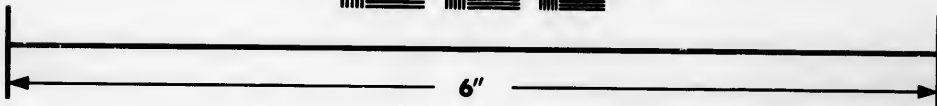
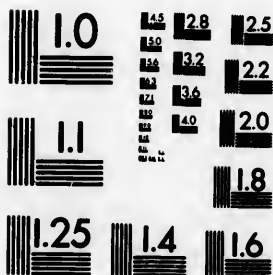


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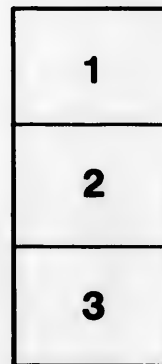
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*Montreal Board of Trade.*

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CORRESPONDENCE

RELATING TO

SHIP CHANNEL IN RIVER ST. LAWRENCE.

---

CAPT. C. L. ARMSTRONG'S REPORT

TO THE

BOARD OF HARBOUR COMMISSIONERS.

---

CORRESPONDENCE

RELATING TO THE

WRECK OF S. S. "BOLIVAR."

---

Montreal :

STARKE & CO., PRINTERS, ST. FRANCOIS XAVIER STREET.

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1871.



CORRESPONDENCE  
RELATING TO THE  
SHIP CHANNEL IN RIVER ST. LAWRENCE.

---

No. I.

MONTREAL, 16th November, 1870.

SIR,

I am informed that during my absence in England, the Harbour Commissioners employed Capt. Armstrong for the express purpose of pointing out to the Pilots, and others interested, the private channel which Mr. Young has for years persistently asserted was in existence, with a greater depth of water than in that commonly used; which channel was known only to himself and Capt. Armstrong.

I am further informed that Capt. Armstrong has submitted a report (a copy of which is in the hands of the Council of the Board of Trade) in which he tacitly admits that no such private channel exists, and that there is only one available channel, viz, the one which has always been in use; and that it offers no greater depth of water than the Pilots have always alleged was in it.

About a year ago, in answer to a letter addressed to me by Mr. George Stephen, one of the Harbour Commissioners, I stated that at the low water in summer, the improved channel is available with safety, for sailing ships drawing 19.3 to 19.6, and for steamships, driven at speed by their own power, about a foot less. I understand Capt. Armstrong fully corroborates my statement and confirms the opinions I expressed as to the improvements still required.

In justice to him, I am bound to say, that in the conversations I have had with him on the subject of the navigation of the river, he never pretended that he knew of any other channel than that in daily use.

Now, therefore, that we have got rid of all the nonsense about private and unknown channels, I trust the Board of Trade will give its attention to the improvement of the present well known route. The necessity of this is apparent, from the fact that, the new steamer "Assyrian," which will come into our line in Spring, will draw 24 feet when loaded, even without her coal. Her carrying capacity at load draft will be nearly 400 tons per foot. To lighten her therefore even to 19 feet, will involve the lightering and twice handling of about 2,000 tons of cargo. The cost of this, and the injury to the property, will be very great; and yet if we are to compete in the carrying trade with New York, where vessels of equal size are now in use, and go in and out without lighterage, we must, unless the river is improved, do so at a great disadvantage. Steamships of a still larger class, are now being built for the New York trade, and if we are to hold our own on this route, no time must be lost in improving the navigation. The first and most important improvement is required at Cap a la Roche and Cap Charles, and that portion should be done next summer.

I earnestly ask the attention of the Council to this important matter.

And am, Sir,

Your obedient servant,

HUGH ALLAN.

WM. J. PATTERSON, Esq.,  
*Secretary Board of Trade.*

## No. II.

(Copy.)

*Office of the Board of Trade,*

MONTREAL, 24th November, 1870.

HUGH ALLAN Esq.

SIR,

I am directed by the Council of the Montreal Board of Trade to acknowledge receipt of your letter (under date 16th inst.,) relating to Captain Armstrong's recent Report on the Ship-Channel, &c.

On consideration by them, I have been requested to give a copy of the same to the President, the Hon. John Young, for his report thereon.

After such further deliberation as shall take place, I will no doubt be desired to communicate with you.

I am, Sir,

Your obdt. servt.,

(Signed,)

WM. J. PATTERSON,

*Secretary.*

## No. III.

(Copy.)

*Office of the Board of Trade,*

MONTREAL, 6th December, 1870.

HUGH ALLAN, Esq.

SIR,

Referring to letter, (under date 24th November), I am now to inform you that a copy of your communication dated 16th Nov., having been given to the Hon. John Young, with a request that he report upon the same to the Council; a reply has been received from him, a copy of which I herewith transmit to you.

The Council desire me to inform you, that the correspondence will be brought under the notice of the Board of Harbour Commissioners, and that they will request their Representative at that Board, to urge the necessity of further improvements in the Harbour, and Ship-Channel.

I am, Sir,

Your obdt. servt.

(Signed,)

WM. J. PATTERSON,

*Secretary.*



## No. IV.

*(Copy).*

MONTREAL, 28th November, 1870.

*To the Members of the*

COUNCIL OF THE BOARD OF TRADE,

MONTREAL,

GENTLEMEN,

The Resolution passed at your Meeting on the 22nd inst., placing in my hands for reply Mr. Hugh Allan's letter to the Board dated 16th inst., as to the Channel between Quebec and Montreal has had my attentive consideration.

I regret very much the tone and tenor of Mr. Allan's letter, but as I think he is mistaken in several of his statements regarding the supposed Channel and its depth of water, I think it well to glance briefly at what has been done, and what is yet required to do, to render the Port of Montreal easy of access for Ocean vessels of the largest tonnage.

The subject of deepening the river between Quebec and Montreal, and the necessity for cheapening freights, early engaged the attention of the Merchants of Montreal. After repeated surveys, the work was finally begun by the Department of Public Works in 1843. Differences of opinion existed before the commencement of the work, as to whether the deepening through Lake St. Peter should be by a straight cut from one end of it to the other, or by following the more crooked natural Channel. The Government decided on the former, and this with the view of making the Channel (14) fourteen feet deep at low water. A Committee consisting of the late Messrs. Redpath, Quesnel and Hayes, were named by the Government to examine into the work being done, and I was requested by resolution of your Board to accompany the above Gentlemen. I made my Report to you in June, 1846, adverse to their views; and recommended that all the work which had been done by the Government should be abandoned, and that an error had been committed in attempting to cut a straight Channel instead of following the crooked or natural Channel. The publication of my Report caused a discussion of the subject in Parliament; and a Committee of the House, with Engineers, were named to examine the matter, whose Report confirmed my opinion, and the work was finally abandoned, in 1846, after the useless expenditure of some (\$400,000) Four hundred Thousand Dollars.

In 1849 I suggested to the Government, a plan by which I believed the deepening and improvement of the Navigation between Quebec and Montreal could be effected by the Harbour Commissioners of Montreal. My plan was approved of by Government, and an Act was passed giving it effect; and in that year I was appointed a Harbour Commissioner, an office which I held till the close of 1865, when I and my Colleagues then in office were deprived of our Commissions.

Having inaugurated those great improvements, and having been a party to an agreement with the Government, for the assumption of the Bonds granted by the Harbour Commissioners, for the Lake St. Peter and River Improvements, as well as the abolition of all tonnage dues on ships passing through the Lake, provided the Harbour Commissioners for a certain sum would open up and complete a channel of (20) Twenty feet at low water,—it is not surprising that I should have done all that was in my power during the last five years, to have the channel opened up to its full

capacity of (20) Twenty feet in accordance with that agreement. The effort to do this has not been by any means a pleasant one, but in beginning those great improvements in 1846, I was actuated by the belief that it was in the interests of the Country, and of this City, that vessels from Sea, of the largest tonnage, should be able to ascend to this Port without breaking bulk; and, it is this same belief which actuates me now, in trying to make available to the trade the channel at low water of (20) Twenty feet—a channel which existed in 1865, but which has never yet been used to its full capacity from Quebec to Montreal; for, during these five years only nine vessels have loaded down to a greater depth than the water which was in the channel of (18) eighteen feet opened up to the trade in 1859.

Such is a very brief sketch of the history of the improved channel. No one has had larger interests dependant on these improvements, than Mr. Allan, nor has any one reaped such advantages; yet, in all the past years from their inauguration, I cannot remember receiving from him one word of encouragement or approval in my disinterested labour.

Let me now point out some of the mistakes in Mr. Allan's letter. He says that "He trusts the Board of Trade will give its attention to the improvement of the present well-known route," when, as you are aware, the Board of Trade only acts on the Harbour Commission through its President, the Commissioners having the majority and the responsibility of all improvements.

Mr. Allan says, "that the first and most important improvement required, is at Cap a la Roche and Cap St. Charles, which portion should be done next summer." This view of the channel has always been a favorite one of Mr. Allan's. In 1861, in a letter from his firm (Edmonstone, Allan & Co.) to the "Herald," it was stated, "that the Harbour Commissioners "assert on the authority of Captain Armstrong, that there is an available Channel at low water in lowest tide carrying not less than nineteen feet water past Cap a la Roche, but we have never found any other person acquainted with the river, who was aware of it, or believed in its existence. "The ship "Toronto" struck there in June, 1856, in charge of one of the "best Pilots, and had to discharge her cargo at a cost to us of over £1,000 "and no season has since passed without steamers and ships touching at that place. The steamer "Palestine" struck there in September last year "drawing 16 feet 6 inches, at the top of high tides, when, according to "Captain Armstrong, there should have been (24) twenty-four feet in the "Channel. The cost to us of lighterage alone last year was \$9,405, and "the Commissioners may be sure we would save that if we could." I give this extract to shew that in 1861 Mr. Allan had no more faith in Captain Armstrong's opinions than he has now.

It must be borne in mind that at Cap a la Roche, Cap St. Charles, and miles above, no dredging has ever been done. The Channel *there is now* the same as it always has been; and the discoveries made at these places by Captain Armstrong, all of which I saw verified, have been the result of careful sounding by him, and by experiments by means of Spars lashed to the side of a Steamer. In November, 1865, when the Channel was made available but not completed a ship was loaded down to 20 feet 2 inches, and was taken from Sorel to Quebec, when there was (11) eleven feet in the old Channel, and passed safely, without even touching at Cap a la Roche and Cap St. Charles, the points Mr. Allan deems "the most important to improve next summer," and where he declared there was "only 16 feet 6 inches in 1861 at the top of the tide, but where, he says, "Captain Armstrong insisted there was 19 feet at lowest tide, and 24 feet at high tide." Mr. Allan has persistently continued to assert similar opinions. In 1863, he wrote that, "Mr. Young "insists that a Channel 20 feet deep, when the water is 11 feet on the "the flats, exists all the way to Quebec; but neither the Pilots nor any one

"else, except Captain Armstrong and himself knows it, and I am sorry to say, that in my belief,—and I think I know the river very well,—such a Channel has no existence except in the imagination of Mr. John Young." Again on the 22nd inst., in his letter to you he says, "now that we have got rid of all this nonsense about this unknown Channel, we can turn to the most important point for improvement" at Cap a la Roche.

In January, 1866, at the last meeting of the late Harbour Commissioners, it is on record, that I moved "to have a plan prepared, shewing where all the additional Buoys, Beacons, and Lights should be placed, where Captain Armstrong the Superintendent deemed necessary, so as to perfect and render the navigation of the river more easy than it is, all of which should be marked and laid down on said plan."

On my election as President of the Board of Trade this Spring, I lost no time in bringing under the notice of my Colleagues in the Harbour Commission, the importance of making known this (20) twenty feet Channel. I placed before them a map on which was marked by Captain Armstrong the localities where improvements should be made, and where new Buoys, Beacons, and Lights should be placed. I especially pointed out a new Channel to the North of that then in use and which had always been used, by which Cap a la Roche, Cap St. Charles, &c., could be passed safely at the lowest tides, with (20) twenty feet of water, where Mr. Allan declared there was only 16 feet 6 inches at high tides, where ships struck, and where "no season passed without vessels and steamers striking." Shortly after this, a letter was received by the Commissioners from the Department of Public Works, stating that representations had been made to the Department, to the effect that there was no such Channel as that of (20) twenty feet at low water; and from Mr. Allan's consistent expression of a similar opinion, I think I am not far wrong in supposing, that these representations to the Government were made by Mr. Allan himself. The Commissioners felt themselves bound to reply to this statement by whomsoever made, and wrote in June last to the Minister of the Public Works, as follows:—

"You mention that representations have been made to the Department of Public Works, that there is not a depth of 20 feet at low water, available at all parts of the Channel. The Commissioners would feel extremely obliged to be furnished with copies of them. In refutation of these representations, that there is not a Channel of 20 feet at low water, I would beg to refer you to the certificates addressed to your Department in November and December, 1865, signed by several Gentlemen, including Mr. Sippell your Engineer, stating that a ship loaded down to draw 20 feet 2 inches passed from Sorel to Quebec, when there were (11) eleven feet on the flats. This is the best proof that can be given of the existence of the Channel. It is true that no ship has yet passed from Quebec to Montreal, loaded down to 20 feet expressly to test the Channel; but it has been tested by means of spars, and the Commissioners have no doubt whatever of its existence.

"But if any question could arise upon that point, the Commissioners conceive that the able report of Mr. Page, Chief Engineer, must remove all such doubts, and set them at rest; for he fully endorses the opinion of the Harbour Commissioners as to the state of the Channel, and the satisfactory manner in which the works were executed by them. It is true that Mr. Page refers to a few patches and isolated shoals, which, although not sufficient to prevent ships drawing 20 feet at low water to pass, should notwithstanding be removed. The Commissioners have always been aware that there are several points in the Channel, which require improvement by widening or otherwise, which would enable steamships and heavily laden vessels to navigate it with greater ease, and which are still requisite to make the Channel what it should be, and what it ought to be in the interests of the Dominion. In ascend-

"ing from Quebec the first impediment is at Cap a la Roche; at this point the Commissioners are informed, that there is a shoal not laid down on any Chart, which at present is not Buoyed, and where vessels frequently strike.

"On each side of this shoal there is plenty of water, but the Channel would be greatly improved by its removal. Again, opposite Cap Levrard there is another shoal which would, if removed, give a straight line between the Batiscan and Grondine Lights, thus effecting a great improvement in the Channel. New Buoys and Beacons will become necessary at this place. Above or near Port St. Francis, improvements are required both in laying down new Buoys, and in the dredging off points of shoals where the turning is difficult for long ships and steamers. Many of these places are not laid down in Commander Orlebar's Charts of the Channel. At various other places there are improvements yet to be made, although the Channel can be navigated to the full depth at present. The improvements at Cap a la Roche are within the Harbour of Quebec, and do not come under the control of the Montreal Harbour Commissioners; still if your Department will furnish the means, the Commissioners on their part will furnish the Dredges, steamers &c., necessary to carry out the same.

"When the improvements in the Channel of 20 feet are carried out and completed, it will then be a subject of consideration whether a greater depth cannot be attained.

"It is well known that ships of large size can carry freight at lower rates than small ones; hence, if an increased depth in the Channel from Sea to Montreal can be effected, and cheaper freight thereby secured, then such improvements become works of general public interest, and are not local in their character.

"The Commissioners further add, that it will be essentially necessary, that the Channel after being improved as above suggested, should be thoroughly and effectively Buoyed and Lighted."

Such is the Report of the Harbour Commissioners to the Minister of Public Works, made in June last, as to the Channel; and it was *after this report was made*, (and the facts therein stated were communicated by me to the Commissioners,) that an examination was made by the Pilots, of the Channel at Cap a la Roche, as laid down on Captain Armstrong's map, lying North to that which has always been in use, and which on examination was found to correspond with Captain Armstrong's reiterated statements, that a safe Channel existed at Cap a la Roch, even at low tides. The Pilots, with the authority of the Trinity Board, have, in consequence put down this season, new Buoys, and since this has been done, no vessel whatever has struck there, where vessels and steamers, as Mr. Allan declares, "were constantly striking." This however, is only one part of the Channel between Quebec and Montreal, but was no part of "the present well known Channel," referred to in Mr. Allan's letter to the Board. It is also a part of that "unknown Channel" of which Mr. Allan in 1861 said, "no one knew but Captain Armstrong," and that "he had never known any person acquainted with the river who was aware of it, or believed in its existence." It is a part, too, of that Channel which Mr. Allan in 1868, declared "existed only in the imagination of Mr. John Young," and of that which in his late letter to the Montreal Board of Trade he calls "nonsense," against the united opinion of the Chief Engineer of the Public Works, and of the Harbour Commissioners, who stated in their report to the Government in June last, that "they have no doubt whatever of the existence of the (20) twenty feet Channel."

Mr. Allan says in his letter, that Captain Armstrong "never pretended that he knew of any other Channel than that in daily use." As a reply to this:—Captain Armstrong asks in his letter of 2nd inst., from Dalhousie, "what vessels have taken the ground on that dreaded place Cap a la

"Roche, or at Cap St. Charles, since the Buoys have been put down this season for the first time, in the places marked on my Chart, and pointed out by me?"

Captain Armstrong was employed this season by the Harbour Commissioners to take the necessary measures for testing the Channel, by taking a ship through it; but he failed in his efforts, and I in mine, to get a ship for the purpose. He could have done so but for the official statement of the Trinity Board, that it was *not safe* to navigate the Channel with ships drawing more than 19 feet when there was 11 feet on the flats; whereas Mr. Allan says in his letter of the 22nd inst., that "the improved Channel is available *with safety* for ships drawing 19 feet 3 inches to 19 feet 6 inches." With the alteration of the Buoys at Cap a la Roche, two ships came up this season from Quebec to Montreal, drawing respectively 19 feet 7 inches, and 19 feet 8 inches, when there was 11 feet on the flats, without the assistance of Captain Armstrong; and when it is considered, that a number of Buoys and marks both above and below Sorel, which were laid down by him in 1865, and removed by him at the close of that season for the navigation of the Channel as he had improved it, *and which have never since been replaced*, can it be for one moment doubted, that with his knowledge of the Channel as he made it, (and which no one can know till he finally buoys it out) that this Channel of (20) twenty feet exists? If a Pilot, without that intimate knowledge of the Channel which Captain Armstrong possesses from having made it, can bring up a ship drawing 19 feet 8 inches, is it not evident that Captain Armstrong with all those Buoys replaced which he laid down in 1865, and which have never been replaced, could navigate the Channel easily and safely with 20 feet, while there is 11 feet on the flats.

Mr. Allan directs the attention of the Board to the increasing size of steamers crossing the Atlantic, and refers to his new vessel the "Assyrian," and to the insufficiency of the Channel for that ship. But, as "the first and most important improvement at Cap a la Roche" has already been effected by changing the Buoys there, for the navigation of Captain Armstrong's new Channel at that place, part of Mr. Allan's difficulty is thus removed. If, next summer, or this winter, arrangements were made to complete the new Channel of 20 feet by Buoying, Beaconing, and Lighting it, instead of leaving it as it has been for the last five years available only for the large number of ships drawing 18 feet, a great result would thus be obtained. The work of making the Channel and the Harbour throughout 22 feet deep, instead of 20 feet as it is now, is one of great magnitude and cost; and when it is considered that in the greater number of seasons, the water in the Channel does not fall below 21 feet, and then only for three or four weeks, it is thus doubtful whether this depth with 12 feet on the flats, or 20 feet with 11 feet on the flats is not ample. But whether or not, no time should be lost in making the 20 feet Channel as perfect as it can be made, and also increasing the capacity of the Harbour.

I have the honor to be,

Gentlemen,

Your very obdt. servt.,

(Signed,)

JOHN YOUNG,

*President.*

## CAPTAIN ARMSTRONG'S REPORT.

---

(Copy.)

MONTREAL, 13th October, 1870.

H. H. WHITNEY, Esq.,  
*Secretary*  
*Harbour Commissioners.*

SIR,

In accordance with the resolution of the Commissioners, requesting me to take the necessary means for testing the improved Ship Channel between Quebec and Montreal, and to furnish them with any information I possessed, which would lead to facilitate its navigation,—

I have the honor to report that I have received every assistance from the Commissioners and their officers, as well as from the Gentlemen of the Trinity Board, in carrying out your views. It is now five years since I examined the Ship Channel, and tested it in 1865, as far up as Sorel, by then taking a ship through it loaded down to 20 feet 2 inches, when there was 11 feet on the flats, and it has been a matter of interest to me to ascertain whether the Channel has been changed by deposits of any kind in it during that period.

With this object, I left the Port of Montreal on the 30th September in the steamer "Richelieu," with spars lashed on one side of the boat to a depth of 20 feet 6 inches, with 11 feet 6 inches on the flats. I proceeded down and up both Channels at Point-aux-Trembles several times, and in both Channels found ample water. The spar did not touch at any point.

At the Batture Point-aux-Trembles the spar touched on stones, and also off Light at Isle St. Therese, but only slightly; we also touched slightly below the Island at Lavaltrie, and opposite Lanoraie Church.

Saturday, the next day, it blew so hard that I could not leave Sorel. I left on Monday, the 3rd inst, to sound the Lake, but the wind was so fresh I proceeded to Levrard, and on the 5th anchored off Cap St. Charles, where I sounded all day. The new Channel at this place has been brought into use, for the first time, this season, and a white buoy has been placed on the S. E. end of Grondine Shoal, and a black buoy has also been placed on the South side of the Channel.

The white buoy is placed on the point indicated by me on my Chart of the Channel submitted to the Harbour Commissioners this summer, and shows that no improvement is required at this place.

On the 6th I proceeded to Batiscan, in consequence of having been told that three ships had struck off the River Champlain while drawing 18 feet water, following as marks Point a la Citronille and Batture St. Pierre, in a line with a large tree over the Mill on the South shore. I cruised about with the spar at 21 feet 6 inches, but found no obstructions.



By a close examination, however, I think a small shoal will be found above the River Champlain.

I returned to the Lake to see the depth of water at the guage, and thence to Lanoraie, taking soundings throughout without finding any obstructions.

Since 1865, I had repeatedly stated that sailing vessels (and more especially steam vessels) in passing through the improved Channel of twelve miles in Lake St. Peter, should not do so at full speed.

This cut through the Lake is nothing else than a Canal under water, 300 feet in width, and 9 feet in depth, the sides of which are soft clay, which, when disturbed, has a tendency to create a deposit lower down. Since 1865 I find that a deposit has taken place at several points in the channel, ranging from 6 to 9 inches for five or six hundred yards near Light No. 3; and at Light No. 2, the spar touched stones with 20 feet 8 inches, which water should have been in the channel throughout,—but while these obstructions should be removed, yet from the softness of the bottom, navigation there would not be impeded.

I made numerous soundings at lowest tide at Cap St. Charles and Cap a la Roche, and with the exception of one place where there is 19 feet at the former place, I found nowhere less water than 20 feet 6 inches. It is important, however, that this spot of 19 feet should be removed, so that vessels drawing 20 feet, could pass up and down at lowest tide.

At Levrard I found from 22 to 28 feet at the lowest tide. At the traverse at Isle St. Therese the spar struck at the Light-house, and the sounding pole showed 19 feet 6 inches in two places. The low water at this place is doubtless caused by stones brought down by the ice.

At the Batture Point-aux-Trembles, the spar struck, as already stated, at 20 feet 8 inches, but the obstruction must be very small, as the sounding pole showed nothing less than 20 feet 11 inches.

In no other part of the channel, than at the places indicated, have I found less than 20 feet water, although I have carefully sounded the whole channel.

I think proper, in view of the foregoing, to make the following suggestions:—

1st.—The Beacon should be placed at Longueuil to prevent the grounding of vessels near or opposite that place.

2nd.—The poulier in the traverse at Point-aux-Trembles should be removed. It is on the south side of the channel, with 18 feet water on it.

3rd.—Two Beacons should be placed on Isle-aux-Laurier, in case the buoys should be carried away at Cap St. Michel. I placed and removed these buoys in 1865, but they have not been replaced.

4th.—The shoal in the centre of the river off the west end of Vercheres Island should be removed.

5th.—It is now passed by buoys from Contrecoeur to below the Island of Lavaltrie,—the Lights serve as Beacons,—from thence the Lights of Lavaltrie lead to deep water. As the current tends to the north at this place, I placed two beacons on the north side of the Light-houses, showing the north bank when in a line. Vessels meeting in this place found these convenient, as they could be seen at all times, being black; these were removed in the fall of 1865 and not replaced. I think they should be replaced.

6th.—Light No. 3 cannot serve as a correct Beacon (from the swinging of that vessel) with the Light of Point du Lac. I put up a large Beacon on shore, 1000 feet in rear of the Light-house, as a leading mark up to the white buoy, in case vessels came in before Light No. 3 or buoys could be put down in the Spring. This Beacon has been down a long time, and should be replaced; but such Beacon could be dispensed with by the better plan of a permanent Light-house.

7th.—The Tree and Church of Yamachiche are not marks sufficiently correct to come into a 300 feet cut; it requires Beacons much nearer; a small poulier below Light No. 3, should be removed.

8th.—The Lights at Port St. Francis are not properly placed to clear the Batture au Fer aux poulier, where so many vessels touch.

9th.—The new Channel, from Cap de la Magdaline to Becancour, should have leading Lights; from Becancour to Champlain, there should also be leading Lights. There is a small poulier off Champlain River not down on the Charts, which should be removed, being near the turning point.

10th.—Two Lights should be placed above Champlain, where two Beacons are placed to mark the new Channel, and a Buoy on the poulier called Duborde Shoal, which has only 8 feet on it, with 36 and 37 feet on each side of it, should be removed.

11th.—Batiscan Lights lead over Pointe St. Anne shoals,—see Captain Orlebar's report on that particular place.

I placed two Beacons below Cap Levrard, and a Buoy marking the place to deflect to the south, to bring the Beacon in a line, and a Buoy marks the point of the St. Anne shoal.

There is a small poulier which should be removed; there is another also, a short distance below not marked down on the Charts, with 17½ feet of water, the line of Light leading over it.

12th.—A third poulier off Cap a la Roche, at the turning point for Cap St. Charles should be removed.

13th.—The Lights on Cap St. Charles should be further apart, and made to lead more to the North-East, to avoid a shoal called Poulier de la Brambal, having 18 feet on it.

14th.—The marks as laid down by order of the Trinity House, by Belisle a Pilot, and approved of by the Superintendent, lead over the Pointe Grondine. I certainly would not trust to marks on houses or trees, but there should be large and substantial Beacons put up.

15th.—I would advise a Light to be placed at the South end of Isle du Grace, to prevent such an accident as happened to the Steamer Quebec this season.

16th.—The great length of the Steamers now used in the trade, requires that every facility should be given when rapid turns are necessary in the Channel, by the removal of points of shoals.

From the examination which I have made of the Channel, I am quite prepared to take down a ship loaded to 20 feet, when there is 11 feet on the flats; but with the slightly altered condition of the Channel in the Lake and at Lanoraie since 1865, (already stated), I think it best in the first test of a loaded vessel, not to go beyond 20 feet with 11 feet 6 inches on the flats, and then to take a second ship loaded down to 20 feet 6 inches.

The Commissioners having their new and powerful Dredge, can next season, make arrangements to remove every obstruction, and by placing Buoys and Beacons, complete the Channel as it was intended to be perfected and completed by me.

I have the honor to be, Sir,

Your obdt. Servt.,

(Signed,) CHARLES L. ARMSTRONG.

P.S.—In order that I may not be misapprehended as regards the Channel at Cap a la Roche, I wish to say, that although a good and sufficient Channel exists to the north of that at present in use, still, if the poulier on which there is 18 feet at low water, and which lies between both Channels was



entirely removed, (a work of small magnitude) then the Channel would be greatly improved, and made more easy of navigation for all ships at lowest water. As the matter now exists ships frequently touch this poulier, which would be utterly and entirely avoided by its removal.

The Channel should, in my opinion, be periodically examined, for necessarily the ice and the currents may deposit obstructions in it, which should be removed as they occur.

Although sailing vessels and steamers may, in my opinion, now pass from Quebec to Montreal, drawing 20 feet water, still, with the improvements named carried out, as well as the other suggestions for the improvement of the Channel made in my Report,—and which I also reported to the Commissioners in 1865, as necessary to be carried out, and which would make the Channel of 20 feet at low water easy of navigation,—I do not see that anything else is required, unless the Commissioners decide upon making the Channel two feet deeper throughout its whole length, which would be a work of great magnitude. With the fact, however, that in some seasons, the water on the flats does not fall below 12 feet, and also, with the fact that the shallowest water in any season, only lasts three or four weeks in any one season, it will I think, be found that the 20 feet Channel thoroughly Lighted, Beaconed and Buoyed, and improved as I have suggested, will be found ample for the trade.

(Signed,)

C. L. A.

CORRESPONDENCE  
RELATING TO THE  
WRECK OF S. S. "BOLIVAR."

No. I.

(Copy.)

*Office Board of Trade,*

MONTREAL, 26th August, 1870

HON. PETER MITCHELL,  
*Minister of Marine and Fisheries,*  
Ottawa.

SIR,

I have the honor, by instructions from the President and Council of the Montreal Board of Trade, to transmit to you copy correspondence with the Trinity House, Montreal, relating to the wreck of the Screw Steamship "Bolivar," in the Harbor here, at a point distant from the ordinary channel.

The Council of the Board requested on 15th June, and again on 28th June, and 14th July,—that they might be informed of the *circumstances* under which the above mentioned vessel was stranded, and said that they were "prompted solely in the interests of the Commerce of the Dominion" to make the inquiry,—because whatever was detrimental to the trade of the River St. Lawrence, by increasing rates of Insurance, and thereby increasing rates of freight, was of public interest, and a matter into which it was the duty of the Board of Trade to inquire.

The Council desire me to acquaint you that they have failed to obtain the desired information, as to the *cause of the accident, and circumstances attending it*. The object had in view by the Council was to bring the particulars under the notice of the Board of Harbour Commissioners, that the rock or shoal might be immediately removed;—because in the exercise of their duty, their aim is to render the navigation of the River St. Lawrence as safe as possible,—in view of Canadian Forwarders and Shippers competing with their rivals in the United States for the carrying-trade of the West

The letter and document marked No. 6 and 7 were only received yesterday,—respecting what occurred in the early part of June,—while no information is given as to the cause of the disaster to the "Bolivar."

The President and Council, therefore, desire me to beg that the Trinity Board of Montreal may be requested to furnish the Board of Trade with full particulars of the accident, and as to the depth of water on each side of the rock or shoal where the casualty occurred.

I have the honor to be,

SIR,

Your obdt. servt.

(Signed,)

WM. J. PATTERSON,

*Secretary.*

## No. II.

(Copy.)

Office Board of Trade,

MONTREAL, 15th June, 1870.

E. D. DAVID, Esq.,  
Registrar, Trinity House,  
Montreal,

DEAR SIR,

The attention of the Council of the Board of Trade has been drawn to the fact that the Steamship "Bolivar" was recently wrecked in the Harbour of Montreal in broad daylight, by going upon the rocks at or near St. Helen's Island, about 1000 feet out of the Ship Channel.

The President and Council desire me therefore, to enquire what has been the result of any inquiry instituted by the Trinity Board respecting that disaster, and to be informed whether, at the time of the "Bolivar's" going out of the Channel, she was in charge of a Branch Pilot or otherwise.

Have the goodness to state for their information, the circumstances connected with the wreck above-referred-to, mentioning any special cause for such calamity,—and what steps, if any, have been taken to prevent recurrence.

I have the honor to be,

Your obedt. servt.,

(Signed,)

WM. J. PATTERSON,

Secretary.

## No. III.

(Copy.)

Office Board of Trade,

MONTREAL, 28th June, 1870.

E. D. DAVID, Esq.,  
Registrar, Trinity House,  
Montreal,

DEAR SIR,

I am to inform you that, under date 15th inst., a letter was addressed to you—(copy herewith enclosed)—respectfully asking that the President and Council of the Board of Trade be informed as to the circumstances attending the wreck of the SS. "Bolivar" in the harbour of Montreal.

No reply having yet come to hand, I am again to draw your attention to it, lest by some misadventure you may not have received it.

I am, DEAR SIR,

Your obedt. servt.,

(Signed,)

WM. J. PATTERSON,

Secretary.

## No. IV.

*The Trinity House of Montreal.*

MONTREAL, 25th June, 1870.

SIR,

I have the honor to acknowledge receipt of your letter of 15th instant, and in reply, I am directed to inform you that the judicial proceedings of this Board in the case of the captain of the SS. "Bolivar" against Augustin Naud, are, as in every Court of Justice, open to your inspection, and to the public.

I have the honor to be,

SIR,

Your most obedt. servant,

(Signed,)

E. D. DAVID,

*Registrar.*

WM. J. PATTERSON, ESQ.,  
*Sec'y Board of Trade,*  
Montreal.

## No. V.

(Copy.)

*Office Board of Trade,*

MONTREAL, 14th July, 1870.

E. D. DAVID, Esq.,  
*Registrar, Trinity House.*

SIR,

The President and Council of the Board of Trade desire me to inform you that, on forenoon of 29th ult., your reply (dated 25th June,) to their letter of 15th June was received,—no notice being taken, however, of communication addressed to you under date 28th ult.

The President and Council desire me very respectfully to express the opinion, that the Trinity Board might have, as on former occasions, kindly favored them with the information courteously requested,—the inquiry being prompted solely in the interest of the Commerce of the Dominion;—any accident, or other circumstance, that might prove detrimental to the trade of the River St. Lawrence, by increasing rates of insurance, and thereby increasing rates of freight, appearing to bring it within the sphere of this Board's consideration.

I am again to refer you to letter of 15th June,—the President and Council feeling assured that the few sentences of information requested will be furnished.

I have the honor to be,

SIR,

Your obedt. Servant.

(Signed,)

WM. J. PATTERSON,

*Secretary.*

## No. VI.

(Copy,)

*The Trinity House of Montreal,*

MONTREAL, 24th August, 1870.

SIR,

In reference to your letter of 14th July last, I have the honor, by direction of the Board, to enclose herewith copy of Judgment, in the case of George Wilson Morrison, Captain of the S.S. "Bolivar," against Augustin Naud, the Pilot who had her in charge at the time of the accident alluded to.

I have the honor to be,

SIR,

Your most obedt. Servant,

(Signed,)

E. D. DAVID,

*Registrar.*

WM. J. PATTERSON, Esq.,

*Secretary Board of Trade,*

Montreal.

## No. VII.

*Copy of Judgment.**The Trinity House of Montreal,*

MONTREAL, 15th June, 1870.

George Wilson Morrison, now in the City of Montreal, Master of the Steam-Ship "Bolivar,"

vs.

Augustin Naud, of the same place, a Branch Pilot for and above the Harbour of Quebec.

The Court found that the Defendant Augustin Naud, had been guilty of great want of care and diligence, and that through his fault and negligence the S.S. "Bolivar" had been grounded.

The Consequence ordered that the said Augustin Naud be deprived of his Branch and that he do forfeit his Pilotage.

Certified,

(Signed,)

E. D. DAVID,

*Registrar.*

## No. VIII.

(Copy.)

OTTAWA, 31st October, 1870.

WM. J. PATTERSON, Esq.,

*Secretary Board of Trade,*

Montreal.

SIR,

I have to acknowledge receipt of your letter of the 26th August last, addressed to the Minister of Marine and Fisheries, transmitting a copy of correspondence with the Trinity House, Montreal, relating to the wreck of the Screw Steamer "Bolivar" in Montreal Har-

bour, and requesting that the Board of Trade may be furnished with full particulars of the accident, and as to the depth of water on each side of the rock or shoal where the casualty occurred,—and in reply I am to inform you that a copy of your letter has been transmitted to the Trinity House, Montreal, with a request that they will report fully on the subject to the Department, and when they have done so, I will again communicate with you on the subject.

I am, &c., &c.,  
(Signed,) WM. SMITH,  
*Deputy of Minister of Marine and Fisheries.*

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No. IX.

(Copy.)

OTTAWA, 19th November, 1870.

WM. J. PATTERSON, Esq.,  
*Sec'y Board of Trade,*  
Montreal,

SIR,

With reference to my letter of 31st ult., informing you that a copy of your letter, requesting full particulars of the accident to the S.S. "Bolivar," and as to the depth of water on each side of the Rock or Shoal where the casualty occurred, had been transmitted to the Trinity House, Montreal, with a request that they would report fully on the subject to the Department, and that when they had done so, I would again communicate with you on the subject,—I beg herewith to enclose, for the information of the Board of Trade, copy of Report received from the Corporation of the Trinity House, on the circumstances connected with the grounding of the "Bolivar," and also copy of Sketch which accompanied the Report, from which documents the Department trusts the Board of Trade will obtain the information desired.

I am, &c., &c.,  
(Signed,) WM. SMITH,  
*Deputy of Minister of Marine and Fisheries.*

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No. X.

(Copy.)

*Trinity House of Montreal,*  
MONTREAL, 14th November, 1870.

SIR,

In compliance with your letter of 31st October requesting the Trinity House of Montreal to report fully upon the accident which happened to the Screw Steamer "Bolivar," in the Harbour of Montreal, and also as to the depth of water on each side of the Rock or Shoal where the casualty occurred,—I have the honor, by direction of the Board, to acquaint you, for the information of the Hon. the Minister of Marine and Fisheries, that the subject received at the time the most serious consideration of the Board.

On the complaint of George Wilson Morrison, the Captain of the "Bolivar," a suit was instituted against Augustin Naud, the Branch Pilot who had her in charge: "For that on Thursday the 9th day of June instant, while Piloting the said S.S. "Bolivar" from the Port and Harbour

" of Montreal to Quebec, she then being under his charge as such Pilot, " for and above the Harbour of Quebec, and being opposite the City of " Montreal, he did not use his utmost care and diligence in the safe " conduct of the said vessel, but that on the contrary thereof, by his want " of such care and diligence, and through his fault and negligence, he " caused the said S.S. " Bolivar " to run aground on a Rock opposite the " City of Montreal, near the Island of St. Helen's, within the jurisdiction " of the Trinity House of Montreal, whereby the said Steamship has " sustained serious damage, contrary to Law, and contrary to the Rules " and Regulations of the Trinity House of Montreal in such case made " and provided."

The Captain of the " Bolivar," the 1st and 2nd mates [the latter who was at the wheel] were examined, and nothing could be elicited from the testimony, except that the Pilot, from some most unaccountable cause, grossly neglected the usual precautions in turning the vessel, keeping on a full head of steam and giving wrong directions to the man at the helm, and for which he himself was unable to account.

The Pilot was attended on the trial by very eminent Counsel, J. Duhamel, Esq, who after hearing the testimony, considered it utterly impossible to say one word in his client's defence, but advised him to throw himself on the mercy of the Court.

The Pilot had always been known as one of our best Pilots, a most careful and sober man. The Board summoned several Pilots, who gave their testimony against their confrère with the deepest feeling of regret; but even they were compelled to admit, that the Pilot exhibited a want of care and skill for which they could assign no reason.

The Board, after the fullest investigation, could arrive at no other conclusion than to find the Pilot guilty, and he was deprived of his Branch.

The accident to the S.S. " Bolivar " was the result of gross negligence on the part of the Pilot, and one of those casualties for which the Board can see no remedy.

Had she not struck on the Rock, she would have run on the Island of St. Helen's. In further compliance with the desire of the Hon. the Minister of Marine, the Board has caused the water on each side of the Rock to be sounded.

Mr. A. G. Nish, Harbour Engineer, had the goodness to accompany Captain Cotté, the Superintendent of Pilots, and he has prepared a small Chart giving the position of the Rock, the depth of water on either side, and indicating the route always taken by vessels. It will be seen from this Chart that the Rock in question *is far out of the Channel* and in no way interferes with the safe navigation of the River St. Lawrence. No vessel of any description whether in the hands of licensed or unlicensed Pilots, has ever before been known to go there.

The Board respectfully submits that the accident to the " Bolivar," has no more tendency " to increase rates of Insurance, prevent Canadian " Forwarders and Shippers competing with their Rivals in the United " States, or cause the navigation of the River St. Lawrence to be considered " unsafe, than the loss of the " Canadian " or any other casualty of a " similar kind."

I have the honor to be,

SIR,

Your most obdt. servt.,

(Signed,)

E. D. DAVID,

Registrar.



## No. XI.

(Copy.)

*Office Board of Trade,*

MONTREAL, 25th November, 1870.

WM. SMITH ESQUIRE,

*Deputy to Minister of Marine and Fisheries,*

Ottawa.

SIR,

I am to acknowledge receipt of your communications to the Council of the Montreal Board of Trade under dates 31st October and 19th November, the latter containing copy letter from Registrar of Trinity House, and Sketch of Harbour of Montreal, shewing the place where the S.S. "Bolivar" was wrecked on 9th June, 1870.

The Council desire me to transmit to you their thanks for the information so courteously communicated to them, and to request that you will convey to the Minister of Marine and Fisheries, their sense of his kindness in the matter to which the correspondence relates.

The Council desire me respectfully to refer you to the last paragraph of the Registrar's letter, which is as follows:—

"The Board respectfully submits that the accident to the "Bolivar" has no more tendency to increase rates of Insurance, prevent Canadian Forwarders and Shippers competing with their rivals in the United States, or cause the navigation of the River St. Lawrence to be considered unsafe than the loss of the 'Canadian,' or any other casualty of a similar kind."

The Council are of opinion that if the whole circumstances were extensively enough known, the disaster to the "Bolivar" could not result so injuriously to the trade of the River St. Lawrence as it otherwise would.

They have not asserted that the wreck in question has any greater adverse influence than that of the "Canadian" upon rates of Insurance, &c., but they believe that no intelligent person will venture to question the fact, that all such accidents as those referred to in the Registrar's letter, are positively injurious to the shipping interests of the Country, and demand that the utmost vigilance be exercised for their prevention, by removing all their direct or indirect causes.

The Council desire me, in conclusion, to say that the information requested is at length supplied through the intervention of your Department; and to assure you that their sole object in pressing the inquiry relating to the "Bolivar," was to prevent possible injurious consequences to Canadian Commerce; their only regret being that the particulars were not made fully known until a period of five months had elapsed from the date of the wreck.

I have the honor to be, SIR,

Your obdt. servt.

(Signed,)

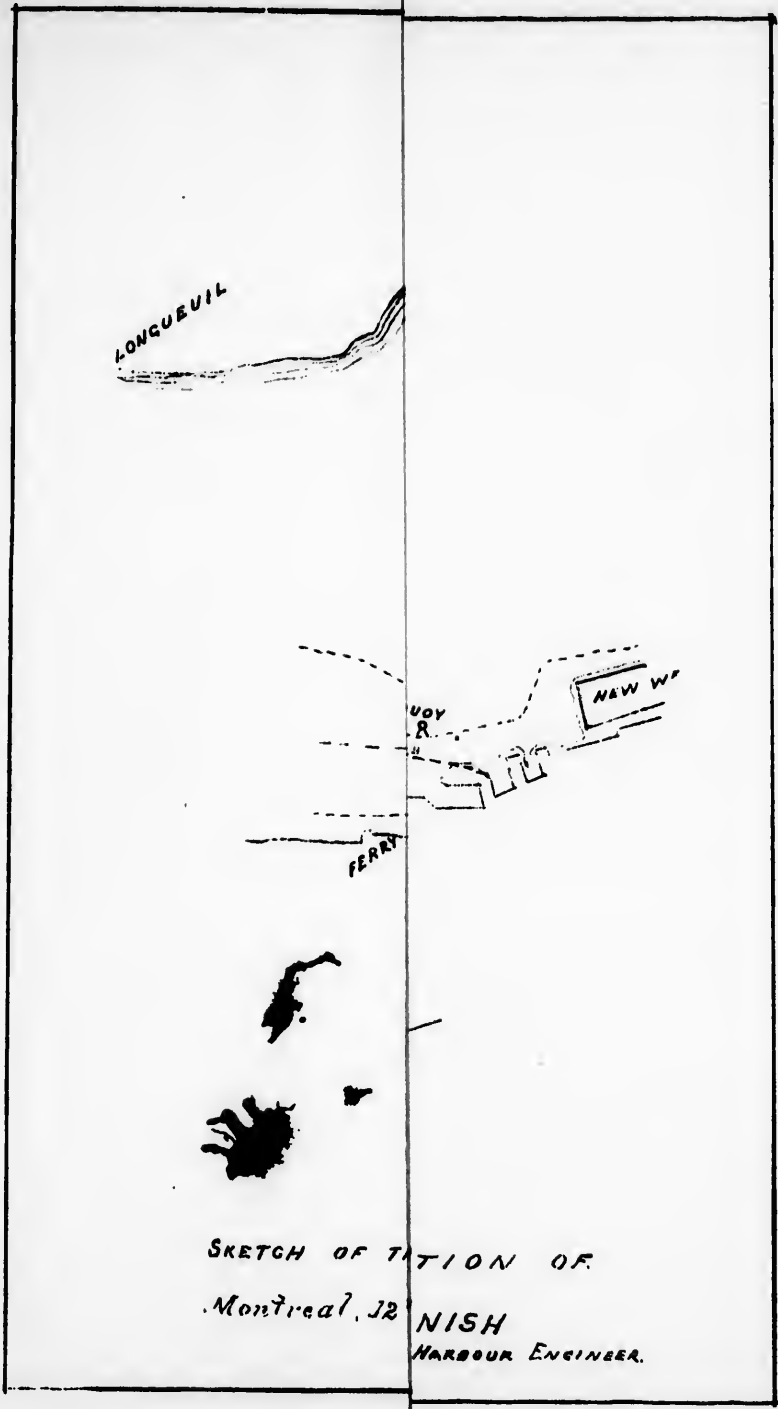
WM. J. PATTERSON.

*Secretary, Montreal Board of Trade.*

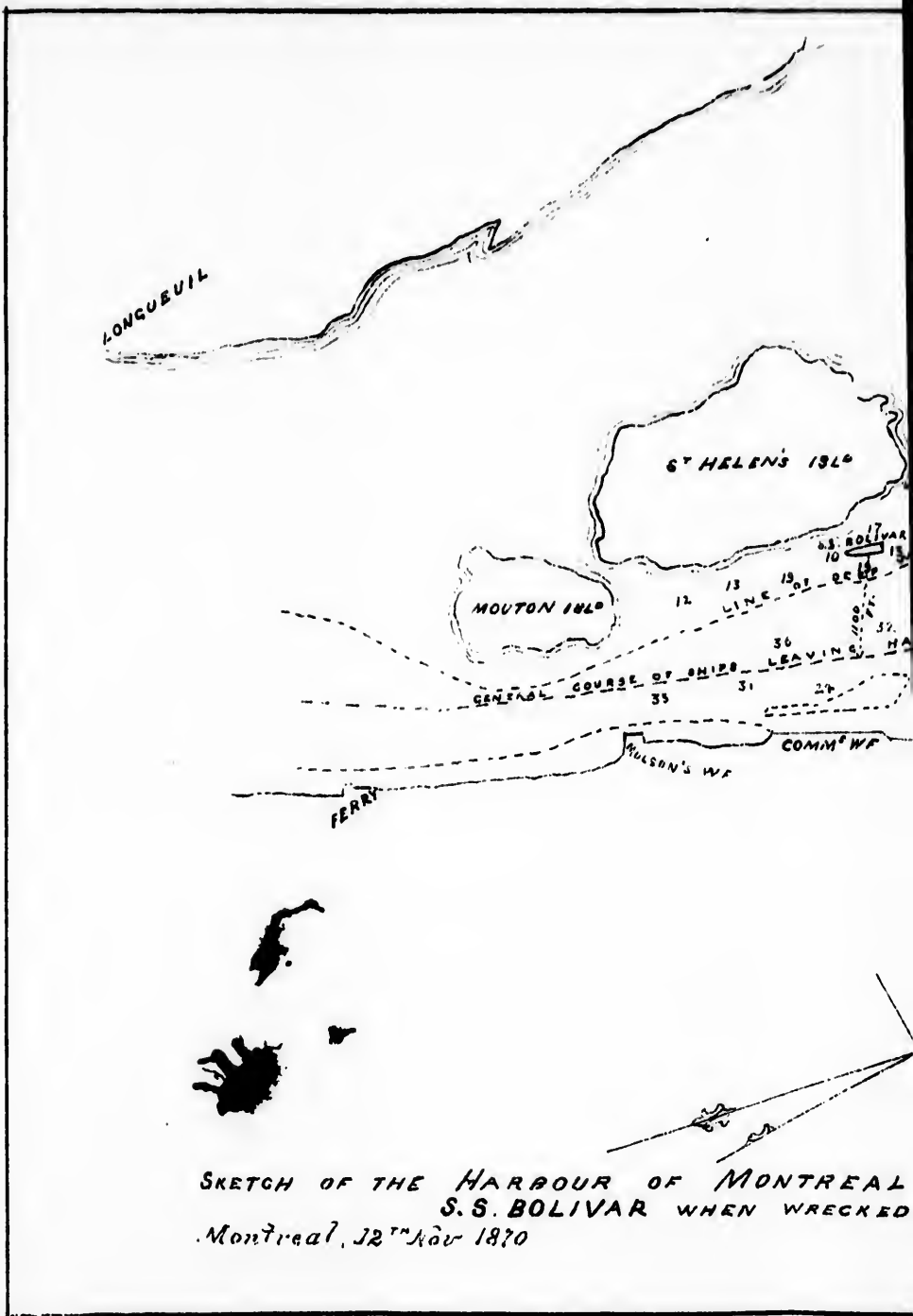


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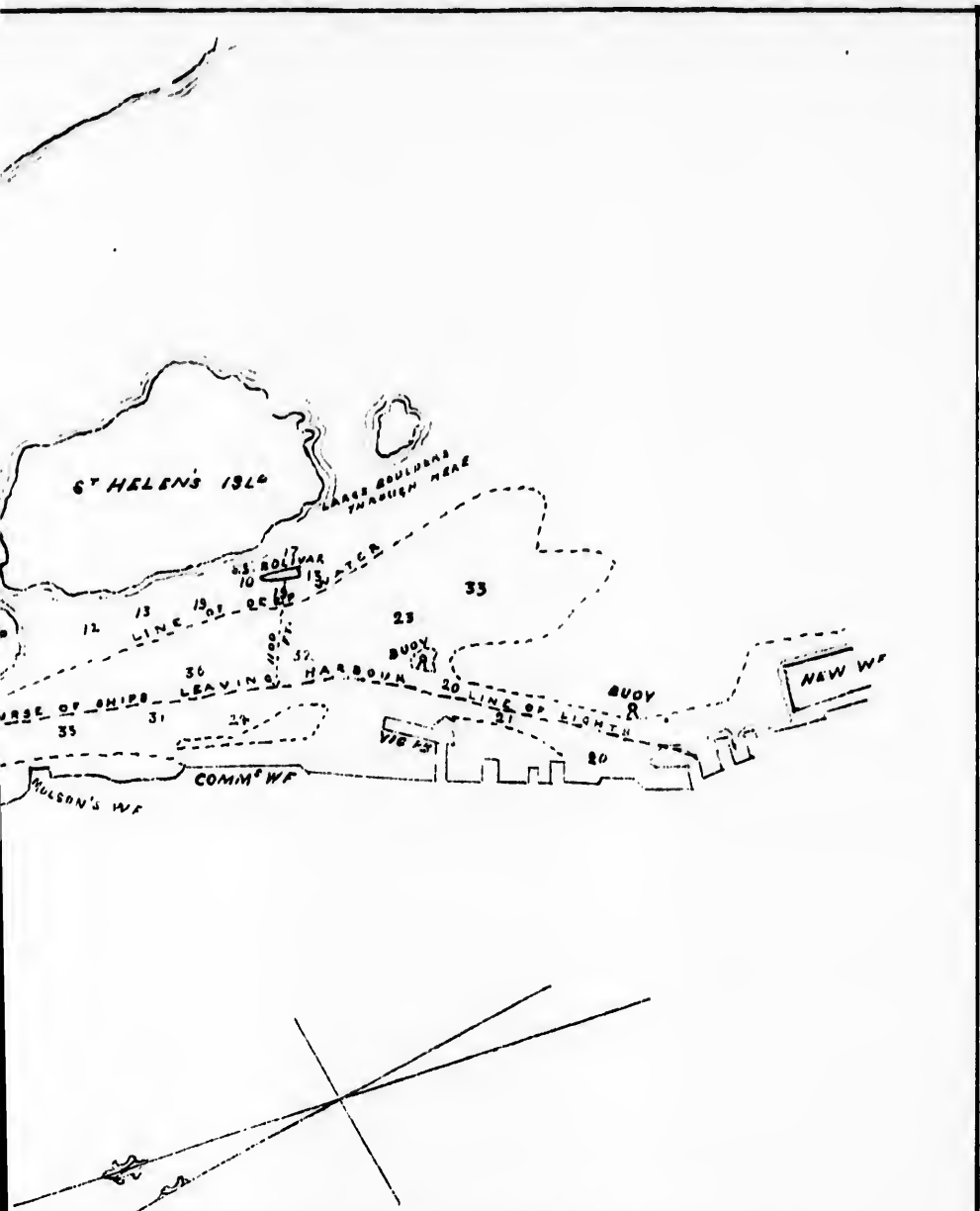
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SKETCH OF TATION OF  
 Montreal, JR NISH  
 HARBOUR ENGINEER.



SKETCH OF THE HARBOUR OF MONTREAL  
S.S. BOLIVAR WHEN WRECKED  
Montreal, 12<sup>th</sup> Nov 1870



MAP OF MONTREAL SHEWING POSITION OF SHIP WHEN WRECKED 9<sup>TH</sup> JUNE 1870

A.G. NISH  
HARBOUR ENGINEER.

