

half tons of this rock are on their way to Philadelphia for a new process of analysis and others are to follow shortly, but capital is wanted to bring out the full result of this feature. The writer of this is not much instructed in the matter, but when I have seen the excitement heretofore that existed in going to the wilds of California, Australia, and to other mines in Canada, it is surprising that such great wealth should be allowed to lie dormant so near the greatest commercial city in the Dominion.

I read the letter of the Mayor of Montreal some months ago from the gold regions of Nova Scotia and the isolated localities of the crushing mills at work there, and the difficulty of access thereunto; he would no doubt, be pleased to know that greater facilities and richer mines exist within six hours drive of Montreal. Adding to this facility the numerous rivers and extensive water power which could be used for the crushing purposes, thereby avoiding the more expensive mode of crushing by steam. The writer, although no miner or engineer, has made a short calculation of the probable cost and expenses in establishing a crushing mill, with its probable results.

Crushing Mill, by steam.....	\$5000 00
Building for do.....	400 00
Ten men to mine and crush the rock at \$1.00 per day.....	10 00
Engineer, \$1.50 per do.....	1 50
Interest on capital, \$400 do.....	4 00
For the time working.....	5 50
Fuel and incidental costs.....	19 00

Now, suppose a mill to crush ten tons per day, and the rock to yield only \$10 per ton, the result would be \$100 from \$21—expenses would leave a net profit of \$79 per day.

Railway News.

GREAT WESTERN RAILWAY.—Traffic for week ending Dec. 18, 1868.

Passengers.....	\$24,156 48
Freight and live stock.....	52,289 40
Mails and sundries.....	2,998 17
	\$79,444 05
Corresponding Week of '67.	74,445 03
Increase.....	\$4,999 02

NORTHERN RAILWAY.—Traffic receipts for week ending 2nd January, 1869.

Passengers.....	\$2,871 89
Freight.....	3,416 45
Mails and Sundries.....	362 36
Total Receipts for week.....	\$6,650 10
Corresponding week, 1887...	6,389 77
Increase.....	\$260 93

THE CANADA CENTRAL RAILWAY.—This road, which is to connect Ottawa City with the Brockville and Ottawa Railroad at Carleton Place, is progressing, the cutting out and grading is going on rapidly.

E. & N. A. RAILWAY.—Captain Gitt, engineer of this railway on the American side, has been giving some information to the Houlton *Pioneer* as to the progress of the work. It appears that construction is not proceeding very rapidly. From the village of Winn, in Maine, to the Boundary Line, there are three routes under consideration. The survey of one of these is now being made by Mr. Ramsay. This line runs six miles nearer Houlton than any of the others. The *Pioneer* says that if the work is not pressed on more rapidly, Houlton will be compelled to seek connection with the St. Andrews Road. It was the general impression that the determination of the people of Houlton in this respect had been fixed for some time; but the inference to be

drawn from this observation of the *Pioneer* is that when they held those town meetings for the purpose of voting aid to a branch connecting Houlton with the St. Andrews Road, they were only coquetting, with the object of stirring up the Bangor folks, and really never had any intention of assisting the Houlton Branch.

On this side of the boundary the work is proceeding as rapidly as could be expected, although very little noise is made. The track is now laid from Brundage's Point to a point upwards of two miles beyond Wood's, a distance of eighteen miles or so.

PITTSBURGH AND LAKE RAILWAY.—On the 29th Dec., the Pittsburgh and Lakefield Railway was opened. The event was celebrated by a dinner, at which about 140 persons were present. The chair was occupied by the Rev. V. Clinton, supported on the right by Mr. Grover, M.P., Judge Denniston, and Mr. Clinton, and on the left by Messrs. Covert, Carnegie, M.P.P. Read, M.P.P., and Mayor Scott. Among those who made speeches on the occasion were Major Beamish, of Port Hope, Mr. Blomfield, of Toronto, and Mr. T. White, of Hamilton. This railway, it is expected, will command the trade of Douro, Dummer, and other townships in the east, and Smith, Ennismore, and other townships in the west. The cry is—Onward to Mud Lake, and thence by a wooden railway to Haliburton.

KINGSTON, PITTSBURGH AND GANANOQUE ROAD COMPANY.—A meeting of the Directors took place on the 28th Dec. After some conversation upon the question of retaining the present Secretary, and an idea of suspending that officer for a time, it was moved by Mr. Knight, seconded by Mr. Baxter, and carried, that all books and papers relating to the business of the Kingston, Pittsburg and Gananoque Railroad Company be herewith required to be delivered up to the Board for its inspection, and that they be placed under the control of the President, if required, and in his absence, that of the Vice-President.

It was moved by Mr. Baxter, seconded by Mr. Livingston, that the salary of the Secretary and Treasurer of the Board, whose duties should also include the superintendence of the road and of Cataragui Bridge, should be £42 10s (\$170).

Mr. Hope moved in amendment, seconded by Mr. Kinghorn, that the salary of the secretary, treasurer, &c., be £50 (\$200), instead of the amount in the last resolution.

The amendment was carried.

It was moved by Mr. Baxter, seconded by Mr. Livingston, that the money collected by the treasurer of the company be paid into the Bank of British North America, and drawn therefrom when required by the check of the President or Vice-President. Carried.

It was moved by Mr. Kinghorn, seconded by Mr. Baxter, and carried, that the secretary be instructed to sell the toll-gate near Mr. Strachan's to Mrs. Burke for \$320, a sum it is understood she is willing to pay, Mr. Brownly not having complied with the conditions of the sale of the gate to him.

The meeting, after instructing that a copy of the minutes be forwarded to Mr. Ferguson, adjourned.

—The Great Western Railway have, it is said, notified that a settlement due by the Company to the Government has been proposed to the Board, and accepted by them, subject to the consent of the shareholders.

INSOLVENTS.—The following insolvents are gazetted:—W. F. Howell, Montreal; Frank Owens, Montreal; West Brothers, Montreal; G. T. Marston, Hull; Calvin C. Barks, Hamilton; Robert Park, Goderich; W. C. Carlisle, Montreal; Donald McDonald, Orangeville; Edwin S. Cummer, Toronto; Peter Irish, Cramahe; John Judge, Whitby; James Stephens, Peterboro; W. B. Johnson, Simcoe.

THE NEW SUSPENSION BRIDGE AT NIAGARA.

It is 900 feet below the Falls on the American side, and on the Canada side about 300 feet below the Clifton House, and half a mile from the Horse Shoe Fall.

The cables, two in number, are each composed of seven twisted wire ropes, laid, one in the centre and six surrounding it. They are anchored on the Canada side in the solid limestone rock, 18 feet below the surface, and on the New York side in a mass of solid masonry, commencing at the same depth. The anchor chains are made of Low Moor iron, in four sections of flat links. The three first sections are each 10 feet in length, two of eight links by $\frac{1}{4}$ inch, and one of seven links by 1 inch. The last section is composed of seven links of varying lengths, to favour the attachment and adjustment of the cable strands. The attachments are made by cast iron "yokes," of a novel but most reliable construction. The towers are constructed of white pine timber. Each tower at the base is in two parts, 28 feet square, diminishing to four feet at the top, with a space between them for a roadway 13 feet wide. At a convenient distance above the roadway, they are united by a system of girths and braces extending to the top. The angles of each tower are formed by four timbers, 12x12 inches, firmly bolted together, and these angles are connected together by ties and braces. The bottoms stand in cast iron shoes on the solid rock. These sixteen angle timbers meet at the top, and are housed in a heavy iron casting, on which the saddles supporting the cables and stays rest, with wrought iron rollers between. The floor beams are of white pine, each in two pieces, 3x10 inches, suspended 5 feet from centres. There are two side trusses, of the Howe pattern, which give stiffness to the structure and form the protecting railing to the railway. The floor is also stiffened by horizontal braces attached to the beams. The flooring is of Norway pine, in two thick masses, 14 inch each. The long suspenders are of wire rope, $\frac{1}{2}$ of an inch diameter. The short ones are of $\frac{3}{4}$ round iron. There are twelve overfloor stays on each quarter of the floor, which are united in seven at the towers, and these are secured in the main anchorage. Some fifty wire rope guys, attaching the floor to the rocks of the cliffs and river banks, will secure the structure against the winds. Length of roadway between centres of towers, 1,268 feet; height above the water, 185 to 190 feet; length of central portion supported by the cables, between the outermost stays, 635 feet; length supported by stays and cables, 605 feet. Total length of the suspended platform, 1,240 feet. Deflection of cables in summer, 91 feet; difference in winter, 3 feet less. Full length of cables between anchorages, 1,828 feet. Height of towers—Canada, 105 feet; do. New York, 100 feet above the rock. Width of roadway, 10 feet; depth of side truss, 6 feet. The bottom cord of the truss is placed under the beams. It is 6 inches wide and 8 inches deep at the centre of the bridge, increasing to 12 inches in width at the towers. Diameter of cable, 7 inches; number of wires in each, 931; size of wire, No. 9. Weight of cables per lineal foot, 63 lbs.; aggregate breaking strain of cables, 1,680 tons net; do. of 48 stays, 1,320 tons net; total of cables and stays, 3,000 tons net. Number of suspenders, 480; strength, 10 tons each. Weight of suspended roadway, including weight of cables and stays, 250 tons. Ordinary working load, 50 tons; maximum load, 100 tons; permanent and transitory load, 350 tons.

This work has been designed by, and executed under the direction of Mr. Samuel Keefer, one of the oldest civil engineers in the Dominion of Canada. Over twenty years ago, when suspension work was in its infancy, Mr. Keefer erected a wire suspension bridge over the Ottawa river, just below the Chaudiere Rapids.

The superintendence of construction was allotted