

the smoke box end at the induced draft fan, and stands up about 6 ft. high with the bulwarks sprung out about 30 in., and where the boiler fell breaking in the deck, causing the bulwark to spring in. Some of the stanchions under that part of the deck are bent, and others are punched right through, and they have been struck by the boiler where it landed. The engine of the circulation pump, which is underneath where the boiler fell, is broken from the crushing down of the deck. The ashpan that was under the boiler is bent down between the beams as if it had been sheet lead. The exterior of the shell of the boiler is intact, with all the stays in place, and looking none the worse for the accident, excepting the sides of the casing outside of the firebox, which are bulged out from the force of the explosion. In speaking of the firebox, one might say that it is turned inside out just the same as one might turn a glove inside out. The boilers are fed by the feed pumps, and each one piped separately with a stop and check valve to each boiler. It was the duty of one man to do nothing else but see that the boilers were kept full to their working level. There were water gauges at both ends of the boilers. And it was also the duty of the fireman to watch the water at the firehold end. All the facts in connection with the case go to show that the explosion was caused by low water, and there is absolutely no doubt that the crown sheet was red hot."

Notices to Mariners.

The following notices to mariners have been issued by the Department of Marine:

No. 105. Nov. 5.—Quebec—264. River St. Lawrence, ship channel between Quebec and Montreal, Contrecoeur, completion of 30-ft. channel; 265. St. Ours traverse, range lights established; 266. Petite Traverse, range lights established; 267. Contrecoeur course, range lights established; 268. Longue Pointe Traverse, range lights established; 270. Contrecoeur channel, changes in buoyage; 271. Sorel to Montreal, gas buoys placed; 272. Pointe aux Trembles channel, changes in buoyage.

No. 106. Nov. 14.—Quebec—273. River St. Lawrence, ship channel between Quebec and Montreal, Montreal harbor, Bellerive park, range lights established; 274. Hochelaga, range lights established.

No. 107. Nov. 14.—Nova Scotia—275. South coast, off New Harbor head, bell buoy established. Newfoundland—276. Belle Isle, south point, arc of visibility of high light.

No. 108. Nov. 17.—British Columbia—283. Strait of Georgia, south entrance to Welcome pass, Merry island, lighthouse established.

No. 109. Nov. 19.—British Columbia—290. Queen Charlotte Sound, Blunden harbor, rocks, hydrographic notes, sailing directions. 291. Queen Charlotte Sound, dangers.

No. 110. Nov. 21.—Nova Scotia—292. Canso harbor, north entrance, False passage ledge, light re-established for the season.

No. 111. Nov. 25.—British Columbia—297. Seaforth channel, main passage, Dryad point, red sector inserted in light. 298. Greenville channel, western entrance, Watson rock, beacon established.

No. 112. Nov. 27.—Nova Scotia—299. Halifax harbor, gas buoys, warning.

No. 113. Nov. 30.—Nova Scotia—303. Cape Breton, east coast, Sydney harbor, Low point, fog alarm established. 304. Cape Breton, Sydney harbor, Cranberry head, fog alarm discontinued.

No. 114. Dec. 1.—British Columbia—305. Vancouver island, east coast, Sydney, further particulars of uncharted rock. 306. Vancouver island, east coast, Nanoose harbor, uncharted shoal.

No. 115. Dec. 1.—River St. Mary, between Ontario and Michigan—307. Dark Hole and Coyle Point gas buoys, change in position.

Maritime Provinces and Newfoundland.

Hon. Jas. Muirhead, of Summerside, P.E.I., an old shipbuilder, died there recently.

The str. Pontiac, built in Scotland for J.W. Carmichael & Co. (Ltd.), New Glasgow, N.S., made 11 1/2 knots an hour on her trial trip.

The Dominion Atlantic Ry. has arranged to run its str. Prince Arthur on a series of trips from Boston, Mass., to the West Indian islands, the first sailing to be Jan. 16.

Plans have been approved by the Dominion Government for the dry dock to be constructed at St. John, N.B., by the Imperial Dry Dock Co., and tenders have been asked for the work. G. Robertson, M.L.A., St. John, N.B., is the principal promoter.

A company has been formed in Newfoundland, R. Moreton, Burgeo, Nfld., being the principal stockholder, to purchase a freight and passenger steamer to ply between St. John's, Nfld., and west coast ports and Halifax.

The Dominion str. Stanley has been considerably strengthened by the addition of a number of steel ribs, so as to be able the better to work through the ice on her winter route between Cape Tormentine, N.B., and Summerside, P.E.I. During the winter of 1902-03 the Stanley was caught in the ice, and was held for several weeks before she could be freed.

A committee of the St. John city council has had an interview with Sir Thos. Shaughnessy, at Montreal, in connection with the proposals to make extensive improvements and additions to the terminal facilities for steamships at the port. The committee, after returning to St. John, had a conference with Hon. A. G. Blair, M.P., with a view of having the requirements of the harbor brought before the Government.

The St. John, N.B., city council has decided to construct a new ferry steamer of the following dimensions: length over all, 140 ft.; breadth, moulded 34 ft., over guards, 49 ft.; depth from baseline to top deck beam amidships, 12 ft. 11 ins. The engines are to be of the compound type, with three cylinders; electric lighting will be supplied, and steam steering gear provided. The hull will be of steel, and will be a double ender, having a screw at each end. Tenders are being called for.

The Hampstead Steamship Co. was organized at Oak Point, N.B., recently, the officers and directors being: President, L. A. Curry, St. John; Vice-President, R. K. Jones, St. John; Managing Director and Secretary-Treasurer, F. S. Mabee, St. John; other directors: J. N. Inch, Oak Point, N.B.; Jas. E. Waddell, Kingston, N.B. The company has purchased the steamers Elaine and Hampstead, which will be placed on the St. John river at the opening of navigation. It is intended to refit and refurnish the Hampstead during the winter.

The Steamship Senlac Co., (Ltd.), has been incorporated under the Dominion Companies' Act, with a capital of \$100,000, and offices at Rothesay, N.B., to acquire and operate the str. Senlac and other steamers between ports in New Brunswick and Nova Scotia, or elsewhere in Canada. The provisional directors are: R., J. H., P. W. and J. R. Thomson; A. Porter, J. R. Armstrong, R. S. Ewing and R. T. Leavitt, of St. John. The str. Senlac was launched in Dec., 1903, and is being completed at St. John. Her dimensions are: length, 190 ft. over all; breadth, 33 ft.; draught, 9 ft. 9 in. Accommodation is provided for berthing 95 passengers, but she will be licensed to carry 500 passengers. Space is provided for considerable cargo. The Senlac will run between St. John and Halifax, calling at south shore ports in Nova Scotia.

Province of Quebec Shipping.

P. D. Brunelle, steamboat inspector, died at Levis recently.

The str. Douro, owned by A. Fraser, was sold by order of the Quebec Admiralty court recently to H. Fry & Co., of Quebec, for \$3,000. The steamer, which was built in 1879 in Great Britain, is valued at \$25,000.

The Montreal Grain Elevating Co. has entered an action against the Montreal Harbor Commissioners to recover \$25,000 for loss caused by the sinking of the floating elevator St. Lawrence in the harbor on May 6, 1903, owing, it is alleged, to the negligence of the harbor commissioners.

J. F. Fraser, heretofore technical officer in the Marine Department, has been appointed Superintendent of the Dominion light service between the head of lake navigation and the Gulf of St. Lawrence. The position is a new one, the work having previously been performed by the Chief Engineer of the Department of Marine.

In rebuilding the str. Montreal at the Sorel docks, the Richelieu and Ontario Navigation Co. will use the plans prepared by the Bertam Engine Works, Toronto, when the vessel was built. The new Montreal is expected to be ready early in the season.

Alderman D. Gallery, of Montreal, has been urging the Department of Railways and Canals to consider the deepening of the canals to 30 ft., so as to permit the largest ocean-going vessels coming to Montreal to reach the Upper Lakes.

The Montreal Transportation Co. during the season of 1903 had in operation 3 steamers, 11 schooners and 30 barges, engaged in carrying grain from the Upper Lakes to Montreal. L. L. Henderson stated that the company's business during the year had increased 60%, largely owing to the removal of the canal tolls.

The Sincennes-McNaughton Co., of Montreal, has just had launched at Sorel for its fleet a new tug named the Alaska. She is 80 ft. long by 20 ft. in breadth, and is fitted with fore and aft compound engines, cylinders 18 in. and 36 in. by 24 in. stroke, to which steam is supplied from marine boilers at 150 lbs. pressure.

The number of vessels arriving in Montreal during the season of navigation 1903 was: ocean-going—797 vessels of 1,541,272 tons register, against 758 vessels of 1,091,272 tons during the season of 1902; river and lake—14,408 vessels carrying 2,410,907 tons, against 9,358 vessels carrying 1,875,668 tons in 1902. The increase in the number of inland vessels is accounted for by the number of new lines between Montreal and the head of Lake Superior. The grain shipments increased from 20,177,624 bush. in 1902 to 24,000,000 bush. in 1903.

The Quebec Steamship Co. has placed an order with a Sunderland, Eng., firm for a twin-screw 5,000 ton freight and passenger steamer, to be ready by Nov. 1. She will have the following dimensions: length, 425 ft.; breadth, 50 ft.; depth, 36 ft. 6 in. She will be fitted with triple expansion engines, 26 in., 42 in. and 71 in. cylinders by 48 in. stroke, to which steam will be supplied by three double ended and three single ended boilers at a pressure of 200 lbs. to the square inch. Accommodation will be provided for 240 saloon, 32 second-class, and 48 third-class passengers.

Capt. W. H. Taylor, of the C.P.R. Atlantic steamer Lake Manitoba, has been awarded the medal and certificate of the Royal Humane Society of Great Britain for rescuing the crew of the Nova Scotian schooner Grenada on Dec. 15, 1902.