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REPORT

OF THE

SELECT COMMITTEE

OF THE

LEGISLATIVE ASSEMBLY,

QUEBEC.

ON THE

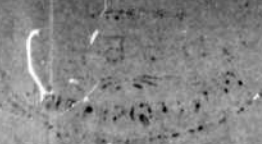


WINTER NAVIGATION

OF THE

RIVER AND GULF ST. LAWRENCE.

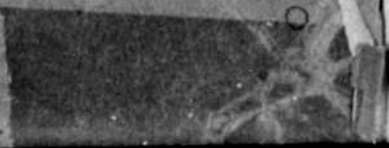
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LEGISLATIVE ASSEMBLY,

Quebec, February 12th 1875.

The Select Committee appointed to enquire into the possibility of navigating the River and Gulf St. Lawrence during the winter season, have the honor to report :

Your Committee proceeded to take evidence as to the following points :

First.—The form and structure of the vessel best adapted to encounter and overcome the floating ice.

Secondly.—The physical difficulties to be encountered in the form of snow storms, the mist or *brouillard*, which, during intense cold rises from the water, the want of buoys, lights, and difficulties of anchoring.

Thirdly.—The channel, or water that ought to be followed in order to command the largest stretch of clear water.

That your Committee, for the purpose of collecting authentic and reliable information on the foregoing subjects, summoned a large number of witnesses, whom they believe, from their experience and practical knowledge, most competent to advise them on the premises.

That the witnesses examined by the Committee were as follows :

Mr. E. W. Sewell, Ship-builder.
Captain Michel Lecours.
Honorable Mr. Savage.
Mr. Michel Guenard, Branch Pilot, River St. Lawrence
Mr. Joseph Brown, do do
Mr. Chs. Brown, do do
Capt. Thomas Connell, do do
Capt. Francis Desgroseilles.
Capt. Honoré Scherrer.
Capt. Gourdeau, Harbour Master, Quebec.
Colonel J. C. Farjana, Hydrographic Engineer, &c.

Vessels.

A number of these witnesses gave evidence that the Winter Navigation of the St. Lawrence could not be arrested at any time by the floe ice, provided ordinary and well-known precautions were taken by plating with iron, &c., &c.

Thickness of ice.

That the maximum thickness of the floating ice which moves with the ebb and flow of the tides could not impede the progress of a well constructed screw steamer.

Sailing Vessels.

That sailing vessels could not be employed at all times during the Winter months, though sailing vessels have, on many occasions, been known to make very good runs for long distances, both up and down the St. Lawrence, in January and February.

Channel defined by ice.

That at all periods of the winter, either the North or South sides of the channel of the St. Lawrence are entirely free from ice.

That board or batture ice forms early in the Winter on all the shoals, also along the whole coast, extending out from shallow to deep water.

That in most parts, the deep or navigable channel is clearly defined by the batture ice, parts of the batture ice moves off during the Spring tides, but the greater portion remains stationary during the whole Winter.

Floe ice a protection.

That the floe ice running along the outer edge of the batture forms a shield or barrier between a vessel navigating during the Winter months, and the shore, as clearly demonstrated by the evidence of the Honorable Mr. Savage, a gentleman of forty years' experience of the state of the river surface during the Winter months.

Snow Storms. Safety and facility of anchoring.

Many witnesses contend that vessels during snow storms could always take advantage of the floe ice, by running alongside of its outer edge, and should it be deemed advisable to come to an anchor, the smooth and clear water to windward of the floes would present a safer anchorage than during the summer months, as at that season, gales of wind are accompanied

with heavy seas causing a much greater strain on a vessel's cables, than could possibly be brought to bear on them when the ship is anchored in still water.

Brouillard or mist.

The *brouillard* or mist that is seen during intense cold on the St. Lawrence is dispelled by the morning sun, and rarely attains at night a greater elevation than from twelve to fifteen feet.

Buoys during the summer months are used by sailing vessels and are absolutely necessary to such craft beating as they do for weeks against the westerly winds. But steamers running a straight course at the rate of twelve to fifteen miles an hour, seldom even see the buoys. The batture and floe ice show the channel and mark out all shoals with greater distinctness than buoys, which are always difficult to see in a sea way, and cannot be seen at night.

Lights.

All lights used during Summer navigation, will be necessary during Winter Navigation.

Public interest.

The mere announcement by the public journals that a Committee was sitting to enquire into the practicability of Winter Navigation, developed the deep interest felt by the inhabitants of the towns and villages along both shores of the St. Lawrence. The Gaspé sea line and the Bay of Chaleurs, Bay St. Paul, Tadousac, River du Loup, Betsiamis, Rimouski, New Carlisle and Paspebiac, all aspire to be ports of call.

The above statement contains the gist of the evidence furnished by witnesses, some of whom not only express their conviction that the St. Lawrence could be navigated during the Winter months, but declared, that as Pilots of long experience, they would not hesitate to take charge of a properly constructed steamer, and referred to the fact that the Winter Navigation of the River St. Lawrence, between Quebec and Levis, which was always held to be impracticable, has, since 1869, become an accomplished fact, thus affording inductive evidence that the Winter Navigation below Quebec is a problem, that in coming years can be satisfactorily solved. Several of the witnesses have given their evidence, stating that they had been despatched during the Winter months, to the Lower St. Lawrence, in command of tow-boats, to rescue sailing ships abandoned in the ice, and they have accomplished their task with safety and success.

On the other hand, some parties of well-known position and experience, while they avowed their ardent desire to see the enterprise succeed, expressed great doubts whether the physical difficulties caused by intense cold, absence of lights and buoys, snow storms, mists or *brouillards*, pack ice and frozen harbours, could be surmounted.

Your Committee is aware of the fact that the Federal Government has already undertaken to try the Winter Navigation in the Strait of Northumberland, between the main land and Prince Edward Island, by means of screw steamers.

The ports of call are to be Cape Traverse, on the South side, and the Harbour of Georgetown, on the East side of said Island.

It is expected that this trial will be successful. If so, the Committee have no doubt and hope that this Winter Navigation will be extended to the Magdalen Islands, thereby establishing communication between the Islands and the main land, a thing that is most desirable, because the people of the said Islands are now without any possible communication with the rest of the world during six months of the year.

Reviewing the question from a national point of view, your Committee are of opinion that if modern science can be enlisted in the successful accomplishment of the object sought, Canada would then possess the inestimable advantages of an independent and uninterrupted communication by water with foreign countries and a great portion of her own people living on both shores of the St. Lawrence.

Quebec would become an important Winter sea-port, and the Railway project of constructing lines to connect the Dominion with the Atlantic Ports, undergo a complete revolution, as the export trade would of necessity converge towards Quebec as the only available Canadian sea port.

Petition.

In conclusion, your Committee beg to refer to a petition presented by Mr. E. W. Sewell and others, to the Dominion Government, filed with the evidence submitted.

The petitioners affirm that they feel such absolute confidence in their ability to solve the now disputed problem of the Winter Navigation of the Gulf and River St. Lawrence, as a commercial enterprise, and perform with certainty and safety voyages between Quebec and the Lower Ports that they do not ask for the payment of any subsidy or special privilege, until they have demonstrated, during a period of six months, the practicability of navigating the St. Lawrence during the winter.

SYDNEY BELLINGHAM.

President.

LEGISLATIVE ASSEMBLY,

Quebec, Saturday, December 12th 1874.

Select Committee appointed to enquire into the possibility of navigating the river St. Lawrence during the winter season.

The Committee meets in No. 23 Committee Room, at noon.

Present: Honorable M. Irvine and Messrs. David, Alexander, Hearn, Joly and Bellingham.

M. Sydney Bellingham is appointed chairman of the Committee.

The Committee decide upon summoning Messrs. E. W. Sewell and Michel Lecours to attend on Monday next, the fourteenth inst.

The Committee then adjourn until Monday at twelve o'clock A. M.

L. G. DESJARDINS,
Clerk to Committee.

LEGISLATIVE ASSEMBLY,

Quebec, Monday December 14th 1874.

Select Committee appointed to enquire into the possibility of navigating the river St. Lawrence during the winter season

Present: MM. S. Bellingham, President
C. Alexander,
J. Hearn,
G. David,
H. G. Joly,
Hon. Mr. Fortin,
Hon. Mr. Irvine.

The minutes of the meeting of the 12th inst. are read and adopted.

E. W. Swell, Esq, a witness summoned by the committee, is requested to give his views on the question of the winter navigation of the St. Lawrence.

M. Sewell reads a paper on the matter.

M. Sewell is requested to put in writing the whole of his statement.

Captain Michel Lecours, from Levis, is next examined and answers the following questions.

BY MR. ALEXANDER.

Question : Is the steam navigation of the river St. Lawrence down to Bic during the winter season practicable ?

Answer : Yes: it is easily practicable by the North Channel.

Question : Have you navigated the St. Lawrence during the winter season ?

Answer : Yes; I have left on the 17th day of February 1871, to go to the rescue of the ship *Pride of England* at Escoumains, below Saguenay, which I took to Tadousac.

Question : Will the battures on the North Channel be an obstacle ?

Answer : During the whole winter there is no batture on that side.

Question : Would " *Leading Lights*," be required ?

Answer : Yes, three "*leading lights*," would be required for the navigation by the North Channel, one at a place called "*Pointe Rouge*," and the two others on the Island of Orleans.

Question : How long have you been engaged in the navigation of the St. Lawrence ?

Answer : For the last twenty-six years. I now command one of the steamers of the St. Lawrence Tow Boat Company on the Saguenay line.

BY MR. JOLY.

Question : Have you been only once down the river during the winter season ?

Answer : I have been on two other occasions; three times altogether

The first was in 1869. I was then in command of steamer St. Andrew. I left on the second day of December 1869. My steamer was towing down a bark belonging to Mr. Michon. The St. Andrew, which is a paddle boat, could not return to Quebec and wintered at L'Islet.

The steamer Arctic, for the last few years and still actually on the ferry between the Grand Trunk Railway Station at Levis and Quebec, also left on the second day of December 1869, towing down a brig as far as Bic and returned to Quebec on the fifth of December.

I have already mentioned my trip to Escoumains in 1871.

Last year, I left River Ouelle, in command of steamer Rescue, on the 17th. December and crossed to Tadousac in the course of a single day. The Rescue run easily through a solid piece of ice certainly over five miles in length and nine inches thick. That steamer has been built for the lake navigation and is not well adapted to the winter navigation of the St. Lawrence. Still she went through that piece of ice without for an instant coming to a stop. The ice of the salt water is not so hard as that at Quebec.

I left Tadousac on monday, the nineteenth of December, and safely reached Quebec on the twenty first of the same month.

BY MR. HEARN.

Question : What do you think about snow storms ?

Answer : Snow storms would not prevent seeing at a short distance.

It is certainly not more difficult to run a steamer up to Quebec during a snow storm than through fog in summer time. It would be always very easy to run close to the batture in order to see it constantly.

BY MR. JOLY.

Question : What is the thickness of the floe ice ?

Answer : Until the lake St. Peter is frozen, the floe ice on the river, below Quebec, sometimes reaches (18) eighteen inches thick, but afterwards it is generally nine inches.

It is moved by M. Joly that the quorum of the Committee be reduced to five.

The committee then adjourn until to-morrow at eleven o'clock, A. M.

L. G. DESJARDINS,
Clerk to Committee.

LEGISLATIVE ASSEMBLY,

Quebec, Tuesday, December 15th 1874.

Select Committee appointed to enquire into the possibility of navigating the river St. Lawrence during the winter season.

Present: MM. S. Bellingham, President.

F. David,

H. G. Joly,

P. C. Beaulieu,

Hon. Mr. Fortin,

“ Mr. Irvine,

“ Mr. Alexander.

The minutes of the previous meeting are adopted.

Hon. M. Savage, member of the Legislative Council, is then examined and answers the following questions.

BY MR. E. W. SEWELL.

Question : Do you think that the floe ice of the St. Lawrence is too thick to permit navigation of the river during winter months ?

Answer : After fifty years residence on the shore, at Cape Cove, Gaspé, and after having daily watched in winter time the formation and action of the ice in the Gulf, I think that steamers can be built to overcome any ice obstacle.

BY MR. ALEXANDER.

Question : Does the ice extend below Cape Cove ?

Answer : Yes, down to Restigouche.

BY MR. BELLINGHAM.

Question : How far outwards from the shore does the ice extend ?

Answer : In the Bay the ice extends a quarter of a mile from the shore, but there is no batture along the cape.

BY MR. SEWELL.

Question : Which way does the ice move ?

Answer : With the wind.

Question : At what time of the year have you got the most ice ?

Answer : In February and March.

Question : Have you ever seen, during these two months, the ice so closely packed that it could not move with the wind ?

Answer : No.

Question : Is the Gulf clear of fog during the winter ?

Answer : There is generally very little fog in winter. Some winters there is none at all.

Question : Is the surface of the river smooth when there is ice ?

Answer : I have never seen any heavy sea in winter, the ice keeping the water smooth.

Question : Does the floe ice along the shore extend far ?

Answer : With the North or easterly wind the floe ice packs along the shore as far as the eye can reach. When the wind is in the other direction, the ice moves on the other side. I have seen from the South shore clear water to an extent of fifteen to twenty miles in the months of February and March.

Question : Would the floe ice be a protection to the steamer ?

Answer : The floe ice would act as a shield or guard to a steamer passing outside.

Question : Did you see any thing of the abandoned ships *Mary Eliza* and *Emigrant* ?

Answer : No, but many people of the County of Gaspé have knowledge of the passing of the ships *Mary Eliza* and *Immigrant*.

BY Mr. ALEXANDER.

Question : Do you think it is practicable to keep a line of steamers in winter between Quebec and Halifax ?

Answer : Yes, with properly constructed steamers, for instance like the steamers employed in the Fishery at New Foundland, it would be quite practicable to keep a line between Quebec and the Gulf Ports.

M. Michel Guenard from Levis, is then examined.

BY Mr. SEWELL.

Question : Are you a branch Pilot?

Answer : Yes, since 1845.

Question : Have you had some experience in handling ships through the ice ?

Answer : Yes, mostly every fall. I was Pilot on board the ship *Amoor* of 1400 tons drawing 22 feet water. The steamer *Rescue* took her off from the lower end of the *Traverse*, 67 miles from Quebec, through to *Murray Bay*, at the end of november. The *Rescue* is one of the weakest boats in the port. The ice was from 5 to 6 inches thick.

About twenty years ago, I also went into the ice with ships *Aberdeen* and *Rankin* in the later end of november. We had early fall and very cold weather. Was caught in the ice 5 to 6 inches thick, thirty miles west of Green Island. The fourth day wind came on and scattered the ice. I put up sails, got out and put the *Rankin* at Green Island and the *Aberdeen* at Kamouraska. Ships were full of water.

Bilow Bic the ice is always broken up.

BY Mr. BELLINGHAM.

Question : Would you hesitate in taking command of a steamer from Quebec to Halifax during winter season ?

Answer : As a Pilot I declare that I would take a properly constructed steamer from Quebec to Halifax at any time during winter months, believing as I do in the practicability of passing through the ice.

Question : What is the thickness of the floe ice in the river ?

Answer : The floe ice passing opposite and below Quebec is between a foot to 18 inches thick.

M. Joseph Brown, Pilot, Quebec.

I am branch Pilot since 1862, now 12 years: I have been down the river every fall.

In 1862, I left Quebec with steamer St Georges, Capt. Wylie, of the Allan's Company, at 4 h'clock P. M. on the 27th november. The river was full of ice 4 to 5 inches thick. The St. Georges is an iron steamer and drew 21 feet of water. There were no buoys nor lights out when we left Quebec. We commenced cutting the ice from Madam Island down to Kamouraska, the ice was of the same thickness all through.

In 1861, I came up, early in April, with a sailing vessel, met floe ice midway between Birds' Rock and St. Paul Island, we boed through the ice having a gale of wind, with double reef top sails, the vessel suffered no dommages.

BY. Mr. BELLINHAM.

Question: Would you take charge of a steamer from Quebec to Halifax in winter?

Answer: As a Pilot I would not hesitate in taking a properly constructed steamer, with thick planking four feet width and iron plates outside, from Quebec to Halifax in winter.

M. Charles Brown, Pilot, Quebec.

Have been a Branch Pilot for the last 22 years, since 1852. Have been down the river late every fall. One time, I left Quebec on the 29th november in charge of a brig called *Thomas*. The fall was late, still there was already a great deal of ice. Below Green Island, fell in with much ice 4 to 5 inches thick. I had to anchor as I could not proceed. I tried to get ashore but could not. The brig was cut through and went down in 7 fathoms of water.

I have been over to England very often. In 1863, I came out on the 16th April, with a wooden vessel. We bored through the ice from Cape Bay to 60 miles west of Birds' Island. All sails set, strong breeze, the vessel not damaged.

By Mr. ALEXANDER.

Question: Is the winter navigation of the St. Lawrence practicable?

Answer : Yes, quite practicable. I would take a good steamer to Halifax at any time during winter. I would prefer to go through a snow storm than fog.

In 1871, I left Quebec on the 5th December in a wooden brig called Charles drawing 14 feet of water, bound for Carbonear, St. John's New Foundland. Was towed down by steamer St. Andrew. Met much ice. We went by the North Channel. Met ice at Point St. Lawrence, as far as *Cape Brulé*. The paddles of the steamer broke the ice. Steamer left us at Brandy Pot. Could not get ashore at Father Point. I had to go back to vessel and proceeded to Carbonear, on account of floating ice on the shore.

CAPTAIN THOMAS CONNELL, QUEBEC.

I have been a Branch Pilot for 26 years, and I am captain since. Served my time with admiral Bayfield.

By Mr. BELLINGHAM.

Question : Have you ever made late passages ?

Answer : Yes. I arrived in Quebec on the 14th December 1857 with a wooden vessel from Green Island under canvas. We met much floating ice but passed through easily. The ship drew 15 feet water. Buoys were up and lights out.

In 1862, I left Quebec on board the vessel *Washington Irving* on the 13th April. There were no lights, no buoys. The vessel was drawing 21 feet water. Went through the floe ice with little difficulty.

Lights will be required for the winter steam navigation between the lower ports.

Question : Is the batture along the shore favorable or unfavorable to the winter navigation ?

Answer : The batture is an advantage during winter as it shows the channel without lights or buoys.

Question : Would you take charge of a steamer in winter ?

Answer : I would not hesitate to take charge of a steamer fitted to meet the ice in the midst of winter, even at a cold over ten below zero. I think it would be imprudent to start with an easterly wind. The steamer should be brig rigged.

The Committee then adjourn until to-morrow at eleven o'clock A. M.

L. G. DESJARDINS,

Clerk to Committee.

LEGISLATIVE ASSEMBLY,

Quebec, wednesday, december 26th 1874.

Select Committee appointed to enquire into the possibility of navigating the river St. Lawrence during the winter season

Present: MM. S. Bellingham, President.
T. David.
Hon. Mr. Irvine.
Hon. Mr. Fortin.
MM. L. N. Larochelle,
C. Alexander,
J. Hearn.

Minutes of the last meeting are adopted.

Hon. Mr. Fortin moves that a Marine Chart of the Gulf St. Lawrence be bought for the use of the Committee.

Order is given to summon Capt. Desgroseilles, Messrs. Scherrer and Francis Gourdeau, Harbour Master of Quebec, to attend the meeting of the Committee to morrow.

The Committee then adjourn until to-morrow at 11.30 A. M.

L. G. DESJARDINS,

Clerk to Committee.

LEGISLATIVE ASSEMBLY,

Quebec, Thursday, December 13th 1874.

Select Committee appointed to enquire into the possibility of navigating the river St. Lawrence during the winter season.

Present : MM. S. Bellingham, Président

C. Alexander,
P. C. Beauchesne,
L. N. Larochelle,
J. Hearn,

Hon. Mr. Irvine,
Hon. Mr. Fortin.

Minutes of the last meeting are adopted.

Captain François Desgroseilles, Quebec, is examined and says : I left Quebec on the 17th March 1857 with two Pilot boats, for *Mille Vaches*, 150 milles from Quebec. There were 25 men in the two boats. Met only little ice from Quebec to Berthier, but plenty from Berthier down to the *Traverse*. Once through the *Traverse*, went to the North to espace the ice. Had clear water by the North down to *Mille Vaches*. Weather was very cold. One of the crew had hands and feet frozen. I left him at Escoumains. We reached *Mille Vaches* about the 29th of March, but we had been for 5 or 6 days at Escoumains. Was 4 days at *Mille Vaches* and returned to Quebec for an anchor and chain. Took up six men in the boat. Came up by North Channel as far as Pillars Light. Met little ice. From Pillars light to Quebec, met much ice, but passed through it easily. Was 2 days in Quebec and went down again. Reached Brandy Pot on the 18th April and *Mille Vaches*, on the 20th April, six men in the boat. Took down an anchor of 1800 not and 100 fathoms stud chain cable on board.

On the 16th November 1872, left St. Pierre Miquelon and reached Quebec on the 29th November. Met first ice at Escoumains, but the wind being from the North, I found no difficulty in clearing ice by passing by the North Channel. River St. Charles was frozen in on our arrival. I could not get schooner into winter quarters : was obliged to winter off Atkinson's wharf.

BY Mr BELLINGHAM.

Question : Would you take charge of a steamèr from Quebec to Halifax in winter months ?

Answer : With clear weather to start would not hesitate to take charge of a properly constructed steamer.

With regard to the passage of the *Traverse*, it would be made easy with a fog whistle and lights. The navigation of the river would offer no

serious difficulty up to Pillars Light. But from this latter place to Quebec it would be more difficult during a snow storm.

M. Honore Scherrer, from St. Joseph de Levis, is examined and says:

I left Quebec about the 10th. April 1862 with the break up of the ice with a schooner, having on board carpenters for Betsiamis. Had to go through thick packed ice from Quebec down to *Traverse*. Wind being from the north channel, went from Quebec down to the wharf at l'Islet in five hours time, went through the *Traverse* easily, weather thick but not foggy. There was not much ice below the *Traverse*.

I have wintered twice at Labrador, at Point Natasquoin, had a daily opportunity of seeing the ice, never seen anything to prevent navigation by a strong steamer.

On good Friday 1862, went out seal fishing with a small schooner of thirty years service, with 1½ inch planking fastened with spike nails, was caught in a gale of north east wind and snow. Drove the schooner into the ice, remained for 15 days in a large field of ice, schooner made a little water. It was ice from the Gulf from 1 to 4 feet thick; there was ice until the 8th. or 10th. of May.

BY Mr. BELLINGHAM.

Question: Do you think that a good steamer could navigate the river St. Lawrence during winter season?

Answer: Yes, a strong steamer could navigate the river and Gulf St. Lawrence at any time during winter season; good channel to be found by the north.

Captain Gourdeau, Harbour master, Quebec, is examined and says:

Was Pilot from 1832 to 1849, from 1849 to 1872 was Superintendent of Pilots, and appointed Harbour Master of the port of Quebec in 1872.

BY Mr. BELLINGHAM.

Question: What is your opinion about the possibility of navigating the St. Lawrence during winter months?

Answer: I beg leave to hand in a copy of a letter I have addressed to Wm. Smith, Esq. Deputy Minister of Marine and Fisheries, Ottawa, in answer to questions put to me about the winter navigation of the river St. Lawrence.

BY Mr. E. W. SEWELL.

Question : Have you had any experience of the floe ice of the St. Lawrence ?

Answer : In 1842, I had bought a wrecked vessel at Maniquagan. In the following spring, I hired a schooner and got 20 men and necessary provisions on board alongside the ice-bridge. On the 10th april, we left amongst the ice driving down the river with the ebb tide. At the Island of Orleans, was caught with easterly wind and snow. Went into river Lafleur to shelter for 3 days. After I went through the ice below Bic and then got cleared.

BY Mr. BELLINGHAM.

Question : Have you any personal experience of the winter navigation between Anticosti Island and Bic ?

Answer : No.

Question : Have you any knowledge of the class of steamers on the seal fishing at Newfoundland ?

Answer : No ; I am aware that they are built to enter the ice.

Question : Do you think that a strong steamer could navigate the St. Lawrence in winter ?

Answer : I admit that a properly constructed steamer with time could go through floating ice, but slowly.

Question : Do you recollect the time when it was considered impossible to cross the river with a steamer between Quebec and Levis ?

Answer : Yes, I have been all my life in Quebec and I recollect well the time when it was considered a wild visionary idea to cross the river with a steamer. Now steamers cross often, every hour and go easily through thick ice.

Question : Have you any knowledge of the Boats working in the ice at Detroit River ?

Answer : No.

BY Mr. E. W. SEWELL.

Question : Do you know how the ice moves ?

Answer: The ice moves across with the wind. If the wind is from the South South-West, the ice packs along the North Shore. If the wind is from the North North-West, the ice packs along the South shore.

Question: Are you aware that the Allan's Boats have been through the *Traverse*, drawing 23 and 24 feet of water, without lights or buoys?

Answer: Yes.

Honorable Mr. Fortin moves that:

Colonel F. C. Farijana, Hydrographic Engineer, New Carlisle, be summoned to attend before this Committee the first day after the re-assembling of the House, to wit.

Honorable Mr. Fortin moves that the Committee be adjourned until the first day the House meets in January next.

L. G. DESJARDINS,

Clerk to Committee.

LEGISLATIVE ASSEMBLY,

Quebec, January 14th 1875.

Select Committee appointed to enquire into the possibility of navigating the river St Lawrence during the winter season.

Present: MM. S. Bellingham, President.

H. G. Joly,

L. N. Larochele,

P. C. Beauchesne,

G. David,

Hon. Mr. Fortin.

Colonel F. C. Farijana, Hydrographic Engineer, New Carlisle, is then examined and says:

I was employed as Hydrographic Engineer on the Baltic sea, Russia, by the Russian Government, during one winter, and on the White Sea,

during one summer. Was also employed as an engineer on the American Union Pacific Railway, and as Hydrographer by the American Government in 1869.

I have had an opportunity of studying as Hydrographer the prevailing winds, the formation of the ice, the currents and the phenomena connected with the winter navigation of the Gulf of St. Lawrence, and I found from natural causes that the south west part of the Gulf of St. Lawrence has been and must be clear of ice. If any appears by strong north easterly wind, it cannot interfere with navigation for the reason that after the autumnal Equinox, the prevailing winds are northerlies. The Arctic current coming by the strait of *Belle-Ile* with the velocity of two knots per hour, dies gradually and decreases to such an extent that near the shore of Anticosti Island, it ceases altogether. The descending current of the St. Lawrence with a speed of three knots an hour in the main channel, prevents the entrance of ice bergs into the Gulf and carries away any that have been brought in by the strait of *Belle-Ile*.

About the middle of February in 1869, I had an opportunity of personally witnessing the winter navigation of the Gulf. The vessel I was in advanced within thirty (30) miles of Gaspé with clear water. We met the floe ice south of Magdalen Islands during easterly wind. I have no experience of snow storms. I was about three weeks in the Gulf and along the coast of Nova Scotia in the month of February.

I will be very happy to furnish the Committee with my impressions as to the practicability of the winter navigation of the Gulf St. Lawrence and the reasons that induce me to believe that it is practicable.

The Committee then adjourned.

L. G. DESJARDINS,

Clerk to the Committee.

TO THE HONORABLE THE LEGISLATIVE ASSEMBLY OF THE
PROVINCE OF QUEBEC.

THE PETITION OF THE UNDERSIGNED.

Respectfully represents,

That no part of the Dominion of Canada has a deeper interest than

this Province in solving the problem of the winter navigation of the River St Lawrence from the City of Quebec to the ocean and no City has a heavier stake in the success of the enterprise than the City of Quebec.

That under the normal conditions of the climate the navigation of the River St. Lawrence from the City of Quebec seaward is practically closed for half the year, and the City of Quebec during that dreary interval is deprived of the natural advantages of its position as the distributor of imports by being shut out from all commercial intercourse with the Maritime provinces.

That your Petitioner in concert with his associates is prepared under most liberal conditions to build a class of steamer fitted to cope with and traverse the heaviest floating-ice known to the St. Lawrence and maintain a weekly line of steamers, fitted to carry freight and passengers between the City of Quebec and the Maritime Provinces during the winter months.

That your Petitioner is prepared to prove before a Committee, if afforded an opportunity, that he is fully capable of giving effect to his present proposition.

Wherefore your Petitioner prays that your Honorable House will take the subject matter of his Petition into your favorable consideration.

And your Petitioner as in duty bound will ever pray.

Quebec, 3rd December 1874.

E. W. SEWELL.
GEO. CAMPBELL.
JOHN MACKINTOSH.

Quebec, 18th. January 1874.

To the Select Committee of the Legislative Assembly of the Province of Quebec on the subject of the winter navigation of the St. Lawrence.

Mr. PRESIDENT AND GENTLEMEN.

Being requested by your honorable Committee to submit in writing my professional opinion, based on my own observations as hydrographer, in regard to the winter navigation of the Gulf of St. Lawrence, I have the honor to state that the difficulties in the way of the winter navigation of the St. Lawrence are supposed to be the ice, the snow storms, and the cold weather, the latter of which coming in contact with the comparatively

mild temperature of the salt water, produces the thick haze, an equal embarrassment with the other difficulties in the way of the navigator.

From my own observations as a hydrographer, during the month of February, 1870, I found that Arctic ice or icebergs carried by the Arctic current through the narrow channel of the straits of Belle Ile with the velocity of two knots per hour, along the Southern shore of Labrador, but gradually diminishing west-ward in their course are checked :

1st. By the easterly shores of the Island of Anticosti.

2nd. By the stronger current of the River St. Lawrence, sweeping by the South Westerly shores of Anticosti towards the western shores of New Foundland, carrying with it to the same destination the ice of the estuary of the St. Lawrence. Moreover the Arctic current and Arctic ice, as well as the ice of the St. Lawrence are diverted from what would otherwise be a Southerly course by tidal waves which enter the Gulf between New Foundland and Cape Breton sending off lateral waves on either side of the Magdalen Islands, and deviating the current of the St. Lawrence towards the East and leaving open water free from ice, in so far as the estuary of the river is concerned

It must be observed, too, that the Trade winds, after the Autumnal Equinox, generally prevail westerly, some times strong and of long duration, and have a great influence in carrying off the accumulated ice on the St. Lawrence River—should any exist—towards the shores of Anticosti and New Foundland.

During my expedition in the Gulf, it is true that we met with some ice to the South of the Magdalen Islands, but it was not in quantity sufficient to impede navigation.

As to the snow storms which now and then occur, and as to the haze which occasionally prevails, they might, perhaps, at times necessitate a diminution of speed, but they would never be productive either of difficulty or danger to the navigator who kept his ship's journal or log-book properly posted and paid due attention to barometrical indications. The navigator who thus governs himself need never fear, as experience has proved successfully, to compete with the difficulties I have just mentioned.

In conclusion I should say that I feel confident that the winter navigation of the St. Lawrence Gulf, with a properly constructed steamer is perfectly practicable, and that none of the before mentioned difficulties need in any way embarrass navigation. Moreover, I have no doubt that the

just experiment of winter navigation will be crowned with success and will be sufficient to remove from the minds of the public all those doubts which at present prevail.

I have the honour to be,
&c., &c., &c.

F. C. FARIJANA,
Hydrographer

Quebec, January 12th 1875.

DEAR SIR,

I am this evening in receipt of your note of to-day asking me to appear before your parliamentary committee, which renews its sitting to-morrow for the purpose of continuing their enquiry relative to the practicability of safely navigating the St. Lawrence from Quebec to the sea during the winter months. In reply I beg to say I shall be unable to comply with your request as I leave to-morrow morning for Montreal.

I send you however, stated as briefly as possible, what I know of the river and Gulf of St. Lawrence, which you may use or not as you think proper. My experience dates from 1846. In the fall of that year I made my first voyage to North America from Scotland and in that of 1847 my second, since that time up to the present I have had at different times varied experience on the river and Gulf.

During the fall and winter of 1852 and 53, one of the most disastrous years to shipping ever experienced on the St. Lawrence, and also during the fall and winter of 1862, 63 and 65, I was employed by New-York underwriters as a special agent for the purpose of looking after such property as they were interested in. While holding this position I had to make a personal inspection of all such property which might be saved from various wrecks and to visit any point between Green Island, River St. Lawrence, to Cape Breton or N. S. and thence to Portland, Me, U. S. where the Company's property might be stored or ships stranded or wrecked. From knowledge acquired during such time and from what I have seen of the action of the tide and ice in various parts of the River and Gulf, observations made from the tops of some of the light houses and from the difficulties the Cunard steamer encountered which brought out the troops during the Trent excitement I being in that vicinity

at the time the steamer arrived, attending to two wrecks which had been driven ashore by the ice previous to that date I may be permitted to say that a steam propeller that I was interested in, in the fall of 1863, left Montreal for Halifax, put back to Bic harbour, the crew refusing to proceed, with the consent of the underwriters and at the request of the owners I joined the steamer at Bic with a fresh crew for the purpose of completing the voyage, but did not do so at the solicitation of the captain in charge, who wished to complete the voyage himself, this vessel left Bic harbour early in the month of December at 11 a. m. at 2 p. m. A gale of wind from North west by west with blinding snow set in and in less than 24 hours after the vessel was ashore and became a total wreck.

To your first question I would answer; Yes. I believe it is possible for a vessel properly constructed and of great strength and power to leave Quebec and reach the sea under very favorable circumstances and *vice versa*. To your second question; No. The haze or steam caused by the intense cold where the water is not entirely covered by ice and the possibility of being caught in a blinding snow storm which may last from 4 to 40 hours, make it an undertaking so difficult and so dangerous as to be void of any practical use.

To you third question: No. I do not think it possible to get any responsible underwriters to take a risk on either ship or cargo for less than a commission over and above the amount insured.

This is my opinion based on actual experience as shipowner and underwriters' agent since the year 1853—that being the first winter that I had any actual experience of the dangers of winter navigation.

Hoping your committee may be able to get all the information it may require.

I have the honor to be

Your obedient. servant,

W. D. B. JANES.

To

S. BELLINGHAM, Esquire, M. P. P.

Quebec.

EVIDENCE of E. W. Sewell, Esq. given before the select committee appointed to enquire into the practicability of navigating the Gulf and River St. Lawrence from Quebec to the Ocean during the winter months.

The floe ice of the Gulf and River St. Lawrence is composed of small pieces, the weight and resistance of which coming in contact with the bow and sides of an ordinary mail steamer would not reduce her speed to a greater extent than if contending against a head wind and sea, in the open Atlantic, a steamer once entering the floe ice of the St. Lawrence would be in smooth water as it is impossible for any sea to be raised however strong the wind where the surface is covered with floe ice, the advantage gained by a screw steamer running in smooth water as compared to a vessel in a sea way, where the rising and falling of the ends of the vessel cause the screw propeller to work at a great disadvantage with a consequent loss of power, must be apparent to every body. The advantage of smooth water with the absence of fog during the winter months would enable steamers to make better time between the Gulf and Quebec, than they have hitherto done. It has been suggested by some that the crews of steamers during winter navigation would be very much exposed to the inclemency of the winter season. Cold and exposure would not be known on board of these vessels covered fore and aft as they would be with proper steam pipes running through all those parts of the vessel where warmth was desirable. The freezing of the rudder chains is also another difficulty spoken of; as they would be completely covered by the spar deck where no water could get at them it would be difficult for them to be frozen in their blocks.

From one hundred and six telegraph reports of the state of the Gulf and river St. Lawrence from February to April, the following important facts are made evident. 1st. The ice is never so densely packed as to prevent its moving off from the shore in the direction of the wind, thus leaving a clear channel on either shore, or if the wind is light the ice is so scattered as not to impede navigation. 2nd There is no fog during the winter months. As proof of this assertions read the following telegrams, taken from the *Quebec Morning Chronicle* of 1872.

"Father Point." February 11. Weather bright and pleasant. South wind, *river clear of ice.*

"Father Point." February 21. Weather over cast and mild still. South West wind. *No ice on the river.*

"Fox River." February 21. Pleasant and mild, no wind. *Ice all gone.*

" Father Point." February 25. Light air from the South. Not the least ice to be seen on the river.

" The foregoing demonstrate clearly the moving of the floe ice (in the direction of the wind) from South to North.

The following demonstrate as clearly the moving of the floe ice from North to South.

" Fox River," February 20. Weather hazy and mild: strong North West wind. *Plenty of ice on the river.*

" Cape Rosier." February 24. Weather clear, bright, and cold; light North West wind. *Gulf full of ice.*

" Father Point" Feb. 27 " Weather clear: strong, wind blowing from the N. N. W. *River full of ice.*

" Cape Rosier " February 27th. Weather cloudy and stormy; N. W wind, *Gulf full of ice.*

" Fox River " February 27th. Weather cold; N. wind, *Gulf full of ice.*

" Cape Rosier " February 29th. 7 P. M. Weather clear and cold: stiff N. N. W. wind *Gulf full of ice.*

With regard to fog, in all the telegraph reports already alluded to fog is not mentioned once. There is the *telegram verbatim.*

" Fox River " April 10th. 6 P. M. Weather rainy and, densely foggy; no wind *Nothing to be seen on the river.*

Thus for the first time since the 8th Jan. does the really only existing danger in the Gulf and River St. Lawrence present itself.

The floe ice of the Gulf and *River St. Lawrence* moving from one shore to the other renders the winter navigation of the St. Lawrence safer in every respect than during the summer, spring, or fall, from the fact of its forming a shield or barrier between the ship and the rocks, running as it does along the edge of the batture or stationary ice, which invariably extends out to deep water making it impossible for a vessel to go ashore as was proved by the abandoning of the "barque *Marie Eliza*" and the ship *Emigrant*. The first, a new vessel, abandoned in November 1872 in the ice off River du Loup, remained safe during the whole winter. Getting clear, she was lost on *Miquelon Island*, there being no board ice to keep her off the rocks of that inhospitable coast. The latter vessel also remained in the

floe ice all winter, and was eventually taken into Charlottetown, P. E. I., by some of the Gaspé fishermen

It has been suggested that there is danger attending a change of wind when the ice would cross over coming with great violence against a steamer navigating along the opposite shore. In a case of this kind the vessel's helm should be put down so as to cause her to run in the opposite direction to that taken by the ice; assuming the vessel's speed to be eight knots and the ice to be moving at the rate of four knots she will be clearing the ice at the rate of twelve knots and would soon place it between her and the lee shore.

By the telegraph reports already alluded to it will be seen that from the 8th of June to the 10th of April there were 15 days on which the River and Gulf, were reported as clear of ice on the south shore; showing that the chances in favour of a clear channel on the North shore are 77 to 15.

Snow storms are looked upon by many as one of the greatest dangers of winter navigation; again referring to the telegraph reports (winter of '72) it will be seen that during three months three snow-storms are reported. The greatest and most violent snow-storms are accompanied with a north east wind, thus securing a clear channel on the south shore; in such a case a steamer would be in a much better position than when enveloped in fog *in as much* as she would have the floe ice as a guide, and shield from all danger; whereas during summer navigation a steamer enveloped in fog may run at half speed, though at a terrible risk; as has been but too often proved fogs are of much more frequent occurrence than snow-storms. An uninterrupted and *independent* communication with the outer world would be one of the greatest boons ever conferred upon this Dominion, the Commercial advantages to be gained by Quebec would cause her to rise to a position of commercial eminence such as the most sanguine could never have imagined; she would secure her share of the western trade, and English goods could be delivered on her wharfs, avoiding all the delays, inconveniences, and heavy freight charges of the Grand Trunk Rail Road.

E. W. SEWELL.

32 Wolf, Street, Point Lévis December 15, 1874.

THE WINTER NAVIGATION
OF THE
RIVER ST. LAWRENCE.
FROM
QUEBEC TO THE SEA PRACTICABLE :
AND THE REASONS WHY.

BY E. W. SEWELL.

After further research, and study, on this (to us Canadians) most momentous question, the writer is more than ever convinced of the *feasibility*, and indeed comparative *safety* of the winter navigation of the "River St. Lawrence," by steam.

The following advanced as facts in support of the above statement will, I am sure, be endorsed as such, by those who have experience, of the state of the River St. Lawrence, during the winter months, viz : The floe ice of the River and "Gulf of St. Lawrence" is composed chiefly of small pieces the weight or resistance of which, coming in contact with the bow and sides, of an ordinary steamer, would not reduce her speed to a greater extent than if contending in the open Atlantic against a head wind and sea, a steamer once entering the floe ice of the "River St Lawrence" *would be in smooth water, as it is impossible for any sea to be raised, however strong the wind, where the surface is covered with floe ice.* The advantage gained by a screw propelled steamer running in smooth water, as compared to a vessel in a sea way, where the *rising and falling* of the ends of the vessel cause

the screw propeller to work at a great disadvantage, with a consequent loss of power, must be apparent to every body ; this, with the *absence of fog* would enable steamers navigating the " St. Lawrence " during the winter months to make better time between the " Gulf " and " Quebec " than they have hitherto done.

From one hundred and six telegraph reports of the state of the River and Gulf, from February to April, the following important facts are made evident. 1st, the ice is never so densely packed as to prevent its moving off from the shore (in the direction of the wind,) thus leaving a clear channel on either shore, or if the wind is light to be so scattered as not to impede navigation in any way. 2nd. That there *is no fog* during the winter months. As regards the first assertion, by way of proof, read the following telegrams, taken verbatim from the Quebec *Morning Chronicle*, of 1872 :

" Father Point, " February 11, 9 A. M. Weather clear, bright and pleasant ; *south wind ; river clear of ice.*

Telegrams demonstrating the moving of the ice from the S. Shore.

" Father Point, " February 21. Weather overcast and mild ; stiff south-west wind. *No ice on river. Therm. 35.*

" Fox River, " February 21. Weather pleasant and mild. No wind *Ice all gone.*

" Father Point, " February 25. Light air from the *south. Not the least ice to be seen on river. Therm. 31.*

The foregoing demonstrate most clearly the moving of the floe ice from south to north.

" Fox River, " February 20, 6 P. M. Weather hazy and mild ; strong N. W. wind. *Plenty of ice on the river.*

" Cape Rosier, " February 24. Weather clear, bright, and cold ; light N. W. wind *Gulf full of ice.*

" Father Point, " February 27. Weather clear, strong wind blowing from N. N. W. *River full of ice.*

" Cape Rosier, " February 27. Weather cloudy and stormy ; N. W. wind. *Gulf full of ice.*

" Fox River, " February 27, 7 P. M. Weather cold ; *North wind. Gulf full of ice.*

" Cape Rosier, " February 29, 7 P. M. Weather clear and cold ; stiff N. N. W. Gulf full of ice.

Now with regard to *Fog*, in all the telegraph reports already alluded to, *Fog is not mentioned once*, till the 10th of April. Here is the telegram verbatim :

" Fox River, " April 10, 6 P. M.

Weather rainy and *densely foggy* ; no wind. *Nothing to be seen on the river.*

Thus for the first time since the 8th of January does the really *only existing danger* in the Gulf, and " River St. Lawrence " present itself.

The floe or board ice moving over from one shore to the other renders the Winter navigation of the St. Lawrence *safer in every respect* than during the Summer, Spring or Fall, from the fact of its forming a shield, or barrier, between the ship and the rocks, running as it does along the outer edge of the batture or stationary ice, which invariably extends out to deep water, making it *impossible for a vessel to go ashore*, as was proved by the abandoning of the " Barque Eliza, " and the ship " Emigrant. " The first, a new vessel, abandoned in November, 1872. in the ice of River du Loup, remained safe during the whole of that winter. Getting clear she was lost on Miquelon Island, there being no board ice to keep her off the rocks of that terrible coast. The latter also remained in the ice all Winter, and was eventually taken into " Charlottown, P. E. I., " by some Gaspé fishermen.

It has been suggested that there is danger attending a change of wind when the ice would cross over coming with great violence against a steamer navigating along the opposite shore. Ice in shifting from one side of the Gulf or River to the other, does not do so in a compact mass, it being composed of detached pieces of different size and form, as a natural result they move at different rates of speed, causing a spreading out or scattering of the ice, enabling a steamer to pass through with little or no impediment. Of this fact we have a practical illustration at Quebec where the ice may be seen moving over on a change of wind so scattered, as to allow the canoes to pass through without difficulty.

By the telegraph reports already referred to I find that from the 8th of January, to the 10th of April, there were 15 days on which the River and Gulf, were reported as clear of ice, or rather 15 days out of 92 the ice

was on the north shore ; shewing that the chances in favour of a clear channel on the North Shore are 77 to 15

Snow-storms are looked upon by many as one of the greatest dangers of winter navigation ; again referring to the telegraph reports (Winter of 72.) I find that during three months three snow-storms are reported. The greatest and most violent snow-storms are accompanied with a north-east wind, thus securing a clear channel on the north shore, a steamer would be in a much better and safer position than enveloped in fogs ; inasmuch as she would have the floe ice as a guide, and a shield from all danger ; whereas during summer navigation a steamer enveloped in fog may run at half speed, though at a terrible risk ; as has been too often proved. Fogs are of much more frequent recurrence than snow-storms.

An *uninterrupted* and *independent* communication with the outer world would be one of the greatest boons ever conferred upon this Dominion. The commercial advantages to be gained by Quebec would cause her to rise to a position of commercial eminence, such as the most sanguine could never have imagined ; she would secure her share of the western trade, and English goods could be delivered on her wharf, avoiding all the delays, inconveniences, and heavy freight charges of the Grand Trunk Railroad.

E. W SEWELL.

32 Wolfe Street,

Point Levis, August 11, 1874.

We the undersigned Branch Pilots of the river St. Lawrence do hereby certify, that the floe ice on the river, and Gulf of St. Lawrence would not offer any material resistance to powerful screw steamers. The absence of fog, and sea, during the winter months are material advantages in favour of winter navigation. All considered, we are of the opinion, that the winter navigation of the Gulf and river St. Lawrence is not only practicable, but possible.

Pierre Lapierre.
Cyprien Langlois Pilote.
Michel Guénard, Pilote
Nestor Lachance.
N. Curodeau.
Isidore Noël.

Hilïère Jovin.
Maxime Caron.
Charles F. Brown.
Joseph S. Brown.
Elzéar Godbout.
Pierre Lachance.
G. B. Tremblé.
Edouard Turgeon.
Ephrem Chamberland.
Magloire Nèques.
Jean Baptiste Bernier.
Louis Lapriese.
Joseph Blouin.
Euzebe Thivierge.
C. Raymond
Moïse Lachance.
Laurent Tremblay.
George Simard.
Pierre Ruelland.
Théophile Coriveau.
I. Tremblay, fils.
J. B. Tremblay.
George Lapointe.
Joseph Norest.
Narcisse Charret.
Marcel Labell
Joseph Hebert
Nicholas Paradis.
Charles Pouliot, No. 30
Abraham Couillard Depres
Edouard Peticrow.
Joseph Dupille.
Louis H. Lachance.
Hubert Raymond.
Paul Paquet.

Charles Normand Pilot.

Numa Lachance.

CORRESPONDENCE.

WINTER NAVIGATION OF THE ST. LAWRENCE.

To the Editor of the *Montreal Herald*,

SIR,—If the Parliamentary enquiry, now taking place at Quebec, had been ordered at the instance of the British and Dominion Governments with the view of ascertaining whether, in the event of an interruption of friendly relations with the United States, the St. Lawrence would afford facilities for the prosecution of British trade during the winter months then the public might be ready to admit the utility of the enquiry. Or, if it could be demonstrated that the trade of the country could be carried on more cheaply and safely by way of the St. Lawrence than *via* Portland, or even New-York or Boston, the public might be disposed, not only to endorse, but also to assist in pushing the scheme to a successful issue.

We, however, live in a highly practical age, and the great question of dollars and cents is certain to arrest the attention of parties interested in any new scheme mooted. Judged by this standard, the verdict would be decidedly adverse, not to the practicability, but the advisability on the enterprise.

X The dangers of navigation, not only in the St. Lawrence, but the Gulf are greater than on the route from Great Britain to Portland or other Atlantic port, in consequence of the prevalence of snow storms and the quantities of ice that form in these regions, and the want of buoys, landmarks and good anchorage, which latter might be difficult to find should the vessels be over taken by snow storms

A steamship for this service would have to be much more strongly built than for ordinary traffic, and her cost of construction would be fully 20 per cent over that of an ordinary steamer. A crew could not be engaged at less than say double the wages paid by vessels crossing the Atlantic; cargoes could not be procured to freight her; and, as for passenger traffic, no man in his senses would take passage by her, unless he was tired of life, and believed firmly that death by drowning was the easiest method of shuffling off the mortal coil. Even such however might easily be convinced that their end might be attained much more effectually, luxuriously and

economically, by jumping off any wharf or disappearing through some air or fishing hole.

Underwriters would not take risks on either vessel or cargo, except at such high rates as would be ruinous to owners; and I am at a loss to see where the profits are to come from. Probably the promoters will issue a prospectus, and satisfy benighted outsiders that they are in earnest in their endeavours to enlist the sympathy of our parliaments and the public.

It has been proved conclusively that winter navigation between Québec and Levis, a distance of at most one mile, and where the points both of arrival and départure can at almost any time be seen, is not only practicable but profitable; but navigating the river below Quebec and the Gulf is quite another matter. There would be no good reason however that the St. Lawrence should not be open a little earlier each season if suitable accommodation were provided at Indian Cove for the loading and unloading of merchandise by running a branch railway line to that point.

Yours truly,

OLD. SALT.

New Carlisle, Bonaventure County, 21 December 1874.

S. BELLINGHAM ESQ M. P. P.

Quebec,

SIR,

Although I have not the honor of personally knowing you, nevertheless your patriotism and political career are well known to me, I, therefore, respectfully take the liberty of addressing you those few lines, and as an ardent friend of progress I must congratulate you on the noble sentiment which inspired you with the idea, of asking from your seat in the house at its sitting on the eleventh instant, for the naming of a committee to enquire into the practicability of winter navigation in the Gulf. This subject has already more than one supporter, particularly among the commercial and maritime classes, although after spoken of, no serious measure has been taken in the matter excepting a few unimportant matters that you have taken in hand.

A winter harbor of refuge as also during navigation this season would be particularly according to my acquaintance during a knowledge of

23 years which I have had at New Carlisle, to wit at Paspebiac on the Baie des Chaleurs, not far from the end of the Gulf, because it is certain that there are not three weeks during the winter that navigation is not open. I have not yet seen enough ice of sufficient force to prevent the sailing of a ship either going or coming from Roadstead or Paspebiac up to the mouth of February. This is the only month during the winter which might offer difficulty and which, nevertheless, in any case, would be of short duration. — At this time there is not a single piece of ice to be seen in the Bay of Paspebiac, that could prevent the sailing of any vessel, not even a micmac canoe. The success of your undertaking depends a great deal on its completion, of the persons whom you may call before the committee. I trust you will succeed in bringing this measure to a happy issue, so that this harbor may be a sort of connecting link between the Pacific and Intercolonial Railways. Canada would then be one of the largest and greatest commercial countries of the world, and to you will be all the merit of having attained this object. Let me once more wish you success in your endeavors and if the information which I have given you can be of any service I will be always willing to serve you,

I have the honor to be

Sir,

Your very obedient servant,

J. G. LEBEL.

Registrar of Bouaventure.

DEPARTMENT OF MARINE, &C.

Ottawa, 23 October, 1874.

SIR,

I have to request that you will acquaint this Department with your views at your earliest convenience.

1st. As to the possibility and practicability of obtaining a winter harbour near Quebec;

2nd. As to the possibility and practicability of keeping the river St. Lawrence open to Quebec; and

3rd. As to whether in your opinion the trade of the Lower St. Lawrence could be carried on advantageously if a winter harbour could be made and the River kept open.

The Department is desirous to have as full an expression of your views on this subject as possible with reference to the question, which has been receiving some consideration as to whether the river St. Lawrence below Quebec can be utilized for winter navigation, and whether such navigation could be made practically favourable to the interests of the Dominion

I am Sir,

Your most obedient Servant,

WM. SMITH.

Deputy of Minister of Marine

Captain FRANÇOIS GOURDEAU,

Harbour Master,

Quebec.

Quebec, 18th. December 1874.

SIR,

In reply to your letter of the 23rd. October last, requesting me to acquaint the department of Marine and Fisheries with my views on the possibility of obtaining a winter Harbour near Quebec and utilizing the river St. Lawrence below Quebec for winter navigation, and making such navigation practically favorable to the trade and interests of the Dominion, I have the honor to state as my opinion :

1st. That it would be impossible to obtain a winter harbour near Quebec for the simple reason that it would be frozen over in the early part of the season, and sometimes so during the whole winter, its entrance by the shipping being thus rendered an utter impossibility.

2nd. That the quantities of thickly packed ice, with which the Gulf and river St. Lawrence below Quebec are invariably covered during the winter, offer an almost insurmountable obstruction to navigation and my opinion is that even admitting the possibility of surmounting this obstacle by the employment of powerful steamers, manned by able and persevering seamen, the trade or interest of the Dominion would not be benefitted

as compared with the dangers, miseries, costs and delays attending such navigation.

I have &c,

F. GOURDEAU

WM. SMITH, Esq.

Dy Minister of Marine.

Ottawa.

Murray Bay, January 15th 1875.

S. Bellingham, Esq.

President of the committee of the Legislative Assembly appointed to enquire into the possibility of navigating the St. Lawrence river in winter.

SIR,

I am directed to draw your attention to the report which is to be shortly published in the newspapers, of a meeting held at Murray Bay on the 9th January inst. The object of this meeting was to take into consideration the possibility of navigating the St. Lawrence in winter.

I also beg to inform you, that as secretary of the Murray Bay committee I already possess much valuable information given me by seamen, who have often in winter made the trip from Malbaie to l'Isle aux Coudres and even as far as the harbours below Moisie.

I expect daily to receive further information from persons residing on the North shore.

I shall have the honor to address a copy of this information to your committee as soon as they reach me.

I have the honor to be,

Sir,

Your most obedient servant,

G. A. HAMEL, M. D.

S. C. N. H

S. BELLINGHAM, Esq. M. P. P.

President Committee of Winter Navigation of St. Lawrence, Parliament of Québec.

Sir,

Below, I beg leave to address you "State of Weather and River at Point a Pic, Murray Bay, North Shore, eighty (80) miles below Quebec, since opening of winter."

I beg, also, to call your attention to the port of Murray Bay as a *Winter Port* for Canada; as the *best* and *only reliable* port during winter, and accessible *every day* and at every side and at every part of the tide.

This you will easily understand by the following reasons :

First.—The *Width* of the St. Lawrence here, which is twenty one (21) miles across to Kamouriscana; with no Island to stop floating ice;

Second.—The *Depth* of water which is very great as you can ascertain by the chart.

Third.—The *Winds* during twenty eight (28) days of each winter month, blow from the North West, sending to the south shore, the ice forming or floating from elsewhere.

You may have at the last part of an intide, with a strong North Easter some floating ice along shore, but the *outtide* will invariably carry it away.

Fourth.—The safety; I could offer you any proofs and examples of the safety of this port; but I will only take the last winter, when the ship *Amoor* was extricated from the south shore ice, and brought to our wharf, where she wintered as safe as in a port, not receiving a single scratch, and when the ice was taken and people crossing to Orléans Island from both North and South shores.

As to the possibility of reaching Quebec during winter, you have to look back to no later than last season, when the River was covered, all winter, and spring till eighth May, with solid ice for a distance of some forty miles below Quebec; and this is of a common occurrence.

It is better to look at this plan in a broad and practical view and try to make it a success; so desirable for the whole country.

To insure this vast and possible improvement; first improve the port

of Murray Bay, and second run the North shore road to it and then the country knows no winter for its navigation.

I have the honor to be sir, very respectfully.

Your most humble and obedient servant,

JOHN CHAMARD.

N. B. — We have several pilots and navigators here, who could give useful evidence on the subject.

Statement of weather and condition of river at Point à Pic Murray Bay, North Shore

Monday 23 Nov 1874.

First snow storm this season, from the North East, began at noon, no ice on the river, very high tide.

Tuesday 24 Nov.

Very stormy in the morning, till 10 a. m. when it cleared up, and turned mild, snow enough (though much drifted) to make good winter roads. Schooners (seventeen in number) all in winter quarters in the Bay, no ice.

Wednesday 25 Nov.

Beautiful, clear, night, fine mild day, river and Bay as in summer.

Thursday 26 Nov.

Beautiful, mild, river and bay as in summer.

Friday 27 Nov.

Light snow, mild, no ice.

Saturday 28 Nov.

Drizzling, mild, river as in summer.

Sunday 29 Nov.

Drizzling all day, no ice, colder, clearing up towards night.

Monday 30 Nov.

Cold night, no ice, strong breeze from South West, bright and pleasant.

Tuesday 1st. Dec. 1874

Very cold night, fine sunny morning, cold down at 10 a. m. some ice in bay.

Wednesday 2nd. Dec.

Mild dull day, some ice drifting in the middle of river, at outside none along shore nor in bay, canoes in all directions after game.

Thursday 3rd. Dec.

Dull, mild, some ice middle of river.

Friday 4th. Dec.

Beautiful bright, cold, calm, river as smooth as glass, some ice in the middle, none on bay or near shore, canoes in all directions after game:

Saturday 5th. Dec.

Bright mild day, some ice floating down with afternoon out tide in middle of river, none in the bay or near the shore.

Sunday 6th. Dec.

Brilliant sunrise, overcast at noon perfect calm all the afternoon, no ice.

Monday 7th. Dec.

Mild and calm all night, same this morning, appearance of rain no ice at all on this side.

Tuesday 8th. Dec.

Bright cold day, with inside bay filled with ice, large quantities floating up at very rapid rate along shore, wind North East.

Wednesday 9th. Dec.

Bright night, ice all gone from bay and shore, mild day, wind west.

Thursday 10th. Dec.

Bright sun rise, sharp weather, no ice at all, perfect calm **unusual fine** weather.

Friday 11th. Dec.

Disagreeable, slight snow and sleet, mild. no ice.

Saturday 12th. Dec.

Pleasant. no ice.

Sunday 13th. Dec.

Very cold night, coldest day this year, wind north west, bright, some ice in bay, little in river.

Monday 14th. Dec.

Cold continuing, little snow, strong north west, bay partly covered with solid ice. some drifting on river.

Tuesday 15th. dec.

Clear and excessively cold night with a very great storm from the north west till morning, day bright and very cold, north west still strong, some ice on bay none at all on river, the green sea looking beautiful, and the stones in the bay shining brilliant at (low water) as so many diamonds.

Wednesday 16th. Dec.

Clear and bright cold, ice gone from the bay, none in river.

Tuesday 17th. Dec.

Mild and cloudy, some ice floating middle of river, none in bay.

JOHN CHAMARD.

Lorne House, Point à Pic, Murray Bay 17 Dec. 1874.

Point à Pic, Murray Bay, Jan., 13, 1875.

S. Bellingham, Esq.

Pres. Com. Wint. Nav.

SIR,

Enclosed I beg to address you my statement of weather and river up to yesterday.

Our people are taking great interest in the winter navigation

At a meeting held Saturday night last, I had the pleasure to preside and a resolution offering you our thanks was one of the first adopted.

The secretary has orders to send you copy of the proceedings.

I beg to offer you the names of persons well qualified to be examined before your honorable committee viz:

Antoine Riverin.—Point à Pic, who has been a sailor from boyhood in the employment of the Hudson Bay Co., part of the time: and trading for his own account in the Gulf for a great number of years. Knows shores, islands, has wintered and travelled in the Gulf during winter and summer. Very respectable and intelligent sailor, would do honor to the Allans.

Xavier Warren.—Point à Pic, is very well informed in navigation on both shores. Has a great deal of information.

Jérôme Savard. Cap à L'Aigle. Is one of the officers of the government steamer *Napoléon III* for the last 14 years.

Louis Tremblay Cap à L'Aigle. Has taken great interest in the movements of the ice for 17 years. Was born at Isle aux Coudres, can give very useful information.

If you thought fit to call those persons I will feel honored to send them your respected orders.

To help you to form an idea of the enthusiasm of the people here I beg to inclose your copy of a telegraph addressed to the Mayor of Point à Pic, at a reunion of Ladies and Gentlemen, Monday last, at my house.

After asking leave of the Ladies the mayor read the inclosed message, in the midst of the applause of all the company, and a bumper was drunk for the gallant

commodore and a general toast for the health of S. Bellingham Esq. All the gentlemen standing at the table, with the greatest enthusiasm; although perfectly sober. Forgive me, if you please for intruding so much on your valuable time and allow me to sign.

Yours most respectfully

JOHN CHAMARD.

N. B. —I beg to add that a very nice miniature ship was on the middle of the main table, carrying S. Bellingham's flag.

State of weather and River at Point à Pic, Murray Bay, North Shore, 80 miles below Quebec.

Thursday 17 Dec. 1874.

Mild and cloudy. Some ice floating, middle of river. None in Bay.

Friday 18 Dec. 1874.

Very cold and stormy night. Wind till noon, when it became calm; the bright cold continuing. Some ice in middle of river in the morning. The appearance of the Bay, with its little floating islands of christalised ice, cannot be described.

Saturday 29 Dec.

Fine bright cold day. No ice.

Saturday 20 Dec. 1874.

Cold. Over cast. Slight snow in the afternoon and raining, not a bit of ice to be seen, as in summer.

Monday 21 Dec. 1874.

Very cold. Bright sunny day. River full of ice, at intide.

Tuesday 22 Dec. 1874.

Cold day. Some ice in middle of river.

Wednesday 23 Dec. 1874.

Fine. Calm. Mild. small pieces of ice floating, making a very pleasant sight.

Thursday 24 Dec. 1874.

Mild. Light snow. Little ice middle of river.

Friday 25 Dec. 1874.

Mild. Fine moonlight. Strong North West breeze all day. River as in summer.

Saturday 26 Dec. 1874.

Fine. Cold. No ice at all.

Sunday 27 Dec. 1874.

Fine. Mild. No ice.

Monday 28 Dec. 1874.

Some ice going down without tide. Mild, with alternate slight snow and rain.

Tuesday 29 December 1874.

Sudden and heavy squall from north west from at 10 a. m. till noon, the little ice visibly carried away in a minute, cold all day.

Wednesday 30 December 1874.

Very cold night, bright sunrise, no ice at all, light breeze from north west moderating at sunrise cold, a sheet of bright thin ice covering bay and river.

Remarks.

We have had no snow storm this month; and the north east reached shore only once viz 8th. December.

Friday 1st January 1875.

The new year begins with a bright sunny morning; continuing agreeable and quite pleasant, cold all day. Some thin ice visible, occasionally wind North West.

Saturday 2 January 1875.

Overcast and moderately cold, appearance of snow. No ice

Sunday 3 January 1875.

About five (5) inches of snow fell during the night. Fine cold, clear day, River full of ice at the morning tide, but clear in the afternoon.

Monday 4 January 1875.

Bright sun rise. No ice at all on river. Bay closed by ice.

Tuesday 5 January 1875:

Cold, cloudy, little snow at night north east reached shore at in tide some ice on the river.

Wednesday 6 January 1875.

Very cold in the morning, great quantity of ice part of the tide north east reached shore,

Thursday 7 January 1875.

Moderate, cold, bright, no ice.

Friday 8 January 1875.

Mild, cloudy, some ice.

Saturday 9 January 1875.

Heavy fall of snow, but calm, wind north east, river full of ice about eight (8) inches of snow.

Sunday 10 January 1875,

Storm from the north west lasting two (2) hours during night, fine cold day High tides.

Monday 11 January 1875.

Exceedingly fine, cold, north west breeze, no ice.

Tuesday 12 January 1875.

Very fine, cold; no ice.

Lorne house Point a Pic 13 January 1875 ...

JOHN CHAMARD.

State of weather and river at Point à Pic Murray Bay lower St. Lawrence North Shore 80 miles below Quebec.

Wednesday 13 January 1875,

Exceedingly cold night, cold day, no ice, snow about 1 inch in the afternoon.

Thursday 14 January 1875.

Stormy morning, but mild, some ice, wind west.

Friday 15 January 1875.

Strong north west, fearful drift, very cold, no ice at all on river; part of bay ice gone.

Saturday 16 January 1875.

Bright sunny morning, cold, river perfectly clear, in forenoon Thawing in the sun, wind the north east, some ice moved up, with intide in the afternoon.

Sunday 17 January 1875.

Very cold, no ice at all.

Monday 18 January 1875.

Very cold and some ice at intide, very calm, in the afternoon.

Tuesday 19 January 1875.

Very cold clear and bright, some ice at the afternoon tide.

Wednesday 20 January 1875.

Weather exceedingly fine, but cold very little wind, no ice at all.

Lorne house 20 january, 1875.