

pressed peat capable of production at half that price should be profitably employed; while for house purposes where the price of bituminous coal reaches \$6.00 and even in Ottawa \$8.00 per ton, a first-class peat fuel should return very handsome profit to the producer. The great extent and apparent value of the peat deposits in this country, together with the very large present consumption of coal and the high prices paid therefor, would appear to warrant the most exhaustive series of experiments tending to solve satisfactorily the economic aspect of the question, not only in the production of a fuel suitable in every way for domestic and steam purposes, but for employment also in the reduction of our iron ores and for the various other processes concerned in the manufacture of iron and steel. In this connection we may be permitted to quote again from Brughat. "It is especially in metallurgical works that very great economy results from the use of our peat. We will attain among other things, both iron and steel of better quality, than by the employment of either coal or coke, since the coke therefrom contains no sulphur as has been proved by numerous analyses made with the greatest care, as well as by practical tests conducted in our forges and blast furnaces, both in the manufacture of cast steel, cutlery, gun-barrels and in the casting of the metals.

In a paper by Prof. N. S. Shaler of Harvard University, published in the tenth annual report of the U. S. Geological Survey, on certain fresh water deposits in that country, he remarks on the subject of peat, that in his opinion a good peat fuel could be produced at a cost of \$5.00 per ton with labor at \$1.50 per day. In view of the results already obtained in the attempts to work the Canadian deposits, as quoted in the *Geology of Canada 1863*, and from the statements contained in Brughat's treatise, as well as those obtained from the manufacture of this fuel in Ireland, we believe that a first-class article can be produced in Canada at a much less figure than he states. Such results, however, will only be obtained by avoiding the mistakes already so often made by those who have attempted the solution of the problem, and by paying due attention to the quality of material employed as well as to the use of the best appliances for compressing and preparing for market a peat containing the least possible percentage of ash and moisture, and in this way obtaining results which will place this material more nearly on a par as regards effectiveness with our best quality of bituminous coals.

MR. DICKSON—I have very little to add to what has already been said. I expect to say that I have a company organized in Toronto and have purchased the Welland bog, and are getting machinery to turn it out on a large scale. These here are simply samples. It is the intention to turn it out in large blocks about three inches in diameter for steam generating purposes, and about two inches for domestic purposes. We find by experiment that we can make fuel for \$1.50 a ton. The moisture is driven off entirely by pressure, and reduced to about 20 per cent. We find the upper portion, that is after the mass has been removed, nearly as good fuel as the lower portion; and those samples there are made from the upper entirely.

The Welland Canal runs through the bog which we intend operating during the coming season, which affords excellent facilities for shipping; and besides that there are several railways adjacent. It is the intention of the company when started to start other similar operations in the Province of Quebec where it is expected it can be manufactured for \$1.50 a ton.

MR. BELL—What do you think you can put it on the market for?

MR. DICKSON—Oh, well less than coal.

MR. DOUCET—I would like to ask if this sample has been subjected to water.

MR. DICKSON—Yes.

MR. DOUCET—What was your experience?

MR. DICKSON—It is proof against all ordinary moisture, but if soaked will absorb a certain percentage. It has been soaked for several hours, but after being soaked for 24 hours it has absorbed about 20 per cent. of water.

MR. DOUCET—Is this pressed by heat?

MR. DICKSON—No; perfectly cold.

MR. DOUCET—Where does this peat come from?

MR. DICKSON—That is Quebec peat, from the Champlain bog. I have several specimens from Welland and Berlin. Here is a sample we pressed and which makes nice fuel.

MR. GIBSON—That Hally (?) peat has not been pressed. It is simply pulp peat dried by evaporation.

MR. DOUCET—Has this ever been burned?

MR. DICKSON—I don't remember the analysis; but I think less than 3 per cent. 2.00 per cent. I think, was ash. It is not pressed by hydraulic pressure.

MR. BELL—I would suggest that Mr. Dickson at some future time should give us some details of his process.

MR. DICKSON—If I had had longer notice I would have been glad to do so to-day.

PROF. HARRINGTON—I have been interested in this subject. I have had some little experience a good many years ago with it, and quite agree with most of what has been said. I think there is no reason why we should not utilize peat in various parts of the country.

Members Dine Together.

In the evening about twenty-five members sat down to dinner in the Windsor Hotel. Capt. R. C. Adams

presided. The proceedings were entirely *sans ceremonie*, the evening being spent in songs and impromptu speeches.

CAPT. ADAMS, in opening the proceeding said:—It is very well for us to try and reform the constitution of the association, but I think that it is more important for us at a banquet like this to attend to our own constitutions. And I think also that while it is well for us to enlarge our brains, it is still more important for us to enlarge our hearts; and I look on this social feature of the association as perhaps the most valuable. What we gain by rubbing up against each other in hearty association does us perhaps more good than all we can learn from our very wise papers. I think too, that we are very fortunate in being miners, because after a somewhat extensive connection with the world I have come to the conclusion that the most interesting people in the world are the miners. I do not think there is any profession which gives a man so wide a range of view as that of mining. I am told that in McGill College the very best course of instruction is that of mining engineering, because it brings one into contact with so many different branches of knowledge. The miner unlike the sailor has to be master of all trades and jack of none. I never heard of but one fault laid to mining; and it was uttered by a newspaper, which said that George Washington never had obtained his record for veracity if he had been a mining engineer, and had had to send in a weekly report of progress. There has sometimes been a little doubt as to the veracity of the mining engineer, I admit; but the profession is a romantic one. The mining engineer has in his vocation a great deal that is calculated to stimulate his imagination before him; and it is not a matter of wonder if he is tempted to go a little ahead of the fact. But very often the facts get ahead of the imagination.

I think too, that miners are not only the most interesting people, but also the most useful. They are the pioneers of civilization. In a new country the hunter goes first, marks out a little track, and finds a little bit of stone which he brings in. And then the miner goes out and pitches his camp and civilization follows. A settlement springs up, and you will find that it was the miner who was the pioneer. It was owing to the hardy miner of '49 that the great Pacific slope was settled up, and that that region has become the Garden of Eden of the modern world, and that the great Pacific railroads have crossed the continent, and been the means of building up homes for millions of farmers. It was the miner who was the pioneer of all this western civilization. So that we may claim credit for our industry as having been not only productive of interesting men, but also as having been one of the great civilizing forces of the age.

It is well for us to take a little praise to ourselves, especially in a profession where so much is unappreciated and looked upon as a matter possessing little sentiment. You remember the story of the clergyman, who at a funeral in Colorado, attempted to make a quotation from one of the poets. He desired to say: "Death loves a shining mark;" but he got a little mixed, his feelings overcame him, and he said: "Death loves a mining shark." It is said that three-fourths of the congregation got up and left the church, feeling that it was a personal reflection. I think gentlemen that it is well for us to have these occasions of good cheer, for we all occasionally have our dull moments even in that exciting pursuit of mining. We have not prepared any set list of toasts for to-night. We want to have a happy family and informal gathering; and we are going to begin right up here with the mining men, and then with our guests, and ask each one of them to give us his wit and wisdom.

Captain Adams concluded his remarks by reciting in splendid style the following lines entitled "The Prospectors Soliloquy."

"To sink or not to sink; that is the question;
Whether 'tis better in the prospector to yell
The highly metalliferous cropping for a song
Or, using muscle, dig her down to the bone
And thus by perseverance strike it. To sink, to work
No more; and by that sinking, strike a lead
Of gold or silver, or the finest copper glance
That luck is heir to. 'Tis a consummation
Devoutly to be wished. To sink, to blast
To blast, perchance to "bust;" ay, there's the rub;
For at the depth of ten feet what lase ray come
When we have shoveled off the uncertain top,
Must give us pause. There's the respect
Which makes calanity of a prospect hole;
For who can tell what "pinch" may come below
The argenteiferous stuff? Component parts of lead,
The metalliferous decomposed, conglomerate
Corruption of nature, all broken up, perchance;
The insolence of luckier blokes; and then the chance
The miner takes by shuffling,
When he himself might be much better off
By simply waiting. What would we not do
But that the dread of something yet unseen—
The undiscovered pay streak (perhaps not there)—
The argenteiferous conundrum—puzzles the will
And makes us rather raise the monument we have
Than open up the ground we know not of.
Thus prospecting doth make cowards of us all;
And thus the prospects of a big bonanza
Are sickened with some dark and cursed doubt,
And speculators in a surface prize
With this regard their interest turn aside
And lose, perchance, a million."

The evening's entertainment of song and sentiment was contributed to by a number of gentlemen present.

Geological Survey of Canada.

Annual Report, 1888-89,

VOL. IV.

With Accompanying Geological Maps,
Plans of Mine Workings, and other
Illustrations; also a Complete
Alphabetical Index.

NOW PUBLISHED AND ON SALE.

PRICE, COMPLETE, TWO DOLLARS.

- Part A.—Summary Reports of Operations 1888 and 1889, by the Director. Price 10 cents,
Part B.—West Kootanie District, B.C., by Dr. G. M. Dawson. Price 25 cents.
Part D.—The Yukon and Mackenzie Basins, with maps, by R. G. McConnell. Price 25 cents.
Part E.—Lake Agassiz in Manitoba, by Warren Upham. Price 25 cents.
Part F.—The Sudbury Mining District, by Robert Bell, B.A., Sc., LL.D.
Part K.—Mineral Resources, Quebec, by Dr. R. W. Ellis. Price 25 cents.
Part N.—Surface Geology, New Brunswick, by R. Chalmers. Price 30 cents.
Part R.—Chemical Contributions, by G. Christian Hoffmann. Price 25 cents.
Part S (a).—Mining and Mineral Statistics, 1888, by H. P. Brummel. Out of print.
Part S (b).—Mineral Statistics and Mines, 1889, by E. D. Ingall and H. P. Brummel. Price 25 cents.
Part T.—Annotated List of Minerals occurring in Canada, by G. Christian Hoffmann. Price 25 cents.

Note.—These and all other Publications of the Survey, if not out of print, may be purchased from or ordered through

W. FOSTER BROWN & Co., Montreal.

DURIE & SON, OTTAWA, Ont.

WILLIAMSON & Co., Toronto, Ont.

McGREGOR & KNIGHT, Halifax, N.S.

J. A. McMILLAN, St. John, N.B.

J. N. HIBBEN & Co., Victoria, B.C.

R. D. RICHARDSON, Winnipeg, Man.

MOIR & MILLS, Port Arthur, Ont.

THOMPSON BROS., Calgary, Alta.

THOMPSON BROS., Vancouver, B.C.

EDWARD STANFORD, 26 and 27 Cockspur Street,

Charing Cross, London.

SAMSON, LOW & Co., 183 Fleet Street, London.

F. A. BROCKHAUS, Leipzig.

B. WESTERMANN & Co., 835 Broadway N.Y.

or on application to

DR. JOHN THORBURN,

Librarian,

Geological Survey, Ottawa]

N.B.—Catalogue and Price List can be obtained from any of the above.

F. CIRKEL, MINING : ENGINEER.

(Graduate, Academy of Mines, Aachen, Germany.)

Reports on Mica Deposits, Asbestos, Phosphate

78 QUEEN STREET,
OTTAWA.