midway until the Lightship is made. About 20 feet water, at Low Tide, can be carried up as far as the Lightship, and from this about 10 feet, at Low Tide, can be taken up abreast the wharves. Above the Lightship the

Channel is very narrow, with Flats, Rocks and Ledges on both sides. It is therefore advisable for strangers not to go more than ½ mile above the Lightsh p without a pilot.

Sailing Directions for Barrington East Bay in Daytime, with favorable winds and fair weather.

Vessels of not more than 10 feet draught, from the Westward, bound to Barrington, in order to avoid the dangers to the Southward of Cape Sable, should leave it about 3 miles on the Port hand, and when it bears **NW.**, steer about **NE.** by **N.**, taking care to not approach either shore nearer than a mile. When the Lightship in Barrington Bay bears **NW.** by **N.** ½ **N.**, then run for it on this course, carrying not less than 3½ fathoms water across the Flat Ground. Leave the Lightship close to on the Starboard hand, and make good the course **N.** ½ **E.** about ⅓ mile. Then anchor in about 4 fathoms water at Low Tide. It is not prudent to go above this without a pilot, as the Channel is very narrow, and the Flats are steep, too.

From the Eastward, in order to avoid Bantam Rocks (before described), leave Baccaro Point Lighthouse about 2 miles on the Starboard hand, and when it bears **NE.** by **E.**, gradually haul to the Northward. When Barrington Bay is well open, then run in about midway; when about 3 miles past the last-named Lighthouse, bring the Lightship to bear **NW.** by **N.** ½ **N.**, and follow the directions before given.

Beating into Barrington East Bay.

In beating into Barrington East Bay, do not approach either side nearer than a mile, until about 3 miles from the Lightship. Then keep this Lightship bearing about **NW.** by **N.** ½ **N.**, and make use of the lead; and when the water shoals to 3 fathoms at Low Tide, tack ship, and anchor on either side of the Lightship, close to it. Wauses Ledge lies **SW.** by **W.** ½ **W.** about ¼ mile from this Lightship.

Sailing Directions for Barrington East Bay at Nighttime, with favorable winds and fair weather.

Vessels from the Westward may, as soon as Baccaro Point Light is made, bring it to bear **NE.** by **E.**, and run for it on this

course, leaving the dangers off Cape Sable well on the Port hand. When the Lightship in the Bay bears **N.** by **W.**, Baccaro Point Light will then be distant about 2 miles. Then steer **N.** ½ **E.** until this Lightship bears **NW.** by **N.** ½ **N.** Then run for it on this course, leaving it close to on the Starboard hand, and anchor a short distance above it in from 4½ to 5 fathoms water at Low Tide.

From the Eastward, in order to avoid Bantam Rocks (before described), leave Baccaro Point at least 2 miles on Starboard hand, and when it bears **NE.** by **E.** haul up **N.** ½ **E.** until the Lightship bears **NW.** by **N.** ½ **N.**; then follow the directions before given.

High Water.

It is High Water in Barrington East Bay on the days of the Full and Change of the Moon at 8 h. 27 m., or 3 h. 3 m. before it is at Boston. Mean rise and fall of Tides, 7½ feet.

PORT LATOUR.

The entrance to this Harbor, which is between Baccaro Point Lighthouse on the West, and a small Island on the East, called Blanche Island, lies East-Northerly about 9 miles from Cape Sable Lighthouse.

Dangers in entering this Harbor.

South Ledge.

This Ledge consists of several Rocks, some of which are sunken and some are above water. Baccaro Lighthouse bears from this danger West, nearly 1⅓ miles.

North Ledge.

This also consists of several Rocks, some of which are sunken and some are above water. Baccaro Point Lighthouse bears from this danger **SW.** by **W.** ½ **W.** 1½ miles; between Baccaro Point and the North and South Ledges there is a Channel having from 6 to 9 fathoms water in it. The Ship Channel, in entering Port Latour, is to the Eastward of both these Ledges.

Cuckold Rock.

This small Rock, which is awash at very Low Tides, has deep water all round it. Baccaro Point Lighthouse bears from this danger **W.** ½ **S.** ⅔ mile. Between the South Ledge and Cuckold Rock there is a Channel about ¾ mile wide, with a depth of from 7 to 9 fathoms water.

Remarks.

Port Latour is somewhat exposed to Southerly winds, and is principally used by small fishing vessels. About 9 feet water at Low Tide can be taken into this place, but as the Channel is narrow, and there are several dangers in entering, it is therefore advisable for strangers to employ a pilot.

There is, however, safe Anchorage in a small hole on the Eastern side of John's Island, in about 3 fathoms water at Low Tide. Strangers should not attempt to enter this hole except in cases of emergency.

Sailing Directions for Port Latour Anchorage in Daytime, with favorable winds and fair weather.

Vessels from the Eastward or Westward, of not more than 12 feet draught, may, when the entrance to Port Latour is well open, run in, leaving the South and North Ledges, which are both above water, about ¾ mile on the Port hand; when past these Ledges (both of which have been described) steer about **N.** by **E.**, keeping not more than ⅓ mile from Green Island, which is quite bold, and lies on the Starboard side of the passage; as you sail in you will see on the Port, John's Island, which is 60 feet high, and midway between it and Green Island, a little Island lying nearly in the middle of the passage; this is called Rain Island. In order to avoid two sunken Rocks which lie about 400 yards Northeast from Rain Island, it is necessary to leave it not more than 75 yards on the Port hand; when abreast the Northern part of Rain Island make good the course **N.** ½ **E.**, carrying about 2½ fathoms at Low Tide across the Flat Ground, and anchor about ½ mile above the last named Island, in about 3½ fathoms at Low Tide.

NEGRO HARBOR AND C. 'DE RIVER.

On account of Negro Island, this Harbor and River has two entrances; the Eastern, which is the Ship Channel, is between Grey Rocks and Negro Island, and is about ¾ mile wide; the Eastern entrance to this Harbor and River is about 7 miles Southwesterly from Cape Roseway (entrance to Shelburne Harbor), and East-Northerly 7¾ miles from Baccaro Point Lighthouse.

Negro Island Lighthouse.

Upon the Northeastern part of Negro Island is a White, Square Building, which at this date (1884) shows a Red and White Revolving Light.

Bearings and Distances from Negro Island Lighthouse.

		Distance.
Bell Buoy, off South part Brazil Rock, ...	**SW.** ¼ **S.**, . .	10⅓ miles.
Cape Roseway Lighthouse, west side of entrance to Shelburne Harbor, ...	**NE.**, ...	7½ "
Grey Rocks (Southwest part),	**NE.** by **E.** ½ **E.**,	1 "
Budget Rock, ...	**NE.** by **N.** ½ **N.**,	⅝ "

Dangers to the Eastward of Negro Island.

Grey Rocks.

These Rocks, which are on the Eastern side of entrance to Negro Harbor, extend Northeasterly and Southwesterly about ⅓ mile, and are mostly above water; the largest, which is about 10 feet above High Water, lies near the Southwestern part; they are very bold and may be approached close to on their Southwestern side. These Rocks are of great service in pointing out the Channel between Budget and East Point Rocks. Negro Island Lighthouse bears from the Southwest part of Grey Rocks **SW.** by **W.** ½ **W.** about a mile.

Budget Rock.

This dangerous Rock, upon which there are but 3 feet water at Low Tide, lies nearly in mid-channel between Negro Island and

East Point. Negro Island Lighthouse bears from this danger **SW.** by **S.** ½ **S.**, about ⅝ mile; Southwestern part Grey Rocks **E.** ¼ **S.** ⅝ mile. A Buoy has been placed to mark Budget Rock, but too much reliance should not be placed on its being in the proper position. Between this Rock and Negro Island there is a narrow Channel of 4 fathoms water at Low Tide; in going through it is necessary to keep nearer the Rock, as Shoal Water extends off Northeasterly nearly ¼ mile from Negro Island.

East Point Rocks.

These Rocks, which lie Southwesterly nearly ¼ mile from East Point, which is on the Eastern side of entrance, are bare at Low Tide; they are nearly on a line with Budget Rock and the Lighthouse. The Ship Channel, which is about ¼ mile wide, and has a depth of 8 fathoms water, lies between Budget and East Point Rocks.

Dangers to the Westward of Negro Island.

The Salvages.

These Rocks, which extend **NE.** by **N.** and **SW.** by **S.** nearly 2 miles, are very bold on their Eastern part, and are the Southernmost dangers in approaching Negro Harbor from the Westward. Some of these dangers are 10 feet above High Water, while others are only bare at very low Tides. The Southwestern part of Negro Island bears from the Northeastern part of the Salvages **NE.** about a mile.

Triangle Rocks.

These three Rocks, which lie nearly in mid-channel, form a triangle. They are nearly ¼ mile apart, and have about 4 fathoms water between them. The two Western show at low spring Tides, while the Easternmost has 3 feet water upon it. About ⅓ mile to the Northward of the Triangles, and a short distance from the Western part of Negro Island, is Mackerel Rock, which is above High Water. Between Mackerel Rock and the Triangles the Channel leading into Negro Harbor is about ¼ mile wide, with a depth of 5 fathoms water at Low Tide. The Southwest part of Negro Island bears from the Northeastern Triangle **E.SE.** ¾ mile.

Shag Rock.

This Rock, which is about 6 feet above High Water, is upon the Western side of the Channel, and lies about ½ mile **W.SW.** from the Western Triangle. This danger is of great service in pointing out the widest Channel leading into Negro Harbor. Between Shag Rock and the Western Triangle, the Channel is nearly ½ mile wide, with a depth of from 7 to 8 fathoms water.

Remarks.

Negro Island, which is upwards of 2 miles in length, has the appearance of 2 islands, the connecting link being a low narrow shingle Causeway. The Southeastern end of this Island (which is called Cape Negro) is Dark and Rocky, and gradually rises to nearly 100 feet above the level of the sea. Shoal water, with sunken Rocks, extends off about ¼ mile from its Northeastern and Southwestern sides, and a long shingle Spit extends off Northeasterly ½ mile from its Northwestern point. By the Ship Channel about 24 feet water, at Low Tide, can be taken in past Negro Island, and from this about 21 feet can be carried up a short distance above Davis Island.* By the Western Passage about 21 feet, at Low Tide, can be carried in past Negro Island.

Sailing Directions for Negro Harbor and Clyde River in Daytime, with favorable winds and fair weather.

By Ship Channel.

Vessels of not more than 15 feet draught, from the Westward, in order to avoid the Salvages (before described), may, as soon as Negro Island is made, bring the highest part to bear **N.** by **E.**, and run for it on this course, leaving the Southeast point about ½ mile on the Port hand. When past the last-named point, steer about **N.** by **E.** ½ **E.**, keeping a sharp look-out for Grey Rocks (before described). When these are made, leave them about 200 yards on the Starboard hand, and gradually haul to

* Davis Island is on the West side of the Channel about 5 miles above Negro Island Lighthouse.

the Northward until the Southwestern Rock above water bears **E.SE.** Then make good the course **W.NW.**, passing about midway between Budget and East Point Rocks. When the Lighthouse bears **S.**, you are then past Budget Rock, and may steer more Northerly, about **NW.** by **W.**, leaving the Northwest Spit well on the Port hand. When past Negro Island, the Harbor will be well open, and you may run up, keeping the Western shore best aboard for about 1½ miles. Then keep the Eastern shore best aboard, and anchor about 2½ miles above the Northwest point of the last-named Island, in about 3½ fathoms water at Low Tide.

From the Eastward, as soon as Negro Island Lighthouse is made, bring it to bear **W.** by **S.**, and run for it on this course. When about 2 miles from it, keep a sharp look-out for Grey Rocks (before described). When these are made, haul round the Southwesternmost (which is about 10 feet above High Water), leaving it about 200 yards on the Starboard hand. When this Rock bears **E.SE.**, make good the course **W.NW.**, and follow the directions before given.

By the Western Channel.

Vessels of not more than 15 feet draught, from the Westward, wishing to enter this Harbor by the Western Passage, in order to avoid the Salvages (before described) should, as soon as Negro Island is made, bring the highest part to bear **N.** by **E.**, and run for it on this course; when about a mile from the Island keep a sharp lookout for Shag Rock (before described); when this is made bring it to bear **W.NW.**, and run for it on this course, leaving it about 300 yards on the Port hand; when past this Rock steer about North, keeping near the middle of the Passage, leaving the Triangles and Northwest Spit well on the Starboard hand, and follow the directions before given.

Beating into Negro Harbor.

When the Eastern Passage, or Ship Channel, is fairly open, keep a sharp lookout for Grey Rocks; when these are made leave them about 200 yards to the Eastward, and work in between the Buoy on Budget Rock, and East Point Rocks (before described); when past these keep the Island side best aboard, until past the

Northwest Spit, then keep nearer the Western side, until about 1½ miles past the Northern end of Negro Island; then keep in the middle to the Anchorage.

When the Western Passage is fairly open bring Shag Rock to bear from **W.** by **N.** ½ **N.** to **NW.** by **W.** ½ **W.**; then work in between this Rock and the Triangles, taking care to not stand more than ¼ mile to the Northeastward of the former; when about ¾ mile past Shag Rock, keep the middle of the Passage until past the Northwest Spit. Then keep nearer the Western side until about 1½ miles past the Northwest end of Negro Island. Then keep the Eastern side best aboard to the Anchorage.

High Water.

It is High Water in Cape Negro Harbor on the days of the Full and Change of the Moon at 8 h. 12 m., or 3 h. 17 m. before it is at Boston. Mean rise and fall of Tides, 6½ feet.

NORTHEAST HARBOR.

The entrance to this Harbor, which is between East Point on the South, and John's Point on the North, is about 2 miles wide, and lies about 1½ miles North from Negro Harbor Lighthouse.

Remarks.

The entrance to this shallow Harbor is much obstructed with Rocks, Shoals and Ledges, which narrow the Harbor at the entrance to ¼ mile. About 9 feet water, at Low Tide, can be taken up above Tony Island, which is very small.

On account of these obstructions, it is advisable for vessels bound to this Harbor to follow the directions before given for Cape Negro Harbor (Ship Channel), and when past Budget Rock, take a pilot.

SHELBURNE HARBOR.

The entrance to this excellent Harbor, which is between McNutt's Island and the main land, is a little more than a mile wide, and lies East-Northerly 22 miles from Cape Sable Light-

house, East-Northerly about 9 miles from Negro Island Lighthouse, and West-Southerly about 89 miles from Sambro Lighthouse.

Cape Roseway Lighthouse.

Near the Southeast end of McNutt's Island, West side of entrance to Shelburne Harbor, is a White Octagonal Tower, painted in Black and White Vertical Stripes, which at this date (1884) shows two fixed White Lights, one above the other. At this time a Fog Horn is placed near this Lighthouse, which, in thick weather, sounds 10 seconds, with intervals of 110 seconds.

Bearings and Distances from Cape Roseway Lighthouse.

		Distance.
Negro Island Lighthouse, .	**SW.**, ...	7½ miles.
Rugged Island Harbor Lighthouse, ...	**E.** ¼ **S.**, ...	7½ "
Bull Rock (which generally breaks), ...	**E.** by **S.**, ...	5⅝ "
Bell Rock (above water), .	**E.** by **N.** ½ **N.**, . .	2⅓ "
Jig Rock (which breaks with a heavy swell), ...	**SW.** by **S.** ¼ **S.**, .	1¼ "

Dangers in approaching Shelburne Harbor from the Eastward.

Bull Rock.

This danger, which has but 3 feet water upon it at Low Tide, is surrounded by deep water, and breaks with a little motion of the sea. Cape Roseway Lighthouse bears from it **W.** by **N.** 5⅝ miles; Rugged Island Harbor Lighthouse, **NE.** by **E.** ¾ **E.** about 2 miles; Bell Rock, **NW.** by **W.** ½ **W.** 3¾ miles; about ¼ mile **N.NE.** from Bull Rock is another Rock, having about 10 feet water upon it at Low Tide; between this last Rock and Western Head there is a Channel about ¾ mile wide, having from 13 to 14 fathoms water in it.

Bell Rock.

This danger, which is always visible, has deep water all round it. Cape Roseway Lighthouse bears from it **W.** by **S.** ½ **S.** 2⅓ miles; Bony's Point, the nearest land, **N.NW.** 1⅛ miles; Shoal

Water, with Rocks, extend, off Southwesterly nearly ½ mile. From Bony's Point, the outermost danger is called Strap-tub Rock, which is bare at Low Tide; there is a Channel about ¾ mile wide between Bell and Strap-tub Rocks; vessels in passing between them should keep nearer the former.

Jig Rock.

This Rock, which breaks with a heavy swell, has 7 feet water upon it at Low Tide. Shoal water extends both North and South about 250 yards from it. Cape Roseway Lighthouse bears from this danger **NE.** by **N.** ¼ **N.** 1¼ miles; between Jig Rock and the Southern end of McNutt's Island, there is a Channel ⅝ mile wide, having about 4 fathoms water in it. Vessels passing between this danger and the Island should keep nearer the Rock, as Shoal Water extends off more than ¼ mile from the Southern end of McNutt's Island.

Sand Spit Lighthouse.

Off Sand Point, East side of entrance to Shelburne Harbor, upon a Pier, is a White, Square Building, which at this date (1884) shows a fixed Red Light. Sand Spit Lighthouse is about 5 miles above Cape Roseway Lighthouse.

Bearings and Distances of Dangers in entering Shelburne Harbor.

Middle Rock.

This danger, upon which there are about 13 feet water at Low Tide, lies nearly in mid-channel, and has from 3½ to 4 fathoms water round it. Sand Spit Lighthouse bears from this danger **N.** by **W.** ¼ **W.** about a mile; the Ship Channel is to the Westward of this danger.

Adamant Shoal.

This danger, which is more than ½ mile in extent, lies nearly in the middle of Shelburne Harbor, and has an average depth of from 26 to 30 feet water upon it at Low Tide. The real dangers are Adamant and Man-of-War Rocks, which lie on the Northwest part of the Shoal; the former has 10 feet water upon it at Low Tide, while the latter has but 4 feet; these Rocks lie **E.** by **S.**

¾ **S.**, and **W.** by **N.** ¾ **N.**, about 300 yards apart. Sand Spit Lighthouse bears from Adamant Rock the Easternmost, **S.** ¼ **E.** nearly 1½ miles. There is deep water on both sides of these Rocks, but the Eastern Channel is recommended for strangers.

Hero Shoal.

This danger, which has about 13 feet water upon it at Low Tide, lies on the Western side, near the head of the Harbor, above the usual place of Anchorage for large vessels.

Remarks.

McNutt's Island, at the entrance of Shelburne Harbor, is nearly 3 miles long, and about 1½ miles wide, and its highest part is elevated 130 feet above sea level; between the Eastern part of this Island and the main land, the Channel is clear, with deep water. The harbor is safe and commodious, and being easy of access, is most admirably adapted for vessels seeking shelter; about 5 fathoms water at Low Tide, can be carried up within ¼ mile of the village; but there is safe anchorage anywhere above Sand Spit Lighthouse. The Passage to the Westward of McNutt's Island and the main land is rendered impassable by an extensive Bar, which in some places is nearly dry at very Low Tides, with scattering Rocks upon it.

Sailing Directions for Shelburne Harbor in Daytime, with favorable winds and fair weather.

From the Westward, in order to avoid Jig Rock (before described), when about 3 miles from Cape Roseway Lighthouse, bring it to bear **N.** ½ **E.**, and run for it on this course, leaving it about ⅓ mile on the Port hand. When past the Lighthouse, haul gradually to the Westward, keeping about ¼ mile from the Eastern side of the Island, which is bold, and free from dangers. When past the Northwestern end of this Island, vessels of more than 13 feet draught should steer for Surf Point,* bearing **NW.** Leave this point about 300 yards on the Port, and Sand Spit Lighthouse about 300 yards on the Starboard hand, and in order

* Surf Point is the first on the West side after passing McNutt's Island. This point is bold, and has a remarkable Bowlder lying on the Shore.

to avoid Adamant and Man-of-War Rocks (before described), keep about ¼ mile from the Eastern shore, and anchor anywhere above the last-named Lighthouse, in from 5½ to 6 fathoms water.

From the Eastward, as soon as Cape Roseway Lighthouse is made, bring it to bear **W.** by **N.** ½ **N.**, and run for it on this course, leaving Bull Rock and Bell Rock (before described) well on the Starboard hand. Continue the course **W.** by **N.** ½ **N.** for the Lighthouse, until about a mile from it. Then gradually haul to the Northward, and follow the directions before given.

Beating into Shelburne Harbor.

In beating into Shelburne Harbor, in order to clear the Rocks on both sides, bring Cape Roseway Lighthouse to bear from **N.** ½ **E.** to **W.NW.** When past the last-named Lighthouse, keep nearer the Eastern side of McNutt's Island, which is quite bold. When past this Island, vessels of more than 12 feet draught should look out for Middle Rock (before described). When past this Rock, keep nearly in mid-channel until past Sand Spit Lighthouse. Then, in order to avoid Adamant and Man-of-War Rocks, keep nearer the Eastern shore.

Sailing Directions for Shelburne Harbor at Night-time, with favorable winds and fair weather.

Vessels of not more than 12 feet draught, from the Westward, may bring Cape Roseway Lights to bear **N.**, and run for them on this course, leaving them about a mile on the Port hand. When they bear **W.**, the entrance to the Harbor will then be fairly open, and they may then run in about **NW.** by **N.** ½ **N.**, keeping about midway the Passage. When about 2½ miles past Cape Roseway Lights, bring the Red fixed Light on Sand Spit to bear **N.NW.**, and run for it on this course, leaving it not more than ¼ mile on the Starboard hand. When past the last-named Light, in order to avoid Adamant and Man-of-War Rocks (before described), keep the Eastern shore best aboard, and anchor about 2 miles above Sand Spit Light, in about 6 fathoms water at Low Tide.

From the Eastward, as soon as Cape Roseway Lights are made, bring them to bear **W.NW.**, and run for them on this course, leaving Bull and Bell Rocks well on the Starboard hand. When

about a mile from these Lights, the Passage leading into the Harbor will be fairly open. Then run in midway until about 2½ miles above the Lights. Then follow the directions before given.

High Water.

It is High Water in Shelburne Harbor on the days of the Full and Change of the Moon at 8 h. 4 m., or 3 h. 25 m. before it is at Boston. Mean rise and fall of Tides, 6½ feet.

Birchtown Bay.

The entrance to this Bay, which is on the Western side of Shelburne Harbor, is about a mile wide, and extends Northwesterly about 2 miles. There are many dangers in this Bay, some of which lie near the shores, and others in mid-channel. It is therefore advisable for strangers bound into this place, to employ pilots.

JORDAN RIVER.

The entrance to this River, which is about 1¼ miles wide, is between a small Island called Blue Gull, on the West, and Green Island on the East, and lies East-Northerly about 4¼ miles from Cape Roseway Lighthouse.

Remarks.

Jordan River extends nearly North and South; from the entrance to Enslow Point, the distance is about 5½ miles; about 5 fathoms water can be taken up as far as the Sisters, which lie on the Western side about ⅓ mile from Shore, and 3 miles above the entrance; from these dangers about 2½ fathoms water at Low Tide, can be carried as far as Onslow Point; above this, the River divides into two parts, which have but little water in them at Low Tide. In this River there is good Anchorage, in all except Southerly winds, which bring in a heavy sea; there are no dangers in this River excepting the Sisters, which lie on the Western side, and are bare at Half Tide; vessels, therefore, bound into this place, should keep the Eastern shore best aboard.

Sailing Directions for Jordan River in Daytime, with favorable winds and fair weather.

From the Westward, when Cape Roseway Lighthouse is made, bring it to bear **N.** by **E.**, and run for it on this course; leave this Lighthouse about a mile on the Port hand, and when it bears **W. NW.**, steer **NE.** by **E.**, keeping a sharp lookout for Bell Rock. Cape Roseway bears from this danger (which is always visible) **W.** by **S.** ½ **S.** 2⅓ miles; when Bell Rock is made, leave it close to on the Port hand, and steer **NE.** ½ **E.** about 2 miles. Jordan River will then be fairly open, bearing **N.** ½ **E.** Then run in about midway, leaving Blue Gull Island, which is small, on the Port, and Green Island, which is 70 feet high, well on the Starboard hand; when past the last-named Island, in order to avoid the Sisters, which lie on the Western side, keep the Eastern side best aboard, and anchor about 4 miles above the entrance in from 3½ to 4 fathoms water at Low Tide.

From the Eastward, leave Rugged Island Harbor Lighthouse, about ½ mile to the Northward, and steer **W.** by **N.** about 3½ miles, leaving Bull Rock on the Port, and Western Head on the Starboard hand. The entrance to Jordan River will then be fairly open, when you may run in midway, and follow the directions before given.

High Water.

It is High Water at Jordan River on the days of the Full and Change of the Moon, 8 h. 1 m., or 3 h. 28 m. before it is at Boston. Mean rise and fall of tides, 7 feet.

Green Harbor.

The entrance to this Harbor, which is between Green Island and the main land, is about a mile wide, and lies East-Northerly 5½ miles from Cape Roseway Lighthouse, and about 3 miles Northwesterly from Rugged Island Harbor Lighthouse.

Remarks.

In entering this harbor there are no dangers excepting those lying near the shores; 6 fathoms water at Low Tide can be taken up about 2 miles from the entrance, and about 2½ fathoms at Low Tide, can be carried about a mile further up; there is good

Anchorage in this Harbor, in all winds excepting those from South to South-West; these bring in a heavy sea.

Sailing Directions for Green Harbor in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given for Jordan River, until Bell Rock is made; leave this danger close to on the Port hand, and make good the course **E.NE.**, about 3 miles. Green Harbor will then be fairly open, bearing about **N.NE.**; then run in about midway, and anchor in from 3½ to 6 fathoms water, at Low Tide.

From the Eastward, follow the directions before given, for Jordan River, until Green Harbor is fairly open, bearing about **N.NE.**, then run in as before directed.

RUGGED ISLAND HARBOR.

The entrance to this Harbor, which is between Black Point on the East, and Western Head on the West, is about 3¼ miles wide, and lies East-Northerly, about 28 miles from Cape Sable Lighthouse, East-Northerly about 8 miles from Cape Roseway Lighthouse, and West-Southerly about 82 miles from Sambro Lighthouse.

Rugged Island Harbor Lighthouse.

Upon a small Ledge called Gull Rock, nearly midway the entrance to Rugged Island Harbor, is a White, Square Building which at this date (1884) shows a fixed White Light. Cape Roseway Lighthouse bears from Rugged Island Harbor Lighthouse, **W.** ¼ **N.** 7½ miles; Negro Island Lighthouse, **W.SW.** 13¾ miles; Sambro Island Lighthouse, **E.** by **N.** ½ **N.** 81 miles; and Hope Island Lighthouse, **E.** by **N.** ½ **N.** 18 miles. Shoal water extends off some distance to the Southward, from Rugged Island Harbor Lighthouse.

Dangers in Approaching and Entering Rugged Island Harbor.

Bull Rock.

This is the Southwesternmost danger lying off Rugged Island Harbor Lighthouse; it has only 3 feet water upon it at Low Tide, and is generally marked with breakers. Rugged Island Harbor Lighthouse bears from Bull Rock, **NE.** by **E.** ¾ **E.** about 2 miles. About ¼ mile **N.NE.** from Bull Rock, is another danger, having about 10 feet water upon it at Low Tide.

Long Shoal.

This danger has 20 feet water upon it at Low Tide, with deep water around it. Rugged Island Harbor Lighthouse bears from it **NE.** about a mile; between Long Shoal and Bull Rock, there is a Channel 1¼ miles wide, having from 9 to 16 fathoms water in it.

South Ledge.

This is a small spot, having at very Low Tides about 17 feet water upon it. Rugged Island Harbor Lighthouse bears from this danger, **N.** ½ **W.** ⅝ mile; between the South Ledge and Long Shoal, there is a Channel about ¾ mile wide, having from 10 to 14 fathoms water in it; there is also a Channel between the South Ledge and Gull Island Lighthouse, which is about ½ mile wide, and has a depth of not less than 5 fathoms at Low Tide.

Emulous Breakers.

This is quite an extensive Shoal, with scattering rocks upon it, some of which are above and some below water at Low Tide; from this danger, Shoal Water with rocks extends in a Northeast direction to Ram Island, which is distant nearly a mile; there are also several Rocky patches outside the Emulous Breakers; in order to avoid these, vessels from the Eastward bound to Rugged Island Harbor, should not bring the Lighthouse to bear to the Westward of **W.NW.** Rugged Island Harbor Lighthouse bears from the Emulous Breakers West, nearly 3 miles.

Eastern Bull, or Blow Breaker.

This Rock, which has but 4 feet water upon it, has deep water all round it. Rugged Island Harbor Lighthouse bears from it

W. by **S.** ¼ **S.** 1½ miles; this danger lies nearly midway the Eastern Passage leading into Rugged Island Harbor.

Block Point Rock.

This Rock, which is bare at Low Tide, is the outer danger extending from Black Point, the Eastern side of entrance to the Harbor. Rugged Island Harbor Lighthouse bears from this danger **SW.** by **W.** nearly 2 miles; Eastern Bull **S.** ¾ **W.** ⅝ mile; between Black Point Rock and the Eastern Bull, there is a Channel about ⅝ mile wide, with from 6 to 7 fathoms water in it.

Whale Rock and Kelp Shoal.

This Shoal, which lies but a short distance to the Northeastward of Rugged Island Harbor Lighthouse, extends North and South nearly ½ mile, with but little water in several places upon it at Low Tide; near the middle of this Shoal is Whale Rock, which always breaks. Rugged Island Harbor Lighthouse bears from this Rock **SW.** by **W.** ½ mile.

Trinidad Rock.

This Rock, which is about a mile Northeasterly from Rugged Island Harbor Lighthouse, has 10 feet water upon it at Low Tide. This danger lies nearly in mid-channel, in the Westward passage leading into Rugged Island Harbor; Rugged Island Harbor Lighthouse bears from this danger **S.SW.** ⅞ mile; between Trinidad Rock and Whale Rock, there is a Channel about ½ mile wide, with from 3½ to 4 fathoms water in it; vessels passing through this Channel should keep nearer Trinidad Rock.

Chain Ledges.

This is a Rocky Shoal extending about **N.NE.**, and **S.SW.** about ¾ mile; some of the Rocks upon this Shoal are 10 feet above High Water. The Chain Ledges are bold on their Eastern side, and in order to avoid Trinidad Rock, vessels bound into Rugged Island Harbor should not leave them more than 300 yards on the Port hand. The Channel between the Chain Ledges and Trinidad Rock is about ⅓ mile wide, with a depth of about 7 fathoms water at Low Tide. Rugged Island Harbor Lighthouse bears from the Southwestern end of the Chain Ledges **S.** ¼ **E.** about ¾ mile.

Carter Island Lighthouse.

Upon Carter Island (which is small) entrance to Rugged Island Harbor is a White, Square Wooden Building, which at this date (1884) shows a fixed Red Light. Rugged Island Lighthouse bears from Carter Island Lighthouse **S.** by **W.** ¼ **W.** 3 miles.

Middle Ground.

This is an extensive Shoal extending off to the Westward from Gooseberry Island and having many Rocks upon it, some of which are bare at Low Tide. Vessels bound into Rugged Island Harbor should leave this danger to the Eastward; Carter Island Lighthouse bears from the Southwest end of the Middle Ground **S** ½ **E.** about a mile.

Remarks.

Rugged Island Harbor derives its name from the rough and uneven appearance of the coast in its immediate vicinity. In approaching this Harbor there are two passages, one to the Westward, the other to the Eastward of the Lighthouse on Gull Rock; both these Channels are much obstructed by numerous Rocks and Ledges, which render the approaches dangerous. Within the Harbor the Anchorage is safe in all winds. It is said that, during heavy Southerly gales, at the entrance the sea breaks from side to side. About 17 feet water can be taken into this place at Low Tide.

Sailing Directions for Rugged Island Harbor in Daytime, with favorable winds and fair weather.

Vessels of not more than 12 feet draught, from the Westward, may when Rugged Island Harbor Lighthouse is made, bring it to bear **NE.**, and run for it on this course, leaving the Bull Rock (before described), well on the Port hand. Continue the course, crossing Long Shoal (before described), until about ½ mile from the Lighthouse; then gradually haul to the Northward, leaving it not more than 300 yards on the Starboard hand; when it bears **E.SE.**, make good the course **N.NE.**, leaving the Chain Ledges (before described), about 400 yards on the Port hand, and Trinidad Rock (before described), about the same distance on the Starboard hand; when about ½ mile past the Chain Ledges you

will see on the Port a number of small Islands; these are called Cranberry Islands. In order to avoid the Rocky Shoal called the Middle Ground, haul gradually to the Northward, and leave these last named Islands not more than 250 yards on the Port hand, and Carter's Island Lighthouse not more than ¼ mile on the same hand; when abreast the Lighthouse make good the course **NE.** by **N.** ¼ **N.** about 1¼ miles, carrying 3 fathoms water at Low Tide across the flat ground, and anchor on the Eastern side in from 4 to 4½ fathoms water at Low Tide.

Vessels of not more than 12 feet draught, from the Eastward, should, when Rugged Island Harbor Lighthouse is made, bring it to bear **W.NW.**, and run for it on this course. When about 1½ miles from the Lighthouse, keep a sharp look-out for Whale Rock, which lies **NE.** by **E.** ½ mile from this Lighthouse, and always breaks. When this Rock is made, haul to the Northward, and leave it about ⅓ mile on the Port hand. When it bears **W.NW.**, make good the course **N.** ½ **W.**, leaving the Blow Breaker well on the Starboard, and Trinidad Rock well on the Port hand. As you sail in, you will see the Cranberry Islands. In order to avoid the Rocky Shoal called the Middle Ground, leave these Islands, which are bold, not more than 250 yards on the Port Hand, and Carter's Island Lighthouse not more than ¼ mile on the same hand, and follow the directions before given.

The Basin.

Small vessels from the Eastward or Westward, of not more than 7 feet draught, may follow the directions before given until about ¼ mile from Carter's Island Lighthouse. Then haul to the Westward, leaving this Lighthouse not more than 300 yards on the Starboard hand, and anchor in the Basin, with the Lighthouse bearing **E.NE.**, distant not more than ⅓ mile, in about 9 feet water at Low Tide. Nearer the village there is less water.

High Water.

It is High Water in Rugged Island Harbor on the days of the Full and Change of the Moon at 7 h. 59 m., or 3 h. 30 m. before it is at Boston. Mean rise and fall of Tides, 7 feet.

SABLE RIVER.

The entrance to this River, which is between Harding Point on the East, and Raspberry Head on the West, is about 1⅝ miles wide, and lies East-Northerly about 7 miles from Rugged Island Harbor Lighthouse, and West-Southerly about 10 miles from Little Hope Island Lighthouse.

Dangers in approaching Sable River.

Bantam Rock.

This dangerous Rock, which is bare at Low Tide, lies about ¾ mile from the entrance of Sable River. Harding Point, the nearest land, bears from this danger **NE.** by **N.** ⅞ mile; centre of Ram Island, **SW.** by **W.** ½ **W.** 3½ miles; Green Island (40 feet high), **NE.** by **E.** 2⅝ miles. From ¼ to ½ mile to the Southward of Bantam Rock, there are two small Spots, having from 19 to 22 feet water on them at Low Tide.

Remarks.

About a mile above the entrance to this River is a Bar with only 2 feet water upon it at Low Tide, which breaks heavily in Southerly gales. The Channel leading up is very narrow, with but little water in some places, and also requiring a favorable wind to enter or leave the River. It is therefore advisable for vessels bound to this place to take pilots.

High Water.

It is High Water at the entrance of Sable River on the days of the Full and Change of the Moon at 8 h. 4 m., or 3 h. 25 m. before it is at Boston. Mean rise and fall of Tides, 6½ feet.

PORT L'HEBERT.

The entrance to Port L'Hebert, which is between Thrum Point on the East, and Richardson Head (which is 130 feet high) on the West, is about ¾ mile wide, and lies East-Northerly about 19

miles from Cape Roseway Lighthouse, East-Northerly about 12 miles from Rugged Island Harbor Lighthouse, and West-Northerly 5¾ miles from Little Hope Island Lighthouse.

Port L'Hebert Lighthouse.

About 1½ miles above the entrance to Port L'Hebert, upon Shingle Point, East side, is a White Square Building, which at this date (1884) shows a Red fixed Light.

Dangers in approaching and entering Port L'Hebert.

Green Island.

About ⅝ mile from shore, and **SW.** by **S.** 2¼ miles from the entrance to Port L'Hebert, is a small Island called Green Island, which is 45 feet high. About Southwest ¼ mile from the Southwest point of this Island, is a Rock which is bare at Low Tide. Between Green Island and the shore, there is a narrow Channel of 3¼ fathoms at Low Tide. Strangers should not attempt to pass through it, as there are sunken Rocks lying on both sides.

Ebert Rocks.

About ¾ mile from the entrance to Port L'Hebert, and a little more than ¼ mile from the Western side, are Ebert Rocks, which are bare at Low Tide. The Lighthouse on Shingle Point just open to the Eastward of Richardson Head, clears these dangers.

Thrum Point Shoal.

From Thrum Point, the Eastern side of entrance to Port L'Hebert, Shoal Water extends off Southwesterly nearly ½ mile.

Remarks.

The entrance to Port L'Hebert may be easily known by the steep and abrupt appearance of its Western side (Richardson Head). About ¾ mile above the entrance, is a Bar having but 2¼ fathoms water upon it at Low Tide. The sea breaks heavily upon this Bar during heavy weather. Above this the Channel is narrow, with many obstructions lying in it. Strangers should not attempt to enter this place without a pilot.

High Water.

It is High Water in Port L'Hebert, on the days of the Full and Change of the Moon, at 8 h. 9 m., or 3 h. 20 m. before it is at Boston. Mean rise and fall of Tides, 6½ feet.

PORT JOLIE.

The entrance to Port Jolie, which is between Jolie Point on the East and the main land on the West, is about 2 miles wide, and lies East-Northerly 22 miles from Cape Roseway Lighthouse, East-Northerly about 3 miles from the entrance to Port L'Hebert, and West-Northerly about 3 miles from the Lighthouse upon Little Hope Island.

Remarks.

Port Jolie is open to Southerly winds, which bring in a heavy sea. From the entrance to the Head the distance is 5 miles. In entering, Shoal Water with rocks extends off a long distance from both sides, and there is also but little water about 2 miles above the entrance, making it only available for small vessels with offshore winds.

Little Hope Island Lighthouse.

Near the centre of Little Hope Island, which is about 2 miles to the Eastward of Jolie Point (the nearest land), is a White Square Building with Lantern on top, which at this date (1884) shows every minute a Revolving Red Light.

Bearings and Distances from Little Hope Island Lighthouse.

		Distance.	
Rugged Island Harbor Lighthouse,	**W.** by **S.** ½ **S.**,	18	miles.
Coffin Island Lighthouse,	**NE.**,	15	"
West Iron-bound Lighthouse,	**NE.** by **E.**,	34	"
Sambro Island Lighthouse,	**E.** by **N.** ¼ **N.**,	63	"
Little Hope Shoal,	**W.** ¾ **S.**,	2	"
Jolie Point (nearest land),	**W.NW.**,	2	"

Shoal Water, with Rocks, extends off Southwesterly about ⅓ mile from Little Hope Island, and Shoal Water also extends off about the same distance from its Northern and Eastern parts. Between this Island and Jolie Point (the nearest land) there is a Channel about 1½ miles wide, having from 10 to 15 fathoms water in it. Vessels navigating this Channel should keep about midway between the last-named Point and Island.

Little Hope Shoal.

This Rocky Shoal, which is about ⅓ mile long, has about 10 feet water upon it at Low Tide. In heavy weather the sea breaks upon this danger. The Lighthouse upon Little Hope Island bears from the centre of Little Hope Shoal, **E.** ¾ **N.** 2 miles.

Black Point.

About 2¼ miles North from Little Hope Island Lighthouse is Black Point, from which Ledges extend off nearly ½ mile. Vessels passing within Little Hope Island should therefore give this Point a good berth.

PORT MOUTON.

About 7 miles Northeasterly from Little Hope Island Lighthouse, and about 8 miles West-Southerly from the entrance to Liverpool Bay, is a deep Bay called Port Mouton.

Port Mouton Lighthouse.

Upon the Northeastern end of Spectacle Island (which is in this Bay) is a Square, Wooden Building which at this date (1884) shows a Red Fixed Light.

Dangers in approaching and entering Port Mouton by the Eastern Passage.

White Point Rock.

This small Rock, on which there is about 15 feet water at Low Tide, has deep water all round it. Port Mouton Lighthouse bears from this danger **W.** ¼ **N.** 3¾ miles.

Brazil Rocks.

About **W.** by **S.** ½ **S.** 1⅓ miles from White Point Rock is the Brazil Rocks, which form a cluster about ¼ mile in length; several of these Rocks are bare at different times of Tide, but one known as Round Rock is always above water, and is consequently of great advantage in entering Port Mouton by the Eastern Channel. Port Mouton Lighthouse bears from Round Rock **W.** by **N.** 2½ miles. About ½ mile Southeast from Round Rock is a small detached Rock having but 3 feet water upon it at Low Tide. Between the Brazil Rocks and Mouton Island the Channel is more than a mile wide, with deep water and no dangers.

Mouton Island (Northern Shoal).

From the Northern point of Mouton Island an extensive Spit extends off about **N.NW.** nearly a mile. Vessels of not more than 12 feet draught, bound out or into Port Mouton (by the Eastern passage), may cross the Spit ⅓ mile from the point, and vessels of 15 feet draught about ¾ mile from it.

South Rock.

This Rock, which is bare at Low Tide, lies about ¼ mile from the Southern point of Mouton Island. There is no passage for vessels between this Rock and Island.

Devastation Shoal.

This Shoal, which is nearly ½ mile in length, extends **N.NW.** and **S.SE.**, and has on its Northern end, at Low Tide, as little as 11 feet water upon it. The Southern point of Mouton Island bears from the Northern end of this danger **W.** ¼ **S.** ¾ mile: between Devastation Shoal and Mouton Island there is a narrow Channel of 5 fathoms water at Low Tide.

Remarks.

Upon the Southwestern side of this Bay are several Islands, among which is Mouton Island, the largest and Easternmost of the Group. By their position these Islands form a safe and commodious Anchorage for vessels of any draught. There are two

Passages leading to this harbor; the Eastern Passage, which is to the Eastward of Mouton Island, is available for vessels of any size or draught, but on account of the obstructions the Western Channel is narrow and not adapted for vessels, only with favorable winds, of more than 15 feet draught at Low Tide.

Eastern Passage.

Sailing Directions for Port Mouton in Daytime, with favorable winds and fair weather.

From the Westward, when about a mile past Little Hope Island, bring the Lighthouse to bear **SW. ½ W.** and make good the course **N.E. ½ E.** about 5 miles, leaving the Southern point of Mouton Island about 1½ miles on the Port hand. When this point bears **W.NW.**, then gradually haul to the Northward, leaving Devastation Shoal (before described) well on the Port hand, and keeping a sharp lookout for Round Rock (before described); when this is made, pass about midway between this Rock and the Island, and in order to avoid the Spit which extends off to the Northward of this Island, steer **NW.** until the Lighthouse at the entrance of the Harbor bears **SW.** by **S. ½ S.** The Harbor will then be fairly open and you may run in, leaving the Lighthouse about ¼ mile on the Port hand, and anchor in about 6 fathoms water at Low Tide, the Lighthouse bearing about **E.** by **N. ½ N.** ¾ mile distant.

Vessels of not more than 15 feet draught, when about midway between Round Rock and Mouton Island, may steer **NW.** until the Lighthouse at the entrance of the Harbor bears **W.** by **S.**, then run for it on this course, crossing the Spit in not less than 3¼ fathoms at Low Tide. Haul round this Lighthouse at a distance of ¼ mile, leaving it on the Port hand, and anchor as before directed.

From the Eastward, when Mouton Island is made, bring its Northern end to bear West and run for it on this course; when about 3 miles from it; keep a sharp lookout for Round Rock, the top of which is always seen; when this Rock is made, leave it about ¼ mile on the Port hand, and steer **W.NW.** until the Lighthouse bears **SW.** by **S. ½ S.**, then run in and anchor as before directed.

Beating into Port Mouton.

In beating into Port Mouton by the Eastern passage, when past Devastation Shoal, vessels may approach within ¼ mile of the Eastern part of Mouton Island, and when past Brazil Rocks may stand within ½ mile of the Northern and Western shores. When past the Lighthouse, vessels may approach the Northwestern part of Spectacle Island* within 350 yards without danger; and also approach Mink Island (which is small and lies **W.** by **N.** about a mile from the Lighthouse) within 350 yards without danger.

Dangers in approaching and entering Port Mouton by the Western Channel.

Bull Rock.

This Rock, which is about 4 feet above High Water, lies on the Western side of the Channel, in the Narrows between Bull Point on the mainland and Mouton Island on the East. Bull Rock is of great advantage to vessels bound through the Western Passage, as by its position the Channel can be determined with certainty. The Southern end of Mouton Island bears from this danger **SE.** ½ **E.** 1¼ miles; about 300 yards **N.** by **W.** ½ **W.** from Bull Rock is a Rock with 3 feet water upon it at Low Tide.

Jacket Island.

This small Island, which is in the Western Passage leading to Port Mouton, lies on the Eastern side of the Channel, and is steep-to on its Northwestern side, but Shoal Water extends from its Southern end to Mouton Island. Between Jacket and Mouton Islands the ground is foul; strangers should not therefore attempt to pass between them.

Middle Rock.

This Rock, which has 7 feet water upon it at Low Tide, lies nearly in the middle of the Narrows between Bull Rock and Jacket Island; there is a narrow Channel of about 18 feet at Low Tide on both sides of this Rock, but vessels bound in should pass to the Westward of it.

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* The Lighthouse stands on Spectacle Island.

Massacre Island.

This small Island, which is in the Western Passage between the Northern end of Mouton and Spectacle Islands, lies on the Western side of the Channel. Port Mouton Lighthouse bears from this Island, which is bold on its Eastern side, North ⅝ mile. Between Massacre Island and the Southwestern part of Spectacle Island there is no passage for vessels.

Spectacle Rock.

This small Rock, which lies a short distance from Port Mouton Lighthouse, is quite bold on all sides, and is elevated about 3 feet above High Water. Port Mouton Lighthouse bears from this danger **NW.** by **W.** ½ **W.** 400 yards; between this Rock and Lighthouse there is a narrow Channel having 7 fathoms water in it. Vessels passing through this Channel should keep nearer the Rock.

By the Western Passage.

Sailing Directions for Port Mouton in Daytime, with favorable winds and fair weather.

Vessels of not more than 15 feet draught, from the Westward, when about a mile past Little Hope Island, may bring the Lighthouse to bear **SW.** by **S.**, and make good the course **NE.** by **N.** about 2½ miles. The Western Passage leading into Port Mouton will then be fairly open. Then run in about midway, keeping a sharp lookout for Bull Rock (before described). When this is made, bring it to bear **N.** by **W.** ½ **W.**, and run for it on this course, leaving it not more than 150 yards on the Port hand, and carrying about 3 fathoms water at Low Tide through the narrow Channel. When past Bull Rock, make good the course **N.**, leaving Massacre Island and Spectacle Rock well on the Port hand, and haul round the Lighthouse, leaving it about ¼ mile on the Port hand, and run up to the Southwestward, and anchor as before directed.

High Water.

It is High Water in Port Mouton, on the days of the Full and Change of the Moon, at 7 h. 54 m., or 3 h. 35 m. before it is at Boston. Mean rise and fall of Tides, 6½ feet.

LIVERPOOL BAY.

The entrance to this Bay, which is between the Southern point of Coffin Island on the East and the mainland on the West, is about 1¾ miles wide, and lies East-Northerly about 57 miles from Cape Sable Lighthouse, East-Northerly about 38 miles from Cape Roseway Lighthouse, Northeasterly about 13½ miles from Little Hope Island Lighthouse, and West-Southerly about 52 miles from Sambro Lighthouse.

Coffin Island Lighthouse.

Upon the South point of Coffin Island, East side of entrance to Liverpool Bay, is a Tower painted in Horizontal Stripes, Red and White, eight in number, which at this date (1884) shows a Revolving White Light. This Light is seen 30 seconds in every 2 minutes. Fort Point Lighthouse bears from Coffin Island Lighthouse **NW**. by **W**. ½ **W**. 3½ miles; Brooklyn Pier Lighthouse, **NW**. by **W**. about 3 miles; Sambro Lighthouse, **E**. ½ **N**. 51 miles. There is no passage for vessels between the Northern point of Coffin Island and the mainland.

Fort Point Lighthouse.

Upon Fort Point, South side of entrance to Liverpool Harbor, is a White Square Wooden Building, which at this date (1884) shows a Red Fixed Light. Coffin Island Lighthouse bears from Fort Point Lighthouse, **SE**. by **E**. ½ **E**. about 3½ miles; Brooklyn Pier Lighthouse, **E**. by **S**. ⅝ mile.

Brooklyn Pier Lighthouse.

Upon the end of Brooklyn Pier or Breakwater, at the entrance to Herring Cove, is a White Square Wooden Building, which at this date (1884) shows a fixed White Light when coming up the Bay, and a Red Fixed Light towards the Harbor. Fort Point Lighthouse bears from Brooklyn Pier Lighthouse, **W**. by **N**. ⅝ mile; Coffin Island Lighthouse, **SE**. by **E**. about 3 miles.

Remarks.

In entering Liverpool Bay, there is deep water and no dangers excepting those lying near the shores, but it is exposed to

Southeasterly winds, and is not considered safe, especially during spring, autumn and winter months.

Herring Cove.

This Cove, which lies at the Head of the Bay, about a mile to the Eastward of the town of Liverpool, has a Breakwater where vessels of not more than 18 feet draught may find shelter with Southerly winds. At the entrance to Liverpool Harbor there is a Bar which will not admit vessels, at Low Tide, of more than 4 or 5 feet draught.

Formerly the town of Liverpool had a population of 7,000, and, in connection with Milltown above, carried on an extensive trade with Halifax, the United States and West Indies. The exports were principally lumber, cord-wood, fish and farm-produce. Ship-building was carried on to a small extent, and a considerable amount of tonnage belonged to the port. There was a patent slip, adapted for vessels of 600 tons, and also a foundry where small repairs could be effected. Provisions and water could always be procured.

Sailing Directions for Liverpool Bay and Herring Cove Anchorage in Daytime, with favorable winds and fair weather.

Vessels from the Westward, of not more than 20 feet draught, may, when Coffin Island Lighthouse is made, bring it to bear **NE.** by **N.** ½ **N.**, and run for it on this course, leaving Western Head, which is quite bold, about a mile on the Port hand. When about 2 miles from the Lighthouse, steer more Northerly until Liverpool Bay is well open, then run up to the Northwestward about midway; as you sail in, there will be seen near the head of the Bay on the Eastern side, Brooklyn Pier Lighthouse; when about a mile from this Lighthouse, bring it to bear **N.W.** by **N.** ½ **N.**, and run for it on this course. Haul round the outer end of the Breakwater leaving it a short distance on the Starboard hand, and anchor inside, about 250 yards **N.NE.** from it, in about 3½ fathoms water at Low Tide.

From the Eastward, when Coffin Island Lighthouse is made, bring it to bear **W.** by **N.** ½ **N.**, and run for it on this course, leaving it about ¾ mile on the Starboard hand. When past

Coffin Island Lighthouse, Liverpool Bay will then be fairly open, and you may then run up midway and follow the directions before given.

Sailing Directions for Liverpool Bay and Herring Cove Anchorage at Night-time, with favorable winds and fair weather.

From the Westward, when Coffin Island Light is made, bring it to bear **N.NE.**, and run for it on this course, until the fixed White Light on Brooklyn Pier bears **NW.** by **N.**, then run for it on this bearing, and haul round it, leaving it a short distance on the Starboard hand, and anchor about 250 yards **N.NE.** from it in about 3½ fathoms water at Low Tide.

From the Eastward, when Coffin Island Light is made, bring it to bear **W.** by **N.** ½ **N.**, and run for it on this course, leaving it about ¾ mile on the Starboard hand. When it bears **N.NE.**, steer **W.NW.** until the fixed White Light on Brooklyn Pier bears **NW.** by **N.**, then run for it on this bearing, and follow the directions before given.

Directions for entering Liverpool Bay in thick weather.

A Whistling Buoy, painted in Black and White Perpendicular Stripes, has been placed in about 20 fathoms water at the entrance of Liverpool Bay. Coffin Island Lighthouse bears from this Buoy **N.** ¼ **E.**, distance about 1¾ miles; Western Head (which is the first point on the Western side of entrance) **W.** ¾ **S.** 2⅛ miles.

Sailing Directions for Liverpool Bay and Brooklyn Anchorage in thick weather.

Vessels from the Eastward or Westward, making or hearing the Whistling Buoy at the entrance of Liverpool Bay, may leave it close to on either hand, and make good the course **NW.** ¾ **N.** 4 miles, which will bring them up with the Lighthouse on the end of Brooklyn Pier. In running this course, after the first mile from the Buoy, the water will Shoal gradually from 19 fathoms to 4 fathoms at Low Tide. If there be no deviation from the course, the last named depth (4 fathoms) will be near the Lighthouse.

Sailing Directions for Liverpool Harbor.

Vessels of not more than 10 feet draught, bound to Liverpool Harbor, may *at High Water*, follow the directions before given for Liverpool Bay and Herring Cove Anchorage. When abreast Brooklyn Pier Lighthouse, keep a sharp lookout for the Buoy which lies about 350 yards Northeast from Fort Point Lighthouse. When this Buoy is made, leave it close to on the Port hand, and steer about West, crossing the Bar in from 10 to 12 feet water *at High Tide*. When Fort Point Lighthouse bears **SE.**, steer more Southerly, keeping nearer the wharves, and anchor below the bridge in from 12 to 15 feet water at Low Tide.

Beating into Liverpool Bay.

Shoal Water extends off Southerly and Southwesterly a considerable distance from Coffin Island. Vessels in beating into Liverpool Bay, should not therefore approach nearer than ½ mile to this Island. The Western side of the Bay is quite bold, and may be approached within 400 yards without danger, but the Eastern side is foul, and should not be approached nearer than ⅓ mile until within ¼ mile of the Lighthouse on the outer end of Brooklyn Breakwater. The Eastern side may then be approached within 250 yards without danger.

High Water.

It is High Water in Liverpool Harbor, on the days of the Full and Change of the Moon, at 7 h. 50 m., or 3 h. 39 m. before it is at Boston. Mean rise and fall of Tides, 6¾ feet.

PORT METWAY.

The entrance to Port Metway, which is between a small Island on the East, called Frying Pan Island, and Metway Head (which is 110 feet high) on the West, lies East-Northerly about 6 miles from Coffin Island Lighthouse, West-Southerly 9½ miles from Cape Le Have, and West-Southerly 45 miles from Sambro Lighthouse.

Port Metway Lighthouse.

Upon Metway Head, West side of entrance to Port Metway, is a White, Square Building with a Black Square to Seaward, which at this date (1884) shows a fixed White Light.

Dangers in entering Port Metway.

The Eastern side of the entrance to Port Metway consists of a number of small islands extending off **S.** by **W.** ½ **W.** about 3 miles from the mainland (with no Channels for strangers between them), and terminating in Frying Pan Island, a small Rocky Islet about 10 feet above High Water; Port Metway Lighthouse bears from the centre of Frying Pan, the outermost Islet, **NW.** by **W.** ½ **W.** ¾ miles.

Stone Horse Rock.

This Rock, which is bare at very Low Tides, lies about ⅓ mile **SE.** from Frying Pan Island. There is a narrow passage of 4½ fathoms water between the Stone Horse Rock and Frying Pan Island. Strangers should not attempt to pass between them excepting in cases of emergency; at such times keep nearer the Rock.

Southwest Breaker.

This danger extends North and South about ¼ mile; near its Southern part is a rock having but 5 feet water upon it at Low Tide; Port Metway Lighthouse bears from the Southwest Breaker **N.NW.** 1¼ miles.

Rugged Rock.

This is a detached Rock, with but 7 feet water upon it at Low Tide, and lies off a Spit extending from the Western shore about 1¾ miles South from Port Metway Lighthouse; this last-named Lighthouse bears from this danger **N.NE.** about ¾ mile. Strangers should not attempt to pass between this Rock and the Western shore.

Middle Island Rock.

This danger, which has about 8 feet water upon it at Low Tide, lies on the Eastern side of the Channel about 1⅛ miles above the Lighthouse.

Middle Ledge.

This danger, which is bare at Half-Ebb, lies on the Eastern side of the Channel. The Northern part of the village bears from the centre of Middle Ledge **W.** by **N.** about 1½ miles.

Nautilus Rock.

This Rock, which lies on the Western side of the Channel, has about 8 feet water upon it at Low Tide. Between this danger and the Middle Ledge is the Channel which leads to Port Metway.

Remarks.

In entering Port Metway there is a good Channel about 1½ miles above the Lighthouse. There is then an irregular basin, having Shoal Water, with numerous Rocks and Ledges lying in it. The Nautilus Rock and Middle Ledge (both of which have been described), narrow the Channel to ¼ mile in width. About 15 feet water can be carried at Low Tide up to the Anchorage off the wharves. About 3¼ miles Northwest from Port Metway, is Mill Village; but little water, however, can be taken to this village.

Sailing Directions for Port Metway in Daytime, with favorable winds and fair weather.

Vessels of not more than 10 feet draught, from the Westward, may leave Coffin Island about a mile on the Port hand, and when the Lighthouse upon this Island bears **N.** by **W.**, make good the course **E.** by **N.**, leaving the Rocks and Ledges off Pudding Pan Island well on the Port hand. Continue the course **E.** by **N.** until Port Metway Lighthouse bears North, then at about ¼ Flood run for it on this course, leaving the Southwest Breaker well on the Starboard, and Rugged Rock on the Port hand. When about ½ mile from the Lighthouse, haul gradually to the Eastward, leaving it about ¼ mile on the Port hand, and when it bears West, make good the course North, keeping not more than ¼ mile from the Western side, and carrying not less than 16 feet water. When the Northern end of the wharves at the village bears **W.NW.**, then steer **NW.** by **N.** ¼ **N.**, passing about midway between the Middle Ledge and Nautilus Rock (the former of which is bare at ½ Tide), and carrying not less than 12 feet water across the flat ground. When the Northern end of the wharves at the village bears **W.** ½ **N.**, then run for them, car-

rying from 4 to 7 fathoms through the narrow Channel, and anchor a short distance to the Eastward of them, in from 5 to 7 fathoms water.

From the Eastward leave Cape Le Have (which is about 150 feet high) about 2 miles on the Starboard hand, and steer about **W.** by **S.** ½ **S.**, until Port Metway Lighthouse bears North, then run for it on this course, and follow the directions before given. Vessels of more than 10 feet draught may find good Anchorage off Neil's Point* in from 3½ to 4½ fathoms water at Low Tide, with winds from **SW.** to **E.SE.** by way of North. From the Eastward or Westward when Port Metway Lighthouse is made, bring it to bear North, and run for it on this course, leaving it about ¼ mile on the Port hand; when abreast this Lighthouse steer North, keeping about ¼ mile from the Western side, and anchor about a mile above the Lighthouse in from 3½ to 4½ fathoms water at Low Tide. This Anchorage is exposed to Southerly winds; it will therefore be necessary for vessels of more than 10 feet draught, if bound farther up, to take pilots.

Beating into Port Metway.

In beating into Port Metway, when past the Southwest Breaker (before described), bring the Lighthouse to bear from **NW.** ½ **N.** to North, and when past it, keep the Western side best aboard, and anchor ¼ above the Lighthouse, nearer the Western side, in from 6 to 7 fathoms water at Low Tide.

High Water.

It is High Water in Port Metway on the days of the Full and Change of the Moon, at 7 h. 50 m., or 3 h. 39 m. before it is at Boston. Mean rise and fall of Tides, 6½ feet.

GREEN BAY.

The entrance to this Bay, which is between Green Point on the East, and the mainland on the West, is about 2¼ miles wide,

* Neil's Point is on the West side of entrance to Port Metway, about a mile above the Lighthouse.

and lies East-Northerly 12½ miles from Coffin Island Lighthouse; East-Northerly about 6½ miles from Port Metway Lighthouse, and West-Northerly 3½ miles from Cape Le Have.

Indian Island.

This Island, which is about 2½ miles to the Westward of Cape Le Have, extends about **N.NE.** and **S.SW.** nearly ½ mile, and lies off the entrance to Green Bay. Shoal Water extends off some distance from all parts of this Island. Vessels should not therefore approach it nearer than ¼ mile.

Dangers in entering Green Bay.

Green Ledge.

This Ledge, which is nearly ¼ mile in extent, is bare at ¾ Ebb, and lies nearly midway the entrance to Green Bay. Green Point, the Eastern side of entrance to this Bay, bears from the centre of this Ledge **SE.** by **E.** 1½ miles.

Halfway Rock.

About **S.** by **E.** ½ mile from Green Ledge lies Halfway Rock, which is surrounded by Deep Water and has 15 feet upon it at Low Tide. Green Point bears from this danger **E.** by **S.** 1¼ miles.

Green Point Rock.

About ⅓ mile **NW.** ¾ **W.** from Green Point is Green Point Rock, which has 9 feet water upon it at Low Tide.

Remarks.

The above are the only dangers in entering Green Bay, excepting those lying near the shores on each side. About 6 fathoms water can be carried up 2 miles past Green Ledge; and from this 4 fathoms can be taken up near the head of the Bay, a short distance from the Petite River, which empties into this Bay. There is good anchorage at the Head of Green Bay with winds from **W.SW.** to **S.SE.** by way of North; but it is exposed to Southwesterly winds, which bring in a heavy sea. At such times, with the assistance of a local pilot, vessels may find good shelter upon the Eastern side of this Bay, among the Islands, in what is called

Crooked Channel Anchorage. About 4 fathoms water can be taken into this place at Low Tide. In entering, the Channel is very narrow, with a strong Current.

Sailing Directions for Green Bay in Daytime, with favorable winds and fair weather.

From the Westward, bound to Green Bay, leave Coffin Island about a mile on the Port hand, and when the Lighthouse upon this Island bears **N.** by **W.**, make good the course **E.** by **N.** about 8 miles. You will then see on the Port, Cape Le Have, which is an abrupt Cliff with a Reddish face, nearly 100 feet high. When this Cape is made, steer more Northerly, keeping a sharp lookout for Indian Island, which lies about 2½ miles to the Westward of Cape Le Have. When this Island is made, leave it about ¼ mile on the Starboard, and steer **N.NE.** until the Northern end bears **S.** ½ **E.** Then make good the course **N.** ½ **W.**, leaving Halfway Rock and Green Ledge (before described) well on the Port, and Green Point Rock (before described) on the Starboard hand. When Green Point, which is the first in entering on the Eastern side, bears **SE.**, then steer **N.NE.** up the Bay, and anchor when the water shoals to 4 fathoms, nearly midway.

From the Eastward, leave Cape Le Have about 2 miles on the Starboard hand, and run for Indian Island bearing about **W. NW.**, leaving it about ⅓ mile on the Port hand. When the Northern point of this Island bears **S.** ½ **E.**, make good the course **N.** ½ **W.**, and follow the directions before given.

Beating into Green Bay.

In beating into Green Bay, when past Green Point, keep the Eastern side best aboard until about a mile from the Head. Then keep midway.

High Water.

It is High Water in Green Bay, on the days of the Full and Change of the Moon, at 7 h. 50 m., or 3 h. 39 m. before it is at Boston. Mean rise and fall of Tides, 6½ feet.

LE HAVE RIVER.

The entrance to this River, which is between West Ironbound Island on the East, and Mosher Island on the West, is about 1¾ miles wide, and lies East-Northerly 78 miles from Cape Sable Lighthouse, East-Northerly 33 miles from Little Hope Island Lighthouse, East-Northerly 18½ miles from Coffin Island Lighthouse, and 33 miles to the Westward of Sambro Lighthouse.

West Ironbound Island Lighthouse.

Upon the Southern end of West Ironbound Island, Eastern side of entrance to Le Have River, near the edge of the Cliff, is a White, Square Wooden Building, which at this date (1884) shows a Revolving White Light. Cross Island Lighthouse bears from West Ironbound Island Lighthouse **NE.** by **E.** ½ **E.** 6⅞ miles; Sambro Lighthouse, East 31½ miles; Mosher Island Lighthouse, **NW.** ¾ **W.** 1⅞ miles; Black Rock, 5 feet above High Water, **SW.** ¾ **W.** 4 miles.

Mosher Island Lighthouse.

Upon the East end of Mosher Island, West side of entrance to Le Have River, is a White Square Building, which at this date (1884) shows a fixed Red Light. West Ironbound Island Lighthouse bears from Mosher Island Lighthouse, **SE.** ¾ **E.** 1⅞ miles; Black Rock, **SW.** by **S.** ¾ **S.** 3⅞ miles; Cape Le Have, **SW.** ½ **S.** 3⅝ miles; Fort Point Lighthouse, West side of entrance to Le Have River, **N.** ¾ **W.** 3½ miles.

Fort Point Lighthouse.

Upon Fort Point, West side of Le Have River, is a White Square Wooden Building, which at this date (1884) shows a fixed Red Light. Mosher Island Lighthouse bears from Fort Point Lighthouse, **S.** ¾ **E.** 3½ miles.

Dangers in Approaching and Entering Le Have River.

Bantam Shoal.

This small Shoal, which has about 2 feet water upon it at Low Tide, lies between Cape Le Have and Indian Island. Cape

Le Have, which is an abrupt Cliff, nearly 100 feet high, bears from this danger about **E** by **S**. 1½ miles. Vessels passing between Cape Le Have and Indian Island should keep nearer the latter.

Black Rock.

This small Rock, which is surrounded with Shoal Water, is 5 feet above High Water. Cape Le Have bears from this danger **NW**. about a mile; West Ironbound Island Lighthouse, **NE**. ¾ **E**. 4 miles; Mosher Island Lighthouse, **NE**. by **N**. ¾ **N**. 3⅞ miles.

Cape Le Have Rock.

This Rock has about 19 feet water upon it at Low Tide. Cape Le Have bears from this danger **N**. ¾ **E**. ¼ mile; Black Rock **SE**. by **E**. ¼ **E**. about ⅞ mile. Between Cape Le Have Rock and Black Rock there is a channel ⅞ mile wide, having from 8 to 10 fathoms water. Heavy draught vessels passing between Cape Le Have and Black Rock, should therefore keep nearer the latter.

Ironbound Island Breaker.

This Ledge has but little water upon it at Low Tide. West Ironbound Island Lighthouse bears from this danger **E**. ¾ **S**. nearly ½ mile. Vessels should not attempt to pass between this Ledge and the Lighthouse.

Shag Rock.

This Rock, which lies off the Northeast part of West Ironbound Island, has Shoal Water close to it. West Ironbound Island Lighthouse bears from this danger **SW**. by **S**. ⅝ mile. Between Shag Rock and West Ironbound Island, there is a narrow Channel having 5 fathoms water in it. Strangers should not attempt to pass through it, excepting in cases of emergency; then keep nearer the Rock. Between the Northern end of West Ironbound Island and Gaff Point, there is a Channel of about 4 fathoms water at Low Tide. Vessels passing through should keep nearer West Ironbound Island.

Cockawee Shoal.

This Shoal, which extends about **E**. by **S**. and **W**. by **N**. about ½ mile, lies nearly in the middle of the river, and has but

4 feet water upon it at Low Tide. Fort Point Lighthouse bears from the centre of this danger **N.NE.** 1½ miles. The Channel leading up this river is on both sides of this Shoal. Strangers, however, should go to the Eastward of it.

Bull Rock.

This small Rock, which is surrounded with Shoal Water, is always visible, and lies on the Western side of the Channel about ¾ mile Southwesterly from Fort Point Lighthouse. Vessels bound up should leave this danger about ¼ mile on the Port hand.

Remarks.

About 24 feet water at Low Tide can be taken to the Anchorage above Spectacle Island, and from this about 14 feet water can be carried to the Eastward of Cockawee Shoal across the Bar. Le Have River is navigable for light draught vessels as far as Bridgewater, a settlement on the Left bank of the River, nearly 15 miles from West Ironbound Island Lighthouse.

Sailing Directions for Le Have River in the Daytime, with favorable winds and fair weather.

From the Westward, leave Coffin Island Lighthouse about a mile on the Port hand, and make good the course **E.** by **N.** When Cape Le Have (which is an abrupt Cliff, with a Reddish face, nearly 100 feet high) is made, steer more Northerly, leaving Black Rock (before described) about ½ mile on the Port hand. When this Rock bears **NW.**, then steer about **N.NE.**, with Mosher Island Lighthouse, which is on the West side of entrance to the river, on the Port hand. Leave the last-named Lighthouse about ¼ mile on the Port hand, and when it bears **W.SW.**, haul up about **N.NW.** As you sail in, you will see, on the Port hand, Spectacle Island.* Leave the Eastern part of this Island about ¼ mile on the Port, and gradually haul to the Westward, carrying not less than 4 fathoms water at Low Tide, and anchor with the Western end of Spectacle Island bearing **S.** ½ **E.** ¼ mile

* Spectacle Island, some parts of which are 108 feet high, appears like two Islands, and lies about a mile Northwesterly from Mosher Island Lighthouse.

distant, in about 4 fathoms water at Low Tide. Vessels of not more than 18 feet draught may go farther up, and anchor with the Western end of the last-named Island bearing **SE.** by **S.**, in 3½ fathoms water.

From the Eastward, when West Ironbound Island Lighthouse is made, bring it to bear from **W.** by **S.** to **NW.**, and run for it without fear. In order to avoid Ironbound Breaker (before described), leave this Lighthouse about ¾ mile to the Eastward, and run in about **N.NW.**, leaving Mosher Island Lighthouse about ¼ mile on the Port hand, and follow the directions before given.

Anchorage between Spectacle and Mosher Islands.

There is good anchorage to the Southwestward of Spectacle Island in about 4 fathoms water in all winds. The only danger in entering is French Rock,* which lies nearly midway between Mosher and Spectacle Islands, and has about 7 feet water upon it at Low Tide.

Sailing Directions in Daytime.

From the Eastward or Westward, follow the directions before given until Mosher Island Lighthouse bears West, then make good the course **NW.** ⅞ mile. Then, in about 3½ fathoms water at Low Tide, with the Eastern end of Spectacle Island bearing **N.** by **E** ½ **E.**, steer **W.** ½ **N.**, carrying about 15 feet water across the Bar at Low Tide, and anchor in about 4 fathoms water, with the Eastern end of Spectacle Island bearing **E.** by **N.** ⅝ mile. It is not prudent to go farther up, on account of Mosher Ledge, which has but 3 feet water upon it at Low Tide. The Western end of Spectacle Island bears from this danger **N.** ½ **E.** ½ mile.

If bound farther up the River, follow the directions before given, leaving Mosher Island Lighthouse about ¼ mile on the Port hand, and make good the course **N.NW.**, leaving Spectacle Island well on the Port hand. When the Lighthouse at Fort

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* Mosher Island Lighthouse bears from French Rock, which has 7 feet water upon it at Low Tide, SE. ⅞ mile.

Point is made, bring it to bear about **N.**, and run for it, leaving Bull Rock (before described) on the Port hand, and carrying about 14 feet water at Low Tide, across the Bar. When about ½ mile from Fort Point Lighthouse, haul gradually to the Eastward, keeping in mid-channel, and carrying deep water. When about ¼ mile past this Lighthouse, which is left on the Port hand, haul gradually to the Westward, and anchor about a mile above the Lighthouse, in from 5 to 8 fathoms water at Low Tide. If bound to Bridgewater, it is advisable to take a pilot at this Anchorage.

Beating into Le Have River.

In beating into Le Have River, when past Black Rock (before described), bring Mosher Island Lighthouse to bear from **N.NE.** to **N.NW.** When past this Lighthouse, keep the Eastern shore best aboard until above Spectacle Island. Then anchor as before directed.

Sailing Directions for Le Have River at Night-time, with favorable winds and fair weather.

From the Westward, as soon as West Ironbound Island Light is made, bring it to bear **NE.** by **N.**, and run for it on this course until Mosher Island Light bears **N.** Then steer for it on this bearing, leaving it not more than ¼ mile on the Port hand. When this Light bears **W.**, haul up **N.NW.**, and run about 1¼ miles. You are then past Spectacle Island, and may steer more Westerly, carrying not less than 4 fathoms water at Low Tide, and anchor when Mosher Island Light is shut in behind Spectacle Island, in about 4 fathoms water. With Easterly winds, when abreast Mosher Island Lighthouse, haul up about **N.NE.**, and when the water shoals to 5 fathoms at Low Tide, then anchor on the Eastern side of the entrance. This Anchorage is open to Southerly winds.

High Water.

It is High Water at the entrance of Le Have River, on the days of the Full and Change of the Moon, at 7 h. 51 m., or 3 h. 38 m. before it is at Boston. Mean rise and fall Tides, 6¾ feet.

LUNENBURG HARBOR.

The entrance to this Harbor, which lies at the Head of Lunenburg Bay, is between Battery Point on the South, and Moreau Point on the North, and is about ⅝ mile wide, and lies about 7½ miles Northwesterly from Cross Island Lighthouse.

Cross Island Lighthouse.

Upon the Eastern end of Cross Island, East side of entrance to Lunenburg Bay, is a Red Tower with Octagonal base, which at this date (1884) shows two Lights, one above the other. The upper Light is flashing White, the lower fixed White. At this time a Horn is placed near this Lighthouse, which in thick weather sounds 10 seconds in every 1½ minutes. West Ironbound Lighthouse bears from Cross Island Lighthouse **SW.** by **W.** ½ **W.**, 6⅞ miles; Green Island Lighthouse, **E.** by **N.** ¾ **N.**, 6¾ miles; Sambro Lighthouse, **E.** ¾ **S.** 26 miles; centre of Big Duck Island, **NE.** 2⅛ miles.

Battery Point Lighthouse.

Upon Battery Point, South side of entrance to Lunenburg Harbor, is a White Square Tower on dwelling, which at this date (1884) shows a fixed White Light.

Dangers in approaching Lunenburg Harbor.

Sculpin Shoal.

This Shoal, which lies nearly in the middle of Lunenburg Bay, consists of several Rocky Patches which extend **E.** by **N.** ½ **N.** and **W.** by **S.** ½ **S.** about ½ mile, and there is but three feet water upon the Western patch. This danger breaks in heavy sea. Battery Point Lighthouse bears from this danger **NW.** by **N.** 2⅜ miles.

Outer Middle Rock.

In Lunenburg Bay about a mile **NW.** by **W.** ½ **W.** from Sculpin Shoal, is Outer Middle Rock, which has 15 feet water upon it at Low Tide. Battery Point Lighthouse bears from this danger **N.** by **W.** ½ **W.** 1⅝ miles.

Inner Middle Rock.

In Lunenburg Bay, about **NW.** by **N.** ½ **N.** ¾ mile from Outer Middle Rock, is Inner Middle Rock, which has 13 feet water upon it at Low Tide. Battery Point Lighthouse bears from this danger **N.** by **W.** about a mile.

Shingles.

Upon the Western side of the Channel leading to Lunenburg Harbor, is a Rocky Shoal called the Shingles, which extends **N. NW.** and **S.SE.** about ⅝ mile. Some parts of this danger is bare at ½ Ebb. Battery Point Lighthouse bears from the Northern part of this Shoal **NE.** about ¾ mile. Between the Shingles and Mosher's Head, which is on the Western side, there is a narrow Channel of 3 fathoms water at Low Tide. Strangers should not, however, attempt to pass through this Channel.

Long Shoal.

This danger, which has about 4 feet water upon it at Low Tide, lies near the entrance to Lunenburg Harbor, and extends about **N.NW.** and **S.SE.** ⅜ mile. Battery Point Lighthouse bears from the centre of this danger **N.NE.** about ½ mile. Channels lead up to Lunenburg on both sides of Long Shoal. The one between this danger and the Lighthouse is narrow, and has about 18 feet water in it at Low Tide; while the one between this danger and the Shingles is wider, and has about 4 fathoms water in it.

Moreau Point Rock.

This Rock, which is on the Western side of the Channel, has about 3 feet water upon it at Low Tide, and lies about 400 yards from Moreau Point, which is on the Western side of entrance to Lunenburg Harbor. Battery Point Lighthouse bears from this danger **SE.** about ½ mile. Upon the Western side of the Channel about **W.** by **N.** ¾ mile from Battery Point Lighthouse, is a Rock, which has but little water upon it at Low Tide. There is no Channel for vessels between this danger and the Western shore.

Remarks.

The principal dangers in Lunenburg Bay have been described; but there are other dangers lying near the shore on both sides.

In order to avoid these, vessels should give the shores a berth of ½ mile. About 15 feet water at Low Tide can be taken in about ½ mile past the Lighthouse on Battery Point, and from this, about 9 feet water can be carried within a short distance of the wharves.

Sailing Directions for Lunenburg Harbor in Daytime, with favorable winds and fair weather.

Vessels of not more than 12 feet draught, from the Westward, bound to Lunenburg Harbor, may leave West Ironbound Island about a mile on the Port hand, and when the Lighthouse bears **W.NW.**, make good the course **NE.** ½ **E.** about 4 miles. Luenburg Bay will then be fairly open, bearing about North. Then run in about midway between Cross Island and Rose Point, keeping a sharp lookout for Battery Point Lighthouse. When this last-named Lighthouse is made, bring it to bear **NW.** by **N.** ¾ **N.**, and run for it on this course, leaving the Rocks off Ovens Point well on the Port, and Sculpin Shoal well on the Starboard hand. Continue this course **NW.** by **N.** ¾ **N.** for the Lighthouse, until about ⅓ mile from it. Then gradually haul to the Westward, passing to the Northeastward of Long Shoal. Haul round the Lighthouse at a distance of 400 yards, and run up, keeping the Starboard side best aboard, and anchor about ½ mile above the Lighthouse in about 15 feet water at Low Tide. From this Anchorage the Lighthouse bears **S.** by **E.** ½ **E.** Small or light draught vessels may go farther up, and anchor off the wharves in about 9 feet at Low Tide.

From the Eastward, when Cross Island Lighthouse is made, bring it to bear from **W.** to **W.NW.**, and run for it on this course. Haul round this Lighthouse, leaving it about ½ mile on the Starboard hand. When Lunenburg Bay is well open, then run in midway, and in order to avoid Sculpin Shoal (before described) bring Battery Point Lighthouse, as soon as it is made, to bear **NW.** by **N.** ¾ **N.**, and run for it on this course, and follow the directions before given.

With Northerly or Northeasterly winds, vessels from the Eastward may pass inside Cross Island by the following directions. When Cross Island Lighthouse is made, bring it to bear **W.** by **S.**, and run for it on this course. When about 4 miles from this Lighthouse, you will see on the Starboard, Big Duck Island,

which lies about 2 miles **NE.** from Cross Island Lighthouse, and is bold on its Southern part. When this Island is made, leave it about ¼ mile on the Starboard hand, and when past it, haul up **NW.** until its centre bears **E.** ½ **S.** Then make good the course **W.** ½ **N.**, leaving Hound's Ledge (which lies off the Northern part of Cross Island, and is bare at ⅔ Ebb) well on the Port, and East Point Rock, which has 7 feet water upon it at Low Tide, well on the Starboard hand. Continue the course **W.** ½ **N.** until Battery Point Lighthouse bears **NW.** ¼ **W.** Then run for it on this course, leaving Sculpin Shoal well on the Port hand. When about 2 miles from Battery Point Lighthouse, haul to the Westward until it bears **NW.** by **N.** ¾ **N.** Then follow the directions before given. It is not advisable for strangers to attempt to beat into Lunenburg Harbor, but with Northwesterly or unfavorable winds, they may anchor in Rose Bay.

High Water.

It is High Water in Lunenburg Harbor on the days of the Full and Change of the Moon, at 7 h. 54 m., or 3 h. 35 m. before it is at Boston. Mean rise and fall of Tides, 6¾ feet.

ROSE BAY.

The entrance to this Bay, which is between Ovens Point on the North and Rose Point on the South, is about 1¾ miles wide, and lies on the Western side of the entrance to Lunenburg Bay, or about **W.** by **N.** ¾ **N.** 2¾ miles from the South end of Cross Island.

Dangers in entering Rose Bay.

About ¼ mile to the Northward of Rose Point are several Rocks, one of which is bare at Low Tide. Shoal Water extends off a long distance from the Head of this Bay. Rocks also extend off to the Southward and Eastward of Ovens Point, some of which are bare at Low Tide. Vessels in entering or leaving this Bay should therefore keep about midway of it.

Remarks.

The depth of water in this Bay is sufficient to admit the heaviest draught vessels, and there is good Anchorage in it with winds from South to North by way of West, but it is exposed to Easterly winds.

Sailing Directions for Rose Bay in Daytime, with favorable winds and fair weather.

From the Eastward or Westward, follow the directions before given for Lunenburg Harbor, until Rose Bay is fairly open; then boldly run in midway, and anchor with the Northern point of entrance bearing **E.NE.**, in about 8 fathoms water.

MAHONE BAY.

The entrance to this Bay, which is between New Harbor Point on the East and Lunenburg Promontory on the West, is about 8 miles wide, and lies East-Northerly about 90 miles from Cape Sable Lighthouse, and West-Northerly about 23 miles from Sambro Lighthouse.

Remarks.

In Mahone Bay there are numerous Islands. The largest, which lie on the Eastern side near to the entrance, are Great and Little Tancook Islands. The Eastern part of this Bay is steep-to and comparatively free from dangers. But on the Western side the Islets, Rocks and Shoals are almost innumerable, rendering an intelligible description nearly impossible. There are several Harbors in it, and also several good places of anchorage. In approaching Mahone Bay from Seaward, it may be known by the Highlands of Aspatageon, whose appearance in three regular swellings, is very remarkable, from a distance, sometimes, of more than 20 miles.

Green Island Lighthouse.

Upon the South Point of Green Island, off the entrance to Mahone and St. Margaret Bays, is a White, Square Building, with

dwelling attached, which at this date (1884) shows a Red and White Revolving Light. South Rock, with 15 feet water upon it, lies about 225 yards to the Southward of this Lighthouse.

Bearings and Distances from Green Island Lighthouse.

		Distance.
Cross Island Lighthouse,	**W.** by **S.** ¾ **S.**	6¾ miles.
Hobson's Nose Lighthouse,	**NW.** by **W.**	8¼ "
East Ironbound Island Lighthouse,	**N.** ¼ **W.**	3⅝ "
Peggy's Point Lighthouse,	**NE.** by **E.** ¼ **E.**	8¾ "
Betty Island Lighthouse,	**E.** ½ **S.**	12⅝ "
Sambro Lighthouse,	**E.** by **S.** ¾ **S.**	20 "

Dangers in approaching Mahone Bay.

Middle Ledge.

This is a Rocky Shoal extending **E.** by **S.** and **W.** by **N.** about ½ mile, with but 3 feet water upon it in some places at Low Tide. Green Island Lighthouse bears from the centre of this danger **E.** by **S.** ½ **S.** 3⅓ miles; East Point of Big Duck Island **SW.** ½ **S.** 2 miles; West Ironbound Island Lighthouse **NE.** about 4 miles; Cross Island Lighthouse on with the East end of Big Duck Island, bearing **SW.** ½ **W.**, clears this Ledge on its Eastern side, and this Lighthouse on with the West end of the last-mentioned Island bearing **SW.** ½ **S.**, clears this danger on its Western side.

Northeast Shoal.

This danger, which lies Northeasterly from Green Island, is about ¼ mile in extent, and has about 3 feet water upon it at Low Tide. Green Island Lighthouse bears from this danger **SW.** by **S.** 1⅞ miles; West Ironbound Island Lighthouse **NW.** by **N.** 2½ miles.

East Ironbound Island.

This Island, which lies on the Eastern side of entrance of Mahone Bay, extends **E.** by **S.** and **W.** by **N.** about a mile, and is elevated about 60 feet above the level of the sea. It may be approached upon all sides within ⅓ mile without danger.

East Ironbound Island Lighthouse.

A little to the Eastward of the centre of this Island, is a White, Oblong Tower on Dwelling, which at this date (1884) shows a fixed White Light. In approaching this light at night, it may be seen from all points of the compass, but in the daytime the lantern at this time is only visible, the other parts of the building being hidden by trees. Hobson's Nose Lighthouse bears from East Ironbound Island Lighthouse **W.** ½ **N.** 6½ miles; Peggy's Point Lighthouse **E.** ½ **N.** 7⅝ miles.

Flat Island.

About 2 miles to the Westward of East Ironbound Island Lighthouse, is Flat Island, which is about ⅔ mile in extent. Upon its Northern part is a narrow eminence 40 feet high, whilst the remainder is very low. This Island may be approached on all sides within ¼ mile without danger. About ½ mile from the Southern part of Flat Island, is a small Shoal with about 16 feet water upon it at Low Tide. Between East Ironbound Island and Flat Island there is a Channel about 1¼ miles wide, having from 7 to 10 fathoms water in it.

Bull Rock.

This Rocky Shoal, which extends East and West about ¼ mile, is bare at ½ tide, and lies upon the Eastern side of the main Ship Channel which leads into Mahone Bay. The Western part of Flat Island bears from this danger **E.** ½ **N.** about a mile. Hobson's Nose Lighthouse **W.NW.** 3⅓ miles.

HECKMAN'S ANCHORAGE.

This Anchorage, which is on the Western side of entrance to Mahone Bay, lies Northwesterly 6¼ miles from Cross Island Lighthouse, 7½ miles to the Westward of East Ironbound Lighthouse, and Southwesterly about 1¼ miles from Hobson's Nose Lighthouse.

Hobson's Nose Lighthouse.

Upon Hobson's Nose, Western side of entrance to Mahone Bay, is a White, Square Wooden Building, which at this date (1884)

shows a fixed Red Light. Green Island Lighthouse bears from Hobson's Nose Lighthouse **SE.** by **E.** 8¼ miles; East Ironbound Island Lighthouse **E.** ½ **S.** 6½ miles; Westhaven Island Lighthouse **NW.** by **W.** 4¾ miles.

Remarks.

About 5 fathoms water at Low Tide can be carried into Heckman's Anchorage, which is well sheltered from all winds. But there are several dangers lying between this Anchorage and the Lighthouse, with no leading marks or bearings to clear them. Strangers should not, therefore, attempt to enter this place without pilots.

PRINCES INLET.

The entrance to this Inlet, which is on the Western side of Mahone Bay between Little Harmon's Island and the mainland, is about ¼ mile wide, and lies West-Northerly about 4 miles from Hobson's Nose Lighthouse.

Remarks.

The Anchorage in Princes Inlet, though small in extent, is safe from all winds. About 6 fathoms water at Low Tide can be taken into this place.

Sailing Directions for Princes Inlet in Daytime, with favorable winds and fair weather.

From the Westward, bound to Princes Inlet, leave Cross Island Lighthouse about a mile on the Port hand, and steer about **N.**, leaving Big Duck Island (which lies **NE.** about 2 miles from Cross Island) about ½ mile on the Starboard hand. When past this Island, haul to the Eastward until its highest part bears **S.** ½ **E.** Then make good the course **N.** ½ **W.**, passing about midway between Middle Ledge (before described) and Little Duck Island. Continue the course **N.** ½ **W.**, leaving Bull Rock (before described) well on the Starboard hand, until Hobson's Nose Lighthouse bears **W.** by **N.** Then haul to the Westward, leaving the last-named Lighthouse about ⅓ mile on the Port hand until it

bears **S.** Then make good the course **W.** ¾ **N.** As you sail in, you will see on the Starboard, Bockman's Island, which has the appearance of two Islands, and farther in Little Harmon's Island. Pass about midway between the former and the mainland until about abreast the latter; then, in order to avoid a Spit which extends off from the Eastern side, keep the Western side best aboard, and anchor in about 6 fathoms water at Low Tide.

From the Eastward, when East Ironbound Island Lighthouse is made, bring it to bear **NW.** by **W.**, and run for it on this course, leaving Northeast Shoal (before described) well on the Port hand. When about 2 miles from this Lighthouse, haul gradually to the Northward, leaving it about ¾ mile on the Port hand, until it bears **S.**; then haul up about **W.** for Hobson's Nose Lighthouse, leaving the Southern part of Great Tancook Island about ½ mile on the Starboard hand. When about a mile from the last-named Lighthouse, haul gradually to the Northward, leaving it about ⅓ mile on the Port hand, until it bears **S.** Then follow the directions before given.

High Water.

It is High Water in Princes Inlet, on the days of the Full and Change of the Moon, at 7 h. 45 m., or 3 h. 44 m. before it is at Boston. Mean rise and fall of Tides, 6¾ feet.

MAHONE HARBOR.

This Harbor, which is on the Western side of Mahone Bay, lies West-Northerly about 11½ miles from East Ironbound Island Lighthouse, and Northwesterly a little more than 5 miles from Hobson's Nose Lighthouse.

Westhaven Island Lighthouse.

Upon Westhaven Island is a Lighthouse which at this date (1884) showed a fixed Light. Hobson's Nose Lighthouse bears from Westhaven Island Lighthouse **SE.** by **E.** 4¾ miles.

Remarks.

Mahone Harbor is well sheltered from all winds, but it is somewhat difficult of access on account of the many Islands, Rocks and

Ledges which lie on the Western side of Mahone Bay. About 6 fathoms water can be carried to the Anchorage at Low Tide.

Sailing Directions for Mahone Harbor in Daytime, with favorable winds and fair weather.

Vessels from the Eastward or Westward bound to Mahone Harbor, may follow the directions before given for Princes Inlet, until Hobson's Nose Lighthouse bears **SE.** by **E.** Then make good the course **NW.** ½ **W.**, leaving Southwest and Gull Ledges well on the Starboard, and Bockman's Shoal and Covey's Ledge (which is bare at ½ Tide) well on the Port hand. Continue the course **NW.** ½ **W.** until Westhaven Island Lighthouse bears **NW.** by **W.** ½ **W.** Then run for it on this bearing until about a mile from it. Then haul to the Westward, passing not less than ⅓ mile to the Southward of the Lighthouse, and follow the Western shore, keeping about 250 yards from it, carrying 6 fathoms water through the narrow Channel, and leaving the Lighthouse on the Starboard hand, and anchor above Ham Island (which is the first to the Northward of the Lighthouse), in about 6 fathoms water. The Lighthouse bears from this Anchorage **SE.** by **S.** ½ **S.**, distant ½ mile. Farther up the water is shallow, with several dangers lying in the Channel-way.

High Water.

It is High Water in Mahone Harbor, on the days of the Full and Change of the Moon, at 7 h. 47 m., or 3. h. 42 m. before it is at Boston. Mean rise and fall of Tides, 6¾ feet.

MARTIN'S RIVER ANCHORAGE.

This safe and commodious Anchorage, which is on the Western side of Mahone Bay, is between Birch Island on the East, Earnest Island on the South, and Indian Point (the main land) on the West, and lies Northwesterly about 5 miles from Hobson's Nose Lighthouse, and East-Northerly about 2½ miles from Mahone Harbor.

Remarks.

About 7 fathoms water, at Low Tide, can be taken into Martin's River Anchorage, but the approaches are narrow and lead up among Islands, Rocks, Ledges and Shoals, without any leading marks or bearings to clear them. Strangers should not, therefore, under any circumstances, attempt to enter this Anchorage without pilots.

CHESTER HARBOR.

This Harbor, which is on the Northern part of Mahone Bay, is commodious and safe, and is between Zinc Head on the East, Norse Island on the South, and Peninsula Point on the West, and lies Northwesterly about 9 miles from East Ironbound Island Lighthouse, Northeasterly 7 miles from Hobson's Nose Lighthouse, and East-Northerly about 7½ miles from Westhaven Island Lighthouse.

Chester Lighthouse.

Upon Quaker Island, about 1½ miles to the Southward of the town of Chester, is a Square Tower, painted White, which at this date (1884) shows a fixed Red Light.

Dangers in approaching Chester Harbor.

Lynch Shoal.

This danger, which extends about **N.NW.** and **S.SE.** ⅙ mile, has 9 feet water upon it at Low Tide. Chester Lighthouse bears from it **NW.** $\frac{6}{10}$ mile.

Middle Shoal.

This small Spot has about 17 feet water upon it at Low Tide. Chester Lighthouse bears from it **NW.** by **N.** ½ **N.** $1\frac{4}{10}$ miles.

Birch Shoal.

This small Shoal has 14 feet water upon it at Low Tide. Chester Island Lighthouse bears from it **E.NE.** 1¼ miles.

Remarks.

Upon the Northern side of this Harbor is the town, the streets of which run at right angles to each other. The population numbers several thousands, the majority of whom are engaged in the fisheries and lumber trade, and a good business was formerly done in manufacturing fish barrels for out ports. There are three passages leading into this Harbor; the two from the Southward being more direct than the one to the Eastward, which is narrow and somewhat intricate. About 4 fathoms water at Low Tide can be taken in to the Westward of Quaker Island Lighthouse, and 6 fathoms by the Passage to the Eastward of this Lighthouse.

Chester Rock.

This small Rocky Patch, which has about 10 feet water upon it at Low Tide, is surrounded by deep water, and lies in the middle of the Harbor, about 400 yards to the Southward of the wharves.

Sailing Directions for Chester Harbor in Daytime, with favorable winds and fair weather.

From the Westward, bound to Chester Harbor, leave Cross Island Lighthouse about a mile on the Port hand and steer about North, leaving Big Duck Island (which lies **NE.** about 2 miles from Cross Island) about ½ mile on the Starboard hand. When past this Island haul to the Eastward until its highest part bears **S. ¼ E.** Then make good the course **N. ¼ W.**, leaving Bull Rock well on the Starboard hand. As you sail in you will see on the Starboard, Great Tancook Island, and on the Port will be seen Refuse Island. In order to avoid the Shoals which extend from these Islands, keep midway between them and steer North, keeping a sharp lookout for the Lighthouse on Quaker Island. When this Lighthouse is made, bring it to bear North and run for it on this course, leaving Middle Shoal and Lynch Shoal well on the Starboard hand and Birch Shoal on the Port hand. Continue the course North for the Lighthouse until about ¼ mile from it. Then haul to the Westward, leaving the Western end of Quaker Island (on which the Lighthouse stands) about 350 yards on the Starboard hand, and run in about **NE. ½ N.**, keeping midway between the Islands, and anchor outside Chester Rock in from 7 to 9 fathoms water at Low Tide.

From the Eastward, when East Ironbound Island Lighthouse is

made, bring it to bear **NW.** by **W.** and run for it on this course, leaving Northeast Shoal (before described) well on the Port hand. When about 2 miles from this Lighthouse haul gradually to the Northward, leaving it about ¾ mile on the Port hand until it bears South. Then haul up about West, leaving the Southern part of Great Tancook Island ½ mile on the Starboard hand. When the passage between this last-named Island and Refuse Island is fairly open, then run in midway and follow the directions before given.

High Water.

It is High Water in Chester Harbor on the days of the Full and Change of the Moon at 7 h. 44 m., or 3 h. 45 m. before it is at Boston. Mean rise and fall of Tides, 6½ feet.

EAST RIVER BAY.

The entrance to this Bay, which is at the extreme Northeastern part of Mahone Bay, is about ½ mile wide, and lies about 9 miles to the Northward of East Ironbound Island Lighthouse, 10 miles from Hobson's Nose Lighthouse, and 3½ miles East-Northerly from the town of Chester.

Remarks.

In entering this Bay, there are no dangers excepting those lying near the shores. About 6 fathoms water at Low Tide can be taken up to the Anchorage, but it is somewhat exposed to Southwesterly winds.

Sailing Directions for East River Bay in Daytime, with favorable winds and fair weather.

Vessels from the Eastward or Westward bound to East River Bay, may follow the directions before given for Chester Harbor, until past Refuse Island. Then bring its Eastern end (which is 50 feet high), to bear **SW.** ½ **W.**, and make good the course **NE.** ½ **E.**, leaving Coachman Ledge, which is bare at ⅓ Ebb, well on the Starboard, and the Middle Shoal, which has not less than 18 feet upon it, on the Port hand. As you sail in, you will see on the Port, a number of Islands, the Northeastern-

most of which is called Snake Island, which is bold on its Eastern side. Leave this Island about ¼ mile on the Port hand, and steer about North for the high Bluff on the Western side of the Bay. When East River Bay is fairly open, bearing about **NE.** by **N.** ½ **N.**, then run in about midway and anchor in muddy bottom when the water shoals to 6 fathoms at Low Tide.

High Water.

It is High Water in East River Bay on the days of the Full and Change of the Moon, at 7 h. 47 m., or 3 h. 42 m. before it is at Boston. Mean rise and fall of Tides, 6¾ feet.

DEEP COVE.

The entrance to this narrow Cove, which is upon the Eastern side of Mahone Bay, lies a short distance from the Highlands of Aspatageon.

Remarks.

Upon the Western side of the entrance to this Cove, lies a Ledge of Rocks which are just covered at High Water. These are the only dangers in approaching and entering it. About 24 feet water at Low Tide can be taken in through a very narrow Channel, about ¼ mile above the entrance, and from this, 12 feet can be carried to the head of this Cove. The average width of this Cove is about 200 yards, and the Channel at the entrance not more than 80 yards. Strangers should not, therefore, attempt to beat in, but may enter with winds from **W.SW.** to **E. NE.** by way of North.

Sailing Directions for Deep Cove in Daytime, with favorable winds and fair weather.

Vessels from the Eastward or Westward bound to Deep Cove may follow the directions before given for Chester Harbor until past Refuse Island. Then bring its Eastern part (which is 50 feet high) to bear **SW.** ½ **W.**, and make good the course **NE.** ½ **E.**, leaving Coachman Ledge, which is bare at ⅓ Ebb, well on the Starboard, and the Middle Shoal, which has not less

than 18 feet water upon it, on the Port hand. As you sail in there will be seen on the Port hand a number of Islands, the Northeasternmost of which is called Snake Island, and is bold-to on its Eastern side. When abreast of this Island, which may be left about ½ mile on the Port hand, bring the highest part to bear **W.** by **N.** ½ **N.**, and make good the course **E.** by **S.** ½ **S.** for the Eastern side of the Bay, which is bold and free from danger. When about ½ mile from it the entrance to Deep Cove will then be fairly open, bearing about **SE.** by **S.** ½ **S.**, distant about ½ mile. It is then advisable to shorten sail, go aloft, and look out for the Rocks which lie on the Western side of the entrance, and are just covered at High Water. When these are made, run the Eastern side of the entrance aboard, within a stone's throw, leaving the Rocks on the Starboard hand, and pass through the narrow Channel, and anchor in the Cove in from 2 to 4 fathoms water at Low Tide.

High Water.

It is High Water at the entrance of Deep Cove on the days of the Full and Change of the Moon at 7 h. 44 m., or 3 h. 45 m. before it is at Boston. Mean rise and fall of Tides, 6¾ feet.

SOUTHEAST COVE.

The entrance to this Cove, which is on the Eastern side of Great Tancook Island, lies between South Head on the South and Reef Point on the North, is about ¾ mile wide, and lies West-Northerly about 3 miles from East Ironbound Island Lighthouse and Northeasterly about 8 miles from Cross Island Lighthouse.

Grassy Island.

Off the entrance to Southeast Cove lies Grassy Island, which is small, and is elevated about 10 feet above High Water. This Island is bold on its Southern part, but Shoal Water extends off about ⅕ mile from its Western, Northern and Eastern parts.

Remarks.

There are two passages leading into Southeast Cove; by the Southern Passage, which is to the Southward of Grassy Island,

about 8 fathoms water can be carried in, but only 4 fathoms can be carried in to the Northward of this Island. There is good Anchorage in this Cove, in winds from **W.** to **N.NE.** by way of **N.**, but it is exposed to Easterly winds.

Sailing Directions for Southeast Cove in Daytime, with favorable winds and fair weather.

From the Westward, leave Cross Island Lighthouse about a mile on the Port hand, and steer about **N.**, leaving Big Duck Island (which lies **NE.** about 2 miles from Cross Island) about ½ mile on the Starboard hand. When past this Island, haul to the Eastward until its highest part bears **S.** ¼ **E.** Then make good the course **N.** ¼ **W.**, leaving Bull Rock well on the Starboard hand. When Hobson's Nose Lighthouse bears **W.** by **N.**, then steer about **E.** by **N.**, with the Southern part of Great Tancook Island on the Port, and leaving Flat Island well on the Starboard hand. When the Passage leading into Southeast Cove is fairly open, bearing about **N.**, then run in midway, leaving Grassy Island (which is small) on the Starboard hand, and anchor with this Island bearing about **SE.** ½ **E.**, in from 5 to 8 fathoms water at Low Tide.

From the Eastward, when East Ironbound Island Lighthouse is made, bring it to bear about **W.NW.**, and run for it on this course, leaving Northeast Shoal well on the Port hand. When about 2 miles from this Lighthouse, haul gradually to the Northward, leaving it about ¾ mile on the Port hand, and steer about **W.**, with the Southern part of Great Tancook Island on the Starboard bow; when the Passage leading into Southeast Cove is fairly open, then run in, and anchor as before directed.

With Northerly winds, vessels of not more than 20 feet draught may enter Southeast Cove to the Northward of Grassy Island. At such times, keep midway the Passage.

Beating into Southeast Cove.

In beating into this Cove by either Channel, keep in the middle of the Passages.

High Water.

It is High Water in Southeast Cove, on the days of the Full and Change of the Moon, at 7 h. 45 m., or 3 h. 44 m. before it is at Boston. Mean rise and fall of Tides, 6¾ feet.

ASPATAGEON HARBOR.

The entrance to this Harbor, which is Southeasterly about 2 miles from the high land of Aspatageon, lies Northeasterly about 4½ miles from East Ironbound Island Lighthouse and West-Northerly about 5 miles from Peggy's Point Lighthouse.

Dangers in approaching and entering Aspatageon Harbor.

Seal Ledge.

This Ledge, which consists of broken ridges of Rocks, is about ¼ mile in extent, is covered at about ½ Flood, and generally breaks. East Ironbound Island Lighthouse bears from this danger **SW**. by **W**. 2⅛ miles; Peggy's Point Lighthouse, **E**. ½ **S**. 5⅞ miles. Between this Ledge and the main land there is a Channel about ¾ mile wide, having 11 fathoms water in it.

Horseshoe Ledge.

This Ledge, which lies near the entrance to St. Margaret Bay, consists of ridges of Rocks running about **N.NW.** and **S.SE.** about ¼ mile. This danger, which generally breaks, is bare at ½ Ebb, and the ridges resemble somewhat the form of a Horseshoe. East Ironbound Island Lighthouse bears from the centre of this danger **W**. ¾ **S**. 4¾ miles; Peggy's Point Lighthouse **E**. 3 miles.

Gravel Island.

This Island, which is about 60 feet high, lies at the entrance of Aspatageon Harbor. Shoal Water with Ledges, some of which are bare at ¼ Ebb, extends off more than ½ mile from the Southern part of the Island, making the approach to it on its Southern and Western sides very dangerous. East Ironbound Island Lighthouse bears from the centre of this Island **SW**. ½ **W**. 4 miles; Peggy's Point Lighthouse **E.SE**. about 5 miles.

Saddle Island.

At the entrance to Aspatageon Harbor and about ¾ mile Northwesterly from Gravel Island is Saddle Island, which is low

and extends about **W.** by **S.** and **E.** by **N.** a little more than ¼ mile. This Island is bold on its Northern part, but Shoal Water with Ledges, some of which are bare at Low Tide, extends nearly ⅓ mile from the Southwestern end of this Island. Between Gravel Island and Saddle Island there is a narrow Channel, having about 4 fathoms water in it at Low Tide. Strangers should not, however, attempt to pass through it. There is also a Channel of 5 fathoms water between Saddle Island and the mainland; but there are numerous Rocks and Ledges extending off nearly ½ mile from the latter. As there are no leading marks or bearings to clear these dangers, it is advisable for strangers not to attempt it without pilots.

Remarks.

The main Channel, which leads into Aspatageon Harbor, is nearly ½ mile wide, and lies between Gravel Island on the Southwest and Black Island (which is bold on its Southern part) on the Northeast. About 7 fathoms water at Low Tide can be taken in past Black Rock, which is small, and lies nearly in the middle of the Harbor. There is good Anchorage in this Harbor, with winds from **W.SW.** to **E.SE.** by way of North; but it is somewhat exposed to Southerly winds. At such times vessels may find shelter close in under the Northern side of Saddle Island, which is bold and free from dangers on its Northern part.

Sailing Directions for Aspatageon Harbor in Daytime, with favorable winds and fair weather.

From the Westward, leave Green Island Lighthouse about ½ mile on the Port hand, and steer about **NE.**, leaving Northeast Shoal (before described) well on the Port hand. When past this Shoal, steer more Northerly, until Green Island Lighthouse bears **SW.** by **S.** Then make good the course **NE.** by **N.**, leaving Horseshoe Ledge (before described) well on the Starboard, and Seal Ledge and Gravel Island Ledges well on the Port hand. Continue the course **NE.** by **N.** until Peggy's Point Lighthouse bears **E.SE.** The entrance to Aspatageon Harbor will then be open, bearing about **NW.**, then run in about midway between Gravel and Black Islands (the latter of which is very bold and is left on the Starboard hand). As you sail in you will see to the Northward, nearly in the middle of the Har-

bor, Black Rock, which is bold on all sides. When this Rock bears **N.** by **W.**, run for it on this course, leaving it close to on the Starboard hand, and anchor about 300 yards above it, in from 5½ to 7 fathoms water at Low Tide. Vessels bound into this Harbor, should be careful to avoid a Sunken Rock having but little water upon it at Low Tide. This danger lies **SE.** about 400 yards from Black Rock.

From the Southeastward, leave Betty Island Lighthouse about a mile on the Starboard hand, and make good the course **NW.**, leaving Horseshoe Ledge (before described) well on the Port hand. When Peggy's Island Lighthouse bears **E.SE.**, then make good the course **W.NW.** and follow the directions before given.

With strong Southerly winds, vessels from the Eastward or Westward, bound to Aspatageon Harbor, may follow the directions before given until the Southern end of Black Island bears **E.** by **S.** ½ **S.**; then steer **W.** by **N.** ½ **N.**, and haul to the Westward, and anchor close in under Saddle Island (which is bold on its Northern part) in from 6 to 10 fathoms water at Low Tide.

High Water.

It is High Water in Aspatageon Harbor, on the days of the Full and Change of the Moon, at 7 h. 44 m., or 3 h. 45 m. before it is at Boston. Mean rise and fall of Tides, 6¾ feet.

ST. MARGARET BAY.

The entrance to this Bay, which is about 7 miles to the Eastward of Mahone Bay, is between Middle Point on the East and Southwest Island on the West, and is a little more than 2 miles wide, and lies East-Northerly about 6½ miles from East Ironbound Island Lighthouse, and West-Northerly about 18 miles from Sambro Lighthouse.

Peggy's Point Lighthouse.

Upon Peggy's Point, East side of entrance to St. Margaret Bay, is a White, Square Building with lantern on top, which at this

date (1884) shows a fixed Red Light. Betty Island Lighthouse bears from Peggy's Point Lighthouse **SE.** 7¼ miles; East Ironbound Island Lighthouse **W.** ½ **S.** 7⅝ miles; Horseshoe Ledge **W.** 3 miles. Vessels bound up St. Margaret Bay should not approach this Lighthouse nearer than ⅓ mile.

Remarks.

St. Margaret Bay is a noble sheet of water, about 10 miles in length and in some places 5 miles in breadth, and compared with other portions of this coast, is unusually free from dangers. The water in it is deep, and in several parts of it, there are Harbors capable of admitting vessels of the heaviest draught. The entrance to this Bay may be known by the high land of Aspatageon, which is elevated nearly 500 feet above the level of the sea, and is a very conspicuous landmark. Vessels from sea, may bring the summit of this eminence to bear **NW.** ¼ **N.**, and run for it on this course, which will lead to the entrance.

Dangers in approaching and entering St. Margaret Bay.

Horseshoe Ledge.

This dangerous Ledge, which lies near the entrance to St. Margaret Bay, consists of Ridges of Rocks running about **N.NW.** and **S.SE.** about ¼ mile. This danger is bare at ½ Ebb, and the Ridges resemble somewhat the form of a Horseshoe. East Ironbound Island Lighthouse bears from the centre of this danger **W.** ¾ **S.** 4¾ miles; Peggy's Point Lighthouse East 3 miles; Summit of the high land of Aspatageon **NW.** by **N.** 5 miles. In thick weather this danger should not be approached nearer than 10 fathoms water.

Southwest Island.

This Island, which is on the Western side of the entrance to St. Margaret Bay, is about ½ mile from the main land, and extends North and South about ½ mile. Peggy's Point Lighthouse bears from the centre of this Island **SE.** by **E.** about 3½ miles. Southwest Island is bold on its Eastern side. Between this Island and the main land, there is a passage having from 6

to 8 fathoms water in it; but there is a Rock which lies to the Northward of this Island nearly in the middle of the Channel, with only 8 feet water upon it at Low Tide. Strangers should not, therefore, attempt this passage.

Charley Rock.

This dangerous Rock, which is small, has about 8 feet water upon it at Low Tide, with deep water all around it, and lies on the Western side of entrance to St. Margaret Bay. Peggy's Point Lighthouse bears from this danger **SE.** ½ **E.** 3 miles; southern part of Southwest Island (before described), **W.SW.** about ½ mile. In order to avoid this Rock, vessels bound up the Bay, should keep midway between Southwest Island and Eastern side of entrance.

Shut-in Island.

This Island, which is elevated 200 feet above the level of the sea, lies about ½ mile from the Eastern shore of St. Margaret Bay, and extends **N.NW.** and **S.SE.** about ½ mile; Southwest Island (before described), bears from the centre of this Island **SW.** ½ **W.** 3 miles. Shut-In island is bold on its Western side. Between the Southern end of the last-named Island and Peggy's Point Lighthouse, there are many dangers, some of which lie nearly ½ mile from shore. Vessels bound out of or into St. Margaret Bay, should not approach this part of the coast nearer than ¾ mile.

Middle Shoal.

This dangerous Shoal, which has about 5 feet water upon it at Low Tide, is on the Eastern side of St. Margaret Bay, and is about ¼ mile in extent. The Northern end of Shut-in Island bears from this danger **S.** by **W.** ¾ **W.** 2¾ miles. Croucher's Island Lighthouse **N.NE.** 2¾ miles.

NORTHWEST COVE.

This small Cove, which is on the Western side of St. Margaret Bay, lies about 2 miles above the entrance.

Horse Island.

Off the entrance to Northwest Cove, is a small Island called Horse Island, which is quite bold on all sides. The Channel leading into this Cove is on both sides of this Island. Vessels passing to the Northward of it, should beware of Horse Rock, which is small in extent and has about 8 feet water on it at Low Tide. This Rock lies about **NW.** by **W.** about 200 yards from the Northern end of the Island.

Remarks.

With Westerly winds, there is Anchorage in Northwest Cove in from 5 to 7 fathoms water, but it is somewhat exposed to Easterly winds, and is therefore not considered a good place of shelter for vessels.

Sailing Directions for Northwest Cove in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given for Aspatageon Harbor until past Horseshoe Ledge (before described). St. Margaret Bay will then be well open, and you may run in, leaving Charley Rock (before described) well on the Port hand. When about 1¾ miles past Southwest Island you will see Horse Island, which lies off the entrance to Northwest Cove. When this is made, run in about midway, leaving the last-named Island on the Starboard hand, and anchor to the Westward of Horse Rock (before described) in from 5 to 7 fathoms water at Low Tide.

From the Eastward, leave Peggy's Point Lighthouse about ½ mile on the Starboard hand, and make good the course **NW.** by **N.** ½ **N.**, leaving Charley Rock well on the Port hand. When Horse Island, which lies off the entrance to Northwest Cove, is made, follow the directions before given.

Vessels entering this Cove, to the Northward of Horse Island, should, in order to avoid Horse Rock, keep nearer the main land.

High Water.

It is High Water in Northwest Cove, on the days of the Full and Change of the Moon, at 7 h. 46 m., or 3 h. 43 m. before it is at Boston. Mean rise and fall of Tides, 6¾ feet.

MILL COVE.

This Cove is on the Western side of St. Margaret Bay, about 6 miles from the entrance.

Remarks.

With Westerly winds there is good Anchorage in Mill Cove, close to the shore, in from 7 to 10 fathoms water.

Sailing Directions for Mill Cove in Daytime.

From the Eastward or Westward, follow the directions before given for Northwest Cove, until abreast Horse Island. Then run up, keeping about ½ mile from the Western side, which is bold and free from dangers. When Mill Cove, which is the first to the Northward of Northwest Cove, is well open, then haul in, and anchor close to the shore, in about 7 fathoms water at Low Tide.

High Water.

It is High Water in Mill Cove, on the days of the Full and Change of the Moon, at 7 h. 46 m., or 3 h. 43 m. before it is at Boston. Mean rise and fall of Tides, 6¾ feet.

HUBBARD COVE.

This Cove, which is at the extreme Northwest corner of St. Margaret Bay, runs in about a mile **N.NW**. Then it turns to the Northeastward for ½ mile, where it receives the waters of a small Lake. The entrance to this Cove, which is about ½ mile wide, lies Northwesterly about 9¾ miles from Peggy's Point Lighthouse, 7½ miles North from Southwest Island, and West-Northerly 4 miles from Croucher's Island Lighthouse.

Dangers in entering Hubbard Cove.

Slaunwhite's Ledge.

This Ledge, which is the principal danger in entering Hubbard Cove, lies nearly midway the entrance, and extends Northwesterly

and Southeasterly about $\frac{3}{5}$ mile. Some of the Rocks upon it are just covered at High Water. In entering, the best Channel is to the Westward of this danger.

Three-Fathom Spot.

This small, detached Rocky Spot, with 18 feet water upon it at Low Tide, lies about 400 yards from the Western side of entrance to this Cove, and Northwesterly about $\frac{3}{5}$ mile from the Northern end of Slaunwhite's Ledge. This danger, which is very small, has deep water all around it, and may, in entering, be passed close to on either side.

Remarks.

Hubbard Cove affords good shelter to vessels in all winds. With a pilot, 5 fathoms water, at Low Tide, can be carried about ¾ mile above the entrance, and from this about 4 fathoms can be carried within a short distance from the Head.

Sailing Directions for Hubbard Cove in Daytime, with favorable winds and fair weather.

Vessels of not more than 16 feet draught from the Westward, may follow the directions before given for Aspatageon Harbor until past Horseshoe Ledge (before described). St. Margaret Bay will then be well open, and you may run in, leaving Charley Rock (before described) well on the Port hand. When past Southwest Island, run up the Bay, keeping not more than ½ mile from the Western side, which is bold and free from dangers. In order to avoid Slaunwhite's Ledge, when Green Point is made (which is the first on the Western side of entrance to Hubbard Cove), leave this point not more than 400 yards on the Port hand. When past it keep about midway, and run up and anchor in the narrow Channel opposite the wharves in about 4 fathoms water at Low Tide.

From the Eastward, leave Peggy's Island Lighthouse about ½ mile on the Starboard hand, and make good the course **NW.** by **N.** ½ **N.**, leaving Charley Rock well on the Port hand. When past Southwest Island, follow the directions before given.

High Water.

It is High Water in Hubbard Cove, on the days of the Full and Change of the Moon, at 7 h. 46 m., or 3 h. 43 m. before it is at Boston. Mean rise and fall of Tides, 6¾ feet.

INGRAM RIVER.

The entrance to this River, which is on the Northern part of St. Margaret Bay, is between East and West Heads, and lies Northeasterly about 9 miles from Southwest Island, West side of entrance to this Bay, East-Northerly about 4 miles from the entrance to Hubbard Cove, and North about a mile from Croucher's Island Lighthouse.

Croucher's Island Lighthouse.

Upon the Southern point of Croucher's Island is a Lighthouse, which at this date (1884) shows a fixed White Light. Southwest Island, West side of entrance to this Bay, bears **SW.** by **S.** ¼ **S.** 8½ miles; Northern end of Shut-In Island **S.SW.** 5⅓ miles; Middle Shoal **S.SW.** 2¾ miles. Vessels may approach this Island on its Southern end within ⅕ mile, but Shoal Water extends off a long distance from its Northeastern part.

Croucher's Shoal.

In approaching and entering Ingram River, the only danger is Croucher's Shoal, which has about 20 feet water upon it at Low Tide. Croucher's Island Lighthouse bears from this danger **SE.** ¾ **S.** about ½ mile.

Remarks.

The entrance to Ingram River is about ½ mile wide, and runs in about **N.** by **E.** ¼ **E.** about 1¼ miles, whence it receives the waters of a fresh-water stream; 6 fathoms water at Low Tide can be taken in ½ mile above the entrance, and 4 fathoms can be carried within ¼ mile of the fresh-water stream. There is good Anchorage in this River in all excepting Southerly winds.

Sailing Directions for Ingram River in Daytime, with favorable winds and fair weather.

From the Eastward or Westward, follow the sailing directions before given for Hubbard Cove, until past Southwest Island, then steer about **N.** by **E.**, leaving Shut-In Island and Middle Shoal (before described) well on the Starboard hand. When Croucher's Island Lighthouse is made, continue the course until it bears **NE.** ½ **E.** Then run for it on this course, and leave it about a ¼ mile on the Starboard hand; when it bears **SE.**, Ingram River will then be fairly open, bearing about **N.NE.**; then run in keeping the Western side best aboard, and anchor in from 4 to 6 fathoms water at Low Tide.

High Water.

It is High Water in Ingram River, on the days of the Full and Change of the Moon, at 7 h. 46 m., or 3 h. 43 m. before it is at Boston. Mean rise and fall of Tides, 6¾ feet.

HEAD HARBOR.

The entrance to this excellent Harbor, which is at the extreme Northeastern part of St. Margaret Bay, is between Croucher's Island Lighthouse on the Northwest and Indian Point on the Southeast, and lies Northeasterly about 8½ miles from Southwest Island, West side of entrance to St. Margaret Bay, Northeasterly 5 miles from the Northern end of Shut-In Island.

Remarks.

Head Harbor is both capacious and safe from all winds, and will admit vessels of the heaviest draught. The best Anchorage is above Clam Island (which lies **E.NE.** 1½ miles from Croucher's Island Lighthouse), and is small in extent, and has a Shoal Spit extending off about 200 yards from its Northeastern end. There is deep water on either side of this Island, but the Channel on the Northern side is the widest, and consequently is preferable with favorable winds.

Sailing Directions for Head Harbor in Daytime, with favorable winds and fair weather.

From the Westward, leave Green Island Lighthouse about ½ mile on the Port hand, and steer about **NE.** ½ **E.**, leaving Northeast Shoal and Horseshoe Ledge (before described) well on the Port hand. When past these dangers, St. Margaret Bay will then be well open, and you may then run in, leaving Charley Rock (before described) well on the Port hand. When past Southwest Island, steer up the Bay about **N.** by **E.**, leaving Shut-In Island and Middle Shoal (before described) well on the Starboard hand. When Croucher's Island Lighthouse is made, continue the course **N.** by **E.** until it bears **NE.** ½ **E.**, then run for it on this course, leaving it about ¼ mile on the Port hand. When this Lighthouse bears **W.NW.**, make good the course **NE.** by **E.**, leaving Strawberry Island, which is the first to the Northeastward of the Lighthouse, at least ¼ mile on the Port hand. As you sail in you will see, nearly in the middle of the passage, Clam Island; leave this last-named Island about 400 yards on the Starboard hand, and when past it, haul gradually to the Eastward and anchor in about 9 fathoms water at Low Tide. The centre of Clam Island bears from this Anchorage **W.SW.** about ⅓ mile.

From the Eastward, leave Peggy's Point Lighthouse about ½ mile on the Starboard hand, and make good the course **NW.** by **N.** ½ **N.**, leaving Charley Rock well on the Port hand. When past Southwest Island, steer about **N.** by **E.**, and follow the directions before given.

High Water.

It is High Water in Head Harbor on the days of the Full and Change of the Moon, at 7 h. 46 m., or about 3 h. 43 m. before it is at Boston. Mean rise and fall of Tides, 6¾ feet.

FRENCH VILLAGE HARBOR.

The entrance to this Harbor, which is on the Eastern side of St. Margaret Bay, is between Davy's Point on the South and Indian Point on the North, and lies Northeasterly about 7½

miles from the entrance to St. Margaret Bay, and Southeasterly about a mile from Croucher's Island Lighthouse.

Wedge Island.

About a mile Southwesterly from the entrance to French Village Harbor, and about ½ mile from the Eastern shore, is Wedge Island, which extends Northeast and Southwest about 300 yards. From the Southwest end of this Island a Shoal extends off ¼ mile to the Westward; a Spit also extends off about 300 yards from the Northeast end of it. Croucher's Island Lighthouse bears from the centre of Wedge Island **N.** ¾ **E.** about 1¾ miles.

Davy's Rock.

This Rock, which lies nearly midway the entrance to French Village Harbor, has about 9 feet water upon it at Low Tide. Davy's Point, South side of entrance to this Harbor, bears from this danger **SE.** ⅓ mile.

Remarks.

The Channel leading into this Harbor, to the Northward of Davy's Rock, is contracted to ¼ mile by a Spit which extends off from Indian Point. The best Channel, which is about ¼ mile wide, is to the Southward of this Rock. About 11 fathoms water, at Low Tide, can be carried in to the Anchorage by the last-named Channel, and 5 fathoms can be taken up to the Head of the Harbor. A small Rock, with 21 feet water upon it, lies a little more than ½ mile above Davy's Point, and about 300 yards from the Southern shore of the Harbor.

Sailing Directions for French Village Harbor in Daytime, with favorable winds and fair weather.

From the Eastward or Westward, follow the directions before given for Head Harbor until Croucher's Island Lighthouse bears **NE.** ½ **E.**; then run for it on this course. When about 1½ miles from this Lighthouse, French Village Harbor will then be fairly open, bearing about **E.** Then run in, and in order to avoid Davy's Rock, leave the first Point, which is bold, on the South side of entrance to this Harbor, not more than 300 yards on the Starboard hand. When past this Point, with Westerly

winds, anchor midway the first Cove on the Southern side, in about 11 fathoms water at Low Tide.

High Water.

It is High Water in French Village Harbor, on the days of the Full and Change of the Moon, at 7 h. 47 m., or 3 h. 42 m. before it is at Boston. Mean rise and fall of Tides, 6¾ feet.

LUKE ANCHORAGE.

This Anchorage, which is on the Eastern side of St. Margaret Bay, is between Luke and Troop Islands on the West and Grampus Island and the main land on the East, and lies Northeast about 2 miles from the Northern end of Shut-In Island, about 3 miles to the Southward of entrance to French Village Harbor, and 3¾ miles to the Southward of Croucher's Island Lighthouse.

Little Thrum Island.

About ½ mile to the Northward of Luke Island are several Islets. The smallest and outermost of these is Little Thrum Island, which is about 100 yards long. From it a Shoal Spit extends Northwesterly nearly ¼ mile. There is also Shoal Water on its Southwestern and Northwestern sides, which should not be approached nearer than 500 yards.

Remarks.

Within Luke Island, which is 40 feet high, there is excellent Anchorage for the heaviest draught vessels, secure from all winds. Shoal Water extends off about 250 yards from the Southwestern part of this Island. About 7 fathoms water can be taken in between Luke Island and the main land.

Sailing Directions for Luke Anchorage in Daytime, with favorable winds and fair weather.

From the Eastward or Westward, follow the directions before given for Head Harbor, until past Charley Rock and Southwest Island (before described); then steer about **N.NE.** As you sail

up the Bay, you will see on the Starboard, Shut-In Island (before described). Leave the Northern end of this Island, which is bold, about ¼ mile on the Starboard hand, and when it bears **S.**, steer **E.NE.**, with Luke Island on the Port bow; leave the Southern end of this Island about 400 yards on the Port hand, and haul gradually to the Northward, and anchor with the Northern end of it bearing **W.** by **N.**, in about 8 fathoms water at Low Tide.

High Water.

It is High Water at Luke Anchorage, on the days of the Full and Change of the Moon, at 7 h. 47 m., or 3 h. 42 m. before it is at Boston. Mean rise and fall of Tides, 6¾ feet.

The Coast from Peggy's Point Lighthouse to Sambro Light.

The coast from Peggy's Point Lighthouse to Sambro Lighthouse is Craggy, Broken and Barren. The shore is also Ironbound and Steep, and scarcely a tree is seen. Fish, however, were formerly abundant, and the Harbors are conveniently situated for this business.

PORT DOVER.

The Eastern entrance to Port Dover, which is between several Islands and Ledges, lies East-Southerly 3 miles from Peggy's Point Lighthouse, 4½ miles Northwesterly from Betty Island Lighthouse, and **E.** by **N.** ¼ **N.** 10½ miles from Green Island Lighthouse.

Remarks.

This Harbor, in which there is good and safe Anchorage, has two passages which lead into it. The Eastern, which is the best, has deep water in it, and leads in to the Eastward of Taylor's and Fleming's Islands. The Western entrance has several dangers lying in it. In entering this Harbor there are no leading marks or bearings. No sailing directions can therefore be given.

BLIND BAY.

The entrance to this Bay, which is between Black Point on the East and Coyle's Head on the West, is about ⅝ mile wide, and lies East-Southerly about 4 miles from Peggy's Point Lighthouse, about 4 miles Northwesterly from Betty Island Lighthouse, and **E.** by **N.** about 11½ miles from Green Island Lighthouse.

Shag Bay Breakers.

This dangerous Shoal, which lies off the entrance to Blind Bay, extends **NE.** ½ **N.** and **SW.** ½ **S.** ⅓ mile, and has but little water in some places upon it at Low Tide. Betty Island Lighthouse bears from the centre of this danger **SE.** by **S.** 3½ miles; Peggy's Point Lighthouse, **NW.** ¾ **W.** 4 miles; Shag Head, **NE.** by **E.** $\frac{9}{10}$ mile; Outer Gull Rock, **NE.** ¼ **N.** $\frac{9}{10}$ mile; Black Point (Eastern side of entrance to Blind Bay), **NE.** by **N.** ½ **N.** 1⅝ miles. Shag Bay Breakers are the leading mark for the entrance to Blind Bay.

Green Shoal.

This small Rocky Shoal, which lies about ⅓ mile to the Eastward of Shag Bay Breakers, has 6 feet water upon it at Low Tide. There is a Channel of 10 fathoms water between this danger and Shag Breakers.

Remarks.

In approaching and entering Blind Bay there are upon the Western side many dangers, and there are also dangers upon the Eastern side until abreast Black Point, which is the first in entering. From the last-named point to the Anchorage, which is to the Northward of Myra Dry Ledge, the Eastern shore is free from dangers. About 5½ fathoms water at Low Tide can be taken to this Anchorage, which is safe from all winds.

Sailing Directions for Blind Bay in Daytime, with favorable winds and fair weather.

From the Westward, leave Green Island about ½ mile on the Port hand, and when the Lighthouse bears North, make good the course **E.** by **N.** about 11 miles, which will bring you up with

Shag Bay Breakers (before described). When these are made, bring them to bear **E.** by **N.**, and run for them on this course, and leave them about 300 yards on the Starboard hand. When past these Breakers, make good the course **NE.** by **N.** for Black Point, leaving the Outer Gull Rock, Frying Pan Rock, which is covered at High Water, and Black Point Ledge above water, all on the Starboard hand. When abreast Black Point, which is left on the Starboard hand, keep about 250 yards from the Eastern shore until past Myra Island and Dry Ledge, which are on the Western side about ¾ mile to the Northward of Black Point. Then haul to the Westward and anchor about 250 yards to the Northward of this Ledge in about 5½ fathoms water.

From the Eastward, leave Betty Island Lighthouse about ¾ mile on the Starboard hand, and make good the course **N.NW.**, keeping a sharp lookout for Shag Bay Breakers (before described), and leaving the dangers to the Northward of the last-named Lighthouse well on the Starboard hand. When Shag Breakers are made, leave them about 300 yards on the Starboard hand, and follow the directions before given.

High Water.

It is High Water in Blind Bay, on the days of the Full and Change of the Moon, at 7 h. 46 m., or 3 h. 43 m. before it is at Boston. Mean rise and fall of Tides, 6¾ feet.

SHAG BAY.

The entrance to Shag Bay is but a short distance to the Eastward of Blind Bay. Vessels bound to the last-named Bay, must leave Black Point on the Starboard hand, while those bound to Shag Bay must leave this Point on the Port hand.

Remarks.

At the entrance of Shag Bay, which is between Shag Head on the South and Black Point on the North, there are several dangers, some of which are above water and some are sunken. The best Channel is between Black Point Ledge and Black Point.

About 7 fathoms water at Low Tide can be carried to the Anchorage off Northwest Cove, which is on the Northwestern side about 1½ miles above the last-named Point.

Sailing Directions for Shag Bay in Daytime, with favorable winds and fair weather.

From the Eastward or Westward bound to Shag Bay, follow the directions before given for Blind Bay until Shag Bay Breakers are made, then leave them about 300 yards on the Starboard hand, and when past them, make good the course **NE.** by **N.** for Black Point, leaving the Outer and Inner Gull Rocks, and Frying Pan Rock, which is covered at High Water, well on the Starboard hand. As you sail in, you will see on the Starboard, Black Point Ledge, which is about 3 feet above High Water, and lies Southwesterly about 400 yards from Black Point. Leave this Ledge about 150 yards on the Starboard hand, and steer about **E.** by **S.** until Shag Bay is fairly open, then run up about midway and anchor at the mouth of Northwest Cove (which is the first on the Northwestern side), in about 7 fathoms water at Low Tide. It is High Water in Shag Bay about the same time that it is in Blind Bay.

Betty Island Lighthouse.

Upon Brig Point, Southwest end of Betty Island, is a Square, Wooden Building, painted White with Two Horizontal Red Bands, with Dwelling attached; at this date (1884) this Lighthouse shows a Revolving Red Light. Green Island Lighthouse bears from Betty Island Lighthouse **W.** ½ **N.** 12⅝ miles; Peggy's Point Lighthouse **N.W.** 7¼ miles; Mars Head (70 feet high) **E.SE.** 1¾ miles.

Dangers in the vicinity of Betty Island Lighthouse.

Southwest Shoal.

This is a small Rocky Patch having at Low Tide about 9 feet water on it. Betty Island Lighthouse bears from this danger **E.** by **N.** about ⅓ mile. Strangers should not attempt to pass between this Shoal and the Lighthouse.

Devereux Shoal.

This small Rocky Patch, which has 20 feet water upon it at Low Tide, is the outermost danger lying off Betty Island. The Lighthouse bears from this Shoal **E.** by **N.** ½ **N.** nearly ½ mile.

Duck Island.

About ¼ mile Northwesterly from the Northern part of Betty Island is Duck Island, which is small. There is a Channel of 3½ fathoms water between this last-named Island and Betty Island; but as there are dangers lying in it, strangers should not attempt this passage.

Hopson's Island.

About ⅝ mile Northwesterly from the Northern part of Betty Island is Hopson's Island, which is about 80 feet high. Between this last-named Island and Duck Island, there is a narrow Channel of 8 fathoms water, but as there are numerous dangers lying in the Passage, it is advisable for strangers to not attempt it.

Norris Bald Rock.

About ½ mile Northwesterly from the Northern end of Hopson's Island, is Norris Bald Rock, which is 20 feet above High Water. Betty Island Lighthouse bears from this Rock **SE.** by **S.** ¾ **S.** 1⅝ miles. Norris Bald Rock is the leading mark for vessels bound to Prospect River.

White Horse Rock.

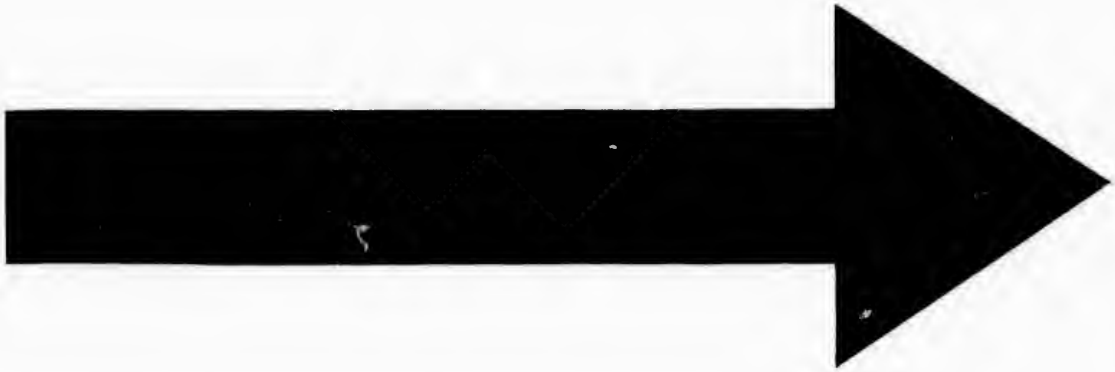
Nearly midway between Norris Bald Rock and Hobson's Island, is White Horse Rock, which has 9 feet water upon it at Low Tide. Betty Island Lighthouse bears from this danger **S.SE.** about 1½ miles.

Southeast Shoal.

This Shoal, which has 16 feet water upon it at Low Tide, is small, and generally breaks in bad weather. Betty Island Lighthouse bears from this danger **W.** by **N.** ¼ **N.** about ⅝ mile.

Kittee Wittee Shoal.

This small Rocky Patch, which lies off the Western entrance to Prospect River, has about 30 feet water upon it at Low Tide, and generally breaks in bad weather. Betty Island Lighthouse bears from this danger **SE.** ¼ **S.** 2⅕ miles.



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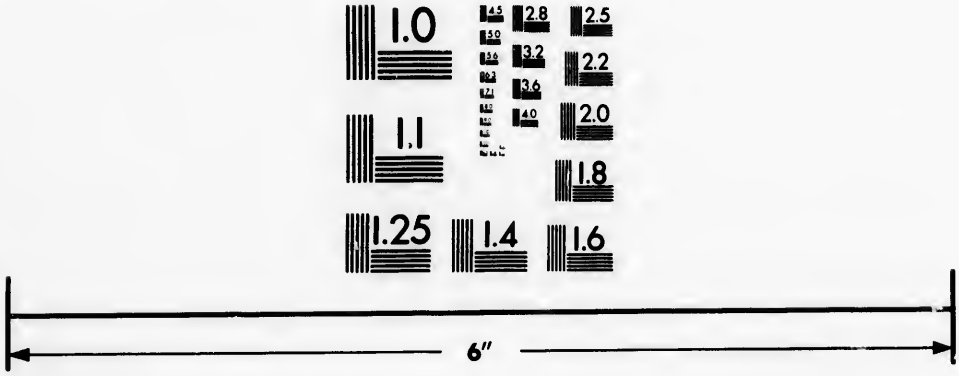

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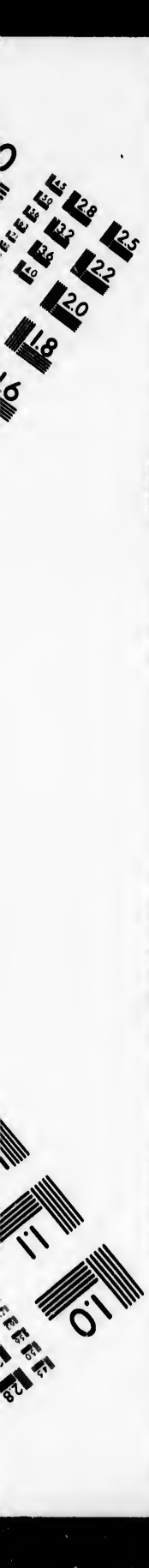
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PROSPECT HARBOR.

The entrance to this Harbor, which is between Church Point on the West and Heron's Island on the East, is about ½ mile wide, and lies Northeasterly 1¾ miles from Betty Island Lighthouse, and East-Southerly about 6½ miles from Peggy's Point Lighthouse.

Remarks.

When Norris Bald Rock (before described) is made, there is no difficulty in entering this Harbor in daytime. The Anchorage is to the Eastward of Heron's Island, where vessels of the heaviest draught may lie secure from all winds. About 7 fathoms water at Low Tide can be taken into Prospect Harbor. On the Western side of entrance to this Harbor, is the town of Prospect.

Sailing Directions for Prospect Harbor in Daytime, with favorable winds and fair weather.

From the Westward, bound to Prospect Harbor, leave Green Island Lighthouse about ½ mile on the Port hand, and steer **E.** for Betty Island Lighthouse. When this last-named Lighthouse is made, bring it to bear **E.**, and run for it on this course until about a mile from it. Then steer **N.**, leaving Hopson's Island (before described) about ½ mile on the Starboard hand. When abreast this Island keep a sharp look-out for Norris Bald Rock (before described). When this is made, run for it bearing **NE.** by **E.**, and leave it about 100 yards on the Port hand. When past it you will see Heron's Island, which is 107 feet high. Run for the Northern end of this Island, bearing about **E.** by **N.**, and haul round it at a distance of about 300 yards, leaving it on the Starboard hand, and anchor with the Northern part of it bearing **W.** by **S.**, in about 7 fathoms water at Low Tide. A Rock, which is bare at Low Tide, lies **E.** about 150 yards from the Northern end of the last-named Island.

From the Eastward, leave Betty Island Lighthouse about a mile on the Starboard hand, and when it bears **E.**, steer **N.**, leaving Hopson's Island (before described) about ½ mile on the Starboard hand. When abreast this Island, keep a sharp look-out for Norris Bald Rock. When this is made, follow the directions before given.

If bound up Prospect River, a pilot is necessary at Heron's Island Anchorage. as there are several dangers lying nearly in the middle of this River.

There is a Passage to the Eastward of Betty Island Lighthouse, which leads into Prospect Harbor, but as there are several dangers lying in the Channel-way, without any leading marks or bearings for strangers, sailing directions are therefore omitted for this Passage.

High Water.

It is High Water in Prospect Harbor, on the days of the Full and Change of the Moon, at 7 h. 46 m., or 3 h. 43 m. before it is at Boston. Mean rise and fall of Tides, 6¾ feet.

BACK BAY.

About 2 miles East-Northerly from Betty Island Lighthouse is the entrance of Back Bay, which, on account of the numerous sunken Rocks and Ledges at the entrance, is of little consequence to shipping, especially to strangers.

PENNANT BAY.

The entrance to this Bay, which is the first to the Westward of Sambro Harbor, is between Pennant Point on the East and Mars Head on the West, and lies East-Southerly 3½ miles from Betty Island Lighthouse, and about 5 miles West-Northerly from Sambro Lighthouse.

Mars Head.

This Head, which is about 70 feet high, is on the Western side of entrance to Pennant Bay, and lies **E.SE.** 2 miles from Betty Island Lighthouse, and **W.NW.** 3½ miles from Pennant Point. Shoal Water, with dry and sunken Ledges, extends off Southwesterly nearly ½ mile from Mars Head. The outermost of these dangers, which has 9 feet water upon it at Low Tide, and breaks with a little motion of the sea, is called the Grampus. In

order to avoid these dangers, vessels bound out or into Pennant Bay, should not approach Mars Head nearer than ¾ mile.

Dangers in entering Pennant Bay.

Puffer Rock.

This Rock, which always breaks, lies a short distance within the entrance to Pennant Bay. The highest part of Mars Head bears from this danger **W.** $1\frac{4}{10}$ miles.

Broad Rock.

This danger, which is covered at High Water, lies on the Western side of Pennant Bay, and is about ⅓ mile from Wood Island. Vessels bound up this Bay, should leave this danger on the Port hand.

Middle Shoal.

This Shoal, which extends about 400 yards **NE.** by **E.** and **SW.** by **W.**, has 9 feet water upon it at Low Tide. The highest part of Mars Head bears from this danger **W.** ¼ **S.** 1¾ miles; Eastern part of Pennant Point, **SE.** ¼ **S.** about 2 miles. Vessels bound up Pennant Bay may leave this danger on either hand.

Long Ledge.

This Ledge, which lies on the Eastern side of the entrance to Pennant Bay, extends **E.SE.** and **W.NW.** about 600 yards. Pennant Point bears from the centre of this danger **SE.** by **S.** ½ **S.** 2¼ miles. This Ledge is left on the Starboard hand by vessels bound up Pennant Bay.

TURNER BAY.

About 2 miles above Mars Head (before described) at the Northwestern corner of Pennant Bay, is Turner Bay, where vessels may find good Anchorage in about 7 fathoms water, sheltered from all but Southeasterly winds.

Turnbay Rock.

This Rock, which lies near the Head of Pennant Bay, is about 100 yards in extent, *and is the leading mark for entering Turner*

Bay. Pennant Point bears from the centre of this danger **SE.** ¾ **S.** 2½ miles; Southern part of Pennant Island, which is 90 feet high, **SE.** ½ **E.** 1½ miles. Vessels bound into Turner Bay may leave this Rock, which is quite bold, about 100 yards on either hand.

Sailing Directions for Turner Bay in Daytime, with favorable winds and fair weather.

From the Westward, bound to Turner Bay, leave Green Island (before described) about ½ mile on the Port hand, and when the Lighthouse bears **N.**, make good the course **E.** ¼ **S.** When Betty Island Lighthouse is made, leave it about a mile on the Port, and haul to the Southeastward, leaving Mars Head (before described) about the same distance on the Port hand, and when it bears **N.**, you are then past the Grampus, and may steer for this Head on the last-named course, until about ½ mile from it. Then steer **NE.** by **E.** for Turnbay Rock, leaving Broad Rock, which is covered at High Water, on the Port, and Puffer Rock, which always breaks, well on the Starboard hand. Haul round Turnbay Rock at a distance of 100 yards, leaving it on the Port hand, and run up about **NW.** by **N.** ½ **N.**, and anchor about 400 yards to the Westward of Cat Island, in from 7 to 8 fathoms water at Low Tide.

From the Eastward, leave Pennant Point, which is the first on the Eastern side of the entrance to Pennant Bay, about ½ mile on the Starboard hand, and when it bears **E.**, steer **N.** by **W.** ½ **W.**, leaving the Middle Shoal well on the Port hand. As you sail in, keep a sharp look-out for Turnbay Rock (before described). When this Rock bears **NW.**, run for it on this course, leaving it about 100 yards on the Port hand, and follow the directions before given.

On account of the dangers before described, heavy draught vessels entering Pennant Bay should proceed with caution.

High Water.

It is High Water in Pennant Bay, on the days of the Full and Change of the Moon, at 7 h. 47 m., or 3 h. 42 m. before it is at Boston. Mean rise and fall of Tides, 6½ feet.

Turner Basin.

The entrance to this Basin is at the Northwestern part of Pennant Bay. About 9 feet water, at Low Tide, can be carried up through a narrow Passage to this place, where vessels may lie secure from all winds.

PENNANT HARBOR.

The entrance to this Harbor, which is at the Northeast corner of Pennant Bay, is about ¾ mile wide, and lies between Pennant Point on the South and Pennant Island on the North.

Middle Ground.

This Rocky Shoal, which is about 250 yards in extent, has 12 feet water upon it at Low Tide, and lies nearly midway the Passage leading into Pennant Harbor. The Northern end of Pennant Island bears **W.NW.** about ½ mile from this Shoal. Vessels bound into this Harbor may leave this Shoal on either hand.

Remarks.

Within Saddle Island there is Anchorage for quite a number of vessels. About 7 fathoms water can be taken into this place at Low Tide.

Sailing Directions for Pennant Harbor in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given for Turner Bay, until Mars Head bears North about ¾ mile distant; then run for Pennant Point bearing **E.** by **S.** As you sail in, you will see on the Port, Pennant Island, which is about 90 feet high, and farther in Saddle Island, which appears like two Islands. Pass about midway between Pennant Point and Pennant Island, and in order to avoid the Middle Ground (before described), when the Southern part of the last-named Island bears West, haul over for the Southern shore and run in, keeping not more than 300 yards from it. When past the Middle Ground, there will be seen on the Port, a small Island called the Thrum Cap.

Haul round this Island, leaving it about 250 yards on the Port hand, and anchor with it bearing South in about 7 fathoms water at Low Tide.

From the Eastward, keep outside the dangers off Sambro Lighthouse until Pennant Point bears North; you are then past these dangers, and may run for this Point on the last-named bearing. Haul round it at a distance of about ½ mile, leaving it on the Starboard hand, and run in about midway between Pennant Point and Pennant Island, and follow the directions before given.

High Water.

It is High Water in Pennant Harbor, on the days of the Full and Change of the Moon, at 7 h. 47 m., or 3 h. 42 m. before it is at Boston. Mean rise and fall of Tides, 6½ feet.

Sambro Lighthouse.

Upon the middle of Sambro Isl: .d is a White Octagonal-Shaped Lighthouse which at this date (1884) shows a fixed White Light. A Steam Whistle is placed on the South side of this Island, which in thick weather sounds each minute a blast of 10 seconds duration. In entering Sambro Harbor, this Lighthouse is left to the Eastward and in entering Halifax Harbor to the Westward.

Bearings and Distances from Sambro Lighthouse.

		Distance.	
Cape Sable Lighthouse, . .	West-Southerly, . .	108	miles.
Rugged Island Harbor Lighthouse, ...	W. by S. ½ S., . .	81	"
Little Hope Island Lighthouse, ...	W. by S. ¼ S., . .	63	"
Coffin Island Lighthouse, .	W. ½ S., . . .	51	"
West Ironbound Island Lighthouse, ...	West, ...	31½	"
Green Island Lighthouse, .	W. by N. ¾ N., .	20	"
Chebucto Head Lighthouse,	NE., ...	4¼	"
Devil Island Lighthouse, .	NE. ¼ E., . . .	9¾	"
Jedore Rock Lighthouse, .	E. ⅞ N., ...	27½	"
Egg Island Lighthouse, . .	E. ⅜ N., ...	33	"

Beaver Island Lighthouse, .	E. ¼ N., ...	58	miles.
White Head Island Lighthouse, ...	E. ¼ N., ...	114	"
Cranberry Island Lighthouse,	East-Northerly, . .	125	"
Sable Island Lighthouse, (West End), ...	SE. by E., . . .	145	"
Whistling Buoy off entrance to Halifax Harbor, . . .	E. ½ S., ...	8⅓	"

Dangers in the vicinity of Sambro Island.

Sambro Island is surrounded with Rocks and Ledges, some of which are sunken and some are above water. We shall, however, only give a description of the outermost of these dangers, as strangers should not attempt to pass between these Rocks nor within Sambro Lighthouse. In thick weather the lead gives but little warning in approaching the dangers in the vicinity of Sambro Island.

Southwest Breaker.

This Rock, which is surrounded by deep water, almost always shows. At this date (1884) this danger is marked off its Southern part with a Black Buoy with Staff and Vane; Sambro Lighthouse bears from this Buoy **NE.** ½ **N.** 1⅝ miles; Pennant Point **NW.** 3⅜ miles.

Smithson Rock.

This Rock, which has about 12 feet water upon it at Low Tide, is the Southwesternmost danger lying off Sambro Lighthouse. This Rock has deep water close to its Southern, Eastern and Western sides; the lead, therefore, gives no warning in approaching it from the Eastward, Westward or Seaward. Sambro Lighthouse bears from this danger **E.NE.** 2½ miles. About a mile Northeasterly from Smithson Rock are three dangerous Ledges, which are called the Colt, Horse and Mare; the two latter dangers have but little water upon them at Low Tide.

Bull Rock.

This Rock, which is above water, lies ¾ mile to the Southeastward of Pennant Point, and is the Westernmost danger lying off Sambro Lighthouse. This Rock is bold on its Southern side, but

Shoal Water extends about 300 yards in a Northerly direction from its Northern end. Sambro Lighthouse bears from this danger **E.** by **S.** 3 miles; outer part of Pennant Point **NW.** by **W.** about ¾ mile. Bull Rock is the leading mark for entering Sambro Harbor by the Western Channel.

Sisters.

The Sisters are nearly ¼ mile in extent, and are the Easternmost danger lying off Sambro Island. Sambro Lighthouse bears from the centre of this danger **W.** ¼ **S.** 1½ miles. Forty fathoms water was found ⅓ mile to the Eastward of this danger.

Blind Sister.

About ⅓ mile Southwesterly from the Sisters is a Rock having at Low Tide but 9 feet water upon it. This danger is called the Blind Sister, and is marked at this date (1884) off its Southern part with a Bell Buoy. Sambro Lighthouse bears from this Buoy **W.** by **N.** ½ **N.** 1½ miles. Fifty fathoms water was found ¼ mile Southeast from this Buoy.

SAMBRO HARBOR.

The entrance to this Harbor, which is between Inner Sambro Island on the East and Pennant Neck on the West, is about a mile wide, and lies Northwesterly about 2 miles from Sambro Lighthouse, and Northeasterly about 2½ miles from Pennant Point.

Remarks.

In entering Sambro Harbor there are many Rocks, Shoals and Ledges, but there are two good Channels leading to the Anchorage; one of these Channels is to Eastward of a small Islet called Fairweather Rock,* the other is to the Westward of this Rock. The Anchorage (which is in about 6 fathoms water at Low Tide), is about ¼ mile to the Northward of a small Islet called the Isle of Man.

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* Sambro Lighthouse bears from Fairweather Rock SE. ¼ E. 1⅓ miles.

Sailing Directions for Sambro Harbor in Daytime, with favorable winds and fair weather.

From the Westward, leave Pennant Point about ½ mile on the Port hand, and run for Sambro Lighthouse, bearing **E.** by **S.**, keeping a sharp lookout for Bull Rock (before described); when this Rock is made, haul round it, leaving it close to on the Port hand, and make good the course **NE.** ½ **E.**, leaving Eldad Ledge and Island Rock well on the Port, and Paddle Rock and Torpey Ledge well on the Starboard hand. As you sail in, you will see on the Starboard, Fairweather Rock which is small, and further in Inner Sambro Island, the Western end of which is bold. Conttnue the course **NE.** ½ **E.** until the Western end of the last-named Island bears **E.** by **N.**, then run for it on this course, leaving Fairweather Rock well on the Starboard hand. Leave the Western end of Inner Sambro Island about 150 yards on the Starboard hand, and in order to avoid Cowley Rock (which has 9 feet water upon it at Low Tide), steer **NE.** ½ **E.** As you sail in, there will be seen on the Port hand, several Islets, the Northernmost of which is called Isle of Man. When this last-named Islet bears **N.** by **W.**, you are then past Cowley Rock, and may run for this Islet on this last course, leaving it about 100 yards on the Port hand, and anchor with it bearing about South 300 yards distant, in about 6 fathoms water at Low Tide. If bound into the Basin, a pilot will be necessary at this Anchorage.

From the Eastward do not approach Sambro Lighthouse nearer than 2 or 3 miles, until it bears **NE.** ½ **N.**; then run for it on this course, keeping a sharp lookout for the Black Buoy off the Southwest Breaker (before described). When this Buoy is made, leave it about ¼ mile on the Port hand, and make good the course **N.** ½ **W.**, leaving the Rocks called the Horse, Mare and Colt well on the Port, and Shag Rock and Sambro Lighthouse well on the Starboard hand. As you sail in, you will see on the Port, Fairweather Rock (before described). Leave this Rock about 200 yards on the Port hand, and when past it steer more Northerly, leaving the Western end of Inner Sambro Island about 150 yards on the Starboard hand, and follow the directions before given.

There is a Channel inside Sambro Lighthouse which leads into Sambro Harbor, but as there are many sunken rocks in it, some

of which have but little water upon them at Low Tide, it is therefore advisable for strangers not to attempt this passage without pilots.

High Water.

It is High Water in Sambro Harbor, on the days of the Full and Change of the Moon, at 7 h. 47 m., or 3 h. 42 m. before it is at Boston. Mean rise and fall of Tides, 6 feet.

CATCH HARBOR.

The entrance to this small Harbor, lies Northeasterly about 3 miles from Sambro Lighthouse, and West-Southerly about 1¾ miles from Chebucto Head Lighthouse.

Remarks.

A Bar having about 9 feet water upon it at Low Tide, on which the sea breaks heavily with strong winds from seaward, extends across the entrance to this Harbor; near its head there is Anchorage in about 2 fathoms water at Low Tide; but it is so small and the access so difficult that it is only frequented by the smallest vessels with the assistance of local pilots.

HALIFAX HARBOR.

The Western entrance to this excellent Harbor, which is between a small Islet called Thrum Cap on the East, and Sandwich Point (the main land) on the West, is about 1½ miles wide, and lies East-Northerly about 113 miles from Cape Sable Lighthouse, 93 miles East-Northerly from Cape Roseway Lighthouse, (entrance to Shelburne Harbor) East-Northerly 58 miles from Coffin Island Lighthouse, entrance to Liverpool Harbor, and about 117 miles to the Westward of Cape Canso.

Chebucto Head Lighthouse.

Upon Chebucto Head, West side of approach to Halifax Harbor, is a White, Square Wooden Building, which at this date (1884) shows a Revolving White Light. Sambro Lighthouse bears from Chebucto Head Lighthouse **SW.** 4¼ miles; Devil Island Lighthouses **NE.** ¼ **E.** 5½ miles; Maugher Beach Lighthouse **N.** by **E.** ¼ **E.** 6 miles; Outer Whistling Buoy off Halifax Harbor **SE.** by **E.** 6⅓ miles; Inner Whistling Buoy **NE.** ¾ **E.** 1⅞ miles. Chebucto Head is bold, and vessels bound into Halifax Harbor may approach the Lighthouse within ¼ mile without danger.

Devil Island Lighthouses.

Upon the South Point of Devil Island and East side of approach to Halifax Harbor, are Two White Octagonal Towers 175 yards apart, which range **E.** ¾ **N.** and **W.** ¾ **S.**; at this date (1884) these Lighthouses show fixed White Lights. Chebucto Head Lighthouse bears from Devil Island Lighthouses **SW.** ¼ **W.** 5½ miles; Sambro Lighthouse **SW.** ¼ **W.** 9¾ miles. Shoal Water extends off more than ¼ mile from all parts of this Island.

Maugher Beach Lighthouse.

Upon the West end of Maugher Beach East side of entrance to Halifax Harbor, is a White Tower, with Red Roof which, at this date (1884) shows a fixed White Light. Chubucto Head Lighthouse bears from Maugher Beach Lighthouse **S.** by **W.** ¼ **W.** 6 miles; George Island Lighthouse (Halifax Harbor) **N.** ½ **W.** 2¾ miles. Maugher Beach Lighthouse is also a guide to the Anchorage in Macnab Cove. A Fog Bell has been placed near this Lighthouse which in thick weather is struck 7 times in each minute.

George Island Lighthouse.

Upon the West side of George Island, in Halifax Harbor, is a Drab Square Wooden Building, which at this date (1884) shows two fixed White Lights, one above the other.

Dangers in approaching Halifax Harbor.

Bell Rock.

This danger, which lies on the Western side of the approach to Halifax Harbor, has 6 feet water upon it at Low Tide. At this

date (1884) this danger is marked off its Southeast part with a Black Buoy with staff and vane, which, in approaching Halifax Harbor, is left on the Port hand. Chebucto Head Lighthouse bears from this Buoy **N.** by **E.** about a mile.

Portuguese Shoal.

Upon the Eastern side of the approach to Halifax Harbor, is Portuguese Shoal. This danger has about 30 feet water upon it at Low Tide, and at this date (1884) is marked on its Southwestern side with a Buoy, painted in Red and Black Horizontal Stripes, which is left on the Starboard hand by vessels approaching Halifax Harbor. Chebucto Head Lighthouse bears from this Buoy **SW.** 2⅜ miles; Devil Island Lighthouses, **NE.** ½ **E.** 3 miles; Maugher Beach Lighthouse, **N.** ¼ **W.** 4¼ miles.

Rockhead Shoal.

About **NE.** by **E.** ½ **E.** ¾ mile from the Buoy off Portuguese Shoal, is Rockhead Shoal, which has about 19 feet water upon it at Low Tide. This is the Easternmost danger in approaching Halifax Harbor. At this date (1884) this Shoal is marked off its Southern part with a Buoy painted in Black and White Perpendicular Stripes. Chebucto Head Lighthouse bears from this Buoy **SW.** ½ **W.** 3 miles; Devil Island Lighthouses, **NE.** ⅛ **E.** 2½ miles; Maugher Beach Lighthouse, **N.** by **W.** 4 miles. This Buoy may be left ¼ mile on either hand by vessels bound to Halifax. Between Portuguese Shoal and Rockhead Shoal there is a Channel about ½ mile wide, having from 7 to 8 fathoms water in it.

Neverfail Shoal.

This small Shoal, upon which there is about 26 feet water at Low Tide, lies nearly in the middle of the approach to Halifax Harbor. Chebucto Head Lighthouse bears from the centre of this danger **S.** by **W.** ¾ **W.** 3⅜ miles; Devil Island Lighthouses, **E.** ¾ **N.** 3 miles; Maugher Beach Lighthouse, **N.** ¾ **E.** 2¾ miles. The ship Channel leading to Halifax Harbor is to the Westward of this Shoal.

Lichfield Rock.

This small Shoal, which is surrounded by deep water, has about 15 feet water upon it at Low Tide, and lies about

⅞ mile from the Western shore. At this date (1884) it is marked on its Eastern side with a Black Buoy, which, in approaching Halifax Harbor, is left on the Port hand. Chebucto Head Lighthouse bears from this Buoy **S.** ¾ **W.** 3⅜ miles; Devil Island Lighthouses, **E.** ½ **N.** 3½ miles; Maugher Beach Lighthouse, **N.** by **E.** ¾ **E.** 2¾ miles. The Ship Channel in approaching Halifax Harbor is between Litchfield Rock and Neverfail Shoal, and is about ⅝ mile wide, with a depth of about 9 fathoms water. The leading marks for sailing between these dangers, is the Flagstaff of the Citadel at Halifax, just open East of Sandwich Point,* bearing about **N.** ¼ **W.** There is a good Channel ¾ mile wide between Lichfield Rock and the Western shore.

Thrum Cap Shoal.

This dangerous Shoal, which, at Low Tide is dry in some places, lies on the Eastern side of the entrance to Halifax Harbor, and extends off more than a mile from the Southern end of Macnab Island. At this date (1884) it is marked off its Southwest part with a Red Buoy, which, in entering Halifax Harbor, is left on the Starboard hand. Chebucto Head Lighthouse bears from this Buoy **SW.** by **S.** ¼ **S.** 4 miles; Devil Island Lighthouses, **E.** ½ **N.** 2⅛ miles; Maugher Beach Lighthouse, **N.** by **W.** 2½ miles. Between the Buoy off the Thrum Cap and Neverfail Shoals, there is a good Channel ¾ mile wide, having from 7 to 9 fathoms water in it. In thick weather, vessels from the Eastward may approach the Thrum Cap Shoal by the lead, and haul round it in about 8 fathoms water at Low Tide.

Mars Rock.

This Rock, which has about 20 feet water upon it at Low Tide, lies about ½ mile to the Southward of Sandwich Point, and about ⅜ mile from the Western shore. At this date (1884) this danger is marked off its Southeastern part with a Black Buoy, which, in entering Halifax Harbor, is left on the Port hand. Chebucto Head Lighthouse bears from this Buoy **S.** by **W.** 4½ miles; Devil Island Lighthouses, **E.** by **S.** ¼ **S.** 3⅓ miles; Maugher

* Sandwich Point, which lies on the Western side of the entrance to Halifax Harbor, is about 1¾ miles to the Northward of the Buoy off Lichfield Rock.

Beach Lighthouse, **NE.** by **N.** ¾ **N.** 1⅝ miles. Heavy draught vessels should not attempt to pass between this Buoy and the Western shore.

Maugher Beach Shoal.

Shoal Water extends off about ½ mile to the Southward of Maugher Beach Lighthouse, and also some distance to the Northward and Westward of this Lighthouse. This danger is marked off its Western part with a Red Buoy. Maugher Beach Lighthouse bears from this Buoy **SE.** by **E.** about ⅙ mile.

Middle Ground.

This small Shoal, which lies nearly in mid-channel in entering Halifax Harbor, has about 26 feet water upon it at Low Tide, with deep water all round it. Maugher Beach Lighthouse bears from this danger **SE.** by **S.** ½ **S.** ¾ mile. The Ship Channel leading into Halifax Harbor is to the Westward of this Shoal.

Pleasant Shoal.

This Rocky Shoal, which extends off nearly ½ mile Southeasterly from Pleasant Point, is marked off its Eastern part with a Black Buoy. Maugher Beach Lighthouse bears from this Buoy **S.SE** 1¼ miles; George Island Lighthouse **N.** ½ **E.** 1½ miles (nearly).

Reed Rock.

This Rock, which has about 4 feet water upon it at Low Tide, lies on the Western side of the Channel, and at this time is marked off its Eastern side with a Black Buoy. George Island Lighthouse bears from this Buoy **N.** by **E.** ¼ **E.** $\frac{9}{10}$ mile.

Ives Knoll.

This small Shoal, which is nearly dry at very Low Tides, lies about ⅜ mile from the Northern end of Macnab Island. At this time this danger is marked off its Western side with a Red Buoy. George Island Lighthouse bears from this Buoy **N.** by **W.** ¼ **W.** about a mile. The Ship Channel which is between this Knoll and Reed Rock is about ½ mile wide, with a depth of from 10 to 16 fathoms water.

Belleisle Spit.

This Spit, which is nearly abreast the Southern end of the city of Halifax, extends off about ¼ mile from the Western shore, and at this time is marked off its Eastern part with a Black Buoy. George Island Lighthouse bears from this Buoy **NE.** by **N.** a little more than ¼ mile; about ¼ mile further in on the Western side of the Channel and nearly opposite George Island Lighthouse, is a Black Buoy which lies off the Eastern part of Leopard Shoal.

Remarks.

In entering Halifax Harbor there are two Channels, one to the Westward of Macnab Island, the other to the Eastward of it; the former which is nowhere less than ½ mile wide, has in it not less than 10 fathoms water, while the latter has about 9 feet at Low Tide. This Harbor, which is one of the finest in British America, is easy of approach and is also accessible at all seasons, and is large enough to accommodate a large number of vessels in perfect security.

Sailing Directions for approaching and entering Halifax Harbor in Daytime, with favorable winds and fair weather.

Note.

In approaching and entering Halifax Harbor, Red Buoys are left on the Starboard, and Black Buoys on the Port hand. Buoys painted in Red and Black Horizontal Stripes or Black and White Perpendicular Stripes are on dangers in the Channel-way, and may be left on either hand.

Vessels of not more than 22 feet draught, from the Westward, may leave the Black Buoy off the Southwest Breaker, which lies off Sambro Lighthouse, about ¼ mile on the Port hand, and steer about **E.** by **N.**, leaving the Bell Buoy off the Southern part of the Sisters well on the same hand. When Chebucto Head Lighthouse bears North, then steer about **N.** ¾ **E.**, leaving the Black Buoy off Bell Rock well on the Port hand, and this Lighthouse about ½ mile on the same hand. When Chebucto Head Lighthouse bears **W. NW.**, then make good the course **N.** ½ **E.**, leaving the Whistling Buoy to the Northeastward of Chebucto

Head, the Buoy off Portuguese Shoal, and the Red Buoy off the Thrum Cap Shoal well on the Starboard hand, and the Black Buoys off Lichfield Rock and Mars Rock both on the Port hand. When past the Black Buoy off the last-named danger, continue the course **N. ½ E.**, leaving the Black Buoy off Maugher Beach Lighthouse well on the Starboard hand; when past this Lighthouse, there will be seen on the Port, the Black Buoy off Pleasant Shoal, the Black Buoy off Reed Rock, and further in the Black Buoy off Belleisle Spit, which are all left on the Port hand. On the Starboard will be seen the Red Buoy of Ives Knoll, which is left on the Starboard hand. You may pass on either side of George Island, which is bold on its Western side, and lies off the Southern part of the city; if you go to the Westward of this Island in order to avoid Leopard Shoal, keep nearer the Lighthouse. When past George Island, there is good Anchorage any where above it in from 7 to 13 fathoms water.

From the Eastward, leave Devil Island Lighthouses about a mile on the Starboard hand, and steer about **W.** by **N.**, keeping a sharp lookout for the Red Buoy off the Southern part of Thrum Cap Shoal (before described); when this Buoy is made, leave it about 200 yards on the Starboard hand and steer **NW.** for the Black Buoy off Mars Rock. Leave this last-named Buoy about 200 yards on the Port hand, and follow the directions before given.

Beating into Halifax Harbor.

From Chebucto Head Lighthouse to Pleasant Point, a distance of 7½ miles, the Western shore is bold, and vessels beating into Halifax Harbor will keep this side best aboard, taking care to avoid Lichfield and Mars Rocks (before described). When past Pleasant Point and Macnab Island, it is advisable to keep nearer the Eastern side, and pass in to the Eastward of George Island where there are neither Rocks or Shoals excepting those lying near the shores.

At this date (1884) the Neverfail and Middle Ground Shoals are not marked with Buoys. Both these dangers lie nearly in mid-channel and have about 26 feet water upon them at Low Tide; it is therefore advisable for heavy draught vessels, bound to Halifax, to employ pilots.

Sailing Directions for Halifax Harbor at Night-time, with favorable winds and fair weather.

In order to avoid the dangers off Sambro Island, vessels from the Westward of not more than 18 feet draught, should give the Light a berth of at least 3 miles, leaving it to the Northward. When the Revolving Light on Chebucto Head, Western side of approach to Halifax Harbor, bears North, you may then run in leaving it about ¾ mile on the Port hand; when abreast this Light, steer for Maugher Beach Light, bearing **N.** ¾ **E.** until you judge you are about a mile from it; then haul to the Westward, passing about midway between this Light and the Western shore. When Maugher Beach Light bears **E.SE.**, in order to avoid Pleasant Point Shoal, steer **N.** by **E.** until George Island Lights (which are located one above the other,) bear North, then run for them on this course leaving them not more than 200 yards on the Starboard hand, and anchor about ⅓ mile above the Lights in from 7 to 13 fathoms water.

From the Eastward, when the Revolving Light on Chebucto Head is made, bring it to bear **W.NW.**, and run for it on this course until you are about ¾ mile from it, then run for Maugher Beach Light bearing **N.** ¾ **E.**, and follow the directions before given.

Thick Weather.

In order to guide vessels to Halifax Harbor, at this date (1884) two Whistling Buoys have been placed without the entrance. These Buoys bear from each other **NW.** ½ **N.** and **SE.** ½ **S.** 6 miles. The outer Buoy, which lies in about 37 fathoms water, is painted Black. Sambro Lighthouse bears from it **W.** ½ **N.** 8⅓ miles; Chebucto Head Lighthouse, **NW.** by **W.** 6⅓ miles. The inner Buoy, which is painted Red, lies in about 18 fathoms water. Chebucto Head Lighthouse bears from this Buoy **SW.** ¾ **W.** 1⅞ miles.

Vessels from the Eastward, Westward or Seaward, making or hearing the outer Whistling Buoy, must leave it close to on either hand, and make good the course **NW.** ½ **N.** 6 miles, which will bring them up with the inner Whistling Buoy. Leave this last-named Buoy close to on either hand, and make good the course **N.** ½ **W.** 5 miles, which will take them up with Maugher Beach Lighthouse. When the Fog Bell at this Lighthouse is heard, it is

advisable for strangers to haul in, and anchor in Macnab Cove. (See sailing directions for this Cove.)

High Water.

It is High Water in Halifax Harbor, on the days of the Full and Change of the Moon, at 7 h. 49 m., or 3 h. 40 m. before it is at Boston. Mean rise and fall of Tides, 5¾ feet.

MACNAB COVE.

The entrance to this Cove, which is on the Eastern side of entrance to Halifax Harbor, lies 10½ miles Northeasterly from Sambro Lighthouse, 6½ miles Northeasterly from Chebucto Head Lighthouse, and about 3 miles below the city of Halifax.

Maugher Beach Lighthouse.

Upon the West end of Maugher Beach, East side of entrance to Halifax Harbor, and South side of entrance to Macnab Cove, is a White Tower with Red Roof, which at this date (1884) shows a fixed White Light. A Fog Bell has been placed near this Lighthouse, which in thick weather is struck 7 times in each minute. This Light is intended to guide vessels to Halifax Harbor, and also into Macnab Cove.

Remarks.

Macnab Cove, in which there is sufficient depth of water for the largest vessels, is somewhat exposed to Northwesterly winds. The holding ground in this Cove is excellent, and vessels well found in ground tackle may safely ride in it with all winds and weathers.

Sailing Directions for Macnab Cove in Daytime, with favorable winds and fair weather.

Vessels bound to Macnab Cove, may follow the directions before given for Halifax Harbor, until abreast the Lighthouse on the West end of Maugher Beach. Then haul round this Lighthouse at a distance of about ⅓ mile, leaving the Red Buoy, which lies to the Northwestward of it, well on the Starboard hand, and

anchor with the Lighthouse bearing **S.SW.**, in from 7 to 8 fathoms water, good holding ground. These directions will answer for night or day.

In entering Macnab Cove, be careful to avoid a Rocky Shoal which extends off to the Northward of the Lighthouse nearly ¼ mile.

Eastern Entrance to Halifax Harbor.

Small or light-draught vessels may enter Halifax Harbor to the Eastward of Macnab and Lawler Islands; but as there is a Sand Bar in this Passage having but 8 feet water upon it at Low Tide, with no leading marks or bearings for the Channel, it is therefore advisable for strangers bound through this Passage to take pilots.

HERRING COVE.

This small Cove, which is on the Western side of entrance to Halifax Harbor, lies about 1¼ miles Southwesterly from Sandwich Point, and about 4¼ miles to the Northward of Chebucto Head Lighthouse.

Remarks.

The entrance to this Cove is about 200 yards wide, with a depth of about 4 fathoms water, at Low Tide, as far as the elbow that forms the Inner Cove, and above this 6 feet, at Low Tide, can be taken in, where small vessels may lie secure from all winds. Vessels bound to Herring Cove should take pilots off the entrance.

COLE HARBOR.

The entrance to this Harbor, which is the first to the Eastward of Halifax, lies East-Northerly about 4 miles from Devil Island Lighthouses.

Remarks.

At the entrance to Cole Harbor there is a dangerous Sand Bar, having but 3 feet water upon it at Low Tide. Within the Harbor are extensive Mud Flats, which are mostly dry at Low Tide. Only small or light-draught vessels can therefore enter this place at High Water, with pilots.

Egg Island.

About 2 miles to the Eastward of the entrance to Cole Harbor, and 5 miles East-Northerly from Devil Island Lighthouses, is Egg Island, which is small. Shoal Water also extends from the shore to this Island, and Shoal Water also extends off about ¼ mile to the Southward of it.

Shut-In Island.

This Island, which is small in extent and very low, is connected with the main land by a Reef of Rocks, and lies East-Northerly about 8 miles from Devil Island Lighthouses.

Shut-In Island Shoals.

A little more than ½ mile from the Western end of Shut-In Island, is a small Rocky Shoal with 15 feet water upon it at Low Tide, and about a mile from the Western end of this Island is another spot with about the same depth upon it. These Shoals are very dangerous for heavy-draught vessels, especially in thick weather or night-time. In order to avoid them, the coast should not be approached in less than 15 fathoms water.

CHISSETCOOK INLET.

The entrance to this Inlet, which is between Story Head on the East and Cape Entry on the West, is about ¾ mile wide, and lies about 4 miles Northeast from Shut-In Island, and 9½ miles West-Northerly from Jedore Rock Lighthouse.

Remarks.

In entering this Harbor, a Bar extends across the principal Channel, with but little water upon it at Low Tide. There are also within the entrance extensive Mud Flats, which are mostly dry at Low Tide. This harbor is therefore of but little use to shipping.

PERPISAWICK INLET.

The entrance to this Inlet, which is the first to the Eastward of Chissetcook Inlet, is about ¾ mile wide and lies East-North-

erly about 13½ miles from Devil Island Lighthouses, and about 7 miles West-Northerly from Jedore Rock Lighthouse.

Remarks.

A Sand Bar having about 6 feet water upon it at Low Tide, extends across the entrance to this Inlet; from this there is a narrow Channel between the Mud Flats (which are dry at Low Tide) to the head of this Inlet, a distance of 5 miles. This Channel has a sufficient depth for vessels which can cross the Bar. About a mile from the head is a deep hole having 6 fathoms water in it. In entering Perpisawick Inlet, Reefs lie off some distance from the shores on both sides. Strangers should not, therefore, attempt to enter this place without pilots.

High Water.

It is High Water at the entrance of Perpisawick Inlet, on the days of the Full and Change of the Moon, at 7 h. 50 m., or 3 h. 39 m. before it is at Boston. Mean rise and fall of Tides, 5¾ feet.

MUSQUIDOBOIT INLET.

The entrance to this Inlet, which is the first to the Eastward of Perpisawick Inlet, lies about 17 miles East-Northerly from Devil Island Lighthouses, and Northwesterly about 3½ miles from Jedore Rock Lighthouse.

Remarks.

Musquidoboit Inlet is navigable at High Water for small craft and boats about 7 miles above the entrance. The Channel, after crossing the Bar, leads up among Sand and Mud Flats, which are dry in many places at Low Tide. Strangers should not, therefore, attempt to enter this place without pilots.

Musquidoboit Shoal.

This Rocky Shoal, which extends **NE.** and **SW.** about ½ mile, has about 17 feet water upon it at Low Tide. Jedore Rock Lighthouse bears from this danger **E.** by **S.** 3½ miles. To the Northward and Westward of Musquodoboit Shoal are several patches having from 4½ to 5 fathoms water upon them. In or-

der to avoid these dangers, in thick weather or night-time, large or heavy draught vessels should not approach the coast in less than 30 fathoms water.

JEDORE HARBOR.

The entrance to this Harbor, which is the first Ship Harbor to the Eastward of Halifax, lies East-Northerly about 29 miles from Sambro Lighthouse, 2 miles Northeasterly from Jedore Rock Lighthouse, and Northwesterly 6½ miles from Egg Island Lighthouse.

Jedore Rock Lighthouse.

Upon the summit of Jedore Rock about 2 miles Southwesterly from the entrance to Jedore Harbor, is a White, Square Wooden Building with Dwelling attached; at this date (1884) this Light house shows a Red Fixed Light.

Dangers in approaching Jedore Harbor.

Arnold Rock.

This Rock, which is bare at Low Tide, can almost always be seen. Jedore Rock Lighthouse bears from it **N.** by **E.** ½ **E.** about ½ mile. In entering Jedore Harbor the best Channel is to the Westward of this Rock.

Old Man Rock.

This small Rock is about 12 feet above High Water. Jedore Rock Lighthouse bears from it **NW.** ½ **W.** about ¾ mile. A small sunken Rock with only 4 feet upon it at Low Tide lies about 200 yards Southwest from Old Man Rock.

Gull Rock.

Shoal Water extends in every direction from this Islet. Jedore Rock Lighthouse bears from it **W.** by **S.** ¼ **S.** 1⅜ miles. Between this Lighthouse and Gull Rock there is a Channel of 15 fathoms water. Vessels bound to Jedore Harbor should keep nearer the former.

Roger Island.

These Islands among which there are many Rocks, some of which are sunken and some are above water, lie about 2 miles Northeasterly from Jedore Rock Lighthouse, and are left well on the Starboard hand by vessels bound into Jedore Harbor.

Jedore Head.

This remarkable Headland, which is on the Western side of entrance to Jedore Harbor, attains an elevation of 200 feet above the level of the Sea, and lies about 1¾ miles **N.NW.** from Jedore Rock Lighthouse; on the Western side of the head are Cliffs of Red Clay nearly 70 feet high, and on its Southeast side are Cliffs of the same color, about 140 feet high. In approaching Jedore Harbor these Cliffs form an excellent landmark for mariners.

Remarks.

The entrance to Jedore Harbor from East Head to West Head is nearly ½ mile wide; but Thorn Shoal with only 9 feet water upon it at Low Tide, extends from the Western side nearly half way across, making the Channel narrow. About 4 fathoms water at Low Tide can be taken into the Anchorage, which is about 2 miles above the entrance, and with a pilot vessels can go further up.

Sailing Directions for Jedore Harbor in Daytime, with favorable winds and fair weather.

From the Westward, when Jedore Rock Lighthouse is made, bring it to bear from **E.** by **N.** to **NE.**, and run for it on these courses, leaving it about ½ mile on the Starboard hand. When past this Lighthouse, haul to the Eastward until it bears **SW.** by **S.**, on which bearing keep it, and steer **NE.** by **N.** for Eastern Head, leaving Thorn Shoal, which extends on the Western side, well on the Port hand. Continue the course **NE.** by **N.**, until about ¼ mile from the last-named Head. Then haul to the Northwestward around Thorn Shoal, keeping about midway and carrying not less than 4 fathoms water at Low Tide. When about ½ mile above the entrance, in order to avoid Bar Shoal, gradually haul over for the Western shore, keeping it best aboard, carrying from 5 to 7 fathoms water until about ⅓ mile from Marsh Point (which is on the Western side, about 1½ miles above

the entrance). Then keep midway, and anchor about ½ mile above it, nearer the Eastern side, in from 6 to 7 fathoms water at Low Tide.

From the Eastward, keep a sharp look-out for the Bell Buoy off to the Southward of Brig Rock. Egg Island Lighthouse bears from this Buoy **E.** by **N.** ½ **N.** 4 miles. When this Buoy is made, leave it close to on the Starboard hand, and make good the course **NW.**, leaving Arnold Rock (before described) well on the Starboard hand. Continue the course **NW.** until Jedore Rock Lighthouse bears **NE.** by **N.** Then steer more Northerly, leaving this Lighthouse well on the Starboard hand, and follow the directions before given.

With Northerly winds, vessels from the Eastward may pass within the Southwest Ledges by the following directions. As soon as Egg Island Lighthouse is made, bring it to bear **W. NW.**, and run for it on this course. When about 2 miles from this Lighthouse, keep a sharp look-out for the Transport Ledges, which lie about ½ mile to the Southward of it. As soon as these Ledges (which are above water) are made, run for them, leaving the Western part about ¼ mile on the Starboard hand. When Egg Island Lighthouse bears **NE.**, make good the course **NW.** by **W.** ½ **W.**, leaving Southwest Ledges well on the Port hand, and Macdonald Rock and Hopkin Rock well on the Starboard hand. As you draw near Jedore Rock Lighthouse, you will see on the Port, Old Man Rock (before described), and on the Starboard, Gull Rock. Keep nearer the former, and leave Jedore Rock Lighthouse about ¼ mile on the Port hand, and follow the directions before given.

High Water.

It is High Water in Jedore Harbor, on the days of the Full and Change of the Moon, at 7 h. 45 m., or 3 h. 44 m. before it is at Boston. Mean rise and fall of Tides, 5¾ feet.

CLAM BAY.

This Bay, which lies but a short distance to the Eastward of the entrance to Jedore Harbor, has many dangers in it, some of which are below and some above water, and affords no safe Anchorage for vessels.

Egg Island Lighthouse.

Upon the centre of Egg Island is a Tower, painted on the Seaward side in Black and White Vertical Stripes, which at this date (1884) shows a Flashing Red and White Light. This Light is intended to guide vessels clear of the Jedore Ledges. Egg Island is bold on its Northern side, and there is a good Channel, ¾ mile wide, between it and Flint Ledge and Long Island. Vessels passing through this Channel should keep nearer Egg Island.

Dangers in the Vicinity of Egg Island Lighthouse.

Transport Ledges.

These two Ledges, which lie about ⅓ mile to the Southward of Egg Island, are about 5 feet above High Water, and extend **E.** by **N.** and **W.** by **S.** ⅓ mile. They are bold on all sides except the Western, where a Rocky Shoal extends off **W.** by **S.** about 250 yards. There is a narrow Channel of 10 fathoms water between these Ledges and the Lighthouse. Vessels navigating this Passage should keep nearer the Ledges.

Pyche Rock.

This Rock has 18 feet water upon it at Low Tide. Egg Island Lighthouse bears from this danger **W.NW.** about ¾ mile.

Grizzle Rock.

This Rock has 24 feet water upon it at Low Tide. Egg Island Lighthouse bears from this danger **NW.** ¼ **N.** $\frac{8}{10}$ mile.

Brig Rock.

This dangerous Rock, which has but 3 feet water upon it at Low Tide, is marked at this date (1884) off its Southern part with a Bell Buoy. Egg Island Lighthouse bears from this Buoy **E.** by **N.** ½ **N.** 4 miles. In heavy weather large vessels should leave this Buoy at least a mile to the Northward, as there are several Shoal Spots to the Westward of it, one of which has but 5 fathoms water upon it.

Bull Shoal.

About 1¼ miles to the Eastward of Brig Rock is Bull Shoal, which has 18 feet water upon it at Low Tide. Egg Rock Light-

house bears from this danger **E.NE.** 2¾ miles. This Shoal rarely breaks, and is therefore extremely dangerous for large vessels.

Bull Rock.

This dangerous Rock, which lies about 2 miles to the Eastward of Brig Rock, has about 5 feet water upon it at Low Tide, and generally breaks with a little motion of the sea. Egg Island Lighthouse bears from this danger **E.NE.** about 2 miles.

Southwest Ledges.

These are three Rocky Patches extending **NE.** by **E.** and **SW.** by **W.** 600 yards, and are bare at Low Tide. They lie Northeasterly about 1¾ miles from Brig Rock. Egg Island Lighthouse bears from the centre of these dangers **E.** ½ **N.** 2¼ miles.

Barse Rock.

This Rock, which has not less than 24 feet water upon it at Low Tide, is the Southeasternmost danger lying off Egg Island. Egg Island Lighthouse bears from this danger **NW.** 3 miles. **E.** by **N.** ½ **N.** about ⅞ mile from Barse Rock, is Hurley Rock, with 24 feet water upon it at Low Tide. Both these dangers should be avoided by heavy draught vessels.

Little Rock.

This Rock, which has deep water all around it, has 24 feet upon it at Low Tide. Egg Island Lighthouse bears from this danger **W.** ¾ **N.** 7 miles.

Thick Weather.

In order to avoid the Jedore Ledges, and also the Ledges in the vicinity off Egg Island Lighthouse, vessels, in thick weather, should not approach these dangers in less than 35 fathoms water.

OWL'S HEAD BAY.

The entrance to this Bay, which is between Black Ledge on the West and Friar Island on the East, is about 1½ miles wide, and lies East-Northerly about 38 miles from Sambro Lighthouse,

5 miles East-Northerly from Egg Island Lighthouse, and about 20 miles to the Westward of Beaver Island Lighthouse.

Remarks.

Owl's Head Bay, it is said, is much frequented by coasters on account of the facility in beating in and out, there being but one danger in the Channel, Owl Rock, which lies on the Eastern side, and has but 9 feet water upon it at Low Tide. Five fathoms water can be carried in as far as Cable Point, which is on the Eastern side about 2 miles above the entrance. Above this the water shoals gradually to the Head. This Bay is exposed to Southeasterly winds, but vessels of not more than 12 feet draught may find shelter on either side, according to the direction of the wind, in about 2½ fathoms water at Low Tide.

Sailing Directions for Owl's Head Bay in Daytime, with favorable winds and fair weather.

From the Westward, leave Egg Island Lighthouse about ¾ mile on the Port hand and steer about **E.** by **N.** leaving Bald Rock (which is 8 feet above High Water and lies **E.** ½ **N.** 2½ miles from the Lighthouse) about ⅓ mile on the Port. Continue the course **E.** by **N.** about 1½ miles past Bald Rock; Owl's Head Bay will then be open and you may run in about North; when past Black Ledge, which lies at the Western side of entrance, in order to avoid Owl Rock keep the Western side best aboard and anchor above Cable Island, which is on the Eastern side, according to the wind, in from 3 to 5 fathoms water at Low Tide.

From the Eastward, as soon as Egg Island Lighthouse is made, bring it to bear West and run for it on this course. When about 5 miles from this Lighthouse, Owl's Head Bay will be open, and you may then run in. In order to avoid Owl Rock, which has 9 feet water upon it, after entering the Bay keep the Western side best aboard, and anchor as before directed.

In beating in you may approach the Western side within 400 yards without danger.

High Water.

It is High Water in Owl's Head Bay, on the days of the Full and Change of the Moon, at 7 h. 54 m., or 3 h. 35 m. before it is in Boston. Mean rise and fall of Tides, 5½ feet.

SHIP HARBOR.

The entrance to this Harbor, which is between Black Point on the East and Beach Point on the West, is about ¼ mile wide and lies East-Northerly 40 miles from Sambro Lighthouse, 11 miles East-Northerly from Jedore Rock Lighthouse, 7 miles North-easterly from Egg Island Lighthouse, and West-Northerly 20 miles from Beaver Island Lighthouse.

Dangers in approaching Ship Harbor.

In approaching Ship Harbor from the Westward, there are a number of dangers which lie off Nichol Island, which is on the Western side, among which are the Rocks called Eastern and Western Bulls, Friar Ledges and Flat Ledge; the two latter are above water. Vessels, therefore, in entering should leave these Ledges well to the Northward.

In approaching Ship Harbor from the Eastward, there are several Ledges which lie off Charles Island, which is on the Eastern side; the outermost is the Bull Rock, which has 4 feet water upon it at Low Tide, and generally shows a breaker. Vessels, therefore, in entering should leave these dangers well on the Starboard hand.

Bear Rock.

This small Rock, which lies nearly midway the entrance, is elevated about 4 feet above High Water. It is quite bold on its Eastern side, but a Reef, mostly dry, extends about 300 yards from its Western side, there is a good Channel on both sides of this Rock.

Northeast Shoal.

This small Shoal, which has 15 feet water upon it at Low Tide, lies **W.** ¾ **S.** ¾ mile from Bear Rock; Northeast Shoal is left to the Westward by vessels bound to Ship Harbor. There are also several outlaying dangers off the approach to this Harbor, among which are Little Rock and Broad Breaker; the former, which has 24 feet water upon it at Low Tide, lies **S.SE.** about 2 miles from Flat Ledge, which is on the Western side of the approach to Ship Harbor; the latter, which has the same depth upon it, lies 1½ miles **S.** by **E.** from Charles Point, which is on the Eastern side of the approach to this Harbor.

Remarks.

Ship Harbor is an Inlet more than 4 miles in length, but the entrance is but ¼ mile wide. With favorable winds it is not difficult of access. There is a sufficient depth of water for the heaviest draught vessels to enter at Low Tide, and when once in they may lie secure from all winds.

Sailing Directions for Ship Harbor in Daytime, with favorable winds and fair weather.

From the Westward, leave Egg Island Lighthouse about a mile on the Port hand, and when it bears North, make good the course **E.** by **N.** 7½ miles, leaving Bald Rock, Friar Ledges and Flat Ledges well on the Port hand. The approach to Ship Harbor will then be fairly open, and you may then run in, keeping a sharp lookout for Bear Rock (before described). When this small Rock, which lies nearly midway the entrance is made, in order to avoid the Reef, which extends about 300 yards to the Westward of it, leave this Rock about ¼ mile on the Starboard hand, and make good the course **N.** by **W.** ½ **W.** 1½ miles to Wolf Point, which is 80 feet high and is on the Western side. Leave the last-named point ¼ mile on the Port hand, and make good the course **NW.** about 2 miles to Lapstone Point. In order to clear Black Ledge, which lies on the Eastern side near the entrance of the Harbor, keep about 300 yards from the Western shore, carrying not less than 5 fathoms water. Haul round Beach Point (which is the next on the Western side) at a distance of about 150 yards, and run up about ¾ mile carrying deep water, and anchor in fron 4 to 5 fathoms water secure from all winds.

From the Eastward, leave Beaver Island Lighthouse about 3 miles on the Starboard hand, and when it bears **N.**, make good the course **W.** ½ **N.** 17 miles, leaving the numerous Rocks and Ledges which lie to the Westward of Beaver Island Lighthouse well to the Northward. The approach to Ship Harbor will then be open, bearing about **N.NW.**; then run in, keeping a sharp lookout for Bear Rock (before described). When this is made, leave it close to on the Port hand, and make good the course **NW.** by **N.** ½ **N.** 1½ miles to Wolf Point, and follow the directions before given.

Beating into Ship Harbor.

In beating into Ship Harbor there are two Reefs or Ledges, both of which lie on the Eastern side of the Channel. The former, Black Ledge, lies about ¼ mile below Black Point, which is on the Eastern side of the entrance. The latter, O'Brien Ledge, lies about ⅓ mile above the entrance. In order, therefore, to avoid these dangers, vessels beating into this Harbor should keep the Western shore best aboard, and make short tacks to the Eastward. It is, however, advisable for vessels, with Northerly winds, intending to make a Harbor, to anchor in Day Cove.

DAY COVE.

This Cove, which lies on the Western side about a mile below the entrance to Ship Harbor, has good Anchorage in from 2½ to 4 fathoms water.

Sailing Directions for Day Cove in Daytime, with favorable winds and fair weather.

Vessels from the Eastward or Westward may follow the directions before given for Ship Harbor, until abreast Wolf Point; then steer about **NW.** 1½ miles. Day Cove will then be fairly open, bearing about **W.** by **S.** ½ **S.** Then run in about midway and anchor in from 2½ to 4 fathoms water at Low Tide.

Beating up to Day Cove.

In beating up to this Cove, when past Bear Rock (before described), keep in mid-channel until the Cove is fairly open. Then run in as before directed.

High Water.

It is High Water in Ship Harbor, on the days of the Full and Change of the Moon, at 7 h. 54 m., or 3 h. 55 m. before it is at Boston. Mean rise and fall of Tides, 5½ feet.

SHOAL BAY.

The entrance to this Bay, which is the first to the Eastward of Ship Harbor, lies East-Northerly 9½ miles from Egg Island Lighthouse, and about 15 miles to the Westward of Beaver Island Lighthouse.

Dangers in entering Shoal Bay.

Baltee Shoal.

This danger, which lies on the Eastern side of Shoal Bay, has 20 feet water upon it at Low Tide. Charles Point, Western side of entrance to this Bay, bears from this danger **W.** by **S.** ½ **S.** about 1¼ miles.

Borgle Shoal.

This Shoal, which lies on the Western side of Shoal Bay, has 15 feet water upon it at Low Tide. A Red Cliff at the upper end of the Bay, just open to the Eastward of Borgle Bluff (which is on the Western side), bearing **N.NW.**, leads up to the Eastward of this danger.

Net Shoal.

This danger, which has about 18 feet water upon it at Low Tide, lies upon the Eastern side of Shoal Bay, nearly opposite Borgle Bluff, which lies on the Western side, and is about 80 feet high.

Eve Ledge.

This Ledge, which is awash at High Water, lies near the Head of the Bay on the Eastern side of the Channel. Borgle Bluff bears from the centre of this danger **S.** by **W.** about ⅝ mile.

Middle Ground.

This Shoal Spot, which has about 12 feet water upon it at Low Tide, lies near the Head of the Bay, on the Western side near the Anchorage. Borgle Bluff bears from this danger **SE.** about a mile.

Remarks.

Although this Inlet is called Shoal Bay, it has a sufficient depth of water to admit the heaviest draught vessels. Five fathoms can

be taken in to the Anchorage, which is on the Northwestern part, and is excellent, especially for large vessels. By avoiding the dangers given, this Bay is sufficiently wide for large vessels to beat in.

Sailing Directions for Shoal Bay in Daytime, with favorable winds and fair weather.

From the Westward, leave Egg Island Lighthouse about a mile on the Port hand, and when it bears **N.**, make good the course **E. ½ N.** 10 miles, leaving Little Rock, which has 24 feet water upon it, well on the Starboard, and Broad Rock, which has the same depth upon it, well on the Port hand. Shoal Bay will then be fairly open, and you may run in, keeping about midway. As you sail in, there will be seen on the Western side, Borgle Bluff, which is 80 feet high. Leave this Bluff, which is bold, about ¼ mile on the Port hand, and when past it, haul up **NW.**, carrying from 6 to 8 fathoms water. When past the Middle Ground (before described), steer about **W.**, and anchor at the Head of the Bay, in from 4 to 5 fathoms water at Low Tide. Borgle Bluff bears from this Anchorage **SE.** 1⅜ miles.

From the Eastward, leave Beaver Island Lighthouse about 3 miles on the Starboard hand, and when it bears **N.**, make good the course **W. ½ N.** about 13½ miles, leaving the numerous Rocks and Ledges which lie to the Westward of Beaver Island Lighthouse well to the Northward. Shoal Bay vill then be fairly open, bearing about **N.NW.** Then run in midway, and follow the directions before given.

Beating into Shoal Bay.

In beating into this Bay keep midway until past Borgle Shoal (before described); then keep the Western side best aboard and anchor as before directed.

High Water.

It is High Water in Shoal Bay, on the days of the Full and Change of the Moon at 7 h. 45 m., or 3 h. 44 m. before it is at Boston. Mean rise and fall of Tides, 5½ feet.

TANGIER HARBOR.

The entrance to this Harbor, which is the first to the Eastward of Shoal Bay, is between Tangier Island on the West and Ironbound Island on the East, is about ⅝ mile wide, and lies East-Northerly 11 miles from Egg Island Lighthouse, and West-Northerly 13 miles from Beaver Island Lighthouse. There is a narrow passage leading from Shoal Bay to Tangier Harbor, having about 12 feet water in it at Low Tide.

Dangers in entering Tangier Harbor.

Tangier Island Shoal.

This small Shoal, which is on the Western side of entrance to Tangier Harbor, has about 15 feet water upon it at Low Tide, and lies about ⅓ mile to the Southward of Tangier Island.

Pope Rock.

This Rock, which lies off the Eastern side of entrance to Tangier Harbor, is elevated about 3 feet above High Water. The Southern Point of Tangier Island, which lies on the Western side of entrance to this Harbor, bears from this danger **W.** ½ **S.** 1⅛ miles; Western end of Ironbound Island (Eastern side of entrance) **NW.** about a mile. Shoal water, with sunken Rocks, extends off to the Southward more than ½ mile from Pope Rock, and Shoal Water also extends some distance Northeasterly from it. Vessels in passing in or out should therefore give this Rock a wide berth.

Horse Rock.

This dangerous Rock, which has but 3 feet water upon it at Low Tide, is the outermost danger lying off the Eastern side of entrance to Tangier Harbor, and generally breaks with a little motion of the sea. Pope Rock (before described) bears from this danger **NW.** by **N.** ¼ **N.** 1½ miles.

Drunken Dick.

This Rock, which is bare at Low Tide, lies off the Eastern side of entrance to Tangier Harbor. Pope Rock bears from this dan-

ger about **E.SE.** nearly ½ mile; Western end of Ironbound Island Eastern side of entrance to Tangier Harbor **NW.** by **N.** about ⅛ mile.

Whale Back.

This Ledge, which is bare at Low Tide, lies nearly in mid-channel, a little more than a mile from the entrance. Porcupine Point* bears from this danger **SE.** about ½ mile. Channels lead up on both sides of Whale Back.

Shag Ledge.

This Ledge, which is about ½ mile above Whale Back, is bare at Low Tide, and lies nearly midway the passage. In entering Tangier Harbor, Porcupine Point bears from this danger about **SE.** nearly a mile. Channels lead up on both sides of Shag Ledge.

Remarks.

Tangier Harbor affords good Anchorage to all but Southeasterly winds. About 20 feet water at Low Tide can be carried in above Porcupine Point, and secure Anchorage for vessels of not more than 12 or 14 feet draught is found in Mason Cove, which is on the Eastern side about 2½ miles from the entrance.

Sailing Directions for Tangier Harbor in Daytime, with favorable winds and fair weather.

From the Westward, leave Egg Island Lighthouse about a mile on the Port hand, and when it bears North make good the course **E. ½ N.** about 11½ miles. Tangier Harbor will then be fairly open bearing **N.NW.**, then run in leaving the Ledges (before described) on the Eastern side of entrance well on the Starboard hand. When past Ironbound Island, keep about midway, carrying from 3½ to 4 fathoms water until Porcupine Point, which is on the Eastern side, bears about East; you are then past Porcupine Shoal, which lies on the Eastern side of entrance and has 15 feet water upon it. Then in order to clear Whale Back Ledge and Shag Ledge, steer more Easterly, leaving Porcupine Point not more than 300 yards on the Starboard hand. When past this

* Porcupine Point is a conspicuous Landmark 120 feet high, lying on the Eastern side of the entrance to Tangier Harbor.

Point run up and anchor to the Eastward of the last-named Ledges in from 3½ to 4 fathoms water at Low Tide. Porcupine Point bears from this Anchorage (which is about ¼ mile from the Eastern side) **S.SE.** ¼ mile.

Vessels of not more than 12 or 14 feet draught may go farther up and leave Hog Island Point (which is the first on the Eastern side above Porcupine Point) not more than 300 yards on the Starboard hand, and anchor about 350 yards to the Northward of Hog Island Point, secure from all winds, in from 12 to 15 feet water at Low Tide.

From the Eastward, leave Beaver Island Lighthouse about 3 miles on the Starboard hand, and when it bears North, steer about **W.** ½ **N.** about 13 miles, leaving the numerous Rocks and Ledges which lie to the Westward of Beaver Island Lighthouse well on the Starboard hand. Tangier Harbor will then be fairly open, and you may run in, leaving Horse Rock and Pope Shoals (before described) well on the Starboard hand, and follow the directions before given.

High Water.

It is High Water in Tangier Harbor, on the days of the Full and Change of the Moon, at 7 h. 40 m., or 3 h. 49 m. before it is at Boston. Mean rise and fall of Tides, 5½ feet.

POPE HARBOR.

The entrance to this Harbor, which is the next to the Eastward of Tangier Harbor, is between Pope Head on the East and Ironbound Island on the West, and lies East-Northerly 12 miles from Egg Island Lighthouse, and about 13 miles to the Westward of Beaver Island Lighthouse.

Pope Harbor Lighthouse.

Upon the Western end of Harbor Island is a White Square Wooden Building, with dwelling attached, which at this date (1884) shows a Red Fixed Light. Vessels bound in should leave this Lighthouse at least 250 yards on the Starboard hand.

Dangers in approaching and entering Pope Harbor.

Horse Rock.

This dangerous Rock (before described) has but 3 feet water on it at Low Tide, and lies on the Western side of approach to Pope Harbor. Pope Head, which is on the Eastern side of entrance to this Harbor, bears from this danger **N.** ¾ **E.** 1⅝ miles; Pope Rock (before described) **NW.** by **N.** ¼ **N.** 1½ miles.

Pope Rock.

This Rock, which lies off the Western side of entrance to Pope Harbor, is elevated about 3 feet above High Water. Pope Head, which is on the Eastern side of entrance to this Harbor, bears from this danger **E.** by **N.** ¾ **N.** a little more than a mile. Shoal Water, with Sunken Rocks, extends off to the Southward more than ½ mile from Pope Rock, and Shoal Water also extends some distance to the Northeastward from it. Vessels, therefore, in passing in or out should give this Rock a wide berth to the Westward.

Schooner Rock.

This danger, which has about 5 feet water upon it at Low Tide, lies nearly in mid-channel. Pope Harbor Lighthouse bears from this danger **N.** ¾ **W.** about ⅞ mile. The best Channel is to the Eastward of this Rock.

Black Rock.

This Rock, which is above water, is bold on all sides, and lies on the Western side of the Channel about $\frac{4}{10}$ mile above Schooner Rock. Pope Harbor Lighthouse bears from this danger **N.** by **E.** ½ mile. Between this Rock and the Western shore, there is a Channel of 20 feet water at Low Tide.

Barrier Reef.

This dangerous Reef, which extends off from the Eastern side of the entrance to Pope Harbor, is dry in some places, and is very bold on its Western part. Pope Harbor Lighthouse bears from the Western part of this danger **NW.** by **N.** ¾ **N.** about ½ mile. A Roman Catholic church on the Northern side of the Harbor, just open to the Westward of Pope Harbor Lighthouse, clears this danger.

Mink Islands.

These Islands, of which there are two, are small. Shoal Water, with Rocks above and below the surface, extends Northeasterly to the shore. Pope Harbor Lighthouse bears from the Westernmost of these Islands **SE.** ¾ **S.** about ⅓ mile.

Remarks.

This small Harbor, which lies to the Northeastward of Pope Harbor Lighthouse, has Anchorage which is safe from all winds. About 24 feet water, at Low Tide, can be taken in. It is necessary for large vessels to moor, as its width is not more than 300 yards. There is a narrow Passage having about 8 feet water in it at Low Tide, leading from Pope Harbor to Spry Harbor.

Sailing Directions for Pope Harbor in Daytime, with favorable winds and fair weather.

From the Westward, leave Egg Island Lighthouse about a mile on the Port hand, and when it bears **N.**, make good the course **E.** ½ **N.** 12½ miles, keeping a sharp look out for Horse Rock (before described). The sea generally breaks upon this danger. When this is made, leave it about ¼ mile on the Starboard hand, and when it bears **S.**, steer **N.** for Pope Head (which lies on the Eastern side of entrance), leaving Pope Rock and Shoals well on the Port hand. When about ¼ mile from Pope Head, which is bold, haul up about **NW.** by **N.**, leaving Schooner Rock and Black Rock (before described) well on the Port hand, and Barrier Reef (before described) well on the Starboard hand. Haul round the Lighthouse at a distance of about 300 yards, and anchor about midway, in from 4 to 5 fathoms water at Low Tide. The Lighthouse bears from this Anchorage **SW.** by **W.** about 400 yards.

From the Eastward, leave Beaver Island Lighthouse about 3 miles on the Starboard hand, and when it bears **N.**, make good the course **W.** ½ **N.** 11 miles, leaving the dangers which lie to the Westward of Beaver Island Lighthouse well on the Starboard hand. Pope Harbor will then be fairly open, bearing about **N. NW.** Then run in on this course, keeping a sharp look out for Horse Rock (before described). When this is made, leave it about ¼ mile on the Port hand, and steer about **N.** by **W.**, leav-

ing Pope Rock and Shoals well on the Port hand. When about ¼ mile from Pope Head (which lies on the Eastern side of entrance, and is bold), follow the directions before given.

High Water.

It is High Water in Pope Harbor, on the days of the Full and Change of the Moon, at 7 h. 40 m., or 3 h. 49 m. before it is at Boston. Mean rise and fall of Tides, 5½ feet.

SPRY HARBOR.

The entrance to this Harbor, which is the next to the Eastward of Pope Harbor, is between Taylor Head on the East and Pope Head on the West, is about 3 miles wide, and lies about 14 miles to the Eastward of Egg Island Lighthouse, and West-Northerly 10½ miles from Beaver Island Lighthouse.

Dangers in approaching and entering Spry Harbor.

Maloney Shoals.

These dangers, which lie near each other, are small, and have about 12 feet water upon them at Low Tide. They lie nearly midway the entrance to Spry Harbor. Maloney Rock, which is always above water, bears from the Eastern Shoal about **N.** by **E.** about ⅔ mile. The best Channel leading to Spry Harbor is to the Eastward of these dangers.

Herring Shoals.

These dangers, which are about ¾ mile to the Westward of Maloney Shoals, lie on the Western side of the entrance to Spry Harbor, and have 12 feet water upon them at Low Tide. Maloney Rock bears from these dangers **NE.** by **E.** about a mile.

Mad Moll Reef.

This dangerous Reef, which is bare in some places, extends about a mile to the Westward from Taylor Head (Eastern side

of entrance to Spry Harbor), and is bold on its Western side. Maloney Rock, always above water, bears from the Western end of this Reef **NW.** ¾ **N.** about ⅞ mile.

Maloney Rock.

This Rock, which is the guide in entering Spry Harbor, is always above water, and lies a short distance above the entrance, and is nearly in mid-channel. Taylor Head, Eastern side of entrance, bears about **E.SE.** 1⅝ miles. There is a narrow Channel of 6 fathoms water, about ¼ mile wide, to the Westward of this Rock.

Neverfail Shoal.

This danger, which has 17 feet water upon it at Low Tide, lies **E.** ½ **S.** about ¼ mile from Maloney Rock. The best Channel leading up to Spry Harbor is to the Eastward of this danger.

Shoal Spots.

These dangers, which have from 28 to 30 feet water upon them, lie Northeasterly from ½ to ¾ mile from Maloney Rock.

Bald Rock.

This Rock, which is above water, is quite bold on its Western side, and lies on the Eastern side of the Channel about 1½ miles above Maloney Rock. To the Eastward of this Rock are Leslie and Green Islands, both of which are small and surrounded by Shoal Water.

Ram Rock.

This danger, which is bare at Low Tide, is nearly opposite Bald Rock, and lies about ¼ mile from the Western shore. The Channel leading up to Spry Harbor is between Ram Rock and Bald Rock and is about ½ mile wide.

Remarks.

Spry Harbor is situated at the Southwest end of Spry Bay and is sufficiently commodious to accommodate a large fleet. The Anchorage, which is considered safe from all winds, is near the Southwest part in from 7 to 8 fathoms water, good holding ground. About 6 fathoms water can be taken into this Harbor at Low Tide.

Sailing Directions for Spry Harbor in Daytime, with favorable winds and fair weather.

From the Westward, leave Egg Island Lighthouse about a mile on the Port hand, and when it bears North, make good the course **E.** ½ **N.** 13½ miles, keeping a sharp lookout for Horse Rock (before described). The sea generally breaks upon this danger. When this Rock is made, leave it about ¼ mile on the Port hand, and steer **NE.** by **E.** for Taylor Head, which is composed of large White Rocks, is destitute of trees, lies on the Eastern side of entrance, and is easily distinguished. As you approach this head, keep a sharp lookout for Maloney Rock, which is always above water. When this bears **N.** by **W.** ½ **W.**, then run for it on this course, leaving it about 300 yards on the Port hand. When past this Rock, steer about North, keeping a sharp lookout for Bald Rock (before described); when this is made, leave it about 300 yards on the Starboard hand, and gradually haul to the Westward, and run in about midway, and anchor near the Southwest part of the Harbor in from 7 to 8 fathoms water at Low Tide.

From the Eastward, leave Beaver Island Lighthouse about 3 miles on the Starboard hand, and when it bears North, make good the course **W.** ½ **N.** about 9½ miles, leaving the dangers which lie to the Westward of Beaver Island Lighthouse well on the Starboard hand. When Taylor Head (which is composed of large White Rocks, is destitute of trees, and lies on the Eastern side of entrance to Spry Harbor) bears North, then run in about **N.NW.**, keeping a sharp lookout for Maloney Rock (which is always above water); when this Rock is made, bring it to bear **N.** by **W.** ½ **W.** and run for it on this course, and follow the directions before given.

High Water.

It is High Water in Spry Harbor, on the days of the Full and Change of the Moon, at 8 h. 2 m., or 3 h. 27 m. before it is at Boston. Mean rise and fall of Tides, 5½ feet.

TAYLOR BAY.

This Bay lies on the Northern side of Spry Harbor, and affords good Anchorage for light draught vessels.

Sailing Directions in Daytime.

Vessels bound to Taylor Bay, should follow the directions before given for Spry Harbor, until past Bald Rock. Then make good the course **NW.** by **N.** about a mile; Taylor Bay will then be fairly open and you may then run in. In order to avoid the Sunken Rocks, which lie on the Eastern side of the Channel, keep the Western side best aboard, and anchor when the water shoals to 3 fathoms at Low Tide, about ½ mile above the entrance. It is not prudent for strangers to go above this without a pilot.

MUSHABOON HARBOR.

This Harbor, which is next to the Eastward of Spry Harbor, is exposed to Southeasterly winds and affords no shelter for vessels only on the Eastern side near its head; during these winds it is therefore advisable for vessels seeking shelter, to make either Spry Harbor or Sheet Harbor, both of which are near the entrance to Mushaboon Harbor.

SHEET HARBOR.

The entrance to this fine Harbor, which is between Danbury Island on the East and Western Island on the West, is about ⅓ mile wide, and lies East-Northerly about 52 miles from Sambro Lighthouse, 19 miles East-Northerly from Egg Island Lighthouse, 74 miles to the Westward of Canso Lighthouse, and West-Northerly about 7 miles from Beaver Island Lighthouse.

Sheet Rock Lighthouse.

A little more than ½ mile without the entrance to Sheet Harbor is a small Islet which presents to Seaward a remarkable Cliff of Clay Slate resembling somewhat a suspended sheet. This is called Sheet Rock. Upon this Rock is a White Square Wooden Building, with dwelling attached, which at this date (1884) shows

every 40 seconds a Red Revolving Light. From Seaward this Light is only seen from **NE.** by **E.** ¾ **E.** to **NW.** ¾ **W.** Vessels bound to the Westward of this Lighthouse should leave it at least 300 yards on the Starboard hand, and vessels bound to the Eastward of it should leave it at least 250 yards on the Port hand.

Dangers in approaching Sheet Harbor from the Southwestward.

Yankee Jack.

This small dangerous Rock has 3 feet water upon it at Low Tide. Sheet Rock Lighthouse bears from this danger **NE.** by **N.** ¾ **N.** 4 miles; Taylor Head (composed of large White Rocks), **NW.** by **N.** ¼ **N.** 2¾ miles. With a smooth sea Yankee Jack is very dangerous. About ¼ mile **W.NW.** from Yankee Jack is another Rock with 12 feet water upon it at Low Tide.

Taylor Goose.

This dangerous Rock, which lies about ¾ mile to the Northwestward of Yankee Jack, is awash at High Water, and is bold on its Southeastern side. Vessels may pass to the Southward of this danger within a cable's length, but Shoal Water extends Northwesterly about ⅓ mile from it. Sheet Rock Lighthouse bears from Taylor Goose **NE.** by **N.** 4 miles; Taylor Head (composed of large White Rocks), **NW.** by **N.** ¾ **N.** 1¾ miles.

Mushaboon Shoal.

This small Rocky Patch, which lies about ¾ mile **NE.** by **N.** from Taylor Goose, has about 17 feet water upon it at Low Tide. Sheet Rock Lighthouse bears from this danger **NE.** by **N.** 3⅛ miles; Taylor Head, **NW.** ½ **W.** 1⅝ miles. The sea upon Mushaboon Shoal seldom breaks, but its position may be known by the bearings of Taylor Goose, which is awash at High Water.

Pyche Shoals.

These Shoals, which lie about a mile to the Eastward of Taylor Head, have in some places about 16 feet water upon them at Low Tide. Sheet Rock Lighthouse bears from the centre of these Shoals **NE.** ½ **E.** 2⅓ miles.

Dangers in approaching Sheet Harbor from the Southward and Eastward.

Logan Rock.

This Rock, which has about 20 feet water upon it at Low Tide, lies **E.** by **S.** ¼ **S.** 1½ miles from Yankee Jack. Sheet Rock Lighthouse bears from Logan Rock **N.** ¼ **E.** 4⅛ miles.

Western Shagroost.

This Rock, which is about 6 feet above High Water, is always visible in daytime. A Reef, which is dry in some places, extends about ⅔ mile from it in a Southwesterly direction. About ½ mile to the Eastward of this Rock there are several Rocky Patches. Sheet Rock Lighthouse bears from Western Shagroost **N.** by **W.** ¼ **W.** 3⅛ miles. Vessels bound into Sheet Harbor should give this Rock at least a berth of ¾ mile on either hand.

Munroe Rock.

This Rock, which lies about ⅞ mile to the Southward of Western Shagroost, has 11 feet water upon it at Low Tide. Sheet Rock Lighthouse, Western Shagroost and Munroe Rock lie nearly on a line.

Eastern Shagroost.

This is a low Rocky Ledge about 5 feet above High Water. Shoal Water lies from ¼ to ½ mile to the Northward and Westward of it. Sheet Rock Lighthouse bears from this danger **NW.** 3¾ miles. There is deep water between the Eastern Shagroost and Pumpkin Island, the latter of which lies **E.** by **N.** ¼ **N.** about 1⅞ miles from the former. About a mile **NW.** by **N.** from Eastern Shagroost is a Rocky Patch having about 19 feet water upon it at Low Tide.

Babin Shoal.

This danger, which lies about **NW.** by **N.** ¾ **N.** 1¼ miles from Western Shagroost, has 14 feet water upon it at Low Tide. Sheet Rock Lighthouse bears from this danger **N.** by **W.** 1¾ miles. Between Western Shagroost and Babin Shoal are several Rocky Patches having from 24 to 30 feet water upon them.

Macdonald Rock and Shoals.

This Rock, which is on the Eastern side of approach to Sheet Harbor, is dry at Low Tide, and lies on the extensive Macdonald Shoals, which extend off **SW.** by **W.** about ½ mile from Macdonald Point. Sheet Rock Lighthouse bears from the Western part of these Shoals **N.** by **W.** about a mile.

White Rock.

This Rock, which lies on the Eastern side of Sheet Harbor, has 9 feet water upon it at Low Tide. Sheet Rock Lighthouse bears from this danger **S.SW.** 1¼ miles. In order to clear this Rock, when running up the Lighthouse should be kept open about a vessel's length to the Westward of Danbury Island. This last-named Island, which is 60 feet high, lies on the Eastern side of entrance to Sheet Harbor, and bears **NE.** by **N.** ½ **N.** ¾ mile from the Lighthouse.

Remarks.

This excellent Harbor of Refuge, the entrance of which is between Western Island and Danbury Island, is about ⅓ mile wide. There is good Anchorage on the Western side in about 6 fathoms water at Low Tide immediately after entering. The Harbor extends inland more than 5 miles, and with one exception, by keeping midway, is navigable for heavy draught vessels nearly to its head. Good water may be obtained in this Harbor at Watering Cove, which is on the Western side about 3½ miles from the entrance. In approaching Sheet Harbor there are four passages leading in among the Rocks and Shoals, either of which may be used by large vessels as the wind or other circumstances may require.

Sailing Directions for Sheet Harbor in Daytime, with favorable winds and fair weather.

From the Westward, leave Egg Island Lighthouse about a mile on the Port hand, and when it bears North, make good the course East 14 miles, leaving Horse Rock well on the Port hand. Taylor Head, which is composed of Large White Rocks and is destitute of trees, will then bear **NE.** by **N.** ¼ **N.** about 3¼ miles. When this Head is made, run for it on this course until about ¾

mile from it; then steer East, leaving Yankee Jack, Taylor Goose, Mushaboon Shoal (before described) on the Starboard, and Pyche Shoals well on the Port hand. Continue the course East until Sheet Rock Lighthouse bears **NE.** by **N.**, then run for it on this course, and leave it about ¼ mile on the Starboard hand. When past this Lighthouse bring it to bear **S.** ½ **W.**, and run **N.** ½ **E.**, passing about midway between Danbury Island and Western Island. When past these Islands run up about **N.** by **E.** In order to avoid White Rock (before described), keep the Lighthouse open to the Westward of Danbury Island. When past this Rock keep midway, and anchor in from 6 to 8 fathoms water, about 4¼ miles above the Lighthouse, where you may lie secure from all winds.

From Seaward, keep a sharp lookout for Sheet Rock Lighthouse, and as soon as it is made, bring it to bear **N.** by **E.**, and run for it on this course, leaving Yankee Jack, Taylor Goose, and Mushaboon Shoals well on the Port, and Logan Shoal and Western Shagroost well on the Starboard hand. Continue the course **N.** by **E.** until about 1¼ miles from the Lighthouse, then gradually haul to the Westward and leave it about ¼ mile on the Starboard hand, and follow the directions before given.

From the Eastward, leave Beaver Island Lighthouse about a mile on the Starboard hand, and steer **W.** by **N.**, leaving the Eastern Shagroost well on the Starboard hand. Continue the course **W.** by **N.** until Sheet Rock Lighthouse bears **NW.** by **N.**, then run for it on this course passing about midway between the Rocks called Eastern and Western Shagroost; when the Western Shagroost, which is about 6 feet above High Water, bears **S.** by **W.** ½ **W.**, then steer **W. NW.** passing about midway between Babin and Macdonald Shoals. Continue the course **W.NW.** until Sheet Harbor Lighthouse bears **N.** by **E.**, then follow the directions before given.

With favorable winds, vessels of not more than 14 feet draught from the Eastward, may pass to the Northward of Beaver Island, by the following directions: When Beaver Island Lighthouse is made, bring it to bear **W.NW.** and run for it on this course. When about 1½ miles from it, steer more Northerly. As you sail in you will see Horse Island, which is 40 feet high, and lies about a mile to the Northwestward of Beaver Island; pass about midway between these two Islands, leaving Beaver Island Light-

house about ½ mile on the Port hand. When this Lighthouse bears **S.SE.**, make good the course **W.** ½ **N.**, leaving Pumpkin Island (which is nearly 100 feet high and bears **W.** by **N.** 1¾ miles from Beaver Island Lighthouse) not more than 250 yards on the Port hand. Continue the course **W.** ½ **N.** 4½ miles, or until Sheet Rock Lighthouse bears **N.** by **E.**, then run for it and follow the directions before given.

Vessels may find good Anchorage on the Western side of Sheet Harbor immediately within the entrance, by the following directions: When past Sheet Rock Lighthouse, bring it to bear **S.** ½ **W.** and steer **N.** ½ **E.**, passing about midway between Danbury Island and Western Island. When past these Islands, haul in and anchor in the Western part of the Harbor in from 6 to 8 fathoms water at Low Tide with good holding ground.

Beating into Sheet Harbor in Daytime.

When past Yankee Jack and Taylor Goose Rocks, vessels of not more than 15 feet draught may bring Sheet Rock Lighthouse to bear from **NE.** by **N.** to **N.** until about ¼ mile from it; then pass to the Eastward of the Lighthouse, where there are no dangers excepting those lying near the shores, and work in between Danbury Island and Western Island (before described), and anchor on the Western side, immediately within the entrance, in from 6 to 8 fathoms water.

Sailing Directions for Sheet Harbor at Night-time, with favorable winds and fair weather.

At night-time, from the Eastward or Westward, keep outside all the Ledges (before described) until Sheet Rock Lighthouse bears **N.** by **E.**, then run for it on this course until you judge you are about ½ mile from it, then haul round it leaving it about ¼ mile on the Port hand. When this Lighthouse bears **S.** ½ **W.**, steer **N.** ½ **E.** ¾ mile, passing midway between Danbury Island and Western Island. When past these Islands, haul in and anchor on the Western side of the Harbor, in from 6 to 8 fathoms water.

High Water.

It is High Water on the days of the Full and Change of the Moon, at 8 h. 6 m., or 3 h. 23 m. before it is at Boston. Mean rise and fall of Tides, 5½ feet.

BEAVER HARBOR.

The entrance to this Harbor, which is the first to the Eastward of Sheet Harbor, is easy of access, and lies East-Northerly 5 miles from Sheet Rock Lighthouse, and North-Westerly 4¾ miles from Beaver Island Lighthouse.

Beaver Island Lighthouse.

Upon the Eastern end of Beaver Island is a Dwelling painted White, with two Black Balls to Seaward. Upon the building is a lantern, which at this date (1884) shows a Revolving White Light which attains its greatest brilliancy every two minutes. Vessels bound to Beaver Harbor should leave this Lighthouse at least ⅓ mile to the Westward.

Bearings and Distances from Beaver Island Lighthouse.

		Distance.
Sambro Lighthouse, . . .	**W.** ¼ **S.**, ...	58 miles.
Egg Island Lighthouse, . .	**W.** ¼ **S.**, ...	24½ "
Green Island Lighthouse, .	**E.** ¼ **N.**, ...	38½ "
White Head Island Lighthouse, ...	**E.** ⅛ **N.**, ...	56½ "
Cranberry Island Lighthouse,	East-Northerly, . .	68 "

Dangers in approaching Beaver Harbor.

William Shoal.

This Shoal, which is the principal danger in approaching Beaver Island from Seaward, has 18 feet water upon it at Low Tide. Beaver Island Lighthouse bears from it **N.NW.** 2 miles.

Marmot Rock.

This danger, which is awash at low spring Tides, is the outermost on the Eastern side of the Channel leading up to Beaver Harbor. Beaver Island Lighthouse bears from this Rock **SW.** by **W.** ¾ **W.** 2⅛ miles.

Middle Shoal.

This Shoal, which lies on the Eastern side of the approach to Beaver Harbor, has about 14 feet water upon it at Low Tide.

Beaver Island Lighthouse bears from this danger **S.SW.** 1¾ miles. About ½ mile to the Westward of Middle Ground are two spots having from 24 to 26 feet water upon them at Low Tide.

Harbor Rock.

This Rock, which lies on the Eastern side of the Channel leading up to Beaver Harbor, is elevated 12 feet above High Water. Shoal Water extends about 250 yards to the Westward of this danger.

Sandy Island.

This Island, which is 20 feet high, lies about ¾ mile to the Northward of Harbor Rock, and is on the Eastern side of the Channel. Shoal Water extends off about ¼ mile from the Southern part of this Island. Between Sandy Island and Harbor Rock there are several spots having as little as 18 feet water upon them.

Horse Island.

This Island, which is 40 feet high, lies on the Western side of the approach to Beaver Harbor, and Northwesterly a little more than a mile from Beaver Island Lighthouse. Shoal Water extends off some distance from its Eastern part. Vessels, therefore, bound to Beaver Harbor, should leave this Island at least ½ mile to the Westward.

Sutherland Island.

This Island, which lies about a mile Northwesterly from Horse Island, is on the Western side of the Channel leading up to Beaver Harbor, and has upon it a conical-shaped Hill 107 feet high, which is a good landmark for vessels. Sutherland Island is quite bold, and vessels may approach its Eastern side within ⅛ mile without danger.

Remarks.

Beaver Harbor is comparatively easy of access. When past the Lighthouse, the Channel leading up is nearly straight to the Anchorage. The water is of a sufficient depth to admit the heaviest-draught vessels, and the shelter is good to all excepting Southeasterly winds. At such times vessels with a pilot may pass above Harwood Island and Rocky Island, and anchor in Inner Beaver Harbor (which is about 1¼ miles Northeasterly from Beaver Harbor), where they may lie secure from all winds.

Vessels of not more than 18 feet draught may also anchor in Macleod Cove, which is a little more than ½ mile to the Northward of Beaver Harbor. This last Anchorage is also secure from all winds.

Sailing Directions for Outer Beaver Harbor in Daytime, with favorable winds and fair weather.

From the Westward, when Beaver Island Lighthouse is made, bring it to bear **NE.** by **E.**, and run for it on this course, leaving William Shoal on the Starboard, and the dangers to the Westward of this Lighthouse well on the Port hand. When about a mile from Beaver Island Lighthouse, steer more Easterly, and haul around it at a distance of about ½ mile, leaving it on the Port hand. When this Lighthouse bears **W.**, make good the course **N.NW.**, leaving Horse Island and Sutherland Island (the latter of which is quite bold on its Eastern side) on the Port hand, and Middle Shoal well on the Starboard hand. As you sail in, you will see, about 3 miles above the Lighthouse, Harbor Rock, which is about 12 feet above High Water. Leave this Rock about ¼ mile on the Starboard hand, and steer about **NW.** by **N.** ¼ **N.** 1¾ miles. Then anchor, in from 6 to 8 fathoms water at Low Tide.

From the Eastward, as soon as Beaver Island Lighthouse is made, bring it to bear **W.NW.**, and run for it on this course until about ½ mile from it. Then steer about **N.NW.**, and follow the directions before given.

Beating into Beaver Island Harbor in Daytime.

Vessels beating into this Harbor, may bring the Lighthouse to bear from **NW.** by **N.** to **W.** by **N.** until about ½ mile from it. When abreast Sutherland Island, which is the second to the Northward of Beaver Island Lighthouse, the Western side is bold and free from dangers. Vessels may therefore approach the Western side within 300 yards without danger.

MACLEOD COVE.

This Cove, which lies a little more than ½ mile to the Northward of Beaver Harbor Anchorage, has about 20 feet water in it at Low Tide. Vessels of not more than 16 feet draught may enter it by the following directions.

Sailing Directions for Macleod Cove.

From the Eastward or Westward, follow the directions before given for Beaver Harbor until at the Anchorage. You will then see, about ½ mile to the Northward, Macleod Island, which is 40 feet high. The best Channel leading in is to the Westward of the last-named Island. When the passage is fairly open, run in about midway, carrying not less than 3 fathoms water at Low Tide. When past the last-named Island, gradually haul to the Eastward and anchor between it and the Northern side, in about 3 fathoms water at Low Tide, secure from all winds.

INNER BEAVER HARBOR.

This Harbor, which lies a little more than a mile Northeasterly from Outer Beaver Harbor, has good Anchorage in all winds. There are three passages leading in. The Eastern (which is between Harwood Island and the main land) is narrow and has about 20 feet water in it at Low Tide; the Middle passage (which is the widest) lies between Harwood Island and Rocky Island, and has about 6 fathoms water in it at Low Tide; the Western passage, which is very narrow, has about 4 fathoms water in it at Low Tide, and lies between Rocky Island and the main land. It is advisable for vessels of more than 10 feet draught, bound into Inner Beaver Harbor, to take pilots in the Outer Harbor, as Shoal Water extends off from both sides of the Islands, and there are also several Shoal Spots lying in the Channels.

Sailing Directions for Inner Beaver Harbor.

Vessels of not more than 10 feet draught, from the Eastward or Westward, may follow the directions before given for Outer

Beaver Harbor until abreast Harbor Rock. There will then be seen, about ¾ mile to the Northward, Sandy Island. Leave this Island, which is 20 feet high, about ¼ mile on the Starboard hand, and steer **N.** by **E.** ½ **E.**, passing midway between Harwood Island and Rocky Island, and carrying not less than 10 feet water at Low Tide, and anchor any where in the Harbor, in from 3 to 5 fathoms water, good holding ground.

High Water.

It is High Water in Beaver Harbor, on the days of the Full and Change of the Moon, at 7 h. 40 m., or about 3 h. 49 m. before it is at Boston. Mean rise and fall of Tides, 5½ feet.

NICOMTAU BAY.

The entrance to this Bay, which is between Halibut Islands on the East and Bird Islands on the West, is about 3¼ miles wide, and lies East-Northerly 5½ miles from Beaver Island Lighthouse, and about 13 miles to the Westward of Liscomb Harbor Lighthouse.

Dangers in approaching and entering Nicomtau Bay.

Bassoon Reefs.

These Reefs, which are the outermost dangers in entering Nicomtau Bay, are on the Western side of the approach, and extend North and South about a mile, and are bare in some places at Low Tide. Beaver Island Lighthouse bears from the Southern part of these dangers, West, 4¼ miles.

Bird Islands.

These Islands, of which there are four, are low, without trees, and lie Northwesterly about 1½ miles from the centre of Bassoon Reefs. Beaver Island Lighthouse bears from the centre of these Islands **W.SW.** 3½ miles.

Bird Islands' Shoal.

This Shoal, which lies East-Northerly about a mile from Bird Islands, has 6 feet water upon it at Low Tide, and is on the Western side of entrance to Nicomtau Bay.

Bowen Ledge.

This Ledge, which is a bare, flat Slaty Rock, is only 8 feet above High Water, and lies on the Eastern side of the approach to Nicomtau Bay. About **SE.** 1½ miles from this Ledge, is a spot of 18 feet called the Horseshoe. This is one of the outermost dangers for vessels from the Eastward, approaching Nicomtau Bay or Beaver Harbor. Beaver Island Lighthouse bears from the Horseshoe Shoal **W.** ¾ **N.** 9½ miles.

Halibut Islands.

These Islands, the highest of which is 35 feet, are about a mile in extent and mark the Eastern side of the entrance to Nicomtau Bay. Beaver Island Lighthouse bears from these Islands **W.** by **S.** 7 miles. About ½ mile Southwesterly from the Halibut Isles, is the Pollock Rock with 17 feet water upon it at Low Tide.

Salamander Rock.

This Rock, which is nearly dry at Low Tide, lies on the Eastern side of the entrance to Nicomtau Bay. The Western end of the highest Halibut Island bears from this danger, South, ¾ mile.

Kitts Reef.

This Reef, which has but little water upon it at Low Tide, lies on the Western side of the approach to Nicomtau Bay. The Western end of the highest Halibut Island bears from this danger **SE.** ¼ **E.** about 1¾ miles. The Channel leading in between Salamander Rock and Kitts Rocks is about 1¼ miles wide.

Harbor Rock.

This Rock, which is the guide to Nicomtau Bay, is 30 feet above High Water, and lies nearly in mid-channel. Vessels bound up the Bay, may leave this Rock 150 yards on either hand.

Bull Rock.

This Rock, which has but little water upon it at Low Tide, lies a little more than ¼ mile **E.** ¼ **S.** from Harbor Rock. Between Bull Rock and the Eastern side of the Bay there is a Channel about ¼ mile wide, with a depth of 6 fathoms water in it.

Ship Island Shoal.

This Shoal, which has 16 feet water upon it at Low Tide, lies **NW.** by **N.** about ¼ mile from Harbor Rock. There is a narrow Passage of 9 fathoms water between Harbor Rock and Ship Island Shoal.

Remarks.

From the Halibut Islands, which lie on the Eastern side of the entrance to the Anchorage near the Head of this Bay, the distance is about 3 miles. About 6 fathoms water, at Low Tide, can be carried to this Anchorage. There is also Anchorage in from 8 to 10 fathoms water on the Western side of this Bay, in all excepting Southeasterly winds.

Sailing Directions for Nicomtau Bay in Daytime, with favorable winds and fair weather.

From the Westward, leave Beaver Island Lighthouse about a mile on the Port hand, and when it bears **N.**, make good the course **E.** about 6 miles, leaving the Bassoon Reefs (before described) well on the Port hand. Nicomtau Bay will then be fairly open, and you may run in about **N.**, leaving the Halibut Islands (before described) about ¾ mile on the Starboard hand. When the Western end of the highest of the Halibut Islands bears **E.**, then steer about **N.** by **E.**, keeping a sharp lookout for Harbor Rock (before described). When this is made, bring it to bear **N.** by **E.** ½ **E.**, and run for it on this course, leaving it about 150 yards on either hand, and steer about **NE.** by **E.** ¼ **E.**, and anchor on the Eastern side near the Head, in from 5 to 6 fathoms water at Low Tide.

White Islands.

These Islands, which are Wooded, show White Cliffs to Seaward, and are elevated at their Eastern extremity about 80 feet above the level of the sea. They lie off the Eastern entrance to

Nicomtau Bay, and bear from Beaver Island Lighthouse **E.** about 9 miles. The White Islands may be approached on their Southern and Eastern sides within ½ mile, but Shoal Water extends off a long distance from their Northern part.

Vessels from the Eastward bound to Nicomtau Bay may, as soon as the White Islands are made, bring their highest part to bear **W.NW.**, and run for them, leaving little White Island (which is 50 feet high) well on the Starboard hand. When about a mile from these Islands, steer more Westerly, leaving Bowen Ledge (before described) about ½ mile on the Starboard hand. When past this Ledge, steer more Northerly, leaving the Halibut Islands about ¾ mile on the Starboard hand, and follow the directions before given..

Vessels may anchor on the Western side of Nicomtau Bay, nearly opposite the Halibut Islands, by the following directions.

Follow the directions before given until Nicomtau Bay is well open. You will then see, on the Western side, nearly opposite the Halibut Islands, Broken Back Island, which is small, and is elevated 60 feet above High Water. When this Island bears **NW.** by **N.**, then run for it on this course until about ½ mile from it. Then steer more Northerly, leaving this last-named Island (which is bold on its Eastern end) ¼ mile on the Port hand, and Kitts Reef (before described) well on the Starboard hand, and run up about **N.NW.**, and anchor at the Head, in from 8 to 10 fathoms water at Low Tide. This Anchorage is exposed to Southeasterly winds.

High Water.

It is High Water in Nicomtau Bay, on the days of the Full and Change of the Moon, at 8 h. 3 m., or 3 h. 26 m. before it is at Boston. Mean rise and fall of Tides, 5½ feet.

BAY OF ISLANDS.

This is the name generally given to the coast between Beaver Island Lighthouse and Mary-Joseph Harbor. The Islands off this part of the coast are very numerous, with Channels between them,

which in many cases are narrow, with Ledges and Rocks in them. There is generally a sufficient depth of water in these Channels for large vessels, but no suitable sailing directions can be given. It is therefore advisable for strangers navigating this part of the coast to employ pilots.

MARY-JOSEPH HARBOR.

This Harbor, which is the first to the Westward of Liscomb Harbor, lies East-Northerly 71 miles from Sambro Lighthouse, 37½ miles East-Northerly from Egg Island Lighthouse, 13½ miles East-Northerly from Beaver Island Lighthouse, 55 miles to the Westward of Cranberry Island Lighthouse (Cape Canso), and 25 miles to the Westward of Green Island Lighthouse.

Remarks.

Mary-Joseph Harbor is well sheltered from all winds. It has two passages leading in, one from the Eastward, the other from the Westward. About 5 fathoms water can be taken in at Low Tide, but the Channels are so narrow, and the dangers so numerous without any leading marks or bearings to clear them, that it is advisable for strangers not to attempt it without pilots.

LISCOMB HARBOR.

The entrance to this excellent Harbor, which is between the Western end of Liscomb Island on the East and Liscomb Point on the West, is about ¾ mile wide, and lies East-Northerly 75 miles from Sambro Lighthouse, 42 miles East-Northerly from Egg Island Lighthouse, 17½ miles East-Northerly from Beaver Island Lighthouse, 22 miles West-Northerly from Green Island Lighthouse, and 51½ miles to the Westward of Cranberry Island Lighthouse (Cape Canso).

Liscomb Harbor Lighthouse.

Upon the Western end of Liscomb Island, East side of entrance to Liscomb Harbor, is a White Square Wooden Building,

which at date this (1884) shows a Red and White Revolving Light. In order to avoid Mackerel Shoal, vessels should leave this Lighthouse at least ¼ mile to the Eastward.

Dangers in approaching and entering Liscomb Harbor.

Hawbolt Rock.

This Rock, which has 27 feet water upon it at Low Tide, is the outermost danger in approaching Liscomb Harbor from the Southwestward. Liscomb Harbor Lighthouse bears from this danger **N.** by **E.** 4¼ miles.

Sand Shoal.

This Rocky Shoal, which is nearly ⅓ mile in extent, has 9 feet water upon it at Low Tide. Liscomb Harbor Lighthouse bears from this danger **N.** by **E.** ½ **E.** 3½ miles.

Lang Shoal.

This small Shoal, which lies about ⅓ mile to the Northward of Sand Shoal, has 10 feet water upon it at Low Tide. Liscomb Harbor Lighthouse bears from this danger **N.NE.** 2¾ miles.

Macinlay Shoal.

This rocky Shoal, which lies **SE.** by **E.** ½ **E.** ⅔ mile from Lang Shoal, has about 28 feet water upon it at Low Tide. Liscomb Harbor Lighthouse bears from this danger **N.** by **E.** 3 miles.

Black Prince Ledge.

This dangerous Ledge, which lies a short distance Northeasterly from Lang Shoal, is bare at Half Tide. Liscomb Harbor Lighthouse bears from this danger **N.** by **E.** ⅝ **E.** 2½ miles.

Northeast Breaker.

This small rocky Shoal, which lies Northeasterly about ⅔ mile from Black Prince Ledge, has but 4 feet water upon it at Low Tide. Liscomb Harbor Lighthouse bears from this danger **N.** by **E.** 1⅞ miles.

Lump Rock.

This small spot, which lies nearly ½ mile Northwesterly from the Northeast Breaker, has 11 feet water upon it at Low Tide. Liscomb Harbor Lighthouse bears from this danger **NE.** by **N.** ½ **N.** 1¾ miles.

Seal Ledge.

This danger, which extends off more than a mile from the Eastern part of Barren Island, lies on the Western side of the approach to Liscomb Harbor. Some of the Rocks on it are above High Water, and some are bare at Low Tide. Liscomb Harbor Lighthouse bears from the Eastern part of Seal Ledge **NE.** ½ **N.** about 3 miles.

Channel Rock.

This danger, which is the Southeasternmost in approaching Liscomb Harbor, has 18 feet water upon it at Low Tide. Liscomb Harbor Lighthouse bears from this Rock **NW.** ¼ **W.** 3¾ miles.

Crook Shoals.

These Rocky Shoals, which are bare in some places at Low Tide, extend off Southeasterly nearly a mile from the Southeast part of Liscomb Island, upon which the Lighthouse stands. Vessels from the Eastward bound to Liscomb Harbor should give these dangers a wide berth.

Liscomb Shoal.

This danger, which extends off about **SE.** by **E.** ½ mile from Liscomb Point, has from 3 to 15 feet water upon it at Low Tide, and lies on the Western side of entrance to Liscomb Harbor. Liscomb Harbor Lighthouse bears from the Southeastern end of this Shoal **N.NE.** about ¾ mile. Vessels bound in should beware of this danger.

Mackerel Shoal.

This danger, which has but 2 feet water upon it at Low Tide, lies **W.** by **S.** 350 yards from Liscomb Harbor Lighthouse. In order to avoid Mackerel Shoal, vessels bound in should leave this Lighthouse at least ¼ mile to the Eastward.

Remarks.

This excellent and capacious Harbor, which is completely landlocked, makes in about **W.NW.** 5 miles from the Northwestern end of Liscomb Island, on which the Lighthouse stands. A Shoal, nearly dry at Low Tide, extends off Southwesterly about 400 yards from Wilson Point, which is on the Northern side of the Harbor about 3¼ miles above the Lighthouse. About 27 feet water at Low Tide can be taken in abreast the watering place, which is on the Southern side about 2¾ miles above the Lighthouse; and by keeping the Southern side best aboard about 17 feet can be taken up near the head, which is about 2¾ miles above this last-named place.

Sailing Directions for Liscomb Harbor in Daytime, with favorable winds and fair weather.

From the Westward, leave Beaver Island Lighthouse about 3 miles to the Northward, and steer about East, which will clear all the Shoals and Ledges. When Liscomb Harbor Lighthouse is made, bring it to bear North and run for it on this course, leaving Sand Shoal, Lang Shoal, Black Prince Ledge and Northeast Breaker, all of which have been described, well on the Port hand. Continue the course for the Lighthouse until about ½ mile from it, then gradually haul to the Westward, and in order to avoid Mackerel Shoal, leave the Lighthouse not less than ⅓ mile on the Starboard hand. When about a mile past this Lighthouse the harbor will then be fairly open bearing about **W.NW.**, then run in, keeping the Southern side best aboard, and anchor where you please.

From the Eastward, in order to clear Crook Shoals (before described), do not approach the Southeast end of Liscomb Island nearer than a mile. When the Lighthouse bears **N.NW.**, then run for it on this course until about ½ mile from it, then gradually haul to the Westward and follow the directions before given.

Beating into Liscomb Harbor.

In beating into Liscomb Harbor, keep outside all the Shoals and Ledges (before described) and work in with the Lighthouse bearing from **N.** to **N.NW.** until about ½ mile from it. Then, in order to avoid Mackerel Shoal, keep in mid-channel until

past Smoke Point (which is the first above the Lighthouse on the Western side), then run up and anchor where you please.

Sailing Directions for Liscomb Harbor at Night-time, with favorable winds and fair weather.

From the Eastward or Westward, keep outside all the dangers until Liscomb Harbor Light bears **N.** by **W.**, then run for it on this course until about ½ mile from it. Then gradually haul to the Westward, and in order to avoid Mackerel Shoal, keep about midway the passage, until the Light bears **SE.** by **S.**; then gradually haul to the Westward and run up, keeping the Southern side best aboard, and anchor in from 4 to 5 fathoms water at Low Tide.

High Water.

It is High Water in Liscomb Harbor, on the days of the Full and Change of the Moon, at 8 h. 0 m., or 3 h. 29 m. before it is at Boston. Mean rise and fall of Tides, 5½ feet.

SPANISH SHIP BAY.

The entrance to this small Bay, which is on the Northern side of Liscomb Harbor, lies **NW.** about 2½ miles from Liscomb Harbor Lighthouse.

Remarks.

At Low Tide, about 15 feet water can be carried into Spanish Ship Bay, where vessels may lie secure from all winds. But the Channel leading in is very narrow, and there are several obstructions lying in it without any leading marks or bearings to clear them. It is therefore advisable for strangers to take pilots.

LITTLE LISCOMB HARBOR.

The entrance to this small Harbor, which is between Hog Island on the West and Redman Head on the East, is about ½ mile wide, and lies about 1½ miles Northeasterly from Liscomb Harbor Lighthouse.

Remarks.

A little above Redman Head there is good anchorage in 4 fathoms water at Low Tide in all but Southerly and Southeasterly winds; and farther in there is safe anchorage for light draught vessels, secure from all winds.

Sailing Directions for Little Liscomb Harbor in Daytime, with favorable winds and fair weather.

From the Westward, in order to avoid Crook Shoals (before described), leave the Southeast end of Liscomb Island not less than a mile to the Northward. When past this Island you will see Redman Head, which is 100 feet high, and lies **N.** by **W.** about 1½ miles from the Southeast end of this last-named Island. When the Western part of Redman Head bears **NW.** by **N.**, then run for it on this course and leave it about 300 yards on the Starboard hand, and run up midway, and anchor in from 2 to 4 fathoms water at Low Tide.

From the Eastward, leave Wedge Island Lighthouse about a mile to the Northward, and run **W.** by **N.** until Redman Head is on with the Eastern end of Hemloe Island, bearing **NW.** by **N.** Then run in on this range, leaving the Tobacco Ledges and Shag Ledges well on the Starboard hand, and follow the directions before given.

JEGOGAN HARBOR.

The entrance to this Harbor, which is between Byrne Head on the East and Redman Head on the West, is about 2 miles wide, and lies about 2½ miles Northeasterly from Liscomb Harbor Lighthouse and about 2 miles Northwesterly from Wedge Island Lighthouse.

Remarks.

The entrance to this Harbor is much obstructed by Shag and Tobacco Ledges. There are two Channels leading in; one to the Eastward of Tobacco Island (which is 40 feet high, and lies nearly midway the entrance), the other to the Westward of this

Island. There is Anchorage in about 4 fathoms water about 2 miles above Tobacco Island, but it is somewhat exposed to Southerly winds, which bring in considerable sea. Vessels of not more than 12 feet draught may anchor near the Head above Rae Island, where they may lie secure from all winds.

Sailing Directions for Jegogan Harbor in Daytime, with favorable winds and fair weather.

Vessels of not more than 15 feet draught, from the Westward, may, when Wedge Island Lighthouse is made, bring it to bear **NE.**, and run for it on this course, leaving Crook Shoals, which lie off to the Southeastward of Liscomb Island, well on the Port hand. When about a mile from Wedge Island Lighthouse, in order to avoid the Ledges which lie to the Southward and Southwestward of it, haul to the Westward, leaving it not more than ¼ mile on the Starboard hand. When the Lighthouse bears **SE.**, steer **NW.** As you sail in, Tobacco Island, which is 40 feet high, will be seen on the Port hand, and further in Tobacco Ledge, which is small. Leave this Island and Ledge about 250 yards on the Port hand. When past the Ledge, in order to avoid the dangers which extend off from both sides, keep midway the Harbor, and anchor above Brig Point (which is on the Western side about 1½ miles above Tobacco Island), in about 4 fathoms water at Low Tide.

Vessels of not more than 12 feet draught, with pilots, may go further up, and anchor above Rae Island, where they may lie secure from all winds.

High Water.

It is High Water in Jegogan Harbor, on the days of the Full and Change of the Moon, at 7 h. 57 m., or 3 h. 32 m. before it is in Boston. Mean rise and fall of Tides, 5½ feet.

ST. MARY RIVER.

The entrance to this River, which is between Cape St. Mary on the East and Barachois Point on the West, is about 1½ miles wide, and lies 80 miles to the Eastward of Sambro Island Light-

house, East-Northerly 24 miles from Beaver Island Lighthouse, East-Northerly 49 miles from Egg Island Lighthouse, 44 miles to the Westward of Cranberry Island Lighthouse (Cape Canso), 15 miles to the Westward of Green Island Lighthouse, and about 2 miles to the Northward of Wedge Island Lighthouse.

Wedge Island Lighthouse.

Off the Western side of entrance to St. Mary River, is an Islet having a White Square Wooden Building upon it, with dwelling attached. At this date (1884) a Revolving Red Light is shown from this Lighthouse. Ledges extend off nearly ½ mile both to the Northward and Southward of Wedge Island, but it is quite bold on its Western side.

Remarks.

St. Mary River is one of the largest in Nova Scotia. From the entrance to the town of Sherbrooke, which is situated on its Eastern bank at the Head of Navigation, the distance is about 8 miles. The entrance to this River is obstructed by a Sand Bar which has about 9 feet water upon it at Low Tide. There are also many dangers in it, making it necessary to employ a pilot. About 6 feet water, at Low Tide, can be taken up to the town of Sherbrooke.

High Water.

It is High Water on St. Mary Bar, on the days of the Full and Change of the Moon, at 8 h. 0 m., or about 3 h. 29 m. before it is at Boston. Mean rise and fall of Tides, 5½ feet.

INDIAN BAY.

The entrance to this Bay, which is between Walter Island on the West, and Hollins Head on the East, is about 3 miles wide, and lies East-Northerly about 5 miles from Wedge Island Lighthouse, and West-Northerly about 10 miles from Green Island Lighthouse.

Walter Island.

This Island, which is on the Western side of entrance to Indian Bay, is low and Wooded, and lies about 2 miles to the Eastward

of Cape St. Mary. Walter Island is quite bold on its Southern side, but a Ledge of Rocks extends off about 400 yards from its Eastern side.

Walter Shoal.

This Shoal, which has about 17 feet water upon it at Low Tide, lies about ¾ mile to the Southward of Walter Island. Wedge Island Lighthouse bears from this danger **W.** by **S.** ½ **S.** 3¼ miles. Vessels bound to the Westward will clear this danger by keeping Wedge Island Lighthouse open to the Southward of Liscomb Island.

Rude Shoal.

This is a Rocky Shoal, which extends off in an Easterly direction about ½ mile from Wine Head, which is on the Western side of Indian Bay, about ¾ mile above Walter Island. In order to avoid Rude Shoal, vessels bound into this Bay should leave this Head about ¾ mile to the Westward.

Hollins Head.

This Head, which is on the Eastern side of entrance to Indian Bay, shows from the Eastward a Red Cliff 50 feet high, which is said to be fast wasting away by the action of the sea. Hollins Head is a remarkable Peninsula united to the main land by a long Beach of flat stones. Wedge Island Lighthouse bears from this Head **W.** by **S.** 6¾ miles; Green Island Lighthouse, **E.** by **S.** 8½ miles. Hollins Head is bold on its Eastern side, and vessels may approach within ¼ mile on that side, but Shoal Water, with Ledges, extends off a long distance from its Southern and Western sides.

Nixonmate Shoal.

This Rocky Shoal, which lies on the Eastern side of entrance to Indian Bay, extends off Southwesterly nearly 1½ miles from Hollins Head (before described). Vessels from the Eastward, bound into Indian Bay, should leave this Head at least 2 miles to the Northward.

Remarks.

Indian Bay has a sufficient depth of water to admit the heaviest draught vessels, but it is exposed to Southeasterly winds which bring in a heavy sea. A fresh water Lake empties into this Bay from which it is only separated by a narrow Sand Beach.

Sailing Directions for Indian Bay in Daytime, with favorable winds and fair weather.

From the Westward, leave Wedge Island about a mile on the Port hand, and when the Lighthouse bears North, make good the course **E.NE.** about 5 miles. Indian Bay will then be well open, and you may then run in about midway and anchor near the head according to draught, in from 2½ to 5 fathoms water at Low Tide.

From the Eastward, bound to Indian Bay, in order to avoid the Ledges, leave Green Island Lighthouse about 3 miles on the Starboard hand, and when it bears North, make good the course **W.** ¾ **N.** about 10 miles, leaving the Middle Ledge (which is bare at Half Tide and bears **SW.** by **W.** 3½ miles from Green Island Lighthouse) on the Starboard hand. Indian Bay will then be well open, and you may then run in, leaving Nixonmate Shoal (before described) well on the Starboard hand, and follow the directions before given.

High Water.

It is High Water in Indian Bay, on the days of the Full and Change of the Moon, at 7 h. 55 m., or 3 h. 34 m. before it is at Boston. Mean rise and fall of Tides, 5½ feet.

HOLLINS BAY.

The entrance to this Bay, which is the first to the Eastward of Indian Bay, lies between Hollins Head on the West and Bickerton Island on the East, and is about 1¾ miles wide.

Remarks.

Hollins Bay has a sufficient depth of water to admit the heaviest draught vessels, but it is open to Southeasterly winds and only affords shelter at its head for boats and small craft. At the entrance nearly in mid-channel is Hollins Shoal with only 6 feet water upon it at Low Tide. In order to avoid this danger, vessels entering this Bay should therefore keep nearer the Western side.

PORT BICKERTON.

The entrance to this safe and convenient little Harbor for light draught vessels, lies West-Northerly 6¾ miles from Green Island Lighthouse, and is the first inlet to the Eastward of Hollins Bay.

Remarks.

The passage leading into Port Bickerton is only 400 yards wide, and lies between Bickerton Island on the West and Barachois Head on the East; the former is 50 feet high and the latter 55 feet high. Barachois Head may be known by its White Cliffs. Six fathoms water can be taken through the entrance, and about 12 feet water at Low Tide can be carried up to the anchorage. In approaching Port Bickerton and Hollins Bay from the Eastward, there are two dangerous Rocks, one of which is called Castor, the other Pollux; a description of these dangers will be given hereafter.

Sailing Directions for Port Bickerton in Daytime, with favorable winds and fair weather.

Vessels of not more than 12 feet draught, from the Westward, may leave Wedge Island about a mile on the Port hand, and when the Lighthouse bears North, make good the course East, leaving Nixonmate and Castor Shoals well on the Port hand. As soon as Green Island Lighthouse is made, bring it to bear **E.** ¾ **N.**, and run for it on this course, keeping a sharp lookout for the Pollux; this is a small Rock about 4 feet above High Water, and lies **W.** ¾ **S.** 5½ miles from Green Island Lighthouse. When this Rock is made, leave it about ¼ mile on the Starboard hand, and when it bears East, steer for the White Cliffs on Barachois Head bearing **N.** by **W.** ¼ **W.**, leaving the small rock (which is 4 feet above water) called the Castor well on the Port hand. When about ¾ mile from this head the narrow passage leading into Port Bickerton will then be open bearing about **N.NW.** In order to avoid the Ledges which extend off from both sides, keep midway the passage, and when past the entrance haul to the Northwestward and anchor when the water shoals to 2 fathoms at Low Tide. A rocky Shoal having but 2 feet water

upon it lies nearly in the middle of this Harbor. Channels lead up on both sides of this danger.

From the Eastward, when Green Island Lighthouse is made, bring it to bear **W.** by **N** ½ **N.** and run for it on this course, leaving Brandy Ledge well on the Starboard hand. When about 1½ miles from this Lighthouse, gradually haul to the Westward, leaving it about ½ mile on the Starboard hand. Bring this Lighthouse to bear **E.** ¾ **N.**, and make good the course **W.** ¾ **S.** for the Pollux Rock, leaving Tomcod Shoals well on the Port and Rose Shoal well on the Starboard hand. When the Pollux Rock (which is small and is elevated 4 feet above High Water), is made, gradually haul to the Westward, leaving it at least ¾ mile on the Port hand. When the White Cliffs on Barachois Head bear **N.** by **W.** ¼ **W.**, then run for them on this course and follow the directions before given.

COUNTRY HARBOR.

The entrance to this fine Harbor, which is between Harbor Point on the East and the main land on the West, is about ⅓ mile wide, and lies 93 miles to the Eastward of Sambro Lighthouse, about 60 miles to the Eastward of Egg Island Lighthouse, 35 miles to the Eastward of Beaver Island Lighthouse, 12½ miles East-Northerly from Wedge Island Lighthouse, 34 miles to the Westward of Cranberry Island Lighthouse (Cape Canso), and Northwesterly about 7 miles from Green Island Lighthouse.

Green Island Lighthouse.

Upon the Southern end of Green Island is a White Square Wooden Building, which at this date (1884) shows a fixed White Light which is intended to guide vessels to Fisherman's Harbor and Country Harbor. Shoal Water extends Northeasterly a long distance from Green Island, but vessels may approach its Southwestern, Southern and Southeastern sides within ¼ mile without danger.

Dangers in approaching Country Harbor from the Eastward.

Brandy Ledge.

This Ledge is about ¾ mile in length and about ⅓ mile in breadth. Near the centre is a spot which only covers at High Water. Between this danger and the coast is a Channel free from dangers, with from 7 to 15 fathoms water in it. Green Island Lighthouse bears from the centre of this danger **W.** 3¾ miles.

Split Rock.

This small Rock, which is awash at Low Tide, lies near the Southern end of a Rocky Shoal which extends about **N.NW.** ¾ mile from this Rock. Green Island Lighthouse bears from Split Rock **W.** ½ **S.** 2½ miles. Between this Rock and Brandy Ledge is a good Channel, free from dangers, with from 8 to 12 fathoms water in it.

White Rock.

This small Rock has 10 feet water upon it at Low Tide. Green Island Lighthouse bears from it **W.** about 1¼ miles. A little more than ¼ mile to the Eastward of White Rock is another Rock having about 28 feet water upon it at Low Tide. Between White Rock and Green Island Lighthouse there is another Shoal Spot with 13 feet water upon it at Low Tide. Vessels unacquainted should not pass to the Northward of White Rock and Green Island, as there are many dangers to the Northward of this Island, some of which lie more than 2 miles from it.

Dangers in approaching Country Harbor from the Southward or Seaward.

Tomcod Rock.

This dangerous Rock, which usually breaks, is covered at High Water. Green Island Lighthouse bears from it **N.NE.** about 1¼ miles.

Tomcod Shoals.

These two Rocky Shoals, which have in some places, 19 feet water upon them, lie about ½ mile Northwesterly from Tomcod Rock. Green Island Lighthouse bears from the centre of these dangers **N.NE.** 1¼ miles.

Fourteen Feet Shoal.

This danger, which lies ¼ mile to the Westward of Tomcod Rock, is surrounded by deep water. Green Island Lighthouse bears from Fourteen Feet Shoal **NE.** by **N.** 1⅓ miles.

Gull Nest Shoal.

This Rocky Shoal, which has 17 feet water upon it at Low Tide, lies Northeasterly nearly ½ mile from Tomcod Rock. Green Island Lighthouse bears from this danger **NE.** by **N.** ½ **N.** ⅞ mile. About 1½ miles Southeast from Tomcod Rock there is an extensive Shoal having about 30 feet water upon it at Low Tide. Heavy-draught vessels approaching Country Harbor should beware of this danger.

Middle Ledge or Southeaster.

This dangerous Ledge extends **NW.** by **N.** and **SE.** by **S.** nearly ½ mile. Near its centre is a Rock which is bare at Half Tide. This danger is surrounded by deep water. In thick weather or night-time the lead, therefore, gives no warning in approaching it. Green Island Lighthouse bears from Middle Ledge **NE.** by **E.** 3½ miles.

Dangers in approaching Country Harbor from the Westward.

Pollux Rock.

This small Rock, which is 4 feet above High Water, is a guide in approaching Country Harbor from the Westward. Pollux Rock is bold on its Southern side, but a Reef extends about ⅓ mile **N.NW.** from it. Green Island Lighthouse bears from this danger **E.** ¾ **N.** 5½ miles.

Taylor Shoal.

This danger, which extends **NW.** and **SE.** nearly ⅓ mile, lies a little more than a mile **SE.** from Pollux Rock, and has 17 feet water upon it at Low Tide. Green Island Lighthouse bears from this danger **E.** by **N.** ½ **N.** 5 miles.

Bingley Shoal.

This small Rocky Shoal, which has 15 feet water upon it at Low Tide, lies a little more than ½ mile to the Eastward of Pollux Rock. Green Island Lighthouse bears from this danger **E.** ¾ **N.** nearly 5 miles.

Castor Rock and Shoals.

This dangerous Rock, which is about 4 feet above High Water, lies **NW.** by **W.** nearly 2¼ miles from the Pollux Rock. Rocky patches, having from 3 to 4½ fathoms water upon them, lie some distance to the Southeastward, Southward and Westward of it. Fleek Shoal, with 3¼ fathoms water upon it, bears from the Castor **SW.** by **S.** ½ **S.** 1⅔ mile.

Rose Shoal.

This Shoal, which extends nearly North and South, is about ¾ mile in length, and nearly ¼ mile in breadth, and has as little as 6 feet water upon it in some parts at Low Tide. Cape Mocodome, Western side of approach to Country Harbor, bears from the centre of this danger about **NW.** by **N.** 1¼ miles; Green Island Lighthouse **E.** ¾ **S.** 3¾ miles.

Cape Mocodome Shoals.

This Cape, which is on the Western side of approach to Country Harbor, has Shoal Water extending off to the Southeastward and Eastward from it nearly ½ mile. Bull Rock, which has but little water upon it at Low Tide, lies near the Southeastern end of this Shoal. Between Bull Rock and Rose Shoal there is a Channel about ½ mile wide, having from 6 to 9 fathoms water in it.

Black Ledge.

This Ledge, which extends North and South nearly a mile, lies on the Western side of the approach to Country Harbor, and directly off the mouth of Fisherman Harbor. Near the centre of this danger is a Rock 2 feet above High Water, and in several other parts it is bare or nearly so at Low Tide. Vessels bound in may leave this Rock above water not less than ½ mile on the Port hand.

Flying Point Ledge.

This Ledge, which extends off Southwesterly about ¼ mile from Flying Point, is on the Eastern side of approach to Country Harbor, and lies about Northwest 1½ miles from Green Island Lighthouse. Vessels approaching Country Harbor should, when past Green Island Lighthouse, leave this Point at least ½ mile on the Starboard hand.

Saladin Point Ledge.

This Ledge, which extends off about ⅓ mile Southwesterly from Saladin Point, is on the Eastern side of the approach to Country Harbor, and lies Northwesterly about 1½ miles above Flying Point. Vessels bound to Country Harbor should give this point a good berth.

Remarks.

Country Harbor is navigable for large vessels about 6 miles above the entrance. The shores on each side are generally bold, and when past the entrance there are no dangers in mid-channel. In approaching this Harbor, the utmost caution is necessary to avoid the Rocks and Ledges which are scattered about. These dangers (which have all been described) generally show themselves, thus rendering the approach to this Harbor comparatively easy at such times.

Sailing Directions for Country Harbor in Day-time, with favorable winds and fair weather.

Vessels of not more than 18 feet draught, from the Westward, may leave Wedge Island about a mile on the Port hand, and when the Lighthouse bears North, make good the course East, leaving Nixonmate and Castor Shoals well on the Port hand. As soon as Green Island Lighthouse is made, bring it to bear **E.** ¾ **N.** and run for it on this course, keeping a sharp lookout for the Pollux Rock, which is 4 feet above High Water, is bold on its Southern side, and lies **W.** ¾ **S.** 5½ miles from Green Island Lighthouse. When this Rock is made, leave it about ¼ mile on the Port hand, and run for Green Island Lighthouse, bearing **E.** by **N.**, passing about midway between Middle Ledge and Rose Shoal (both of which have before been described). Continue the course for Green Island Lighthouse until about 2 miles from it;

the approach to Country Harbor will then be fairly open bearing about **N.NW.** Then run in, keeping a sharp lookout for the Black Ledge, which in some parts is dry at High Water. When this Ledge is made, leave the dry Rock about ½ mile on the Port hand and run in about **N.** by **W.** ¼ **W.**, leaving Country Harbor Head, which is 160 feet high, and is bold and free from dangers, about ⅓ mile on the Port hand. When past Harbor Point, which is the first on the Eastern side of the entrance, keep midway the Harbor and anchor anywhere in from 5 to 10 fathoms water.

From the Eastward, when Green Island Lighthouse is made, bring it to bear **W.** by **N.** ½ **N.** and run for it on this course, leaving Brandy Ledge and Split Rock (before described) well on the Starboard hand. When about 1½ miles from this Lighthouse, gradually haul to the Westward, leaving it about ½ mile on the Starboard hand. When it bears **NE.** then haul up for Country Harbor Head, bearing about **NW.**, leaving Flying Point Ledge well on the Starboard, and Black Ledge well on the Port hand. When about a mile from this Head, gradually haul to the Northward, leaving it about ⅓ mile on the Port hand, and follow the directions before given. There is another Passage leading to Country, Isaac and Fisherman Harbors, which is used by those acquainted, from the Eastward. This Passage, which is called the Sound, has many dangers in approaching and entering it, and leads into the Northward of Green, Goose and Harbor Islands. There are no leading marks or bearings to clear the dangers in navigating this Channel. It is therefore advisable for strangers not to attempt it without a pilot.

High Water.

It is High Water in Country Harbor, on the days of the Full and Change of the Moon, at 7 h. 50 m., or 3 h. 39 m. before it is at Boston. Mean rise and fall of Tides, about 6 feet.

FISHERMAN HARBOR.

The entrance to this Harbor, which is on the Western side of approach to Country Harbor, is between Cape Mocodome on the South and Country Harbor Head on the North, and is about 1¼ miles wide, and lies **NW.** by **W.** 4½ miles from Green Island Lighthouse.

Remarks.

The entrance to this Harbor is much obstructed by the Black Ledge (before described) which lies nearly midway the entrance. There is also a Ledge extending off from Cape Mocodome the Southern side of the entrance, upon which the sea generally breaks. The Rose Shoal with 6 feet water upon it lies also off to the Southeast of this Cape, making the Southern side of the approach to this Harbor extremely dangerous. The Northern side of the entrance is bold and free from dangers. Fisherman Harbor will admit vessels of the heaviest draught at Low Tide, but it is exposed to Southeasterly winds.

Sailing Directions for Fisherman Harbor in Daytime, with favorable winds and fair weather.

From the Westward, bound to Fisherman Harbor, follow the directions before given for Country Harbor, until the Pollux Rock is made. Then leave it about ¼ mile on the Port hand, and steer for Green Island Lighthouse, bearing **E.** by **N.**, until about 2 miles from it. Then haul to the Northward, keeping a sharp lookout for the Dry Rock which is on Black Ledge. When this is made, leave it about ½ mile on the Port, and steer for Country Harbor Head. When about ½ mile from this Head, haul to the Westward, and run up, leaving Black Ledge well on the Port hand, and anchor near the Head of the Harbor in about 6 fathoms water at Low Tide. There is a good Channel to the Southward of Black Ledge, which leads into this Harbor, but as there are no leading marks or bearings in entering, it is therefore advisable for strangers not to attempt this Passage.

From the Eastward, follow the directions before given for Country Harbor, leaving Black Ledge well on the Port hand. When about ½ mile from Country Harbor Head, haul to the Westward, and proceed as before directed.

High Water.

It is High Water in Fisherman Harbor, on the days of the Full and Change of the Moon, at 7 h. 40 m., or 3 h. 49 m. before it is at Boston. Mean rise and fall of Tides, 6 feet.

ISAAC HARBOR.

The entrance to this Harbor, which is on the Eastern side of the approach to Country Harbor, is between Red Head on the East and Ragged Point on the West, and lies about 6 miles North-Westerly from Green Island Lighthouse.

Isaac Harbor Lighthouse.

Upon Holly Point, West side of entrance to Isaac Harbor, is a White Square Wooden Building, which at this date (1884) shows two fixed White Lights, one above the other.

Remarks.

Isaac Harbor is about 2½ miles long, with an average width of from ¼ to ½ mile. About 3 fathoms water, at Low Tide, can be taken up about a mile above the Lighthouse, and 2 fathoms water can be carried about a mile above this. In entering, Reefs extend off from both sides, but there are no obstructions in the Channel-way.

Sailing Directions for Isaac Harbor in Daytime, with favorable winds and fair weather.

From the Westward, follow the directions before given for Country Harbor until past Black Ledge. You will then see the Lighthouse, which is on the Western side of entrance to Isaac Harbor. Bring this Lighthouse to bear N., and run for it on this course until about 300 yards from it. Then gradually haul to the Eastward, keeping the Western side best aboard, carrying not less than 5 fathoms of water at Low Tide. When past the first point on the Western side, which is about ½ mile above the Lighthouse, keep the Eastern side best aboard, and anchor

about a mile above the Lighthouse, in from 3 to 4 fathoms water at Low Tide.

From the Eastward, follow the directions before given for Country Harbor until past Black Ledge. Then bring the Lighthouse at the entrance of Isaac Harbor to bear **N.**, and run for it on this course, and follow the directions before given. It is not advisable for strangers to attempt to beat into Isaac Harbor, as dangers extend off some distance from both sides.

WEBB COVE.

The entrance to this small Cove, which has about 12 feet water in it at Low Tide, lies on the Eastern side of Isaac Harbor, a little more than ¼ mile above the Lighthouse. In this Cove small vessels of not more than 10 or 11 feet draught may find shelter from all winds.

Sailing Directions.

From the Eastward or Westward, follow the directions before given for Isaac Harbor until about 300 yards from the Lighthouse. Then gradually haul to the Eastward, keeping about midway the Passage. When about ½ mile above the Lighthouse, Webb Cove will then be fairly open, and you may then run in about midway, and anchor in about 12 feet water, at Low Tide, secure from all winds.

High Water.

It is High Water in Isaac Harbor, on the days of the Full and Change of the Moon, at 7 h. 50 m. or 3 h. 39 m. before it is at Boston. Mean rise and fall of Tides, 6 feet.

ISLAND HARBOR.

This Harbor, which is on the Eastern side of approach to Country and Isaac Harbors, lies Northwesterly about 4 miles from Green Island Lighthouse.

Remarks.

The Anchorage in this Harbor is between the Northern part of Harbor Island and the main land. There are two passages leading into it; one to the Westward of Harbor Island, the other to the Eastward of this Island. About 5 fathoms water can be taken in at Low Tide, but there are dangers lying at the entrance of both Passages, with no leading marks or bearings to clear them. It is therefore advisable for strangers not to attempt this Harbor without pilots. Island Harbor is somewhat exposed to **E.SE.** winds, but is considered safe during the summer months.

CODDLE HARBOR.

The main entrance to this Harbor, which is between Coddle Island on the South and the main land on the North, lies about 3½ miles Northeasterly from Green Island Lighthouse.

Remarks.

This Harbor has safe Anchorage for small vessels in from 10 to 12 feet water at Low Tide. The principal entrance is to the Eastward of Coddle Island, but the dangers in entering are too numerous for any written directions. Strangers should on no account attempt to enter it without pilots.

NEW HARBOR.

The entrance to this Harbor, which is between Eastern Head on the East and New Harbor Head on the West, is about 1½ miles wide, and lies East-Northerly about 5½ miles from Green Island Lighthouse, and about 5½ miles to the Westward of Tor Bay Lighthouse.

Remarks.

With winds from West to East by way of North there is good Anchorage in this Harbor in from 2½ to 5 fathoms water at Low

Tide, but Southerly winds bring in heavy Sea. From the Western side Shoal Water extends off some distance. Vessels, therefore, bound in, will keep the Eastern side best aboard. St. Catharine River, which is very shallow, empties into New Harbor.

Sailing Directions for New Harbor in Daytime, with favorable winds and fair weather.

From the Westward, in order to avoid Tomcod Shoals (before described), leave Green Island not more than ½ mile on the Port hand, and when the Lighthouse bears North, make good the course East, keeping a sharp lookout for Brandy Ledge, which lies East 3¾ miles from Green Island Lighthouse and is covered at High Water, and generally breaks with a little motion of the Sea. When this Ledge is made, leave it at least ½ mile on the Port hand and continue the course East about a mile. New Harbor will then be fairly open bearing about **N.** by **E.**, then run in, keeping the Eastern side best aboard and anchor in from 3 to 5 fathoms water at Low Tide.

From the Eastward, in order to avoid Gull and Shag Rocks, leave Tor Bay Lighthouse at least 1½ miles to the Northward, and when it bears North, make good the course **W.** by **N.** about 6 miles. New Harbor will then be fairly open, and you may then run in, keeping the Eastern side best aboard and anchor as before directed.

High Water.

It is High Water in New Harbor, on the days of the Full and Change of the Moon, at 7 h. 50 m., or 3 h. 39 m. before it is at Boston. Mean rise and fall of Tides, 8 feet.

TOR BAY.

The entrance to this extensive Bay, which is between Flying Point on the East and Berry Head on the West, is about 5 miles wide, and lies about 108 miles to the Eastward of Sambro Lighthouse, about 75 miles to the Eastward of Egg Island Lighthouse, 51 miles to the Eastward of Beaver Island Lighthouse, about 13

miles to the Eastward of Green Island Lighthouse, and about 18 miles to the Westward of Cranberry Island Lighthouse (Cape Canso).

Tor Bay Lighthouse.

Upon Berry Head west side of entrance to Tor Bay, is a tower painted in White and Red Vertical Stripes, which at this date (1884) shows a Red Fixed Light to Seaward, and White into the Bay towards Molasses Harbor. Green Island Lighthouse bears from Tor Bay Lighthouse **W.** ¾ **S.** 11½ miles; White Head Island Lighthouse **E.** by **S.** ¾ **S.** 7½ miles. Shoal Water with Rocks extends off to the Southward and also to the Eastward from this Lighthouse. Vessels, therefore, bound into Tor Bay should leave it at least ½ mile on the Port hand.

Dangers in approaching Tor Bay from the Westward.

Shag Rock.

This Rock, which is 2 feet above High Water, has Shoal Water extending to the Southeastward nearly ½ mile from it. Between it and the shore, there are several Rocks which are bare at Low Tide. Tor Bay Lighthouse bears from this danger **E.** by **N.** ¼ **N.** 2¼ miles.

Gull Rock.

This small Rock, which has deep water all round it, lies about 1½ miles to the Eastward of Shag Rock, and has 12 feet water upon it at Low Tide. Tor Bay Lighthouse bears from this danger **NE.** ¾ **E.** nearly a mile.

Dangers in approaching Tor Bay from the Eastward.

French Rock.

This Rock, which is the outermost danger in approaching Tor Bay from the Eastward, has 9 feet water upon it at Low Tide. Tor Bay Lighthouse bears from this danger **NW.** by **W.** ¾ **W.** 1½ miles.

Bull Rocks.

About ½ mile to the Eastward of French Rock are three Rocks called Bull Rocks. These dangers lie near each other and the

Eastern Rock has but 3 feet water upon it at Low Tide. Tor Bay Lighthouse bears from the centre of this danger **W.NW.** nearly 2 miles.

Tor Bay Ledges.

To the Northward and Northeastward of Bull Rocks on the Eastern side of the Channel leading into Tor Bay, there are a large number of Ledges and Islets with deep water between them, but so scattered as to leave no safe passage between them. In entering Tor Bay in night-time or thick weather, the Ledges are so bold that the lead gives but little warning in approaching them.

Webber Shoal.

This Shoal, which lies at the entrance of the Harbor, is a little more than a mile to the Northward of the Lighthouse, and extends **N.NE.** and **S.SW.** about ¼ mile, and has 12 feet water upon it at Low Tide. Channels lead up on both sides of it. The Channel to the Southward of it has a width of about 400 yards with 4 fathoms water in it at Low Tide, while the one to the Northward is nearly ¾ mile wide, with 6 fathoms water in it. In entering Tor Bay Harbor Webber Shoal is much in the way, at Low Tide, for vessels of more than 11 feet draught.

Larry Reef.

This Reef, which lies on the Northern side of the Harbor, is bare at Half Tide, and extends about **NW.** by **N.** and **SE.** by **S.** nearly ½ mile. The Channel between Larry Reef and Webber Shoal is nearly ¾ mile wide, with 6 fathoms water in it.

Charlo Shoal.

This Shoal, which extends off to the Southward nearly ¾ mile from Foster Island, lies on the Northern side of the Harbor, and bears **N.** by **E.** ½ **E.** 2½ miles from Tor Bay Lighthouse. Vessels bound in should leave this danger well to the Northward.

Remarks.

Tor Bay is more than 8 miles long, and nearly 4 miles deep. The Anchorage, which is quite easy of access, is off Webber Cove in 6 fathoms water, near the Western end of the Bay, and is said

to be secure from all winds, with good holding ground. There are many Ledges in this Bay, but vessels, in entering, pass to the Westward of most of them.

Sailing Directions for Tor Bay in Daytime, with favorable winds and fair weather.

From the Westward, when Tor Bay Lighthouse is made, bring it to bear **NE.** by **N.**, and run for it on this course. When about 1½ miles from it, in order to avoid the Ledges which extend from the Lighthouse, haul gradually to the Eastward, leaving it not less than ½ mile on the Port, and French Rock and Tor Bay Ledges (before described) well on the Starboard hand. When this Lighthouse bears **W.SW.**, haul to the Westward, around Flat Point, which is the first to the Northward of the Lighthouse, leaving it about ¼ mile on the Port hand, and in order to avoid Webber Shoal (before described), run up, keeping not more than ¼ mile from the Southern side, and anchor in from 4 to 6 fathoms water at Low Tide, with good holding ground.

From the Eastward, when Tor Bay Lighthouse is made, bring it to bear **NW.**, and run for it on this course. When about a mile from it, haul to the Northward, passing about midway between French Rock (before described) and the Ledges which extend from the Lighthouse. When this Lighthouse bears **W. SW.**, follow the directions before given.

High Water.

It is High Water in Tor Bay, on the days of the Full and Change of the Moon, at 7 h. 55 m., or 3 h. 34 m. before it is at Boston. Mean rise and fall of Tides, 5¾ feet.

COLE HARBOR.

The entrance to this small Harbor, which is on the Northern side of Tor Bay, lies **NE.** ¾ **N.** 3¾ miles from Tor Bay Lighthouse.

Remarks.

There is good Anchorage in Cole Harbor for small vessels, in from 2 to 3 fathoms water at Low Tide. In entering there is a

Ledge called the Sisters, which lies nearly midway the Channel. Dangers also extend off from both sides. It is therefore advisable for strangers bound to this Harbor to take pilots.

CHARLO HARBOR.

The entrance to this small Harbor, which is on the Northern side of Tor Bay, lies about **N.NE**. 3 miles from Tor Bay Lighthouse. There is good Anchorage for small vessels in this Harbor in 2 fathoms water at Low Tide, but it is somewhat exposed to Southeasterly winds.

MOLASSES HARBOR.

The entrance to this Harbor, which is on the Eastern side of Tor Bay, lies about 4½ miles **E. ½ N.** from Tor Bay Lighthouse, and about 4 miles Northwesterly from White Head Island Lighthouse.

Remarks.

About 3 fathoms water can be taken into this Harbor, where there is Anchorage secure from all winds; but as the Channel at the entrance is very narrow, with numerous dangers lying in it, without any leading marks or bearings to clear them, it is therefore advisable for strangers bound in to employ pilots.

WHITE HAVEN.

The entrance to White Haven, which is between Three Top Island Lighthouse on the West and Spry Point (the main land) on the East, is about ¼ mile wide, and lies East-Southerly 6¾ miles from Tor Bay Lighthouse, and 12½ miles to the Westward of Cranberry Island Lighthouse (Cape Canso).

White Head Island Lighthouse.

Upon the Southwestern extremity of White Head Island (which is a little more than a mile Southeasterly from the entrance to White Haven) is a Pyramidal Tower which at this date (1884) shows a Revolving White Light which attains its greatest brilliancy every 20 seconds. Green Island Lighthouse bears from White Head Island Lighthouse **W.** ¼ **N.** 18½ miles; Tor Bay Lighthouse, **W.** by **N.** ¾ **N.** 7½ miles. Bound to the Eastward or Westward, in order to avoid the dangers, vessels should not approach nearer than a mile to White Head Island Lighthouse.

Dangers in the vicinity of White Head Island Lighthouse.

East Bull.

This Rock, which has 6 feet water upon it at Low Tide, is one of the outer dangers lying off the Eastern entrance to White Haven. White Head Island Lighthouse bears from this danger **NW.** ¼ **N.** about ⅔ mile. About ⅓ mile to the Eastward of the Eastern Bull, is a Rocky patch having about 20 feet water upon it at Low Tide.

Sculpin Rock.

About half-way between Eastern Bull and the Eastern end of White Head Island is Sculpin Rock, which is dry at Low Tide. White Head Island Lighthouse bears from this danger **NW.** by **W.** nearly ½ mile.

Southwest Bull.

This Rock, which is the outermost danger lying off White Head Island, has 5 feet water upon it at Low Tide. White Head Island Lighthouse bears from this danger **NE.** about ⅔ mile. Rocky Bottom, with from 20 to 30 feet water, extends nearly ½ mile Northwesterly from the Southwest Bull.

Black Ledge.

This Ledge, which is dry at Low Tide, is quite extensive and lies a short distance to the Westward of the Shag Ledges, both of which are above water. White Head Island Lighthouse bears from the outer part of Black Ledge **E.** ¾ **S.** about a mile.

Bound into White Haven by the Western passage, this Ledge is left on the Starboard hand.

Shag Rocks.

These Rocks, which are above water, lie on the Western side of the Southern approach to White Haven and about ¾ mile to the Westward of White Head Island Lighthouse.

Gammon Islets.

These Islets, of which there are four, lie Northwest about ½ mile from White Head Island Lighthouse, and on the Western side of the Southern approach to White Haven

Bald and Gull Ledges.

These Ledges, some of which are above water, extend from Deming Island, and lie on the Northern side of the Western approach to White Haven. Three Top Island Lighthouse bears from the Southern or outer part of these dangers **E.NE.** ¾ mile.

Three Top Island Lighthouse.

Upon the Southeast point of Three Top Island, Northern side of entrance to White Haven, is a White Square Wooden Building, with Dwelling attached, which at this date (1884) shows a fixed White Light. White Head Island Lighthouse bears from Three Top Island Lighthouse **SE.** by **S.** 1⅛ miles. Three Top Island Light is intended to guide vessels into White Haven. It is obstructed when bearing to the Eastward of **NE.** by **E.**, but it is visible from all other points of the compass, excepting where it is intercepted by the High Land of White Head Island.

Net Rock.

This Rock, which is above water, lies about 200 yards Southeasterly from Three Top Island Lighthouse. Vessels bound into White Haven may leave this danger about 200 yards on the Port hand.

Remarks.

White Haven Inlet runs up to the Northeastward a little more than 3 miles from Three Top Island Lighthouse, and has sufficient

depth of water for the heaviest draught vessels. It then divides into two parts, called the Northeast and Northwest Arms. On the Western side of the Inlet, about 2¼ miles above Three Top Island Lighthouse, is Marshall Cove, where vessels may anchor in from 4 to 5 fathoms water secure from all winds. In approaching White Haven there are three passages (leading in among the Rocks and Ledges), called the Southern, Western and Eastern Passages. The latter, which has a Rock with 6 feet water on it lying in the middle of the Channel, is considered too intricate for strangers. We shall therefore only give directions for the Southern and Western passages.

Sailing Directions for White Haven in Daytime, with favorable winds and fair weather.

By the Western Passage.

When White Head Island Lighthouse is made, bring it to bear **E.** by **N.** and run for it on this course until about 3 miles from it. You will then open Three Top Island Lighthouse (before described). Continue the course until the last-named Lighthouse bears **NE.**, then run for it, passing about midway between Black Ledge and Gull Ledge. When about ½ mile from this Lighthouse you will see Net Rock, which lies about 200 yards Southeasterly from it. Leave this Rock about 200 yards on the Port hand, and run up **N.** by **W.** ¼ **W.**, carrying from 9 to 12 fathoms water. When about 1½ miles above Three Top Island Lighthouse, you will open Fisherman Island, which lies on the Eastern side. In order to avoid Kelp Shoal, which has 3 feet water upon it at Low Tide, continue the course **N.** by **W.** ¼ **W.**, until the centre of this Island bears **NE.** by **N.**; then run for it on this course, until about 300 yards from it, then steer more Northerly, leaving Fisherman Island not more than 200 yards on the Starboard and Kelp Shoal well on the Port hand, and carrying about 7 fathoms water at Low Tide through the narrow Channel. When the centre of Fisherman Island bears **SE.** by **E.** ½ **E.**, Marshall Cove will then be fairly open, and you may run **NW.** by **W.** ½ **W.**, and anchor when the water shoals to 4 or 5 fathoms at Low Tide. If bound further up, there are no dangers for vessels of less than 20 feet draught in the Channel-way until near the entrance to the Northwest arm.

By the Southern Passage.

Vessels from the Eastward, with Easterly winds, may, by the following directions, enter White Haven by the Southern Passage. Keep outside the East Bull (before described) until White Head Lighthouse bears **N.NW**. Then run for it on this course until about ¼ mile from it. Then steer more Westerly, and haul round the Lighthouse Point at a distance of 250 yards, leaving it on the Starboard hand. When past this Point, the Passage leading in between White Head Island and the Gammon Islets will then be fairly open, bearing about **N**. by **E**. Then run in, keeping the Starboard side best aboard, carrying from 8 to 14 fathoms water. When Three Top Island Lighthouse bears **NW**. by **W**., then run for it on this course until about ¼ mile from it. Then follow the directions before give

High Water.

It is High Water in White Haven Inlet, on the days of the Full and Change of the Moon, 8 h. 0 m., or 3 h. 29 m. before it is at Boston. Mean rise and fall of Tides, 5¾ feet.

PORT HOWE.

The entrance to Port Howe, which is between Howe Point on the East and Fluid Point on the West, is nearly ½ mile wide, and lies East-Northerly about 3½ miles from White Head Island Lighthouse, and West-Southerly about 9 miles from Cranberry Island Lighthouse (Cape Canso).

Remarks.

There is good Anchorage, with all winds, in the small Bay called Port Howe, but the approaches are rendered somewhat difficult on account of the numerous Shoals which lie on both sides. About 4 fathoms water, on a direct line, can be taken into this place at Low Tide. On the Western side of the entrance is Black Rock, which is 4 feet above High Water.

Sailing Directions for Port Howe in Daytime, with favorable winds and fair weather.

From the Westward, in order to clear the East and West Bulls, leave White Head Island about a mile on the Port hand, and when the Lighthouse bears **N.**, make good the course **E.** ½ **N.** about 3¼ miles, leaving the Vache Shoals and Ledges, some of which are bare at Low Tide, well on the Port hand. The entrance to Port Howe will then be fairly open, bearing about **N.** Bring Fluid Point, which is 30 feet high, and lies on the Western side of the entrance, to bear **N.** by **W.**, and run for it on this course, passing about midway between Whale and Snorting Rocks. The former is bare at Low Tide; the latter is always above water. As you sail in, you will see Black Rock, which is small, and lies about 300 yards Southeasterly from Fluid Point. Leave this Rock about 200 yards on the Port hand, and when it bears **W.**, haul up about **N.** by **W.**, and anchor to the Northward of Port Island, which is the first on the Starboard hand, in about 7 fathoms water at Low Tide; or when the West end of the last-named Island bears **SE.** ½ **E.**, then run **NW.** ½ **W.**, and anchor in the Western arm, in about 7 fathoms water.

From the Eastward, as soon as White Head Island Lighthouse is made, bring it to bear **W.** by **N.**, and run for it on this course until about 3½ miles from it. The entrance to Port Howe will then be fairly open. Bring Fluid Point (the Western side of entrance) to bear **N.** by **W.**, and follow the directions before given.

High Water.

It is High Water in Port Howe, on the days of the Full and Change of the Moon, at 8 h. 0 m., or 3 h. 29 m. before it is at Boston. Mean rise and fall of Tides, 5½ feet.

DOVER BAY.

The entrance to this Bay, which is between White Point on the East and Dover Head on the West, is about 2½ miles wide, and lies about 6 miles to the Eastward of White Head Island Lighthouse, and about 6 miles to the Westward of Cranberry Island Lighthouse (Cape Canso).

Remarks.

Ledges extend off to the Southward nearly ¾ mile from White Point (the Eastern side of entrance to Dover Bay), and there are dangers which lie off more than ½ mile to the Southward and Eastward of Dover Head, which is on the Western side of the entrance — the Horne and Lumsden Shoals. The former, which has 18 feet water upon it, lies nearly in the middle, while the latter, with 12 feet water upon it, lies on the Eastern side. Both these dangers lie a little more than a mile above the entrance. This Bay, which has a depth of from 10 to 14 fathoms water, is exposed to Southerly winds. Shelter, however, may be found near the Head, among the numerous Ledges and Islets, but as there are no leading marks or bearings to clear these dangers, it is advisable for strangers not to attempt to enter it without pilots.

LOUSE HARBOR.

The entrance to this small Harbor, which is between Louse Head on the North and Louse Island on the South, is about ¼ mile wide, and lies on the Western side of Dover Bay, about 1¼ miles above Dover Head.

Remarks.

In Louse Harbor small vessels may find good shelter from all winds. About 22 feet water, at Low Tide, can be taken in to the Northward of Louse Island, but the winding Channel nearly opposite the High Bluff on the Northern side is not more than 80 yards wide. It is therefore advisable for strangers bound in to employ pilots.

CANSO HARBOR.

The approach to this Harbor from the Southward, which is between Cranberry Island on the East and Cape Canso, the Eastern extremity of Nova Scotia, on the West, is about 1¼ miles wide, and lies about 120 miles to the Eastward of Sambro Lighthouse, Western side of entrance to Halifax Harbor.

Cranberry Island Lighthouse.

Upon Cranberry Island, which is about 1¼ miles to the Northeastward of Cape Canso, is a Tower with Dwelling attached. The Tower is 78 feet high from the ground to the Lantern Vane, is Octagonal in shape, 48 feet above the roof of the dwelling, and is painted in Red and White Horizontal Bands, the dwelling attached being of a dark color. At this date (1884) this Lighthouse shows two fixed White Lights, one above the other. Shoal Water extends off a considerable distance in every direction from Cranberry Island Lighthouse, and there are also many outlying dangers in this vicinity.

Canso Harbor Lighthouse.

Upon the Northeast side of Hart Island, West side of the Northern entrance to Canso Harbor, is a White Square Wooden Building, which at this date (1884) shows a fixed Red Light.

Dangers in approaching Canso Harbor from the Westward.

Gannet Shoal.

This danger, which consists of several Spots, having in one place as little as 9 feet water upon it at Low Tide, lies about one mile to the Eastward of White Point; other Rocks lie to the Northward of it, off Madeline Point and at the entrance of Little Dover Run. Cranberry Island Lighthouse kept open to the Eastward of the trees on Cape Canso, bearing **NE. ½ N.**, clears the Gannet Shoal, White Point Ledges and White Rock.

Gannet Ledges.

The outermost of these dangers, which have but little water upon them at Low Tide, extends off Southeast nearly a mile from Gannet Point, the Southern extremity of Andrew Island. Cranberry Island Lighthouse bears from the outer part of these dangers **NE.** by **N. ¼ N.** 3 miles. Vessels from the Westward, bound to Canso Harbor, should give the Gannet Rocks a wide berth.

Boom Rock.

This Rock, which has 12 feet water upon it at Low Tide, lies about ¾ mile to the Eastward of the Gannet Ledges. Cranberry

Island Lighthouse bears from this danger **N.** by **E.** ½ **E.** about 2½ miles. Between Boom Rock and Gannet Ledges there is a Channel nearly ¾ mile wide, having from 7 to 12 fathoms water in it.

Roaring Bull.

This dangerous Rock, which has but 2 feet water upon it at Low Tide, lies a little more than ½ mile Southeasterly from Cape Canso. Cranberry Island Lighthouse bears from this danger **N.** by **E.** ½ **E.** 1⅝ miles. Between the Roaring Bull and the Rocks off Cape Canso there is a Channel a little more than ¼ mile wide, having from 8 to 10 fathoms water in it.

Cape Breaker.

This Rocky Shoal, which lies Southeasterly about a mile from Cape Canso, has 15 feet water upon it at Low Tide. Cranberry Island Lighthouse bears from the centre of this danger North 1⅝ miles. Between the Cape Breaker and Roaring Bull there is a Channel about ⅓ mile wide, having from 5 to 7 fathoms water in it.

Keeper Reef.

This Reef, which lies ½ mile Northwesterly from the Cape Breaker, has about 24 feet water upon it at Low Tide. Cranberry Island Lighthouse bears from this danger **N.** by **E.** 1¼ miles.

Stanley Shoals.

These are 4 Spots lying nearly in the middle of the Southern approach to Canso Harbor. The two Northwestern Shoals, which lie ¼ mile apart, have 24 feet water upon them, while the two Southeasternmost have 30 feet water on them. Cranberry Island Lighthouse bears from the centre of these dangers **N.NW.** 1½ miles.

Dangers in approaching Canso Harbor from the Eastward.

Grime Rock.

This Rock, which has 12 feet water upon it at Low Tide, is the outermost danger in approaching Canso Harbor from the Eastward. Cranberry Island Lighthouse bears from this danger **W.** by **S.** ⅛ **S.** 2½ miles.

Whistling Buoy.

In order to warn vessels in thick weather of the approach to the dangers lying to the Eastward of Cape Canso, a Whistling Buoy has been placed in 20 fathoms water **E.SE.** 1½ miles from Grime Rock. Cranberry Island Lighthouse bears from this Buoy **W.** 3¾ miles.

Bass Rock.

This danger, which lies about ⅜ mile Southwest from Grime Rock, has 6 feet water upon it at Low Tide. Cranberry Island Lighthouse bears from it **W.** ¾ **S.** 2¼ miles. From ½ to ¾ mile Southwesterly from Bass Rock there are several Spots having from 24 to 30 feet water upon them..

Middle Rock.

This danger, which has 4 feet water upon it at Low Tide, lies a little more than a mile **W.NW.** from Bass Rock. Cranberry Island Lighthouse bears from Middle Rock **SW.** by **W.** ½ **W.** 1⅜ miles.

Inner Bass.

This Rocky Ledge, which lies but a short distance Northwesterly from Middle Rock, extends nearly ½ mile **N.** by **E.** and **S.** by **W.**, and has but little water upon its Southern part at Low Tide. Cranberry Island Lighthouse bears from the centre of this danger **SW.** about 1½ miles.

Kelp Rocks.

These three Rocks, which lie a little more than ½ mile Northwesterly from the Inner Bass, are about 200 yards apart and have from 12 to 15 feet water upon them. Cranberry Island Lighthouse bears from the centre of these dangers **S.SW.** about 1¼ miles.

Broad Shoal.

This Rocky Shoal, which lies a little more than ½ mile to the Southward of the Inner Bass, is about 250 yards in extent and has from 9 to 18 feet water upon it at Low Tide. Cranberry Island Lighthouse bears from the centre of this danger **W.SW.** about ⅞ mile.

Fanning Rock.

This is a Rocky Shoal about 200 yards in extent, lying nearly ½ mile **E.** ¾. **N.** from Cranberry Island Lighthouse. There is a narrow Channel of 6 fathoms water between this danger and the Shoals extending off to the Eastward of Cranberry Island Lighthouse.

Scott Rock.

This Rocky Shoal, which has 8 feet water upon it at Low Tide, has an extent of about 150 yards, and lies about ⅓ mile to the Southward of Fanning Rock. Cranberry Island Lighthouse bears from the centre of this danger **W.NW.** a little more than ½ mile. There is a narrow Channel having 5 fathoms water in it between this Rock and the Shoals which extend off to the Eastward of the Lighthouse.

Nickerson Rock.

This danger, which has 24 feet water upon it at Low Tide, is small in extent, and lies to the Southeastward of Cranberry Island. The Lighthouse upon this Island bears **NW.** from it 1¼ miles.

David Rock.

This Rocky Shoal, which lies nearly midway between Nickerson Rock and Cranberry Island Lighthouse, has 12 feet water upon it at Low Tide. Cranberry Island Lighthouse bears from this danger **NW.** ¼ **N.** about ¾ mile. Between David and Nickerson Rocks there is a Channel nearly ½ mile wide, having from 10 to 13 fathoms in it.

Washball Rock.

This Rock, which is bare at Low Tide, lies nearly ¼ mile to the Westward of David Rock. Cranberry Island Lighthouse bears from Washball Rock **NW.** by **N.** ¾ **N.** about ¾ mile. Shoal Water with Scattering Rocks extends from Cranberry Island to the Washball Rock. Vessels should not, therefore, attempt to pass within it.

Pink Rock.

This Rock, which lies West-Northerly nearly ½ mile from the Washball Rock, has 4 feet water upon it at Low Tide. Cran-

berry Island Lighthouse bears from this danger **N.** ½ **E.** about ½ mile. Vessels should not pass between this Rock and the Lighthouse. Both the Pink and Washball Rocks lie on the Northeastern side of the Channel, and break with a little motion of the Sea.

Dangers in entering Canso Harbor by the Southern Passage.

Kirby Rocks.

This Rock, which is on the Western side of the entrance to Canso Harbor, lies a little more than ¼ mile East-Northerly from Cape Canso, and has about 14 feet water upon it at Low Tide. Cranberry Island Lighthouse bears from this danger **NE.** by **N.** a little more than a mile. There is a narrow Passage between Kirby Rock and Cape Canso with 4 fathoms water in it at Low Tide.

Black Rocks.

These two small Rocks, which are on the Western side of the Ship Channel leading into Canso Harbor, are above High Water, and lie about 400 yards apart on a bearing of nearly North and South. Cranberry Island Lighthouse bears from the Southern Black Rock **E.NE.** a little more than ¾ mile. Between the Shoal Water which extends off from Glasgow Head and the Black Rocks there is a Channel nearly ⅓ mile wide with 6 fathoms water in it.

Bootes Bank.

This Shoal, which is about ¼ mile to the Northward of the Northern Black Rock, extends nearly North and South ⅓ mile, and has from 6 to 15 feet water upon it at Low Tide, with an average width of about 300 yards. Cranberry Island Lighthouse bears from the centre of this danger **E.** by **S.** about a mile. Between Bootes Bank and Glasgow Head there is a Channel about 400 yards wide, having about 6 fathoms water in it at Low Tide. There is also a Channel about 400 yards wide between the Northern Black Rock and the Southern end of the Bootes Bank, with 3 fathoms water in it.

Man of War Rock.

This danger, which cover at Half Tide, lies on the Western side of the Ship Channel, in entering Canso Harbor. Cranberry Island Lighthouse bears from this Rock **SE.** by **E.** ¾ **E.** about a mile. Vessels may approach this Rock on its Eastern side within 150 yards without danger, but Shoal Water extends **W.NW.** nearly ¼ mile from it. There is a good Channel between Man of War Rock and the Western shore with deep water in it. There is also a narrow Channel between the Northern part of Bootes Bank and Man of War Rock with 5 fathoms water in it.

Mackerel Rock.

This danger, which has 10 feet water upon it at Low Tide, is about 150 yards in extent, and lies nearly midway the Ship Channel leading into Canso Harbor. Cranberry Island Lighthouse bears from this Rock **SE.** by **E.** ¼ **E.** 1½ miles nearly; Beacon on Grave Island (Western side of entrance to Canso Harbor) **NW.** a little more than a mile. The highest part of a Small Island with Red Cliff 50 feet high bears **NE.** distant a little more than ⅓ mile from this Rock. Vessels bound in should not approach nearer to this Rock on its Eastern side than 5 fathoms water. Channels lead up on both sides of the Mackerel Rock, but the one to the Eastward of it is considered the best for strangers. There is also a Channel ¼ mile wide between Man of War Rock and Mackerel Rock, with 8 fathoms water in it.

Grassy Reef.

This Reef, which is bare in some places at Low Tide, extends off Southeast nearly ¼ mile from Grassy Island, which is on the Northeastern side of the Channel leading into Canso Harbor. The Channel between the outer part of this Reef and Mackerel Rock is nearly ¼ mile wide, with 7 fathoms water in it.

South Shoal.

This Shoal, which has from 4 to 7 feet water upon it at Low Tide, extends off Northeasterly about ¼ mile from the Western side of the Southern entrance to Canso Harbor. Mackerel Rock bears from the outer end of this danger, **SE.** by **E.** ½ **E.** nearly

½ mile. Vessels, in beating in, should be careful to avoid Grassy Reef and the South Shoal.

Remarks.

Canso Harbor is well sheltered from all winds, and has a sufficient depth of water in both the Northern and Southern entrances for the heaviest draught vessels. In approaching this Harbor, with a rough sea, the numerous dangers show themselves, but with smooth water the utmost caution is necessary for strangers. In thick weather the constant use of the lead should be deemed indispensable.

Sailing Directions for Canso Harbor, by the Southern Passage, in Daytime, with favorable winds and fair weather.

From the Westward, keep outside all the dangers before described, until Cranberry Island Lighthouse is made. Then bring it to bear **N.** by **W.**, and run for it on this course, leaving the Cape Breaker and the Rock called the Roaring Bull both well on the Port hand. Continue the course **N.** by **W.** for the Lighthouse until about 1¼ miles from it. You will then see on the Port, the Black Rocks, which are above High Water. When the Northern Black Rock bears **NW.**, then run for it on this course until about ½ mile from it. Then steer for a small Island, 50 feet high, with Red Cliffs, bearing **N.** by **W.** ½ **W.**, leaving Man of War Rock (before described) well on the Port hand. Continue the course **N.** by **W.** ½ **W.** for the Island until Cranberry Island Lighthouse bears **SE.** by **E.**; then make good the course **NW.** by **W.** If there is no error in the compass, the Mackerel Rock (which has 10 feet water upon it at Low Tide) will be left about 200 yards on the Port hand. It would be well, however, to use the lead on this last course, and not approach this Rock nearer than 5 fathoms water at Low Tide. When the small Island before mentioned, with Red Cliffs on its Southern side, bears **E.NE.**, you are then past the Mackerel Rock, and there will be seen, about a mile to the Northwestward, on the Southern side of the entrance to Canso Harbor, a small Island with a Beacon upon it. When this Beacon bears **NW.**, run for it on this course, and haul round it at a distance of 200 yards,

leaving it on the Port hand, and anchor in about 7 fathoms water at Low Tide, with the Beacon on the Island bearing **SE**. 400 yards distant.

By the Western Channel.

From the Westward, when Cranberry Island Lighthouse is made, bring it to bear **N**. ½ **W**., and run for it on this course, leaving the Rock called the Roaring Bull and Cape Breaker both well on the Port hand. When a little more than a mile from the Lighthouse, you will see the Black Rocks, which are above High Water. When the Southern of these Rocks bears **NW**., then run for it on this course, leaving Kirby Rock well on the Port hand. When about ¼ mile from the Southern Black Rock, gradually haul to the Westward, and leave it about 300 yards on the Starboard hand. When this Rock bears **E**., make good the course **NN.W**., leaving the Northern Black Rock, Bootes Bank, Man of War Rock and Mackerel Rock all well on the Starboard, and Glasgow Head Shoal and South Shoal both well on the Port hand. When the Beacon on Grave Island bears **NW**., then run for it on this course, and follow the directions before given.

From the Eastward, when the Whistling Buoy is made, leave it close to on the Starboard hand, and make good the course **SW**. by **W**. ½ **W**., until Cranberry Island Lighthouse bears **NW**. by **N**. Then run for the Northern Black Rock, bearing **NW**. by **W**., leaving the Washball and Pink Rocks (before described) well on the Starboard hand. When about ½ mile from the Northern Black Rock, steer for a small Island, 50 feet high, with Red Cliffs, bearing **N**. by **W**. ½ **W**. and follow the directions before given.

By the Northern Passage.

With winds from East to West by way of North, vessels from the Eastward will find this Channel the best to enter Canso Harbor.

Sailing Directions.

Having made the Whistling Buoy, leave it about ½ mile on the Port hand, and when it bears **S**., haul up **NW**. by **W**. ½ **W**., leaving Grime Rock, Inner Bass and Derabie Islands (the latter of which are quite bold on their Northern part) well on the Port hand. When the Lighthouse on Hart Island bears **S**., the narrow Passage leading into Canso Harbor will then be open, and you

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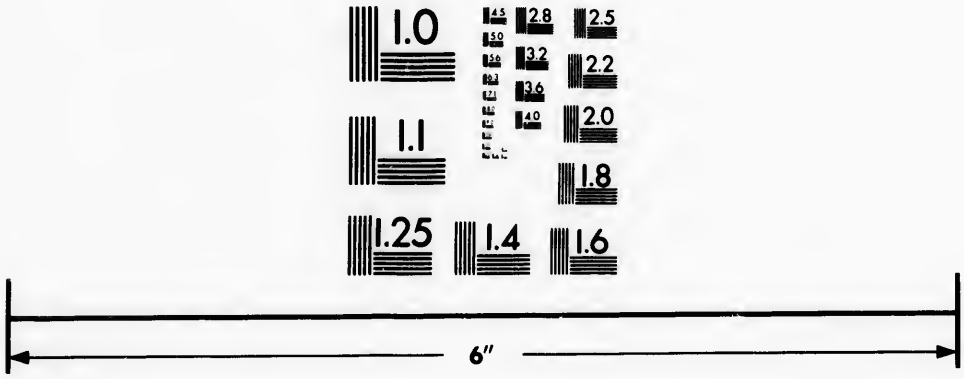

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may run for the Lighthouse on this last bearing, leaving the Net Rocks (which are bare at ¼ Ebb) and Whitmans Rock (which has 2 feet water upon it at Low Tide) on the Starboard, and Bald Reef and Bald Rock well on the Port hand. When about 250 yards from the Lighthouse, steer more Easterly, keeping midway the Passage. When the Beacons on Lanigan Hill and Grave Island are in line, bearing **S. ¾ W.**, then run in on this range, leaving Starling Rock (which has 4 feet water upon it at Low Tide) on the Port hand. When well past the Southern Point, on which the Lighthouse stands, haul in, and anchor in about 7 fathoms water, with the Beacon on Grave Island bearing **SE.** 400 yards distant.

High Water.

It is High Water in Canso Harbor, on the days of the Full and Change of the Moon, at 7 h. 48 m., or 3 h. 41 m. before it is at Boston. Mean rise and fall of Tides, 5½ feet.

GLASGOW HARBOR.

The entrance to this Harbor (which is on the Western side of the approach to Canso Harbor), is between Glasgow Head on the North and Barse Point on the South, and is about ½ mile wide, and lies about 1½ miles to the Westward of Cranberry Island Lighthouse.

Remarks.

There are two Passages leading into this Harbor; the Western, which is a little more than 2 miles to the Westward of Cape Canso, is called the Andrew Passage. There are several Rocks lying in mid-channel in this Passage. Strangers should not, therefore, attempt to pass through it without pilots. The Eastern Passage has a Rock lying nearly in mid-channel with 6 feet water upon it at Low Tide. The Southern Black Rock bears from this danger **E.SE.** about ½ mile. It is not advisable for strangers to attempt to enter this Harbor by either Passage without pilots. About 4 fathoms water can be taken into Glasgow Harbor at Low Tide, but it is exposed to Easterly winds. Small vessels, however, with pilots, can at High Water be taken up where they may lie secure from all winds.

To avoid the Dangers in thick weather from Cape Canso to Sambro Lighthouse.

Vessels navigating the coast from Cape Canso to Sambro Lighthouse, should in thick weather use the deep-sea lead and not approach the coast in less than 40 fathoms water.

GUT OF CANSO.

The Southern entrance to this Gut, which is between Eddy Point on the West and Janvrin Island on the East, is about 2 miles wide, and lies Northwesterly 18 miles from Cranberry Island Lighthouse.

Eddy Point Lighthouse.

Upon Eddy Point, Western side of the Southern entrance to Gut of Canso, is a White Square Wooden Building, which at this date (1884) shows two fixed White Lights. This Lighthouse is located Northwesterly 17¾ miles from Cranberry Island Lighthouse, 7½ miles from Port Hawksbury Lighthouse, and 14⅓ miles Southeasterly from the Lighthouse on the Western side of Northern entrance to Gut of Canso. Shoal water extends off some distance to the Eastward of this Lighthouse, and vessels bound out or into the Gut of Canso, should leave it at least ⅓ mile to the Westward.

Ship Harbor or Port Hawksbury Lighthouse.

Upon the Southern side of entrance to Port Hawksbury, Eastern side of Gut of Canso, is a White Square Building, which at this date (1884) shows a fixed Red Light. Shoal water extends off to the Westward of this Lighthouse, and vessels bound through the Gut of Canso or to Port Hawksbury, should leave this Lighthouse not less than ⅙ mile on the Starboard hand.

North Canso Lighthouse.

Upon the Western side of the Northern entrance to the Gut of Canso, is a White Square Wooden Building, which at this date

(1884) shows a fixed White Light. With Southwesterly winds there is good Anchorage off this Lighthouse in from 5 to 10 fathoms water.

Dangers in approaching Gut of Canso from the Southward.

Cerberus Rock.

This dangerous Rock, which is awash at Low Tide, has deep water around it, and lies nearly in mid-channel, in approaching Gut of Canso from the Southward. At this date (1884) this danger is marked off its Southern side with a Red Buoy. Eddy Point Lighthouse bears from this Buoy **NW.** ¾ **N.** 7 miles; Marche Point Lighthouse (Southern side of entrance to Arichat Harbor) **E.** ¼ **S.** 3¼ miles; Revolving Light on Creighton Head **NE.** by **N.** ¾ **N.** 2¾ miles. 14 fathoms water was found ¼ mile to the Southward of Cerberus Rock, 19 fathoms ⅛ mile to the Northward of it, and 15 fathoms close to its Western side. In thick weather or night-time the lead, therefore, gives but little warning in approaching this danger.

Argos Shoal.

This danger, which extends about ¾ mile from the Western shore, is about 2½ miles to the Southward of Eddy Point Lighthouse, and lies on the Western side of the approach to Gut of Canso. In order to avoid this danger, vessels from the Southward approaching Gut of Canso, should not bring the Lighthouse on Eddy Point to bear to the Northward of **N.NW.**

Eddy Point Shoal.

This Shoal extends off Northeasterly a little more than ¼ mile from Eddy Point, Western side of the Southern entrance to the Gut of Canso, and at this date (1884) is marked off its Eastern part with a Black Buoy. Eddy Point Lighthouse bears from this Buoy **W.** by **S.** a little more than ¼ mile.

Remarks.

There is a sufficient depth of water in the Gut of Canso to admit the heaviest draught vessels, and in passing through there

are no dangers excepting those which lie near the shores. There are several places in this Gut where good Anchorage may be found for small vessels, and large vessels may find good Anchorage in Ship Harbor, now called Port Hawksbury.

Sailing Directions for Gut of Canso, in Daytime, with favorable winds and fair weather.

From the Westward, leave the Whistling Buoy to the Eastward of Cranberry Island Lighthouse close to on either hand, and make good the course **NW. ¾ N.**, keeping a sharp lookout for the Red Buoy off the Southern part of Cerberus Rock (before described). This last-named Buoy bears from the Whistling Buoy **NW. ¾ N.** 13 miles. When the Red Buoy off Cerberus Rock is made, leave it about ¼ mile on the Starboard hand, and continue the course **NW. ¾ N.**, leaving the Black Buoy off Eddy Point Lighthouse a short distance on the Port hand, and steer about **NW. ½ N.** When past Bear Head, which is on the Eastern side, and lies abont 2 miles to the Northward of Eddy Point Lighthouse, then keep midway, and pass through the Gut of Canso.

Vessels wishing to pass to the Westward of Cranberry Island Lighthouse and George Islands, may follow the directions before given for Canso Harbor until past Grave Island. Then, in order to avoid Starling Rock which has 4 feet water upon it at Low Tide, bring the Beacons on this last-mentioned Island and Lanigan Hill in range, bearing **S. ¾ W.**, and run with them in range until abreast the Southern end of Hart Island. Then keep midway the Passage until Hart Island Lighthouse bears **S.** Then make good the course **N.**, leaving Bald Rock and Bald Reef on the Starboard, and Whitman's Rock and Net Rocks (the latter of which are bare at ¼ Ebb) on the Port hand. When past the last-named Rocks, make good the course **N.NW.**, leaving the Red Buoy off Cerberus Rock well on the Starboard hand. When about 3 miles from Eddy Point Lighthouse, haul gradually to the Northward, leaving the Black Buoy off this Point a short distance on the Port hand, and follow the directions before given.

Beating through the Gut of Canso.

In beating through the Gut of Canso, in order to avoid Ship Rock, Dixon Rock, Balache Rock, Cahil Rock and Madagascar

Rock, do not approach either side nearer than 350 yards. The three first-named Rocks lie on the Eastern side, and the other two on the Western side. None of these Rocks lie more than 200 yards from shore.

SHIP HARBOR, OR PORT HAWKSBURY.

This fine Harbor, which is on the Eastern side of Gut of Canso, lies Northwesterly about 7½ miles from Eddy Point Lighthouse, and Southwesterly about 7 miles from North Canso Lighthouse.

Remarks.

Ship Harbor is nearly ¾ mile in length, and has an average width of about ¼ mile. About 24 feet water, at Low Tide, can be carried in past the Lighthouse, and 18 feet can be taken up near the Head.

Dangers in entering Ship Harbor.

The only danger in entering Ship Harbor, excepting those lying near the shores, is Premier Shoal, which lies nearly midway the entrance, and has 12 feet water upon it at Low Tide. Ship Harbor Lighthouse bears from the centre of this danger **SW.** by **W.** about 400 yards. Channels with not less than 24 feet water, lead in on both sides of this Shoal, but the Channel to the Northward of this Rock is the widest.

Sailing Directions for Ship Harbor.

Vessels of not more than 11 feet draught, bound to Ship Harbor may follow the directions before given for Gut of Canso until the Harbor is fairly open. Then run in about midway, and anchor in from 3 to 4 fathoms water at Low Tide. In order to avoid Premier Shoal, vessels of more than 11 feet draught, at Low Tide, should leave the Lighthouse about ¼ mile on the Starboard hand, and steer **E.NE.** until about 300 yards from the Northeastern side of the Harbor. Then run up, and anchor in about 4 fathoms at Low Tide.

PIRATE COVE, OR PORT MULGRAVE.

The entrance to this small Cove, which is on the Western side of the Gut of Canso, lies about 1½ miles Southwesterly from Ship Harbor Lighthouse. Small vessels may, when the Cove is fairly open, run in, and anchor near the Mouth, to the Northwestward of Pirate Island, in about 7 fathoms water at Low Tide.

MACNAIR COVE.

This shallow Cove, which is on the Western side of Gut of Canso, lies nearly opposite Ship Harbor. Small vessels may anchor in this Cove, in about 3 fathoms water at Low Tide.

PORT HASTINGS, OR PLAISTER COVE.

This Port, which is on the Eastern side of Gut of Canso, lies 2½ miles to the Northward of Ship Harbor Lighthouse, and has anchorage in from 5 to 7 fathoms water at Low Tide. Vessels bound out or into Port Hastings, should be careful to avoid Dixon Rock, which lies on the Northern side of entrance.

Submarine cables cross the Gut of Canso at Port Hastings, and direction boards are placed to warn vessels not to anchor in this vicinity.

High Water.

It is High Water at Port Hawksbury, East side of Gut of Canso, on the days of the Full and Change of the Moon, at 9 h. 10 m., or 2 h. 19 m. before it is at Boston. Mean rise and fall of Tides, 4 feet.

Currents.

After strong Northwesterly winds the Current runs to the Northward through the Gut of Canso, from 4 to 5 knots, and after strong Southerly winds it sets through to the Southward, with about the same strength and velocity.

SABLE ISLAND.

This Island, which is almost entirely composed of White Sand, extends about **E.** by **S.** ½ **S.** and **W.** by **N.** ½ **N.** 17 miles, and is about a mile broad in its middle. In the interior of the Island is a Salt Lake which commences near the Western end and is about 12 miles long.

Sable Island Lighthouse (West End).

Upon the Western end of Sable Island, in Lat. 43° 57′ **N.** and Long. 60° 08′ **W.**, is a White Octagonal Building elevated 123 feet above the level of the sea. At this date (1884) this Lighthouse shows a Revolving White Light, which gives three flashes at intervals of half a minute, and is then eclipsed during 1½ minutes, making a total revolution in 3 minutes. This Light should be seen from the deck of a common vessel in clear weather about 17 miles. Sambro Lighthouse bears from the Lighthouse on the Western end of Sable Island **NW.** by **W.** 145 miles. Cranberry Island Lighthouse North 89 miles, Lighthouse on East end of Sable Island **E.** by **S.** ½ **S.** 15½ miles.

Sable Island Lighthouse (East End).

About 1½ miles from the Eastern end of Sable Island, in Lat. 43° 58½′ **N.**, and Long. 59° 46′ **W.**, is an Octagonal Tower painted in White and Brown. This Lighthouse, which is elevated 128 feet above the level of the sea, shows a fixed White Light, which in clear weather should be visible from the deck of a common vessel about 17 miles. Sambro Lighthouse bears from the Lighthouse on the Eastern end of Sable Island **NW.**

by **W.** ¼ **W.** 160 miles, Cranberry Island Lighthouse **N.** ¾ **W.** 94 miles, Lighthouse on the West end of Sable Island **W.** by **N.** ½ **N.** 15½ miles.

Northwest Bar.

The outer part of this Bar, which lies Northwesterly about 22 miles from the Western end of Sable Island, runs off about **NW.** ½ **N.** 12 miles, thence **W.NW.** about 10 miles, and then gradually deepens to 20 fathoms water. In 1851, this danger was dry ¾ mile from the Western end of the Grassy Sand Hills, and there were several patches of sand nearly dry a mile further out. These last are supposed to have accumulated around the wrecks of vessels which have been lost. Beyond the last-named patches to the outer lump of 10 fathoms, there are from 4 to 12 fathoms. In bad weather the sea upon this Bar breaks nearly 10 miles from the Western end of the Island, and the remaining 12 miles usually shows a large ripple or heavy cross-sea.

Northeast Bar.

The Northeast Bar extends out nearly 17 miles from the Grassy Sand Hills to the depth of 10 fathoms. Its direction is about **E.NE.** for the first 7½ miles; beyond this it gradually curves to the **E.SE.**, and from its outer part deepens suddenly to 170 fathoms. This Bar is dry about 4 miles without the Grassy Sand Hills, the sea washing over the outer half of that distance only in rough weather. There are on this Bar sand hills with some grass upon them which have accumulated around the wrecks of vessels that have been lost upon it. The sea in heavy weather generally breaks some 8 or 10 miles without the dry part.

Currents.

The current of Ebb runs to the Southward across both the Northwest and Northeast Bars, at the rate of from 1½ to 2 miles an hour, and with strong Northerly winds, the current of Flood is much weaker in an opposite direction.

On account of the influence of winds, the Currents in the vicinity of Sable Island are strong and irregular, but the general tendency is well known to be to the Westward. Vessels find no difficulty in beating to the Westward anywhere to the Northward

of the Gulf Stream, and hence it is that many of the vessels wrecked on this Island supposed that they were well to the Eastward of it.

Soundings in approaching Sable Island.

In thick weather vessels should not approach the Southern side in less than 20 fathoms water, and the Northern side in less than 30 fathoms. Both the Northeast and Northwest Bars are very steep on their Northern sides, especially the Northeast Bar, which has 30 fathoms water close to it; on the contrary, on the Southern sides of both these Bars, the water deepens gradually for miles, and it appears almost impossible for vessels using the lead, to run ashore on the Southern side of this Island, or its Bars.

Anchorage under Sable Island.

Upon the Northern side of Sable Island, excepting near the Eastern part where the Deep Water is close to land, there is good Anchorage with winds off shore in from 5 to 10 fathoms, sandy bottom. A strict watch, however, should be kept and the Island should be left on the first indication of an on-shore wind.

Remarks.

In 1852 the principal establishment on Sable Island was situated on the North side, between the Pond and Sand Hills, and consisted of a House for the Superintendent and his family and several other buildings. Opposite the house was the Western Flag-staff, which was strongly and substantially erected on a Sand Hill 40 feet high. On the top of this Flag-staff was a *Crow's Nest* or lookout, elevated 100 feet above the level of the sea. About 7 miles to the Eastward of the Superintendent's House, near the Eastern end of the Salt Lake, is another Flag-staff, the top of which can be seen over the Sand Hills. The Eastern Flag-staff was located on a Sand Hill about 4½ miles to the Westward of where the Eastern Lighthouse now stands.

At this date (1884) the British Government give notice that the establishment on Sable Island consists of a Superintendent and ten Assistants, also with abundance of stores and provisions for the relief of shipwrecked mariners.

High Water.

It is High Water on the days of the Full and Change of the Moon, on the Northern side of Sable Island, at 7 h. 30 m., or 4h. 0 m. before it is at Boston. Mean rise and fall of Tides, about 3 feet. On the South side of this Island it is High Water about an hour earlier. The current of Ebb sets to the Southward over the Bars from 1½ to 2 miles an hour, the Flood at a much less rate in an opposite direction.

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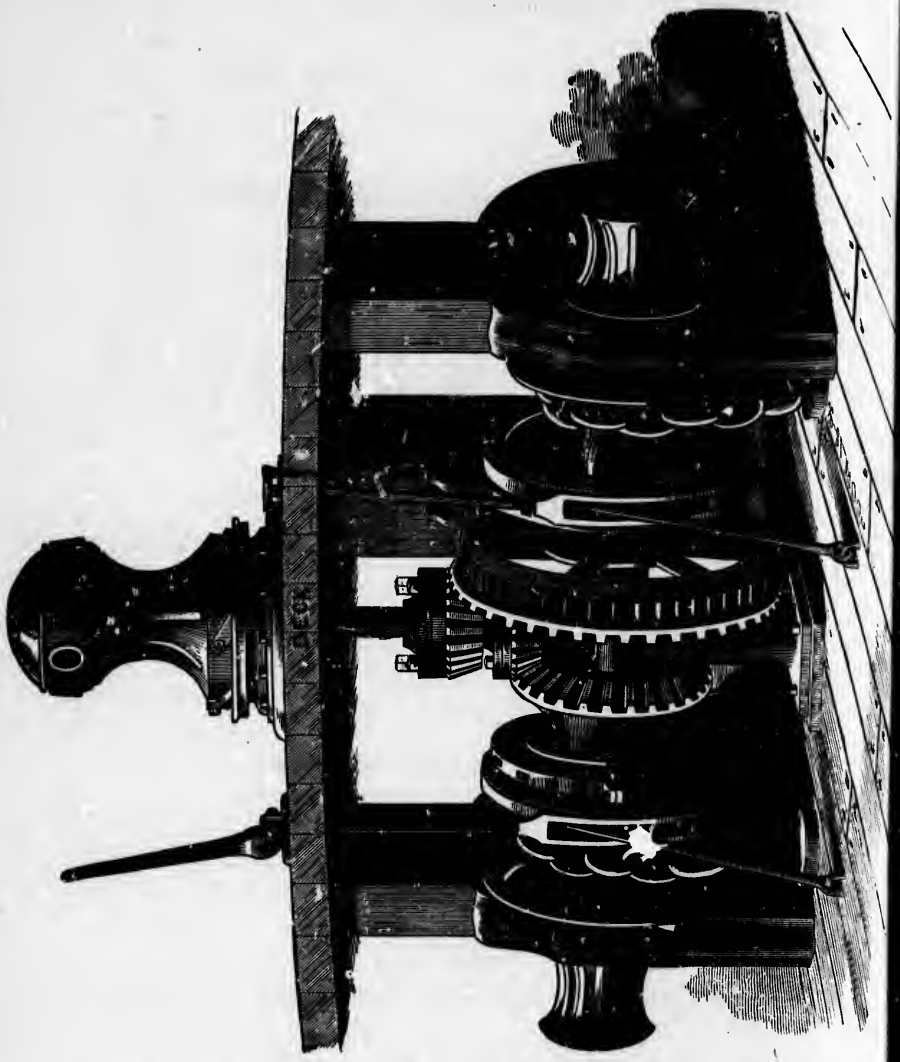

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The cut on the opposite page represents our "Providence" Capstan Windlass. We have named it the "Providence" Capstan Windlass, to distinguish it from the old-fashioned style, called the "Emerson" Windlass, which had none of our recent improvements.

This is the only windlass made that has a capstan with a *single head* that can operate the windlass, and has double power as an independent capstan, two heads being objectionable and inconvenient.

Our Locking Gear is so constructed as to avoid all trouble in locking, as the head need not agree exactly with the wild cat to enable the block key to lock, the opening being much larger than the key. It is stronger than any other style, as the key takes the strain endways instead of crossways, and is also more convenient, as is shown by the numerous imitations, none of which equal the original.

The Patent Deck Centre Bearing holds the shaft firmly in place and prevents springing and breaking of the gears. The straight clearing guard being bolted to the deck, is much easier set and much stronger and more effectual than the old style.

The Pawl Lifter is a great convenience, also the patent device for turning the wild cat, and the Deck Pipe is simple and never allows the shackles to catch and foul the chain, though set well forward to carry the chain under the wild cat, and is as easily caulked as the old style.

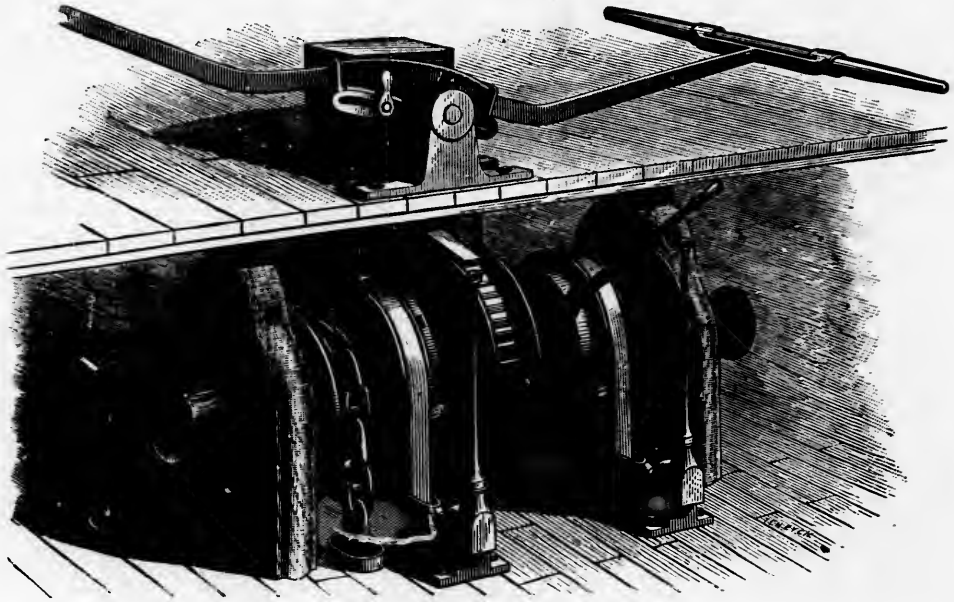
We have repeatedly increased the sizes of the shafts and thickness of the castings on the different sizes of windlasses, with a view if possible of preventing breakdowns—the result is shown by the extremely small number of accidents to our windlasses, notwithstanding the great number in use. While retaining all these advantages of construction, of material and workmanship, we shall endeavor to keep the price as low as is consistent with these qualities.

We would call attention to the class of vessels that use our windlasses, as it will be found that the majority that require the best outfits, and the best labor-saving appliances, have them.

THE "PROVIDENCE" PUMP BRAKE WINDLASS.

MANUFACTURED BY THE

American Ship Windlass Company, Providence, R. I.



Patented Nov. 4, 1873, March 21, 1876, Nov. 13, 1877, Dec. 17, 1878, June 1, 1880, Feb. 8 and 15, 1881.

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The cut on the opposite page represents our Pump Brake Windlass; as this style of Windlass is peculiar and different from any other style in the market, we would call especial attention to the advantages which it possesses.

The cheap Pump Brakes on the market are simply a copy of the old wood windlass with wild cats added in place of the wood barrels; in our windlass we have a totally different method of communicating power.

Instead of the old-fashioned ratchets and rims, we have substituted a single ratchet wheel which also answers for the pawl wheel; it is made very solid and strong and none of this style of wheel has ever been known to give out or break down.

With the old style of ratchet and rims there is still all the lost motion, which was such a disadvantage on the old wood windlass; with our pawl arrangement there is absolutely no lost motion, so that, other things being equal, our windlass would take an anchor in two-thirds the time required with the ratchet and rim pump brakes. While the ratchet and rim arrangement is all of cast iron and very light, our clamps are made of heavy gun iron, and the pawls of forged Norway iron, capable of outlasting the vessel in all cases. As it was no unusual thing to have to replace the ratchets and rims in the wood windlass, so in the cheap iron windlasses—they cannot be as durable as the arrangement on our windlasses. Using only one wheel the windlass is more simple and compact than any other style.

The Locking Gear is so constructed that it is not necessary to have the wild cat and head agree exactly before the locking block will enter as in the other styles, and as in the old hand block key, before our locking gear was brought out. Our Clearing Guards and Deck Pipes we believe to be superior to the old-fashioned kind, and the sockets, for throwing the wild cat over with lever, very convenient; the method also of changing from power to speed is very simple and convenient.

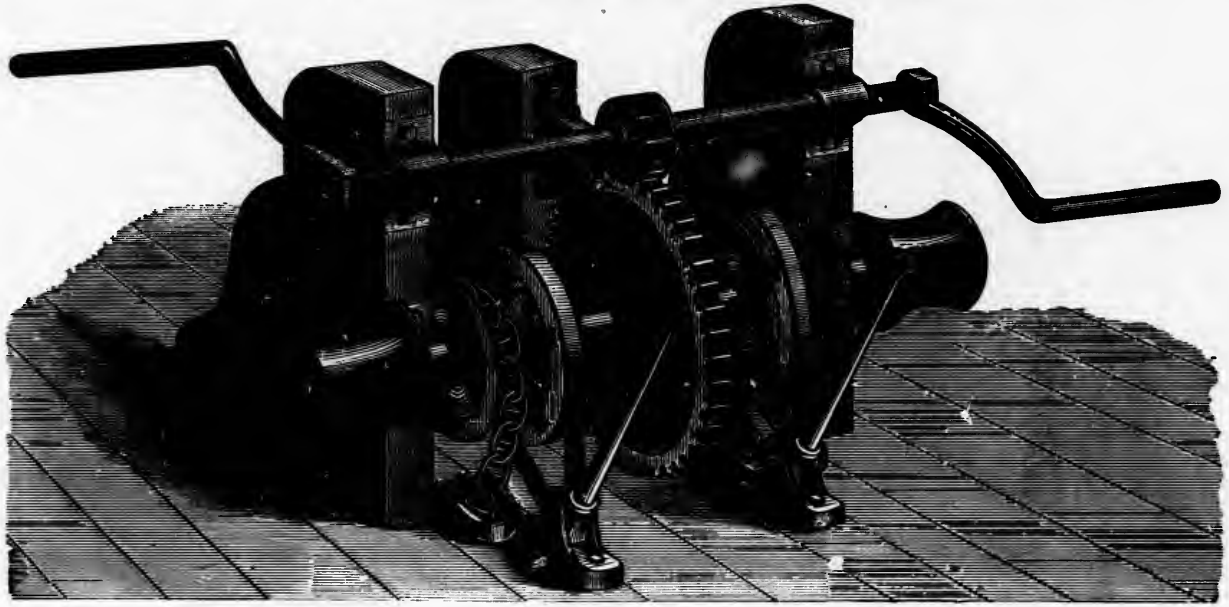
By building the windlass without turning the ratchet wheel, leaving the casting rough as it comes from the foundry, by substituting ordinary cast iron for gun iron and for Norway iron forgings, and by cutting down the amount of stock in the windlass, we could materially decrease the price; we believe, however, that it would also make it less durable, reliable and efficient. An investigation of these facts is requested of those intending to purchase. There is nothing more important on ship-board than a good windlass, and the best is generally found to be the cheapest in the end. The strength and durability of our windlass is shown by the small number of breakdowns, compared with other styles, though we have such an immense number in use.

THE "PROVIDENCE" CRANK WINDLASS.

MANUFACTURED BY THE

American Ship Windlass Company, Providence, R. I.

These Windlasses are especially adapted to small Schooners, Sloops, Tug-Boats and Steamers, using from ¼ in. up to ⅞ in. chains. They are cheap, simple, convenient, compact and durable.



Patented Nov. 13, 1877.

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Patented Nov. 13, 1877.

WOOD WINDLASS,

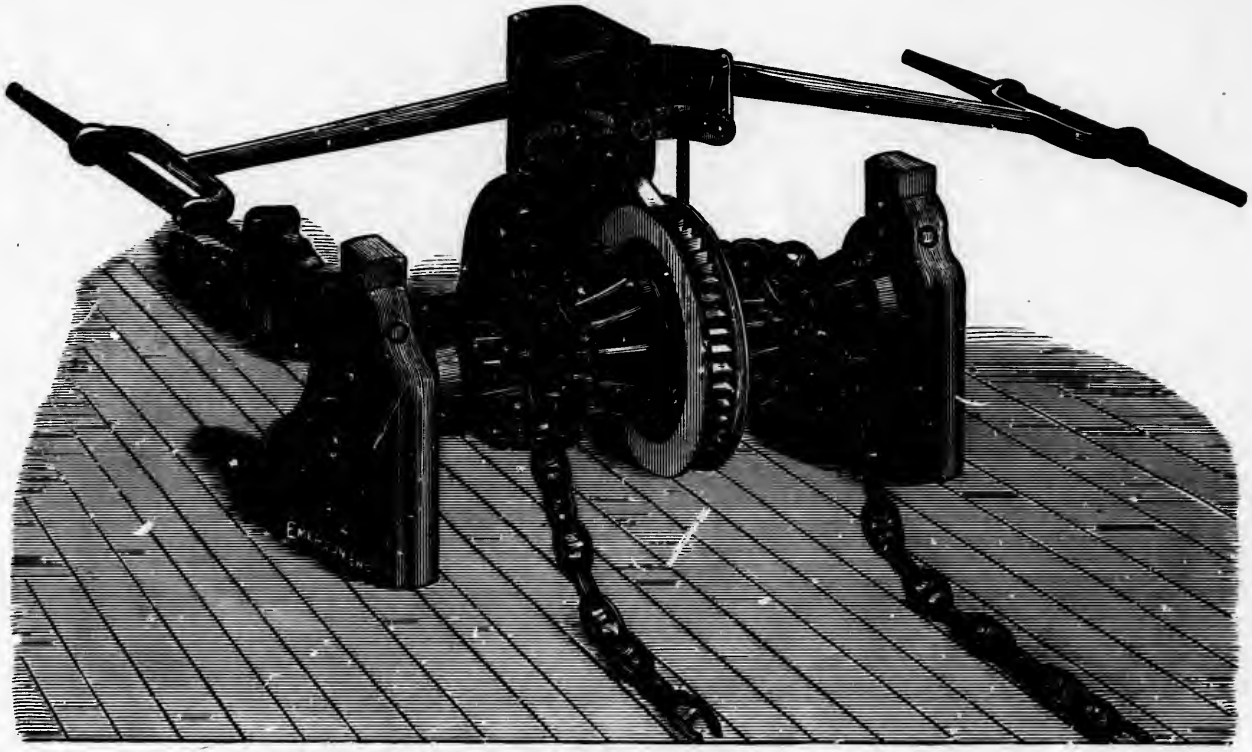
WITH OUR PATENTED PUMP-BRAKE ATTACHMENT.

In order to accommodate those who prefer to use the "Wood Windlass," we have adapted our patented improvements upon pump-brake windlasses to the Wood Windlass, as shown upon the next page, thereby rendering it superior to any wood windlass heretofore used.

These improvements consist in *reducing the distance between the bitts from two to four feet, for each windlass*, as we dispense with two of the ratchet wheels which were necessary upon this class of windlasses, and is also worked from the after side of pawl-bitt, whereby the men have more room for working the brakes.

It is easily and quickly changed from speed to power, or *vice versa*, when required, by simply loosening the handle nut and sliding the bolt and connection in the groove towards the centre of the vessel, thereby gaining a ratio of 3 to 1.

With this windlass anchors and chains can be taken in one half the time required with the ordinary wood windlass, there being little friction and no lost motion.



WOOD WINDLASS.

Patented Nov. 3, 1873.

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WOOD WINDLASS.

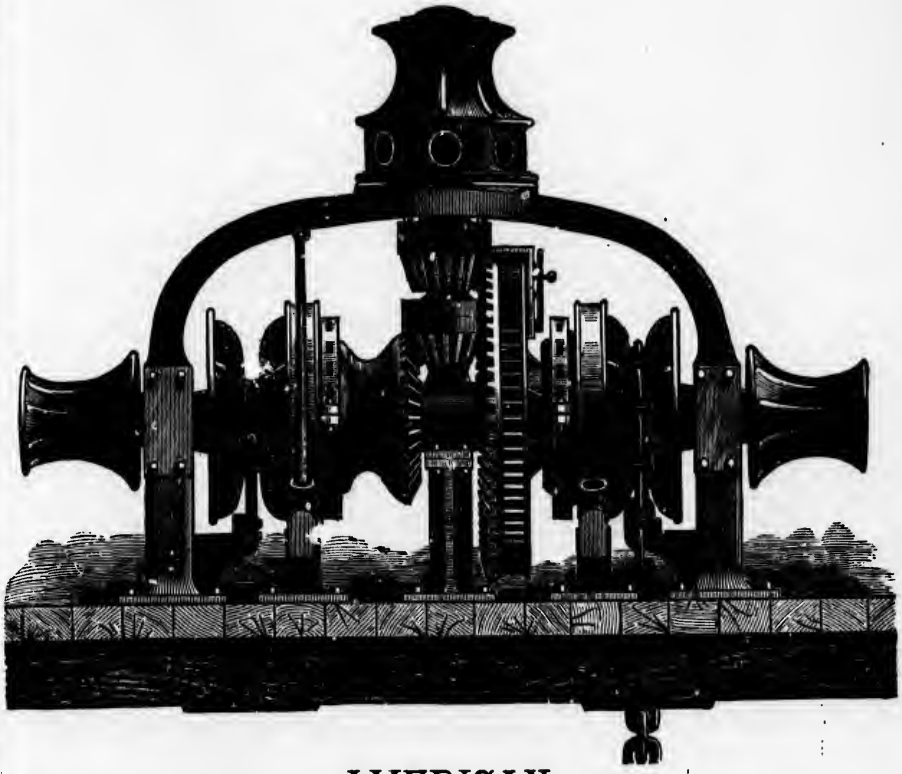
Patented Nov. 3, 1873.

THE "PROVIDENCE"

FLUSH DECK WINDLASS,

(Patented March 21, 1876, Nov. 13, 1877, Dec. 17, 1878, June 1, 1880, Feb. 8 and 15, 1881,)

MANUFACTURED BY THE



AMERICAN

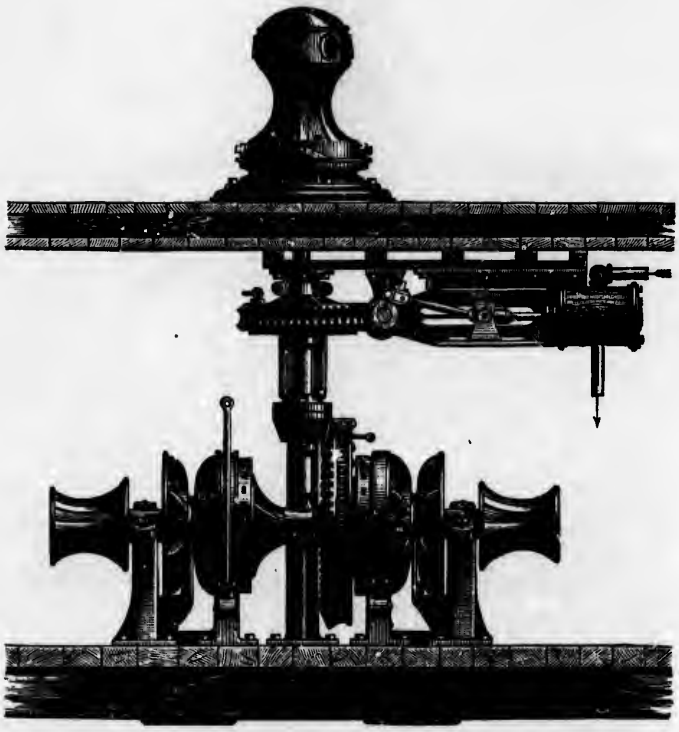
SHIP WINDLASS COMPANY,

PROVIDENCE, R. I.

This Windlass is especially adapted to work as a

FLUSH DECK WINDLASS

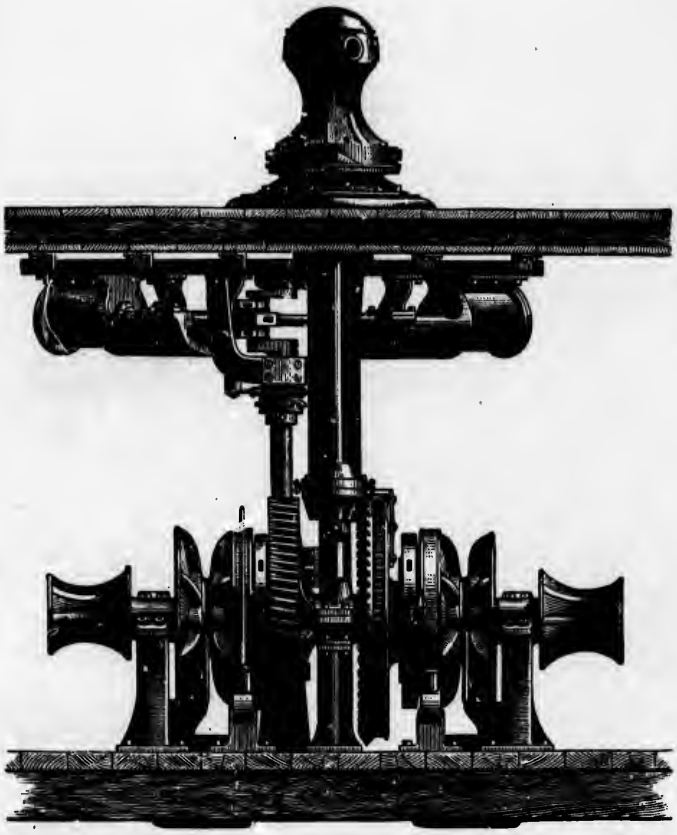
On Yachts, Small Steamers, Revenue Cutters, etc.



THE "PROVIDENCE" STEAM CAPSTAN WINDLASS.

Patented Feb. 17 and Oct. 13, 1874, Oct. 26 and Nov. 30, 1875,
March 21 and April 18, 1876, March 27, Nov. 13 and Dec. 18, 1877,
June 25, Dec. 3 and 17, 1878, June 1, 1880, Feb. 8 and 15, 1881.

American Ship Windlass Company, Providence, R. I.



THE "PROVIDENCE" STEAM CAPSTAN WINDLASS.

Patented Feb. 17 and Oct. 13, 1874, Oct. 26 and Nov. 30, 1875, March 21 and April 18, 1876, March 27, Nov. 13 and Dec. 18, 1877, June 25, Dec. 3 and 17, 1878, June 1, 1880, Feb. 8 and 15, 1881.

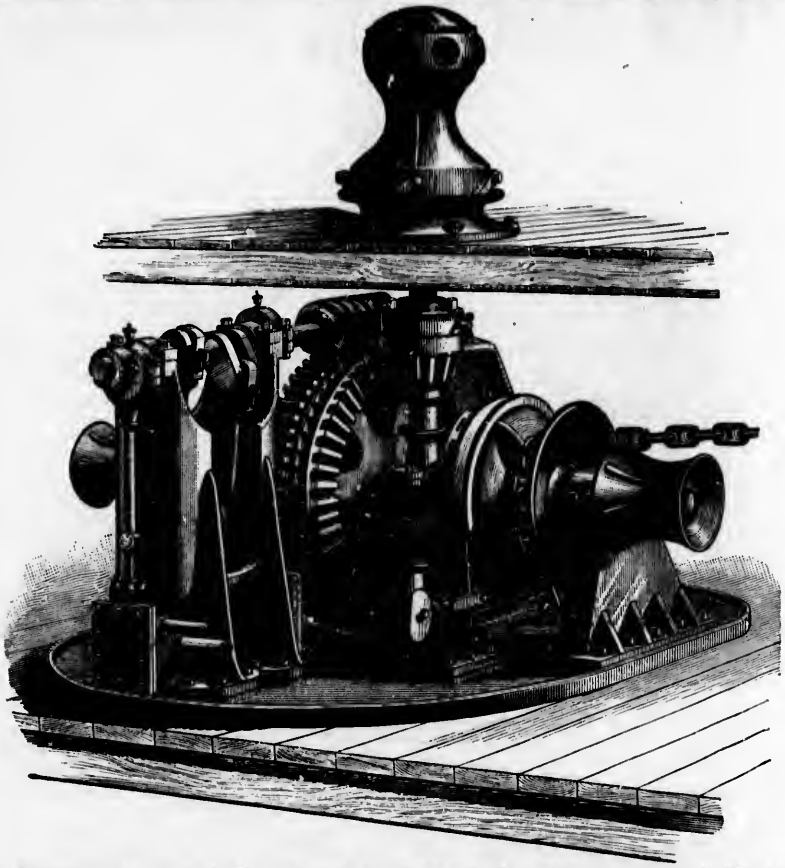
American Ship Windlass Company, Providence, R. I.

THE "PROVIDENCE"

STEAM CAPSTAN WINDLASS,

(New Style.) Manufactured by

AMERICAN SHIP WINDLASS COMPANY, PROVIDENCE, R. I.



Patented February 17 *and October* 13, 1874; *October* 26 *and November* 30, 1875; *March* 21 *and April* 18, 1876; *March* 27, *November* 13, *and December* 18, 1877; *June* 25, *December* 3 *and* 17, 1878; *June* 1, 1880: *February* 8 *and* 15, 1881. *May* 1, 1883.

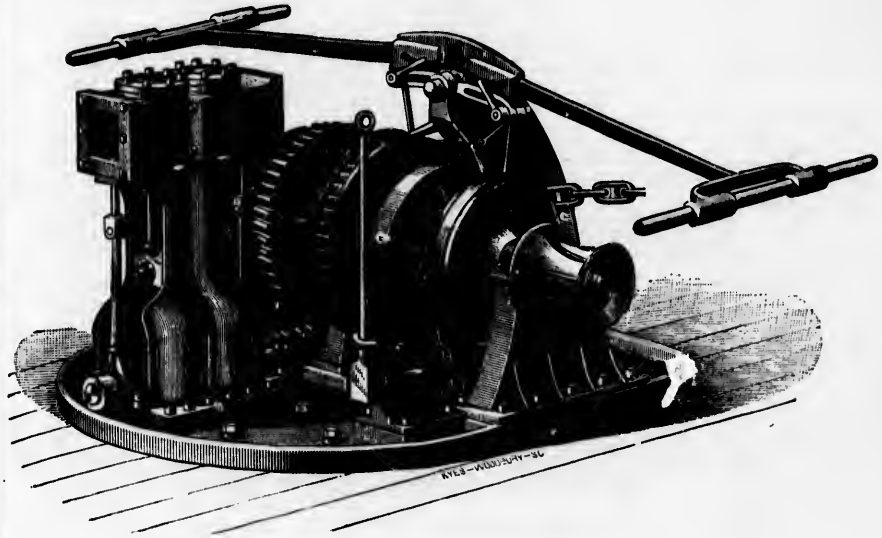
The above cut shows our new style of Steam Capstan Windlass. The advantages of this style of Windlass over our old Steam Windlass are: FIRST—It can be set up in one quarter the time and one quarter the expense required when the engines are hung up to deck above. SECOND—The engines being connected to the plate, and all the parts of the Windlass being tied together by the same plate, the whole must remain always in line; if the deck above twists or strains, or is entirely crushed in or swept away, the Windlass can be worked by steam as efficiently as before. THIRD—The engines are more accessible, being at the right height and in the most convenient position possible; the Engines, Locking Gear of Windlass, and Friction Levers being all within reach. FOURTH—The Windlass can be set up in the shop, and every part, including Engines, Friction Stands, Deck Pipes, and Bitts, bolted to its place and marked, so that when set up on ship-board, each part must come to its place without trouble or delay. FIFTH—The Patent Automatic Lubricating device, whereby each tooth of the worm-gear is supplied with lubrication as the wheel revolves, reduces the friction, and prevents cutting and wear.

The above advantages, combined with and in addition to all those good points possessed by the old style, would seem to recommend this Windlass to the confidence of all in want of a first-class machine.

THE "PROVIDENCE"

STEAM PUMP BRAKE WINDLASS

(NEW STYLE).

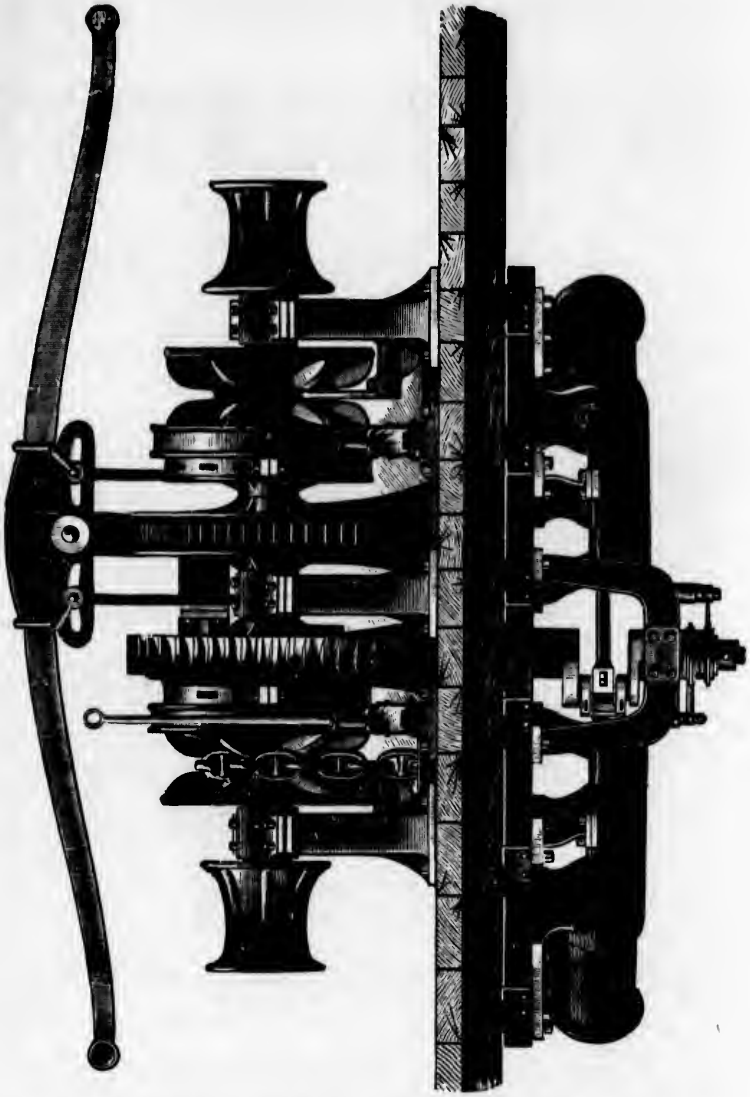


MANUFACTURED BY

AMERICAN SHIP WINDLASS COMPANY,

PROVIDENCE, R. I.

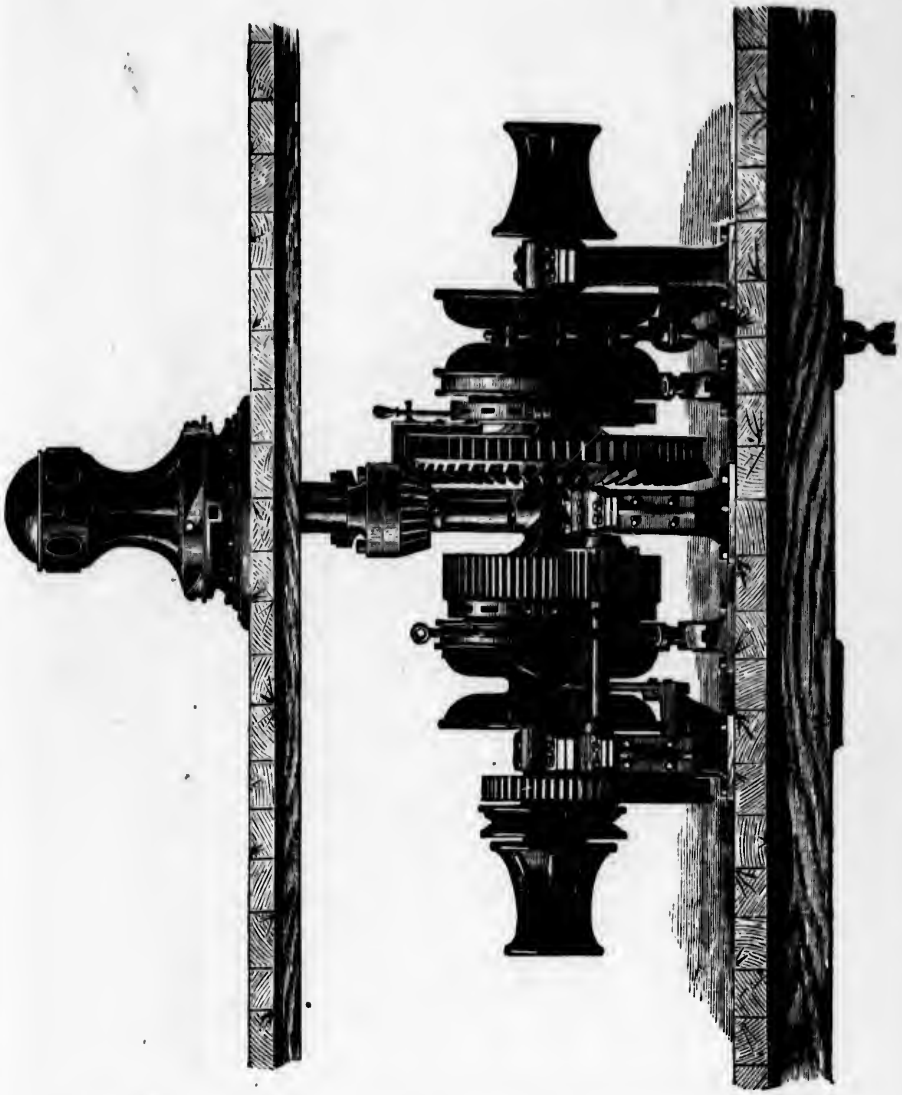
Patented Nov. 4, 1873; Oct. 26 and Nov. 30, 1875; March 21, 1876; Nov. 13, 1877
Dec. 17, 1878; June 1, 1880; Feb. 8 and 15, 1881; May 1, 1883.



The "Providence" Steam Pump Brake Windlass.

Patented Nov. 4, 1873, March 21, 1876, Nov. 13, 1877, Dec. 17, 1878, June 1, 1880, Feb. 8 and 15, 1881.

American Ship Windlass Company, Providence, R. I.



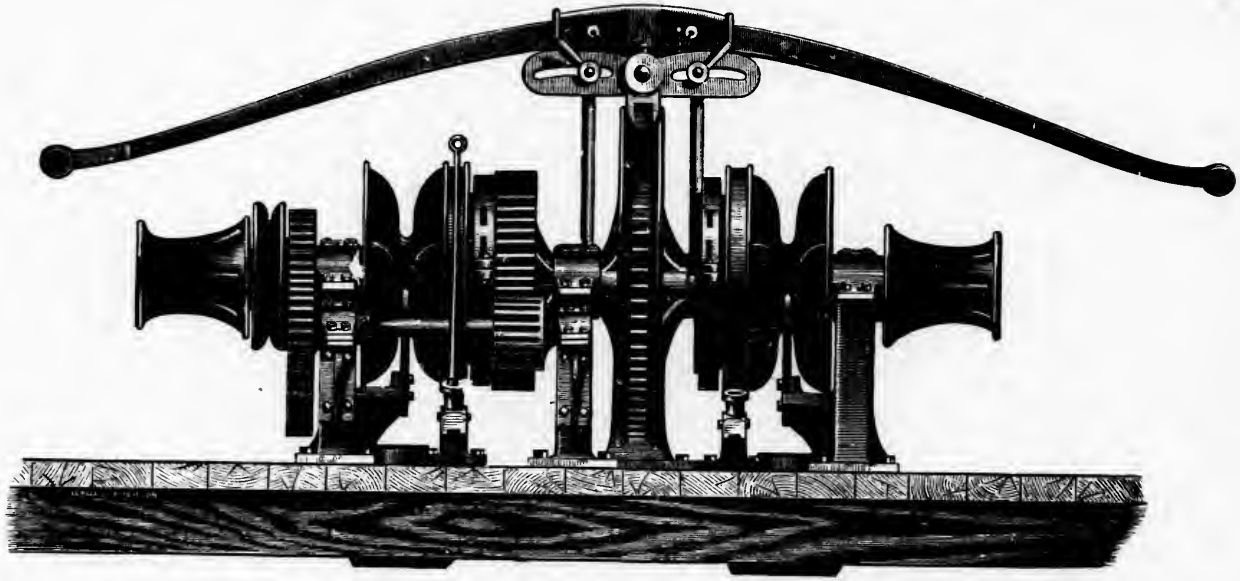
The "Providence" Messenger Chain Capstan Windlass.

Patented Feb. 17, 1874, March 21 and April 18, 1876, March 27 and Nov. 13, 1877, June 25, Dec. 3 and 17, 1878, June 1, 1880, Feb. 8 and 15, 1881.

American Ship Windlass Company, Providence, R. I.

THE "PROVIDENCE" MESSENGER CHAIN PUMP-BRAKE WINDLASS.

Patented Nov. 4, 1873, March 21, 1876, Nov. 13, 1877, Dec. 17, 1878, June 1, 1880, Feb. 8 and 15, 1881.



American Ship Windlass Company, Providence, R. I.

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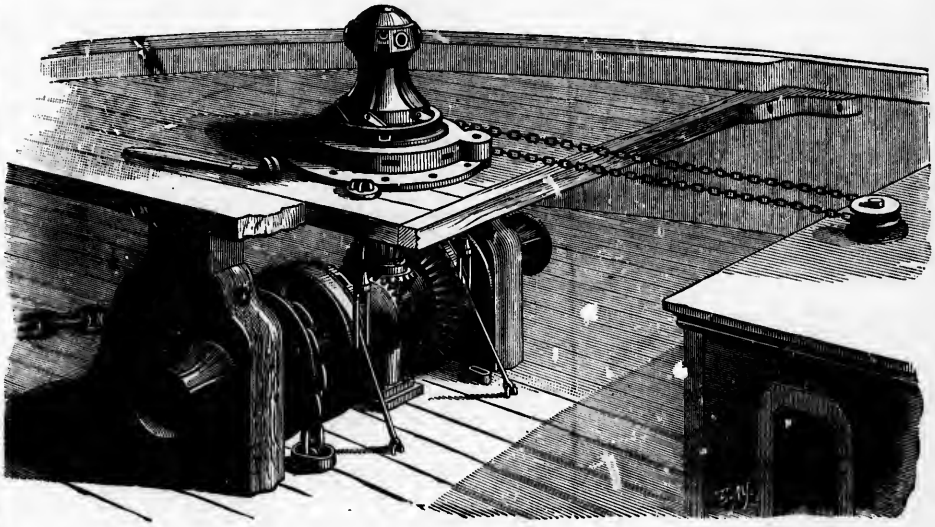
The "Providence" Capstan Windlass,

WITH

T. J. SOUTHARD'S

MESSENGER CHAIN ATTACHMENT.

Patented Feb. 17, 1874, March 21, April 18, 1876, March 27, Nov. 13 and 27, 1877, June 25, Dec. 3 and 17, 1878, June 1, 1880, Feb. 8 and 15, 1881.



The above arrangement is the simplest and best yet devised for driving a Capstan Windlass by endless chain from a donkey engine.

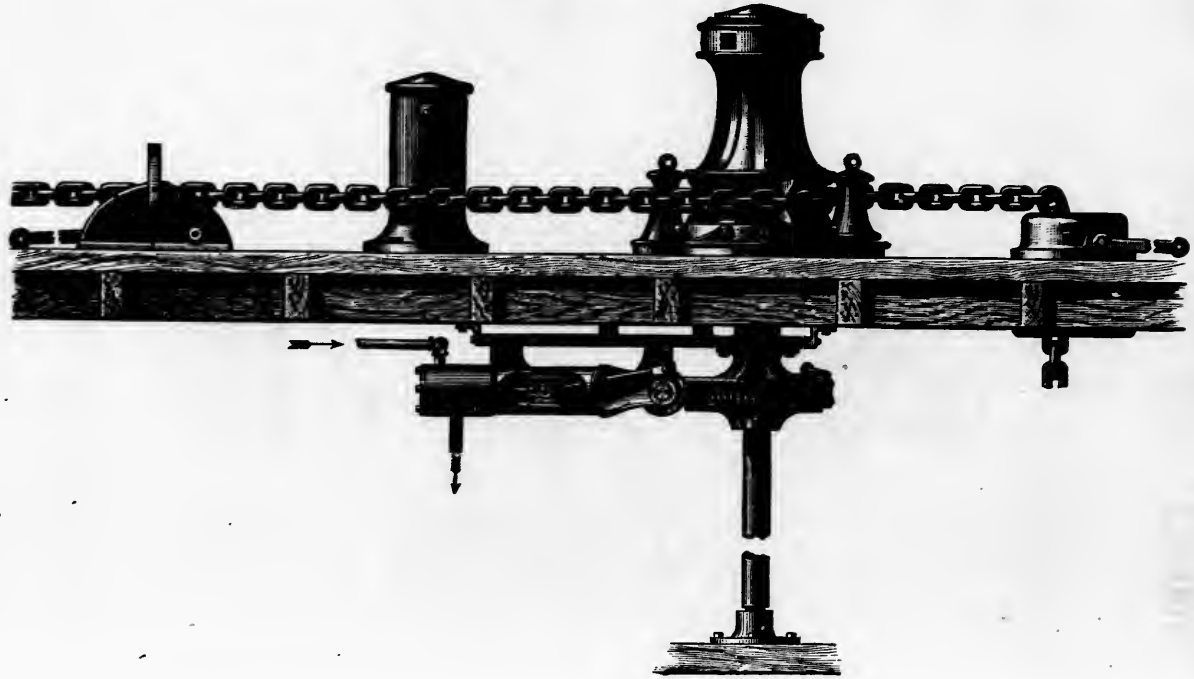
THE AMERICAN SHIP WINDLASS COMPANY

Are the exclusive builders under the patent.

THE "PROVIDENCE" STEAM YACHT WINDLASS,

For Steam Yachts, Small Steamers, Etc.

Patented Oct. 13, 1874, Oct. 26 and Nov. 30, 1875, and Nov. 13, 1877.



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"PROVIDENCE" STEAM PUMP BRAKE YACHT WINDLASS,

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AMERICAN SHIP WINDLASS COMPANY,

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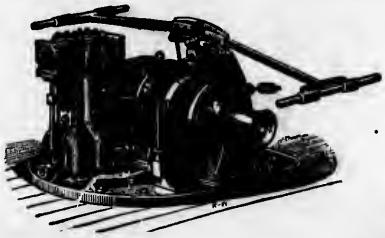


Patented Nov. 4, 1873; Oct. 26 and Nov. 30, 1875; March 21, 1876; Nov. 13, 1877; Dec. 17, 1878; June 1, 1880; Feb. 8 and 15, 1881; May 1, 1883.

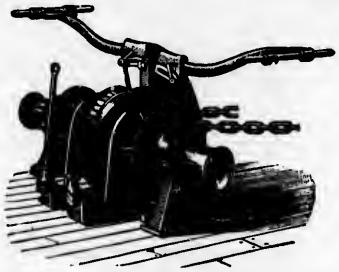
We also make these windlasses with engines under the deck, as shown in our large cuts.

THE "PROVIDENCE" PUMP BRAKE YACHT WINDLASS,

MANUFACTURED BY

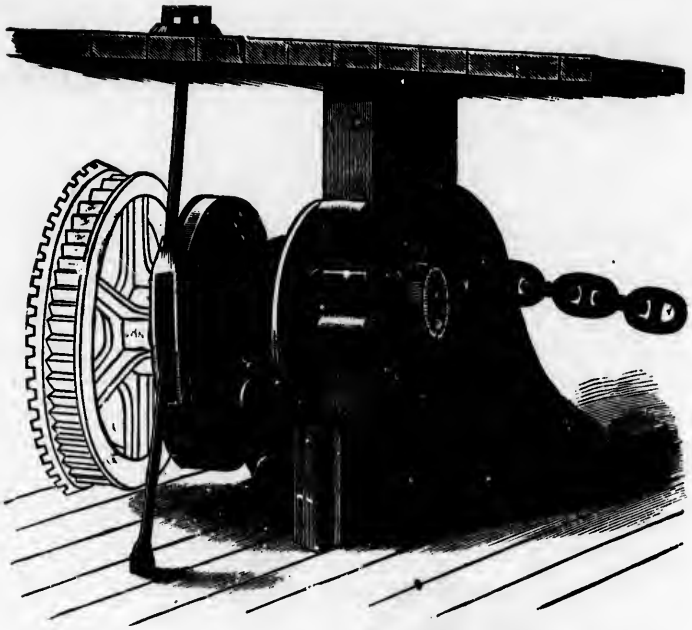
AMERICAN SHIP WINDLASS COMPANY,

PROVIDENCE, ... RHODE ISLAND.



Patented Nov. 4, 1873; March 21, 1876; Nov. 13, 1877; Dec. 17, 1878; June 1, 1880; Feb. 8 and 15, 1881.

This windlass is perfectly noiseless when the pawls are thrown up, these pawls being put on simply as an additional security against breakage under extraordinary strain.



Capt. C. H. PHINNEY'S

PATENT

CHAIN INDICATOR,

For Measuring Chain when payed out or taken in board.

PATENTED OCT. 26, 1875.

AMERICAN SHIP WINDLASS CO.

SOLE MANUFACTURERS.

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Deck Pipe

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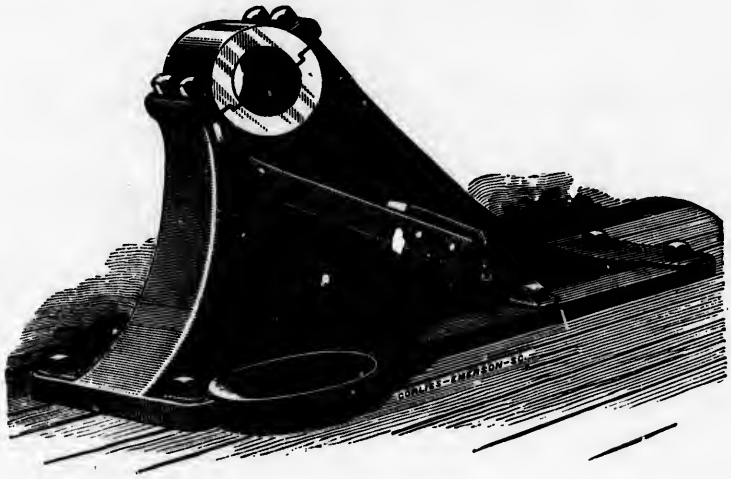
PATENT IRON BITTS.

We have arranged iron side bitts for our windlasses, as represented below, furnished with or without the warping projection, as desired.

The bearings are made of Babbitt metal, and will not corrode, and the clearing guards being fitted to them, it will be seen that the windlass can be set up on board ship with less labor. They will answer for either a capstan or pump-brake windlass.

Including the saving of labor in setting the windlass, they will cost less than wooden bitts, are neater, give more room under forecastle deck, and all parts of the windlass are more accessible.



Deck Pipe patented Nov. 13, 1877. Hollow Iron Bitt patented Nov. 13, 1877.

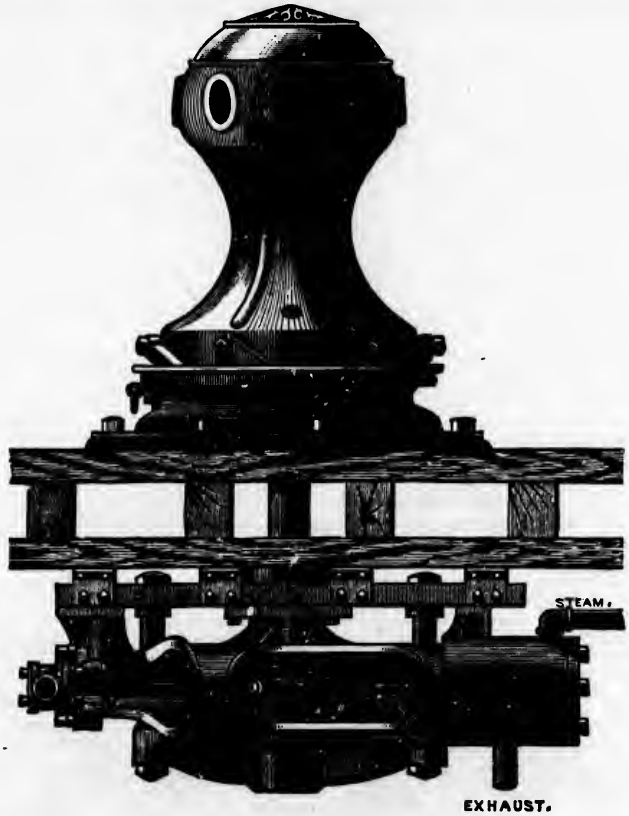
AMERICAN SHIP WINDLASS COMPANY,

Sole Manufacturers.

THE "PROVIDENCE" STEAM CAPSTAN.

Manufactured by the

AMERICAN SHIP WINDLASS COMPANY, PROVIDENCE, R. I.



Patented Feb. 17 and Oct. 13, 1874, Oct. 26 and Nov. 30, 1875, Dec. 18, 1877, and Dec. 3, 1878.

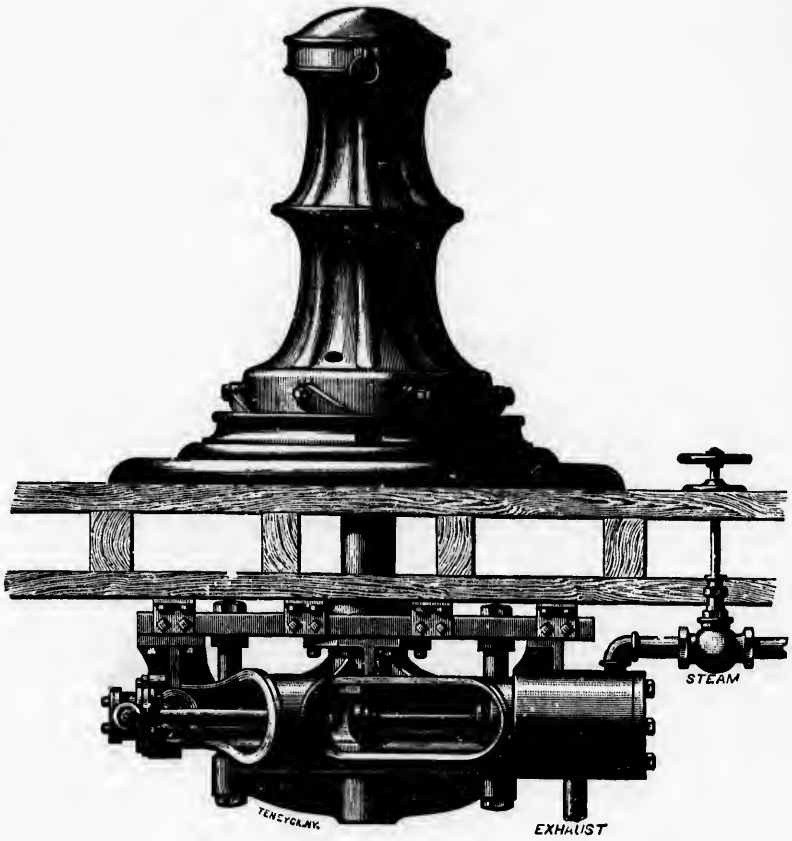
These Capstans are designed to go aft on Steamships, for docking same when backing into the wharf, or for turning round in a narrow channel; also for Elevator Barges, Steam Tugs, and for handling Steamers in rapid currents, for Dry Docks, etc. They are highly appreciated by all who have used and tested them. We guarantee to give satisfaction on every machine.

The following vessels have these Capstans: Tugs *Maud Wilmot*, *Ella Wood*, *No. 2*, *W. M. Wood*, *Charlie Wood*, *Mamie Wood*, *Elmer E. Wood*, *Will H. Wood*, New Orleans; *Joe Seay*, Vicksburg; *Uriah Shinkle*, Covington; *Thomas A. Morgan*, Philadelphia; *James O. Connor*, Pittsburg; *Rescue*, *No. 2*, St. Louis. Elevator Barges, *Gov. Morton*, *Jennie Armstrong*, *Relief*, *No. 1*, New Orleans. Steamships, *Newport*, Ward's Cuba Line; *City of Puebla*, Alexandre Line; *City of Augusta*, *Tallahassee*, *Chattahoochee*, *Nacoochee*, Ocean Steamship Co.; *Advance*, *Reliance*, *Finance*, New Brazil Line; *Cienfuegos*, New York; *Walla Walla*, *Columbia*, *Willamette*, *Umatilla*, Oregon Steamship Co.; *Queen of the Pacific*, *Mariposa*, *Alameda*, Pacific Coast Line; *Kalama*, Northern Pacific Transfer Steamer; *Alleghany*, *Berkshire*, *D. H. Miller*, Merchants' and Miners' Transportation Co.; *Roanoake*, *Guyandotte*, Old Dominion Line; *Caraccas*, *Valencia*, Boulton, Bliss & Dallett, New York; *Wm. T. Hart*, Transfer Steamer on the Hudson; ——, ——, Enos, Hill & Co., Gallipolis, Ohio; U. S. Steamers *Sabrina*, on Missouri River; *Innovator*, *No. 2*, *Dredge*, *No. 2*, Illinois River Commission; Six Boats for Mississippi River Commission; Twenty-Six Boats for Missouri River Improvement; One Dredge Boat for Wexel & De Gress, Mexico. Wm. Sellers & Co., Philadelphia, have one to haul cars in yard. We are also making one for Steamship No. 243, building by John Roach & Son, and one for steamship building by American Ship Building Co. for Merchants' & Miners' Transportation Co.

THE

"Providence" Double-Barrel Steam Capstan.

MANUFACTURED BY THE



Patented Feb. 17 and Oct. 13, 1874, Oct. 26 and Nov. 30, 1875, Dec. 18, 1877, and Dec. 3, 1878.

American Ship Windlass Company, Providence, R. I.

This Capstan was made to meet a demand for a machine that would handle two lines at once. In practical use in certain places, the double barrel seems to be of decided advantage.

THE "PROVIDENCE" POWER CAPSTAN.

(Patented Feb. 17, 1874, and Dec. 3, 1878,)

MANUFACTURED BY THE

AMERICAN

Ship Windlass Company,

PROVIDENCE, R. I.

POWER CAPSTANS.

Number.	Diameter of Barrel.	Diameter of Base.	Height.	Weight.	Price.
A	8 in.	23 in.	27½ in.	420 lbs.	
B	8½ "	24½ "	31½ "	560 "	
C	9½ "	29½ "	34½ "	850 "	
D	10½ "	32 "	37½ "	1,090 "	
E	11½ "	34 "	39½ "	1,300 "	
F	12½ "	37½ "	43½ "	1,650 "	

SIMPLE CAPSTANS.

Number.	Diameter of Barrel.	Diameter of Base.	Height.	Weight.	Price.
A	8 in.	23 in.	27½ in.	280 lbs.	
B	8½ "	24½ "	31½ "	420 "	
C	9½ "	29½ "	34½ "	560 "	
D	10½ "	32 "	37½ "	700 "	
E	11½ "	34 "	39½ "	910 "	
F	12½ "	37½ "	43½ "	1,150 "	

THE "PROVIDENCE" CRANK CAPSTAN.

(Patented September 7, 1880.)

MANUFACTURED BY THE

AMERICAN

Ship Windlass Company,

PROVIDENCE, R. I.

CRANK CAPSTANS.

Number.	Diameter of Barrel.	Diameter of Base.	Height.	Weight.	Price.
A	8 in.	23 in.	27 in.	400 lbs.	
B	8½ "	24½ "	31 "	600 "	
C	9½ "	29½ "	34 "	800 "	
D	10½ "	32 "	36½ "	1,050 "	
E	11½ "	34 "	38½ "	1,300 "	
F	12½ "	37½ "	42 "	1,650 "	

POWER CAPSTAN.

Our Power or Geared Capstan is the result of many years study, and we recommend it as being the simplest, strongest and least liable to derangement of any Capstan in the market.

The only way to produce perfect machines of any kind, at a *reasonable price*, is to reduce their manufacture to a system, with special machinery for the purpose, and to do this they must be made in large numbers. The extensive demand for our Power Capstan enables us to employ the same set of men constantly in their manufacture, and we can thus offer a strong, thoroughly made Capstan at as low figures as the cheaper made, lighter machines in the market. When the men walk round with the sun it produces power and the reverse speed without any other change.

SIMPLE CAPSTAN.

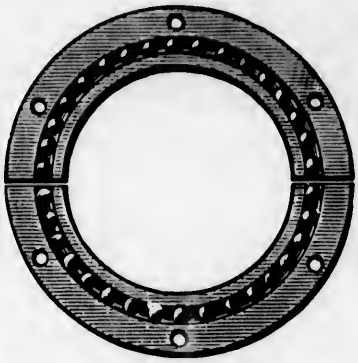
Our Simple Capstans have the same heavy castings as our Power Capstans, without the internal gearing.

CRANK CAPSTAN.

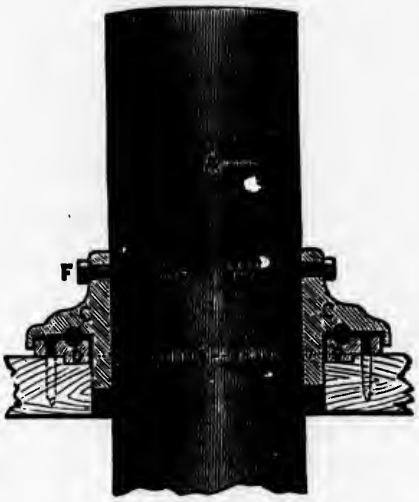
Our Crank Capstan is made to work where the use of bars is not possible or convenient. This Capstan is made to work Power or Speed, according to the direction in which the cranks revolve, without any other change.

In arranging our different styles of Capstans, we designed to overcome the *breakdowns* which are continually occurring from the want of sufficient stock to stand a severe strain. Instead of spreading out the castings for the sake of mere show, we have made them as compact as possible, and very thick and heavy. Our motto has been "SIMPLICITY AND STRENGTH," and we would call particular attention to these points. All of our different styles of Capstans are of the same general design. The bearings are all lined with Babbitt metal, thereby reducing the friction and corrosion to a minimum. The workmanship and stock are guaranteed first-class in every respect.

PATENT RUDDER SUPPORTERS.



Clamp Supporter in Halves.



Section through Supporter.

SIZES AND PRICES

OF

RUDDER SUPPORTERS.

WHOLE SUPPORTERS.

9	inch	Rudder,	Price	$17.50
9½	"	"	"	18.00
10	"	"	"	18.50
10½	"	"	"	19.00
11	"	"	"	19.50
11½	"	"	"	20.00
12	"	"	"	20.50
12½	"	"	"	21.00
13	"	"	"	21.50
13½	"	"	"	22.00
14	"	"	"	22.50
14½	"	"	"	23.00
15	"	"	"	24.00
15½	"	"	"	25.00
16	inch	Rudder,	Price	$26
16½	"	"	"	27
17	"	"	"	28
17½	"	"	"	29
18	"	"	"	30
18½	"	"	"	31
19	"	"	"	33
19½	"	"	"	35
20	"	"	"	37
20½	"	"	"	39
21	"	"	"	41
21½	"	"	"	43
22	"	"	"	45

CLAMP SUPPORTERS.

9	inch	Rudder,	Price	$27.50
9½	"	"	"	28.00
10	"	"	"	28.50
10½	"	"	"	29.00
11	"	"	"	29.50
11½	"	"	"	30.00
12	"	"	"	30.50
12½	"	"	"	31.00
13	"	"	"	32.00
13½	"	"	"	33.00
14	"	"	"	34.00
14½	"	"	"	35.00
15	"	"	"	36.00
15½	"	"	"	37.00
16	inch	Rudder,	Price	$38
16½	"	"	"	39
17	"	"	"	40
17½	"	"	"	42
18	"	"	"	44
18½	"	"	"	46
19	"	"	"	48
19½	"	"	"	50
20	"	"	"	52
20½	"	"	"	54
21	"	"	"	56
21½	"	"	"	58
22	"	"	"	60

The cuts on the next page represent different views of the Hawse Pipe Stopper, patented by Herman Winter of Brooklyn, N. Y.

This arrangement is a positive device and will ensure a perfect air and water tight joint. It is strong, simple and durable.

A pair of these stoppers, having been in use on the Morgan Line Steamship "Excelsior" about a year, we wrote to Captain Hawthorn, asking his opinion of them, and he answered as follows —

NEW YORK, MAY 7TH, 1883.

FRANK S. MANTON, AGT. AMERICAN SHIP WINDLASS CO.,
PROVIDENCE, R. I.

DEAR SIR:—I am in receipt of your valued favor of the 5th of April, and contents carefully noted. In reply would say that the Patent Hawse Pipe Stoppers, designed by Mr. Herman Winter, constructing engineer of the Morgan Line, and made by you, are simply perfect and work to my entire satisfaction in every respect, and no sea-going vessel is thoroughly equipped without them. As they can be put in and taken out in a few moments and are perfectly water-tight at the same time, it gives the commander of a ship every confidence to know that his chains and anchors are ready for use at any moment without the trouble of bending chains. In a large ship like the "Excelsior," and loaded deep, it would be impossible to get along without unbending chains. With these Patent Hawse Pipe Stoppers we could go to any part of the world, as far as water entering Hawse Pipes. They have no equal or superior as a Hawse Pipe Stopper; nothing can excel them; they are water-tight, simple, easily adjusted, and you could not make anything more desirable for a Stopper.

Yours very respectfully,

J. W. HAWTHORN,

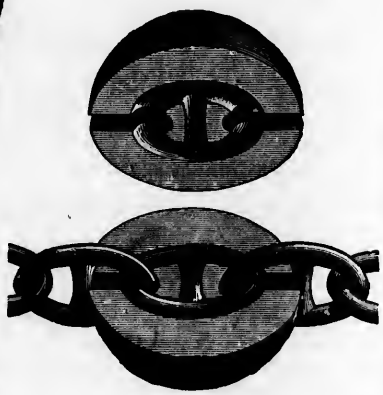
Commanding S.S. "Excelsior," Morgan Line.

The new Steamer "City of Gloucester" of the Boston and Gloucester Line has a pair of the Stoppers, and we are making them for the large Schooner "Haroldine," just launched at North Weymouth; for the Steamship "H. F. Dimock" just launched at Philadelphia for the Metropolitan Steamship Co., and for three Steamships building by Wm. Cramp & Sons Co. for the Morgan Line.

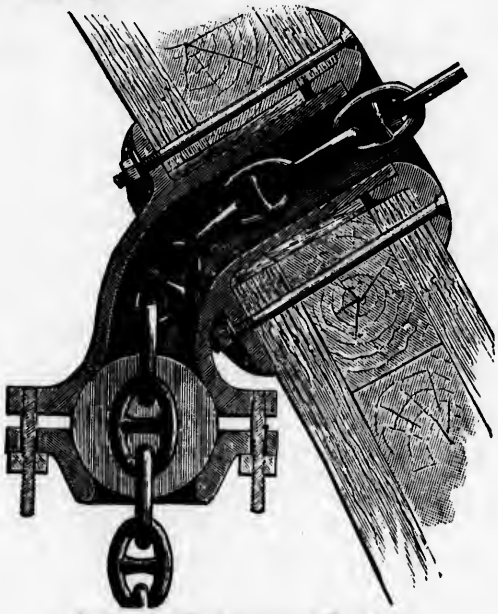
We will guarantee to make the Hawse Pipes water-tight.

Herman Winter's Hawse Pipe Stopper.

PATENTED FEB. 12, 1884.



Elevation Looking Forward.



Section in Plan Looking Forward.

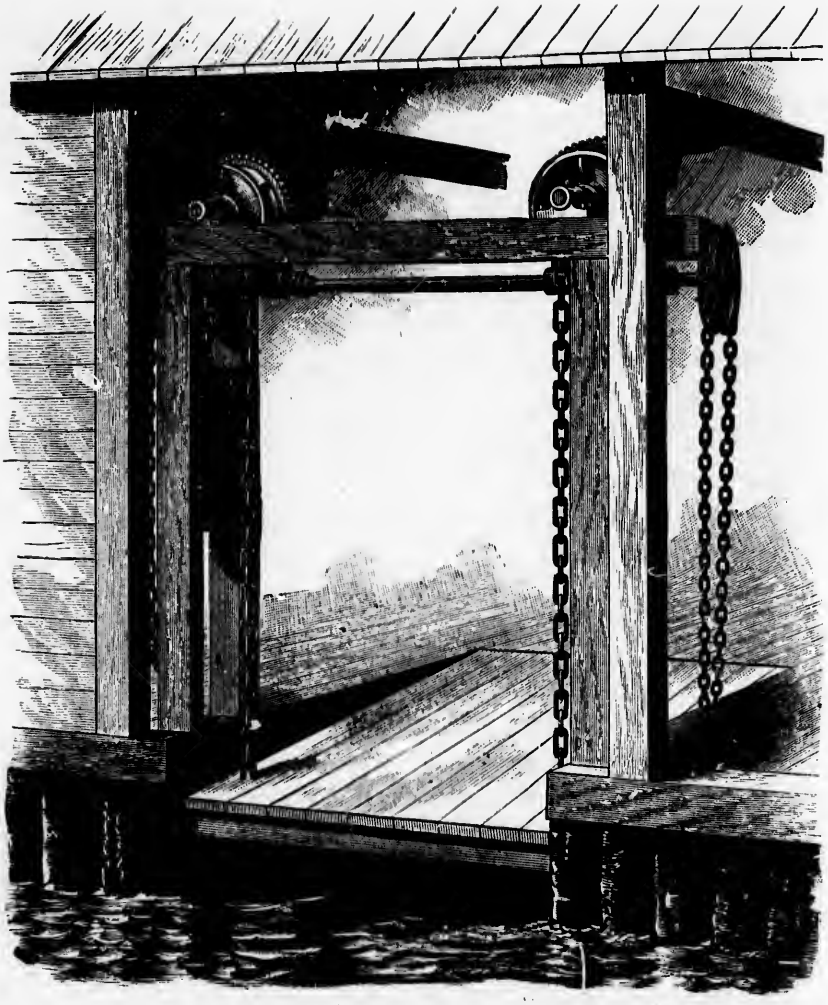
AMERICAN SHIP WINDLASS COMPANY,

Sole Manufacturers.

The cut shown on the next page represents a Wharf Drop or Bridge Way. It is designed to move up and down to meet the varying requirements of tides and light or loaded vessels, for passenger foot bridges, ship or ferry bridges, etc., where a fair way is to be made with the least possible labor, combined with the greatest possible security and despatch.

We have furnished these drops to various parties; among others, recently, seven of them to the Metropolitan Steamship Company for their Boston (India) Wharf, where they are in constant use; five to the Central Wharf Company, one for Foster Wharf, and one for Lewis Wharf, Boston, and ten to the Morgan Steamship Company, for Pier 37, North River, New York. Each drop or bridge is twenty-five feet long by twelve feet wide, is of heavy proportions, and capable of taking twenty tons over it with the greatest safety, yet can be quickly raised or lowered by one man through a height of ten feet or more by the power of a thumb and finger. It will remain secure in any position without any locking arrangement.

We can furnish at shortest notice the machinery for any size of bridge, from that of a small passenger foot bridge to the largest ship or ferry bridge. As shown by the cut this arrangement is in itself made a perfect balance, is therefore capable of being moved with the least possible amount of friction, and from the nature of the mechanism is at once powerful, simple, and free from danger of derangement. It is much on the plan of machinery used for operating the cables and anchors on the largest and smallest steamers or sailing vessels, a business in which we have been engaged during the past twenty-five years.



Herman Winter's Patent Wharf Drop.

AMERICAN SHIP WINDLASS CO.,

SOLE MANUFACTURERS.

WINDLASSES.

We make a specialty of this business, and do nothing else, — *the only concern in America* that confine themselves to this one branch of business. As we were the first parties in the field in this country, and the only ones that have ever made an Iron Windlass that has come into general use, our Windlasses are being imitated and our numerous patents infringed by parties who are without the facilities or the experience to originate a practical machine for the purpose. These imitations are very defective, being generally of poor material and workmanship. In trying to avoid our patents they have often spoiled the machine, without accomplishing the aim in view. There are often cases where, in critical times, our Windlasses have paid for themselves in a few moments of time. On a lee shore, or when getting under way in a gale of wind, it is important not only that everything about the Windlass should work perfectly, but that it should be strong in every part. Also, when taking in chain, with the man in the locker stowing the chain, if anything gives way his life is the forfeit for the want of fidelity in the construction of the Windlass. Particular attention is called to our Naval Capstans and Windlasses fitted to work either by hand or steam.

The following is a list of our patents:

No. 9,555, dated Dec. 27, 1870; reissued Feb. 8, 1881.
No. 144,227, dated Nov. 4, 1873.
No. 147,557, dated Feb. 17, 1874; reissued Dec. 3, 1878.
No. 155,877, dated Oct. 13, 1874; reissued Dec. 18, 1877.
No. 169,182, dated Oct. 26, 1875; reissued Nov. 30, 1878.
No. 174,977, dated Mar. 21, 1876; reissued June 1, 1880.
No. 176,331, dated April 18, 1876; reissued June 25, 1878.
No. 188,925, dated Mar. 27, 1877.
No. 197,039, dated Nov. 13, 1877.
No. 197,040, dated Nov. 13, 1877.
No. 197,041, dated Nov. 13, 1877.
No. 203,845, dated May 21, 1878.
No. 231,949, dated Sept. 7, 1880.
No. 237,885, dated Feb. 15, 1881.
No. 276,987, dated May 1, 1883.
No. 276,988, dated May 1, 1883.
No. 293,610, dated Feb. 12, 1884.

All parties are hereby cautioned against infringing these patents, as we shall hold all vessels having Windlasses that conflict with our rights strictly responsible.

Extract from Nautical Gazette of April 17, 1880.

STEAM WINDLASSES.

OPINIONS AND STATEMENTS OF PRACTICAL MEN WHO HAVE USED THE AMERICAN SHIP WINDLASS COMPANY'S STEAM WINDLASSES AND CAPSTANS, MANUFACTURED AT PROVIDENCE, R. I.

As a fitting supplement to the elaborate illustrated articles which have appeared in these columns respecting the several styles of windlasses and capstans made at Providence, R. I., by the American Ship Windlass Company, and as an indorsement, if they needed any, of what we have said concerning their merits and superiority, we have conversed with some of the leading ship-masters who are constantly using them, and have written to owners, superintendents and others respecting their opinion of what we have believed to be the best of this class of labor-saving machinery made in the world, and we present now their statements as near *verbatim* as possible. The letters speak for themselves.

Captain Peter E. Lefevre, the Marine Superintendent of the Ocean Steamship Co., Savannah Line, one of the best and most reliable authorities in this country in all matters pertaining to all classes of vessels and their equipments as well as construction, said, "I consider the Providence Steam Windlass the best in the world that I know of. We have them in all our present fleet of steamers, and will put one in the 'City of Augusta,' now building. They do their work with great celerity, efficiency and reliability, and are always in perfect working order. As for the steam capstans made by this company, they are invaluable for warping into dock and for general use. The steam capstan takes up but little room, and can be worked effectually where men could not exert their force with bars or cranks on decks covered with ice and snow."

Captain Nickerson, of the steamer "City of Columbus," and who is the senior captain of the Ocean Steamship Co., said, "We use our steam windlass quite often, as we are frequently compelled to anchor off Tybee Bar to wait for the tide before going into the Savannah River. I usually give her forty-five fathoms of chain, lying comfortably and easy at a long scope. When we are ready to get under way it is no trouble to get our anchor with our steam windlass. Nothing of its kind is made that I know of that approaches it in reliability. It is simple to handle, never gets out of order, and the only bother I have ever had with it is, sometimes my mates wanted to run it too fast. I have waited until steamers which were anchored near me had hove short with their old-fashioned windlasses, before I started to get my anchor and forty-five fathoms of chain, and before they had their anchor at the cat head I have had all my chain in, and the anchor in its place. One officer and a boy get our anchor and chain. Nothing can excel it; more than this, they are as noiseless as such a machine can be, and in great contrast with the clattering British windlasses."

We next called upon Captain S. P. Griffin, commanding the "Colon," of the Pacific Steamship Co. He said, "The messenger chain windlass which is on this vessel is a poor, miserable contrivance; is continually getting out of order, is unreliable, and gives us no end of trouble. It was made, as you see by the mark on the capstan-head, by Coffin & Woodward, of Boston. We are obliged to slack up the chain, fleet it over the wildcats, and are tormented with it just when we require most that its movements be certain and sure. I would rather have an ordinary hand-power pump-brake windlass than this thing, which, at any rate, is not fit for a vessel of this size, which should have a two-cylinder direct steam windlass. The steam windlass on the

'City of Peking,' which I commanded when she was new, was made by the American Ship Windlass Co., of Providence, and it always worked to our satisfaction, never requiring repairs. We want just that style of windlass on this vessel."

Henry J. Bullay, the Superintendent of the Pacific Mail Steamship Co., at New York, said, "The 'Colon's' windlass had always been complained of, as well as that on the 'Acapulco,' which was of the same manufacture."

PHILADELPHIA AND READING RAILROAD COMPANY STEAM COLLIERS,
PORT RICHMOND, PHILADELPHIA, March 30, 1880.

Editor the Nautical Gazette:

SIR, — Replying to your favor of March 30, I would say that in 1874 our company built eight (8) new iron steam colliers, six of 1,283 tons, one of 1,035 tons, and one of 553 tons register. We selected the American Ship Windlass Company's Windlasses, and since then they have been in constant use in weighing anchors and warping the ships. They have given us excellent results, and I do not remember an instance of complaint from our captains about them.

Yours truly,
JOHN L. HOWARD, *Superintendent.*

Mr. Herman Winter, Inspector of British Lloyds and the Marine Superintendent of the Morgan Line steamers, who designed and superintended the construction of the "Chalmette," one of our largest freighting steamers in the New Orleans trade, in speaking of the American Ship Windlass Company's Steam Windlass on that ship, said, "It works like a charm, has no equal or superior among labor-saving appliances. All they do is to open a little valve, give it the steam, and it is at work, doing its duty with reliable promptitude. Nothing too good can be said of the Providence Steam Windlass."

Lieut. Z. L. Tanner, U. S. N., now in command of the U. S. Fish Commissioner's steamer "Fish Hawk," who commanded the Pacific Mail Steamship Company's steamer "City of Peking" for two years, writes as follows: —

WASHINGTON, D. C., April 4, 1880

Editor The Nautical Gazette:

DEAR SIR, — Your favor of the 25th is received. In reply I beg leave to say that the steam windlass in use on the P. M. steamship "City of Peking" gave entire satisfaction. It required no repairs during the two years I was in command of that vessel, and was looked upon as thoroughly reliable. It would heave in from ten to eleven fathoms of chain per minute at the speed we usually run it. At this speed it ran smoothly, requiring no attention except occasional oiling. Yours respectfully,
Z. L. TANNER.

In reply to our communication to Captain S. Howes, commanding the new steamer "D. H. Miller," the new flagship of the Merchants' & Miners' Transportation Company's fleet, plying between Baltimore and Boston, we have the following: —

BALTIMORE, April 6, 1880.

Editor The Nautical Gazette:

DEAR SIR, — Yours of the 25th of March duly received; contents noted, and will say in reply that the steam windlass and capstan on board the steamer "D. H. Miller," furnished by the American Ship Windlass Company, of Providence, we like very much. They work well, by far the best I have ever seen, and can fully recommend them to parties wanting a *first-rate* windlass and capstan. Yours truly,
S. HOWES,
Captain steamer "D. H. Miller.

Captain Pennington, Marine Superintendent of the Clyde Line Steamers at this port, a ship-master of large and varied practical experience, says of the steam windlass made by the American Ship Windlass Company, which is on the "Santo Domingo": "It gives the most unqualified satisfaction in every respect, and is without a peer among that class of machinery; it is never out of order, can always be depended on for quick and certain action. This company, unquestionably, produce the very best steam windlasses made. This I know from practical experience."

Mr. F. Alexandre, the senior and founder of the house of F. Alexandre & Sons,

whose fine steamers are engaged in the New York, Havana and Mexican trade, put one of the latest improved steam windlasses on the flagship "City of Alexandria." He says, "The windlass gives the best of satisfaction. The fact that all large steamers now built in the United States use the American Ship Windlass Company's steam windlasses in preference to any other kind made, prove the superiority of this windlass. Our steamers are obliged, from the nature of their route, to anchor often and frequently in dangerous places, and we are compelled to have, for our own protection, the very best and most perfect ground tackle and machinery for getting our anchors or riding to our anchors. We believe, in the Providence Steam Windlass we have the very best known."

The following letter is from Mr. A. Vanderbilt, the Superintendent of the Ward Line of Cuba steamers, a gentleman of ability and skill in his profession, and one of great practical experience in machinery. His statement shows that both the windlasses and capstans have given "entire satisfaction" in the fleet which he represents.

NEW YORK AND CUBA MAIL STEAMSHIP LINE,
JAMES E. WARD & CO., 113 WALL ST.,
NEW YORK, April 9, 1880.

Editor The Nautical Gazette:

DEAR SIR, — In reply to your inquiry of the 8th inst., I would say that the steamships of this line are furnished with the windlass and capstan worked by steam, and made by the American Ship Windlass Company of Providence. They have given entire satisfaction. Yours truly, A. VANDERBILT.

Capt. E. Spicer, Jr., of the Mallory and Brazil Line steamers, says: —

"We use the steam windlasses made by the American Ship Windlass Company of Providence, R. I., on all our steamers, and they have always given us perfect satisfaction, and we can fully indorse them as being thoroughly reliable. They are the best that are made anywhere."

The officers of the Sound steamer "Massachusetts" say that her windlass is "just splendid," is always in order, and does its work without any failing.

Captain E. V. Gager, who commands the steamer "Louisiana," of the Cromwell Line, which is supplied with a steam windlass made by the American Ship Windlass Company, of Providence, R. I., when asked his opinion of the windlass, said, "It is the best appliance in the world for handling anchors and chains. Of this there can be no question. It is simply perfection itself, and no steam vessel is thoroughly equipped without one of them. Ours work to a charm in every respect. It is, I repeat, perfect."

We think we have, for the present at least, produced abundant and convincing proof from practical users of the steam windlasses and capstans made by the American Ship Windlass Company, that this establishment produces the most perfect machine for handling anchors and chains that is made in the world. They are not only speedy, but reliable, easily handled, almost noiseless, and take up but little room, comparatively speaking; when once put in are a fixture, and can always be depended upon. This company have, for years past, been adopting improvements, but it now seems almost impossible to make them more perfect.

In addition to the above extracts from the *Nautical Gazette* we have the following letter from Captain Thomas Wilson:

CLEVELAND, O., Dec. 21, 1881.

American Ship Windlass Company, Providence, R. I.:

GENTLEMEN: The steam windlass which you put into the steamship "Tacoma," gives entire satisfaction, and I cheerfully recommend its use on all large steamers.

Yours truly, THOS. WILSON.

Passed Assistant Engineer G. W. Baird, U. S. N., writes as follows:

U. S. COMMISSION OF FISH AND FISHERIES, STEAMER ALBATROSS,
WOODS HOLL, MASS., October 8, 1883.

American Ship Windlass Company, Providence, R. I.:

GENTLEMEN: In my quarterly report on the "Albatross" I have entered the following concerning our windlass: "The steam windlass, never having given any trouble nor requiring any repairs, merits a special mention." Yours, &c., G. W. BAIRD.

We would call the attention of the Nautical Public to the following partial list of vessels using our Windlasses for handling their anchors and chains. These are all the names of which we have a record, as in a great many cases no names have been obtained. This list shows the style of Windlasses the best class of vessels use.

STEAMERS.

City of Waco	Mallory Line, New York.
State of Texas	" " " "
San Antonio	" " " "
Rio Grande	" " " "
Colorado	" " " "
Guadalupe	" " " "
San Marcos	" " " "
Western Texas	" " " "
Lampasas	" " " "
Alamo	" " " "
City of Rio Janeiro	" "
City of Para	" "
What is it?	" "
General Barnes	" "
Ajax	" "
Garmpts	" "
Walrus	" "
Monatus	" "
Nautilus	" "
Quaker City	" "
Manhattan	" "
Moyune	" "
Kin Kiang	" "
Conquerer	" "
Admiral	" "
Cotopaxi	" "
Leyah	" "
Galatea	" "
Oceanus	" "
Electra	" "
Thetis	" "
Metis	" "
Thomas Kelso	" "
Meteor	" "
Andalusia	" "
Virgo	" "
Leo	" "

Mercedita	New York.
Seawanhara	" "
Varuna	" "
Grand Gulf	" "
Aries	" "
Memphis	" "
City of Panama,	Pacific Mail S.S. Co., " "
City of Callao	" " " " " "
City of Sidney	" " " " " "
City of San Francisco	" " " " " "
City of Pekin	" " " " " "
City of Tokio	" " " " " "
City of New York	" " " " " "
Union	" " " " " "
Winchester	" " " " " "
San Jose	" " " " " "
San Juan	" " " " " "
San Blas	" " " " " "
Alaskan	Pacific Coast.
Saratoga	Ward's Line, New York.
Santiago	" " " "
Newport	" " " "
Niagara	" " " "
Cienfuegos	" " " "
City of Macon,	Ocean Steamship Co., " "
City of Savannah	" " " " "
City of Columbus	" " " " "
City of Augusta	" " " " "
Gate City	" " " " "
Tallahassee	" " " " "
Chattahoochee	" " " " "
Nacoochee	" " " " "
Oregon	Oregon Steamship Co.
Columbia	" " "
Umatilla	" " "
Williamette	" " "
Walla Walla	" " "

Mississippi	Oregon Steamship Co.
Tacoma	Central Pacific Railroad Co.
San Pedro	" " " "
San Pablo	" " " "
Santa Rosa,	Oregon Railway and Navigation Co.
State of California	Pacific Coast Line.
Queen of the Pacific	" " "
Mariposa	Oceanic Steamship Co.
Alameda	" " "
Goldsboro	Clyde Line.
Santo Domingo	" "
Delaware	" "
Danville	" "
Regulator	" "
City of Alexandria	Alexandre Line, New York.
City of Puebla	" " " "
Chalmette	Morgan Line, " "
Excelsior	" " " "
Lone Star	" " " "
New York	" " " "
Algiers	" " " "
Morgan City	" " " "
Eureka	" " " "
El Paso	" " " "
H. F. Dimock	Metropolitan Steamship Co.
Finance	New Brazil Line, New York.
Advance	" " " " "
Reliance	" " " " "
Amazonia	" " " " "
Louisiana	Cromwell Line, " "
New Orleans	" " " "
Knickerbocker	" " " "
Hudson	" " " "
Massachusetts,	Prov.& Stoning'n S.S. Co. " "
Rhode Island	" " " " " "
Narragansett	" " " " " "
Stonington	" " " " " "
Old Colony,	Old Colony Line, Fall River & N. Y.
Newport	" " " "
Pilgrim	" " " "
City of Fall River	" " " "
City of Worcester,	Norwich and New York Line.
City of Lawrence	" " " "
City of Columbia,	New York and Charleston Line.
D. H. Miller,	M. & M. T. Co., Boston & Balt. Line.
Johns Hopkins	" " " " "
William Crane	" " " " "
Alleghany,	M. & M. T. Co.,Providence & Balt.Line.
Berkshire,	M. & M. T. Co.,Providence & Balt. Line.
Blackstone	" " " " "
State of Maine,	International S. S. Co., Portland.
Penobscot,	Sanford Steamship Co., Boston.
Tremont,	Portland Steam Packet Co., "
Spartan	Winsor Line, Providence.
Vidette	Steam Collier, Boston.
Cambridge	"
S. R. Spaulding	"
B. Deford	"
Sheridan	"
Saxon	"
General Meade	"
Erie	"
Ontario	"
New England	"
Norman	"
Huron	"
Niphon	"
Mississippi	"
Merrimac	"
William Lawrence	"
City of Gloucester,	Boston & Gloucester S. B. Co.
George A. Chaffee	" " " "
Longfellow	Boston.
Columbus	Russian Navy.
Niagara No. 1	" "
State of California No. 1	" "
Zabiaca	" "
Manjoor	" "
———	" "
Estére	Port au Prince.
Boischére	" "
Boyaca	South America.
Japura	" "
Yaco	" "
Apurinam	" "
Paumary	" "
Aripauna	" "
Victoria	" "
Miantonomoh	U. S. Navy.
Puritan	" "
South Carolina	" "
Massachusetts	" "
Young Rover	" "
Cambridge	" "
Vicksburg	" "
Coatzacoalcos	" "

Chicago	Steel Cruisers, U. S. Navy.
Boston	" " " "
Atlanta	" " " "
Dolphin	Despatch Boat, " "
Hassler	U. S. Coast Survey.
Blake	" " "
Haze	U. S. Lighthouse Dep't.
Dahlia	" " "
George M. Bibb	U. S. Revenue Dep't.
Levi Woodbury	" " "
Warrington	" " "
Lincoln	" " "
Gallatin	" " "
Hamilton	" " "
Oliver P. Walcott	" " "
Seward	" " "
Colfax	" " "
Bache	" " "
Walter Forward	" " "
George S. Boutwell	" " "
Commodore Perry	" " "
Dallas	" " "
Ewing	" " "
Fessenden	" " "
Albatross	U. S. Fish Commission.
Yosemite	Steam Yacht, New York.
Stranger	" " "
Corsair	" " "
Namouna	" " "
Atalanta, Owned J. Gould	" " "
Utowana " Geo. W. Scott	" " "
Viking " W. E. Connor	" " "
Lagonda " J. C. Hoagland	" " "
Sigma " M. S. Smith	" Detroit, Mich.
Bretagne	Steam Yacht, Paris.
Roanoke	Old Dominion S.S. Co., New York.
Guyandotte	" " " " "
Manhattan	" " " " "
Breakwater	" " " " "
Geo. W. Elder	" " " " "
City of Palatka	Florida Steamship Co.
Caracas	Boulton, Bliss & Dallett, New York.
Valencia	" " " " "
Maracaibo	" " " " "
Cetus	Iron Excursion Boats, " "
Taurus	" " " " "
Cygnus	" " " " "
Cepheus	" " " " "
Sirius	Iron Excursion Boats, New York.
Perseus	" " " " "
Pegasus	" " " " "
Dean Richmond	People's Line, N. York & Albany.
Drew	" " "
St. John	" " "
City of Troy	New York.
Cleopatra	"
Excelsior	"
Gen. Sedgwick	"
City of Chester	"
Louis Bucki	"
Mary Morgan	New Orleans.
C. W. Lord	" "
City of Dallas	" "
Wanderer	" "
City of Richmond	Philadelphia.
Habanero	"
Liberty	"
North America	"
Crescent City	Wm. P. Clyde, "
Reading	P. & R. Railroad Co., "
Harrisburg	" " "
Columbia	" " "
Lancaster	" " "
Pottsville	" " "
Phœnixville	" " "
Perkiomen	" " "
Berks	" " "
Chas. F. Mayer	Collier, "
Frostburg	" "
Pensacola	" "
North America	Wrecking Tug, "
George W. Pride, Jr.	" " "
City of Topeka	Topeka & Santa Fé R. R. Co.
George S. Homer	New Bedford.
Col. H. T. Baya	Florida.
Lucy P. Miller	"
United Empire	Sarnia, Ont.
Sir Leonard Tilley	St. Catharines, Ont.
Conemaugh	On the Lakes.
R. G. Peters	" " "
A. Everett	" " "
Thomas W. Palmer	" " "
James H. Shrigley	" " "
Queen of the West	" " "
John B. Lyon	" " "
John C. Gault	" " "

Russell Sage	On the Lakes.
Iron Cliff	" " "
Iron Chief	" " "
City of Rome	" " "
Cumberland	" " "
Robert A. Packer	" " "
Michigan	" " "
Wisconsin	" " "
Clyde	" " "
Fred McBrier	" " "
Business	" " "
Portage	" " "
Wissahickon	" " "
Andrew J. Smith	" " "
Avon	" " "
Juniata	" " "
Nyack	" " "
Delaware	" " "
Conestoga	" " "
New York	" " "
Milwaukee	" " "
Chicago	" " "
Rochester	" " "
Boston	" " "
Lehigh	" " "
Lycoming	" " "
Minnehaha	" " "
Wocoken	" " "
Robert Wallace	" " "
M. F. Butters	" " "
Starucca	" " "
Escanaba	" " "
Oceanica	" " "
Ohio	" " "
Commodore	" " "
Waverly	" " "
Midland	" " "
Calumet	" " "
David Wallace	" " "
Waldo A. Avery	" " "
Buffalo	" " "
Iron State	" " "
Iron Age	" " "
Hiawatha	" " "
Middlesex	" " "
Jesse H. Farwell	" " "
Clarion	" " "
H. C. Akeley	" " "

Charles H. Davis	On the Lakes.
C. H. Green	" " "
Massachusetts	" " "
Merrimac	" " "
Nellie G. Mason	" " "
Mattie C. Bell	" " "
Rhoda Sonsmith	" " "
Iron Duke	" " "
Tacoma	" " "
Onoko	" " "
Wallula	" " "
City of Cleveland	" " "
A. J. Wright	" " "
C. F. Curtis	" " "
Siberia	" " "
Manistique	" " "
H. J. Jewett	" " "
Fred Mercur	" " "
M. M. Drake	" " "
David C. Whitney	" " "
H. E. Packer	" " "
Lewis Pahlow	" " "
W. H. Gratwick	" " "
Julia	" " "
Water Witch	" " "
David W. Rust	" " "
City of Cleveland	" " "
Schoolcraft	" " "
Mont Eagle	" " "
Lora	" " "
Walter L. Frost	" " "
Edward Smith	" " "
Robert Mills	" " "
George T. Hope	" " "
Wm. J. Averell	" " "
Wm. A. Haskell	" " "
Kalkaska	" " "
Kasota	" " "
Fortuna,	Wrecking Steamer, Montevideo, S. A.
Neuovo Barcelona	Spanish Steamer.
Elias	Brazilian "
Geo. W. Humphrey,	Fishing Steamer, Tiverton.
Solimoes	———
Fire Dart	In the East Indian Service.
Hankow	" " "
Fire Cracker	" " "
Hu Quang	" " "
Che Kiang	" " "

Fung Lung	In the East Indian Service.
———, Capt. Dearborn,	" " "
———, " Forbes,	" " "
———	———
Four Steamers for Italy.	
Plymouth Rock	Captain Gray, of Hong Kong.
Fire Queen	" Johnson, " "
La Portena	Buenos Ayres.
Edward Everett	" "
Oriental	" "
Favorita	Valparaiso.
Bio Bio	Chili, S. A.
Kilauea	Sandwich Islands.
Voyageur De La Mer	Sultan of Egypt.
Guatemala	Central America.
Robert Waterman	Gulf of Mexico.
Mediator	Lorillard Steamship Co., New York.
Vindicator	" " " " "
City of New Bedford,	N. B. & N. Y. S.S. Co., N. Y.
City of Fitchburg,	" " " " "
Vertummes	New York.
Flushing	" "
Rapidan	Providence, R. I.
H. S. Hagar	" "
Lady Lang	" "
Regulator	" "
City of Providence	" "
Chickamauga	" "
America	Portland, Me.
Katahdin	" "
Franconia	" "
Eleonora	" "
Metropolis	Fall River, Mass.
Fall River	" "
Albatross	" "
Cuba	Baltimore, Md.
Raleigh	Andrews & Co., Mystic, Conn.
Constitution	Mystic, Conn.
Canute	Propeller, Detroit, Mich.
Superior	" " "
W. H. Barnum	" " "
Nebraska	" " "
Philadelphia	" " "
James Fisk, Jr.	" " "
B. W. Blanchard	" " "
Dean Richmond	" " "
Amazon	" "
Egyptian	" "
Catherine Whiting	" "
Montana	Greenpoint, L. I.
Iron Age	Kennebunk, Me.
City of Bath	Bath, Me.
Walker Armington,	Stm Schooner, Rockland, Me.
Oregonian	San Francisco, Cal.
E. B. Ward	New Orleans, La.

SHIPS.

Levi G. Burgess	Thomaston, Me.
Abner I. Benyon	" "
Joseph S. Spinney	" "
Belle O'Brien	" "
H. S. Gregory	" "
Harvey Mills	" "
John T. Berry	" "
Alexander Gibson	" "
Frank F. Curling	" "
J. B. Walker	" "
Joseph B. Thomas	" "
General Knox	" "
Edward O'Brien	" "
Cyrus Wakefield	" "
E. Pluribus Unum	" "
Ne Plus Ultra	" "
General Berry	Thomaston, Me.
Montpelier	" "
Corsica	" "
S. Emerson Smith,	Capt. Smith, " "
H. L. Richardson	" "
Jane Fish	" "
A. McCallum	" "
R. D. Rice	" "
C. F. Sargent	Portland, "
J. B. Brown	" "
Rufus E. Wood	" "
Samuel Schofield, 2d	" "
Philena Winslow	" "
John De Costa	" "
Portland Lloyds	" "
William W. Thomas	" "

Henry Failing		Portland, Oregon.
Empress of India		St. John, N. B.
Munster	"	"
Beaconsfield	"	"
New City	"	"
Herald	"	"
Highland	"	"
Joseph H. Scammell	"	"
Storm King		Bath, Me.
Occidental	"	"
Oriental	"	"
B. P. Cheney	"	"
Franconia	"	"
Geneva	"	"
J. W. Marr	"	"
Oregon	"	"
Oracle	"	"
Indiana	"	"
St. Mark	"	"
Florence	"	"
Armenia	"	"
Hecla	"	"
Standard	"	"
Solitaire	"	"
Eric the Red	"	"
General McClellan	Capt. Watts,	"
Monrovia	"	"
Mary E. Riggs	"	"
Aberdeen	"	"
Tabor	"	"
Gov. Chamberlain	"	"
Jamestown	"	"
Nimbus	"	"
Undaunted	"	"
Carondolet	"	"
John H. Kimball	"	"
Invincible	"	"
Granger	"	"
Louisiana	"	"
Sterling	"	"
El Capitan	"	"
John R. Kelley	"	"
B. F. Packard	"	"
Servia	"	"
Frank Pendleton		Searsport, "
Henrietta	"	"
Harriet H. McGilvery	"	"
Premier	"	"

Clarissa B. Carver		Searsport, Me.
Elizabeth	"	"
Robert Dixon		Damariscotta, "
E. A. Stetson	"	"
Guardian	"	"
Ivanhoe		Belfast, "
Chaudos	"	"
H. S. Soule,	Capt. Soule,	Yarmouth, "
Zouave	" Whittemore,	Richmond, "
Gettysburg	"	"
Wallace	Capt. Lane,	Wiscassett, "
Ellen Lewis		Dennis, "
Sam. Skolfield		Brunswick, "
Radiant		Boston.
Champlain		"
Admiral		"
P. N. Blanchard		"
Vigilant		"
Ice King		"
Iceberg		"
Iceland		"
Ocean King		"
John Pascal		"
Valiant		"
America		"
Highland Light		"
Spartan		"
Mary L. Stone		"
Sachem		"
Grecian		"
South American		"
Governor Goodwin		"
Red Cloud		"
McNear		"
Wachusett		"
Frank N. Thayer		"
Commodore		"
McLaurin		"
Emily F. Whitney		"
Glendon		"
R. B. Fuller		"
Benjamin Sewall		"
W. H. Lincoln		"
Paul Revere		"
John Currier		"
Cashangar	Capt. Gardner,	"
Laughing Water		"
Franklin Haven		"

St. Mark . .	Capt. Colley,	Boston.
C. H. Lord .	" Paine,	"
Edward Everett,	" McClellan,	"
Idaho . .	" Howe,	"
Monsoon . .	" Flye,	"
William Lord, Jr.,	" Brown,	"
Birmingham .	" Elliot,	"
Mindoro		"
Charles Luling		"
Alert		"
Mary L. Cushing		"
St. Paul . .	Chapman & Flint,	New York.
William R. Grace	" " "	"
M. P. Grace .	" " "	"
Santa Clara .	" " "	"
St. Stephen .	" " "	"
St. David . .	" " "	"
A. J. Fuller . .	Benj. Flint, "	"
St. Frances . .	" " "	"
St. James . . .	" " "	"
John McDonald .	" " "	"
E. B. Sutton . .	I. F. Chapman, "	"
S. P. Hitchcock .	" " "	"
I. F. Chapman . .	" " "	"
Jabez Howes	"	"
Continental	"	"
Rosie Welt	"	"
Bonanza	"	"
B. F. Metcalf	"	"
Isaac Reed	"	"
Annie H. Smith	"	"
Willie Reed	"	"
Snow & Burgess	"	"
Frank Flint	"	"
R. S. Ely	"	"
Garibaldi . .	Capt. Emery,	"
Equal Rights .	" Southard,	"
Madurese . .	" French,	"
William Tell .	" Trench,	"
Soo Loo . .	" Allen,	"
Oracle		"
Confidence .	Capt. Sears,	"
E. F. Gabian .	" Von Hugen,	"
Favorita . .	" Pray,	"
Saybrook		"
St. Nicholas		"
Victor . .	Capt. Crowell,	"

Sporidian	New York.
Frolic	" "
Lutzon	" "
E. F. Sawyer	" "
W. H. Smith	" "
Hagarstown . . .	Richmond, Me.
Ellen Southard	" "
Yorktown	" "
Theodore H. Allen . . .	" "
Commodore T. H. Allen . .	" "
Carrie M. Clark . .	Waldoboro, Me.
Patrician	Damariscotta, "
Elwell	Newcastle, "
Raphael	Camden, "
City of Philadelphia . .	Philadelphia, Pa.
Adam M. Simpson . .	" "
Panay	Salem, Mass.
Granite State . . .	Portsmouth, N. H.
Paul Jones	" "
Daniel I. Tenny . .	Newburyport, Mass.
Big Bonanza . . .	" "
Glendower, Capt. Emerton,	" "
Dione . " Fales,	" "
Coromandel . . .	Medford, Mass.
William Wilcox . .	New Bedford, Mass.
Dauntless	Mystic, Conn.
Eastern Empire	Quebec.
Western Empire	"
Clarence S. Bement .	Built at Philadelphia.
T. F. Oakes . . .	" " "
Tillie E. Starbuck . .	" " Chester.
N. T. Hill .	Built at Bucksport, Me.
A. S. Davis . .	" " Belfast, "
Defiant	" " Kennebunk, "
Pharos	" " " "
Joy	" " Phippsburg, "
J. L. Morse . . .	" " Bangor. "
Mabel Clark . . .	Waldoboro, "
Elvie J. Ray . . .	Harrington, "
James Drummond,	Built at Phippsburg, "
Tacoma	" " Bath, "
William J. Rotch . .	" " " "
P. M. Whitmore . .	" " " "
Arabia	" " " "
Elizabeth	" " Damariscotta, "
Charles E. Moody .	" " Bath, "

BARQUES.

H. G. Johnson	Newburyport, Mass.
B. F. Hunt, Jr.	" "
Schamyl	" "
Mary S. Ames	Wareham, "
Veronica	New Bedford, "
Sarah S. Ridgway	Philadelphia.
Eliza J. McNameny	"
Jennie Sweeney	"
Geo. W. Sweeney	"
John Loughlin	"
Anita Berwind	"
Fresno	Port Gamble, W. T.
Chelmsford	Quebec, Canada.
Warren	" "
Scammell Brothers	St. John, N. B.
Cedar Croft	" " " "
Annie J. Marshall	" " " "
Marchin	Italy.
Edward Kidder	Boston.
Stillman B. Allen	"
Mabel	"
Cheshire	"
Carrie Humphrey	"
Bierstadt	"
Mohican	"
Hiram Emery	"
William Hales	"
Hannah W. Dudley	"
Azorean	"
Jonathan Bourne	"
Harvard	"
Richard R. Freeman	"
Alice	"
Moses B. Tower	"
Fury	"
John D. Brewer	"
Sarah	"
Boylston	"
Teekalet	"
Paramount	Capt. Crosby, "
Rebecca Goddard	" Polleys, "
Moriah S. Smith	" Smith, "
Union Jack	"
Early Bird	Capt. Cook, "
Martha P. Tucker	New York.
Tillie Baker	" "

Lottie Moore	New York.
Joseph A. Ropes	" "
Crescent	" "
Monrovia	" "
James Condie	" "
John L. Hasbrouck	" "
Prairie Bird	" "
Eliza Barss	" "
Heiress	" "
Edwin Reed	Bath, Maine.
Spartan	" "
C. W. Cochrane	" "
Zenia	" "
Guy C. Goss	" "
Luzon	Capt. Foote, " "
Soo Loo	" "
Oakland	" "
Parsee	" "
Sauptu	" "
Hattie Morrison	" "
Australia	" "
Robert Pennell	" "
Vidette	" "
Penang	" "
Helen Sands	" "
E. V. Minot	" "
Nettie Merriman	" "
Hindoostan	" "
Niphon	" "
Annie Torrey	" "
Hawthorn	" "
W. H. Besse	" "
Colusa	" "
Carrolton	" "
C. Southard Hulbert	Richmond, "
Fanny L. Kennedy	Waldoboro, "
Matanzas	" "
Wealthy Pendleton	Searsport, "
Levanter	Thomaston, "
Minnie W. Watts	" "
Sunbeam	" "
Glenavon	" "
Hamlet	" "
Singapore	" "
Alice J. Grace	" "
Addie E. Sleeper	Rockland. "

J. W. Dresser	Castine, Me.
Charles T. Russell	Machias, "
Mary E. Russell	" "
Samuel H. Nickerson	" "
Emita	" "
Alice	Portland, "
Isaac Jackson	" "
Annie Lewis	" "
Tewksbury L. Sweat	" "
Charles R. Lewis	" "
Itonus	" "
Edith Davis	" "
Edward L. Mayberry	" "
G. M. Stanwood	" "
Carrie Winslow	" "
Ethel	" "
Au Sable	" "
Wolverton	" "
Harriet S. Jackson	" "
Henry Warner	" "
Charles G. Rice	" "
Alice Vernard	" "
S. R. Lyman	" "
Louise Adelaide	Portland, Me.
Payson Tucker, 2d	" "
Alice Minot	Phippsburg, "
Two Brothers	Damariscotta, "
M. Chase	Sheepscott Bridge, "
Annie	" " "
Fannie Skofield	Brunswick, "
Harriet N. Carlton	Rockport, "
Onaway	Yarmouth, "
Argean	Capt. Crosby, Providence, R. I.
Thomas Fletcher,	" Sowle, " "
A One	" Crosby, " "
Coorong	Warren, "
Colonia	" "
Ethan Allen	Capt. Moore, U. S. Navy.
W. Y. Anderson	" Hall, " "
Young Rover	" "
Two Fannies	Capt. McDonnell, Chicago, Ill.
Constitution	" "
E. Jones	Buffalo, N. Y.
Annie Vought	" "
Nelson	Milwaukee, Wis.

BRIGS.

Ned White	Belfast, Me.
Perpetua	Bath, "
Motley	Machias, "
Eugene Hale	Calais, "
Agnes Squire	New York.
Stella	" "
Irene	New York.
John McDermott	" "
Rapid Transit	" "
Belle of the Bay	" "
Stephen Bishop	New Haven, Conn.
Clara Pickens	Providence.

SCHOONERS.

Allen Greene	Providence.
George W. Whitford	"
Daisy E. Parkhurst	"
Charles F. Sampson	"
Pochasset	"
Helen A. Ames	"
Albert W. Smith	"
Carrie S. Hart	"
John H. Cross	"
Charles H. Sprague	"
Anne M. Allen	"
Utica	Providence.
Haroldine	"
Mattie W. Atwood	Boston.
Albert H. Cross	"
Weybosset	"
Eben D. Jordan, Pilot Boat,	"
C. L. Jeffery	"
Jacob Reed	"
Livinia Campbell	"
Actea Yacht,	"
Gitana "	"

Mohican	Yacht,	Boston.
D. J. Lawlor	Pilot Boat,	"
Otello		"
Marion Hill		"
Maude Sherwood		"
Wm. B. Herrick		"
Sophie Behrman		New York.
Anita		" "
Henry Davy		" "
Adelaide J. Alcott		" "
Potosi		" "
Gracie Chambers		" "
J. F. Loubat	Pilot Boat,	" "
Thomas D. Harrison,	Capt. Crossman,	" "
Martha P. King	" Jarvis,	" "
William H. Jourdan	" Saunders,	" "
John D. Williams	" Pearce,	" "
Resolute,	Yacht, " Hatch,	" "
Wm. E. Clows	Port Jefferson,	N. Y.
Mark Gray	" "	"
Julia A. Tate	Piermont,	"
Hattie M. Crowell	Greenpoint,	"
Pilot	Pilot Boat,	Baltimore. Md.
W. A. Graves	" "	Norfolk, Va.
Twilight	New Haven,	Conn.
James H. Hoyt	"	"
Hattie V. Kelsey	"	"
Armstrong	"	"
Edward M. Reed	"	"
James Boyce	"	"
James E. Woodhouse	"	"
Henry Sutton	"	"
J. B. Carrington	"	"
Elm City	"	"
Orville Horwitz	"	"
Helen A. Benedict	"	"
Charles L. Mitchill	"	"
Harry A. Barry	"	"
Annie G. Pardee	"	"
Daylight	"	"
Florence Randall	"	"
James D. Dewell	"	"
Dreadnaught	"	"
Frank Walter	"	"
C. S. Bushnell	"	"
Rodney Parker,	Capt. Parker,	" "
James M. Ives	"	"
Nathan Easterbrook, Jr.	"	"

Bessie E. Dickinson		Bath, Me.
J. D. Robinson		" "
Odell	Capt. Winslow,	" "
George Sealy	" McDonald,	" "
Lizzie Chadwick		" "
Wyer G. Sargent		Sargentville, "
Nelson Bartlett		Thomaston, "
Lizzie B. Willie		" "
Levi S. Andrews		" "
Jennie Lockwood		" "
Nellie A. Druary		" "
Eldridge Souther		" "
Emily F. Watts		" "
E. D. Sidbury		Portland, "
Sarah & Ellen		" "
Lucy A. Davis		" "
Willie H. Higgins		" "
Benjamin C. Cromwell		" "
Mattie J. Alles		" "
H. C. Higginson		Rockland, "
John Bracewell		Dover, N. H.
Annie F. Conlon		Portsmouth, "
Florence Dean		Taunton, Mass.
Robert Portner		" "
Wild Pigeon		" "
D. M. Anthony		" "
Stephen Morgan		" "
John E. Sanford		" "
Bertha F. Walker		" "
Zaccheus Sherman		" "
Enoch Robinson		" "
William O. Snow		" "
Samuel H. Walker		" "
William L. Walker		" "
Baylies Wood		" "
William D. Marvel		" "
William R. Huston		" "
Alfred Brabrook		" "
Calvin P. Harris		" "
Bertha Dean		" "
Alice B. Phillips		" "
Henry S. Culver		" "
Emma F. Angell		" "
A. B. Sherman		" "
Benjamin B. Church		New Bedford, "
Thomas J. Lancaster		Philadelphia.
Ida Lawrence		"
Jonathan May		"

Bath, Me.
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Philadelphia.
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Caleb S. Ridgway	Philadelphia.
G. G. Greene	"
Wallace J. Boyd	"
Amanda C. Packer	"
Joseph W. Foster	"
Josephine	"
Taylor Dickson	"
Charles E. Young	"
Emma C. Cotton	"
Samuel Vrooman	"
Frank Pratt Lee	"
Susie H. Davidson	"
Tena A. Cotton	"
Gov. John W. Hall	Milford, Del.
Henry Waddington	" "
Daniel E. Bailey	Toledo, O.
Nimrod	" "
David Dows	" "
Our Son	Milan, "
Golden Age	" "
James Couch	Fairport, "
San Diego	Detroit, Mich.
Henry A. Kent, Capt. Jones,	" "
H. H. Brown	" "
Thomas L. Parker	Milwaukee, Wis.
Joseph Paige	" "
Geo. Pfister	" "
Marengo	" "
J. B. Merrill	" "
Agnes Smith	" "
Alice B. Norris	" "
F. M. Knapp	Racine, "
George Murray	" "
Minnie	New Iberia, La.
Lucy	" "
G. S. Hasard	Buffalo, N. Y.
George W. Adams	" "
F. A. George	" "
James Couch	" "
Kate Winslow	" "

Lucerne	Buffalo, N. Y.
C. B. Benson	" "
Richard Winslow, Capt. Winslow,	" "
Wells Burt	" "
Alleghany	" "
John Martin	" "
H. W. Sage	Oswego, "
Niagara	Tonawanda, "
George V. Jordan	Saco, Me.
Henry Lippitt	Dennis, Mass.
O. D. Witherell	" "
Martha N. Hail	South " "
Ney	Fall River, "
Julia A. Ward	Provincetown, "
Mark Gray	Ipswich, "
Lottie K. Friend	Gloucester, "
J. M. Leonard	Somerset, "
Elma M. Wright	" "
Wm. T. Hart	" "
George S. Tarbell	Wellfleet, "
Mary Sanford	" "
Albert T. Stearns	Harwichport, "
Harry B. Ritter	Bridgeton, N. J.
George R. Vreeland	Jersey City, "
Ida C. Schoolcraft	" "
Dora Allison	" "
Thomas J. Martin	Mauricetown, "
J. Howell Leeds	" "
Margaret and Lucy	Noank, Conn.
Bill Stowe, Capt. Manson,	Middletown, "
Carrie Alice	Richmond, Me.
San Juan	Damariscotta, "
Jennie Spear	" "
George V. Jordan	Kennebunkport, "
Laveland	Manitowoc, Mich.
H. C. Richards	" "
C. C. Barnes, Capt. Albrecht,	" "
Rebecca A. Taulane,	Built at Mays Landing, N. J.
Carrie Strong	Thomaston, Me.
Wm. A. Marburg	Baltimore, Md.

BARGES.

Transport	Taunton, Mass.
Wamsutta	Providence, R. I.
Gov. Morton	New Orleans, La.
Baltic, Bee Line Trans. Co.,	Perth Amboy, N. Y.
Bravo " " " "	"

Brunette, Bee Line Trans. Co.,	Perth Amboy, N. Y.
Bonanza " " " "	"
Baffle " " " "	"
Wharf Boat	Cincinnati, O.
Magnetic	Cleveland, "

The following Vessels have replaced their Windlasses of various kinds with the "PROVIDENCE" Windlass.

COFFIN & WOODWARD WINDLASSES.

STEAMER "JOHNS HOPKINS," BOSTON, NORFOLK & BALTIMORE LINE.
" "WM. CRANE," BOSTON, NORFOLK & BALTIMORE LINE.
SHIP "McNEAR," BOSTON.
" "R. B. FULLER."
" "ERIC THE RED," BATH.
SCHOONER "CALVIN P. HARRIS," TAUNTON.
" "D. M. ANTHONY," "
" "GEORGE W. WHITFORD," PROVIDENCE.
" "CARRIE S. HART," "
" "MATTIE W. ATWOOD," BOSTON.
" "RICHARD WINSLOW," BUFFALO.
" "H. H. BROWN," DETROIT.
BARQUE "WEALTHY PENDLETON," SEARSPORT, ME.

PERLEY WINDLASSES.

STEAMER "BLACKSTONE," PROVIDENCE, NORFOLK & BALTIMORE LINE.
" "DEAN RICHMOND," } People's Line between Albany and New York.
" "DREW," } People's Line between Albany and New York.
" "ST. JOHN," } People's Line between Albany and New York.
" "METEOR," (built by R. B. Forbes) BOSTON.
" "CLEOPATRA," NEW YORK.
" "CITY OF LAWRENCE," NORWICH & NEW YORK TRANSPORTATION CO.
U. S. LIGHTHOUSE STEAMER "DAHLIA," DETROIT.

HYDE WINDLASS.

BARQUE "VERONICA," NEW BEDFORD.

GLOBE IRON WORKS WINDLASS.

U. S. REVENUE STEAMER "WARRINGTON," DETROIT.

HARFIELD WINDLASSES (English).

SPANISH STEAMER "NEUOVO BARCELONA."
STEAMSHIP "COLUMBUS," Clyde, sold to Russian Government.
ITALIAN BARQUE "MARCHIN."
SCHOONER "SAN DIEGO," BUFFALO.
ENGLISH STEAMER "VERTUMMES."

WOOD WINDLASSES.

STEAMER	"C. W. LORD," NEW ORLEANS.
"	"E. B. WARD," "
"	"CITY OF DALLAS."
"	"A. J. WRIGHT," BUFFALO.
"	"FLUSHING," NEW YORK.
"	"GEO. A. CHAFFEE," BOSTON & GLOUCESTER LINE.
BARQUE	"MARY C. AMES," BOSTON.
"	"MOSES B. TOWER," "
"	"SARAH," "
"	"JENNIE SWEENEY," PHILADELPHIA.
"	"GEO. W. SWEENEY," "
"	"HARRIET S. JACKSON," PORTLAND.
SCHOONER	"GEORGE R. VREELAND," JERSEY CITY.
"	"LOTTIE K. FRIEND," GLOUCESTER.
"	"JAMES COUCH," BUFFALO.
"	"DAISY E. PARKHURST," PROVIDENCE.
"	"EARL P. MASON," "
"	"CHARLES F. SAMPSON," "
"	"POCASSET," "
"	"HELEN A. AMES," "
"	"ALBERT W. SMITH," "
"	"ANNE M. ALLEN," "
"	"HATTIE M. CROWELL," BOSTON.
"	"O. D. WETHERELL," "
"	"GEO. S. TARBELL," "
"	"EDWARD M. REED," NEW HAVEN.
"	"J. B. CARRINGTON," "
"	"MARY C. ARNOLD," "
"	"STEPHEN MORGAN," TAUNTON.
"	"WILD PIGEON," "
"	"JOHN E. SANFORD," "
"	"FLORENCE DEAN," "
"	"MARTHA N. HALE," NEW BEDFORD.
"	"B. B. CHURCH," "
"	"JOHN BRACEWELL," DOVER.
"	"MARTHA P. KING," NEW YORK.
"	"JULIA A. TATE," "
"	"WM. D. MARVEL," FALL RIVER.
"	"ELMER M. WRIGHT," SOMERSET.
"	"WM. B. HERRICK," BOSTON.
SHIP	"BENJ. SEWELL," "
"	"PAUL JONES," "
"	"PAUL REVERE," "
BARGE	"GOV. MORTON," NEW ORLEANS.
"	"WAMSUTTA," PROVIDENCE.
U. S. REVENUE STEAMER	"GEO. M. BIBB."
" " "	"BOUTWELL."
" " "	"DALLAS."
" " "	"EWING."
" LIGHTHOUSE STEAMER	"HAZE."
" COAST SURVEY STEAMER	"BLAKE."
" " " "	"HASSLER."
" " " SCHOONER	"DRIFT."

AGENTS

FOR THE

Sale of the "PROVIDENCE" Windlasses, Capstans, &c.

IN THE UNITED STATES.

GEORGE FISHER . . . . . BATH, Maine.
Bath, Bowdoinham, Gardiner, Phippsburg, Richmond,
Wiscasset, Damariscotta and Brunswick, Me.
I. M. BOARDMAN . . . . . BELFAST, Maine.
HINCKS & NEALLEY . . . . . BANGOR, Maine.
Bangor and Vicinity.
PIDEOUT & LORD . . . . . CALAIS, Maine.
COBB, WIGHT & CO. . . . . ROCKLAND, Maine.
Rockland, Rockport and Camden, Me.
CAPT. S. BROWN . . . . . KENNEBUNKPORT, Maine.
Kennebunkport and Saco, Me.
G. M. STANWOOD & CO. . . . . PORTLAND, Maine.
J. A. CREIGHTON . . . . . THOMASTON, Maine.
EDSON MFG. CO. . . . . BOSTON, Mass.
HENRY SUTTON . . . . . NEW HAVEN, Conn.
J. P. SNELLING . . . . . NEW YORK CITY.
E. GEORGE & CO. . . . . " " "
CHAS. G. ENDICOTT . . . . . JERSEY CITY, N. J.
JONATHAN MAY & SONS . . . . . PHILADELPHIA, Pa.
GEORGE W. STONE . . . . . WILMINGTON, Del.
F. M. PEED . . . . . NORFOLK, Va.
LOUD, CLARIDGE & CO. . . . . BALTIMORE, Md.
J. P. AGNEW & CO. . . . . ALEXANDRIA, Va.
WOODWARD, WIGHT & CO. . . . . NEW ORLEANS, La.
WARD & BRADY . . . . . ST. LOUIS, Mo.
CASSILLY, COLLINS & CO. . . . . CINCINNATI, O.
ENOS, HILL & CO. . . . . GALLIPOLIS. O.
EDWARD JORDAN . . . . . PITTSBURGH, Pa.
R. H. WOOLFOLK & CO. . . . . LOUISVILLE, Ky.
JOHN J. SINZICH . . . . . EVANSVILLE, Ind.
H. P. GREGORY & CO. . . . . SAN FRANCISCO, Cal.

FOR THE LAKES.

D. S. AUSTIN & CO. . . . . BUFFALO, N. Y.
Lakes Erie and Ontario.
JAS. P. DONALDSON & CO. . . . . DETROIT, Mich.
Detroit and Lake Huron.
G. D. NORRIS & CO. . . . . MILWAUKEE. Wis.
Lakes Superior and Michigan.
UPSON, WALTON & CO. . . . . CLEVELAND, O.
M. I. WILCOX . . . . . TOLEDO, O.
DUNHAM & HOIT . . . . . CHICAGO. Ill.

THE FOLLOWING TABLE GIVES THE

DIMENSIONS OF STUD AND CLOSE-LINK CHAINS,

which we would recommend for use upon our Windlasses, and adopted by the leading chain manufacturers in the United States: —

Size of Chain Cables. Inches.	Stud-Link.		Close-Link.		Average Weight per Fath.	
	Outside Length. Inches.	Outside Width. Inches.	Outside Length. Inches.	Outside Width. Inches.	Stud-Link. Pounds.	Close-Link. Pounds.
$\frac{1}{2}$			$2\frac{3}{8}$	$1\frac{3}{4}$		15
$\frac{9}{16}$			$2\frac{3}{4}$	$1\frac{7}{8}$		19
$\frac{5}{8}$			3	$2\frac{1}{8}$		25
$\frac{11}{16}$			$3\frac{1}{4}$	$2\frac{3}{8}$		30
$\frac{3}{4}$	$4\frac{3}{8}$	$2\frac{3}{4}$	$3\frac{1}{2}$	$2\frac{1}{2}$	33	35
$\frac{13}{16}$	$4\frac{3}{4}$	3	$3\frac{7}{8}$	$2\frac{3}{4}$	38	40
$\frac{7}{8}$	5	$3\frac{1}{4}$	$4\frac{1}{8}$	3	43	47
$\frac{15}{16}$	$5\frac{3}{8}$	$3\frac{1}{2}$	$4\frac{3}{8}$	$3\frac{1}{4}$	50	54
1	$5\frac{7}{8}$	$3\frac{3}{4}$	$4\frac{5}{8}$	$3\frac{1}{2}$	57	60
$1\frac{1}{16}$	$6\frac{1}{4}$	$3\frac{7}{8}$	5	$3\frac{5}{8}$	63	67
$1\frac{1}{8}$	$6\frac{7}{8}$	$4\frac{1}{8}$	$5\frac{3}{8}$	$3\frac{7}{8}$	71	74
$1\frac{3}{16}$	$6\frac{3}{4}$	$4\frac{1}{4}$	$5\frac{1}{2}$	$4\frac{1}{8}$	76	82
$1\frac{1}{4}$	$7\frac{1}{8}$	$4\frac{1}{4}$	$5\frac{3}{4}$	$4\frac{1}{4}$	83	90
$1\frac{5}{16}$	$7\frac{3}{8}$	$4\frac{1}{2}$	6	$4\frac{1}{2}$	92	98
$1\frac{3}{8}$	$7\frac{3}{4}$	$4\frac{7}{8}$	$6\frac{1}{4}$	$4\frac{3}{4}$	105	108
$1\frac{7}{16}$	$8\frac{1}{8}$	$5\frac{1}{8}$	$6\frac{1}{2}$	5	110	118
$1\frac{1}{2}$	$8\frac{1}{2}$	$5\frac{3}{8}$	$6\frac{7}{8}$	$5\frac{1}{4}$	122	128
$1\frac{9}{16}$	$8\frac{7}{8}$	$5\frac{5}{8}$	$7\frac{1}{4}$	$5\frac{1}{2}$	133	138
$1\frac{5}{8}$	$9\frac{1}{4}$	$5\frac{7}{8}$	$7\frac{1}{2}$	$5\frac{3}{4}$	145	156
$1\frac{11}{16}$	$9\frac{5}{8}$	6			152	
$1\frac{3}{4}$	10	$6\frac{1}{4}$			165	
$1\frac{13}{16}$	$10\frac{1}{4}$	$6\frac{1}{2}$			179	
$1\frac{7}{8}$	$10\frac{1}{2}$	$6\frac{3}{4}$			195	
$1\frac{15}{16}$	$10\frac{3}{4}$	7			209	
2	$11\frac{1}{8}$	$7\frac{1}{4}$			225	
$2\frac{1}{16}$	$11\frac{1}{2}$	$7\frac{1}{2}$			250	
$2\frac{1}{8}$	12	$7\frac{3}{4}$			280	
$2\frac{3}{16}$	$12\frac{1}{2}$	8			300	
$2\frac{1}{4}$	13	$8\frac{1}{4}$			325	
$2\frac{5}{16}$	$13\frac{1}{4}$	$8\frac{1}{2}$			350	
$2\frac{3}{8}$	$13\frac{1}{2}$	$8\frac{3}{4}$			375	
$2\frac{7}{16}$	$13\frac{3}{4}$	$8\frac{7}{8}$			400	
$2\frac{1}{2}$	14	9			425	

We recommend Stud-Link Chains in all cases as being cheaper and stronger and better adapted to work on iron windlasses.

Massachusetts Charitable Mechanics' Association, 1856.

Emerson's Patent Windlass works by slow or fast power by a capstan on the forecastle. This machine can perform with four men the work usually requiring a dozen, and is a valuable element in safety of life and property, more especially in these days of "ordinary seamen." Your Committee deem it well to add ends to the Windlass, outside the bitts as usual, to serve occasionally. To this valuable machine the Committee awarded a GOLD MEDAL.

R. B. FORBES,
JOHN S. SLEEPER,
BENJAMIN L. ALLEN,
JOHN H. GLIDDON,
ELIAS E. DAVIDSON, } *Committee.*

Massachusetts Charitable Mechanics' Association, 1878.

NAME AND ADDRESS OF EXHIBITOR:

American Ship Windlass Company,

PROVIDENCE, R. I.

The above award was for "WINDLASSES AND ATTACHMENTS," and was the *only award* given for Windlasses or Capstans.

The AMERICAN SHIP WINDLASS COMPANY have taken the highest prize at every Fair or Exposition they have ever entered. These Windlasses have been manufactured in constantly increasing numbers since 1857, and of the large number in use for so many years, not one has failed to give satisfaction.

Windlasses and Capstans.

NAME AND ADDRESS OF EXHIBITOR:

AMERICAN SHIP WINDLASS COMPANY,

PROVIDENCE, R. I.

The undersigned, having examined the product herein described, respectfully recommends the same to the United States Centennial Commission for award, for the following reasons, viz.: —

EXCELLENCE OF MECHANISM.

LUIZ DE SALDANHA,
Signature of Judge.

Approval of Group Judges:

F. H RICH. H. C. GOODSPEED.
JOHN W. GRIFFITHS. I. NEWTON.

A true copy of Record:

FRANCIS A. WALKER, *Chief of the Bureau of Awards.*
A. T. GOSHORN, *Director-General.*
J. R. HAWLEY, *President.*
L. CAMPBELL, *Secretary.*

The above was the ONLY AWARD given at the United States Centennial Exposition for Windlasses and Capstans.

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R. B. FORBES,
JOHN S. SLEEPER,
BENJAMIN L. A[illegible]