METAL IMPORTS FROM GREAT BRITAIN.

The following are the values in pounds sterling of shipments of metals, etc., from Great Britain to Canada, as shown by the British Board of Trade returns for November, and for the eleven months ending with November, compared with the same periods of last vear :--

	Month of November,		11 months ended Nov.	
	1892.	1893.	1892.	1893.
Hardware and Cutlery	6 7.789	£ 5.564	£ 89,173	£ 88.020
Pig iron	7,484	7.764	78,749	55,885
Bar, etc	4,437	2,349	35,455	26,267
Railroad	20,668	1,617	372,623	496,266
Hoops, sheets, etc	9,620	4,130	80,859	65,509
Galvanized sheets	8,285	5,551	59,183	69,877
Tin plates	38,389	25,846	212,035	209,859
Cast, wrought, etc., iron	7,849	8,958	96,666	114,949
Old (for re-manufacture)	7.757	5 988	78,275	1 03,883
Steel	13,467	10,040	128,069	124,970
Lead	2,090	1,020	30,418	15,802
Tin, unwrought	10,053	2,533	38,981	30,485

The copper ore exported from Canada to Great Britain during November was valued at £4,130, compared with £6,180 for November, 1892, the amount for the eleven months ending November, showing a proportionate decrease, the figures being £25,367, against £33,606 in 1892.

MINING ASSOCIATION OF QUEBEC.

Meetings of this society took place on Wednesday and Thursday, January roth and 11th, at the Windsor Hotel, Montreal. During the Wednesday afternoon session, which was merely of a business character, the following officers were elected.

President-J. Blue.

Vice-Presidents-Col. Luke, G. E. Drummond. F. P. Buck, and J. B. Smith.

Secretary-B. T. A Bell.

Treasurer-A. W. Stevenson.

Council-Capt. R. C. Adams, Montreal, J. J. Penhall, Black Lake; F. A. Halsey, Sherbrooke; E. R. Smith, Thetford Mines; James King, M.P.P., Quebec, G. P. Franchot, Buckingham, R. T. Hopper, Toronto, Hector McRae, Ottawa, and F. Cirkel, Ottawa.

A resolution was passed providing for the affiliation of the Association with the Mining Department of McGill University, Montreal.

It was resolved to present Secretary B. T. A. Bell with a gratuity of \$150 for the great services he had rendered to the association during the past.

The next meeting was decided to be held at Quebec.

On Wednesday evening a paper was read by J. Burley Smith on the "Diamond Drill and its Uses in Prospecting," which will be found elsewhere in this issue. Considerable discussion ensued, during which many members expressed the opinion that when so many holes had to be bored, the cost at, say \$2 per foot, was often more than the value of the property warranted.

Mr. Carlyle gave an instance of the successful adaptation of electricity to drill boring. Electricity reduced the expenses of boring very considerably, and was being used to a greater extent each year.

Mr. Carlyle next read a paper on the use and construction of tunnels in mining operations, abstracts of which we print elsewhere.

The next item on the programme was a paper by Mr. Obalski, on the mica deposits of the Saguenay district, which was read by the secretary. The writer gave a good deal of information about the development of mica mining in the Dominion, together with details concerning the various mines in the Saguenay and other districts of the Province of Quebec.

In the discussion Capt Adams stated that, judging from his experience, mica was not a very satisfactory mineral to mine for, at any rate during the prevalence of the present irregularity in market prices. Often when he had been working for phosphates, he had come across mica, but latterly, when he had been mining for mica, phosphate was the only thing to reward the exertions of the workmen. Except in isolated cases, he had found mica too irregular to show profitable results.

Hon. D. J. Flynn, who was present, said he wished some men of capital would come along and buy mica lots in the Province of Quebec. He thought the price of mice would increase considerably before long.

THURSDAY.

The secretary stated with reference to the report that the German and other European governments had decided to send out experts to this country for the purpose of investigating into the state of mineral deposits, that it had been proposed to ask the Dominion Government for pecuniary aid in bringing out these experts. It was therefore resolved that the association should give no countenance in any way to such a proposition, as there were many Canadian experts who were perfectly able to do the work for themselves.

Dr. Adams then read a paper on "The Nature of Ore Deposits."

The writer stated that recent investigations into the nature and origin of ore deposits led to the conclusion that certain of these deposits were of igneous origin, meaning by this not merely that heat was connected in some way with their genesis, but that these deposits had cooled down and solidified from a molten condition. He then gave a resume of the results of the investigations made into this class of ore deposits by Prof. Vogt, of Christiania, as although it seems to be a comparatively small class, it is yet one which is especially well represented in Canada. Then followed a detailed description of titanic iron ores. Of these one of the best known deposits in this country was that near Baie St. Paul on the Lower St. Lawrence, where there was a great mass of gabbro, or anorthosite solid bodies of iron ore, 90 ft. in thickness, which had been traced for a mile or so. Other considerable deposits were known in the district north of Montreal, near Ste. Hypoliteand Ste. Julienne, as well as at several other points in the so-called Norian gabbro area. In these deposits the iron ore occurred as a constituent of the gabbro, but was locally concentrated so as to be very abundant at those points. Another extensive deposit occurred on the River Saguenay between Chicoutinii and Lake St. John. There on the north shore of the river was a group of hills composed of titanic iron ore occurring in another great gabbro mass, having an area of not less than 5,800 square miles. This iron ore occurred principally in three bands, the most easterly of which was about 75 yards wide. It was evident that these great deposits of titaniferous iron ore contained true eruptive or igneous masses which were merely local and extremely basic varieties of the gabbro in which they occurred, due to the concentration in certain parts of the mass, of the most basic constituents of the rock When it was once recognized that these deposits had the above origin, a solution was afforded to what had hitherto been a puzzling fact, namely, that all the iron ores occurring in the Norian series of the Laurentians, which was composed exclusively of eruptive anorthosite or gabbro, were rich in titanic acid, while in the same district deposits of magnetite free from titanic acid were found in the associated gneisses. The writer next devoted some space to the consideration of sulphide ores containing nickel, with special reference to the deposits at Sudbury, comparing them with those of Norway. He then concluded a valuable paper by giving a few instances of the segregation of metals in a free state occurring in igneous rocks.

Mr. J. T. Donald next read a paper on the "Sampling of Ores," in which he described his method of sampling.

THE IDEAL METHOD OF SAMPLING

The ideal method of ore sampling is to crush the whole parcel, and then let it fall in a steady stream through a machine which, working automatically, diverts at fixed intervals, and for a fixed length of time, a portion of the stream of falling ore. For instance, a stream of ore may be allowed to fall vertically for two minutes. then that which falls during the third minute is thrown automatically away from that which fell during the first two minutes, then for another two minutes the ore falls vertically, then again for one minute the stream is deflected, and soon in this way the whole parcel of ore is divided into two lots, one containing two-thirds of the original parcel, the other one-third. The latter part is then taken and put through the same machine, exactly as was the original lot, and similarly divided. The lot deflected from the main body in this second process now constitutes one-ninth of the original parcel. It may be put through the process a third time if desired; and in the latter case, the deflected part will represent one twenty-seventh of the original parcel. This portion is next spread out and quartered, and an equal quantity taken from each quarter. This portion is again quartered and a portion taken from each, and so on until a sufficiently small quantity has been obtained, and this last is considered a sample. I think no one will deny that a sample thus obtained will undoubtedly fairly represent the whole.