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CANADIAN

MINING REVIEW

VOL. 1.—No. 10.

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The CANADIAN MINING REVIEW is devoted to the opening up of the mineral wealth of the Dominion, and its publishers will be thankful for any encouragement they may receive at the hands of those who are interested in its speedy development.

Visitors from the mining districts as well as others interested in Canadian Mineral Lands are cordially invited to call at our office.

Mining news and reports of new discoveries of mineral deposits are solicited.

All matter for publication in the REVIEW should be received at the office not later than the 20th of the month it is to appear.

Address all correspondence, &c., to the Publishers of the CANADIAN MINING REVIEW, Ottawa.

DEVELOPMENT OF CANADIAN PHOSPHATE MINES.

It is encouraging to know that the Canadian phosphate deposits are occupying the attention of business men and capitalists outside of the Dominion. The articles bearing upon the subject which have appeared in the last three numbers of the REVIEW have been the means of convincing many, who have heretofore been skeptical as to the feasibility of profitable phosphate mining, that with proper organization and management the industry has become one of more than ordinary importance, and that the majority of the mines

in operation yield, not only a fair rate of interest on the purchase money, but a handsome profit on the working capital employed. That this condition of affairs may continue, a strict observance of careful and business-like management will be required. Economy should be as carefully studied in mining as it would be in any other business enterprise, and everything approaching extravagant organization must be religiously avoided. It is noticeable that, with few exceptions, the properties that have fallen into the hands of business men, with means at their command, have paid handsomely and continue to yield large profits. The successful miners have been those who began cautiously and proved the value of their properties before preparing to carry on permanent operations. To establish the capacity of a phosphate location is an item of no great expense, and, unlike other mineral deposits, but little time is required to prove its value. When it can be shown that a property is capable of a certain specified output, machinery and modern appliances should at once be employed that will mine, handle and deliver the mineral at point of shipment to the best possible advantage. That a great deal of time and much money has been squandered by miners doggedly adhering to the primitive mode of drilling and hoisting, cannot be denied, but the number of steam drills, hoists and tramways now employed at many of the mines is evidence that the error has been realized and the remedy applied. Last year there was but one phosphate mine in the County of Ottawa at which a steam drill was in

use, now there are no less than six, and before the close of the year it is to be hoped that the number may be doubled. The condition of the majority of the mines more than warrants the trifling expense entailed, and the cost of mining would be greatly reduced were the value of steam power more generally appreciated.

THE "HIGH ROCK" MINE.

The reputation of this mine has been so well established that there remains little, if any, doubt that it is one of the most valuable properties in the county. For some years it has been steadily worked, and the annual output shows no signs of diminishing; no mine in Canada has produced anything like the quantity of high grade ore that has been shipped from "High Rock," and the probability is it will rank among the best paying properties so long as phosphate mining continues to be a profitable industry. The mine has been carefully and successfully managed by the company's representative, and much of the present activity in the mining sections of the County of Ottawa is due to its productiveness.

THE "DUGWAY" AND "STAR HILL" MINES

are the property of the Union Phosphate Mining and Land Company, and, though it is only within the last four months that work was begun, both these locations promise to yield a vast amount of high grade apatite. The company displayed good sense in securing the services of Mr. Wm. McIntosh, formerly the manager of "High Rock," under whose able management their property is rapidly increasing in value. The present appearance of the mines must be very encouraging to the owners, every day there is fresh evidence of the vastness of the deposits, and the quantity of ore in sight will measure several thousand

tons. The ore already mined is being forwarded to the railway depot at Buckingham, and within a very short time a tramway from the mine to the company's upper dock on the Aux Lievres River will be completed and will materially facilitate transportation. Captain J. E. Smith, under whose superintendence this work is being carried on, has had wide experience in the construction of trams, and there is every guarantee that the work entrusted to him will be intelligently carried out.

THE "NORTH STAR" MINE

in Portland East, owned by the Dominion Phosphate Company, is a very valuable property, and that the company has a high opinion of its yielding capacity is evidenced by the amount of dead work they are doing preparatory to mining in paying ground. As was stated in the last number of the REVIEW, a open cut has been made to facilitate handling the output from the main body of ore. This was completed by contract, and the company is now engaged in running a cross-cut to further facilitate permanent mining operations. Before going to this expense, the property was carefully tested and the quantity of ore to be moved has been thoroughly established. When the company is prepared to work on the veins, a large quantity of phosphate will be rapidly mined. The quality of the ore is equal, if not superior, to the best that has been shipped from the district, several hundred tons of which have been taken out of smaller leads, converging at the main body, which were crossed in making the cutting referred to.

THE "EMERALD" MINE

continues to yield largely, and the daily output is forwarded to the railway depot at Buckingham. This is no doubt the most conveniently situated mine to the point of shipment, and there appears to be no falling off in the quantity of ore in sight. As

development proceeds, large bodies of mineral of high grade are exposed, and the deposits are sufficiently extensive to warrant the improvements which are in progress on the property

THE "MCLAURIN" MINE

in Templeton, is among the oldest and most developed mines in Ottawa County, and its owners should be well satisfied with the profits they have derived from working it. The reputation of the ore forwarded from this mine is well established, and analyses of shipments have proved it to be uniformly of a high per centage, so that the shippers invariably realize the highest price for the annual output.

THE "POST" MINE,

also in Templeton, is developing satisfactorily, and continues to increase in value. A quantity of ore has been delivered at East Templeton, and teams are steadily engaged in hauling it from the mine.

OTHER MINES

throughout the county are being vigorously worked. The American Phosphate Company's, the Jackson Rae, the Haldane and the Gemmill Mines, as well as one in Wakefield, under lease to Mr. Isaac Moore, are all yielding well. Recent reports received from the latter property are of a very encouraging nature, about 600 tons of phosphate have already been mined by Mr. Moore, and several new and extensive veins have been opened within the past few weeks, some of them measuring very wide and running for long distances.

Reviewing this summer's work at the mines in the County of Ottawa, the developments prove to be of almost incredible magnitude, which augurs well for the future of the phosphate industry.

Phosphate Quotations.

During the past month there has been a marked depression in the market, and the price of phosphate has declined. It is now quoted in London at 1s. 1d. for 75 per cent., and Montreal buyers are not anxious to purchase. There is every reason, however, to think that this is merely a temporary dullness, and that contracts for next season's delivery will be made at much higher figures. The crops abroad are said to be abundant, and a prosperous season among farmers is invariably followed by increased demand for fertilizers, which has the effect of enhancing the value of the raw material, and so causing a rise in price for Canadian apatite.

COMPARATIVE ANALYSES OF CANADIAN AND EUROPEAN APATITE.

The analyses as given in Table No. 1, were made from samples which were in all cases good sized hand specimens taken from large heaps, such pieces being selected as were most free from foreign mineral admixture, and as a rule the analyses may be said to represent, in a measure, the composition of the mineral of the several localities in its greatest practically attainable state of purity; such, indeed, as might be secured by careful cobbing.

TABLE I.—SHOWING THE COMPOSITION OF CERTAIN CANADIAN FLUOR-APATITES

	1	2.	3.	4.	5.	6.	7.	8.
Phosphoric acid [*]	40.373	41.080	39.046	41.139	40.868	40.518	34.032	40.812
Fluorine†.....	3.311	3.474	3.791	3.863	3.731	3.377	2.855	3.554
Chlorine‡.....	0.438	0.260	0.476	0.229	0.428	0.086	0.101	0.040
Carbonic acid§.....	0.026	0.370	0.096	0.223	0.105	0.855	2.848	0.518
Sulphur||.....	.....	.....	.....	.....	.....	.....	3.507	.....
Lime.....	47.828	49.161	46.327	49.335	48.475	49.041	44.198	49.102
Calcium.....	3.732	3.803	4.258	4.195	4.168	3.603	3.062	3.763
Magnesia.....	0.151	0.158	0.548	0.180	0.158	0.205	0.422	0.620
Allumina.....	0.609	0.705	1.190	0.566	0.835	0.267	1.979	0.565
Nickel, cobalt and Copper.....	.....	.....	.....	.....	.....	.....	not det'd	.....
Iron.....	.....	.....	.....	.....	.....	.....	5.370	.....
Sesquioxide of Iron.....	0.151	0.125	1.290	0.094	0.905	0.083	0.120	0.125
Alkalies—presence not ascertained—.....	?	?	?	?	?	?	?	?
Insoluble residue.....	3.890	0.370	3.490	0.060	1.150	1.630	2.050	0.630
	100.509	99.506	100.512	99.884	100.823	99.665	100.544	99.729
Specific gravity.....	3.1393	3.1493	3.1603	3.1884	3.1641	3.1676	3.2441	3.1750
* Equal to tribasic phosphate of lime.....	88.138	89.682	85.241	89.810	89.219	88.455	74.295	89.098
† Equal to fluoride of calcium.....	6.796	7.131	7.781	7.929	7.658	6.932	5.860	7.295
‡ Equal to chloride of calcium.....	0.685	0.406	0.744	0.358	0.669	0.134	0.158	0.062
§ Equal to carbonate of lime.....	0.059	0.840	0.218	0.507	0.239	1.943	6.473	1.177
|| Equal to Pyrrhotite.....	.....	.....	.....	.....	.....	.....	8.877	.....

1. Township of Storrington.
2. Township of Buckingham.
3. Township of North Burgess.
4. Township of Portland West.

5. Township of Loughborough.
6. Township of Portland East.
7. Township of Buckingham.
8. Township of Templeton.

NOTE.—The specimens from which analysis No. 7 has been determined was fine granular, with occasional imbedded rounded fragments of semi-transparent sea green apatite, which fragments were excluded, the object being to ascertain the composition of the granular matrix. Their presence would have raised the percentage of tribasic phosphate.

TABLE II.—SHOWING THE COMPOSITION OF CERTAIN EUROPEAN FLUOR-APATITES.

	A.	B.	C.	D.	E.	F.	G.	H.
Phosphoric acid ¹	42.229	42.172	42.215	40.120	34.630	34.480	41.990	41.980
Fluorine ²	3.415	3.434	3.746	2.160	3.313	3.450	4.200	4.020
Chlorine ³	0.512	0.566	0.596	0.060	.....	.....	0.010	0.110
Carbonic acid ⁴.....	.....	.....	.....	.....	.....	1.510	.....	.....
Lime.....	49.960	49.894	49.945	50.269	41.150	40.705	49.752	49.898
Calcium.....	3.884	3.934	3.998	2.308	3.487	3.632	4.427	4.294
Magnesia.....	.....	.....	.....	.....	.....	0.160	.....	.....
Allumina.....	.....	.....	.....	.....	.....	1.080	.....	.....
Sesquioxide of iron.....	.....	.....	.....	0.610	3.800 ^b	6.420	.....	.....
Alkalies.....	.....	.....	.....	.....	.....	1.000 ^c	.....	.....
Silica.....	.....	.....	.....	3.100 ^a	12.370	4.830	.....	.....
Water.....	.....	.....	.....	.....	1.250	2.450	.....	.....
	100.000	100.000	100.000	98.627	100.000	99.717	100.379	100.302
1 Equal to tribasic phosphate of lime.....	92.189	92.066	92.160	87.586	75.601	75.273	91.668	91.646
2 Equal to fluoride of calcium.....	7.010	7.049	7.690	4.434	6.800	7.082	8.621	8.252
3 Equal to chloride of calcium.....	0.801	0.835	0.150	0.094	.....	.....	0.016	0.172
4 Equal to carbonate of lime.....	.....	.....	.....	.....	.....	3.432	.....	.....

- A. From Arendal, Norway, by G. Rose.
- B. From Murcia, Spain, by G. Rose.
- C. From Greiner, Tyrol, by G. Rose.
- D. From Estramadura, Spain, by Garzo and Penuelas.

- E. From Estramadura, Spain, by P. Thibault.
- F. From Staffel, Nassau, Germany, by Foster.
- G. From Tokovaia, Ural, Russia, by Pusirevski.
- H. From Sludianka, Russia, by Pusirevski.

a. With alumina.—b. With some alumina, magnesia, iodine (traces) and carbonic acid (by difference).
—c. Consisting of potash 0.58 and soda 0.42.

Manufacturing Super-Phosphate.

This is an industry that would appear to be within easy reach of enterprising Canadians, and in fact the feasibility of erecting factories for the purpose, convenient to the apatite deposits, is occupying the attention of some of our go-ahead neighbours across the frontier. When it is taken into consideration that thousands of tons of our Canadian apatite are forwarded annually to England and manufactured there and shipped in the form of super-phosphate to Baltimore and other American ports for consumption throughout the United States, it is but reasonable to reflect upon the advisability of utilizing the many natural facilities we have in Canada for manufacturing the product of our apatite deposits. The raw material for the production of sulphuric acid is in abundance; water-power and fuel are everywhere to be found, and cheap labour is procurable. All these are important considerations, and the question of home manufacture of super-phosphate should be carefully looked into. The industry has paid enormously elsewhere, under less favourable circumstances. Why should it fail in Canada?

AN ATTEMPT TO SWINDLE

In almost every mining district there are to be found men who are unprincipled enough to resort to anything that will aid them in perpetrating fraud. Until within a short time, however, the property owners in the County of Ottawa have enjoyed the reputation of being singularly honest in negotiating the sale of their mineral lands, but, alas, a clumsy attempt to *sull* a property in the Gutineau Valley has recently been discovered. The owners, whose names are known to us, are brothers, who, for some time, have been giving their attention to salting their farm with phosphate, and had succeeded in transplanting several hundredweight of the mineral before their fraudulent occupation was detected. When we are in possession of further information on this matter, the names and locality will be published, and in future, any attempts at deception of this nature will speedily be exposed when brought before our notice.

HAYCOCK IRON MINE.

Notwithstanding that very encouraging reports have reached Ottawa during the past few months, relative to the negotiations in England for the sale of the Haycock Iron Mine, it is to be regretted that the matter should not, ere this, have taken more definite shape. A sale can hardly be said to have been concluded until money has changed hands, and we have not yet heard of the English capitalists having

paid over any sum that would effectually bind them to close the bargain. From articles on the subject, which have appeared in the London journals, it is natural to suppose that the gentlemen who are to represent the new company have more than satisfied themselves of the value of the property they have been bidding for. Nothing could be more flattering than Mr. Howson's report, the English expert who was sent out expressly to examine the mine, etc., and, coinciding as he does in every particular with the views formerly expressed by Professor Chapman and others as to the richness of the property, it would appear needless to look for further justification before concluding the purchase, and yet negotiations will remain *in statu quo* pending the arrival of one more visitor from England who has been dispatched for the purpose of re-examining and reporting. It is to be hoped that, at this stage of the negotiations, no unexpected hitch may arise to upset anything that has been already accomplished. That the Haycock Mine is one of great value is an established fact, and that it should have remained idle for so long is much to be regretted, consequently any arrangements with English capitalists that will bring about the resumption of active operations will be satisfactory to those who are interested in the company's welfare and to the Ottawa people in general.

GOLD AND SILVER

In the County of Ottawa.

For some years back repeated rumours have been afloat to the effect that gold and silver-bearing quartz had been discovered in the Township of Wakefield. But a few days ago a local journal gave Mr. Vennor credit for having discovered gold and silver in paying quantities in quartz in the third Range of the above named township. That gold and silver-bearing quartz has been found in the locality there is no reason to doubt, but that it occurs in paying quantity will remain a subject for speculation. Careful examination of the location and the quartz referred to, has convinced scientific men that the precious metals are not to be found there in paying quantities.

ASBESTOS.

The mining rights on the asbestos property, known as Lot No. 11, in the 8th Range of the Township of Templeton, passed into new hands during the month, and the present owners, who are engaged in the manufacture of asbestos goods in New York, are making preparations to begin mining operations. This property, though a good one, has been allowed to remain idle up to the present, and there is every indication that it will develop into one of great value. When work begins

on this property it will be the initiation of asbestos mining in the district, and will doubtless be the means of attracting attention to other deposits, and inaugurating another industry in the Ottawa Valley.

Asbestos mining in the eastern townships actively continues and the mines are yielding freely. The quality of mineral is of high grade as to texture, and the fibre varies in length from one to four, and, in some cases, six inches. In Thetford, Broughton, and Colrairie townships, and at Danville and Wolfstown, the quantity being mined is very great, and the capacity of the mines is being thoroughly tested. It is a question in the minds of many who have visited the localities if the properties are being worked to the best advantage as regards economy, and it is quite possible that some improved system might be devised that would yield a larger profit to the owners.

MINERAL RESOURCES

vs.

SCIENTIFIC MINING.

The following article has appeared in the *Chicago Mining Review* and will bear republishing, as it applies as forcibly, if not more so, to the miners of Canada, as to those of any other section of the globe.

"The many improvements made in mining machinery, and numerous new appliances which are constantly coming to light, tend, in a measure, to show that a great need is becoming recognized, and the inventive minds of the age are running in a direction where much is yet required.

"Mining is practically a new industry to many of our people, and it is evident that the rapid growth of this business and its establishment in widely different fields has been far in advance of the methods and appliances required to secure the best results. That the problem will be successfully solved no one, who comprehends the magnitude of the immense resources to be developed and the important advancement of this great industry, can for a moment question. The mineral field is wide, its character diversified, and its requirements have not been fully met, as the two great factors of cost and loss too plainly testify; but we are making rapid strides in the direction of improvement, and better results indicate the progress made.

"It is very plain to the student of the economic plan of nature that everything created has, somewhere and at some time in the history of development, a place and use, hence it is evident that there is in mineralogy and metallurgy much to be learned, and it is certain that many things, now destroyed as useless, have a value, and should be more carefully investigated and studied by worker and scientist.

"There cannot be too many improvements or new inventions; all must be tried by the test of practical experience and success made from the study of repeated failures. The knowledge gained by the many experiments, in widely diversified fields, must be crystalized into the lines of an exact science, and progress built up from increasing knowledge."

MINING NOTES.

Nova Scotia.

Everything about the mine and mill of the Oxford Gold Mining Company is in a satisfactory condition. The late scarcity of miners, during the fishing season, somewhat retarded operations, but they are now more plentiful, and opening work on the different leads will be proceeded with thoroughly and vigorously. The face of the east bluff is 25 feet high, and enough ore is in sight for three months' work. Work continues on the lake lead, and on the mill lead the main shaft will be sunk by contract as soon as tenders will have been received by the company. The ore in this lead continues of the same high grade that has characterized it heretofore. The milling plant on the property is very complete and is pronounced the best in the province, and equal to any that is in use elsewhere. The assay of tailings at the mine made from time to time shows hardly more than a trace, and the *N. Y. Engineering and Mining Journal* refers to a lot that was tested in New York and gave only 88 cents per ton, which, from perfectly "free" ore, is, to say the least, not a little remarkable when it is milling over \$60 per ton.

This company has declared its regular monthly dividend (No. 6) of 5 per cent., payable August 25th.

Manganese deposits of a very superior quality have been discovered and tested by Mr. R. J. Stephens, near Walton, Hants County, Nova Scotia. It lies in the same formation as the ore of the Tenecape Mine, and is distant from it about eight miles. In Hants County, an irregular annual export of manganese has been maintained, amounting, since 1861, to about 2,000 tons, valued at \$110,000. Formerly extensive operations were carried on at Tenecape, Walton and Pembroke, but are now confined to the first-mentioned locality. The Hants County ores are of a very high grade, yielding 90 per cent. and upwards of peroxide, and, being almost free from traces of iron, are valued by the flint glass maker, as glass is apt to contract a greenish tinge from the presence of iron. It is also used for black enamel for pottery, tiles, etc.; in calico printing, and in many other industrial appliances. The manganese yielding district in Hants County, which gives promising indications, is over

150 square miles in extent, and the absence of workings may be traced, not to a deficiency of the ore, but to a want of enterprise and capital.

The agents of a powerful syndicate of Boston and New York capitalists have been, during the past few weeks, visiting and inspecting a number of gold locations in the Province of Nova Scotia. The result is they have purchased a mine at Mount Uniacke, one at Chezetcook, and, it is rumoured, several others. The proprietors will work their newly acquired properties extensively and vigorously.—*New Era, Halifax.*

The Renfrew Consolidated Gold Mining Co. have for some time been carrying on operations at a heavy loss in the hope of striking paying quartz at a lower level. After sinking upwards of 100 feet through barren rock, the miners have come on a body of ore, three feet in width, carrying a large percentage of gold, and the prospects are that the company will be rewarded for their pluck and labour.

Operations are said to be proceeding with most efficient regularity and system at the Coxheath Copper Mines, near Sydney, Cape Breton, and, though a new enterprise, the results are already exceedingly gratifying and are apparently certain to become more so in the immediate future. These mines are owned by Boston capitalists.

A bar of gold weighing 126 ounces, the product of 12 tons of quartz from the Lake Catcha district, was recently shipped from East Chezetcook in Nova Scotia. This shows a yield of three ounces of gold to the ton of quartz, and the mine is reported to be growing richer as the work progresses.

Ontario.

It is reported from Silver Islet that another rich pocket of ore has been met with in the 1,600 ft. level. Such pockets of silver have been phenomenal in this mine and have invariably been very productive. This latest intelligence has had the effect of increasing the value of the stock, principally held in Boston, from four to eight dollars per share. Silver Islet stock on the 16th July was sold at \$3, on the 18th, it had risen to \$7.50, on the 23rd, it had declined to \$6.50, on August 1st, the stock had fallen to \$5, on 9th inst., it reached \$4, at which price it is now quoted. The sudden rise from \$3 to \$7.50 in two days was caused at the time by the rumour above reported. That the stock should have since declined to \$1 is substantial evidence that the rumour had been somewhat exaggerated.

Professor Selwyn, who has been for some time in the mining district of Western Ontario, left Thun-

der Bay about the middle of the month, accompanied by Mr. T. A. Keefer, for the Rabbit Mountain Silver Mine. As this mine has been spoken of as one of the richest discoveries in America, Professor Selwyn's report will be looked for with much interest, as it was his intention to spend some time in carefully examining the location.

At the "Large Wollaston Mine" in the County of Hastings, a large force of miners are employed, and there is now about 25,000 tons of magnetic iron ore mined and ready for shipment. The ore yields a high percentage of metal, and is free from objectionable features. As soon as the means of transportation are completed, this output will be forwarded to smelting works in the United States.

At the "Glendower Iron Mine," in Bedford, County of Frontenac, about 3,000 tons of ore await shipment, and mining is being vigorously pushed. The ore is magnetite of a very fine quality, and the mine is turning out very well. The shaft is down 50 feet, and the body has been open 25 feet from the hanging wall without the foot wall having been reached.

A very handsome specimen of native gold in quartz has been received from the County of North Hastings. It was taken from a newly discovered lead said to be 9 feet in width and traceable for a considerable distance. The specimen referred to carries at the rate of several ounces of gold to the ton.

Manitoba.

If all that is written about the gold mines in the Lake of the Woods District is reliable, then indeed we may look for developments that will, in point of richness, equal anything that has been experienced in California or Australia; but it is to be feared that in too many instances the hope is father to the thought, and that those who are directly interested in the success of the mines in that section allow themselves to be carried away by the excitement of the moment, and are apt to exaggerate facts in some degree. That this part of the province is destined to become an important gold and silver producing section there can be little doubt, but it is dangerous to expect too much at the outset, or to misrepresent the value of the mines or the yielding capacity of the ore. Those companies that have been engaged in active mining have every reason to feel satisfied with results so far, and success will surely crown their efforts if they will but exercise ordinary patience and conduct their operations economically and with proper care and intelligence.

The *Rat Portage Progress* publishes the following:

RAT PORTAGE DISTRICT.—Pros-

pects are very cheering for mining industry to become permanent and develop to large proportions. Numbers of experts, mining engineers and representatives of syndicates and capitalists who have been visiting here of late, could but have a good effect when it is considered that, without a single exception, they have expressed themselves thoroughly satisfied with the prospects. Already English and American companies are bidding high for two or three partially developed properties on the lake, and it is to be hoped owners will not stand in their own light by placing their figures beyond reason. Even one company with a large capital, and the proper men to operate the mine, would establish the mining industry on a sure and solid basis.

PINE PORTAGE.—The ore on this property is turning out beyond the most sanguine expectations. Every shot shows an improvement in the vein. Both the foot and hanging walls glitter with the precious metal, and the old and tried miners become excited as they view it. The richness of this mine is regarded as fabulous. Several offers have been made for its purchase but all to no use.

In the Lake Winnipeg region some extensive bodies of Hematite and Bog iron ore have been met with, the former assaying 54 and the latter 44 per cent. of metal. The deposits are said to be conveniently situated for transportation of ore, of which immense bodies are reported in sight.

WINNIPEG CONSOLIDATED.—The new machinery lately put in the mill is working without any interruption. The amalgamating and grinding process is going on night and day, and a large gold brick at no distant day will gladden the hearts of the promoters.

British Columbia.

Most favourable reports come from the mining centres of the province, and capital is being brought in to improve the mines and to give an impetus to the industry generally. The Cariboo district is particularly promising and is again attracting much attention, and the miners are said to be somewhat excited over the prospects. The *Victoria British Colonist* publishes the following letter written by a gentleman who has recently visited the district:

CACHE CREEK, July 30.

I have sent some quartz specimens to Mr. F. S. Barnard, taken from the Enterprise tunnel, lately located by J. Perkins, as the previous record had lapsed. Fifteen hundred feet is the extent of the ledge, and the tunnel has been run in four hundred feet. Men are now working a shaft about thirty feet ahead of the tunnel, from which

came the specimens I have forwarded, also sent down the gold which fell from the quartz as I was breaking it. I left Baker'sville eight days ago. Mr. Mouatt told me that twice the amount of gold had passed through the assay office this year as compared with last. Several claims are paying well. The Chinamen also on Antler Creek are in excellent spirits. I am certain that if the prospects that are on Burns Mountain were in Mexico or Arizona they would be thought very good and be worked with a will. A company with \$10,000 capital has been formed to prospect Slue Creek, and propose to pay, if required, 10 per cent. per month. They will probably have a boring machine to enable the true channel to be found.

W. P. TROUCE.

United States.

The Calumet and Hecla Copper Mining Company have declared their regular quarterly dividend, payable this month, of five dollars a share aggregating \$500,000, and making the total of dividends for this year to date, \$1,500,000.

THE RICHMOND CONSOLIDATED MINING COMPANY paid a quarterly dividend of \$1.25 a share at their London Bank on the 10th instant aggregating \$67,500. Total of dividends to that date, \$3,974,887.

THE HOMESTAKE MINING COMPANY have declared their usual quarterly dividend, payable this month, aggregating \$50,000, and making \$400,000 paid since 1st January.

CORRECTION.

It was stated in the July number of the REVIEW that mining operations had been suspended by the Roberts Iron Company, of Robertsville, Frontenac County, owing to the falling off in the demand for ore. The Company's superintendent corrects this statement by letter and reports that there has been but a temporary reduction in the operative force at the mines. We are pleased to know that our information was not authentic, and lose no time in correcting the mis-statement.

Answers to Correspondents

Editor CANADIAN MINING REVIEW
Ottawa.

Dear Sir,—Will you be good enough to give me some information concerning the "Canada Consolidated Gold Mining Company," whose property is situated in the vicinity of Belleville, Ontario? I wish to ascertain in what shape the Company's property is at present, what work has been done, the amount of money that has been spent, and, if short, I will be obliged for any in-

formation you may be able to extend to me through the columns of the REVIEW or otherwise

W. A. P.

THE CANADA CONSOLIDATED GOLD MINING COMPANY was organized under the laws of the State of New York in 1880 with a capital of \$500,000, in shares of \$1.00 par value; of this, \$75,000 was set aside for working capital, and the balance duly allotted to subscribers in Montreal, Quebec and New York, and subsequently a number of shares found their way into the hands of some gentlemen in France. The Company's property is situated in Marmora Township, County of Hastings, and consists of about 800 acres of land on which there are veins of gold-bearing quartz about 3,000 feet in length, covering a width of some 20 feet. At the close of 1881 three shafts had been sunk a depth of 180, 70, and 50 feet respectively, and three to a depth of 40 feet each. From the 180 foot shaft, four levels had been driven, aggregating 250 feet. This work has all been done on the veins, and about 8,000 tons of ore raised, of which 1,000 tons were unskillfully reduced and \$2,100 realized therefrom. The property is well equipped with mining machinery, Blake crushers, jigs, etc., and the plant is approximately valued at \$20,000. Besides some dwellings that have been erected, there is a boiler and engine house 40 x 20 feet, and a furnace house 220 x 60 feet, supplied with 17 arsenic chambers, all of which are now quite full of arsenic.

Mining operations were vigorously pushed during the first year, and at the close of 1881 they ceased, the company having expended the \$75,000 set aside for working capital. First mortgage bonds were then issued for \$100,000, and during 1882, and until a few months ago, attention was given exclusively to experimenting with the ore and devising and erecting machinery for the purpose. The \$100,000, the proceeds of the first mortgage bonds, was in this way exhausted, together with an additional \$50,000, or thereabouts, to which amount the company found itself in debt. The company, as may be seen, has spent \$225,000 since its inauguration, and has 7,000 tons of ore ready for crushing, having realized \$2,100 in gold from 1,000 tons of ore, with additional assets in the shape of buildings and machinery. During the past few months no work has been done on the property, but it has recently been leased to a party of gentlemen, members of the committee, on the following conditions: The lessees have agreed to expend \$50,000 in erecting suitable mills and machinery for treating the ore, and in other ways to improve the property. For this they take second mortgage bonds on the property for \$300,000, and apply the profits to reimbursing themselves.

When the \$150,000 will have been paid off in this way, the second mortgage will be discharged, and the lessees will receive \$300,000 in fully paid up stock. It is to be presumed that it will be necessary to increase the capital stock that amount (\$300,000), the original \$500,000 having been all allotted. The property is said to be valuable, but it has been found difficult to treat the ore advantageously. A large amount of money has been spent in finding this out and discovering the means of overcoming the difficulties, of which the present lessees will have the full benefit. The ore, which is mispickel, will be treated by the chlorination process, and elaborate preparations are now being made to proceed with the reduction of the ore scientifically and on a large scale, and it is to be hoped that this venture may be attended with more profitable results, and that the lessees may realize their anticipations.—[Ed.]

Editor CANADIAN MINING REVIEW.

Dear Sir,—I have a quantity of second quality of phosphate at my mine in Templeton, and would like to dispose of it. Can you tell me what is its probable value, and where I could find the most profitable market?

A. S.

There has been a large quantity shipped to Chicago and other Western cities, the majority of which was forwarded by Mr. Lomer, of Montreal, a phosphate buyer. There certainly is a market for second quality, but, having no idea of the percentage of your lot, it would be difficult to quote a price.—[Ed.]

THE MONTREAL G. AND S. MINING COMPANY.

As queries are made of us regarding the value of the stock of this company, we should be obliged to the CANADIAN MINING REVIEW for the information whether such organization actually exists, and if so, the locality of their property, as well as its industrial condition at the present writing.—*Mining Record, N. Y.*

Inquiries have been made in the mining centres of Canada, as well as at the Provincial and Dominion Registry Departments, but up to the present moment no information has been obtained to prove the existence of the above-named corporation. It is quite possible, however, that such a company may have been organized under a State law of the United States.—[Ed.]

Navigation of the Aux Lievres River.

Complaints are made by the residents of Buckingham and the country north of it, that no steps have been taken towards making the much needed improvement at the Little Rapids, for which an appropriation was made by Parlia-

ment last session. The traffic on the Aux Lievres has assumed such dimensions that the improvement of the navigation of the river has become a matter of public importance. It is contended that a dam which would raise the water at the Little Rapids six feet above its present level would obliterate the Long Rapids and give uninterrupted navigation from Buckingham to the High Falls, and that this could be done without flooding more than twenty acres of land. Captain Cooke is running a small steamer above the High Falls to the Pines, a distance of 18 miles. The delightful scenery of the Lievres is attracting the attention of pleasure-seekers. Every steamer leaving Buckingham on the upward trip has been crowded with tourists, many of whom have availed themselves of the accommodation furnished by Captain Cooke to visit the romantic country north of the far-famed Chute. Numerous camping parties have sought the shady retreats of the Laurentian Hills, and fished in the "endless, endless lakes" during the holiday season. When the Ottawa Colonization Railway is constructed, the northern country will attract more tourists than even the Thousand Isles or the Rideau lakes—certainly more sportsmen and fishermen, to whom it is a paradise from which they have long been excluded by the formidable chain of hills and pathless forests extending north of the city.—*Daily Citizen.*

If these improvements can be accomplished it would greatly facilitate the transportation of phosphate during the summer season from mines up the river, and would increase the value of mineral land that now lies too far distant from water or railway communication to render ore transportable.

RAILWAY NOTES.

Ottawa and Gatineau Valley Railway.

The contractors for the construction of this railway are providing themselves with plant and organizing in a manner that will ensure the rapid prosecution of the work they have undertaken. Owing to the scarcity of men, at the time the contract was signed, but a small force had been employed to within a few days ago, when a force of Italian labourers, numbering about sixty, were imported from New York State and engaged on the works. Mr. Macdonald, the senior member of the firm of Macdonald, Bray & Co., contractors, arrived in Ottawa during the latter part of the month, and has been busily engaged in perfecting a permanent organization that will enable the firm to proceed with construction systematically and with despatch. Some grading has already been done, and before winter sets in there is every prospect that several miles of the line will be ready to

receive the rails. Energy and activity have characterized the efforts of the promoters of this enterprise, and it is to be hoped that the contractors will prove themselves as capable of completing the undertaking as have been the promoters in inaugurating it.

It would be natural that the company should look for co-operation and substantial assistance from the property owners along the line rather than antagonism and unreasonable exaction. This railway, when completed, cannot fail to be a boon to the residents of that part of the country through which it will run, and will have the effect of enhancing the value of property. This should be seriously taken into consideration, and should influence owners of property in their negotiations with the company for the right of way; but such has not been the case, and at the outset the very men, influential in the county, who had pledged themselves to promote the interests of the railway, were the very ones to inaugurate a system of extortion which, as might have been expected, is being adopted by their equally grasping neighbours, and the prices asked for land, useless for agricultural purposes, and valueless in other respects without the railway, are outrageous. Such want of public spirit was not to be anticipated, and it is to be regretted that the company should now find themselves hampered by those who had heretofore professed themselves staunch supporters of the project.

That the road, when constructed, will lend an impetus to the mining industry in the County of Ottawa is made apparent by the fact that prospectors are already busy exploring that section of country lying many miles north of the district in which mining has heretofore been carried on, and repeated reports have come in of newly discovered mineral deposits which have been neglected on account of their inaccessibility and the impossibility of transportation in the absence of railway communication. The Ottawa and Gatineau Valley Railway will doubtless be the means of developing the natural wealth of the country it is to traverse.

Sherbrooke and Magog Railway.

This road, when completed, will furnish an important auxiliary to our mining industries, which should not be overlooked in estimating the advantages it will confer on those sections of the eastern townships it is proposed to traverse. It is the intention to construct a branch line to the mining properties already developed, known as the Suffield Copper and Silver Mines, and the Hepburn Copper and Sulphur Mine, which branch will also run close by Mr. Clark's rich iron mountain. The ore from these mines can thus be taken by rail to the smelting works on the main line, or find a direct outlet to New York down the Hudson River Valley.

The Kootenay Railway.

As was foreshadowed in the July number of the REVIEW, Sir Alexander Campbell's visit to British Columbia has virtually settled the vexed question of disallowance. After receiving a deputation at Victoria, from the Board of Trade, who are in favour of the bill, and also a body of gentlemen who are opposed to the granting of the charter and land subsidy, the Minister of Justice dealt with the subject liberally and practically. He suggested that an amendment to the bill, making it obligatory on the company to use the C.P.R. line in the transportation of the products of the Kootenay mines, might be passed at the next session of the Local Legislature; also that they would not be allowed to go nearer than twenty miles of the boundary in the shipment of their ores. These suggestions had previously been made by him to the promoters, whom he had met in San Francisco, and as they had expressed themselves quite willing to submit to the proposed amendments, Sir Alexander thought the company might proceed with their expenditures with the certainty of the bill being allowed. As the construction of this railway will open up a section of country abounding in mineral wealth, but heretofore inaccessible, and will circulate a large amount of foreign capital in the province, the promoters should receive every assistance and encouragement that would in any manner precipitate the successful completion of their undertaking.

A Miniature Locomotive.

The *Engineering and Mining Journal*, of New York, quotes from the *Railway World* that the smallest locomotive engine ever built in the United States for regular work was recently turned out by M. M. Buck & Co., of St. Louis, and shipped to the Edmee plantation, St. Charles Parish, La. This little engine was designed by and built under the supervision of Mr. Jay Noble, and is as perfect a piece of mechanism as one would wish to see. Its diminutiveness may be understood from the following facts respecting it: twenty-one and one half inch gauge, diameter of cylinder, 6 1/4 inches, stroke, 10 inches, four wheels, diameter of driving wheels, 24 inches; height of engine to top of boiler, 4 feet 7 inches; weight, without water, 5,250 pounds. The engine has link motion, and is made of the best materials throughout. The boiler is of 1/4 inch iron, and is 30 inches in diameter in the barrel. It is provided with an Orm patent pop-valve, has a steel fire-box and is fed by two inspirators. The tank is made of No. 10 iron, has four wheels of a diameter of 16 inches, a capacity of 380 gallons, and weighs, without water, 1,100 pounds. In experimenting with the engine before it was shipped, it was found to act very obediently

under the hand of the engineer. A locomotive such as the one described should be well adapted for tramways at mines where ore is carried any distance to point of shipment. Miners desirous of obtaining particulars as to price and capacity can do so by applying to the publishers of the CANADIAN MINING REVIEW.

GEOLOGICAL MUSEUM OF CANADA

During the past three months the field geologists attached to the Geological Survey, one of the most important branches of the Government service, have been steadily engaged in exploring and examining the mineral sections of the Dominion and in noting the progress made in the mining districts where active operations are being proceeded with. A large and most interesting variety of specimens have been forwarded by them to the museum at Ottawa, and will shortly be exhibited for public inspection. In addition to the specimens of economic minerals, there are many that have no commercial value, but are wonderfully interesting to the student of geology, some of which are very beautiful and valuable as curiosities. The museum continues to attract a large number of visitors and, as the official book shows, there have been no less than 3,158 names registered from June 1st, up to August 21th inclusive, being an important increase on the number registered during the same period of last year.

ADMINISTRATION OF MINING ENTERPRISES.

One of the chief causes of financial mishap to so much of the money invested in mining enterprises in this country, is in the manner that the business side of the adventure is carried on.

Men associating themselves together to employ their money in the enterprise of manufacturing hats or shoes, cotton or woollen fabrics, or even to build or operate a line of railway, are sure to be at much pains to place the immediate supervision of the industrial conduct of their business in the hands of men practically acquainted with all the details, say, of making hats or shoes, or, in case it were a railway to be laid out or built, the work of planning and overseeing would be entrusted to practical and experienced engineers, men thoroughly acquainted with such undertakings. It is hardly in this rational manner that mining in Canada has been conducted by associated capital, and, as a consequence, many wrecks have resulted in an industry which intrinsically affords a most fertile field for investments if properly cultivated by men having a practical knowledge of their business.

A board of directors composed of merchants or bankers, aided by a

clever solicitor, cannot safely or intelligently dictate from their city offices the underground workings of a silver, gold or copper mine, or how such a property should be exploited. Capitalists should engage in mining in the same intelligent, practical and business-like way that they do in railway construction or manufacturing, and they would learn that there are few enterprises more likely to yield good returns on the money invested. The pith of the foregoing is taken from an article which has appeared in the *N.Y. Mining Record*, addressed to capitalists in the United States who invest their means in mining ventures and give no attention to the manner in which their money is employed. If nature has, in some instances, so provided that failure is impossible, all is well, but, on the other hand, should success not crown their efforts to make the mine profitable, the shareholders and directors condemn the property and attribute their failure to a deficiency in the quantity or quality of its ore. From end to end of the Dominion there are monuments to wasted capital in abandoned mines where, if proper management had been observed and skilled and competent labour employed, together with scientific knowledge and suitable machinery, there is abundant mineral wealth to pay large profits on the capital necessary to their proper development. Hardly a day passes but some such property, that has long since been abandoned, falls into the hands of English or American companies, and in many instances, under careful and practical management, they are found to yield profitably. The majority of Canadian people are too conservative to invest in mining enterprises, many have not the means, and those who have, if they are not disposed to risk sufficient to thoroughly organize and equip their mines, with a view to carrying on operations to the best advantage, will do well not to engage in such undertakings.

MORE OF CONNECTICUT'S TRACK MARKED SLABS.

Some remarkable specimens of the tracks of fossil beasts and birds have been discovered recently in the Portland, Conn., quarries. The tracks were taken from a stratum about six or seven inches thick, lying at a depth of about eighty feet from the top of the quarry. One track measures fifteen inches by eleven, and is larger than the track of any living elephant, shows the impression of the toes very distinctly and unmistakably, and also the reverse representation of the impressions of the inner muscular projections of the bottom of the huge foot. Of tracks there are three on a single slab five to six feet long and perhaps a yard or more wide and seven inches thick. There is no mistaking these tracks. They

are evidently the tracks of some huge beast—and one of the elephant kind, too—and not any mere accidental formation by other cause. On one slab near the creature's tracks is a stony heap of his ordure, known in geology as coprolites.

One slab bears the unmistakable tracks of some three-toed bird, seemingly of the ostrich family. These tracks are remarkable for being almost perfectly in a straight line, as if the creature had but one leg; no Indian could step straighter. The stride is about a foot and a half. However it may be with some other supposed "fossil bird track" in the Connecticut valley sandstones, these certainly are no tracks of the labyrinthodon or any other ancient frog; they are bird tracks.

One slab bears the impression of the longitudinal half of a tree trunk, seemingly, according to most observers, a hickory tree—for its shaggy bark and its very texture are wonderfully preserved. The slab was ten feet long, and bore the cast of the tree all the way, but this specimen is but three feet long—the part of it having been cut off at the quarry.—*Granite Cutter's Journal*.

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Persons tendering are notified that tenders will not be considered unless made on the printed forms supplied and signed with their actual signatures.

Each tender must be accompanied by an accepted bank cheque, made payable to the order of the Honourable the Minister of Public Works, equal to five per cent. of the amount of the tender, which will be forfeited if the party declines to enter into a contract when called on to do so, or if he fails to complete the work contracted for. If the tender be not accepted the cheque will be returned.

The Department will not be bound to accept the lowest or any tender.

By order,

F. H. ENNIS,

Secretary.

Department of Public Works, Ottawa, 14th Aug., 1883.



DEPARTMENT OF PUBLIC WORKS.

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Public Notice is given that under instructions from the Honourable the Minister of Public Works, there will be offered for sale by Public Auction—A. B. Macdonald, Auctioneer—at the Pump House, at the foot of the Rideau Canal, Ottawa, at 2 o'clock p.m. sharp, on Saturday, the 1st September next, the Machinery which supplied the Parliament and Departmental Buildings with water previous to the completion of the Ottawa Water Works, and which would be capable of efficiently supplying any small town, mill or manufactory.

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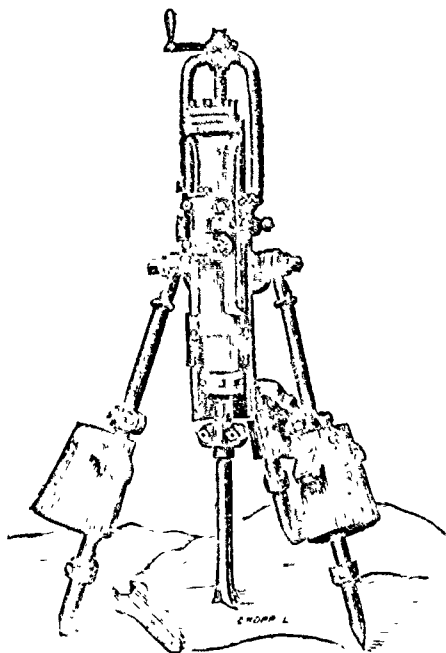
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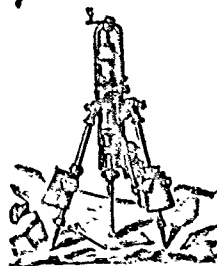
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" " 11, " 8th "	
W $\frac{1}{2}$ of N $\frac{1}{2}$ " 6, " 11th "	
S $\frac{1}{2}$ " 2, " 11th "	
S $\frac{1}{2}$ " 12, " 11th "	
S $\frac{1}{2}$ " 13, " 11th "	
Lot " 1, " 12th "	

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