

proper machinery for breaking the rock. I would cite as an instance the Atlantic Copper Mine in Lake Superior—the rock carrying only .64 of 1 per cent. copper. They are raising this ore 3,000 feet; hauling it four miles by railway train; putting it through the stamp mill for \$1.12 per ton, and they expect to get the cost of it down this year to \$1 per ton, therefore I think this paper should be a great encouragement to those interested in low grade ores, and also an incentive for every mine manager to produce his ore cheaply."

FROM a report which has been issued by the Geological Department it appears that the future of the natural gas industry, in the opinion of the mining expert, is very doubtful. It is pointed out that the rock pressure in the wells in Essex county shows no marked decrease, but this is attributed to the recent date at which the consumption became other than of a local character. There have been twenty-six wells drilled, of which sixteen are still active producers. The rock pressure is given at 400 pounds to the square inch, and the estimated output is 35,000,000 cubic feet per annum. A very different condition of things is reported to exist in the Welland gas fields, from which Buffalo draws its supply. As to that district the report continues. According to the opinion expressed by several of the leading authorities on the subject, it would appear to be merely a question of a few years before the gas supply in the Welland field will be exhausted, at least for commercial purposes, though a small flow may still continue for a much longer period, which will be of service for domestic uses to farmers and others with wells on their premises and requiring only a very limited daily supply. In support of this opinion, mention may be made of the Provincial Company's well No. 63, drilled in 1893, which yielded when the gas was struck a flow of 10,000,000 cubic feet per day. The flow from this well has now decreased to such an extent that it does not produce 400,000 cubic feet in the same time, although it has in the interval been several times fed from the other wells.

Marine News.

CAPT. BOURMAN has charge this season of the ferry steamer "Janet Craig," Arnprior, Ont.

THE Rathbun Co., Deseronto, Ont., will, it is said, put a boat on the Brockville-Gananoque route.

OSCAR DAKIN, Digby, N.S., the first officer of the Government steamer "Newfield," has been relieved of duty.

AN influential deputation waited on the Dominion Government urging the claims of the Rideau canal to improvement.

W. H. EMBREE & SON, Port Hawkesbury, Cape Breton, recently supplied a steam yacht to J. Robinson, Newcastle, N.B.

THE B.C. Iron Works, Ltd., Vancouver, B.C., is now placing in position the engine in the new C.P.R. steamer at Rosebery, B.C.

THE Pembroke Navigation Company is asking for incorporation. The capital stock is \$40,000, and Hon. Peter White is one of the directors.

CAPTAIN W. O. ZEALAND commands the McKay steamer, "Michigan," which was rebuilt at Port Dalhousie. Jas. Belanger is chief engineer.

THE Hamilton Steamboat Co.'s str. "Macassa's" officers this season are: A. Crawford, captain; L. Walsh, first officer; Purser Arthurs and Engineer Durham.

SUPR. ELLIS, of the Welland Canal, has been superannuated, and W. G. Thompson, superintending engineer, will combine his duties with that of superintendent.

DAVIDGE & Co., of Victoria, B.C., are asking a yearly bonus of \$100,000 for four years to establish a monthly service between Victoria and Central America and Mexico.

THE contract for dredging Collingwood, Ont., harbor has been awarded to Boon, Armstrong & Company. One of the most powerful dredges in the lakes will be employed.

HON. A. G. BLAIR, Minister of Railways and Canals, has made the announcement that all the St. Lawrence canals will be enlarged to a depth of fourteen feet by the spring of 1899.

THE Wahnapi Navigation & Transportation Co., Ltd., applies for an Ontario charter; chief place of business, Sudbury, Ont.; capital, \$50,000. The incorporators are A. Gordon, F. Cochrane, D. O'Connor, F. Hamilton, Sudbury, Ont., and I. Eastwood, Wahnapi, Ont.

CAPT. J. S. MOORE will be in command of the "Leonard Tilley," of the McKay line, and James H. Brown will be first engineer. Richard Freeman will be captain on the "T. R. Merrit."

THE Pembroke Navigation Company has given orders to the Polson Iron Works, Toronto, for a new steel steamer, to ply on the Ottawa River between Pembroke and Des Joachims, to be ready about July 1st.

DURING a gale on the St. Lawrence, April 26th, the steamer "Rosedale," of the St. Lawrence and Chicago Steam Navigation Company, loaded with grain, ran aground and damaged her hull. She is docked at Kingston.

THE following have been appointed officers on the Dominion Government cruiser "Petrel": Capt. Ed. Dunn, first mate. A. J. Frame; second mate, F. Arnold Jarvis, chief engineer, A. J. Brown, second engineer, W. H. Linter.

THE first vessel to lock through the Welland Canal this season was the Canadian schooner "Wawanosh," for Toledo. She was followed by the steamers "Rosedale," "Algonquin," "Niagara," "Bannockburn," and "Erin."

THE officers appointed to vessels by the Merchants Line, G. E. Jacques & Co., Montreal, Can., are as follows: Steamers "Cuba," Capt. H. Chestnut, Engineer, E. L. Foley; "Melbourne," Capt. R. Chestnut, Engineer, Thos. Milne.

THE *Algoma Pioneer* says: It is now proposed to establish a line of boats to Manitoulin Island, with headquarters at the Sault, and make this the depot for the valuable products of the islands and north shore, instead of carrying them to Collingwood, etc.

THE "Massena," a steamer plying between Brockville, Ont., and Ogdensburg, during the storm on April 19th, was run into Naitland, but while tied up at the wharf her upper works were knocked in by the storm, and she sank. She was loaded with oats, lumber and cement.

DUNBAR & SULLIVAN, Welland, Ont., have recently launched a scow for use on the Lachine Canal, capable of carrying 600 cubic yards of earth. It is one hundred and twenty-five feet, by twenty-eight feet beam and eleven feet sides, built in six pockets. Each pocket is lined with steel and has two steel doors, weighing 4,200 pounds each.

CAPTAIN DELANEY, of the str. "Grand Lake," has, it is said, been asked to take charge of R. G. Reid's new fast steamer to run from Sydney to Newfoundland to connect with the western terminus of the Newfoundland railway, which is being hurried forward on the Clyde. It will be about 1,200 tons in size, and capable of steaming 16 knots.

THE officers appointed to vessels by A. W. Hepburn, Picton, Ont., are as follows: Steamers—"Alexandria," Capt. B. Smith, Engineer Chas. M. William; "Empress of India," Capt. Geo. O'Brien, Engineer M. Tetro; "Aberdeen," Capt. M. Heffernan, Engineer George Gown; "Water Lily" to be appointed. Schooner—"Onteora," Capt. Homer Perron.

THE Collins' Bay, Ont., Rafting & Forwarding Company, Ltd., has placed the following captains and chief engineers in charge of their steamers and vessels. Str. "Orion," Capt. Alexander Milligan, Engineer Wm. Spencer; str. "Saturn," Capt. Alexander Anderson, Engineer Wm. Kennedy; str. "Rival," Capt. John A. McDonald, Engineer Z. Hamlin; str. "Petrel," Capt. McDonald, Engineer Joseph Branch; barge "Muskoka," Capt. Patrick Gallagher; barge "Waubashene," Capt. Henry Milligan; schr. "S. Neelon," Capt. Charles Beaupre.

THE wreck of the Beaver Line chartered steamer "Assaye," on the Blonde Rock, off the Seal Islands, on the Nova Scotia coast, took place on April 5th. The steamer was coming from Liverpool to St. John, N.B., with a general cargo and passengers, the whole ship's company numbering 65. She is a steel screw, four-masted steamer with a gross tonnage of 5,129 tons, and a net tonnage of 3,981 tons, and classed 100 A 1 at Lloyds. Seal Island lies at the western point of the triangle formed by Pubnico Harbor light, Bon Portage light and its own light, being almost midway between Cape Sable and Tusket light, but off from the coast.

MORAN BROS., Seattle, Wash., propose to build steamers at Seattle, take them to the head of Lynn Canal in Alaska in sections, pack them over the mountains to Lake Bennett, in British territory, a distance from the head of Lynn Canal of about thirty-one miles, and there assemble the vessels and navigate the chain of lakes and rivers to and down the Yukon River to the gold fields. This, it is claimed, will offer a very practicable route to the new gold fields, and the trip can be accomplished in about two weeks from Seattle, whereas it now requires about two months or longer to reach the same destination by way of the mouth of the Yukon.