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203 1/2

COGSWELL'S
NAUTICAL ALMANACK,
1887.



CONTAINING

LISTS OF LIGHT HOUSES IN CANADA, UNITED STATES,
WEST INDIES, &c., &c.

Tide Tables, Phases of the Moon, &c.



175 BARRINGTON STREET,

HALIFAX, N. S.

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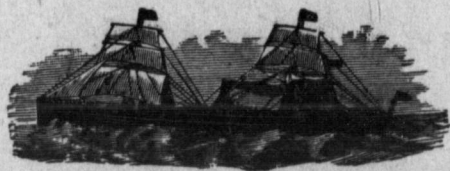
PRINTED AT THE OFFICE OF THE NOVA SCOTIA PRINTING COMPANY.
1887.

PRICE 25 CENTS.

W. STAIRS, SON & MORROW, MERCHANTS,

AND IMPORTERS OF

CORDAGE, CANVAS, CHAIN CABLES,



ANCHORS AND SHIP CHANDLERY,

Bar and Bolt Iron, Copper Bars, Muntz Metal Bars and Sheathings,
Nets, Lines, Twines and Fishing Implements,
White Lead, Paints and Linseed Oil.

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HALIFAX, N. S.

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THE DARTMOUTH ROPEWORK COMPANY

Are prepared to execute orders for the following descriptions of Cordage
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- MANILLA CORDAGE, 6 thread to 20 in., 3 and 4 Strand, and Hawser.
do. BOLT ROPE and POINT ROPE, all sizes.
do. Tarred Hawfers and Warps.
TARRED RUSSIAN HEMP CORDAGE, 6 thread and upwards.
do. do. Seizings, Hambroline, Housline, Marline, Point
Yarn and Spun yarn.
do. do. Bolt Rope, all sizes.
OAKUM, CARDED RUSSIAN,—Oakum, No. 1, Navy.
do. EXTRA NAVY— do. No. 2, Navy.

Address:—The Dartmouth Ropework Company, Halifax.

COGSWELL'S
NAUTICAL ALMANACK,

FOR THE YEAR

1887.

PUBLISHED BY
R. H. COGSWELL,
Watch and Chronometer Maker, Nautical Instruments, &c.
173 BARRINGTON STREET,
HALIFAX, N.S.

PHASES OF THE MOON—1887.

Mean Time at Greenwich.

PICKFORD & BLACK, Importers of Chain Cables and Anchors, 51 Upper Water Street.

MACDONALD & CO., Manufacturers of Plumbers' Brass Goods.—See adv. p. 3 cover.

January.				July.			
	d.	h.	m.		h.	d.	m.
☽ First Quarter	2	0	20.5	☉ Full Moon	4	20	34.2
☉ Full Moon	9	10	32.3	☾ Last Quarter	12	18	57.1
☾ Last Quarter	16	3	22.0	● New Moon	20	8	50.0
● New Moon	23	15	1.1	☽ First Quarter	27	2	30.3
☽ First Quarter	31	20	26.8	☾ Apogee	11	18	
☾ Perigee	11	18		☾ Perigee	23	18	
☾ Apogee	27	19					
February.				August.			
	d.	h.	m.		d.	h.	m.
☉ Full Moon	7	22	14.3	☉ Full Moon	3	8	40.1
☾ Last Quarter	14	13	32.0	☾ Last Quarter	11	11	36.5
● New Moon	22	9	40.2	● New Moon	18	17	38.6
☾ Perigee	9	0		☽ First Quarter	25	8	21.2
☾ Apogee	24	6		☾ Apogee	8	13	
				☾ Perigee	20	12	
March.				September.			
	d.	h.	m.		d.	h.	m.
☽ First Quarter	2	13	7.8	☉ Full Moon	1	23	12.7
☉ Full Moon	9	8	33.9	☾ Last Quarter	10	3	3.2
☾ Last Quarter	16	1	42.1	● New Moon	17	1	59.8
● New Moon	24	4	9.7	☽ First Quarter	23	17	3.9
☾ Perigee	9	12		☾ Apogee	5	4	
☾ Apogee	23	7		☾ Perigee	18	1	
April.				October.			
	d.	h.	m.		d.	h.	m.
☽ First Quarter	1	1	52.8	☉ Full Moon	1	15	47.3
☉ Full Moon	7	17	38.9	☾ Last Quarter	9	16	57.4
☾ Last Quarter	14	16	3.8	● New Moon	16	10	35.0
● New Moon	22	20	53.2	☽ First Quarter	23	5	45.8
☽ First Quarter	30	11	0.4	☉ Full Moon	31	9	30.9
☾ Perigee	7	0		☾ Apogee	2	10	
☾ Apogee	19	14		☾ Perigee	16	6	
				☾ Apogee	29	11	
May.				November.			
	d.	h.	m.		d.	h.	m.
☉ Full Moon	7	2	1.3	☾ Last Quarter	8	5	2.0
☾ Last Quarter	14	8	17.4	● New Moon	14	20	8.4
● New Moon	22	11	5.4	☽ First Quarter	21	22	43.0
☽ First Quarter	29	17	19.7	☉ Full Moon	30	3	20.1
☾ Perigee	5	6		☾ Perigee	13	17	
☾ Apogee	17	6		☾ Apogee	25	21	
June.				December.			
	d.	h.	m.		d.	h.	m.
☉ Full Moon	5	10	38.3	☾ Last Quarter	7	15	10.8
☾ Last Quarter	13	1	34.8	● New Moon	14	7	21.5
● New Moon	20	22	52.8	☽ First Quarter	21	19	1.2
☽ First Quarter	27	22	1.0	☉ Full Moon	29	20	14.3
☾ Perigee	2	0		☾ Perigee	11	22	
☾ Apogee	14	0		☾ Apogee	23	15	
☾ Perigee	27	19					

SUN'S SEMI-DIAMETER.

Mean Noon, Greenwich.

Day of Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	16 18	16 15	16 10	16 15	15 53	15 48	15 45	15 47	15 53	16 16	16 9	16 15
2	16 18	16 15	16 9	16 15	15 53	15 47	15 45	15 48	15 53	16 16	16 10	16 16
3	16 18	16 15	16 9	16 15	15 53	15 47	15 45	15 48	15 54	16 2	16 10	16 16
4	16 18	16 15	16 9	16 15	15 53	15 47	15 45	15 48	15 54	16 2	16 10	16 16
5	16 18	16 15	16 9	16 15	15 53	15 47	15 45	15 48	15 54	16 2	16 11	16 16
6	16 18	16 15	16 8	16 15	15 52	15 47	15 45	15 48	15 54	16 2	16 11	16 16
7	16 18	16 14	16 8	16 15	15 52	15 47	15 46	15 48	15 55	16 3	16 11	16 16
8	16 18	16 14	16 8	15 59	15 52	15 47	15 46	15 48	15 55	16 3	16 11	16 16
9	16 18	16 14	16 7	15 59	15 52	15 47	15 46	15 48	15 55	16 3	16 11	16 16
10	16 18	16 14	16 7	15 59	15 51	15 47	15 46	15 49	15 55	16 4	16 11	16 17
11	16 18	16 14	16 7	15 59	15 51	15 46	15 46	15 49	15 55	16 4	16 12	16 17
12	16 18	16 14	16 7	15 58	15 51	15 46	15 46	15 49	15 56	16 4	16 12	16 17
13	16 17	16 13	16 7	15 58	15 51	15 46	15 46	15 49	15 56	16 4	16 12	16 17
14	16 17	16 13	16 6	15 58	15 51	15 46	15 46	15 49	15 56	16 5	16 12	16 17
15	16 17	16 13	16 6	15 57	15 51	15 46	15 46	15 50	15 57	16 5	16 13	16 17
16	16 17	16 13	16 6	15 57	15 50	15 46	15 46	15 50	15 57	16 5	16 13	16 17
17	16 17	16 13	16 5	15 57	15 50	15 46	15 46	15 50	15 57	16 5	16 13	16 17
18	16 17	16 12	16 5	15 57	15 50	15 46	15 46	15 50	15 57	16 6	16 13	16 17
19	16 17	16 12	16 5	15 56	15 50	15 46	15 46	15 50	15 58	16 6	16 13	16 17
20	16 17	16 12	16 5	15 56	15 50	15 46	15 46	15 51	15 58	16 6	16 14	16 17
21	16 17	16 12	16 4	15 56	15 49	15 46	15 46	15 51	15 58	16 7	16 14	16 17
22	16 17	16 12	16 4	15 56	15 49	15 46	15 47	15 51	15 59	16 7	16 14	16 18
23	16 17	16 11	16 4	15 55	15 49	15 46	15 47	15 51	15 59	16 7	16 14	16 18
24	16 17	16 11	16 4	15 55	15 49	15 46	15 47	15 51	15 59	16 7	16 14	16 18
25	16 16	16 11	16 3	15 55	15 49	15 46	15 47	15 52	15 59	16 8	16 14	16 18
26	16 16	16 11	16 3	15 55	15 49	15 46	15 47	15 52	16 0	16 8	16 15	16 18
27	16 16	16 11	16 3	15 54	15 48	15 46	15 47	15 52	16 0	16 8	16 15	16 18
28	16 16	16 10	16 2	15 54	15 48	15 46	15 47	15 52	16 0	16 8	16 15	16 18
29	16 16	..	16 2	15 54	15 48	15 46	15 47	15 53	16 0	16 9	16 15	16 18
30	16 16	..	16 2	15 54	15 48	15 45	15 47	15 53	16 1	16 9	16 15	16 18
31	16 16	..	16 2	..	15 48	..	15 47	15 53	..	16 9	..	16 18

SIMSON'S LINIMENT

Should be in every Ship.

MACDONALD & CO., Manufacturers of Hand and Power Pumps.

MACDONALD & CO., Manufacturers of Patent Roller Bushings.—See *rdv.* page 3 cover.

PICKFORD & BLACK, Importers of Refined Iron Clinch Rings.

PICKFORD & BLACK, Importers Nets, Lines, Twines. 51 Up. Water St.

ROBERT H. COGSWELL'S

[1887

TIDES—1887.

Mean Time of High Water at Halifax, N. S.

PICKFORD & BLACK, SHIP CHANDLERS, MANILLA, AND HEMP ROPE.

MACDONALD & CO., Manufacturers of COMPOSITION RUBBER BRACES.—See adv. p. 3 cover.

DATE.	JAN.	FEB.	MARCH.	APRIL.	MAY.	JUNE.
1	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
2	11 58 M	0 57 A	11 32 M	0 52 A	1 45 A	4 7 A
3	0 52 A	2 0	0 19 A	2 14	3 16	5 19
4	1 49	3 19	1 23	3 46	4 40	6 16 A
5	2 50	4 41	2 44	5 0	5 45 A	6 40 M
6	4 7	5 50 A	4 13	6 1 A	6 14 M	7 21
7	5 8	6 22 M	5 25 A	6 30 M	7 0	8 1
8	6 10 A	7 12	5 53 M	7 23	7 40	8 40
9	6 37 M	7 54	6 56	7 59	8 18	9 19
10	7 23	8 32	7 39	8 35	8 56	9 59
11	8 6	9 10	8 15	9 10	9 35	10 40
12	8 48	9 47	8 53	9 52	10 18	11 22 M
13	9 22	10 26	9 29	10 32	11 3	0 7 A
14	10 3	11 11 M	10 8	11 23 M	11 52 M	0 57
15	10 42	0 4 A	10 52	0 20 A	0 43 A	1 56
16	11 38 M	1 14	11 45 M	1 27	1 51	3 0
17	0 29 A	2 37	0 45 A	2 39	2 54	4 0
18	1 45	3 56	2 2	3 50	4 0	4 59
19	2 15	5 1	3 8	4 44	4 52	5 50 A
20	3 36	5 53 A	4 32	5 34 A	5 38	6 13 M
21	4 57	6 15 M	5 23 A	5 55 M	6 13 A	6 58
22	5 53 A	6 57	5 46 M	6 35	6 41 M	7 41
23	6 39 M	7 33	6 29	7 12	7 17	8 22
24	7 19	8 7	7 6	7 44	7 57	8 51
25	5 57	8 40	7 39	8 18	8 34	9 39
26	8 33	9 12	8 7	8 53	9 11	10 19
27	9 7	0 43	8 42	9 28	9 52	10 59
28	9 40	10 16	9 17	10 6	10 34	11 49 M
29	10 12	10 52 M	9 50	10 47	11 17 M	0 50 A
30	10 43	.....	10 25	11 34 M	0 9 A	1 7
31	11 21 M	.....	11 7	0 25 A	1 18	3 31 A
	0 3 A	.....	11 53 M	.....	2 42 A	.....

The above is mean time for Halifax, 15 minutes added,

MACDONALD & CO., Manufacturers of Copper and Zinc Baths.

MACDONALD & CO., Manufacturers of Brass Binnacles and Stands.—See adv. p. 3 cover.

MAC

TIDES—1887.

Mean Time of High Water at Halifax, N. S.

DATE.	JULY.	AUG.	SEPT.	OCT.	NOV.	DEC.
	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	4 47 A	5 58 M	7 4 M	7 11 M	7 48 M	8 1 M
2	5 53 A	6 44	7 38	7 43	8 23	8 40
3	6 21 M	7 26	8 13	8 16	8 59	9 16
4	7 4	8 3	8 45	8 48	9 34	9 55
5	7 44	8 39	9 15	9 25	10 11	10 35
6	8 24	9 12	9 48	9 55	10 52	11 18 M
7	9 2	9 45	10 22	10 31	11 37 M	0 6 A
8	9 38	10 19	10 58	11 12	0 30 A	1 12
9	10 13	10 54	11 37 M	11 59 M	1 45	2 36
10	10 51	11 31 M	0 27 A	0 57 A	3 10	4 1
11	11 30 M	0 14 A	1 29	2 17	4 50	5 17
12	0 11 A	1 6	2 53	3 52	5 45 A	6 15 A
13	0 58	2 15	4 23	5 10	6 12 M	6 40 M
14	1 57	3 33	5 35 A	6 11 A	7 0	7 25
15	2 58	4 52	6 4 M	6 36 M	7 41	8 6
16	4 18	5 57 A	6 57	7 30	8 21	8 46
17	5 20 A	6 24 M	7 39	7 59	9 0	9 25
18	5 48 M	7 13	8 16	8 37	9 40	10 4
19	6 40	7 55	8 52	9 15	10 23	10 46
20	7 25	8 32	9 28	9 53	11 10 M	11 29 M
21	8 7	9 8	10 8	10 39	0 2 A	0 14 A
22	8 47	9 45	10 54	11 29 M	1 8	1 5
23	9 15	10 24	11 47 M	0 28 A	2 2	2 5
24	10 3	11 9 M	0 53 A	1 39	3 7	3 10
25	10 42	0 3 A	2 11	2 51	4 7	4 12
26	11 28 M	1 14	3 32	3 59	4 59	5 8
27	0 26 A	2 38	4 40	4 56	5 45 A	5 57 A
28	1 40	4 2	5 32 A	5 41 A	6 6 M	6 19 M
29	3 6	5 9	5 55 M	6 2 M	6 46	7 3
30	4 27	6 1 A	6 35 M	6 39	7 24 M	7 44
31	5 31 A	6 24 M	.....	7 15 M	.....	8 24 M

will give Standard time for Nova Scotia.

MACDONALD & CO., Manufacturers of Brass Binnacles and Stands.—See adv. p. 3 cover.

PICKFORD & BLACK, IMPORTERS OF WELSH BOLT IRON SPIKES.

Tide Tables.

Showing the approximate time of High Water at the undermentioned places— which will be found by adding to or subtracting from the the time of High Water at Halifax on any given day, as follows:

PICKFORD & BLACK, AMERICAN TAR, PITCH, ROSIN, 51 UPPER WATER ST.

	H. M.		H. M.
Amet Sound, N. S.	....add 2 41	Canso Gut. (N entrance) N.S.	add 1 26
Andrews St., N. B.	....add 3 1	Canso Gut (Plaster Cove)	add 1 21
Annapolis N. S.	....add 3 11	Canso Harbor, C.B. Island	sub 0 1
Anne St. B., C. B.	....add 0 45	Carraquette Harbor, Gulf St. Lawrence	....sub 5 9
Anthony Strait, Nfld.	....sub 0 39	Carbonear, Nfld	....sub 0 29
Anticosti Island, Gulf St. Lawrence, East Cape	....sub 9 49	Cardigan Bay, P. E. I.	....add 0 51
Antigonish Harbor, R. St. Law	add 1 11	Carriboo Harbor N. S.	....add 2 11
Anrobus Island, Gulf St. Law	add 2 41	Carleton Point, Gulf St. Law	sub 4 49
Appectat Bay, Gulf St. Law	add 3 21	Carong River, K. St. Law	sub 0 34
Argyle, Bay of Fundy	....add 1 38	Cascumpeque Harbor, P.E.I.	sub 2 9
Arichat, C. B.	....add 0 21	Castors Harbor, Nfld.	....add 3 1
Avon River, N. S.	....add 4 41	Catalina Harbor, "	....sub 0 59
Baltimore, U. S.	....sub 1 16	Cawee Islands, Gulf St. Law	sub 5 59
Barbe St. Harbor, Nfld.	....add 2 11	Champlain, R. St. Lawrence	add 1 56
Bangor, U. S.	....add 2 17	Change Island, Nfld	....sub 0 29
Barnstable, U. S.	....add 3 33	Chester Harbor, N. S.	....sub 0 5
Barrow Harbor, Nflda	....sub 1 36	Cheticamp, C. B. Island	....add 0 26
Basque Port, Nfld.	....add 1 6	Civil East Cove, Long Harbor, Nfld.	....add 0 19
Bathurst, Gulf St. Law	....sub 4 34	Clam Point, Bay of Fundy	....add 0 38
Batiscon, K. St. Law	....add 1 59	Clark Harbor, "	....add 0 51
Bear Cape, P. E. Island	....add 1 11	Clearwater Point, Gulf St. Law	add 3 21
Bear Head, C. B. Island	....add 0 41	Coacocha Bay, "	sub 3 19
Beaubere Island, Gulf St. L.	sub 1 19	Cocagne River, "	sub 0 19
Beaver Harbor, N. S.	....add 0 9	Cod Cape, U. States	....add 3 41
Bedeque Harbor, P. E. I.	....add 2 26	Conroy Island, Nfld.	....add 1 26
Bermuda, Ireland Isle	....sub 0 35	Conroy Cove, Ship Harbor, Nfld.	....add 0 11
Bersimis R., Gulf St. Law	....sub 5 49	Cook Harbor, Nfld	....sub 0 11
Bechewen Harbor, Gulf St. Lawrence	....add 3 43	Condres Island, (Prairie Bay) R. St. Lawrence	....sub 3 25
Bic Island, Gulf St. Law	....sub 5 34	Caw Head Harbor, Nfld	....add 2 52
Black Rock, Bay of Fundy	....add 3 40	Crane Island, R. St. Law	....add 2 11
Blind Bay, N. S.	....add 0 3	Crapaud, P. E. Island	....sub 0 36
Bonavista, Nfld.	....sub 0 24	Cremailere Harbor, Nfld	....add 0 11
Bonne Esperance Harbor, Gulf St. Lawrence	....add 1 26	Crox Harbor	....sub 1 19
Boston Light, U. S.	....add 3 23	Crow Harbor, N. S.	....add 0 11
Boughter Harbor, P. E. I.	....add 0 51	Cumberland Basin, Bay of Fundy	....add 4 5
Braha Harbor, Nfld	....sub 0 49	Cutwell Harbor, Nfld	....sub 0 49
Brandy Pots, River St. Law	....sub 4 49	Chignecto Cape, Bay of Fundy	add 3 11
Bridgewater, N. S.	....add 0 17	Char.ottetown, P.E.I.	....add 2 56
Brig Bay, Nfld.	....add 1 57	Dalhousie Harbor, Gif St Law	sub 4 39
Buctouche River, Gulf St. Law	add 4 19	Deer Harbor, Nfld	....sub 0 1
Bull Island, Newfoundland	....sub 0 27	Digby Gut, Bay of Fundy	....add 3 11
Burgeo Island, "	....add 0 43	East Point, P.E. I.	....add 0 41
Burin Harbor, "	....add 0 56	Eastport, U. S.	....add 3 14
Burit Island, "	....sub 0 1	Egg Island, Gulf St. Law	....add 5 49
Campbelltown, Gulf St. Law	sub 3 49		
Campobello, Bay of Fundy	add 3 32		

MACDONALD & CO., Importers of Steam Pumps, etc.—See adv. p. 3 cover

Brass Hinges, Hasps and Locks, at MACDONALD & CO.'S.—See cover.

MACDONALD & CO., Manufacturers and Fitters of Steam Heating Apparatus.—See adv. p. 3 cover.

MACDONALD & CO., Manufacturers and Fitters of Steam Heating Apparatus.—See adv. p. 3 cover.

PICKFORD & BLACK, WOODBERRY COTTON DUCK, 1 TO 2

	H. M.		H. M.
Ellenwood's Anchorage, Bay		Island (Country) Harb'r, NS	sub 0 9
of Fundy	... add 2 5	Isles-au Condres, R. St Law.	sub 3 24
Egmont Bay, P. E. I.	... add 4 49	Ipswich, U. S.	... add 3 37
Escumenac Point, Gulf of St.			
Lawrence	... add 3 39	Leboque, Bay Fundy	... add 2 15
Fall River, U. S.	... add 0 22	Jeddore, N. S.	... sub 0 32
Famish Gut, Nfld.	... add 0 15	John St., N. B., Bay Fundy	... add 3 32
Fear Cape, U. S.	... sub 0 49	John's St., Nfld	... sub 0 10
Ferole Cove, Nfld.	... add 3 1	Jonriman Island, N. B.	... add 1 41
Ferole Harbor Old, Nfld	... add 1 39		
Fish Heap, Grand Manan,		Kegashka Bay, Gulf St Law.	add 2 56
Bay of Fundy	... add 3 27	King's Cove, Nfld	... sub 3 34
Flat Island Cove, Nfld	... add 0 38	Kirpon Harbor, "	... sub 0 44
Fleur de lis Harbor, "	... add 0 34		
Florida Cape, U. S.	... add 0 40	Le Hune Bay, Nfld	... add 0 51
Fogo Island, Nfld	... sub 0 29	La Poile Bay, "	... add 1 11
Foily Point, Peticodiac River,		Lamiline, "	... add 1 26
Bay of Fundy	... add 4 0	Lark Harbor, "	... add 2 48
Francois Bay, Nfld	... add 0 51	Lawn, Great and Little, Nfld	add 0 26
Frechette Island, R. St Law	add 0 11	Lawrence St. Harbor, "	add 0 41
Freshwater Bay, Nfld.	... sub 0 19	LaHave, N. S.	... add 0 2
Funk Island, Nfld	... sub 0 49	Lunenburg, N. S.	... add 0 5
		Lepreau, Bay of Fundy	... add 3 29
Gander Bay, Nfld	... add 0 6	Letang Harbor, "	... add 3 30
Gaspe Basin Gulf St. Law	sub 5 9	Liscomb Arthur, N. S.	... add 0 11
George Cape, N. S.	... add 1 26	Little Metis, Gulf St Law	... sub 5 39
George Port, Bay Fundy	... add 3 28	Little Netasquan, "	... add 3 11
George St Harbor, Nfld	... add 2 14	Little Port, Newfoundland	... add 2 53
Georgetown, U. S.	... add 0 51	Little Placentia, "	... add 0 9
Good Bay, Nfld	... add 2 51	Little River, "	... add 0 51
Goodbout River, Gif St Law.	sub 5 67	Little Tancook Island, N. S.	sub 0 6
Goose Bay, Nfld	... sub 0 27	Liverpool Bay, N. S.	... add 0 1
Grand Harbor, Grand Manan,		Louisburg Harbor, N. S.	... add 0 11
Bay of Fundy	... add 3 18	Lunaire St. Bay, Nfld.	... sub 0 43
Grand Passage, Bay of Fundy	add 2 54	Lynn Harbor, U. S.	... add 3 20
Grand Rustico, P. E. I.	... sub 1 9		
Grand didul Madame, I. C. D.	add 0 6	Mabou River, C. B.	... add 1 11
Great St. Law Harbor, Nfld	add 0 41	Machias, Seal Island, Bay	
Green Island, River St. Law	sub 5 4	Fundy	... add 3 16
Green's Harbor, Nfld	... sub 1 5	Magdalen Islands, Gif St Law	add 0 31
Grigust Bay, Nfld	... sub 0 49	Magdalen River, R. St Law.	sub 6 34
Grindstone Island, Bay Fundy	add 3 58	Mahone Bay, N. S.	... add 0 11
Guysboro, N. S.	... add 0 31	Manicouago R., R. St Law	sub 5 24
		Maquereau Port, Gif St Law.	sub 5 47
Habitants' Harbor, C. B.	... add 0 31	Marblehead, U. S.	... add 3 41
Halifax Harbor, N. S.	... 0 0	Margaret's St. Bay, N. S.	... sub 0 2
Hand's Harbor, Nfld.	... sub 0 36	Mary St. Cape Nfld	... add 2 41
Harbor Grace, Nfld	... sub 0 24	Matan River, Gulf St Law	... sub 5 34
Hatteras Cape, U. S.	... add 1 11	May Cape, U. S.	... add 0 30
Hawke I land Bay of Fundy	add 3 32	Menadou Cape, C. B.	... add 0 26
Hawke Bay, Nfld	... add 3 11	Merigomish, N. S.	... add 2 17
Hearts Content, Nfld	... sub 0 10	Medway Port, N. S.	... add 0 1
Hillsborough River, P. E. I.	add 2 56	Mingan Harbor, G St Law	... sub 6 33
Holmes Hole, U. S.	... add 3 54	Minemegash, P. E. I.	... add 4 19
Horton Bluff, Bay Fundy	... sub 7 19	Miquelon Road, Nfld	... add 0 44
		Miramichi (Bar), G St Law	... sub 2 19

PICKFORD & BLACK, Woodberry Cotton Duck, No. 1 to 2.

8

ROBERT H. COGSWELL'S

[1887.

PICKFORD & BLACK, Importers of Wire Rope, Canvas, 51 Upper Water St.

MACDONALD & CO., MANUFACTURER OF BRASS BINNACLE GUARDS.—See adv. p. 3 cover.

VESSELS FITTED WITH PLUMBING FIXTURES BY MACDONALD & CO.

	H.	M.		H.	M.		
Miscoon, Gulf St Lawrence	sub	5	19	Roche Cape, River St. Law	add	1	41
Moncton (Railway) Bay Fun	sub	7	34	Restigouche River, Campbell			
Monts Point de, Gulf St Law	sub	7	49	town, Gulf St Law	sub	3	49
Mount Louis Bay, R St Law	sub	5	49	Sable Cape, (Clark's Harbor)			
Mouton Port, N. S.	add	0	5	Bay Fundy	add	1	9
Nantucket, U. S.	sub	7	25	Sable Island, N. Side, N S.	sub	0	19
Negro Harbor, N. S.	add	0	23	Sable Island, S. Side, "	sub	1	19
Neuf Port, Gulf St. Law	sub	5	39	Sacred Bay, Nfld.	sub	0	26
New Bedford, (entrance) U.S.	add	0	8	Saguenay, Chicoutimi, Gulf			
New Haven, U. S.	add	3	27	St. Lawrence	sub	3	38
New Pelican Harbor, Nfld.	sub	0	19	Saguenay, Tadousac, Gulf St.			
New York, U. S.	add	0	24	Lawrence	sub	5	4
Newburyport, "	add	3	33	Salem, U. S.	add	3	24
Nicholas St. Harbor, Gulf of				Sandy Cove, E., Bay Fundy	add	2	44
St. Lawrence	sub	5	54	Sandy Cove, W., "	add	2	58
Noel Bay, Bay Fundy	sub	7	8	Sandy Hook, U. S.	sub	0	20
North Cape, C. B.	add	0	11	Seal Cove, Grand Manan,			
North Harbor, Nfld.	add	0	11	Bay Fundy	add	3	6
Oderin, Nfld.	add	0	19	Seal Island, Cape Sable,			
Orleans Islands, R. St. Law	sub	2	9	Bay Fundy	add	2	0
Parrsboro', Bay Fundy	sub	7	32	Seldom-come-by, Nfld.	sub	0	36
Paul St., Gulf St. Lawrence	add	0	11	Seven Islands Bay, Gulf St.			
Peter St. Harbor, P.E.I.	add	0	41	Lawrence	sub	0	36
Petit Passage, Bay Fundy	add	2	52	Sheet Harbor, N. S.	add	0	17
Petit Port, B. of Islands, Nfld	add	1	53	Shelburne, "	add	0	15
Philadelphia, U. S.	sub	6	31	Sheldrake Island, G St Law	sub	1	49
Pictou Harbor, N. S.	add	2	11	Ship Harbor, N. S.	add	0	5
Pierre Strait, Nfld.	add	0	44	Sippigan, Gulf St Law	sub	4	7
Pillars River, Gulf St. Law	sub	2	49	Smith Sound, Nfld.	sub	0	41
Placentia, Nfld.	add	1	26	Spaniard's Bay, "	sub	0	4
Plymouth, U. S.	add	3	30	Spencer's Anchorage, B Fun	add	3	53
Pomquet, N. S.	add	1	26	Spicer's Cove, Bay Fundy	add	3	46
Pool's Harbor, Nfld.	sub	0	49	Sydney Harbor, C. B.	add	1	11
Port-au Choil, "	add	2	58	Tatamogouche, N. S.	add	2	11
Port Hood, C. B.	add	1	11	Tracadie Harbor, "	sub	0	19
Portland, U. S.	add	3	36	Trepassey, Nfld.	sub	0	16
Poulamenta Bay, Madam Is-				Trinity Bay, (Bull's Is.) Nfld	sub	0	27
land, C. B.	add	0	1	Trinity Harbor, Nfld	sub	0	39
Prospect River, N. S.	sub	0	6	Trinton Harbor, "	sub	0	19
Providence, U. S.	add	0	27	Turner C, P.E.I.	sub	1	39
Provincetown, "	add	3	33	Verte Bay, N. S.	add	2	11
Pubnico (Beach Pt.) B Fundy	add	1	36	Vin Harbor, Gulf St Law	sub	2	4
Pugwash Harbor, N. S.	add	2	41	Wallace Harbor, N. S.	add	2	4
Quaco, Bay Fundy	add	3	46	Wapitagan Harbor, Gulf St.			
Quebec, R. St. Lawrence	sub	1	11	Lawrence	add	2	41
Race Cape, Nfld	sub	0	19	Washington Navy Yard,			
Random Head Harbor, Nfld	sub	0	19	United States	sub	0	6
Rencoutre Bay, (the Cove)				West Quoddy, Bay Fundy	add	3	23
Newfoundland	add	1	6	Whitehaven, N. S.	add	0	11
Richibucto River, G. St Law	sub	4	19	Wilmington, U. S.	add	1	17
Richmond, U. S.	sub	3	21	Yarmouth, N. S.	add	2	20
Richmond Harbor, P.E.I.	sub	1	49	Yoik Harbor, Nfld	add	2	48

MACDONALD & CO., Steam Fitters.—See adv. p. 3 cover.

A. B. CROSBY & CO.,

SHIPPING

AND

COMMISSION MERCHANTS,

Cape Breton and Nova Scotia COAL supplied at Miners' Prices.

VESSELS BOUGHT AND SOLD.

Consignments of Fish Cargoes solicited. Purchasing and selling Lumber Cargoes a speciality.

City Market Square, 45 Bedford Row,

HALIFAX, N. S.

FADER BROS.,

Wholesale and Retail Victuallers,

6 TO 10 BEDFORD ROW, HALIFAX, N. S.

DEALERS IN ALL KIND

Meats, Fresh & Corned Pork, Poultry, Vegetables, &c.

DIRECT IMPORTERS OF FRUIT.

Manufacturers of the "Seal Brand" PRESERVED BEEF and LARD.

BOLOGNAS, SAUSAGES, &c.

TELEPHONIC COMMUNICATION TO ALL PARTS OF THE CITY.

MACDONALD & CO., Manufacturers of Brass Bolts and Catches.

PICKFORD & BLACK, IMPORTERS, NETS, TWINES, LINES, 51 UPPER WATER STREET.

VESSELS FITTED WITH PLUMBING FIXTURES BY MACDONALD & CO.

MACDONALD & CO.

PICKFORD & BLACK, Woodberry Cotton Duck, No. 1 to 2.

10

ROBERT H. COGSWELL'S

[1887

JANUARY.

Chronometer of
G. M. T.

PICKFORD & BLACK, 51 UPPER WATER STREET, HALIFAX, N. S.

MACDONALD & CO., MANUFACTURERS OF COMPOSITE BUTT BOLTS AND SPIKES.—See p. 3 cover.

RESIDENCES and PUBLIC BUILDINGS FITTED with STEAM HEATING APPARATUS by MACDONALD & CO.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of time to be added to Apparent Time.	Var. in 1 h'r.	Chronometer of G. M. T.					
		Apparent Right Ascension.	Var. in 1 h'r.	Apparent Declination.	Var. in 1 h'r.			H.	MIN.	SEC.	THS.		
S	1	18 47	11.042	S. 23 0	37.8	12.41	3 46.69	1.182	1				
M	2	18 51	11.027	22 55	26.2	13.55	4 14.88	1.167	2				
T	3	18 55	11.010	22 49	47.2	14.69	4 42.70	1.151	3				
W	4	19 0	10.993	22 43	41.0	15.82	5 10.12	1.134	4				
T	5	19 4	10.975	22 37	7.7	16.95	5 37.11	1.115	5				
F	6	19 9	10.955	22 30	7.5	18.06	6 3.64	1.095	6				
S	7	19 13	10.934	22 22	40.8	19.16	6 29.68	1.075	7				
M	8	19 17	10.912	22 14	47.6	20.26	6 55.22	1.053	8				
T	9	19 22	10.890	22 6	28.2	21.35	7 20.22	1.030	9				
W	10	19 26	10.866	21 57	42.9	22.42	7 44.67	1.007	10				
T	11	19 30	10.842	21 48	31.9	23.49	8 8.55	0.983	11				
F	12	19 35	10.817	21 38	55.5	24.54	8 31.84	0.958	12				
S	13	19 39	10.791	21 28	53.9	25.59	8 54.52	0.932	13				
M	14	19 43	10.765	21 18	27.4	26.59	9 16.57	0.906	14				
T	15	19 48	10.738	21 7	36.3	27.64	9 37.99	0.879	15				
W	16	19 52	10.710	20 56	20.9	28.64	9 58.76	0.851	16				
T	17	19 56	10.682	20 44	41.5	29.64	10 18.85	0.823	17				
F	18	20 0	10.653	20 32	38.4	30.61	10 38.26	0.794	18				
S	19	20 5	10.623	20 20	12.0	31.58	10 56.96	0.764	19				
M	20	20 9	10.592	20 7	22.6	32.53	11 14.94	0.734	20				
T	21	20 13	10.561	19 54	10.6	33.46	11 32.18	0.703	21				
W	22	20 17	10.529	19 40	36.3	34.38	11 48.67	0.671	22				
T	23	20 22	10.497	19 26	40.2	35.29	12 4.39	0.639	23				
F	24	20 26	10.464	19 12	22.5	36.18	12 19.32	0.605	24				
S	25	20 30	10.430	18 57	43.7	37.05	12 33.45	0.572	25				
M	26	20 34	10.396	18 42	44.1	37.91	12 46.77	0.538	26				
T	27	20 38	10.362	18 27	24.2	38.75	12 59.28	0.504	27				
W	28	20 42	10.327	18 11	44.3	39.57	13 10.96	0.469	28				
T	29	20 47	10.292	17 55	44.8	40.38	13 21.81	0.435	29				
F	30	20 51	10.257	17 39	26.2	41.17	13 31.82	0.400	30				
S	31	20 55	10.222	17 22	48.7	41.94	13 41.00	0.365	31				
T	32	20 59	10.187	S. 17 5	52.9	42.70	13 49.34	0.330					

SIMSON'S LINIMENT
Is the Great Pain Eradicator.

MACDONALD & CO., Manufacturers of Manrope Stanchions.—p 3 cover.

MA

PICKFORD & BLACK, Importers Chain Cables & Anchors, 51 Upper Water.

1887.]

NAUTICAL ALMANAC.

11

H. H. FULLER & CO.,

45 to 49 Upper Water Street,

HALIFAX, N. S.

HARDWARE,

Wholesale and Retail.

**NAVAL STORES,
PAINTS, OILS,
METALS.**

OF ALL KINDS.

BUILDERS' HARDWARE.

Mill, Mining, and Fishing Supplies.

THE LARGEST ASSORTMENT OF

CUTLERY AND SMALL HARDWARE

To be found in the City.

BEST GOODS AT LOW PRICES.

SIGN OF THE "CIRCULAR SAW."

MACDONALD & CO., Makers of Tumbler Racks, &c.—See p. 3 cover.

RESIDENCES and PUBLIC BUILDINGS FITTED with STEAM HEATING APPARATUS by MACDONALD & CO.

PICKFORD & BLACK, IRON SPIKES, CUT NAILS, 51 UPPER WATER STREET.

MACDONALD & CO. MANUFACTURERS

Woodberry Cotton Duck, for sale by PICKFORD & BLACK.

12

ROBERT H. COGSWELL'S

[1887

FEBRUARY.

Chronometer of
G. M. T.

PICKFORD & BLACK, 51 UPPER WATER STREET, HALIFAX, N. S.

VESSELS FITTED WITH PLUMBING FIXTURES BY MACDONALD & CO.—See adv. page cover.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of time to be added to Apparent Time.	Var. in 1 hr.	Chronometer of G. M. T.					
		Apparent Right Ascension.	Var. in 1 hour	Apparent Declination.	Var. in 1 hr.			H.	MIN.	SEC.	THS.		
T	1	20 59 21.93	10.187	S. 17 5 52.9	42.70	13 49.34	0.330	1					
W	2	21 3 26.00	10.152	16 48 39.1	43.44	13 56.84	0.295	2					
T	3	21 7 29.24	10.118	16 31 7.8	44.16	14 3.50	0.260	3					
F	4	21 11 31.64	10.083	16 13 19.4	44.87	14 9.33	0.225	4					
S	5	21 15 33.20	10.048	15 55 14.2	45.56	14 14.32	0.191	5					
S	6	21 19 33.94	10.014	15 36 52.7	46.22	14 18.49	0.157	6					
M	7	21 23 33.85	9.980	15 18 15.4	46.88	14 21.85	0.123	7					
T	8	21 27 32.96	9.946	14 59 22.5	47.52	14 24.39	0.089	8					
W	9	21 31 31.27	9.913	14 40 14.5	48.14	14 26.14	0.057	9					
T	10	21 35 28.89	9.881	14 20 51.9	48.74	14 27.11	0.024	10					
F	11	21 39 25.54	9.849	14 1 14.9	49.33	14 27.30	0.008	11					
S	12	21 43 21.54	9.818	13 41 24.0	49.90	14 26.75	0.039	12					
S	13	21 47 16.79	9.787	13 21 19.5	50.46	14 25.45	0.069	13					
M	14	21 51 11.32	9.757	13 1 1.9	51.00	14 23.43	0.099	14					
T	15	21 55 5.13	9.727	12 40 31.7	51.51	14 20.70	0.129	15					
W	16	21 58 58.23	9.698	12 19 49.2	52.02	14 17.26	0.158	16					
T	17	22 2 50.64	9.670	11 58 54.7	52.51	14 13.12	0.187	17					
F	18	22 6 42.37	9.641	11 37 48.8	52.97	14 8.30	0.215	18					
S	19	22 10 33.41	9.613	11 16 32.0	53.42	14 2.81	0.243	19					
S	20	22 14 23.79	9.586	10 55 4.6	53.85	13 56.66	0.270	20					
M	21	22 18 13.52	9.559	10 33 26.9	54.27	13 49.85	0.297	21					
T	22	22 22 2.60	9.532	10 11 39.6	54.67	13 42.40	0.324	22					
W	23	22 25 51.04	9.506	9 49 42.9	55.05	13 34.31	0.350	23					
T	24	22 29 38.87	9.480	9 27 37.3	55.41	13 25.61	0.375	24					
F	25	22 33 26.10	9.456	9 5 23.2	55.76	13 16.32	0.400	25					
S	26	22 37 12.74	9.431	9 43 1.0	56.09	13 6.43	0.424	26					
S	27	22 40 58.80	9.408	8 20 31.1	56.40	12 55.97	0.448	27					
M	28	22 44 44.30	9.385	7 57 54.0	56.69	12 44.95	0.470	28					
T	29	22 48 29.26	9.363	S. 7 35 10.0	56.97	12 33.39	0.493	29					
								30					
								31					

SIMSON'S LINIMENT

Cures Sore Throat.

Lead Scupper Pipes, all sizes, MACDONALD & CO'S—See p. 3 cover.

Residences and Public Buildings Fitted with Hot Water Heating Apparatus by MACDONALD & CO.—See p. 3 cover.

PICKFORD & BLACK, 51 Upper Water Street, Halifax, N. S.

1887]

NAUTICAL ALMANAC.

13

ISAAC H. MATHERS,
SHIP AGENT

—AND—

Commission Merchant.

VICE-CONSUL FOR SWEDEN AND
NORWAY.

HALIFAX, NOVA SCOTIA

EATON, PARSONS AND BECKWITH,

Barristers, Solicitors,

NOTARIES PUBLIC,

35 Bedford Row,

HALIFAX, NOVA SCOTIA.

BRENTON H. EATON, Q. C. JONATHAN PARSONS, B. A. HORACE L. BECKWITH, B. A.

MACDONALD & CO., Manufacturer of Lead Water Marks.

PICKFORD & BLACK, SHIP CHANDLERS, 51 UPPER WATER ST., HALIFAX.

Residences and Public Buildings Fitted with Hot Water Heating Apparatus by MACDONALD & CO — See p. 3 cover.

VESSELS FITTED WITH PLUMBING

PICKFORD & BLACK. Ship Chandlers, Manilla and Hemp Rope.

14

ROBERT H. COGSWELL'S

[1887

MARCH.

Chronometer of
G. M. T.

PICKFORD & BLACK, AGENT FOR TARR & WONSON'S COPPER PAINT.

Day of the Week.		Day of the Month.		THE SUN'S				Equation of time to be added to Apparent Time.		Var. in. l h'r.	
		Apparent Right Ascension.	Var. in 1 hour	Apparent Declination.	Var. in 1 h'r.						
		<i>h. m. s.</i>	<i>s.</i>	<i>° ' "</i>	<i>" "</i>	<i>m. s.</i>	<i>s.</i>				
T	1	22 48 29.26	9.363	S. 7 35 10.0	56.97	12 33.39	0.493				
W	2	22 52 13.70	9.341	7 12 19.5	57.23	12 21.30	0.514				
T	3	22 55 57.63	9.320	6 49 23.0	57.47	12 8.71	0.535				
F	4	22 59 41.07	9.300								
S	5	23 3 24.03	9.281	6 26 20.9	57.70	11 55.63	0.555				
S	6	23 7 6.54	9.262	6 3 13.6	57.91	11 42.08	0.574				
M	7	23 10 48.62	9.245	5 40 1.4	58.10	11 28.08	0.592				
T	8	23 14 30.28	9.228	5 16 44.7	58.28	11 13.64	0.610				
W	9	23 18 11.56	9.212	4 53 23.9	58.45	10 58.79	0.627				
T	10	23 21 52.48	9.198	4 29 59.3	58.59	10 43.56	0.642				
F	11	23 25 33.06	9.185	4 6 31.4	58.72	10 27.97	0.656				
S	12	23 29 13.34	9.173	3 43 0.5	58.85	10 12.05	0.670				
S	13	23 32 53.34	9.161	3 19 26.8	58.95	9 55.83	0.682				
M	14	23 36 33.09	9.151	2 55 50.8	59.04	9 39.32	0.693				
T	15	23 40 12.59	9.142	2 32 12.8	59.12	9 22.55	0.704				
W	16	23 43 51.89	9.133	2 8 33.2	59.18	9 5.55	0.713				
T	17	23 47 30.99	9.125	1 44 52.3	59.22	8 48.34	0.721				
F	18	23 51 9.91	9.118	1 21 10.5	59.25	8 30.94	0.729				
S	19	23 54 48.67	9.112	0 57 28.1	59.27	8 13.36	0.736				
S	20	23 58 27.29	9.106	0 33 45.7	59.26	7 55.61	0.742				
M	21	0 2 5 78	9.102	S. 0 10 3.4	59.25	7 37.73	0.747				
T	22	0 5 44.17	9.098	N. 0 13 38.3	59.22	7 19.73	0.752				
W	23	0 6 22.48	9.095	0 37 19.0	59.17	7 1 62	0.756				
T	24	0 13 0.72	9.092	1 0 58.3	59.10	6 43.42	0.760				
F	25	0 16 38.91	9.090	1 24 36 0	59.03	6 25.16	0.762				
S	26	0 20 17.06	9.089	1 48 11.6	58.93	6 6.84	0.764				
S	27	0 23 55.20	9.089	2 11 44.7	58.82	5 48.49	0.765				
M	28	0 27 33.34	9.090	2 35 15.1	58.70	5 30.13	0.765				
T	29	0 31 11.50	9.091	2 58 42.2	58.56	5 11.77	0.765				
W	30	0 34 49.69	9.093	3 22 5.8	58.40	4 53.43	0.764				
T	31	0 38 27.94	9.095	3 45 25.6	58.23	4 35.12	0.762				
F	32	0 42 6.26	9.099	4 8 41.0	58.05	4 16.86	0.759				
				N. 4 31 51.8	57.85	3 58.68	0.756				

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SIMONS' LINIMENT
CURES CRACKED HANDS.

MACDONALD & CO., Manufacturers of Deep Sea and Hand Leads.

MACDONALD & CO., Manufacturers of Ship's Patent Water Closets—See adv. p. 3 cover.

Residences and Public Buildings Fitted with Plumbing Fixtures by MACDONALD & CO.—See adv. p. 3 cover.

PICKFORD & BLACK, Ship Chandlers, 51 Upper Water St., Halifax.

1887.]

NAUTICAL ALMANAC.

15

1803. **IMPERIAL** 1803.

Fire Insurance Company

OF LONDON.


ESTABLISHED, A.D., 1803.

Capital - £1,600,000 Stg.

Insurance against fire effected on all classes of insurable property at current rates. **Three Years' Policies** issued on Private Dwellings, etc.

M. B. DALY, Agent,

OFFICE - - 164 HOLLIS STREET, HALIFAX.

 Sub-Agencies in all the principal towns of the Province.

TWINING AND TWINING,
Marine, Fire and Life
INSURANCE AGENTS,

Offices: 60 Bedford Row, Halifax, N.S.

REPRESENTING:

Phoenix Insurance Co., of New York.

(FIRE AND MARINE.)

Providence-Washington Co., of Providence, R. I.

(FIRE AND MARINE.)

British and Foreign Marine Insurance Co., of Liverpool, G. B.

Union Insurance Co., of Philadelphia.

New York Life Insurance Co., of New York.

Brass Ventilators made by MACDONALD & CO.—See adv. p. 3, cover.

PICKFORD & BLACK, IMPORTERS OF DUCKS AND DRILLINGS, 51 UPPER WATER STREET.

Residences and Public Buildings Fitted with Plumbing Fixtures by MACDONALD & CO.—See adv. p. 3, cover.

MACDONALD & CO., Manufacturers of Ship's P...

APRIL.

Chronometer of G. M. T.

PICKFORD & BLACK, Importers White Lead, Paints, Oils, 51 Upper Water Street.

MACDONALD & CO., MANUFACTURERS OF BRASS SLIDING DOOR ROLLERS. — See adv. p. 3 cover.

MACDONALD & CO., Manufacturers and Fitters of Steam Heating Apparatus. — See adv. p. 3 cover.

Day of the Week.		Day of the Month.		THE SUN'S				Equation of time to be added to sub. from Apparent Time.		Var. in 1 h'r.		Chronometer of G. M. T.			
		Apparent Right Ascension.	Var. in 1 hour	Apparent Declination.	Var. in 1 h'r.							H.	MIN.	SEC.	THS.
F	1	0 42 6.26	9.099	N. 4 31 51.8	57.85	m. s.	s.	3 58.68	0.756	1					
S	2	0 45 44.67	9.103	4 54 57.7	57.63	3 40.59	0.752	2							
S	3	0 49 23.19	9.108	5 17 58.2	57.40	3 22.60	0.747	3							
M	4	0 53 1.83	9.113	5 40 52.9	57.16	3 4.73	0.741	4							
T	5	0 56 40.61	9.119	6 3 41.7	56.90	2 47.01	0.735	5							
W	6	1 0 19.56	9.127	6 26 24.1	56.63	2 29.46	0.727	6							
T	7	1 3 58.70	9.135	6 48 59.8	56.34	2 12.10	0.719	7							
F	8	1 7 38.06	9.140	7 11 28.5	56.04	1 54.95	0.710	8							
S	9	1 11 17.66	9.156	7 33 49.9	55.73	1 38.04	0.699	9							
S	10	1 14 57.53	9.167	7 56 3.7	55.41	1 21.40	0.687	10							
M	11	1 18 37.68	9.179	8 18 9.6	55.08	1 5.05	0.675	11							
T	12	1 22 18.13	9.192	8 40 7.3	54.72	0 48.99	0.662	12							
W	13	1 25 58.91	9.206	9 1 56.3	54.36	0 33.26	0.648	13							
T	14	1 29 40.03	9.221	9 23 36.5	53.98	0 17.87	0.634	14							
F	15	1 33 21.50	9.236	9 45 7.5	53.59	0 2.83	0.619	15							
S	16	1 37 3.35	9.251	10 6 28.9	53.19	0 11.84	0.603	16							
S	17	1 40 45.57	9.267	10 27 40.4	52.76	0 26.13	0.587	17							
M	18	1 44 28.19	9.284	10 48 41.6	52.33	0 40.02	0.570	18							
T	19	1 48 11.22	9.302	11 9 32.2	51.88	0 53.51	0.553	19							
W	20	1 51 54.67	9.319	11 30 11.9	51.42	1 6.58	0.535	20							
T	21	1 55 38.55	9.338	11 50 40.3	50.94	1 19.21	0.517	21							
F	22	1 59 22.88	9.356	12 10 57.1	50.45	1 31.41	0.499	22							
S	23	2 3 7.66	9.376	12 31 2.0	49.95	1 43.15	0.479	23							
S	24	2 6 52.91	9.395	12 50 54.5	49.43	1 54.42	0.460	24							
M	25	2 10 38.62	9.415	13 10 34.5	48.90	2 5.23	0.440	25							
T	26	2 14 24.82	9.435	13 30 1.5	48.35	2 15.56	0.420	26							
W	27	2 18 11.51	9.456	13 49 15.1	47.78	2 25.40	0.400	27							
T	28	2 21 58.68	9.476	14 8 15.1	47.21	2 34.75	0.379	28							
F	29	2 25 46.35	9.497	14 27 1.2	46.62	2 43.61	0.359	29							
S	30	2 29 34.53	9.518	14 45 32.9	46.01	2 51.97	0.338	30							
S	31	2 33 23.21	9.539	N. 15 3 49.9	45.40	2 59.82	0.316	31							

SIMSON'S LINIMENT
Cures Rheumatism.

MACDONALD & CO., Manufacturers of Copper and Lead Tanks.

PICKFORD & BLACK, Iron Spikes, Cut Nails, 51 Up. Water St.

1887.]

NAUTICAL ALMANAC.

17

HARDWARE.

Colliery Supplies,
Fishing Supplies,
Gold Mining Supplies,
OILS, &c.

W. B. REYNOLDS & CO.,

238, 240, 242 Lower Water Street,
HALIFAX.

A LARGE STOCK OF

Hats,

Furs,

AND

Caps,

Trunks.

WHOLESALE

AND RETAIL.



— AT —

T. E. EVERETT & CO'S,

164 GRANVILLE STREET, HALIFAX.

MACDONALD & CO., Steam Fitters.—See adv. p. 3 cover.

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MACDONALD & CO., MANUFACTURERS OF BRASS SLIDING DOORS

MACDONALD & CO., Manufacturers and Fitters of Steam Heating Apparatus.—See adv. p 3 cover.

PICKFORD & BLACK, IMPORTERS, NETS, TWINES, LINES, 51 UPPER WATER STREET.

MAY.

Chronometer of G. M. T.

PICKFORD & BLACK, 51 UPPER WATER STREET, HALIFAX, N. S.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of time to be sub. from Apparent Time.	Var. in 1 h'r.	
		Apparent Right Ascension.	Var. in 1 hour	Apparent Declination.	Var. in 1 h'r.			
S	1	2 33 23.21	9.539	N. 15 3	49.9	45.40	2 59.82	0.316
M	2	2 37 12.41	9.561	15 21	52.0	44.77	3 7.15	0.294
T	3	2 41 2.13	9.583	15 39	38.8	44.12	3 13.96	0.273
W	4	2 44 52.39	9.605	15 57	9.9	43.47	3 20.24	0.250
T	5	2 48 43.19	9.628	16 14	25.2	42.80	3 25.98	0.228
F	6	2 52 34.53	9.651	16 31	24.2	42.11	3 31.18	0.206
S	7	2 56 26.44	9.675	16 48	6.7	41.42	3 35.81	0.181
S	8	3 0 18.93	9.699	17 4	32.5	40.72	3 39.87	0.157
M	9	3 4 12.00	9.723	17 20	41.3	40.01	3 43.34	0.133
T	10	3 8 5.65	9.748	17 36	32.8	39.28	3 46.23	0.108
W	11	3 11 59.90	9.773	17 52	6.6	38.54	3 48.54	0.084
T	12	3 15 54.73	9.797	18 7	22.6	37.79	3 50.26	0.059
F	13	3 19 50.16	9.822	18 22	20.5	37.03	3 51.38	0.034
S	14	3 23 46.18	9.846	18 36	59.9	36.25	3 51.91	0.010
S	15	3 27 42.79	9.871	18 51	20.6	35.46	3 51.86	0.014
M	16	3 31 39.98	9.895	19 5	22.2	34.67	3 51.23	0.039
T	17	3 35 37.76	9.920	19 19	4.6	33.86	3 50.01	0.063
W	18	3 39 36.12	9.944	19 32	27.4	33.04	3 48.21	0.087
T	19	3 43 35.05	9.967	19 45	30.3	32.20	3 45.84	0.110
F	20	3 47 34.54	9.991	19 58	13.2	31.36	3 42.91	0.134
S	21	3 51 34.60	10.014	20 10	35.7	30.51	3 39.42	0.157
S	22	3 55 35.20	10.036	20 22	37.6	29.64	3 35.39	0.179
M	23	3 59 36.34	10.058	20 34	18.6	28.77	3 30.82	0.201
T	24	4 3 37.99	10.079	20 45	38.4	27.88	3 25.74	0.222
W	25	4 7 40.15	10.100	20 56	36.9	26.99	3 20.15	0.243
T	26	4 11 42.80	10.120	21 7	13.9	26.09	3 14.07	0.263
F	27	4 15 45.93	10.140	21 17	29.0	25.17	3 7.52	0.282
S	28	4 19 49.51	10.158	21 27	21.9	24.24	3 0.51	0.301
S	29	4 23 53.53	10.176	21 36	52.6	23.31	2 53.07	0.319
M	30	4 27 57.98	10.194	21 46	0.8	22.37	2 45.20	0.336
T	31	4 32 2.84	10.211	21 54	46.3	21.42	2 36.92	0.353
W	32	4 36 8.09	10.227	N. 22 3	8.8	20.46	2 28.24	0.370

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SIMSON'S LINIMENT
Cures Stiff Joints.

MACDONALD & CO., Manufacturers of Manrope Stanchions, - p 3 cover.

MACDONALD & CO., MANUFACTURERS OF COMPOSITION BUTT BOLTS AND SPIKES. - See p. 3 cover.

MACDONALD & CO., MANUFACTURERS OF BRASS BINNACLE GUARDS. - See adv. p. 3 cover.

PICKFORD & BLACK, Woodberry Cotton Duck, No. 1 to 2.

1887]

NAUTICAL ALMANAC.

19

HALIFAX SHIP CHANDLERY.

PICKFORD & BLACK,
Ship Chandlers and Ship Brokers,
HALIFAX, NOVA SCOTIA.

Importers of Chains, Anchors, Wire Rope, Paints, Oils, Tar, Pitch,
Rosin, Clinch Rings, Common and Refined Iron, Oakum, Nets,
Lines, Twines, Cod and Trawl Hooks.

—AGENTS FOR—

WOODBERRY COTTON MILLS,

Tarr & Wonson's Copper Paint,

—ALSO—

INMAN LINE OF STEAMERS.

"FURNESS" Line of Steamers,

—BETWEEN—

HALIFAX AND LONDON DIRECT.

The only Direct Line. Fortnightly Sailings.

SEE HALIFAX PAPERS FOR PARTICULARS.

Superior Ventilation on these Steamers for Fruit and Live Stock.

SPECIAL ATTENTION given to the CAREFUL HANDLING of FRUIT.

PICKFORD & BLACK - - AGENTS,

HALIFAX, N. S.

MACDONALD & CO., Manufacturers of Brass Bolts and Catches.

PICKFORD & BLACK, Importers of Wire Rope, Canvas, & Upper Water St.

87
of
HS.
MACDONALD & CO., MANUFACTURERS OF COMPOSITION BUTT BOLTS AND SCREWS

MACDONALD & CO., MANUFACTURERS OF BRASS BINNACLE GUARDS.—See adv. p. 8 reverse.

SHIP STORES.

The Subscriber respectfully calls the attention of Ship Captains and Owners of Vessels coming into the port of Halifax, to his large and varied assortment of

Groceries & Provisions,

SUITABLE FOR FIRST-CLASS SHIP STORES,

Consisting in part of the following Goods, viz:—

Beef, Pork, Ham, Fish, Flour, Meal, Beans, Peas, Barley,

Rice, Sugar, Tea, Coffee, Molasses, Vinegar, Lard, Butter,

Cheese, Eggs, Potatoes, Turnips, Navy Bread, Fancy Biscuits,

COLZA, SEAL, OLIVE AND KEROSENE OILS.

The above are put up at the Lowest Prices and Shortest Notice, and delivered free of cartage on the wharf at which the vessel is lying.

P. DOYLE, LOWER WATER STREET,
Halifax, Nova Scotia.

JOHN S. JONES,

Importer & Dealer in

PIANOS, ORGANS,

Violins, Accordeons,

Band Instruments, Strings, Sheet Music, Music Books, &c., Organs and Pianos sold on easy terms. Send for prices. SPECIAL.—A fine "Parlor Organ," containing too full sets of Reeds, only \$60 Cash. ADDRESS—

**57 GRANVILLE ST., COR. SACKVILLE,
HALIFAX, N. S.**

PRINCE ALBERT

Planing and Moulding Mills and Sash Factory,

SOUTH HOLLIS STREET—HALIFAX, N. S.

(NEAR GAS WORKS,)

JAMES DEMPSTER & CO.,

Manufacturers of Doors, Sashes, Frames, Inside and Outside Venetian Shutters, Stair Rails, Twists and Ramps. Easings, Baluster and Newel Posts, in every variety. Also, Kiln-dried Mouldings and Archatraves.

Iron Pipes, all sizes, at MACDONALD & CO.'S.—See p. 3 cover.

MACDONALD & CO., Manufacturers of Plumbers Brass Goods.—See adv. p. 3 cover.

VESSELS FITTED WITH PLUMBING FIXTURES BY MACDONALD & CO.—See adv. page 3 cover.

887

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PICKFORD & BLACK, Importers of Refined Iron Clinch Rings.

JULY.											Chronometer of G. M. T.				
Day of the Week.	Day of the Month.	THE SUN'S				Equation of time to be added to Apparent Time.	Var. in 1 h'r.	1	2	3	4	H.	M.	SEC.	THS.
		Apparent Right Ascension.	Var. in 1 hour	Apparent Declination.	Var. in 1 h'r.							1	2	3	4
F	1	6 40 24.47	10.340	N. 23 7 36.6	9.98	3 30.45	0.482								
S	2	6 44 32.49	10.328	23 3 24.9	10.99	3 41.88	0.470								
S	3	6 48 40.23	10.316	22 58 49.1	11.99	3 53.03	0.458								
M	4	6 52 47.66	10.303	22 53 49.2	12.99	4 3.88	0.445								
T	5	6 56 54.78	10.290	22 48 25.4	13.99	4 14.41	0.432								
W	6	7 1 1.56	10.275	22 42 37.9	14.97	4 24.60	0.418								
T	7	7 5 7.99	10.260	22 36 26.7	15.96	4 34.45	0.403								
F	8	7 9 14.06	10.245	22 29 52.0	16.93	4 43.93	0.387								
S	9	7 13 19.74	10.229	22 22 54.0	17.90	4 53.03	0.371								
S	10	7 17 25.03	10.212	22 15 32.7	18.86	5 1.74	0.354								
M	11	7 21 29.91	10.194	22 7 48.5	19.82	5 10.04	0.337								
T	12	7 25 34.36	10.176	21 59 41.4	20.77	5 17.92	0.319								
W	13	7 29 38.38	10.158	21 51 11.6	21.71	5 25.36	0.301								
T	14	7 33 41.95	10.139	21 42 19.3	22.64	5 32.35	0.282								
F	15	7 37 45.05	10.119	21 33 4.7	23.56	5 38.88	0.262								
S	16	7 41 47.67	10.099	21 23 28.2	24.48	5 44.93	0.242								
S	17	7 45 49.80	10.078	21 13 29.8	25.39	5 50.48	0.221								
M	18	7 49 51.42	10.056	21 3 9.7	26.28	5 55.53	0.200								
T	19	7 53 52.51	10.034	20 52 28.3	27.17	6 0.06	0.178								
W	20	7 57 53.07	20.012	20 41 25.7	28.04	6 4.05	0.155								
T	21	8 1 53.07	9.988	30 30 2.2	28.91	6 7.48	0.131								
F	22	8 5 52.59	9.964	20 18 18.2	29.76	6 10.35	0.107								
S	23	8 9 51.35	9.940	20 6 13.7	30.61	6 12.64	0.083								
S	24	8 13 49.60	9.915	19 53 49.0	31.44	6 14.33	0.058								
M	25	8 17 47.25	9.889	19 41 4.5	32.26	6 15.42	0.033								
T	26	8 21 44.29	9.864	19 28 0.4	33.07	6 15.90	0.007								
W	27	8 25 40.72	9.838	19 14 36.9	33.88	6 15.77	0.018								
T	28	8 29 35.52	9.812	19 0 54.3	34.67	6 15.02	0.044								
F	29	8 33 31.71	9.787	18 46 53.0	35.44	6 13.66	0.070								
S	30	8 37 26.28	9.761	18 32 33.2	36.21	6 11.67	0.096								
S	31	8 41 20.22	9.735	18 17 55.1	36.96	6 9.07	0.121								
M	32	8 45 13.54	9.709	N. 18 2 59.1	37.70	6 5.85	0.147								

SIMSON'S LINIMENT
CURES COLIC.

MACDONALD & CO., Manufacturers of Patent Roller Bushings.—See adv. page 3 cover.

MACDONALD & CO., Manufacturers of Hand and Power Pumps.

Residences and Public Buildings Fitted with Plumbing Fixtures by MACDONALD & CO.—See adv. p. 3 cover.

BLACK BROS. & CO.,

— IMPORTERS OF —

American and Canadian Ducks,

English Sail and Repairing Hemp,

Manilla and Hemp Cordage,

Wire Ropes, Anchors, Chains,

Paints, Oils, Naval Stores,

Patent Logs, Compasses, Lights.

CALL AND GET OUR PRICES.

HALIFAX N. S.,

JOHN ALLEN & SONS,

Commission Merchants,

DEALERS IN

FISH,



Fish Oils,

Fishing Supplies and Hake Sounds.

WHOLESALE AND RETAIL.

81 LOWER WATER ST.,

HALIFAX, N. S.

MACDONALD & CO., Brass Founders.—See adv. p. 3 cover.

AUGUST.

Chronometer of G. M. T.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of time to be added to sub. from Apparent Time.	Var. in 1 h'r.	Chronometer of G. M. T.					
		Apparent Right Ascension.	Var. in 1 hour	Apparent Declination.	Var. in 1 h'r.			H.	M.	SEC.	THS.		
M	1	8 45 13.54	9.709	N. 18 2 59.1	37.70	6 5.85	0.147						
T	2	8 49 6.25	9.684	17 47 45.5	38.43	6 2.01	0.173						
W	3	8 52 58.35	9.658	17 32 14.5	39.15	5 57.56	0.198						
T	4	8 56 49.84	9.633	17 16 26.4	39.85	5 52.51	0.223						
F	5	9 0 40.72	9.608	17 0 21.5	40.55	4 46.86	0.248						
S	6	9 4 31.01	9.583	16 44 0.1	41.23	5 40.61	0.272						
S	7	9 8 20.70	9.559	16 27 22.2	41.90	5 33.78	0.296						
M	8	9 12 9.85	9.535	16 10 28.8	42.56	5 26.38	0.320						
T	9	9 15 58.40	9.511	15 53 19.5	43.21	5 18.40	0.344						
W	10	9 19 46.40	9.488	15 35 54.9	43.84	5 9.86	0.367						
T	11	9 23 33.84	9.465	15 18 15.2	44.46	5 0.77	0.390						
F	12	9 27 20.73	9.443	15 0 20.7	45.07	4 51.14	0.413						
S	13	9 31 7.09	9.420	14 42 11.8	45.66	4 40.97	0.435						
S	14	9 34 52.91	9.399	14 23 48.8	46.25	4 30.27	0.457						
M	15	9 38 38.22	9.377	14 5 11.9	46.82	4 19.05	0.478						
T	16	9 42 23.00	9.355	13 46 21.5	47.37	4 7.32	0.500						
W	17	9 46 7.28	9.334	13 27 18.0	47.91	3 55.07	0.521						
T	18	9 49 51.05	9.313	13 8 1.6	48.44	3 42.32	0.542						
F	19	9 53 34.31	9.293	12 48 32.7	48.96	3 29.07	0.562						
S	20	9 57 17.09	9.272	12 28 51.6	49.46	3 15.33	0.582						
S	21	10 0 59.38	9.252	12 8 58.7	49.95	3 1.11	0.602						
M	22	10 4 41.19	9.233	11 48 54.2	50.42	2 46.41	0.622						
T	23	10 8 22.54	9.214	11 28 38.5	50.88	2 31.24	0.641						
W	24	10 12 3.44	9.195	11 8 11.9	51.33	2 15.63	0.660						
T	25	10 15 43.89	9.177	10 47 34.8	51.76	1 59.57	0.678						
F	26	10 19 23.92	9.159	10 26 47.5	52.18	1 43.09	0.695						
S	27	10 23 3.53	9.142	10 5 50.3	52.58	1 26.20	0.712						
S	28	10 26 42.75	9.126	9 44 43.6	52.97	1 8.91	0.728						
M	29	10 30 21.59	9.111	9 23 27.7	53.35	0 51.24	0.744						
T	30	10 34 0.06	9.096	9 2 2.8	53.71	0 33.21	0.758						
W	31	10 37 38.19	9.082	8 40 29.4	54.07	0 14.84	0.772						
T	32	10 41 16.00	9.069	N. 8 18 47.6	54.41	0 3.85	0.785						

SIMSON'S LINIMENT

Prevents the Hair from coming out.

MACDONALD & CO., Manufacturers of Deep Sea and Hand Leads.

PICKFORD & BLACK, AGENT FOR TARR & WONSON'S COPPER PAINT.

MACDONALD & CO., Manufacturers of Ships Patent Water Closets.—See adv. p. 3. cover.

RESIDENCES and PUBLIC BUILDINGS FITTED with STEAM HEATING APPARATUS by MACDONALD & CO

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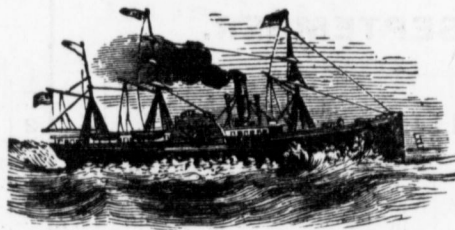
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PICKFORD & BLACK, Importers Chain Cables & Anchors, 51 Up. Water.

1887]

NAUTICAL ALMANAC.

25



JAS. F. PHELAN  SON,

Commission Merchants,

AGENTS FOR THE

BOSTON, HALIFAX

AND

Prince Edward Island

STEAMERS.

Esson's Wharf,

Lower Water Street,

HALIFAX, N. S.

RESIDENCES and PUBLIC BUILDINGS FITTED with STEAM HEATING APPARATUS by MACDONALD & CO

MACDONALD & CO,

Manufacturers of Ship's Patent Water Closets.—See adv. p. 3 cover

PICKFORD & BLACK, IRON SPIKES, CUT NAILS, 51 UPPER WATER STREET.

MACDONALD & CO., Makers of Tumbler Racks, &c.—See p. 3 cover.

SEPTEMBER.

THE SUN'S

Chronometer of G. M. T.

PICKFORD & BLACK, Importers White Lead, Paints, Oils, 51 Upper Water Street.

MACDONALD & CO., MANUFACTURERS OF BRASS SLIDING DOOR ROLLERS. — See adv. p. 3 cover.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of time to be sub. from Apparent Time.	Var. in 1 h'r.	Chronometer of G. M. T.					
		Apparent Right Ascension.	Var. in 1 hour	Apparent Declination.	Var. in 1 h'r.			H.	MIN.	SEC.	THIS.		
T	1	10 41 16.00	9.069	N. 8 18 47.6	54.41	m. s.	s.	1					
F	2	10 44 53.51	9.057	7 56 57.9	54.73	0	3.85	0.785	2				
S	3	10 48 30.73	9.045	7 35 0.5	55.05	0	22.85	0.797	3				
S	4	10 52 7.69	9.035	6 50 43.8	55.35	1	1.66	0.819	4				
M	5	10 55 44.41	9.025	6 28 25.1	55.91	1	21.44	0.829	5				
T	6	10 59 20.91	9.017	6 6 0.0	56.17	2	1.62	0.845	6				
W	7	11 2 57.22	9.009	5 43 28.7	56.43	2	21.98	0.852	7				
T	8	11 6 33.36	9.002	5 20 51.6	56.66	2	42.50	0.858	8				
F	9	11 10 9.34	8.996	4 58 9.0	56.88	3	3.16	0.863	9				
S	10	11 13 45.18	8.991	4 35 21.2	57.09	3	23.93	0.867	10				
M	11	11 17 20.90	8.986	4 12 28.5	57.29	3	44.80	0.871	11				
T	12	11 20 56.53	8.983	3 49 31.4	57.47	4	5.74	0.874	12				
W	13	11 24 32.08	8.980	3 26 30.0	57.64	4	26.75	0.876	13				
T	14	11 28 7.56	8.978	3 3 24.8	57.79	4	47.81	0.878	14				
F	15	11 31 43.00	8.976	2 40 16.1	57.93	5	8.90	0.879	15				
S	16	11 35 18.40	8.975	2 17 4.2	58.05	5	30.00	0.879	16				
S	17	11 38 53.80	8.975	1 53 49.6	58.16	5	51.10	0.879	17				
M	18	11 42 29.19	8.975	1 30 32.5	58.26	6	12.18	0.878	18				
T	19	11 46 4.60	8.976	1 7 13.2	58.34	6	33.23	0.876	19				
W	20	11 49 40.05	8.978	0 43 52.3	58.40	6	54.23	0.874	20				
T	21	11 53 15.55	8.980	N. 0 20 36.0	58.45	7	15.16	0.870	21				
F	22	11 56 51.11	8.984	S. 0 2 53.4	58.49	7	36.00	0.866	22				
S	23	12 0 26.77	8.988	0 26 17.4	58.51	7	56.73	0.861	23				
S	24	12 4 2.53	8.993	0 49 41.7	58.51	8	17.34	0.856	24				
M	25	12 7 38.42	8.998	1 13 5.9	58.50	8	37.80	0.849	25				
T	26	12 11 14.45	9.005	1 36 29.8	58.48	8	58.10	0.842	26				
W	27	12 14 50.65	9.012	1 59 52.9	58.44	9	18.20	0.833	27				
T	28	12 18 27.04	9.021	2 23 15.0	58.39	9	38.09	0.824	28				
F	29	12 22 3.65	9.030	2 46 35.7	58.33	9	57.74	0.813	29				
S	30	12 25 40.50	9.041	S. 3 9 54.7	58.25	10	17.13	0.802	30				
S	31	12 29 17.61	9.052	10 17.13	0.802				31				

Simson's Liniment
IS THE SAILORS' FRIEND.

MACDONALD & CO., Manufacturers of Copper and Lead Tanks.

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VESSELS FITTED WITH PLUMBING FIXTURES BY MACDONALD & CO.
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Brass

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of

PHS.

PICKFORD & BLACK, American Tar, Pitch, Rosin, 51 Up. Water St.

1887]

NAUTICAL ALMANAC.

27

BOSTON

MARINE INSURANCE CO'Y.

Capital paid in - - - - \$1,000,000.00

Net Surplus above all Liabilities 1,693,246 00

INSURE HULLS, FREIGHTS AND CARGOES.

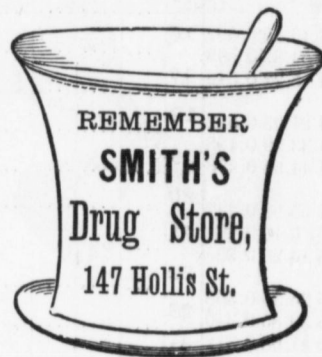
Prompt and Liberal Settlements in all cases.

Agent--J. TAYLOR WOOD,

58 BEDFORD ROW,

HALIFAX, N. S.

MEDICINE CHESTS



Furnished and Fitted at the LONDON DRUG STORE, 147 Hollis Street, J. GODFREY SMITH, Dispensing Chemist, Proprietor.

Captains and Masters of vessels will please note that the only Diploma for Excellence in Fitting out Medicine Chests, was awarded at the Dominion Exhibition of 1881 to

J. GODFREY SMITH,

AGENT FOR

B. LAURANCE, THE ENGLISH OPTICIAN,

whose Glasses and Spectacles will enable Captains and the man at the wheel to descry more clearly objects at sea.

MACDONALD & CO., Importers of Steam Pumps, etc.—See adv. p. 3 cover

MACDONALD & CO., MANUFACTURERS OF BRASS SLIDING DOOR ROLLERS
VESSELS FITTED WITH PLUMBING FIXTURES BY MACDONALD & CO.

Brass Hinges, Hasps and Locks, at MACDONALD & CO.'S.—See cover.

OCTOBER.

Chronometer of G. M. T.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of time to be sub. from Apparent Time.	Var. in 1 h'r.	Chronometer of G. M. T.					
		Apparent Right Ascension.	Var. in 1 hour	Apparent Declination.	Var. in 1 h'r.			H.	MIN.	SEC.	THS.		
S	1	12 29 17.61	9.052	S. 3 9 54.7	58.25	10 17.13	0.802	1					
T	2	12 32 55.01	9.065	3 33 11.6	58.15	10 36.23	0.789	2					
M	3	12 36 32.72	9.078	3 56 26.1	58.05	10 55.02	0.776	3					
T	4	12 40 10.76	9.093	4 19 37.9	57.93	11 13.48	0.762	4					
W	5	12 43 49.17	9.108	4 42 46.6	57.79	11 31.58	0.746	5					
T	6	12 47 27.95	9.124	5 5 51.9	57.64	11 49.30	0.730	6					
F	7	12 51 7.14	9.142	5 28 53.5	57.48	12 6.61	0.713	7					
S	8	12 54 46.76	9.160	5 51 50.9	57.30	12 23.50	0.695	8					
S	9	12 58 26.82	9.179	6 14 43.9	57.11	12 39.95	0.676	9					
M	10	13 2 7.35	9.199	6 37 32.0	56.90	12 55.93	0.656	10					
T	11	13 5 48.36	9.219	7 0 14.9	56.67	13 11.42	0.635	11					
W	12	13 9 29.88	9.241	7 22 53.3	56.43	13 26.42	0.614	12					
T	13	13 13 11.92	9.263	7 45 23.7	56.18	13 40.89	0.592	13					
F	14	13 16 54.50	9.285	8 7 48.7	55.90	13 54.83	0.569	14					
S	15	13 20 37.62	9.309	8 30 7.0	55.61	14 8.22	0.546	15					
S	16	13 24 21.31	9.333	8 52 18.1	55.31	14 21.05	0.522	16					
M	17	13 28 5.59	9.357	9 14 21.8	54.99	14 33.29	0.498	17					
T	18	13 31 50.46	9.382	9 36 17.5	54.65	14 44.94	0.473	18					
W	19	13 35 35.95	9.408	9 58 4.9	54.29	14 55.98	0.447	19					
T	20	13 39 22.05	9.434	10 19 43.5	53.92	15 6.40	0.421	20					
F	21	13 43 8.78	9.460	10 41 12.9	53.53	15 16.20	0.395	21					
S	22	13 46 56.15	9.487	11 2 32.7	53.12	15 25.35	0.368	22					
S	23	13 50 44.18	9.515	11 23 42.6	52.69	15 33.85	0.340	23					
M	24	13 54 32.88	9.544	11 44 42.0	52.25	15 41.68	0.312	24					
T	25	13 58 22.27	9.573	12 5 30.5	51.79	15 48.83	0.283	25					
W	26	14 2 12.36	9.602	12 26 7.9	51.31	15 55.28	0.254	26					
T	27	14 6 3.16	9.632	12 46 33.6	50.82	16 1.01	0.224	27					
F	28	14 9 54.70	9.663	13 6 47.4	50.32	16 6.01	0.193	28					
S	29	14 13 46.99	9.694	13 26 48.8	49.79	16 10.27	0.161	29					
S	30	14 17 40.03	9.726	13 46 37.3	49.25	16 13.76	0.129	30					
M	31	14 21 33.86	9.759	14 6 12.8	48.70	16 16.48	0.097	31					
T	32	14 25 28.48	9.793	S. 14 25 34.7	48.12	16 18.41	0.064	32					
								33					

PICKFORD & BLACK, SHIP CHANDLERS, 51 UPPER WATER ST., HALIFAX.

Residences and Public Buildings Fitted with Hot Water Heating Apparatus by MACDONALD & CO.—See p. 3 over

PICKFORD & BLACK, AMERICAN TAR, FITCH, ROSIN, 51 UPPER WATER ST.

SIMSON'S LINIMENT
Is used both Externally and Internally.

MACDONALD & CO., Manufacturer of Lead Water Marks.

JOHN STRACHAN,

Adjuster of

MARINE LOSSES,

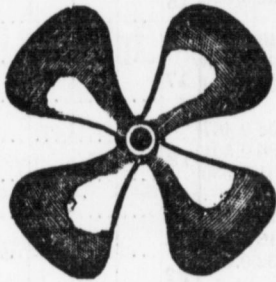
—AND—

Insurance Broker.

☞ Average Bonds prepared at shortest notice.

NO. 54 BEDFORD ROW,

HALIFAX.



W. W. HOWELL & CO.,

MACHINISTS,

Manufacturers of

Marine, Stationary & Hoisting

ENGINES.

PROPELLER WHEELS, Etc.

☞ Steamship Repairing promptly attended to.

121 TO 125 LOWER WATER STREET,

HALIFAX, N. S.

PICKFORD & BLACK, IMPORTERS OF DUCKS AND DRILLINGS, 51 UPPER WATER STREET.

PICKFORD & BLACK, AMERICAN TAR, PITCH, ROSIN, 51 UPPER WATER ST.

Residences and Public Buildings Fitted with Hot Water Heating Apparatus by MACDONALD & CO.

NOVEMBER.

Chronometer of G. M. T.

Day of the Week.		Day of the Month.		THE SUN'S				Equation of time to be sub. from Apparent Time.		Var. in 1 hr.	
		Apparent Right Ascension.	Var. in 1 hour	Apparent Declination.		Var. in 1 hr.					
		h. m. s.	s.	° ' "	" "	m. s.	s.				
T	1	14 25 28.48	9.793	S. 14 25 34.7	48.12	16 18.41	0.064				
W	2	14 29 23.91	9.826	14 44 42.6	47 53	16 19.54	0.030				
T	3	14 33 20.15	9.860	15 3 36.2	46.93	16 19.85	0.004				
F	4	14 37 17.22	9.895	15 22 15.1	46.31	16 19.34	0.039				
S	5	14 41 15.12	9.930	15 40 38.9	45.67	16 17.99	0.074				
S	6	14 45 13.87	9.966	15 58 47.2	45.01	16 15.80	0.109				
M	7	14 49 13.48	10.002	16 16 39.6	44.34	16 12.75	0.145				
T	8	14 53 13.95	10.038	16 34 15.6	43.65	16 8.85	0.180				
W	9	14 57 15.28	10.073	16 51 35.0	42.95	16 4.09	0.216				
T	10	15 1 17.47	10.110	17 8 37.2	42.23	15 58.47	0.252				
F	11	15 5 20.54	10.146	17 25 21.9	41.49	15 51.98	0.289				
S	12	15 9 24.74	10.182	17 41 48.7	40.73	15 44.62	0.325				
S	13	15 13 29.27	10.218	17 57 57.1	39.96	15 36.40	0.361				
M	14	15 17 34.94	10.254	18 13 46.8	39.17	15 27.31	0.396				
T	15	15 21 41.46	10.289	18 29 17.4	38.37	15 17.37	0.432				
W	16	15 25 48.83	10.325	18 44 28.4	37.54	15 6.58	0.467				
T	17	15 29 57.04	10.359	18 59 19.5	36.70	14 54.96	0.501				
F	18	15 34 6.08	10.394	19 13 50.2	35.84	14 42.51	0.536				
S	19	15 38 15.93	10.427	19 28 0.1	34.97	14 29.25	0.569				
S	20	15 42 26.59	10.461	19 41 48.9	34.08	14 15.18	0.603				
M	21	15 46 38.05	10.494	19 55 16.1	33.18	14 0.32	0.635				
T	22	15 50 50.28	10.526	20 8 21.4	32.26	13 44.69	0.668				
W	23	15 55 3.29	10.558	20 21 4.4	31.32	13 28.28	0.700				
T	24	15 59 17.06	10.590	20 33 24.8	30.37	13 11.11	0.731				
F	25	16 3 31.59	10.620	20 45 22.2	29.41	12 53.19	0.762				
S	26	16 7 46.85	10.651	20 56 56.3	28.43	12 34.53	0.793				
S	27	16 12 2.84	10.681	21 8 6.8	27.44	12 15.15	0.822				
M	28	16 16 19.55	10.711	21 18 53.4	26.43	11 55.06	0.852				
T	29	16 20 36.96	10.740	21 29 15.7	25.42	11 34.26	0.881				
W	30	16 24 55.05	10.768	21 39 13.5	24.39	11 12.78	0.909				
T	31	16 29 13.81	10.795	S. 21 48 46.6	23.35	10 50.64	0.936				

Chronometer of G. M. T.			
H.	MIN.	SEC.	THS.
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PICKFORD & BLACK, IMPORTERS OF WELSH BOLT IRON SPIKES.

MACDONALD & CO., Manufacturers of Brass Binnacles and Standa.—See adv. p. 3 cover.

MACDONALD & CO., MANUFACTURERS OF COMPOSITION CLINCH RINGS.—See adv. p. 3 cover.

SIMSON'S LINIMENT
Cures Neuralgia.

MACDONALD & CO., Importers of Engineers' Rubber Goods.—See cover.

COAL.

GENERAL MINING ASSOCIATION (Limited.)

The Coal from the Mines of this Association, situated at North Sydney, Cape Breton, has become generally known under the name of *Sydney Coal*.

The words *Sydney Coal* are registered as a trade mark, and the appropriation of the word "Sydney" in describing other Cape Breton Coals is unwarranted and looks like an attempt to trade on the reputation of above Coal. *Sydney* and *Victoria Coals* are the only Coals mined on Sydney Harbour.

Sydney Coal has long stood alone in its reputation for House use. It is also an excellent Steam Coal.

CUNARD & MORROW.

HALIFAX, N. S., General Agents.

Low Point, Barrasois & Lingan Mining Co. (L'td.)

The Coals of this Company are mined at Victoria Mines on Sydney Harbour, and at Lingan, C. B., and are known respectively as *Victoria* and *Lingan Coals*.

These Coals are very good for Steam purposes and are favorite House Coals.

Lingan is a superior Gas Coal.

S. CUNARD & CO.,

HALIFAX, N. S., General Agents.

ANTHRACITE COALS,

For sale by the cargo and in smaller quantities, by

S. CUNARD & CO. - Halifax, N. S.

MACDONALD & CO., Manufacturers of Copper and Lead Tanks.

PICKFORD & BLACK, 51 UPPER WATER STREET, HALIFAX, N. S.

MACDONALD & CO., MANUFACTURERS OF COMPOSITION CLINCH RINGS.—See adv. p. 3 cover.

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MACDONALD & CO., Manufacturers of Brass Binnacles and Stands.—See adv.

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PICKFORD & BLACK, Importers Chain Cables & Anchor, 51 Up. Water.

1887]

NAUTICAL ALMANAC.

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J. E. WILSON,

DEALER IN

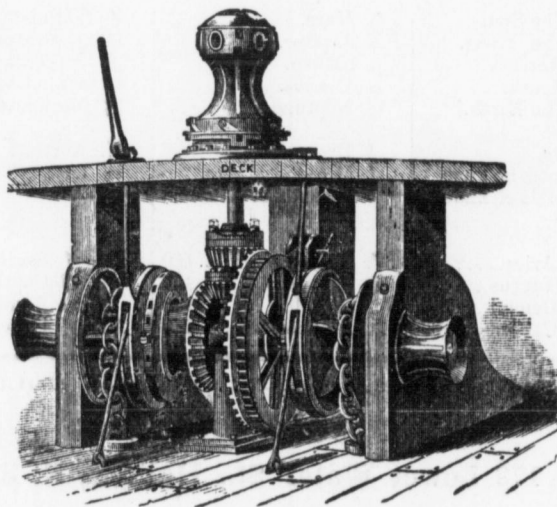
Stoves, Ships' Castings, Register Grates,

SLATE MANTELS,

208 HOLLIS STREET, - HALIFAX, N. S.

Agent for the Windsor Foundry, Windsor.

THE "PROVIDENCE"



CAPSTAN WINDLASS,

All sizes and styles, both for hand and steam power.

Largest Variety of SHIPS' CASTINGS and VESSELS' STOVES to be found in the Province.

BROKEN WINDLASSES AND OTHER GEAR REPAIRED.

Stoves Fitted up by Experienced Tinsmiths at Short Notice.

SHEET IRON, TIN AND COPPER WARE MADE TO ORDER.

MACDONALD & CO., Manufacturers of COMPOSITION RUBBER BRACES
RESIDENCES and PUBLIC BUILDINGS FITTED with STEAM HEATING APPARATUS by MACDONALD & CO.

PICKFORD & BLACK, IRON SPIKES, CUT NAILS, 51 UPPER WATER STREET.

MACDONALD & CO., Makers of Tumbler Racks, &c.—See p. 3 cover.

PICKFORD & BLACK, Iron Spikes, Cut Nails, 51 Up. Water St.

34

ROBERT H. COGSWELL'S

[1887

INTERCOLONIAL RAILWAY TICKET OFFICE,

127 HOLLIS STREET, HALIFAX, N. S.

(Next door to Harrington's Corner.)

TICKETS to all points in CANADA & UNITED STATES

Via Intercolonial, Canadian Pacific and Grand Trunk Railways.

I. C. R. LOCAL AND SLEEPING CAR TICKETS

For Sale at Lowest Rates.

C. J. CARTEN. - Agent.

EXPLANATION OF ASTRONOMICAL SYMBOLS AND ABBREVIATIONS.

☉ The Sun.
☾ The Moon.
☿ Mercury.
♀ Venus.
♁ or ♀ The Earth.‡

♂ Mars.
♃ Jupiter.
♄ Saturn.
♅ Uranus.
♆ Neptune.

♋ Conjunction.
☐ Quadrature.
♁ Opposition.
♋ Ascending Node.
♏ Descending Node.

^h Hours.
^m Minutes of Time.
^s Seconds of Time.

° Degrees.
′ Minutes of Arc.
″ Seconds of Arc.

N. North. S. South.
E. East. W. West.

♈ Aries..... 0	♉ Taurus..... 30	♊ Gemini..... 60	♋ Cancer..... 90	♌ Leo..... 120	♍ Virgo..... 150	♎ Libra..... 180	♏ Scorpio..... 210	VIII. ♐ Sagittarius 240	IX. ♑ Capricornus 270	X. ♒ Aquarius 300	XI. ♓ Pisces..... 330
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ESTABLISHED 1833.

WM. HOLLOWAY.

SIGN OF THE GOLDEN BLOCK,
173 Lower Water St., Halifax, N. S.

(HEAD OF NOBLE'S WHARF.)

THOS. HOLLOWAY & SON,
BLOCK AND PUMP MAKERS,

Dealers in Lignumvitæ and Block-makers Supplies. Manufacturers of Blocks and Dead-Eyes, Deck Plugs, Ships' Wheels, Belaying Pins, and all kinds of Sheaves. Pumps made and Repaired. Mast Hoops always on hand; also Dorey Rollers.

MACDONALD & CO., Steam Fitters.—See adv. p. 3 cover.

PICKFORD & BLACK, IMPORTERS, NETS, TWINES, LINES, 51 UPPER WATER STREET.

MACDONALD & CO., Manufacturers and Fitters of Steam Heating Apparatus.—See adv. p. 3 cover.
MACDONALD & CO., Manufacturers of COMPOSITION RUBBER BRACES.—See adv. p. 3 cover.

PHENOMENA, 1887.

	h.		o	'		h.		o	'
Jan. 2	8	☉	in	Perigee.		Apr. 1	10	♃	♁
2	14	☽	□	☽		3	1	♃	Stationary.
6	11	☽	in	☽		4	10	♃	in ☽
8	17	☉	in	Aphelion.		5	13	♃	☽
9	2	♃	♁	☽		8	15	♃	♁
									♁ 3 20 S.
9	11	♃	♁	♁	♁ 3 7 N.	14	15	♃	in Aphelion.
16	9	♃	in	Perihelion.		15	5	♃	♁
16	15	♃	Stationary.			17	4	♃	in ☽
16	15	♃	♁	♁	♁ 3 40 S.	18	9	♃	at greatest elong. 27 20 W.
16	16	♃	in	Aphelion.		20	9	♃	♁
									♁ 0 31 N.
22	20	♃	♁	♁	♁ 4 38 S.	20	23	♃	♁
24	16	♃	☽	☽		22	18	♃	♁
24	20	♃	♁	♁	♁ 2 27 S.	24	11	♃	♁
25	21	♃	♁	♁	♁ 1 18 S.	25	18	♃	♁
31	12	♃	at	greatest Hel. Lat. S.		28	19	♃	♁
									♁ 3 6 N.
Feb. 4	7	♃	Stationary.			May 1	3	in	♀ in Perihelion.
5	18	♃	♁	♁	♁ 3 21 N.	5	0	♃	at greatest Hel. Lat. S.
6	1	♃	at	greatest Hel. Lat. S.		5	20	♃	♁
6	6	♃	Sup.	♁		18	8	♃	♁
7	—	♃	eclipsed,	invis. at Green'h.		19	43	♃	in ☽
9	12	♃	♁	♁	♁ 0 34 S.	21	16	♃	♁
13	0	♃	♁	♁	♁ 3 43 S.	21	19	♃	♁
13	13	♃	☽	☽		21	20	♃	♁
19	14	♃	Stationary.			23	6	♃	at greatest Hel. Lat. N.
22	—	♃	eclipsed,	invis. at Green'h.		23	12	♃	♁
23	4	♃	♁	♁	♁ 0 32 N.	24	0	♃	in ☽
23	15	♃	♁	♁	♁ 1 4 N.	24	20	♃	♁
23	15	♃	♁	♁	♁ 1 44 N.	26	5	♃	♁
24	5	♃	♁	♁	♁ 1 17 N.	27	2	♃	Sup. ♁
25	1	♃	in	☽		27	5	♃	♁
									♁ 1 46 N.
Mar. 2	15	♃	in	Perihelion.		28	14	♃	in Perihelion.
4	23	♃	at	greatest elong. 18 9 E.		30	5	♃	♁
5	2	♃	♁	♁	♁ 3 29 N.	Jan. 2	0	♃	♁
11	15	♃	Stationary.			7	22	♃	at greatest Hel. Lat. N.
11	22	♃	at	greatest Hel. Lat. N.		15	23	♃	Stationary.
12	8	♃	♁	♁	♁ 3 34 S.	19	19	♃	♁
17	2	♃	Stationary.			20	9	♃	♁
20	10	♃	enters	♀, Spring comm's.		21	6	♃	enters ☽, Summer comm's.
21	15	♃	Inf.	♁		22	17	♃	♁
23	15	♃	♁	♁	♁ 5 57 N.	22	22	♃	♁
									♁ 3 27 N.
24	17	♃	♁	♁	♁ 3 10 N.	23	7	♃	Stationary.
26	12	♃	♁	♁	♁ 4 50 N.	24	12	♃	♁
28	19	♃	in	☽		29	5	♃	♁
31	0	♃	♁	♁		30	2	♃	☽
						30	22	♃	at greatest elong. 25 51 E.

PICKFORD & BLACK, SHIP CHANDLERS, MANILLA, AND HEMP ROPE.

Simson's Liniment is manufactured by Brown Bros., Halifax, N.S.

MACDONALD & CO., Manufacturers of Copper and Zinc Baths.

MACDONALD & CO., Manufacturers of COMPOSITION RUBBER BRACES.—See adv. p. 3 cover.
MACDONALD & CO., Manufacturers and Fitters of Steam Heating Apparatus.—See adv. p. 3 cover.

PHENOMENA, 1887.

PICKFORD & BLACK, Importers of Chain Cables and Anchors, 51 Upper Water Street.

Month	Day	Time	Phenomenon	Time	Phenomenon
July	1	9	☿ in ♄		
	12	1	☽ in Apogee.		
	11	14	☽ in Aphelion.		
	13	8	☽ at greatest elong. 45 32 E.		
	14	2	☿ Stationary.		
	18	8	♀ in ♄		
	18	16	♃ ☽ ☽		
	18	17	♃ ☽ ☽	4 18 N.	
	19	15	♃ ☽ ☽		
	20	7	♃ ☽ ☽	2 10 N.	
	21	5	☿ ☽ ☽		
	23	16	☽ ☽ ☽	3 40 S.	
	26	13	♃ ☽ ☽	3 8 S.	
	28	17	☿ Inf. ☽ ☽	3 59 S.	
Aug.	1	0	☿ greatest Hel. Lat S.		
	3	—	☾ eclipsed, visible at Green'h.		
	7	13	☿ Stationary.		
	16	—	☽ at greatest brilliancy.		
	16	8	☽ at greatest elong. 18 36 W.		
	16	12	♃ ☽ ☽	3 10 N.	
	16	23	♃ ☽ ☽	1 56 N.	
	17	9	♃ ☽ ☽	0 33 N.	
	18	—	☽ eclipsed, visible at Green'h.		
	20	0	☿ in ☽		
	21	2	☽ ☽ ☽	9 13 S.	
	21	12	♀ in Aphelion.		
	23	1	♃ ☽ ☽		
	23	1	♃ ☽ ☽	4 12 S.	
	24	14	♃ in Perihelion.		
	28	5	♃ ☽ ☽	0 49 N.	
Sept.	28	23	♃ Stationary.		
	2	21	♃ Stationary.		
	3	21	☿ greatest Hel. Lat. N.		
	10	6	☿ Sup. ☽ ☽		
	13	5	☿ greatest Hel. Lat. S.		
	13	14	♃ ☽ ☽	1 39 N.	
	14	6	♃ ☽ ☽	1 48 N.	
	17	4	♃ ☽ ☽	12 50 S.	
	17	10	♃ ☽ ☽	2 33 S.	
	19	18	♃ ☽ ☽	4 18 S.	
	21	4	♀ Inf. ☽ ☽		
	22	21	☽ enters ♄, Autumn comm's.		
	24	6	☿ ☽ ☽	0 18 S.	
	27	8	☿ in ♄		
Oct.	5	23	♃ ☽ ☽		
	7	13	☽ in Aphelion.		
	10	1	☽ Stationary.		
	11	3	♃ ☽ ☽	1 20 N.	
	12	20	♃ ☽ ☽	0 19 N.	
	13	20	♃ ☽ ☽	2 58 S.	
	14	2	♃ ☽ ☽	7 52 S.	
	17	13	♃ ☽ ☽	4 19 S.	
	17	21	♃ ☽ ☽	7 39 S.	
	26	15	☿ at greatest elong. 23 48 E.		
	27	22	☿ greatest Hel. Lat. S.		
	28	—	☽ at greatest brilliancy.		
	29	11	♃ ☽ ☽		
Nov	6	20	☽ Stationary.		
	7	12	♃ ☽ ☽	1 1 N.	
	8	11	♀ in ☽		
	8	14	♃ ☽ ☽		
	10	8	♃ ☽ ☽	1 5 S.	
	11	13	♃ ☽ ☽	3 42 S.	
	14	10	♃ ☽ ☽	4 18 S.	
	15	3	♃ ☽ ☽	5 17 S.	
	15	23	☿ in ☽		
	15	7	♀ Inf. ☽ ☽		
	17	19	♃ Stationary.		
	20	12	☿ greatest Hel. Lat. N.		
	20	13	♃ in Perihelion.		
	20	18	♃ ☽ ☽		
	22	13	♃ ☽ ☽	1 7 N.	
	23	22	♃ ☽ ☽	1 6 N.	
	26	11	♃ Stationary.		
	5	20	☿ Greatest Hel. Lat. N.		
Dec.	1	21	☽ at greatest elong. 46 47 N.		
	3	23	♃ ☽ ☽	1 35 N.	
	4	17	♃ ☽ ☽	0 51 N.	
	4	20	☿ at greatest elong. 20 32 W.		
	8	17	♃ ☽ ☽	2 10 S.	
	10	20	♃ ☽ ☽	2 37 S.	
	11	23	♃ in Perihelion.		
	12	6	♃ ☽ ☽	4 16 S.	
	12	21	♃ ☽ ☽	3 24 S.	
	21	15	☽ enters ♃, Winter comm's.		
	24	8	☿ in ♄		
	25	20	♃ in Aphelion.		
	31	19	☽ in Perigee.		
	31	21	♃ ☽ ☽	0 55 N.	

MACDONALD & CO., Manufacturers of Plumbers Brass Goods.—See adv. p. 3 cover.
VESSELS FITTED WITH PLUMBING FIXTURES BY MACDONALD & CO.—See adv. page 3 cover.

Simson's Liniment Reduces Swellings.

Iron Pipes, all sizes, at MACDONALD & CO.'S.—See p. 3 cover.

LIGHT HOUSES

OF NOVA SCOTIA, NEW BRUNSWICK, &c.

Arranged from the Dominion Official List.

[All bearings are *magnetic*, and are given from seaward; height of light from high water, and of building from base to vane on Lantern.]

GEORGE'S ISLAND, west side of Island, Halifax Harbor, lat 44 38 30 N, lon 63 33 20 W, two fixed white lights, vertical, 20 feet apart, 50 and 30 feet high, drab square building, 21 feet high. Lights show seaward, on the S; into harbor on N side. On W side upper light only seen. Vessels going into Halifax Harbor, passing Meagher's Beach, to keep the light on starboard bow. The light is for the purpose of guiding vessels in and out of the Harbor, through the channel west of the Island. Lighted 1876. These lights open to westward of Meagher's Beach, clear the westward of Thrum Cap Shoal.

WEST FROM HALIFAX, N. S.

HERRING COVE, Western head, lat 44 33 57 N, long 63 33 W, fixed red light, visible 8 miles, 52 feet high, mast with white shed at base 25 feet. Harbor light.

CHEBUCTO HEAD, west side of entrance to Halifax Harbor, lat 44 30 20 N, lon 63 30 50 W, white light, revolving every minute, visible 18 miles, 132 feet high, white square wooden building, height 22 feet. Lighted 1872. An Automatic Signal Buoy, placed in lat 44 31 42 N, lon 63 29 28 W, in 21 fathoms water, N E $\frac{1}{2}$ E, 1 7-8 mile from Chebucto Head, sound a ten inch whistle. From this buoy Chebucto Head bears S W $\frac{1}{2}$ W, magnetic, 1 7-8 mile. Sandwich Point N by W, 4 miles. Passing to the westward of the buoy at a distance of half a cable and steering a N $\frac{1}{2}$ W course, magnetic, will lead up the harbor to the eastward of the Neverfail Shoal, and at a distance of two cables to the westward of Meagher's Beach light house. Similar buoys in lat 44 28 25 N, lon 63 22 10 W, in 36 fathoms. From this Buoy Sambro Island light bears W 1-3 N 8 1-3 miles; Devil's Island N 7-8, W 7 1-3 miles, and the inner signal buoy N W $\frac{1}{2}$ N 6 miles.

SAMBRO, middle of island, lat 44 26 10 N, lon 63 33 30 W, fixed white light, visible 20 miles, 115 feet high, building white, octagonal, 60 feet high. Lighted 1758. A steam fog whistle, erected on south side of Island, and elevated 90 feet above high water, in thick weather, fogs and snow storms, sounds each minute a blast of 10 seconds duration, with an interval, of 50 seconds. A Spar Buoy has been placed off S W Breaker, Sambro, and one on the Pollok, and another on the Whippey Shoal, near Sambro.

TERRENCE BAY, on Shipley Head, near Terence Point, lat 44 27 40 N, lon 63 42 10 W. Fixed red, visible 7 miles, 55 feet high. Mast with white shed at base, height 25 feet.

BETTY'S ISLAND, on Big Point, near Prospect, lat 44 26 22 N, lon 63 45 54 W, revolving red light, greatest brilliancy every two minutes, 75 feet high, visible 14 miles, building white, with two horizontal red bands square, wood, height 54 feet, dwelling attached. Lighted 1875. Coast light.

PEGGY POINT, east side of entrance to St. Margaret's Bay, lat 44 29 30 N, lon 63 55 W, fixed red light, 65 feet high, building white, square, 26 feet high. Lighted 1868. Lantern on dwelling.

Brass Ventilators made by MACDONALD & CO.—See adv. p. 3, cover.

MACDONALD & CO., Manufacturers of Plumbers Brass Goods.—See adv. p. 3 cover.

PICKFORD & BLACK, AMERICAN TAR, PITCH, ROSIN, 51 UPPER WATER ST.

PICKFORD & BLACK, IMPORTERS OF DUCKS AND DRILLINGS, 51 UPPER WATER STREET.

- MARGARET'S BAY, on Green Island, Lunenburg County, lat 44 23 N, lon 64 2 45 W, red and white light, alternating every one and a half minutes, building white, square, wood, 28 feet high, with dwelling attached. Coast light.
- CROUCHER'S ISLAND LIGHT, lat 44 38 24 N, lon 63 57 20 W, fixed white light, 90 feet high, visible 15 miles, building 40 feet high, square, of wood, painted white, with keeper's dwelling on summit of island, and 83 yards from south end. A guide up St. Margaret's Bay.
- HUBBARDS COVE, on Green Point, west side of entrance, lat 44 37 14 N, lon 64 3 8 W. Fixed red, 60 feet high, visible 11 miles, white, square, wood building, dwelling attached, height 42 feet.
- CHESTER, E Ironbound Island, a little to the eastward of centre of Island, in Mahone Bay, lat 44 26 10 N, lon 64 4 50 W, fixed white light, visible 16 miles, 150 feet high, white oblong tower on dwelling, 46 feet high, wood lantern. Lighted 1871. Seen from all points of approach. The lantern alone is visible, being hidden by trees.
- QUAKER ISLAND, off Chester, lat 44 30 55 N, lon 64 13 50 W fixed red light, 109 feet high, visible 11 miles, building white, square, wood, with dwelling attached, 35 feet high. To guide into Chester Basin.
- WESTHAVER ISLAND, Mahone Bay, lat 44 26 12 N, lon 64 20 5 W, fixed white light, visible 13 miles, 59 feet high, building white, square, wood, height 38 feet.
- HOBSON'S NOSE, Mahone Bay, lat 44 25 N, lon 64 13 46 W, red fixed light, visible 11 miles, 68 feet high, building white, square, wood, 29 feet high. Lighted 1872.
- CROSS ISLAND, east point Lunenburg Bay, lat 44 18 45 N, lon 64 10 W, two white lights, vertical, 35 feet apart, upper intermittent, bright 45 sec., dark 15 sec., and visible 14 miles, 100 feet high; lower fixed, visible 6 miles, and 65 feet high, building red, octagonal base, height 58 feet. Lighted 1832. Pilots resort here, and vessels may take refuge in case of necessity. Fog Horn will be sounded during thick weather, fogs and snow-storms, for 10 seconds, in every 1½ minutes, leaving an interval of 80 seconds between each blast. N.B.—Care should be taken to distinguish this alarm from the Sambro Whistle, which sounds ten seconds in each minute, with an interval of fifty seconds.
- BATTERY POINT, entrance to Lunenburg Harbor, lat 44 21 45 N, lon 64 17 35 W, fixed red light, visible 11 miles, 50 feet high, white, square tower on dwelling, high 24 feet. Lighted 1864. This harbor is easy of access, buoys are placed in the bay and entrance to the harbor on Sculpin Rock, Haddock Shoal, Battery Point Shoal, and Head Shoal. In approaching the harbor from seaward the buoy on Sculpin Rock, painted red and black, in horizontal stripes, may be left on either hand, giving it a berth of two cables length. The other buoys are painted black, and must be left on the port hand going in. Iron can buoys in summer, spar buoys in winter.
- WEST IRONBOUND ISLAND, near Cape LaHave, mouth of LaHave River, lat 44 13 45 N, lon 64 16 20 W, white light revolving every 30 seconds, visible 13 miles, 72 feet high, building white, square, height 29 feet. Near edge of cliff 40 feet high. Lighted 1855.
- LAHAVE, on Fort Point, lat 44 17 20 N, lon 64 21 W, fixed red catoptric light, visible 8 miles, 48 feet high, building white, square, wood, height 35 feet. Lighted 1875. A bell buoy is moored in 22 fathoms off the LaHave River, 3 miles E by S from Moser's Island light, and 2½ miles S S W from W Ironbound light.
- MOSHER'S ISLAND, on island west side of entrance to LaHave River, lat 44 14 15 N, lon 64 18 50 W, fixed red light, visible 8 miles, 55 feet high, building white, square, height 26 feet. Lighted 1868.
- MEDWAY HEAD, Port Medway, west side of entrance, lat 44 6 10 N, lon 64 32 15 W, fixed white light, visible 10 miles, 44 feet high, building white,

MACDONALD & CO., Manufacturers of Deep Sea and Hand Leads.

MACDONALD & CO., Manufacturers of Ships Patent Water Closets.—See adv. p. 8, cover.

Residences and Public Buildings Fitted with Hot Water Heating Apparatus by MACDONALD & CO.—See p. 3, cover.

- square, with black square seaward, height 23 feet. Like a dwelling house. Lighted 1851. Spar buoys are placed in the channel to Port Medway Harbor, on the breaking ledges Nautilus Rock, corner ground and edge of flats of Bang's Point. In passing in from seaward the red buoys must be left on the starboard, and the black buoys on the port hand.
- COFFIN ISLAND**, south point, Liverpool Bay, lat 44 2 N, lon 64 37 30 W, white light, revolving every two minutes, light 30 seconds, dark 90 seconds, visible 16 miles, 65 feet high, building octagonal, horizontal stripes, red and white 8 in number, height 50 feet. Lighted 1812. An automatic whistle buoy, colored white and black, in vertical stripes, is moored in 20 fathoms in fair way of Liverpool, lat 44 0 20 N, lon 64 36 55. From the buoy Coffin Island light bears N $\frac{1}{4}$ E, 11-16 miles Fort Point Light, N W $\frac{1}{4}$ N, and Western Head W $\frac{3}{4}$ S 2 $\frac{1}{2}$ miles. From the buoy a course N W $\frac{3}{4}$ N for 4 miles will clear all danger to anchorage off Brooklyn Pier.
- BROOKLYN PIER**, on end of breakwater, Liverpool, lat 44 2 40 N, lon 64 41 30 W, fixed light, white seaward, red towards harbor, visible 10 miles, 32 feet high, tower white, square, wood, height 33 feet. Building erected 1878. Discontinued till further notice.
- FORT POINT**, Liverpool Bay, south entrance, lat 44 2 30 N, lon 64 42 20 W, fixed red light, visible 7 miles, 30 feet high, building white, square, height 17 feet. Left on port side when entering the harbor. Lighted 1855.
- PORT MOUTON**, north-east point of Spectacle Island, Queen's County, lat 43 55 N, lon 64 48 W, fixed red light, visible 11 miles, 47 feet high, square wooden building, height 20 feet. For guiding vessels into harbor. Lighted 1873.
- LITTLE HOPE**, nearly on centre of Island, lat 43 48 30 N, lon 64 47 15 W, red light revolving every minute, visible 12 miles, 40 feet high, square white building, height 26 feet. Lighted 1865. Centre of keeper's dwelling. Visible around horizon.
- PORT HERBERT**, on Shingle Point, east side of harbor, lat 43 48 40 N, lon 64 55 30 W, fixed red light, visible ten miles, 33 feet high, white square wooden building, height 29 feet. Lighted 1872.
- CARTER'S ISLAND**, Ragged Island Harbor, lat 43 42 15 N, lon 65 5 30 W, fixed red light, visible 11 miles, 66 feet high, white square wooden building, height 29 feet. Lighted 1872.
- RAGGED ISLAND HARBOR**, Gull Rock, lat 43 39 15 N, lon 65 5 50 W, fixed white light visible 10 miles, 56 feet high, white square building, height 31 feet. Lighted 1853.
- BULL ROCK**.—A black iron can buoy, surmounted by a cage, is moved $\frac{1}{4}$ mile S by W $\frac{1}{2}$ W from the rock, in 15 fathoms water.
- SAND SPIT**, at E side of entrance to Shelburne Harbor, lat 43 41 25 N, lon 65 19 28 W, fixed red, 47 feet high, building, white, square, wood, on pier 44 feet high, visible 10 miles.
- SHELburne HARBOR**.—A red iron can buoy has been placed in 4 $\frac{1}{2}$ fathoms on west side of Middle Rock Shoal; a red can buoy off extreme of Split, in 4 fathoms, and a black spar buoy on east end of Adamant Shoal.
- BULL ROCK**.—A spar buoy, painted black, has been placed in 10 fathoms water SSW $\frac{1}{4}$ W, about 150 yards from the Bull Rock, off Western Head, Shelburne.
- CAPE ROSEWAY**, near south-east corner of McNutt's Island, Shelburne Harbor, lat 43 37 15 N, lon 65 15 45 W, 2 fixed white lights, vertical 55 feet apart, upper light visible 18 miles, and 120 feet high, lower 65 feet high, and visible 10 miles, octagonal building, vertical black and white stripes, height 77 feet. Lighted 1788, repaired 1858. A black can buoy S S E from the Jig Rocks, in 9 fathoms water. Fog trumpet sounds a blast of 10 seconds duration every two minutes.
- NEGRO ISLAND**, on north side, lat 43 30 54 N, lon 65 28 58 W, red and white light alternating every minute, visible 12 miles, 48 feet high, white

Woodberry Cotton Duck, for sale by PICKFORD & BLACK.

40

ROBERT H. COGSWELL'S

[1887

PICKFORD & BLACK, AGENT FOR TARR & WONSONS COPPER PAINT.

- square wooden building, height 29 feet. Lighted 1872. For guiding vessels in and out of Clyde River or Negro Harbor. Cape Negro.—New Tower in course of erection adjoining eastern end of keeper's dwelling.
- BACCARO, on east side of entrance to Barrington Harbor, lat 43 26 54 N, lon 65 28 12 W, fixed red light, visible 10 miles, 49 feet high, white square wooden building with black ball seaward, height 35 feet. Lighted 1850. A spar buoy to the south of Bantam.
- BARRINGTON E. BAY LIGHTSHIP, lat 43 31 5 N, lon 65 34 25 W, fixed white light, hull and spars painted red, with word "Barrington" in white letters on both sides, height 30 feet above deck. Moored in six fathoms low water. Wessex' Ledge bearing S W by W $\frac{1}{2}$ W, $\frac{3}{4}$ mile; Baccaro light S S E $\frac{3}{4}$ E. 6 3-16 miles, and Bantom Rocks S by $\frac{7}{8}$ E, 6 $\frac{1}{2}$ miles. To guide vessels into Barrington Bay, and through Barrington Passage. Lighted 1875. A red can buoy on Angle Rock.
- CAPE SABLE, on Cape, lat 43 23 19 N, lon 65 37 11 W, white revolving light, bright 15 seconds, dark 25 seconds, visible 12 miles, 53 feet high, white octagonal building 50 feet high. Lighted 1861. A steam fog whistle on southern point of Cape, elevated 40 feet above high water, sounds in thick weather, fogs and snow storms a blast of ten seconds' duration each minute.
- BRAZIL ROCK, red and black Buoy, horizontal stripes, moored in 15 fathoms water, S S E half mile from rocks.
- STODDARD ISLAND, on N W point of Island, lat 43 28 30 N, lon 65 43 10 W, fixed red light, visible 9 miles, 22 feet high, white small square tower. To guide vessels into the anchorage of Stoddard Harbor and Shag Harbor Sound.
- BON PORTAGE ISLAND, on S Point, lat 43 27 16 N, lon 55 44 39 W, red light revolving every minute, visible 12 miles, 46 feet high, white square wooden building, height 28 feet. Lighted 1874. For guiding vessels into Barrington, West Bay and Shag Harbor.
- SEAL ISLAND, south point, $\frac{1}{4}$ mile inland, lat 43 23 34 N, lon 66 0 52 W, fixed white light, visible 18 miles, 98 feet high, white octagonal building, height 60 feet. Lighted 1830. The Blonde Rock lies S by W. 3 $\frac{1}{4}$ miles from light house. Between this rock and the Island, there are some dangers, the ground is rocky throughout, and large vessels ought not to attempt passing between them. A fog whistle near light house during fogs and snow storms in each minute a blast of 5 seconds' duration, and after an interval of 5 seconds gives another blast of 5 seconds.
- Automatic Whistle Buoy, colored black, and marked B in white, has been placed in 12 fathoms water, $\frac{1}{2}$ mile S, $\frac{1}{2}$ mile W from the Blonde Rock, which lies S by W 3 $\frac{1}{2}$ miles from lighthouse.
- PUBNICO HARBOR, Beach point, east side of entrance, 120 yards from low water mark, lat 43 35 45 N, lon 65 46 54 W, fixed white light, visible 8 miles, 28 feet high, square white building, height 20 feet. Lighted 1854. Open westward of St. John's Island, bearing N E by N, clears the ledge; in making harbor from any other direction, the light must be brought to the northward of E N E before it can be steered for, to avoid shoal spot off St. Ann's Point. Spar buoys mark the channel. Black left on port hand, red on starboard in approaching the harbor.
- ARGYLE, on south point Whitehead Island, Yarmouth County, lat 43 39 40 N, lon 65 52 4 W, fixed red light, visible 12 miles, 115 feet high, building white, square, wood, with dwelling attached, height 28 feet. Lighted 1874. For guiding vessels into Argyle Harbor.
- TUSKET RIVER, Big Fish Island, south-west point, lat 43 42 10 N, lon 65 57 15 W, 2 fixed white lights, horizontal, 8 yards apart, visible 12 miles, 50 feet high, white, square, wooden building, height 23 feet. Visible seaward; in windows each end of a dwelling house. Lighted 1864.

MACDONALD & CO, Importers of Steam Pumps, etc.—See adv. p. 3 cover

VESSELS FITTED WITH PLUMBING FIXTURES BY MACDONALD & CO.

Lead Scupper Pipes all sizes, MACDONALD & CO'S — see p. 3 cover.

PEASE'S ISLAND, on S point, one of the Tusket Islands, lat 43 37 35 N, lon 66 1 40 W, 2 lights, 16 feet apart, vertically, upper light revolving, red and white, each color visible 15 seconds; 45 seconds between flashes, visible 12 miles, 56 feet high. Sea lights visible from all points of approach from the southward, also through Schooner and Ellenwood Passages. Lower light fixed red, visible 4 miles, 40 feet high. To mark channel between Old Man and Old Woman Rocks. Visible only between bearings W by N $\frac{1}{2}$ N, and N W by W.

Jebogin Ledge Buoy, black iron can buoy, surmounted by a cage, about 150 yards east from the ledge.

Pease's Ledge Buoy, red iron can buoy, about 150 yards south from the ledge.

ABBOTT HARBOR, on S extremity of Abbott Island, lat 43 39 25 N, lon 65 49 30 W, fixed white light, visible 8 miles, 40 feet high; lantern on a mast. Will be kept up from April 1st to Oct. 1st each year.

YARMOUTH OR CAPE FORCHU, east cape, south point, lat 43 47 28 N, lon 66 9 20 W, white light intermittent, light $1\frac{1}{2}$ minute, dark half minute, visible 18 miles, 117 feet high, octagonal tower, vertical stripes, red and white, height 59 feet. Lighted 1839. Fog whistle on west side, sounds in fog and snow storms 10 seconds in every minute. Automatic Whistle Buoy has been placed in 13 fathoms water $\frac{1}{2}$ mile W from the Lurcher Shoal which lies 15 miles W N W of this light.

GREEN COVE OR MAITLAND, on outer end of westerly Breakwater, lat 43 59 5 N, lon 66 9 30 W, fixed white light, 33 feet high, mast with white shed at base, height 25 feet. Will be kept up only from April 15th to November 15th each year.

BUNKER'S ISLAND, on end of reef, off S W Point of Island, east side of entrance to Yarmouth Harbor, lat 43 48 30 N, lon 66 8 45 W, fixed red light, visible 10 miles, 27 feet high, the lantern on a dwelling house, built on a wooden pier. Lighted 1874. A red beacon light to guide vessels into harbor. Visible from the southward between N E by N N $\frac{1}{2}$ E. Also over Stanwood's Beach, when bearing from S $\frac{1}{2}$ E to S E $\frac{1}{2}$ E, but cannot be run for on those bearings, the only entrance to harbor being through Yarmouth Sound and round Cape East. Fog bell sounds at intervals of 15 seconds.

TRINITY LEDGE, an iron bell Buoy, painted red, has been moored to the westward of Trinity Ledge, off Cape St. Mary.

CAPE ST. MARY'S, east side of Bay, lat 44 5 20 N, lon 66 12 40 W, red and white light, alternating every 30 seconds, visible 17 miles, 103 feet high, octagonal white building, height 43 feet. Lighted 1868.

METEGHAN RIVER, at entrance end of Breakwater, lat 44 13 43 N, lon 66 8 12 W, fixed green light, visible 6 miles, 23 feet high, building vertical, red stripes on seaward side, 21 feet high, lantern painted black. Lighted 1875. Beacon for guiding vessels into river. Must be left on starboard hand and passed close aboard. Tide leaves Breakwater one hour before low water.

CHURCH POINT, east side of St. Mary's Bay, Digby County, lat 44 19 55 N, lon 66 7 35 W, fixed red light, visible 10 miles, 36 feet high, square white wooden building, height 20 feet. Lighted 1874. For guarding against dangers in vicinity of Church Point.

SISSIBOO, south side of entrance to river, lat 44 26 30 E, lon 66 1 15 W, fixed white light, visible 8 miles, 36 feet high, white square wooden building, height 33 feet. Lighted 1870.

WESTPORT, Peter's Island, entrance to Grand Passage, lat 44 15 30 N, lon 66 20 20 W, 2 fixed white lights, horizontal, 24 feet apart, visible 10 miles, each 40 feet high, square white towers, height 15 feet. Lighted 1850. Visible from the northward between the bearings S by W and S S W, and from the southward between the bearings of N E by E and N W $\frac{1}{4}$ N W. Bell Buoy painted red, north side of N W Ledge.

VESSELS FITTED WITH PLUMBING FIXTURES BY MACDONALD & CO.

PICKFORD & BLACK, 51 UPPER WATER STREET, HALIFAX, N. S.

PICKFORD & BLACK, Importers of Refined Iron Clinch Rings.

42

ROBERT H. COGSWELL'S

[1887

PICKFORD & BLACK, Importers of Refined Iron Clinch Rings.

- BRIER ISLAND, north west Point, lat 44 14 57 N, lon 66 23 30 W, fixed white light, visible 13 miles, 92 feet high, white octagonal building, height 55 feet. Lighted 1809. A steam fog whistle on N W of Brier Island, south side of lighthouse, sounds during thick and foggy weather and snow storms three blasts of 4 seconds duration, with intervals of 4 seconds between them, in each minute.
- BOAK'S HEAD, 17 yards from edge of cliff, lat 44 24 16 N, lon 66 13 W, red and white light, alternating every minute, visible 14 miles, 70 feet high, white, square building. Lighted 1864. On south entrance to Petit Passage, on Digby Gut.
- POINT PRIM, on Digby Gut, south point of entrance to Annapolis Basin, lat 44 41 34 N, lon 65 47 20 W, fixed white light, visible 13 miles, 76 feet high, square tower, vertical, red and white stripes, height 22 feet. Lighted 1817. Fog whistle on Prim Point sounds in snow storms and in thick or foggy weather 8 seconds in each minute, making an interval of 52 seconds between each blast.
- SHAFNER'S POINT, on N side of Annapolis river, lat 44 42 40 N, lon 65 37 8 W, fixed white light, visible 8 miles, 55 feet high, white square wood building, height 43 feet. Indicates Goat Island Shoals.
- PORT WILLIAMS or MARSHALL COVE, south shore, lat 44 56 52 N, lon 65 16 W, 2 fixed white lights, vertical, 22 feet apart, upper 92 feet high, lower 70 feet, visible 10 miles, white square building, height 22 feet. Lighted 1859. Lantern on top of dwelling, lower light in bow window, visible from W S W, round N to E N E.
- MARGARETVILLE, on extremity of points, south shore, lat 45 2 57 N, lon 65 4 W, fixed red light, visible 8 miles, square building, horizontal white and black stripes, height 22 feet. Lighted 1859. Visible from W S W round N to E N E.
- ISLE HAUTE, on highest point lat 45 14 55 N, lon 65 0 45 W, white light, intermittent, 40 seconds in every minute, visible 20 miles, 365 feet high, tower white, square, wood, dwelling attached, almost hidden by trees, height 53 feet. Lighted 1878.
- BLACK ROCK, south shore, lat 45 10 10 N, lon 64 56 W, fixed white light, visible 12 miles, 45 feet high, square white building, height 35 feet. Lighted 1848. Light on top of dwelling.
- CAPE D'OR FOG WHISTLE, on extreme point, opposite side of Channel from Black Rock, sounds during thick weather, or 6 seconds in every 30 seconds.
- ADVOCATE HARBOR, on N W side of entrance, lat 45 19 25 N, lon 64 47 30 W, fixed red light, visible 7 miles, 36 feet high, white square building on small crib, height 27 feet.
- KINGSFORT, on Oak Point pier, lat 45 9 30 N, 64 21 45 W, fixed white light, visible 8 miles, 30 feet high, tower, upper enclosed part white, open frame, brown, height 26 feet. Lighted 1878. Visible from S W $\frac{1}{2}$ W round by E to N W by W $\frac{3}{4}$ W.
- HORTON, on bluff, west side of Avon River, lat 45 6 15 N, lon 64 13 30 W, fixed white light, visible 15 miles, 100 feet high, white square building, height 33 feet.
- WINDSOR, at junction of Avon and St. Croix Rivers, lighthouse to be erected.
- WALTON HARBOR, Basin of Minas, Hants County, lat 45 14 N, lon 64 0 45 W, fixed red light, visible 10 miles, 60 feet high, square white wooden building, height 20 feet. Lighted 1873. For guiding vessels into Walton Harbor.
- BURNTCOAT, Basin of Minas, north-west extremity of head, south shore, lat 45 18 40 N, lon 63 48 40 W, fixed white light, visible 13 miles, 75 feet high, square white building, height 35 feet. On dwelling, visible from all points of approach. Lighted 1859.

MACDONALD & CO., Manufacturers of Hand and Power Pumps.

MACDONALD & CO., Manufacturers of Patent Roller Bushings.—See *cdv.* page 3 cover.

MACDONALD & CO., MANUFACTURERS OF BRASS BINNACLE GUARDS.—See *atrv.* p 3 cover.

18
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SPENCER POINT, on north shore, Cobequid Bay, lat 45 23 30 N, lon 63 37 W, fixed white light, visible 6 miles, 35 feet high, window in building 20 feet high. Lighted 1863.

PARSBORO', on Partridge Island, west side of river, lat 45 23 N, lon 64 19 W, fixed white light, visible 9 miles, 37 feet high, white square building, height 32 feet. Lighted 1852. Lantern on dwelling.

CAPE SHARP—building.

APPLE RIVER, on Cape Capston, or Hetty's Point, north entrance, lat 45 28 20 N, lon 64 51 30 W, fixed white light, visible 12 miles, 64 feet high, building white, oblong, with tower, height 45 feet. Lighted 1870. Rebuilt about 33 yards S S E from old one.

EAST FROM HALIFAX.

MEAGHER BEACH, Sherbrook Tower, east side of entrance to Halifax Harbor, lat 44 36 N, lon 63 31 50 W, fixed white light, visible 12 miles, 58 feet high, building white, with red roof, granite, height 48 feet. Lighted 1815. When Sambro Light bears W S W, this light should not be brought to the westward of north, which clear the Thrum Cap Shoal. A fog bell here strikes 7 times in each minute.

DEVIL'S ISLAND, on south point of Island, at the eastern entrance to Halifax Harbor, two fixed white lights, horizontally, E $\frac{3}{4}$ N, and W $\frac{3}{4}$ S, 175 yards apart, visible 13 miles, the light E 59 feet high, W light 52 feet, both buildings white, octagonal, wood, height E 53 feet, lighted 1877, W 45 feet, lat 44 34 50 N, lon 63 27 15 W. The eastern light open to the southward of western clear to southern of Thrum Cap Shoal.

JEDDORE ROCK, on summit of rock, about 22 miles east of Halifax, lat 44 39 45 N, lon 63 0 22 W, fixed red, visible 12 miles, 86 feet high, white square wood building, dwelling attached, height 50 feet.

EGG ISLAND, centre of Island, lat 44 39 50 N, lon 62 51 32 W, red and white light alternating every minute, visible 15 miles, 80 feet high, octagonal building, black and white vertical stripes on seaward side, height 45 feet. Visible around horizon. Lighted 1865.

POPE'S HARBOR, on west point of Harbor Island, lat 44 47 40 N, lon 62 38 50 W, fixed red light, visible 9 miles, 45 feet high, tower white, square, wood, with dwelling attached, height 37 feet. Lighted 1877.

SHEET ROCK, entrance to Sheet Harbor, lat 44 49 55 N, lon 62 29 40 W, red light, revolving every 40 seconds, visible 10 miles, 75 feet high, white square wooden tower, with dwelling attached, height 41 feet. Lighted 1879. Light seen from N W $\frac{3}{4}$ W round by N to E by E $\frac{3}{4}$ E. Rock lies nearly in mid channel of harbor entrance, its western end partly a wash, distance 350 yards from lighthouse.

SHEET HARBOR AUTOMATIC BUOY.—An automatic Whistling Buoy was placed on the 8th October, 1885, off the entrance to Sheet Harbor, lat 44 44 30 N, lon 62 28 37 W. The buoy is striped red and black vertically, and moored in 24 fathoms water. From it Sheet Rock lighthouse bears approximately N by E $\frac{1}{2}$ E, distant 5 $\frac{1}{2}$ miles, and Taylor's Head N W by N $\frac{1}{2}$ N, distant 3 $\frac{1}{2}$ miles, 5 $\frac{1}{2}$ miles from light house.

BEAVER ISLAND, S E part of East Beaver, or William Island, lat 44 48 10 N, lon 62 20 30 W, white light, revolving every 2 minutes, visible 12 miles, 70 feet high, white building, with two black balls to seaward, S S W, 35 feet high. On dwelling.

LISCOMB, on Island, lat 44 59 20 N, lon 61 57 50 W, red and white light, alternating every two minutes, visible 15 miles, 64 feet high, white square wooden building, height 28 feet.

WEDGE ISLAND, mouth of St. Mary's River, lat 45 0 35 N, lon 61 52 35 W, revolving red light, shows 1 minute in 3 minutes, visible 12 miles, 81 feet high, tower white, square, wood, with dwelling attached, height 44 feet.

MACDONALD & CO., MANUFACTURERS OF BRASS BINNACLE GUARDS.—See *adv.* p 3 *over.*

MACDONALD & CO., Manufacturers of Patent Roller Bushings.—See *adv.* p 3 *over.*

PICKFORD & BLACK, Importers of Wire Rope, Canvas, 51 Upper Water St.

PICKFORD & BLACK, 51 UPPER WATER STREET, HALIFAX, N S.

- ISAAC'S HARBOR, on Holy Point, west side of entrance to harbor, lat 45 10 N, lon 61 39 12 W, 2 fixed white lights, vertically, 20 feet apart, visible 9 miles, 80 feet high, square, white building, 20 feet high.
- COUNTRY HARBOR, on Green Island, Guysboro' County, lat 45 6 15 N, lon 61 32 30 W, fixed white light, visible 12 miles, 51 feet high, white square, wooden building, height 28 feet. Coast light and to guide vessels frequenting Country and Fisherman's Harbors.
- BOUY OFF COUNTRY HARBOR--An iron can buoy, painted black, off the point of Middle Ledge or South-Easter.
- TORBAY, on eastern point of Berry Head, W side of entrance to Bay, Guysboro' County, lat 45 11 37 N, lon 61 18 35 W, fixed light, red to seaward, white to northward into Bay, and towards Molasses Harbor, visible 10 miles, square, wooden building, white with vertical red stripes, top of lantern black. Height of lantern 51 feet, tower 36 feet.
- THREE TOP ISLAND, S E point of Island, entrance of Whitehaven, lat 45 12 40 N, lon 61 9 40 W, fixed white light, visible 11 miles, 48 feet high, tower white, square, wood, with dwelling attached, height 32 feet. To guide vessels into Whitehaven. To point out dangers on the N side of W passage, light is obstructed when bearing to eastward of N E by E. Visible from all other points except when intercepted by high land of Whitehead Island.
- WHITEHEAD ISLAND, S W extremity of the Island, Guysboro' County, lat 45 12 N, lon 61 8 15 W, white light, revolving every 20 seconds, visible 11 miles, 55 feet high, pyramidal wooden building, 35 feet high, octagonal lantern. Light not totally obscured during the eclipses; 10 seconds duration of flash, and 10 seconds eclipse.
- CRANBERRY ISLAND, N part of Island, off Cape Canso, lat 45 19 50 N, lon 60 55 25 W, 2 fixed white lights in one tower, vertically 35 feet apart, upper visible 5, lower 12 miles, 89 and 54 feet respectively, high, octagonal wooden building, horizontally striped red and white, height 78 feet. Upper light visible all round, lower one does not show to vessels passing between it and coast. A steam fog whistle, about 100 yards south of the lighthouse, in thick weather sounds a blast of 8 seconds in each minute. Automatic Buoy at the Grimes Rock, off Cape Canso.
- SABLE ISLAND, W end, lat 43 57 N, lon 60 8 W, a white light revolves three flashes at intervals of half a minute, then a cessation of light during 1½ minute, visible 17 miles, 118 feet high, white octagonal wooden building, height 98 feet.
- SABLE ISLAND, 1½ miles from east end, lat 43 58 30 N, lon 59 46 W, fixed white light, visible 18 miles, 128 feet high, octagonal building, white and brown alternately, height 86 feet.
- CANSO HARBOR, on Hart or Cutler Island, lat 45 21 N, lon 60 58 30 W, fixed red light, visible 12 miles, 42 feet high, white square wooden building, height 28 feet.
- CROW HARBOR, on Rock Island, Chedabucto Bay, lat 45 21 5 N, lon 61 16 W, fixed white light, visible 12 miles, 50 feet high, white square wood building 40 feet high. Harbor light.
- GUYSBORO' HARBOR, W side of entrance, near Peart Point, Chedabucto Bay, lat 45 22 50 N, lon 61 29 10 W, fixed white light, visible 8 miles, 30 feet high, white square wooden building, height 20 feet.
- SAND POINT, on Eddy Point, S entrance, lat 45 31 30 N, lon 61 14 40 W, two fixed white light, horizontal, 24 feet apart, visible 8 miles, each 25 feet high, white square wooden building. Lights in window at each end of building.
- POINT TUPPER, Ship Harbor or Port Hawkesbury, lat 45 36 40 N, lon 61 22 W, fixed red light, visible 7 miles, 44 feet high, white square building, height 24 year. In consequence of the intervention of the land on the south side, can only be seen 3 miles in that direction.

MACDONALD & CO., Manufacturers of Manrope Stanchions.--p 3 cover.

MACDONALD & CO., MANUFACTURERS OF COMPOSITE N BUTT BOLTS AND SPIKES.--See p. 3 cover.

Residences and Public Buildings Fitted with Plumbing Fixtures by MACDONALD & CO.--See arch. p. 3 cover.

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CREIGHTON'S HEAD, on the north extremity, lat 45 30 40 N, lon 61 6 W, white light revolving every 40 seconds, visible 10 miles, 29 feet high, white square wooden building, height 20 feet. For guiding vessels into Little or West Arichat. Three buoys placed to mark the dangers of the harbour.

JERSEYMAN ISLAND, Arichat Harbor, lat 45 30 20 N, lon 61 3 W, fixed red light, visible 11 miles, 39 feet high, white square wooden building, height 28 feet. This light is for the purpose of guiding vessels through Crib Passage, in and out of Arichat Harbor. There is also a range Beacon on the S E point of Jerseyman Island, that marks Hautfond Shoal off the entrance to Arichat Harbor. When the beacon and spire of the Roman Catholic Chapel at Arichat are in range it leads over the west part of the shoal, in ten feet of water. Vessels bound in Arichat, C. B., should pass to the west of the shoal, or bring the beacon in range with the cupola on the Convent, which stands 130 yards east of R. C. Church, which will lead in clear of the shoal. Only those well acquainted should pass to the eastward of the shoal, or bring the beacon to bear to the N of N E. An iron can buoy, painted red, has been placed about one cable's length S W of the shoal in six fathoms of water. The buoy will be placed on or about 1st May in each year, and taken up about the 10th of December.

ARICHAT, Marache Point, south entrance to Madame Island, lat 45 29 N, lon 61 1 50 W, fixed white light, visible 8 miles, 34 feet high, square white wooden building, height 25 feet.

PETITDEGRAT, on Big Arrow Island, south east of Madame Island, lat 44 29 54 N, lon 60 57 30 W, fixed red light, visible 10 miles, 38 feet high, white square tower, with dwelling attached, height 31 feet.

GREEN ISLAND, summit of Island, lat 45 28 50 N, lon 60 53 40 W, red and white light, revolving alternately every 45 seconds. Visible 14 miles, 70 feet high, white square wooden building, height 31 feet. Light, centre of keeper's dwelling. Visible around horizon.

CAPE LA RONDE, west side of entrance to St. Peter's Bay, lat 45 34 45 N, lon 60 53 W, fixed white light, visible 14 miles, 92 feet high, white square wooden building, with dwelling attached, height 28 feet. For guiding vessels into St. Peter's Bay.

OUETIQUE ISLAND, on South Point, lat 45 36 40 N, lon 60 57 15 W, fixed red light, visible 9 miles, 78 feet high, white square wooden building, with dwelling attached, height 28 feet. For guiding vessels through Lennox Passage.

GLASGOW POINT, Lennox Passage, lat 45 34 0 N, lon 61 7.50 W, fixed red light, visible 5 miles, lantern on mast with white shed at base, height 25 feet.

SEAL, OR DOG ISLAND, Lennox Passage, lat 45 35 31 N, lon 61 4 0 W, fixed red light, visible 5 miles, lantern on mast, with white shed at base, height 25 feet.

GRAND DIQUE, on beach near wharf, Lennox Passage, lat 45 35 51 N, lon 61 1 5 W, fixed red light visible 5 miles, 30 feet high, lantern on mast with white shed at base, height 25 feet.

JEROME POINT, St. Peter's Bay near entrance to canal, lat 45 39 5 N, lon 60 52 W, fixed red light, visible 10 miles, 56 feet high, building white, square, wood, with dwelling attached, height 40 feet. To lead vessels up the bay to canal.

SAINT ESPRIT ISLAND, east end of island, lat 45 37 30 N, lon 60 29 20 W, one revolving white catoptric light, revolving at interval of 30 seconds, visible 14 miles, height 78 feet, building white, with two red bands, square, wood, with dwelling attached; height of building 55 feet. Bad Neighbor Shoal S W $\frac{3}{4}$ W $\frac{1}{2}$ mile from this light, is not more than 12 feet below water.

Residences and Public Buildings Fitted with Plumbing Fixtures by MACDONALD & CO.—See *adv.* p. 3 cover.
 MACDONALD & CO., MANUFACTURERS OF COMPOSITION BUTT BOLTS AND SPIKES.—See p. 3 cover.

PICKFORD & BLACK, 51 UPPER WATER STREET, HALIFAX, N. S.

- GUION ISLAND, about 230 yards from west end of island, lat 45 46 10 N, lon 60 6 20 W, revolving red light, attains its greatest brilliancy every 30 seconds, visible 12 miles, 74 feet high, tower white, square, with dwelling attached, height 54 feet.
- LOUISBURG, north side of entrance to harbor, 120 yards inshore of point, lat 45 54 30 N, lon 59 57 15 W, fixed white light, visible 16 miles, 85 feet high, building white with a black vertical stripe on dwelling, height 35 feet. Automatic Whistle Buoy moored in 30 fathoms, $1\frac{1}{2}$ mile S E $\frac{1}{4}$ E from light house. From this buoy a course N W by W will clear the Broad Shoal and lead the fairway of Louisburg Harbor.
- MAINADIEU, on south side of west point of Scatterie Island, lat 46 0 30 N, lon 59 47 30 W, fixed red light, 90 feet high, white square wooden building, height 40 feet.
- SCATTERIE, north east point of Trap Rock, lat 46 2 15 N, lon 59 40 15 W, white revolving light, visible a minute, eclipsed half a minute, visible 15 miles, 90 feet high, white octagonal building, height 70 feet. The light should never be brought to bear to eastward of N N E, or to southward of S S W, nor approach nearer than $1\frac{1}{2}$ miles. A boat is here to render assistance. Fog whistle sounds two blasts of 5 seconds with an interval of 10 seconds in every minute.
- COW BAY, on outer end of breakwater. Fixed red light, visible 7 miles, 32 feet high. Lantern on frame, height 24 feet.
- FLINT ISLAND, on Island, lat 46 11 N, lon 59 46 50 W, white light, revolving every 15 seconds, visible 12 miles, 65 feet high, white octagonal building, height 43 feet. Visible round horizon.
- LINGAN HEAD, north side of entrance to Bridgeport Harbor, lat 46 14 10 N, lon 60 2 40 W, fixed red light, visible 10 miles, 50 feet high, white square wooden building, height 20 feet. For guiding vessels into Bridgeport Harbor.
- LOW POINT, Flat Point, east side Spanish Bay, lat 46 12 30 N, lon 60 7 30 W, fixed white light, visible 14 miles, 70 feet high, building octagonal, red and white, vertical stripes, height 51 feet. Marine telegraph and signal station.
- SYDNEY BAR, on west end of South Bar, lat 46 12 40 N, lon 60 12 40 W, fixed red light, visible 10 miles, 30 feet high, white square wooden building, height 20 feet.
- CRANBERRY HEAD, on N side of entrance to Sydney Harbor, a fog alarm trumpet in course of erection.
- POINT ACONI, on High Cape, north side of entrance to Little Bras d'Or, lat 46 20 30 N, lon 60 17 10 W, fixed red light, visible 11 miles, 91 feet high, square white wooden building, height 20 feet. For guiding vessels into Little Bras d'Or.
- BLACK ROCK POINT, S side of entrance to Big Bras d'Or, lat 46 18 30 N, lon 60 23 30 W, fixed white light, 45 feet high, building white cross on red ground, square, wood, height 23 feet.
- CAPE GEORGE, S side of Bras D'Or Lake, West side of entrance to St. Peter's Inlet, lat 45 44 28 N, lon 60 48 20 W, fixed white light, visible 10 miles, 50 feet high, square white wooden building, height 20 feet. To guide vessels through St. Peter's Inlet.
- GOOSEBERRY ISLAND, OR MARGORIE'S ISLE, W from Sandy's Point, St. Peter's Inlet, lat 45 40 7 N, lon 60 51 5 W. Fixed red, visible 5 miles, lantern on mast, with white shed at base, height 25 feet.
- BEAVER ISLAND, on S E point, St. Peter's Inlet, lat 45 40 40 N, lon 60 49 47 W. Fixed red, visible 5 miles, lantern on mast, with white shed at base, height 25 feet.
- MACLEAN POINT, St Peter's Inlet. Lantern on mast, white shed at base. To be erected.

MACDONALD & CO., Manufacturers of Copper and Lead Tanks.

MACDONALD & CO., MANUFACTURERS OF COMPOSITION CLINCH RINGS.—See adv. p. 3 cover.

MACDONALD & CO., Manufacturers of Brass Binnacles and Stands.—See adv. p. 3 cover.

- FREESTONE INLET, OR GREGORY ISLAND, St. Peter's Inlet, lat 45 42 50 N, lon 60 47 50 W, fixed red light, visible 5 miles. Lantern on mast with white shed at base. Height 25 feet.
- PIPER'S COVE, on western bend of Derby Point, Grand Narrows, lat 45 56 30 N, lon 60 48 W, fixed red light, visible 11 miles, 77 feet high, white square wooden building, height 38 feet.
- WHYCOCOMAGH, on Fraser's Point, N side of St. Patrick's Channel, lat 45 57 57 N, lon 61 4 30. Fixed red light, visible 7 miles, 31 feet high, lantern on mast, with white shed at base, height 25 feet.
- GRAND NARROWS, on Uniacke Point, N side of channel, Barra Straits, lat 45 48 N, lon 60 48 W, fixed white light, visible 10 miles, 29 feet high, white square wooden building, height 20 feet. For guiding vessels through Barra Straits and navigating the Little and Great Bras D'Or Lakes.
- LITTLE NARROWS, at eastern entrance, lat 46 N, lon 60 58 25 W, one fixed white light, visible 10 miles, 40 feet high. Building white square wood, 35 feet high.
- KIDSTON ISLAND, on N E Point, at entrance to Baddeck Harbor, N side of Bras D'Or Lake, lat 46 5 58 N, lon 60 44 20 W, fixed red light, visible 7 miles, 31 feet high, square wooden building, white.
- MCNEIL'S BEACH, on N side of Boulardarie Island, Big Bras D'Or, lat 46 14 0 N, lon 60 29 20 W, fixed red light, visible 8 miles, 33 feet high, lantern on mast, with white shed at base, height 25 feet.
- MCKENZIE'S POINT, N side of Bras D'Or Lake, about 2 miles S W of Port Bevis, lat 46 7 15 N, lon 60 39 W, fixed white light, visible 11 miles, 95 feet high, square white wooden tower. For guiding vessels through Bras D'Or Lake.
- CAREY'S BEACH, N side of entrance to Big Bras D'Or. Pole light red.
- BIRD ISLAND, Ciboux Island, $\frac{1}{2}$ mile from N end, lat 46 23 10 N, lon 60 22 30 W, red light, revolving every minute, visible 14 miles, 77 feet high, white octagonal building, height 33 feet.
- ST. ANN'S HARBOR, on N point of Beach, lat 46 17 30 N, lon 60 32 15 W, fixed white light, visible 8 miles, 25 feet high, white building, height 30 feet. The light exhibited to find entrance through on a dark night.
- INGONISH HARBOR—A Lightship to be put in operation 15th March, 1887. (See particulars.)
- INGONISH, on island, lat 48 41 20 N, lon 60 20 W, fixed white light, visible 20 miles, 237 feet high, white square building, height 40 feet.
- CAPE NORTH, 2-3 mile S E from Money Point, lat 47 1 45 N, lon 60 23 15 W, red and white light, revolving every 45 seconds, visible 15 miles, 74 feet high, square white wooden building, height 26 feet. Coast light; makes a complete revolution every $1\frac{1}{2}$ minutes.
- CAPE ST. LAWRENCE—Light house to be erected.
- CHETICAMP, near S end of Island, lat 46 36 30 N, lon 61 3 10 W, white light revolving every 45 seconds, visible 20 miles, 149 feet high, white square wooden building, height 24 feet. In entering the harbor the easterly light should be kept close aboard in passing.
- ST. PAUL'S ISLAND—On rock off N E point of Island, lat 47 13 50 N, lon 60 8 20 W, fixed white, visible 20 miles, 140 feet high, white octagonal wood building, height 40 feet. Obscured between N by E $\frac{1}{2}$ E and E N E. Not lit from December 31st to April 1st, unless open water is visible.
- ST. PAUL'S ISLAND—S W point of Island, lat 47 11 20 N, lon 60 9 40 W, white revolving light every minute, visible 20 miles, 140 feet high, white octagonal wood building, height 40 feet. Obscured on bearings from S S E to W $\frac{1}{2}$ N. Not lit from 31st December to 1st April, unless open water is visible. A fog whistle on the S side of the Island, S W of Atlantic Cove, about $\frac{1}{2}$ mile from the Humane Establishment, sounds for 5 seconds in each minute.

MACDONALD & CO., Manufacturers of Brass Binnacles and Stands.—See art. p. 3 cover.

PICKFORD & BLACK, IMPORTERS OF WELSH BOLT IRON SPIKES.

MACDONALD & CO., MANUFACTURERS OF COMPOSITION GLINCH RINGS.—See art. p. 3 cover.

PICKFORD & BLACK, Importers White Lead, Paints, Oils, 51 Upper Water Street.

- MARGAREE, summit or middle of Sea Wolf Island, lat 46 21 30 N, lon 61 15 30 W, fixed white light, visible 21 miles, 298 feet high, square white building. To vessels in dangerous proximity to the Island the light may become obscured by the abrupt cliffs on the sides of the Island.
- MARGAREE HARBOR, on outer end of Breakwater pier, lat 46 26 35 N, lon 61 6 40 W, fixed light, visible 4 miles, 21 feet high, white square wood building, height 21 feet. The light shows red to seaward or in the direction N 14 E and for 35 on each side of this, and white from the eastern and western sides of the lantern.
- MABOU, two range lights on outer end of Breakwater on S W side of dredged channel, lat 46 5 40 N, lon 61 28 10 W, fixed white light, visible 9 miles, 25 feet high, mast with white shed at base, height 20 feet, and on shore at McFayden's wharf about 3000 feet from front light; fixed red light, visible 7 miles, 30 feet high, mast with white shed at base, height 20 feet. The two in range lead through dredged channel up to Breakwater.
- PORT HOOD, S E side of entrance to Harbor, lat 46 N, lon 61 31 40 W, fixed lights, red N, white S, visible 10 miles, 55 feet high. Square white building, red to northward, white to southward.
- IRON CAN BUOYS have been placed at the following shoals:—Port Hood Harbor, C. B., Portsmouth Point, Spithead, Smith Pit, Dean Shoal, also one at Judique Shoal. Judique Shoal and Dean Shoal Buoys are painted red. the other three are painted black. These Buoys will be placed on or about the 1st of May in each year, and taken up about the 10th November.
- NORTH CANSO, north entrance, west side, 120 yards inshore, lat 45 41 40 N, lon 61 29 10 W, fixed white light, visible 18 miles, 110 feet high, white square wooden building, height 35 feet. There is good anchorage under the light when the wind is off shore. Lantern on dwelling.
- HARBOR AU BOUCHE, on S W shore of harbor, lat 45 41 0 N, lon 61 31 15 W, fixed white light, visible 9 miles, 36 feet high, building white, square, wood, height 32 feet. Also, 473 yards S W $\frac{3}{4}$ S from front light, fixed red light, visible 9 miles, 107 feet high, building white, square, wood, height 32 feet. Range light to lead through dredged channel over the bar.
- POMQUET ISLAND, or BAYFIELD, N E end of Island in St. George's Bay, lat 45 39 40 N, lon 61 44 30 W, fixed red light, visible 9 miles, 50 feet high, white square building, height 23 feet. Obscured on easterly bearings.
- CAPE ST. GEORGE, north side of Cape, lat 45 52 30 N, lon 61 54 40 W, white light revolving every half minute, visible 25 miles, 350 feet high, white square building.
- PICTOU ISLAND, south-east point, lat 45 49 10 N, 62 30 30 W, fixed white light, visible 12 miles, 52 feet high, square white building.
- PICTOU HARBOR, south point of entrance, lat 45 41 30 N, lon 62 39 30 W, two fixed lights, vertical, 25 feet apart, upper white, lower red, visible 11 miles, lantern 65 feet high, building octagonal, striped red and white, vertically, height 55 feet. Lighted when navigation is open. A small red light is seen below lantern; by keeping light W S W vessels clear the east reefs off Pictou Island.
- PICTOU, in tower of new Custom House, lat 45 40 50 N, lon 62 42 10 W, fixed white light, visible 8 miles, 60 feet high. In range with lights at entrance to harbor leads through the channel up to the bar.
- MERIGOMISH, on King Head, entrance to harbor, lat 45 39 20 N, lon 62 28 30 W, fixed red light, visible 10 miles, white square wood building, 105 feet high.
- CARIBOU ISLAND, north-east part of Island, lat 45 46 N, lon 62 42 20 W, white light, revolving every minute, visible 10 miles, 35 feet high, white square wooden building, height 26 feet. Visible around horizon.

MACDONALD & CO., MANUFACTURERS OF BRASS SLIDING DOOR ROLLERS.—See *adh.* p. 3 cover.

VESSELS FITTED WITH PLUMBING FIXTURES BY MACDONALD & CO.

AMET ISLAND, centre of Island, Northumberland Straits, lat 45 50 15 N, lon 63 10 10 W, fixed white light, visible 10 miles, 44 feet high, building white, square, wood, lantern on top of dwelling, 26 feet high. Visible around horizon.

MULLIN POINT, north side of entrance to Wallace Harbor, Cumberland County, lat 45 49 45 N, lon 63 25 15 W, 2 fixed lights, one white, the other red, visible 11 miles, 39 feet high, white square wooden building, height 25 feet. For guiding vessels in and out of harbor. Red light shown from window in keeper's dwelling. Two lights in one form a range to lead across bar, and in channel up to Mullin's Point. Cask buoys are placed to mark the dangers on entering the harbor, black to the left on port and red on starboard when entering.

PUGWASH, in harbor, lat 45 52 30 N, lon 63 40 20 W, fixed light, red seaward, white toward harbor, visible 8 miles, 48 feet high, white square building, height 44 feet. Black buoys to be left on port hand and red on starboard when entering the harbor.

NEW BRUNSWICK.—Bay of Fundy.

HILLSBORO WHARF, Petitcodiac River, lat 45 55 15 N, lon 54 37 45 W, fixed white light, visible 5 miles, 14 feet high, structure open frame, height 22 feet. To guide vessels going up the river to the coal and plaster wharves.

GRINDSTONE, W part of Island, lat 45 43 13 N, lon 64 37 25 W, fixed white light, visible 12 miles, 60 feet high, octagonal white tower. Visible from N E by E round by N to E by S. Cape Enrage lighthouse, S W by W $\frac{1}{2}$ W, about 10 miles. In thick weather a trumpet sounds four blasts in every minute.

CAPE ENRAGE, pitch of Cape, lat 45 35 34 N, lon 64 46 55 W, fixed white light, visible 15 miles, 120 feet high, square white building, height 23 feet. Visible between the bearings of N W round S to N E. A steam fog whistle, 150 feet N E from the lighthouse, sounds during thick weather 4 seconds in every minute. Will probably be heard from 3 to 10 miles.

MARTIN'S HEAD, on summit of Head, lat 45 29 10 N, lon 65 11 25 W, fog horn operated by compressed air, sounds blasts of 14 seconds duration, with intervals of 46 seconds.

QUACO, on pitch of Cape, west head St. Martin's, lat 45 19 30 N, lon 65 32 0 W, revolving white every 20 seconds, visible 16 miles, height 110 feet, building white, square, wood, 49 feet high. General coast light to guide to St. Martin's Harbor, replaces light on reef. A black bell buoy off the reef in 14 fathoms, $\frac{1}{2}$ a mile S S E from light. Steam fog alarm to be established here.

CAPE SPENCER, pitch of Cape, lat 45 12 30 N, lon 65 54 W, red and white light, alternating every 45 seconds, visible 20 miles, 207 feet high, white square building with tower, height 35 feet. Visible between the bearings of E S E round by S to W N W, Partridge Island light bearing by compass N W by $\frac{1}{2}$ W northerly distant $6\frac{1}{2}$ miles.

PARTRIDGE ISLAND, St. John Harbor, lat 45 14 20 N, lon 66 3 20 W, fixed white light, visible 20 miles, 119 feet high, building red and white in vertical stripes, height 40 feet. In foggy weather a steam whistle sounds for 10 seconds every minute. A bell buoy near E side of Partridge Reef.

NEGRO POINT, on end of Government Breakwater, W entrance to Port of St. John, lat 45 14 25 N, lon 66 4 W, fixed red light, visible 8 miles, 40 feet high, building white, with red lantern, open frame hexagonal tower on circular stone foundation. 35 feet high.

ST. JOHN HARBOR, lat 45 15 10 N, lon 63 4 40 W, fixed white light, visible 10 miles, 35 feet high, building vertical, black and white stripes, height 15 feet.

VESSELS FITTED WITH PLUMBING FIXTURES BY MACDONALD & CO.

PICKFORD & BLACK, 51 UPPER WATER STREET, HALIFAX, N. S.

MACDONALD & CO., MANUFACTURERS OF BRASS SLIDING DOOR PARTS.

- MUSQUASH, E side of entrance, lat 45 8 35 N, lon 66 14 30 W, fixed light, green to seaward, white towards harbor, visible 10 miles, 112 feet high, tower white square, wood, dwelling attached, height 40 feet. An automatic signal buoy moored in 30 fathoms, S W by S $\frac{3}{4}$ S from light, S $\frac{1}{4}$ W from western head of Musquash, and W S W from Partridge Island, lat 45 7 10 N, lon 66 14 50 W.
- LEPREAU, on Point, lat 45 3 40 N, lon 66 27 39 W, 2 fixed white lights, vertical, 27 feet apart, visible 15 miles, upper light 81, lower 53 feet high, octagonal building, striped horizontally red and white, height 31 feet. Visible between the bearings of W N W around by S to E by N. Fog whistle during fogs and storms gives two blasts of 6 seconds duration, with an interval of five seconds, will shortly be replaced by a horn on the extreme point. Whistling buoy S S W, 1 mile from light moored in 23 fathoms.
- DREW HEAD, on W side of Beaver Harbor, Charlotte County, lat 45 3 45 N, lon 66 44 W, fixed white light, visible 10 miles, 45 feet high, white square wooden building, height 36 feet. Seen at all points between eastern and western heads of harbor.
- PEA POINT, E side of entrance l'Etang Harbor, lat 45 2 20 N, lon 66 48 40 W, fixed green light, visible 10 miles, 51 feet high, tower white, square, wood, dwelling attached, height 31 feet. Visible from E around S to N. An iron spindal, painted black, on the Grey Mare Ledge marks the W side of entrance.
- BLISS ISLAND, W end of Island, S side of western entrance to Bliss Harbor, lat 45 1 15 N, lon 66 51 W, fixed red light, visible 12 miles, 45 feet high, white, square, wooden building, height 30 feet.
- LETITE PASSAGE, on Masbabin Point, lat 45 2 20 N, lon 66 53 30 W. A fog trumpet sounds blasts of 7 seconds with an interval of 30 seconds between each.
- MIDJIC BLUFF, Passamaquoddy Bay, Charlotte County, lat 45 6 53 N, lon 66 54 30 W, fixed white light, visible 15 miles, 130 feet high, building white, square, wood, height 29 feet, lantern brown. A bar extends E N E from light house, and vessels require to keep off at a distance of 260 yards to clear it at low water.
- PORT ST. ANDREW'S, on Sand Reef at E entrance, lat 45 3 45 N, lon 67 0 50 W, fixed white light, visible 10 miles, 40 feet high, building white, square wood, on a framed pier, 10 feet high. To guide to all ports in inner bay, and to vessels going up the River St. Croix from Letite Passage or West Quoddy. There is only a depth of 4 feet of water on the N W extension of the reef towards main land.
- Also, on N point of entrance, lat 45 4 10 N, lon 67 2 50 W, fixed white light, 42 feet high, visible 10 miles, building white octagonal, 22 feet high. Visible between the bearings of N W by N by and S E by S.
- SPRUCE POINT, St. Croix River, Charlotte County, lat 45 10 N, lon 67 11 W, fixed white light, 32 feet high, white square building, height 28 feet. The course from Spruce Point to ballast ground is E by S $\frac{1}{4}$ S, distance 2 miles. From Spruce Point to Mark Point, W N W, distance 2 miles. A vessel after leaving Doucet Island to clear the reef should steer N until the Spruce Point light bears N W by W and thence takes a W N W course.
- MARK POINT, St. Croix River, Charlotte County, lat 45 10 10 N, lon 67 12 30 W, fixed white light, 32 feet high, square white building, height 28 feet.
- CAMPOBELLO ISLAND, N point of Head Harbor, lat 44 57 40 N, lon 66 54 10 W, fixed white light, visible 15 miles, 64 feet high, white octagonal tower with red cross, height 34 feet. This light enables vessels to enter Head Harbor at all times. It is also a guide to vessels entering the main channel, to West Isles, Moose Island, and the inner Bay of Passamaquoddy. Fog trumpet sounds blast of 8 seconds duration, with intervals of 35 seconds between them.

MACDONALD & CO., MANUFACTURERS OF COMPOSITION BUTT BOLTS AND SPIKES.—See p. 3 cover.

Residences and Public Buildings Fitted with Plumbing Fixtures by MACDONALD & CO.—See adv. p. 3 cover.

- LUBEC NARROWS, on Mulholland's Point, Campobello Island, lat 44 51 47 N, lon 66 58 50 W, fixed white light, visible 13 miles, 60 feet high, white octagonal, wood, height 45 feet.
- SOUTH WEST WOLF ISLAND, on S E Point of the Island lat 44 56 30 N, lon 66 40 10 W, white light revolving every 1½ minute, visible 17 to 20 miles, 111 feet high, building white, square, wood, height 35 feet. Lantern on dwelling; visible from points of approach.
- SWALLOW TAIL, N E part of Grand Manan, lat 44 45 52 N, lon 64 44 W, fixed white light, visible 17 miles, 148 feet high, white octagonal wooden building, height 50 feet. Visible between the bearing of S W round by S to N W. A steam fog whistle on extreme N W head of Grand Manan, 80 feet above high water, sounds in thick weather, fogs and snow storms, blasts of 4 seconds duration, with an interval of 16 seconds between intervals.
- GRAND HARBOR, Grand Manan, lat 44 40 2 N, lon 66 45 5 W. Fixed white light, visible 11 miles, 40 feet high, white square building height 32 feet, visible from all points seaward.
- BIG DUCK ISLAND, south end of Island. Fog alarm whistle in course of erection.
- SOUTH WEST HEAD, Grand Manan, lat 44 36 0 N, lon 66 54 16 W. Red and white revolving three red flashes 40 seconds, eclipsed 20 seconds, three white flashes 40 seconds, eclipse 20 seconds, minutes 2, visible 24 miles, 200 feet high, white square building attached, height 40 feet.
- OLD PROPRIETOR LEDGE.—A spindle beacon, painted red, placed in 1875 on Old Proprietor Ledge, on the S E Grand Manan Island, in lat 44 33 10 N, lon 66 40 W, has a cage elevated 31 feet above high water mark, and in clear weather should be seen from a distance of from 8 to 10 miles.
- GANNET ROCK, on rock, lat 44 30 38 N, lon 67 47 W, intermittent white light, visible 12 miles, 66 feet high, octagonal tower, height 41 feet, vertical black and white stripes. A gun is fired to answer signals during fogs and snow storms, once every hour. Dangerous rocks extend 4 miles east of the light house. Light 45 seconds, eclipse 5½ seconds, flash 4½ seconds, eclipse 5½ seconds, in every 60 seconds.
- MACHIAS SEAL ISLAND, 2 structures, first near middle of Island, lat 44 30 7 N, lon 67 6 13 W, fixed white light visible 15 miles, 54 feet high, white tower, height 36 feet. In range will lead 4¾ miles S of Murr Ledges. Second, 64 yards S E from first, fixed white light, visible 14 miles, 66 feet high, white octagonal wooden building, height 53 feet. A fog whistle sounds in thick weather, fogs and snow storms, 5 seconds in each half minute.
- FISH FLUKE POINT, E side of Grand Harbor, lat 44 42 N, lon 66 45 W, fixed white light, visible 11 miles, white square building. Visible from N through E to S W.
- SOUTH-WEST HEAD, on Gull Cliff, lat 44 36 N, lon 66 54 16 W, shows each 2 minutes 3 white flashes, and 3 red flashes, with intervals of eclipse, of 20 seconds, white square building, 100 feet high.

NEW BRUNSWICK.—Gulf of St. Lawrence.

- CAMPBELLTON RANGE LIGHTS.—Pier beside Railway Wharf, Restigouche River, lat 48 0 50 N, lon 66 39 40 W, fixed white light visible 9 miles, white, square, wood, height 24 feet, building 22 feet. On Moffat's wharf, fixed white light, visible 9 miles, white, square, wood, height 24 feet, building 22 feet.
- OAK POINT, Restigouche River, front light, lat 48 2 40 N, lon 66 36 30 W. Fixed white light, visible 11 miles, white square wood, height 40 feet, building 22 feet. Back light, fixed white light, visible 12 miles, white, square, wood, height 45 feet, building 22 feet. In range guide across the Traverse.

MACDONALD & CO., Brass Founders.—See adv. p. 3 cover.

Residences and Public Buildings Fitted with Plumbing Fixtures by MACDONALD & CO.—See adv. p. 3 cover.

MACDONALD & CO. MANUFACTURERS OF COMPOSITION BUTT BOLTS AND SPIRITS

PICKFORD & BLACK, WOODBERRY COTTON DUCK, 1 TO 2

PICKFORD & BLACK, Importers White Lead, Paints, Oils, 51 Upper Water Street.

- POINT A LA GARDE LIGHTBOAT, in 7 feet water, on Spit, S side of Main Channel, off Point, lat 48 3 10 N, lon 66 32 10 W, fixed white light, visible 3½ miles, small vessels, black hull with white spars, height 20 feet.
- DALHOUSIE RANGE LIGHTS, on Public Wharf Restigouche River, lat 48 4 40 N, lon 66 22 30 W, fixed white light, visible 9 miles, 24 feet high, white, square, wood building, height 22 feet, and on Montgomery Island, fixed white light, visible 9 miles, 27 feet high, white, square, wood building, height 22 feet.
- DALHOUSIE, south side of entrance to harbor, lat 48 3 45 N, lon 66 20 50 W, fixed white light, visible 13 miles, 49 feet high, building white, square, wood, height 33 feet, seen from all points of approach.
- HERON ISLAND, Chaleur Bay, lat 48 N, lon 66 8 W, fixed white light, visible 15 miles, 66 feet high, building white, square, wood, height 20 feet. Visible from all points seaward.
- LITTLE BELLEDUNE, on the Point, lat 47 55 20 N, lon 65 53 20 W, fixed white light, visible 15 miles, 66 feet high, white, square, wood building, 20 feet high. Visible from all points seaward.
- PETIT ROCHER, on Elm Tree Point, lat 47 48 39 N, lon 65 43 13 W, fixed white light, visible 12 miles, 35 feet high, building white, square, wood, 31 feet high.
- BATHURST, on Carron's Point, lat 47 39 10 N, lon 65 36 40 W, fixed lights, one white, visible 10 miles, building white. One red, visible 14 miles, 43 feet high, tower red and white striped, square, wood. Range lights, to guide vessels in the harbor.
- CLIFTON, at head of pier, lat 47 45 30 N, lon 65 21 0 W, fixed red light, visible 15 miles, 88 feet high, white square wood building, 37 feet high.
- CARAQUET, on Island, Bay of Chaleur, lat 47 59 40 N, lon 62 54 W, fixed white light, visible 14 miles, 52 feet high, white square tower on dwelling, height 48 feet.
- POKESUDIE, N E point of Island, lat 47 49 10 N, lon 64 44 40 W, fixed white light, visible 11 miles, 41 feet high, building white, square, wood, 34 feet high.
- LITTLE SHIPPEGAN--Beacon light to be erected.
- GOOSE LAKE, W side of Miscon Island, lat 47 54 43 N, lon 64 35 40 W, white light, revolving every minute, visible 10 miles, 40 feet high, building white, square, wood, height 28 feet. Complete revolution every two minutes.
- SHIPPEGAN, on Alexander Point, N E of entrance to gully, lat 47 43 30 N, lon 64 39 25 W, fixed white light, visible 11 miles, white, square, wood, 32 feet high, height 30 feet: also range light 484 feet S W by W from main light, fixed white light, visible 9 miles, 22 feet high, lantern on pole, height 20 feet. These lights range with buoy outside bar at entrance of gully.
- MISCOU ISLAND, Birch Point, lat 48 1 N, lon 64 29 25 W, fixed red light, visible 12 miles, 79 feet high, building white, octagonal, wood, height 74 feet. A steam fog whistle, placed in 1875, and situated 107 yards east from the lighthouse, sounds in thick weather, fogs and storms, blasts of five seconds' duration every half minute.
- POKEMOUCHE, on beach, N side of gully, lat 47 40 10 N, lon 64 46 0 W, fixed green, visible 8 miles, white, square, wood, dwelling attached, light 35 feet high, building 37 feet; also 270 feet S by W ¾ W from main light, fixed red, visible 5 miles; lantern on a pole travelling on a tramway to suit changes in channel, 28 feet high. Range to guide to to can buoy at passage over bar.
- NORTH TRACADIE, one on north side of gully, the other outside of bar, lat 47 32 14 N, lon 64 51 35 W, 2 fixed white lights, visible 12 miles, 32 and 17 feet high, structures white, square, wood, one 30 feet high, and the other 14 feet high. Coast and harbor range lights.

MACDONALD & CO., MANUFACTURERS OF BRASS SLIDING-DOOR ROLLERS.—See adn. p. 3 cover.

VESSELS FITTED WITH PLUMBING FIXTURES BY MACDONALD & CO.—See adn. page 3 cover.

SOUTH TRACADIE, N side of gully, lat 47 30 N, lon 64 52 10 W, 2 fixed lights, visible 8 miles, back light red, 26 feet high, 166 yards north from front one, front light white, 20 feet high, front building an open framed white tower, 19 feet high, back building, height 26 feet, an enclosed square tower painted red. Vessels crossing the bar from sea should steer N, keeping the lights in range. Width of bar, 2 cable lengths.

TABUSINTAC, Crab Island, lat 47 18 54, lon 64 59 30 W, 2 fixed lights, front white, back red, visible 7 miles, 32 feet high, building white, square, wood, height 29 feet; also a range light 150 feet S $\frac{1}{2}$ W, from main light, fixed white, visible 3 miles, 23 feet high, a lantern on a pole, height 20 feet. Coast and harbor range lights, outer light is movable to suit the shifting of the channel.

NEGUAC, lat 47 17 47 N, lon 65 3 20 W, fixed white light, visible 11 miles, 32 feet high, white square wooden building, height 30 feet. Coast light situate N E side of gully.

HAY ISLAND, lat 47 14 10 N, lon 65 3 40 W, two fixed white lights, front light near east end of Island, visible 10 miles, height 23 feet, lantern on mast with red shed at base, height 15 feet, back light 210 feet from front light, visible 11 miles, 30 feet high, building white, square, wood, height 21 feet. Range lights to enable vessels seeking shelter to clear the point of the shoal off the east end of the Island.

PORTAGE ISLAND on S point of Island, lat 47 9 50 N, lon 65 2 40 W, fixed white light, visible 12 miles, 46 feet high, building white, wood, height 42 feet.

OAK POINT, Front, on the Point, Miramichi, lat 47 7 40 N, lon 65 15 10 W, visible 10 miles, 43 feet high, lantern hoisted on a mast, with white shed at base, all supported on trestle work, height 28 feet.

OAK POINT, Back, 1800 feet N, 55 E from front light, fixed white, visible 10 miles, 48 feet high, same as front light. In one lead to red buoy in river above.

SHELDRAKE ISLAND, Miramichi Bay, lat 47 6 50 N, lon 65 18 W, 2 fixed white lights, quarter of a mile apart, visible 9 miles, 48 feet high. Range lights.

GRANT'S BEACH, Front, Miramichi Bay, lat 47 5 30 N, lon 65 28 10 W, fixed white light, visible 10 miles, 120 feet high; also Grant's Beach, Back, 1300 feet N 66 W, from front, fixed white light, visible 10 miles, 140 feet high, building same as Oak Point, height 34 feet. In one lead to Nappan black buoy.

MIDDLE ISLAND, Miramichi River, lat 47 0 3 N, lon 65 19 9 W, fixed white light, 45 feet high. Range light.

NEWCASTLE, on lime kiln bank, N side of river, below the town, lat 47 0 45 N, lon 65 33 40 W, fixed red light, visible 9 miles, 87 feet high, white, square, wood, with red roof, height 23 feet.

BAY DU VIN ISLAND, front light on west end of island, lat 47 5 20 N, lon 65 7 5 W, 1 fixed white light, visible 10 miles. Lantern on mast, red shade at base, 30 feet high. Back light 1222 feet east from front light, visible 11 miles, lantern on mast, red shed at base, 42 feet high. Range lights.

FOX ISLAND, N W Point, lat 47 8 5 N, lon 65 2 20 W, 3 fixed white lights, visible 8 miles. No. 1, 50, No. 2, 46, and No. 3, 36 feet high; all lanterns on masts, with white shed at base, height 40, 38 and 28 feet. No. 1, 100 feet from northernmost point of Island. No. 2, 1051 feet S E $\frac{1}{2}$ E from No. 1. No. 3, 954 feet S W from No. 1. Nos. 1 and 2 in line, range N W $\frac{1}{2}$ N into the Horseshoe Channel. Nos. 1 and 3 in line, range N E through Portage Island Channel. Nos. 2 and 3 in line, range W by N, to the upper buoy of Horseshoe Shoals.

PICKFORD & BLACK, AMERICAN TAR, PITCH, ROSIN, 51 UPPER WATER ST.

VESSELS FITTED WITH PLUMBING FIXTURES BY MACDONALD & CO.—See adv. page 3 cover.

Brass Ventilators made by MACDONALD & CO.—See adv. p. 3, cover.

- FOX ISLAND, East end, lat 47 6 50 N, lon 65 0 10 W, 2 fixed white lights, visible 10 miles, 30 feet high, white wooden building. Range lights to guide vessels through the Swashway Channel.
- MIRAMICHI BAY LIGHTSHIP, Horseshoe Bar, between Fox and Portage Islands, lat 47 8 N, lon 65 3 W, fixed red light, visible 8 miles, 35 feet high. A schooner rigged ship.
- PRESTON BEACH, Miramichi Bay, lat 47 4 50 N, lon 65 54 40 W, 2 fixed white lights, visible 10 miles, 55 and 64 feet high. Range lights.
- ESCUMINAC, on point, lat 47 4 32 N, lon 64 47 30 W, fixed white light, visible 14 miles, 70 feet high, white wooden building, height 58 feet. A steam fog whistle situated 100 yards W of the lighthouse, sounds in thick weather, fogs and snow storms, 10 seconds in each minute, with an interval of 50 seconds between each blast. It should be heard from 3 to 11 miles, according to the state of the weather
- RICHIBUCTO HARBOR, on outside of bank, S beach, lat 46 42 46 N, lon 64 16 10 W, fixed white light, visible 12 miles, 40 feet high, tower white, square, wood, dwelling attached, height 33 feet. Also, 102 yards W, by S $\frac{1}{2}$ S from front light, fixed red light, visible 12 miles, 44 feet high, white square open framed tower, height 43 feet To replace dry beacons and lead through channel over bar at entrance to river.
- RICHIBUCTO HEAD, on headland, lat 46 39 40 N, lon 64 42 30 W, fixed white light, visible 14 miles, 70 feet high, white square building, height 50 feet.
- BUCTOUCHE INNER LIGHTS, 2 fixed white lights, front light close to shore road on Indian or Church Point, lat 45 20 35 N, visible 9 miles, 23 feet high, building white, square, wood, with red roof, 23 feet high. Back light, 1,980 feet N N W $\frac{1}{4}$ W from front one, visible 12 miles, 53 feet high, building white, square, wood, with red roof, 23 feet high. Range lights, visible in direction of range replacing former day beacons. Lead into harbor through deepest channel clear of all obstructions from line of range of Dixon's Point lights to where channel turns abruptly to westward to enter Buctouche River.
- BUCTOUCHE RIVER, on Dixon's Point, lat 46 27 40 N, lon 64 38 50 W, 2 fixed white lights, N W by W, 1050 feet apart, visible 11 and 12 miles, square white towers, 36 and 41 feet high. Range lights built on line of former day beacons, to guide into Buctouche Harbor.
- CASSIA'S POINT, on Point, lat 46 19 15 N, lon 64 30 20 W, white light, revolving every half a minute, visible 14 miles, 40 feet high, white square wooden building, height 27 feet.
- SHEDIAC ISLAND, lat 46 15 20 N, lon 64 31 50 W, 2 fixed white lights, visible 10 miles, 48 and 56 feet high. Beacons.
- SHEDIAC HARBOR, Duchene wharf, lat 46 14 20 N, lon 64 31 W, 2 fixed white lights, visible 6 miles, 15 feet high, on poles. Not under Marine Department.
- JOURIMAIN, on east end of Island, lat 46 10 N, lon 63 48 30 W, flash white light, 10 seconds, visible 14 miles, 75 feet high, white octagonal tower, height 45 feet. Visible from S E round to N W.

GULF OF ST. LAWRENCE.

- ST. PAUL'S ISLAND, on rock off N E point of Island, lat 47 13 50 N, lon 60 8 20 W, fixed white, visible 20 miles, 140 feet high, white octagonal wood building, height 40 feet. Obscured between N by E $\frac{1}{2}$ E and E N E. Not lit from December 31st to April 1st, unless open water is visible.
- ST. PAUL'S ISLAND, S W point of Island, lat 47 11 20 N, lon 60 9 40 W, white revolving light every minute; visible 20 miles, 140 feet high, white octagonal wood building, height 40 feet. Obscured on bearings from S S E to W $\frac{1}{2}$ N. Not lit from 31st December to 1st April, unless open

water is visible. A fog whistle on the S side of the Island, S W of Atlantic Cove, about $\frac{1}{2}$ mile from the Humane Establishment, sounds for 5 seconds in each minute.

CARLETON POINT, Bay of Chaleur, lat 48 5 15 N, lon 66 7 0 W, fixed white light, visible 12 miles, 32 feet high, white wood building, height 28 ft.

PASPEDJAC, near extremity of Spit, lat 48 0 54 N, lon 65 14 20 W, fixed white light, visible 13 miles, 55 feet high, white square wood building, height 54 feet. In running into the harbor the light changes to red, covering the anchorage.

MAQUEREAU POINT, Bay of Chaleur, lat 48 12 30 N, lon 64 46 12 W, alternate red and white every minute, visible 12 miles, 56 feet high, white square building, height 27 feet. Marine telegraph and signal station.

GRAND RIVER, mouth of river, coast of Gaspé, lat 48 24 15 N, lon 64 28 35 W, fixed red, visible 8 miles, 52 feet high, white, hexagonal, wood, with red iron lantern, height 43 feet.

CAPE DESPAIR, Bay of Chaleur, lat 48 25 40 N, lon 64 18 20 W, revolving white light every $\frac{1}{2}$ minute, visible 15 miles, 90 feet high, white, square, wood, with red roof, height 18 feet. Marine telegraph and signal station.

PEARCE, on Whitehead Cape, lat 48 30 30 N, lon 64 13 0 W, fixed white light, visible 13 miles, 138 feet high, white square wood building, height 20 feet.

POINT PETER, on a flat rock or plateau off the Point, lat 48 37 30 N, lon 64 8 45 W, revolving red light every 30 seconds, visible 10 miles, 77 feet high, white, square, wood, with dwelling attached, height 50 feet, visible from all points seaward.

GASPE, O'Hara Point Wharf, Basin, lat 48 49 53 N, lon 64 31 41 W, fixed red, visible 7 miles, 30 feet high.

GASPE BAY LIGHTSHIP—At Sandy Beach Point, moored off extreme of Spit, lat 48 50 45 N, lon 64 24 30 W, two, red 29, white 37 feet from deck, fixed lights, painted red, with "light vessel" on her side. Red on fore and white on main mast.

GASPE CAPE, lat 48 45 15 N, lon 64 9 15 W, fixed red, visible 12 miles, square, wood, with dwelling attached, light 350 feet high, building 30 feet. A fog gun is fired every half hour.

CAPE ROSIER, on Cape, lat 48 51 57 N, lon 64 12 0 W, fixed white, visible 16 miles, white circular, clapboarded, light 136 feet high, building 112 feet. A steam fog whistle sounds a blast of 10 seconds every minute. Marine telegraph and signal station.

HEATH POINT, East end, Anticosti Island, lat 49 5 20 N, lon 61 42 30 W, fixed white light, visible 15 miles, white, with a red horizontal band, circular, faced and clapboarded, light 110 feet high, building 90 feet. The lighthouse is always kept open to the southward of Cormorant Point; visible between the bearings S W by W to E. Depot of provisions here for shipwrecks. A fog gun is fired every half hour. Marine telegraph and signal and ice report station.

BAGOT'S BLUFF, $\frac{1}{2}$ mile W from S point, Anticosti Island, lat 49 4 0 N, lon 62 15 10 W, flash white light every 20 seconds, visible 14 miles, white with a red vertical stripe, hexagonal, light 75 feet high, building 54 feet. A fog whistle 100 yards E of lighthouse sound for 10 seconds in every minute. Marine telegraph and signal and ice report station.

SOUTH WEST POINT Anticosti Island, lat 49 23 45 N, lon 63 35 46 W, revolving white light every minute, visible 15 miles, white, with two red horizontal bands, circular, clapboarded, light 100 feet high, building 75 feet, visible between bearings of N N W, round by southward to S E by E. Marine telegraph and signal and ice report station.

WEST POINT, extreme W point, Anticosti Island, lat 49 52 30 N, lon 64 31 40 W, flash white light every minute, visible 15 miles, white, with

RESIDENCES and PUBLIC BUILDINGS FITTED with STEAM HEATING APPARATUS by MACDONALD & CO.

PICKFORD & BLACK, IRON SPIRES, CUT NAILS, 51 UPPER WATER STREET.

PICKFORD & BLACK Importers of Chain Cables and Anchors, 51 Upper Water Street.

MACDONALD & CO., Manufacturers of Plumbers Brass Goods.—See *adv.* p. 3 cover.

two red vertical stripes, circular, clapboarded, light 112 feet high, building 109 feet. A fog gun is fired every half hour. Marine telegraph and signal and ice report station.

FAME POINT, County of Gaspé, South Coast, lat 49 6 48 N, lon 64 36 20 W, fixed and flash light, white with red flashes every 20 seconds, visible 20 miles, white, with a black horizontal band, square, wood, light 200 feet high, building 50 feet. Marine telegraph and signal station.

CAPE MAGDALEN, on Cape, lat 49 15 40 N, lon 65 19 30 W, alternating red and white light every 2 minutes, visible red 15, white 20 miles, white, with a black vertical stripe, hexagonal, light 147 feet high, building 54 feet. Marine telegraph and signal station.

MARTIN RIVER, on S shore, Gaspé County, lat 49 13 25 N, lon 66 9 0 W, fixed white light, visible 17 miles, white, with two black horizontal bands, square, wood, with dwelling attached, light 125 feet high, building 54 feet.

SEVEN ISLANDS, on Carousel Island, lat 50 5 40 N, lon 66 22 44 W, fixed white light, visible 20 miles, white, with a red horizontal band, square, wood, with dwelling attached, light 200 feet high, building 39 feet.

POINT ST. ANNE, 11 miles E from Cape Chatte light, lat 49 8 20 N, lon 66 33 30 W. Fog horn sounds a blast of 8 seconds in every minute.

CAPE CHATTE, N E point of Cape, lat 49 5 55 N, lon 66 45 29 W, revolving white light every 30 seconds, visible 18 miles, white, with two black vertical stripes, square, wood, light 120 feet high, building 26 feet; visible from all points of approach seaward. Marine telegraph and signal station.

EGG ISLAND, 200 yards from S end of Island, lat 49 38 0 N, lon 67 10 0 W, revolving white light every 1½ minute, visible 15 miles, white, with a red vertical stripe, octagonal, surmounting dwelling, light 70 feet high, building 35 feet.

POINT DES MONTS, about 1¼ mile N E of Point, lat 49 19 35 N, lon 67 21 55 W, fixed white light, visible 15 miles, white, with two red horizontal bands, circular, clapboarded, light 100 feet high, building 75 feet. A fog gun is fired every half hour. Marine telegraph and signal station.

PRINCE EDWARD ISLAND.

NORTH POINT, on Point, lat 47 3 46 N, lon 63 59 10 W, white light, revolving every minute, visible 14 miles, 80 feet high, white octagonal building, height 60 feet.

WEST POINT, on Sand Beach, lat 46 37 30 N, lon 64 23 10 W, red and white revolving light, one red and three white flashes in 1½ minutes; greatest brilliancy every 22½ seconds, visible 13 miles, 66 feet high, square wooden building, broad red and white horizontal bands, height 67 feet.

CAPE EGMONT, on Point, lat 46 24 20 N, lon 64 7 45 W, fixed red light, 72 feet high, visible 10 miles, white, square, wood, with dwelling attached, height 45 feet.

SUMMERSIDE, Railway Wharf, Bedeque Bay, lat 46 23 25 N, lon 63 30 W, fixed white light, visible 10 miles, 33 feet high, square tower on roof of railway freight shed, height 30 feet.

INDIAN POINT, east side of shoal on S side of Channel in Bedeque Bay, lat 46 22 40 N, lon 63 48 50 W, fixed white and green arc, visible 13 miles, building octagonal, white. Green between E by N ¼ N, E S E over Miscouche shoals only.

SEA COW HEAD, or Salutation Head, lat 46 19 10 N, lon 63 48 20 W, fixed white light, visible 15 miles, 88 feet high, white octagonal building, height 60 feet.

CRAPAUD, west end of bridge, at head of harbor, lat 49 13 0 N, lon 64 8 0 W, fixed white and blue light, visible 6 miles, 41 feet high, white, square,

Iron Pipes, all sizes, at MACDONALD & CO.'S.—See *p.* 3 cover.

wooden building, height 38 feet. Inner range light, about $\frac{1}{2}$ mile N from outer one, fixed white light, visible 6 miles, 60 feet high, shown from dormer window of a house, height 24 feet. White light in front tower shows S W over Tryon Shoals, and blue light in line of channel only. The two lights in range lead to Can Buoy on Cameron's Reef and a Cask Buoy on Tryon Shoal. After passing these buoys the course is north-west to sheltered anchorage. At entrance to dredged channel is another Cask Buoy, whence the channel to the wharf is straight and marked by spar buoys and bushes. This last should not be attempted by strangers at night.

ST. PETER'S ISLAND, on S side of Island, Hillsborough Bay, lat 46 7 15 N, lon 63 10 30 W, fixed red light, visible 10 miles, 70 feet high, white, square, wood building, 38 feet high. Shows between W $\frac{1}{2}$ S and S E by S over an arc of 240°.

BLOCKHOUSE POINT, at west side of entrance to Charlottetown Harbor, lat 46 11 36 N, lon 63 7 28 W, fixed lights, two in one tower, 21 feet apart, vertically, upper white, visible 12 miles, 56 feet high, lower red, 35 feet, visible 3 miles, building white, square wood, with dwelling and signal mast attached, height 42 feet. The lower light is a streak from a window of the tower, showing only towards the bell buoy. Vessels entering, on coming into this streak, should steer for the light until they make the bell buoy, they should then steer N by E $\frac{3}{4}$ E for 2 $\frac{1}{2}$ miles, when the port buoy will be made; they should then steer for the entrance to the harbor N $\frac{1}{2}$ E.

ORWELL HARBOR, at Brush wharf, 1 fixed red light, visible 8 miles, building white, square, wood, height 28 feet, light shows south-west.

POINT PRIM, S E extremity of Hillsborough Bay, 100 yards from the point, lat 46 3 10 N, lon 63 2 W, fixed white light, visible 12 miles, 68 feet high, building white, circular, brick, height 55 feet. Bell buoy on east side of channel, black buoy on west side, 2 $\frac{1}{4}$ N by E $\frac{3}{4}$ E from bell buoy harborward.

WOOD ISLAND, off south point, lat 45 57 22 N, lon 62 44 30 W, fixed white light, visible 15 miles, 80 feet high, tower white, square, wood, with dwelling attached, height 40 feet.

CAPE BEAR, on the headland, lat 46 0 35 N, lon 62 27 15 W, one revolving red, every 30 seconds, visible 12 miles, 74 feet high, building, white, square, wood, with dwelling attached, 46 feet high.

MURRAY HARBOR, on edge of Sand Bar, S side of harbor, lat 46 1 28, N lon 62 28 25 W, fixed white light, visible 8 miles, 33 feet high, tower 30 feet. Also, on mainland, about a mile west by south from front light, fixed white, visible 10 miles, 57 feet high, tower white square, height 40 feet. In one, these range lights show the channel to the outer buoy.

PANMURE HEAD, S E extremity of Cardigan Bay, lat 46 8 55 N, lon 62 27 40 W, fixed white light, visible 16 miles, 96 feet high, white octagonal wooden building, height 50 feet. This light should be kept open off Terras Point, to clear reef of Cape Bear.

CARDIGAN RIVER, between Ferry wharf and Morrison's Beach, west shore of river, lat 46 12 50 N, lon 62 31 45 W, fixed light, green and white, visible 8 miles, 43 feet high, building white, square, wood, 32 feet high. Green seaward, white across river to N eastward on entering the river. Vessels can stand northward inside Broughton Island, until Panmure Island light bears south by west, and Cardigan River light north-west, when they can stand in, keeping light open on port bow, when white light is opened, safe anchorage has been reached.

GEORGETOWN, St. Andrew's Point, lat 46 9 57 N, lon 62 31 23 W, fixed light, red, visible 10 miles, 36 feet high, building white, square, wood, height 20 feet. On Westaway's farm, $\frac{1}{2}$ mile N W by W $\frac{1}{2}$ W from front light,

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MACDONALD & CO., MANUFACTURERS OF BRASS BINNACLE GUARDS.—See adv. p. 3 cover.

PICKFORD & BLACK, IMPORTERS OF DUCKS AND DRILLINGS, 51 UPPER WATER STREET.

- fixed white, visible 12 miles, 50 feet high, lantern on mast height 30 feet. The two in range lead in to the point clear of obstructions.
- SOURIS EAST**, Knight's Point, 300 feet S E of breakwater, lat 46 20 50 N, lon 62 14 30 W, fixed white light with red streak, visible 15 miles, 85 feet high, white, square, wood with dwelling attached, height 45 feet. Vessels open red streak when light bears S E by S. They are then inside breakwater, and by rounding up and keeping the red light open will come to safe anchorage off the head of Railway Wharf.
- EAST POINT**, 200 feet from extreme point, lat 46 27 15 N, lon 61 50 0 W, white light, revolving every three minutes, visible 15 miles, 100 feet high, building white, octagonal, wood, height 60 feet. A fog horn operated by compressed air, sounds a blast of 8 seconds duration every half minute. It stands 100 feet eastward of lighthouse. Fog alarm building in line with tower roughly indicates range of outer point of reef.
- St. PETER'S**, 2 lights, one on outer end of breakwater, lat 46 26 30 N, lon 62 44 30 W, fixed white light, visible 6 miles, 35 feet high, white, square, wooden tower, height 35 feet. The other light on Sand Beach, 126 yards S W by S from front light, also fixed white and visible 6 miles, 32 feet high, white, square, open frame, height 33 feet. Range lights to lead into harbor, the inner one is liable to be moved to suit shifting of the channel.
- SAVAGE HARBOR**, on McEachern's farm, on inner shore of harbor, lat 46 25 40 N, lon 62 48 30 W, fixed white light, visible 5 miles, 22 feet high, mast with brown shed at base, height 20 feet. Inner light 330 feet S $\frac{1}{2}$ E from outer light, fixed white light, visible 5 miles, 30 feet high, mast with brown shed at base, height 25 feet. Lights in range lead to mid-channel buoy outside bar. Vessels open the lights on starboard bow after passing buoy, until inner fairway buoy is reached whence channel leaves range. Only 5 feet water on bar at low tide, outer light liable to be moved.
- TRACADIE**, on beach west side of channel, 233 yards N E by N from back light, lat 46 25 20 N, lon 63 2 30 W, 2 fixed red lights, visible 10 and 9 miles, height 30 and 19 feet, open square frame work, 32 and 21 feet high. In one, lead through the channel over the bar. Position of both towers liable to be changed to suit shifting of the channel.
- SOUTH, OR LITTLE RUSTICO**, south-east end of Robinson's Sound, about 3 miles S E of Grand Rustico, lat 46 26 25 N, lon 63 13 38 W, 2 fixed white lights, visible 6 miles, 26 and 17 feet high, on masts, height 22 and 14 feet. In one, lead through the channel at entrance to harbor. Position of both towers liable to be changed.
- COVE HEAD**, range lights, 225 feet apart, 2 fixed lights, back light white, front one green, visible 3 miles. Lantern on masts 33 and 23 feet high. Back light liable to be moved to suit changes in the channel. Only four feet on bar.
- NORTH, OR GRAND RUSTICO**, west side of entrance to harbor, lat 46 27 42 N; lon 63 17 15 W, fixed white light, visible 8 miles, 49 feet high, white, square, wood, with dwelling attached, 35 feet high, also 225 feet E N $\frac{1}{2}$ N from main light fixed red light visible, visible 5 miles, 22 feet high, lantern on mast. Both lights show from S E round by S to N N E. The two, in range, lead to black can buoy outside bar in 13 feet water. From this the course in is first W by S $\frac{1}{2}$ S, then S W to point of beach. Outer light liable to be moved to suit channel.
- NEW LONDON**, west side of entrance to Granville Harbor, lat 46 31 10 N, lon 63 28 45 W, one fixed red light, visible 10 miles, building white, square, wood, with dwelling attached, height 40 feet. Range light 500 feet N E of main light, 1 fixed white, visible 3 miles, white, square open frame, 24 feet high. The two lights in range show the entrance to the harbor. Outer range light liable to be moved to suit shifting of the channel.

MACDONALD & CO., Manufacturers of Ship's Patent Water Closets.—See art. p. 8, cover.

MACDONALD & CO., Manufacturers of Deep Sea and Hand Leads.

Residences and Public Buildings Fitted with Hot Water Heating Apparatus by MACDONALD & CO.—See p. 3 cover

FISH ISLAND, entrance to Malpeque or Richmond Bay, on inside of island, lat 46 34 44 N, 63 42 29 W, 2 fixed white lights, 400 yards apart, E by S and W by N, visible 12 and 6 miles, 50 and 18 feet high, towers higher, white, square, wood, with dwelling attached, 46 feet high; lower, open frame work, lantern white, height 22 feet. The main light is a sea light; the smaller one, in range with it, shows the channel over the bar.

LITTLE CHANNEL, on Conway Island, N side, lat 46 40 N, lon 63 52 40 W, 2 fixed white lights, 66 yards apart, one visible 10 miles, 26 feet high, white, square building, height 30 feet; the other visible 8 miles, 16 feet high, building open frame work, lantern white 20 feet high. In one, lead through channel at entrance of harbor. Outer light liable to be moved to suit changes in channel.

CASCUMPEC, or Alberton, on S W part of Sandy Island, lat 46 48 22 N, lon 64 2 15 W, fixed white light, visible 12 miles, 45 feet high, white, square, wood, with dwelling attached, height 41 feet, coast light, and two range fixed red lights, one near inner end of Railway Wharf, lat 46 48 0 N, lon 64 3 0 W, visible 9 miles, on a mast with slatwork, day beacon height 22 feet, also on the village square, fixed red light, visible 11 miles, 40 feet high, open frame tower, surmounted with a mast 22 feet high, back light is about 1,100 feet due west from the front light, and leads a direct course from the outer buoy up the harbor.

BIG TIGNISH, on beach at inner end of north Breakwater Pier, lat 46 57 35 N, lon 63 59 20 W, fixed white light, visible 11 miles, 35 feet high, white with a black horizontal band, square wood building, height 33 feet, and on outer end of north Breakwater, pier 620 feet S E $\frac{1}{2}$ E from main light fixed red, visible 5 miles, lantern 18 feet high on mast height 14 feet. These two lights in range guide in between the breakwater, the outer light also shows end of pier and is for convenience of small vessels only.

NEWFOUNDLAND.

Cape Bauld.—On high ground near extremity, lat 51 38 50 N, lon 55 25 W, red and white alternate 45 seconds, 141 feet high, building white, square, 60 feet high, visible 18 miles. Fog horn in thick weather, sounds 10 seconds every minute.

Cape Norman, Straits of Belle Isle, lat 51 38 N, lon 55 53 40 W, white light, revolving every two minutes, visible 20 miles, 138 feet high, white hexagonal tower, height 40 feet. Visible from all points of approach seaward.

Point Rich, Straits of Belle Isle, lat 50 41 50 N, lon 57 27 40 W, flash white light, every fifteen seconds, visible 18 miles, 130 feet high, white hexagonal tower, height 40 feet. Visible from all points of approach seaward.

Cape Ray, on west side of Cape, lat 47 37 N, lon 59 18 W, flash white light every 10 seconds, visible 20 miles, white hexagonal tower, 41 feet high; at a long distance flashes not observed. In thick and foggy weather and during snow storms a steam fog horn gives a blast of 10 seconds in each minute, leaving an interval of 50 seconds between each blast. Heard from 3 to 10 miles, according to the state of the atmosphere and wind. Marine telegraph and signal and ice report station.

Gull Island, on Summit, lat 50 0 N, lon 55 22 W, one white light, occulting every 20 seconds, building circular, red and white stripes, 43 feet high.

Long Point, Toulingate, lat 49 41 N, lon 54 49 W, revolving white light, every 30 seconds, visible 27 miles, 331 feet high, tower red, keeper's dwelling attached, white with red roof.

Can Island, Seldom-come-by, lat 49 25 5 N, lon 44 10 35 W, fixed white light, 85 feet high, visible 10 $\frac{1}{2}$ miles, tower and dwelling of wood and attached. The light illuminates an arc of the horizon of 270°.

- Offer Wadham Island, lat 49 16 N, lon 53 45 W, fixed white light, 100 feet high, visible 10 miles, circular brick tower, dwelling white and detached.
- Cabot, Stinking Island, Bonavista Bay, lat 49 10 26 N, lon 53 21 21 W, white light, making one complete revolution in a minute, appearing about 11 seconds and 9 seconds dark. Iron light tower in centre of square wooden building. Roofs flat; sides banded horizontally, red and white alternately.
- Puffin Island, Greenspond, lat 49 3 37 N, lon 53 37 27 W, fixed red light, 85 feet high, visible 10½ miles, lighthouse granite with dwelling attached. The light is visible N by E through S to W by N by compass.
- Cape Bonavista, lat 48 41 50 N, lon 53 5 20 W, revolving light, alternately white and red every 90 seconds, 150 feet high, visible 15 miles. By keeping this light open with Cape L'Argent it will carry you clear of the Flower Rocks.
- Green Island, at the entrance of Catalina Harbor, Trinity Bay, lat 48 30 16 N, lon 53 2 40 W, fixed white light, 92 feet above high water, visible from E N E seaward to S W 11 miles. Vessels bound northward by keeping this light open with the North Head of Catalina until Bonavista light opens with Cape LeJean, will give the Flower Rocks an ample berth; or when coming from northward and bound for Catalina, by giving the N Head a moderate berth, will clear the Brandies Rocks by steering from Green Island Light.
- Fort Point, Trinity, lat 48 21 55 N, lon 53 20 51 W, fixed white light visible 11 miles, upon a wooden tower painted white, 75 feet high. This light illuminates the arc of the horizon of 320°. In entering the harbor the light must be kept on the port hand.
- Baccalieu Island, northern end, lat 48 8 51 N, lon 52 47 50 W, white revolving light, showing a flash every 20 seconds, height 443 feet above high water, visible 24 miles, brick tower, dwelling white with red roof, detached from the tower. When the southern end of the island bears N N E the light will not be visible when nearer the island than 8 miles.
- Carbonear Island, lat 47 44 24 N, lon 53 9 22 W, fixed white light, 195 feet high, visible 16 miles, tower and dwelling in one building; the whole horizon is illuminated.
- Harbor Grace Island, lat 47 42 45 N, lon 53 8 15 W, revolving light, 2 white flashes followed by one red, each attains its greatest brilliancy every 30 seconds, visible 15 miles.
- Harbor Grace Beach Beacon and light, lat 47 41 28 N, lon 53 12 35 W, fixed white light, 40 feet high, in a white tower on the point of beach at the entrance of Harbor Grace; visible 7½ miles. Entering it with a fair or leading wind, bring it to bear W or W by S, and by keeping the light or building a little on the starboard bow, it will bring you clear of the bar, on which at low water there is not more than 8 feet of water.
- Green Point, Bay Roberts, on Point, lat 47 37 N, lon 53 10 W, one white light fixed, visible 8 miles. Building circular, red and white bands. Immediately beneath the principal light is a projecting lantern from which 3 lights are exhibited. The two outer lights show white and the centre light in line with Southern Rocks bearing S W ½ W show red.
- Cape St. Francis, lat 47 48 30 N, lon 52 46 50 W, fixed red light, 123 feet high, visible 12 miles.
- Cape St. Francis Fog Alarm.—During thick weather and snow storms a powerful Siren Trumpet will be sounded 5 seconds—5 seconds and silent 45 seconds in each minute. The buildings are of wood, painted white, the roofs flat, lantern on higher roof elevated above it on a square block; the lower building is the fog alarm house.
- Fort Amherst, at the entrance of St. John's, lat 47 35 54 N, lon 52 40 18 W, fixed white light, 114 feet high, visible 12 miles. When Cape Spear is enveloped in fog a heavy piece of ordinance is also discharged at this fort every hour during daylight, to assist vessels in making the harbor.

MACDONALD & CO., Manufacturers of Brass Binnacles and Stands.—See adv. p. 3 cover.

PICKFORD & BLACK, IMPORTERS OF WELSH BOLT IRON SPIKES.

- St. John, 2 red lights intended as leading marks for vessels entering the Narrows. The lower light is on a mast on the roof of the Custom House. The upper light (400 yards in the rear) in a small tower, near the N E angle of the Congregational Church, 180 feet high. As leading marks during the day there is a disc on the mast head of the Custom House, and another on the apex of the tower roof—the discs are painted white. By keeping these lights or discs in line the largest vessels will clear all danger.
- Cape Spear, lat 47 31 11 N, lon 52 36 59 W, white light revolving every minute, visible 22 miles, 264 feet high.
- Cape Spear Alarm.—A trumpet, sounded by the escape of compressed air, was placed in 1878 at this station, in a wooden building on the Bill of the Cape, nearly 600 yards N N E from the light house. It will be sounded for 7 seconds of each minute during thick weather or snow storms. The range of sound will probably be from $\frac{1}{2}$ to 10, according to the direction and intensity of the wind or other atmospheric disturbance.
- Ferryland Head, lat 47 0 58 N, lon 52 51 7 W, fixed white light 200 feet high, visible 16 miles, red brick tower, dwelling white with red roof, detached from the tower.
- Cape Race, on the Cape, lat 46 39 0 N, lon 53 4 0 W, white light revolving every 30 seconds, visible 30 miles, 180 feet high, circular, S E face striped red and white vertically, height 40 feet. Whistle sounds 10 seconds in every minute, heard from 10 to 30 miles according to wind and weather.
- Cape Pine, lat 46 37 4 N, lon 53 31 48 W, fixed white light, 314 feet high, visible 20 miles, iron tower.
- LeHave, on point, lat 46 54 N, lon 53 37 W, 1 fixed white light, visible 9 miles. Building circular, red and white bands.
- Cape St. Mary's, lat 46 49 30 N, lon 51 11 34 W, revolving light, producing alternately every minute a brilliant red and white light, 390 feet high, visible 23 miles, brick tower, with dwelling on each side, roofs red.
- Dodding Head, Great Burin Island, lat 47 0 27 N, lon 55 8 47 W, revolving light, producing a brilliant white light every minute, 430 feet high, visible 24 miles.
- Allan Island, Lamsline, lat 46 51 0 N, lon 55 57 50 W, (both approx.), fixed white light, 64 feet high, visible 9 miles, illuminated arc 270°, wood, octagonal tower, red and white on alternate sides.
- Brunet Island, Mercer's Head, Fortune Bay, lat 55 59 30 N, lon 47 16 W, flashing white light, greatest brilliancy, every 10 seconds, 408 feet high, visible 35 miles in every direction from N round E and S to W N W.
- Garnish, Fortune Bay, lat 47 14 N, 55 24 W, a beacon tower of wood, carrying an octagon and lantern in which a red light is exhibited.
- Bellorom, Fortune Bay, lat 47 29 N, lon 55 27 15 W, fixed white light 25 feet high, visible 7 miles, white wooden tower. In entering the harbor the light must be kept on the port hand.
- Rocky Point, Harbor Breton, Fortune Bay, lat 47 27 30 N, lon 55 47 45 W, a square wooden tower, carrying an octagon and lantern, in which a fixed white light will be exhibited. The apparatus is a simple argand burner, with a red light to mark the Harbor Rock.
- Pass Island, entrance to Hermitage Bay, lat 47 29 15 N, lon 56 12 2 W, fixed white. A fixed red light is placed below the white light to distinguish the rocks and reefs extending from the Wolf Rocks bearing (from the light house) S 74 47 W, to Basseterre Point S, 61 33 E. The reef over the Wolf Rock is about $1\frac{1}{2}$ miles from the island. At a distance of about 4 miles the two lights merge into one, 281 feet high, visible 19 miles, illuminated arc 360°. Wood house, sides painted white, flat roof on which the principal lantern stands. The one showing red light is 14 feet lower and at the angle of the building.

PICKFORD & BLACK, Importers of Refined Iron Clinch Rings.

Beacon, Ireland's Eye, entrance of La Poil Bay, a square white building with three black bands has been erected on this island; it is 76 feet high and supported on chains.

Boar Island, Burges, lat 47 36 12 N, lon 57 35 13 W, fixed red light, 240 feet high, visible 17 miles, tower wood, on dwelling.

Rose Blanche Point, lat 47 35 48 N, lon 58 41 80 W, fixed white, 95 feet high, visible 11 miles, granite light house, upon the eastern head, dwelling and tower attached. The light illuminates the horizon from E by S through S to W by compass. Shag Island Black Rock bears W from the light, and distant about a mile. Rose Blanche Shoals W S W half a mile, and Petitas Black Rock E by S 3 miles.

Channel Head, Port au Basque, lat 47 33 47 N, lon 59 7 10 W, fixed red light, 90 feet high, visible 7 miles, square light tower and keeper's dwelling are detached wooden buildings.

Gallantry Head, Island of St. Peter's, lat 46 45 30 N, lon 58 27 W, flash light, one red after two white flashes, with intervals of 20 seconds about 104 feet high, visible 18 miles. The light is hidden at the northward by the high land of St. Peter's.

South entrance of St. Peter's.—The entrance of the harbor of St. Peter's, called South Channel, is marked by two small fixed lights—one white, illuminating $\frac{1}{4}$ of the horizon, and placed on the Battery; the other red, on the plain at the N of the town—white lights eleven metres high, visible 3 miles, red, 19 metres high, visible 3 miles. The line connecting these two lights indicates the middle channel. As soon as the red light is seen on the left of Cape Eagle, vessels coming from Columbiar in beating into the N E entrance will have nothing to fear from the shoals off Cape Rogers.

Island of Dogs, called Pointe a Leconte.—A light is exhibited, on the S W point of this Island, at the place called Pointe a Leconte, 437 feet high, visible 7 miles; the extent of the light is circumscribed in a sector of 163°, presenting two cones of light, one white, 40°, will light the passage to the S E, so as to permit vessels which remain in position within this cone to avoid at the right the shoal Betaille, and to the left the rock of Cape Noir and the rock Bertrand. The second cone is red of 123°; it should be avoided by vessels entering the S E passage, and will enable them, when they have quitted the white cone, to come to anchor in the roadstead or in the Barachois, in following the line of the white light from Point aux Canona, and of the red light from the interior of the city.

Point Verb, Great Placentia, lat 47 14 11 N, lon 54 1 19 W, a fixed white light will be exhibited nightly, from sunset to sunrise, 98 feet above the level of the sea, and should be visible in clear weather 11 miles. The tower and dwelling are of wood and attached, the vertical parts of the building are painted white, the roof of the dwelling is flat. The illuminating apparatus is dioptric, of the 5th order, with a single argand burner. The whole water horizon is illuminated.

MAGDALEN ISLANDS.

ENTRY ISLAND, S E side lat 47 16 30 N, lon 61 41 20 W, fixed white light, visible 12 miles, square, white, with dwelling attached, height 90 feet, building 28 feet. Light seen from all points, except from E S E, round to N, where it is intercepted by the high lands of the island.

AMHERST ISLAND, south point of Island, lat 47 13 N, lon 61 58 W, revolving red and white, alternating every half minute, visible 20 minutes, hexagonal, white. Attached to keeper's dwelling. Marine telegraph and signal and ice report station.

GRINDSTONE ISLAND, west side, lat 47 23 30 N, lon 61 57 W, revolving white light, every $\frac{1}{2}$ minute, visible 20 miles, square white, 200 feet high,

MACDONALD & CO., Manufacturers of Hand and Power Pumps.

MACDONALD & CO., Manufacturers of Patent Roller Bushings.—See adv. page 3 cover.

MACDONALD & CO., Manufacturers of COMPOSITION RUBBER BRACES.—See adv. p. 3 cover.

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building 28 feet. In thick foggy weather or snow storms a whistle will sound a blast of 8 seconds during every half minute, also marine telegraph, &c.

BIRD ROCK, lat 47 50 40 N, lon 61 8 20 W, fixed white light, visible 21 miles, hexagonal white building, dwelling near tower, 140 feet high, building 50 feet. Fog guns every half hour during fogs and storms. Marine telegraph and signal and ice report station.

LABRADOR.

BELLE ISLE, Straits of Belle Isle, extreme S point of Island, lat 51 53 0 N, lon 55 22 15 W, fixed white light, visible 23 miles, 470 feet, white circular, clap-boarded building, height 62 feet, visible from about N W by N, round by S to E. A fog gun is fired once every half hour. Also about 300 feet lower than main light, fixed white light, visible 17 miles, 128 feet high, white, square, wood building, height 31 feet. Depot of provisions for ship-wrecked mariners.

ARMOUR POINT, S E side of Fortune Bay, lat 51 27 35 N, lon 56 50 55 W, fixed white light visible 18 miles, 155 feet high, white, circular building, height 109 feet, fog horn on point, 250 yards W of lighthouse, sounds a blast of 8 seconds every minute. If horn becomes disabled, old whistle, 700 yards N W from horn, will sound similar blasts.

GREENLY ISLAND, on S W part of Island, Straits of Belle Isle, lat 51 22 35 N, lon 57 10 50 W, revolving red and white light, white $\frac{1}{2}$ minute, red $\frac{1}{2}$ minute, eclipse $1\frac{1}{2}$ minute, visible 15 miles, 100 feet high, white with red lantern, octagonal wooden tower, with dwelling attached, height 78 feet. Light completes a revolution every 3 minutes. Fog gun fired every half hour. To be replaced by steam fog alarm.

FLAT ISLAND, off Great Meccattina Island, lat 50 46 0 N, lon 58 47 0 W, a square pyramidal wooden day beacon, 28 feet high, slatted horizontally, surmounted by a cone 6 feet high, point upwards, with vane.

Lights in West India Islands and Adjacent Coasts.

[Corrected to 31st Dec., 1881. Arranged from the Admiralty List.]

ABBREVIATIONS AND EXPLANATIONS.

LIGHTS.

Fixed, or Steady.

Flashing, Showing flashes at short intervals, or groups of flashes at regular intervals.

Revolving. Light gradually increasing to full effect, then decreasing to eclipse. [At short distances and in clear weather a faint continuous light may be observed.]

Fixed and Flashing. Fixed light, with addition of white or colored flashes preceded and followed by short eclipse.

Intermittent or Occulting. A light suddenly and totally eclipsed. When light between eclipses visible less than 30 seconds, term *occulting* applied. When light visible less than half minute, term *intermittent* applied.

Alternating. Red and white light alternately at equal intervals, without any intervening eclipse.

MACDONALD & CO., Manufacturers of COMPOSITION RUBBER BRACES.—See adv. p. 3 cover.

PICKFORD & BLACK, SHIP CHANDLERS, MANILLA, AND HEMP ROPE.

ABBREVIATIONS.

Da, Danish; Du, Dutch; E, English; Fr, French; Pan, Panama; N. G., Neva Granada; V, Venezuela.

The bearings are magnetic and are given from seaward. The given distances from which the lights are visible are calculated from a height of fifteen feet above the sea, the elevation of the lights being in nearly all cases taken as above high water to centre of lantern; height of building from base to vane. The geographical portion of the lights must be considered as approximate.

WEST INDIA ISLANDS, ETC.

- Babadoes, I., (E.)* Ragged Point, (300 yards within), east extreme of the Island, lat 13 10 N, lon 59 26 W, white light, revolving every 2 minutes, 213 feet to centre of lantern, visible in clear weather at 21 miles. Round white coral-stone house, 97 feet high. On account of the prevailing strong current running westward on to the Cobblers, a cluster of dangerous reefs 2½ miles to the southeast of Ragged Point, mariners are cautioned in closing the land to keep well to the north-eastward of the light.
- ... South Point, 200 yards from the shore, lat 13 3 N, lon 59 31 W, red light revolving every minute, visible 18 miles, house alternate red and white bands centre of lantern 145 feet high, building 90 feet. Does not show until it bears to the westward of S W by S, and should be kept well open in order to clear the Cobbler Reefs.
- ... Carlisle Bay, Needham Point, lat 13 5 N, lon 59 36 W, fixed light, centre of lantern 30 feet high. Red when bearing north to east, and white south of east. Indifferent light. Reported to show white in all directions.
- ... Lower Wharf, Carenage, Bridgetown, fixed red light. To mark entrance to Crenago.
- Tabago, I., (E.)* Scarborough, Bacolet or Red Point, lat 11 10 N, lon 60 44 W, fixed white light, 115 feet high, visible 12 miles, pentagon tower, white, height 57 feet. Visible between the bearings of E N E and S W by W. When the mail steamer is expected two red leading lights are shown from two white beacons 83 yards apart, at the west end of the Lower Town of Scarborough.
- Trinidad, I., (E.)* Icacos Point, the S W extremity, fixed white light, visible 5 miles, white mast, centre of lantern, 35 feet high.
- ... Port Espana, on jetty, lat 10 39 N, lon 61 31 W, fixed white light, visible 10 miles. Hexagonal tower, centre of tower 50 feet high, building 43 feet. Visible between the bearings of N E by N and S E.
- Hugh Ripon, 1 fixed red light, visible 3 miles, to assist in taking up anchorage.
- Grenada, Fort George, lat 12 N, lon 61 45 W, fixed white light, visible 3 to 4 miles, on flag-staff.
- St. Vincent, I., (E.)* Fort Charlotte, lat 13 9 N, lon 61 14 W, fixed white light, visible 6 miles, centre of lantern 640 feet high. For mail steamer when expected.
- St. Lucia, I., (E.)* Tapion Battery, south side of entrance to Castries Harbor, lat 14 1 N, lon 61 1 W, fixed red light, visible 5 miles, centre of lantern 80 feet high. For mail steamer when expected.
- ... Vielle Ville Shoal, fixed red light, red perch. For mail steamer when expected.
- ... Cocoa Nut Shoal, fixed green light, perch. For mail steamer when expected.
- Martinique, I., (Fr.)* Point des Negres in the fort, lat 14 36 N, lon 61 9 W, fixed white light, red mast, centre of lantern 62 feet high, height of mast 15 feet.

PICKFORD & BLACK, IMPORTERS, NETS, TWINES, LINES, 51 UPPER WATER STREET.

MACDONALD & CO., Manufacturers and Fitters of Steam Heating Apparatus.—See adv. p. 3 cover.

MACDONALD & CO., Steam Fitters.—See adv. p. 3 cover.

PICKFORD & BLACK, Iron Spikes, Cut Nails, 51 Up. Water St.
 Residences and Public Buildings Fitted with Plumbing Fixtures by MACDONALD & CO.—See adv. p. 3 cover.

Residences and Public Buildings Fitted with Plumbing Fixtures by MACDONALD & CO.—See adv. p. 3 cover.

PICKFORD & BLACK, WOODBERRY COTTON DUCK, 1 TO 2.

- S W part of St. Louis, fixed red light, visible 3 miles, 131 feet high. The buoy at the south-east extremity, of a red light, at the arrival or departure of the mails, or when required.
- St. Marthe Point, St. Pierre, lat 14 44 N, lon 61 11 W, fixed white light, visible 5 miles.
- Westward of former, fixed lights, visible 5 miles. Red to the northward, blue to the westward, and green to the southward. The white and blue lights in line lead to the anchorage.
- Edge of the bank, St. Pierre Bay, fixed white light, visible 2 miles lighted on the day the mail is expected, and for three nights after if not arrived.
- Carvelle Peninsula, Caracoli Mount, $\frac{1}{4}$ mile inland, lat 14 46 N, lon 60 53 W, fixed white light, visible 12 miles, white tower, centre of lantern 410 feet high.
- Dominica, I., (E.) Roseau Bay, extremity of Mole, lat 15 17 N, lon 61 24 W, fixed red light on a flag-staff. When mail steamer is expected.
- Gaudaloupe, I., (Fr.) Petite Terre, 202 yards from eastern part, lat 16 10 N, lon 61 5 W, fixed white light, visible 15 miles, centre of lantern, 108 feet high, building 75 feet high.
- Gozier Islet, lat 16 2 N, lon 61 29 W, fixed white light visible 7 miles.
- Manroux Islet, lat 16 13 N, lon 61 31 W, fixed white light in lantern.
- Point a Pitra. White light. When the mail is expected a red light is exhibited at the outer buoy; a white light at the buoy marking the reef at Cassan Island, and from a beacon on the shoal opposite Foulhole; and green lights at the buoys on the starboard side of the channel, and at the mooring buoy.
- Port le Meule, lat 16 20 N, lon 61 20 W, fixed white light, visible 12 miles.
- Basse Terre, on Mole, lat 16 0 N, lon 61 45 W, 2 fixed red lights, visible 9 miles.
- Antigua, I., (E.) Sandy Island, lat 17 7 N, lon 61 54 W, fixed white light, visible 12 miles, 56 feet high, black wooden structure, height 53 feet. The light bearing S S W, clears Diamond Bank, and bearing N by E clears Hurst and Irish Banks, and shoals to the southward.
- Mariagalante, I., Grand Bourg., lat 15 54 N, lon 61 17 W, fixed white light, visible 7 miles, centre of lantern 5 feet high.
- Montserrat, I., (E.) On beach at Plymouth, lat 16 42 N, lon 62 13 W. A light from a lantern is shown when mail schooner is expected.
- St. Christopher, I., (E.) On beach at Basse Terre, lat 17 18 N, lon 62 43 W, fixed red light, visible 4 miles, lighthouse wooden frame, 33 feet from base to vane, centre of lantern 37 feet high.
- St. Martin Island, Old Fort of Amsterdam, Grande Bay, fixed white light, visible 8 miles, centre of lantern 150 feet high.
- Sombrero, I., (E.) On the S E side of the Island, one-third its length from South Point, lat 18 36 N, lon 63 28 W, white light, revolving every minute, visible 20 miles, red open iron frame work, centre of lantern 150 feet high, height of structure 132 feet.
- Virginia Islands, (Da.) St. Thomas, east side of entrance, Mohlenfel's Point, lat 18 19 N, lon 64 55 W, white fixed light, visible 12 miles, lighthouse white, centre of lantern 118 feet high.
- Santa Cruz or St. Croix Island, (Da.) Frederickstadt Fort, lat 17 43 N, lon 64 53 W, fixed white light, visible 4 miles.
- Christianstadt Fort, lat 17 45 N, lon 64 41 W, fixed white light.
- Puerto Rico Island, (S.) Morro Point Port, San Juan, lat 18 29 N, lon 66 7 W, white fixed and flash light, a flash of 5 seconds duration every minute, visible 18 miles, centre of lantern 171 feet high, tower white, octagonal, iron.
- Cape St. Juan, a red and white light revolving every two minutes, visible 17 miles.

- Clebra, white fixed light, visible 16 miles.
 Cape Roxo, light white, light flashes every 45 seconds.
 ... Mayaguez Bay, Pier Head. Fixed red light. Harbor light.
 Haiti or San Domingo I., San Jose Fort, lat 18 28 N, lon 69 52 W, alternate red and white light, revolving every minute, visible 15 miles, cupola white, centre of lantern, 95 feet high. None of the lights on the Island of San Domingo are to be depended upon.
 Areadins Isles, lat 18 47 N, lon 72 38 W, one fixed white light, visible 9 miles, from N $\frac{1}{4}$ to N $\frac{3}{4}$ E by trees.
 Port au Prince, lat 18 33 N, lon 72 25 W, red light, revolving every half minute, 97 feet high, visible 15 miles.
 Plata, port, S S E, 350 yards from extremity of east entrance point, lat 19 49 N, lon 79 41 W, white light, revolving every 20 seconds, visible 14 miles, 137 feet high, octagonal tower, height 60 feet.
 Jamaica, I., (E.) Morant Point, lat 17 65 N, lon 76 12 W, white light, revolving every minute, visible 15 miles, white iron tower, height 96 feet, centre of lantern 115 feet high. Visible when bearing from about N N E $\frac{1}{2}$ E, round by west to S E by S.
 Plum Point, 66 yards northward of point, lat 17 56 N, lon 76 47 W, fixed red and white light, visible 12 miles, lighthouse white, centre of lantern 68 feet high. Red between the bearings of N W by W $\frac{3}{4}$ W, and E $\frac{1}{2}$ E. White from N $\frac{1}{2}$ E, round by S to S E.
 Fort Augusta, lat 17 58 N, lon 76 52 W, single lamp suspended from the beacon, centre of lantern 40 feet high. Fixed red and white light. The white light visible to the south and west, and red to the seaward.
 Port Antonio, Folly Point, fixed white light on Scaffold, for mail steamers.
 Port Guantomo, angle of Mole's Head, lat 20 1 N, lon 71 65 W, fixed light, one lantern has two white and two red glasses, the colored glasses toward the Bay. The red light marks the northern and the green light the southern angle, showing the sides and head of the Mole.

CUBA AND BAHAMA ISLANDS.—Cuba with its Islands.

- Santiago de Cuba, (Sp.) 100 yards east of the Moro Castle, lat 19 58 N, lon 75 54 W, white light, revolving every two minutes, visible 15 miles, lighthouse white, iron, height 20 feet, centre of lantern 226 feet high.
 Cape Cruz, on Cape, lat 19 50 N, lon 77 44 W, white light, with red flash, every three minutes, visible 16 miles, stone lighthouse, centre of lantern 114 feet high, keeper's dwelling yellow.
 Port Xagua, or Cienfuegos, Colorado, east point of entrance, lat 22 1 N, lon 81 30 W, white light, fixed and flash, every two minutes, visible 14 miles, lighthouse Ville Neuva thereon, height 45 feet, centre of lantern 81 feet high.
 Cochinos Bay, north part of Cay Piedras, lat 21 58 N, lon 81 3 W, fixed white light, visible 7 miles, lighthouse brown, 26 feet high, centre of lantern 30 feet high. Over keeper's dwelling.
 Batabano, lat 22 41 N, lon 82 18 W, fixed white light, visible 3 miles, lantern on mast, 31 feet high.
 Isles of Pine, lat 21 26 N, lon 83 6 W, revolving light, visible 16 miles. Proposed.
 San Antonio, (Sp.) On Cape, lat 21 53 N, lon 84 58 W, white light, revolving every $\frac{1}{2}$ minute, visible 20 miles, lighthouse Roncoli thereon, height 107 feet high, centre of lantern 117 feet high.
 Jutias on Cay, lat 22 43 N, lon 84 6 W, fixed and flash light. Proposed.
 Goberhadora, on point, lat 23 N, lon 83 13 W, revolving light, visible 15 miles, centre of lantern 110 feet high. Proposed.
 Havana, Morro Castle, east side of entrance, lat 23 9 N, lon 82 22 W, white light, revolving every $\frac{1}{2}$ minute, visible 20 miles, lighthouse O'Donnell

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MACDONALD & CO., Manufacturers of Patent Roller Bushings.—See adv. page 3 cover.

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thereon, extinguished for ten minutes after midnight to clean and trim the lamps.

Guanos, on point, lat 23 9 N, lon 81 42 W, revolving light every minute, centre of lantern 93 feet high. Proposed.

Cardenis Bay, Beidras Cay, lat 23 14 N, lon 81 7 W, white light, fixed with red flash every 2 minutes, visible 25 miles, tower on house, white, 67 feet high, centre of lantern 74 feet high.

.... Cay Diana, lat 23 10 N, lon 81 7 W, fixed white light, visible 7 miles, iron column, centre of lantern 43 feet high.

Cruz del Padre Cay, on reef, $\frac{3}{4}$ of a mile N E of Cay, lat 23 17 N, lon 80 54 W, fixed white light, visible 10 miles, lighthouse conical, white, height 46 feet, centre of lantern 49 feet high. Not to be depended upon.

Bahia de Cadiz, N E part of Cay, lat 23 12 N, lon 80 29 W, white light, revolving every minute, visible 24 miles, house iron, white, height 159 feet, centre of lantern 175 feet high.

Port Sagua le Grande, N W Point of Hicacal Cay, lat 23 14 N, lon 80 4 W, fixed white light, visible 6 miles, mast on dwelling, centre of lantern 55 feet high. The keeper's dwelling has red doors and windows, and eastward of it there are a few huts.

Paredon Grand Cay, north part of Cay, lat 22 29 N, lon 78 10 W, white light, fixed and flash every minute, visible 26 miles, house iron, white, with a brown base, height 117 feet, centre of lantern 159 feet high.

Newitas Harbor, Barlovento Point, lat 21 37 N, lon 77 5 W, fixed white light, visible 9 miles, on white mast from centre of building, height 44 feet, centre of lantern 49 feet high. Keeper's dwelling is quadrangular yellow.

.... Maternillos Point, lat 21 40 N, lon 77 9 W, white light with flash every minute, visible 23 miles, house white, Colon thereon, height 170 feet, centre of lantern 273 feet high.

Lucrecia, on point, lat 21 5 N, lon 75 38 W, red light, revolving every minute, visible 15 miles, house stone, white, centre of lantern 112 feet high.

Baracoa, 250 yards E S E of Barlovento Point, lat 20 22 N, lon 74 30 W, fixed white light, visible 13 miles, iron column, height 29 feet, centre of lantern 48 feet high. On keeper's dwelling.

Cape Maysi, east point of Cuba, lat 20 15 N, lon 74 40 W, fixed white light, visible 17 miles, tower circular, centre of lantern 128 feet high.

Bahama Islands.

Lobos Cay, (E.) On Bay, lat 22 22 N, lon 77 35 W, fixed white light, visible 16 miles, house circular, iron, broad block, 7 in number, and white, 6 in number, bands height 150 feet, lantern white, centre 146 feet high, base surrounded by keeper's dwelling.

Cay Sal Bank, N Elbow, Double-headed Shot Cays, lat 23 56 N, lon 80 28 W, fixed white light, visible 15 miles, stone conical tower, white and red upper part, height 58 feet, centre of lantern 96 feet high. Not visible when it bears S W $\frac{1}{4}$ W, being intercepted by Water Cay when three leagues distant.

Gun Cay, near South Point, lat 25 34 N, lon 79 19 W, red light revolving every minute and a half, visible 12 miles, conical tower, upper part red, lower white, height 79 feet, lantern white, centre 80 feet high. Not seen between the bearings of S by W $\frac{1}{4}$ W, and S $\frac{3}{4}$ E, being intercepted by the Bemini Isles when 8 miles distant.

Great Isaac, on the Inland, lat 26 2 N, lon 79 6 W, white light, revolving, every half minute, visible 16 miles, house iron with broad red bands, 8 in number, and white, 7 in number, horizontal bands, height 145 feet, lantern white, centre 158 feet high. Eclipses not total within 6 miles.

Great Stirrup Cay, (E.) 600 yards from E end of Cay, lat 25 50 N, lon 77 54 W, fixed white light visible 12 miles, house circular, five bands, red and

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PICKFORD & BLACK, SHIP CHANDLERS, MANILLA, AND HEMP ROPE.

PICKFORD & BLACK 51 UPPER WATER STREET, HALIFAX, N S.

white, alternately, height 46 feet, centre of lantern 81 feet high. Visible from seaward from about N W by W, through west and south to about NE. Nassau Harbor, west point Hog Island, lat 25 6 N, lon 77 22 W, fixed white light, visible 10 miles, conical stone tower, white, height 58 feet, centre of lantern 68 feet high. It is stated that this light is seen at a greater distance than that given. Not visible between N N E and N N W $\frac{1}{2}$ W. A red light is exhibited at Hog Island, from a flagstaff on a point near the lighthouse, when the state of the bar near the entrance of Nassau harbor is impassible or dangerous.

Athol Island, cupola of quarantine officer's dwelling, lat 25 5 N, lon 77 17 W, fixed white light. Visible between N N W $\frac{1}{4}$ W, and W by N $\frac{3}{4}$ N.

Aboca, about 4 cables northward of Hole in the Wall, lat 25 51 N, lon 77 11 W, white light, revolving every minute, visible 20 miles, conical stone tower, white lower part and red upper part, height 85 feet, lantern white, centre 160 feet high. Visible from seaward from S W to E S E.

... Little Guana, or Elbow Cay, $\frac{3}{4}$ of a mile inland, lat 26 31 N, lon 76 58 fixed white light, visible 15 miles, house circular, with red and white bands, height 77 feet, lantern white, centre 123 feet high.

Crooked I. Passage, Bird Rock, lat 22 51 N, lon 74 22 W, white light, revolving every 1 $\frac{1}{2}$ minutes, 120 feet high, visible 17 miles, building conical, stone, faced with blue bricks, 112 feet high. Vessels approaching Bird Rock light are cautioned to attend to its bearings, as the encircling reef on the north side of Crooked Island terminates in a direction N by W $\frac{1}{2}$ W, and nearly one mile distant from the light tower. The currents northward of Crooked Island are variable.

... Castle Island, 270 yards within S W part, lat 22 7 N, lon 74 21 W, fixed white light, visible 17 miles, house conical, 3 bands of red brick, height 114 feet, centre of lantern 120 feet.

Inagua, Great I., 2 miles to the N W of the S W Point lat 20 56 N, lon 73 41 W, white light, revolving every minute, visible 17 miles, conical building, with two white and two red bands, height 114 feet, centre of lantern 120 feet high.

Turk's Island, 400 yards S W $\frac{1}{2}$ W from north extremity of island, lat 21 31 N, lon 71 8 W, white light, flash every minute, visible 15 miles, building white, iron, circular, height 60 feet, centre of lantern 108 feet high.

GUYANA COAST.

Cayenne, (Fr.), summit of Hospital on Royal Islet, Salut Islets, lat 5 17 N, lon 52 35 W, fixed white light, visible 13 miles, centre of lantern 197 feet high.

... Eufant Perdu, a rock 6 miles northward of Cayenne, lat 5 3 N, lon 52 21 W, fixed white light, visible 7 miles, house wood, frame work, centre of lantern 61 feet high. Visible between S W by S and E S $\frac{1}{2}$ S, also between N E by N and W by N $\frac{1}{2}$ N.

... Ceperean Fort, lat 4 56 N, lon 52 20 W, fixed white light, visible 10 miles, centre of lantern 130 feet high, building 40 feet. The white and green lights in one S E by S, leads over *Amiable* Rock, which is avoided by keeping to westward of this rock.

... End of Jetty, fixed red light, centre of lantern 39 feet high.

... N W Angle of Infantry Barracks, lat 4 56 N, lon 52 19 W, fixed green, light, visible 8 miles, centre of lantern 69 feet high. Obscured westward of S W $\frac{1}{4}$ S.

Maroni River, west side of entrance (D.), lat 5 45 N, lon 54 3 W, fixed white light, visible 10 miles, centre of lantern 75 feet high, building white, pyramid, height 70 feet. Visible from W $\frac{3}{4}$ S to S $\frac{3}{4}$ S.

... East side of entrance (Fr.), lat 5 42 N, lon 53 58 W, fixed white light, visible 10 miles, building white pyramid, centre of lantern 76 feet high.

Surinam, (Du.), light-vessel in 14 feet, $3\frac{3}{4}$ miles N W Brams Point, lat 6 1 N, lon 55 16 W, fixed white light, visible 10 miles, yellow ball on foremast, centre of lantern 25 feet high. *Surinam* on sides.

MACDONALD & CO., MANUFACTURERS OF COMPOSITION BUTT BOLTS AND SPIKES.—See p. 3 cover.

RESIDENCES and PUBLIC BUILDINGS FITTED with STEAM HEATING APPARATUS by MACDONALD & CO. MAC.

Berbice, (E.), light vessel moored in 22 feet, N E by N, 9 miles from St. Andrew Point, lat 6 29 N, lon 57 24 W, fixed white light, visible 10 miles, vessel red, roofed over, centre of lantern 30 feet high. *Berbice* on each side, and carries a white flag with a red ball in the centre. A sloop pilot boat cruises outside the bar, and carries a white flag with *Pilot* inscribed thereon.

Demerara, (E.), light vessel in 19 feet, with Georgetown light house bearing S S W $\frac{1}{2}$ W, distant 12 miles, lat 6 57 N, lon 58 5 W, fixed white light, visible 12 miles, vessel red, with one mast 60 feet high, and a blue flag by day; centre of lantern 30 feet high. *Guiana* on her sides. Pilots for Demerara and Essequibo Rivers are on board.

... Georgetown, east side of entrance, lat 6 49 N, lon 58 11 W, white light, revolving every minute, visible 16 miles, octagonal tower, red and white, vertical, centre of lantern 103 feet high, house 100 feet.

... In same tower, fixed red light. Visible from S by E to S E, to indicate to vessels being westward and clear of breakwater.

TERRA FIRME COAST.

Trinidad, (E.), Icacas Point, the S W extremity fixed white light, visible 5 miles, white mast, centre of lantern 39 feet high.

... Fort Espano, on jetty, lat 10 39 N, lon 61 31 W, fixed white light, visible 10 miles, hexagonal tower, height 43 feet, centre of lantern 50 feet high. Visible between the bearings of N E by N and S E.

Tobago, (E.), Scarborough or Bacolet Point, lat 11 10 N, lon 60 44 W, fixed white light, visible 12 miles. Pentagon tower, red and white, height 57 feet, centre of lantern 115 feet high. Visible between the bearings of E S E through south, and S W by W.

Cumana, tower on Custom House, lat 10 28 N, lon 64 12 W, fixed white light, visible 5 miles.

Puerto Cabello, Brava Point, lat 10 30 N, lon 68 W, revolving red and white light alternately every 40 seconds, visible 14 miles, building quadrangular, centre of lantern 79 feet high.—Uncertain.

Cabellos, Port, white light visible 3 miles.

Los Roques, on the north-east hill (150 feet high) of El Roque, lat 11 58 N, lon 66 38 W, white light, revolving every minute, visible 15 miles, centre of lantern 208 feet high. Reported to be irregular in its action from defect in revolving apparatus.

Buen Ayre, (Du.), Lacre, south point of the island, lat 12 2 N, lon 68 22 W, fixed white light, visible 12 miles, building white, with vertical red stripes, height 75 feet, centre of lantern 85 feet high. Lantern destroyed by storm, September, 1877. Temporary light exhibited.

Orange Battery, at El Puerto, lat 13 10 N, lon 68 19 W, fixed white light, visible three miles.

Little Curacao, (Du.), centre of Island, lat 11 58 N, lon 68 39 W, fixed and flash white light, every minute, visible 14 miles, centre of lantern 75 feet high. The flash is of 6 second duration, preceded by an eclipse of 7 seconds.

Great Curacao Island, (Du.), St. Anne Harbor. Rif Fort, lat 12 6 N, lon 68 55 W, fixed white light.

Cumarebo Bay, lat 11 30 N, lon 69 25 W, fixed white light, visible 6 miles, centre of lantern 49 feet high. This is a private light and its exhibition uncertain. Manzanilla Point bears N E by E $\frac{1}{2}$ E, 5 miles from it.

Savanilla, Cupino Beach, lat 11 N, lon 74 58 W, white light, revolving every 2 minutes, visible 16 miles, centre of lantern 98 feet high. The light is not visible when bearing S E $\frac{3}{4}$ S.

Marycabo, Zapar Island, lat 10 58 N, lon 71 40 W, fixed light, visible 6 miles, stone tower, centre of lantern 30 feet high.

Santa Marta, summit of the Morra, lat 11 15 N, lon 74 16 W, fixed white light, visible 24 miles, centre of lantern, 328 feet high.

RESIDENCES and PUBLIC BUILDINGS FITTED with STEAM HEATING APPARATUS by MACDONALD & CO.

PICKFORD & BLACK, IRON SPIKES, CUT NAILS, 51 UPPER WATER STREET

Colon, or Navy Bay (Pan.), N W part of Manzanillo Island, Colon or Aspinwall, lat 9 23 N, lon 79 53 W, fixed white light, visible 10 miles, wood open white building, height 60 feet, centre of lantern 60 feet high. Reported not to be visible beyond 6 miles.

Limon Port, or Grape Cay, lat 10 N, lon 83 2 W, fixed white light, visible 6 to 8 miles, centre of lantern 60 feet high.

Truxillo Bay, Cape Honduras, lat 16 1 N, lon 86 3 W, fixed white light, centre of lantern, 30 feet high. Truxillo lighthouse having been destroyed by a hurricane in 1875, a temporary light visible only 4 miles, is now exhibited.

Bonacca Island, on Cay XII., lat 16 26 N, lon 85 54 W, fixed white and red light, visible 8 miles, on mast. Red towards the anchorage. Proposed to be changed to white.

Coxen Road, westward of Government House, Roaten Island, lat 16 18 N, lon 86 35 W, fixed white light, visible 4 miles, centre of lantern 85 feet high, light house white, square, back top, height 15 feet.

Uvilla Island, eastern reef, east harbor, fixed white light, visible 4 miles, small wooden building. Not to be depended on.

Half-moon Cay, (E.), S E Point, lat 17 12 N, lon 87 32 W, fixed white light, visible 18 miles, iron tower, white, height 80 feet, centre of lantern 70 feet high.

Bokel Cay, on Cay, lat 17 9 N, lon 87 56 W, 2 fixed lights, horizontal, one white, visible 18 miles, and one red, visible 5 miles, flagstaff with a yard on which the lights are displayed, 75 feet high, centre of lantern 60 feet high.

Belize, (E.), English Cay, south side of channel, lat 17 19 N, lon 88 4 W, white fixed light, visible 7 miles, 45 feet high, white mast.

... Custom House flagstaff, fixed white light.

Turneff Cays, (E.), Manger Cay, $\frac{1}{2}$ mile within north-end reef, lat 17 37 N, lon 87 46 W, 3 fixed white lights, in a triangle, visible 13 miles, tower skeleton iron, upper third black, remainder white, height 57 feet, upper light 53 feet, lower two 47 feet. The bank extends $1\frac{1}{2}$ mile to the N E of the light house. The lights can be seen above the trees from all points of the compass, but the light house is seen from seaward only, from N E to S W by W.

BERMUDA.

Gibbs Hill, on summit, lat 32 15 N, lon 65 52 W, revolving white light, every minute, 362 feet high, visible 24 miles. Seen round horizon except between the bearings S 50° W, and S 54° W, also S 55° W to S. Building circular, iron, white.

Mount Hill, near St. David's Head, lat 32 22 N, lon 64 41 W, fixed white, 208 feet high, visible over 270° from N E $\frac{3}{4}$ E to S E $\frac{1}{2}$ S, bearing S E by S. The light is hidden by St. George's Island.

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MACDONALD & CO., Manufacturers of Ship's Patent Water Closets.—See adv. p. 3, cover.

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PICKFORD & BLACK, AGENT FOR TARR & WONSONS COPPER PAINT.

International Steering and Sailing Rules.

From the Order in Council, dated 11th August, 1884.

MACDONALD & CO., Importers of Steam Pumps, etc.—See adv. p. 3 cover

REGULATIONS FOR PREVENTING COLLISIONS AT SEA.

PRELIMINARY.

ART. 1. In the following rules every steam ship which is under sail and not under steam is to be considered a sailing ship ; and every steam ship which is under steam, whether under sail or not, is to be considered a ship under steam.

RULES CONCERNING LIGHTS.

ART. 2. The lights mentioned in the following articles, numbered 3, 4, 5, 6, 7, 8, 9, 10, and 11, and no others, shall be carried in all weather, from sunset to sunrise.

ART. 3. A seagoing ship when under way shall carry,—

(a.) ON OR IN FRONT OF THE FOREMAST, at a height above the hull of not less than 20 feet, and if the breadth of the ship exceeds 20 feet, then at a height above the hull not less than such breadth, a bright White light, so constructed as to show a uniform and unbroken light, over an Arc of the Horizon of 20 points of the Compass ; so fixed as to throw the light 10 points on each side of the ship ; viz , from right ahead to 2 points abaft the beam on either side ; and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least Five miles.

(b.) ON THE STARBOARD SIDE, a Green Light, so constructed as to show an uniform and unbroken light over an Arc of the Horizon of 10 points of the Compass ; so fixed as to throw the light from right ahead to 2 points abaft the beam on the starboard side ; and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least Two miles.

(c.) ON THE PORT SIDE, a Red Light, so contracted as to show an uniform and unbroken light over an Arc of the Horizon of 10 points of the Compass ; so fixed as to throw the light from right ahead to 2 points abaft the beam on the Port side ; and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least Two miles.

Lead Scupper Pipes all sizes, MACDONALD & CO.'S—See p. 3 cover.

Residences and Public Buildings Fitted with Hot Water Heating Apparatus by MACDONALD & CO.—See p. 3 cover.

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(d.) The said Green and Red Side Lights shall be fitted with inboard screens projecting at least 3 feet forward from the light, so as to prevent these lights from being seen across the bow.

ART. 4. A STEAM SHIP, when towing another Ship shall, in addition to her side lights, carry Two bright White lights in a vertical line one over the other, not less than 2 feet apart, so as to distinguish her from other steam ships. Each of these lights shall be of the same construction and character, and shall be carried in the same position as the White light which other steamships are required to carry.

ART. 5. (a.) A SHIP, whether a steamship or a sailing ship, which from any accident is not under command, shall at night carry, in the same position as the White light which steamships are required to carry, and, if a steam ship, in place of that light, Three Red lights in globular lantern, each not less than 10 inches in diameter, in a vertical line one over the other, not less than 3 feet apart, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least 2 miles; and shall by day carry in a vertical line one over the other, not less than 3 feet apart, in front of but not lower than her foremast head, Three Black Balls, or shapes, each 2 feet in diameter.

(b.) A ship, whether a steam ship or a sailing ship, employed in laying or in picking up a Telegraph cable, shall at night carry, in the same position as the White light which steam ships are required to carry, and, if a steam ship, in place of that light, three lights in globular lanterns each not less than 10 inches in diameter, in a vertical line one over another, not less than three feet apart; the highest and lowest of these lights shall be Red, and the middle light shall be the White, and they shall be of such a character that the Red lights shall be visible at the same distance as the White light. By day she shall carry in a vertical line one over the other, not less than 6 feet apart, in front of but not lower than her foremast head, three shapes not less than two feet in diameter, of which the top and bottom shall be globular in shape and Red in colour, and the middle one diamond in shape and White,

(c.) The ships referred to in this Article, when not making any way through the water shall not carry the side lights, but when making way shall carry them.

(d.) The lights and shapes required to be shown by this Article are to be taken by other ships as signals that the ship showing them is not under command, and cannot therefore, get out of the way. The signals to be made by ships in distress and requiring assistance are contained in Article 27.

ART. 6. A SAILING SHIP UNDER WAY, or being towed, shall

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PICKFORD & BLACK, SHIP CHANDLERS, 51 UPPER WATER ST., HALIFAX.

carry the same lights as are provided by Article 3 for a steam ship under way, with the exception of the White light, which she shall never carry.

ART. 7. Whenever, as in the case of small vessels during bad weather, the Green and Red side lights cannot be fixed, these lights shall be kept on deck, on their respective sides of the Vessel, ready for use; and shall, on the approach of or to other vessels, be exhibited on their respective sides in sufficient time to prevent collision, in such manner as to make them most visible, and so that the Green light shall not be seen on the Port side, nor the Red light on the Starboard side.

To make the use of these portable lights more certain and easy, the lanterns containing them shall each be painted outside with the color of the light they respectively contain, and shall be provided with proper screens.

ART. 8. A ship, whether a steam ship or a sailing ship, when at anchor, shall carry, where it can best be seen, but at a height not exceeding 20 feet above the Hull, a White light, in a globular lantern of not less than 8 inches in diameter, and so constructed as to show a clear, uniform and unbroken light visible all around the horizon, at a distance of at least one mile.

ART. 9. A pilot vessel when engaged on her station on pilotage duty, shall not carry the lights required by other vessels, but shall carry a white light at the mast-head, visible all around the horizon, and shall also exhibit a flare-up light or flare-up lights at short intervals, which shall never exceed fifteen minutes.

A pilot vessel, when not engaged on her station or pilotage duty, shall not carry lights similar to those of other ships.

ART. 10. Open boats and fishing vessels of less than 20 tons net registered tonnage, when under way and when not having their nets, trawls, dredges, or lines in the water, shall not be obliged to carry the colored side lights; but every such boat or vessel shall in lieu thereof have ready at hand a lantern with a green glass on the one side, and a Red glass on the other side, and on approaching to or being approached by another vessel such lantern shall be exhibited in sufficient time to prevent collision, so that the Green light shall not be seen on the Port side nor the Red light on the starboard side.

The following portion of this article applies only to fishing vessels and boats when in the sea off the coast of Europe lying north of Cape Finisterre:—

(a.) All fishing vessels and fishing boats of 20 tons not registered tonnage, or upwards, when under way and when not required by the following regulations in this Article to carry and show the lights

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VESSELS FITTED WITH PLUMBING FIXTURES BY MACDONALD & CO.—See adv. page 3 cover.

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therein named, shall carry and show the same lights as other vessels under way.

(b.) All vessels when engaged in fishing with drift nets shall exhibit Two White lights from any part of the vessel where they can be best seen. Such light shall be placed that so the vertical distance between them shall be not less than 6 feet and not more than 10 ft. ; and so that the horizontal distance between them measured in a line with the keel of the vessel shall be not less than 5 feet or not more than 10 feet. The lower of these two lights shall be the more forward, and both of them shall be of such a character, and contained in lanterns of such construction, as to show all round the horizon, on a dark night with a clear atmosphere, for a distance of not less than 3 miles.

(c.) A vessel employed in line fishing with her lines out, shall carry the same lights as a vessel when engaged in fishing with drift nets.

(d.) If a vessel when fishing, becomes stationary in consequence of her gear getting fast to a rock or other obstruction, she shall show the light and make the Fog Signal for a vessel at anchor.

(e.) Fishing vessels and open boats may at any time use a flare-up in addition to the lights which they are by this Article required to carry and show. All flare-up lights exhibited by a vessel when trawling, dredging, or fishing with any kind of drag-net, shall be shown at the after port of the vessel, excepting that, if the vessel is hanging by the stern to her trawl, dredge or drag-net, they shall be exhibited from the bow.

(f.) Every fishing vessel and every open boat when at anchor between sunset and sunrise, shall exhibit a white light visible all round the horizon at a distance of at least one mile.

(g.) In fog, mist, or falling snow, a drift-net vessel attached to her nets, and a vessel when trawling, dredging or fishing with any kind of drag-net, and a vessel employed in line fishing with her lines out, shall at intervals of not more than two minutes make a blast with her foghorn and ring her bell alternately.

ART 11. A ship which is being overtaken by another shall show from her Stern to the last mentioned ship a White light or a flare-up light.

SOUND SIGNALS FOR FOG, &c.

ART. 12. A steamship shall be provided with a steam whistle or other efficient steam sound signal, so placed that the sound may not be intercepted by any obstructions, and with an efficient Fog Horn to be sounded by a bellows or other mechanical means, and also with an efficient bell. A sailing ship should be provided with a

PICKFORD & BLACK, AMERICAN TAR, PITCH, ROSIN, 51 UPPER WATER ST.

VESSLS FITTED WITH PLUMBING FIXTURES BY MACDONALD & CO.—See adv. page 3 cover.

similar Fog Horn and bell. (Turkish vessels use a drum instead of a bell.)

In fog, mist, or falling snow, whether by day or night, the signals described in this article shall be used as follows ; that is to say :—

(a.) A steamship under way shall make with her steam whistle or other steam sound signal, at intervals of not more than Two minutes, a prolonged blast.

(b.) A sailing ship under way shall make with her Fog Horn, at intervals of not more than Two minutes, when on the starboard tack one blast, when on the port tack, two blasts in succession, and when the wind is abaft the beam three blasts in succession.

(c.) A steam ship and a sailing ship when not under way shall at intervals of not more than Two minutes, ring the bell.

SPEED OF SHIPS TO BE MODERATE IN FOG, &C.

ART. 13. Every ship, whether a sailing ship or a steam ship shall in fog, mist, or falling snow, go at a moderate speed.

STEERING AND SAILING RULES.

ART. 14. When two sailing ships are approaching one another, so as to involve risk of collision, one of them shall keep out of the way of the other as follows, viz :

(a.) A ship which is running free shall keep out of the way of a ship which is close hauled.

(b.) A ship which is close hauled on the port tack shall keep out of the way of a ship which is close-hauled on the starboard tack.

(c.) When both are running free with the wind on different sides the ship which has the wind on the port side shall keep out of the way of the other.

(d.) When both are running free with the wind on the same side, the ship which is to windward shall keep out of the way of the ship which is to leeward.

(e.) A ship which has the wind aft shall keep out of the way of the other ship.

ART. 15. If two ships under steam are meeting end on, or nearly end on so as to involve risk of collision, each shall alter her course to starboard, so that each may pass on the port side of the other.

This Article only applies to cases where ships are meeting end on, or nearly end on, in such a manner as to involve risk of collision, and does not apply to two ships which must, if both kept on their respective courses, pass clear of each other.

PICKFORD & BLACK, 51 UPPER WATER STREET, HALIFAX, N. S.

PICKFORD & BLACK, IMPORTERS OF WELSH BOLT IRON SPIKES.

MACDONALD & CO., MANUFACTURERS OF BRASS BINNACLE GUARDS.—See adv. p 3 cover.

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The only cases to which it does apply are, when each of the two ships are end on, or nearly end on, to the other; in other words, to cases in which, by day, each ship sees the masts of the other in a line, or nearly in a line, with her own; and by night to cases in which each ship is in such a position as to see both the side lights of the other.

It does not apply by day to cases in which a ship sees another ahead crossing her own course; or by night to cases where the red light of one ship is opposed to the red light of the other, or where the green light of one ship is opposed to the green light of the other, or where a red light without a green light, or a green light without a red light is seen ahead, or where both green and red lights are seen anywhere but ahead.

ART. 16. If two ships under steam are crossing, so as to involve risk or collision, the ship which has the other on her own starboard side shall keep out of the way of the sailing ship.

ART. 17. If two ships, one of which is a sailing ship and the other a steamship, the steamship shall keep out of the way of the sailing ship.

ART. 18. Every steamship, when approaching another ship, so as to involve risk of collision, shall slacken her speed or stop and reverse, if necessary.

ART. 19. In taking any course authorized or required by these regulations, a steamship under way may indicate that course to any other ship which she has in sight by the following signals on her steam whistle, viz. :—

One short blast to mean "I am directing my course to starboard."

Two short blasts to mean "I am directing my course to port."

Three short blasts to mean "I am going full speed astern."

The use of these signals is optional; but if they are used, the course of the ship must be in accordance with the signal made.

ART. 20. Notwithstanding anything contained in any preceding Article, every ship, whether a sailing ship or a steamship, overtaking any other, shall keep out of the way of the overtaken ship.

ART. 21. In narrow channels every steamship shall, when it is safe and practicable, keep to that side of the fairway or mid-channel which lies on the starboard side of such ship.

ART. 22. Where by the above rules one of two ships is to keep out of the way, the other shall keep her course.

ART. 23. In obeying and construing these rules due regard shall be had to all dangers of navigation; and to any special circumstances which may render a departure from the above rules necessary in order to avoid immediate danger.

No SHIP, UNDER ANY CIRCUMSTANCES, TO NEGLECT PROPER PRECAUTIONS.

ART. 24. Nothing in these rules shall exonerate any ship, or the owner, or master, or crew thereof, from the consequences of any neglect to carry lights or signals, or of any neglect to keep a proper look-out, or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.

RESERVATION OF RULES FOR HARBOURS AND INLAND NAVIGATION.

ART. 25. Nothing in these rules shall interfere with the operation of any special rule, duly made by local authority, relative to the navigation of any harbor, river, or inland navigation.

SPECIAL LIGHTS FOR SQUADRONS AND CONVOYS.

ART. 26. Nothing in these rules shall interfere with the operation of any special rules made by the Government of any nation with respect to additional station and signal lights for two or more ships of war or for ships sailing under convoy.

DISTRESS SIGNALS.

ART. 27. When a ship is in distress and requires assistance from other ships or from the shore, the following shall be the signals to be used or displayed by her, either together or separately, that is to say:—

In the daytime—

1. A gun fired at intervals of about a minute ;
2. The international code signal of distress indicated by NC ;
3. The distant signal, consisting of a square flag, having either above or below it a bell, or anything resembling a bell.

At night—

1. A gun fired at intervals of about a minute ;
2. Flames on a ship (as from a burning tar barrel, oil barrel, &c.) ;
3. Rockets or shells, throwing stars of any colour or description, fired one at a time, at short intervals.

PICKFORD & BLACK, IMPORTERS, NETS, TWINES, LINES, 51 UPPER WATER STREET.

MACDONALD & CO., Manufacturers and Fitters of Steam Heating Apparatus.—See adv. p. 3 cover.

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WEATHER PROBABILITIES,

MADE UP ON SCIENTIFIC PRINCIPLES,

FOR

LATITUDE OF HALIFAX, FOR 1887.

January.—1 and 2, heavy rain; 3 to 5, fair; 6 and 7, rain; 8 and 9, fair; 10, rain or sleet; 12, fair and cold; 13 to 16, snow; 17 to 19, fair; 20 and 21, snow; 22 to 24, fair and cold; 25 to 27, snow; 28 to 31, snow and rain. Cold snaps may be looked for between 5 and 7, 12 and 15, 24 and 27.

February.—1, overcast; 2 and 3, fair and cold; 4 to 7, snow, hail and rain; 8 to 10, fair; 11 to 13, snow storm; 14 to 16, fair and cold; 16 to 18, stormy; 18 to 21, overcast; 22 to 25, snow and rain; 25 to 31, fair and cold. Cold snaps may be looked for between 11 and 14, 22 and 25, 28 and 30.

March.—1 and 2, fair and cold; 3, snow and rain; 4 and 5, fair; 5 to 7, cloudy, with light snow; 9 and 10, fair; 11 and 12, fair, cold snap; 12 to 14, snow; 14 to 20, milder, light snow and rain; 20 to 23, fair and cold; 23 to 25, fair, light snow squalls; 25 to 31, squally. Cold snaps about 8, 12, 24.

April.—1 to 3, rain; 3 to 5, fair; 5 to 7, rain; 7 to 9, fair; 9 to 11, snow and rain; 11 to 14, fair; 14 to 16, snow squalls; 16 to 18, fog; 18 to 20, fair; 20 to 22, snow and rain; 22 to 26, fair, expect thunder and lightning; 26 to 30, fog.

May.—1 to 5, fine; 5 to 7, snow and rain; 7 to 14, fine; 14 and 15, cloudy; 16 to 18, rain; 18 to 25, fair; 25 to 27, fog; 27 to 30, rain.

June.—1 and 2, fine; 3 and 4, rain; 4 to 10, fair; 10 to 12, light rain; 12 to 20, fair; 21 to 24, overcast, light rain; 24 to 26, fair; 26 to 28, overcast; 28 to 30, stormy, thunder and lightning.

July.—1 to 4, fair; 5 and 6, rain, thunder and lightning; 6 to 13, average fair weather; 13 to 18, fair; 19 and 20, rain; 21 to 24, fair; 25 to 28, rain; 28 to 30, fair.

August.—1 and 2, rain; 2 to 6, cloudy; 6 to 9, fair; 9 to 11, light rain; 11 to 14, fair; 14 to 17, cloudy weather; 17 to 21, fair, fog; 21 to 24, overcast, fog; 24 to 28, fine; 28 to 30, fair.

September.—1 to 4, rain, fog; 4 to 7, fair; 7 to 9, cloudy; 9 to 11, fair; 11 to 14, fair, light showers at night; 14 to 16, rain; 16 to 20, fair; 20 to 23, stormy; 23 and 24, fair; 24 to 30, cloudy.

October.—1, fair; 2 to 4, stormy; 4 to 7, fair; 7 to 10, cloudy; 10 to 12, rain; 12 to 14, fair; 14 to 17, snow and rain; 17 to 20, fair, cold; 20 to 27, fair; 27 to 30, rain.

November.—1, rain; 2 to 4, fair; 4 to 7, rain; 7 to 9, fair; 9 to 11, overcast; 11 to 14, cloudy, with rain; 14 to 17, fair; 17 to 21, rain and snow; 21 to 24, stormy; 24 to 26, fair; 26 to 30, cloudy and cold.

December.—1 to 4, fair; 4 to 8, snow, and rain storm; 8 to 10, stormy; 10 to 12, fair; 13 to 15, stormy; 15 to 20, fair; 20 to 22, stormy; 22 to 25, fair; 25 to 31, cloudy, squally.



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MACDONALD & CO., MANUFACTURERS OF COMPOSITION CLINCH RINGS.—See adv. p. 3 cover.

PICKFORD & BLACK, Importers of Welsh Bolt Iron Spikes.

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[1887

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