

THE SMELTER QUESTION.

Editor CANADIAN ENGINEER:

THE CANADIAN ENGINEER for May duly received. I beg to say that I am so favorably impressed with it that I enclose one dollar for one year's subscription beginning with the June number.

From what I have read in the Canadian papers, it is my opinion a Mr. Drummond, of Three Rivers, Quebec, has a pretty correct idea of the American Promoters' scheme at Hamilton, Ont. Last year Messrs. Thompson & Monahan of your city wrote me for estimates of the cost of a coke furnace of one hundred tons daily capacity. I stated about \$150,000, they to pay the duties and freight across the frontier and furnish the foundations, which might be from \$7,000 to \$10,000, on a good soil of loam or clay, and not on a marsh. I have not had occasion to change my mind as regards a one hundred ton furnace. A furnace of one hundred and fifty tons daily capacity might require \$25,000 more, making \$175,000. As regards a pioneer furnace, one of one hundred tons capacity should answer the purpose, and have the ground plan so arranged as to allow a second furnace to be erected if the business warranted it. I think Belleville, Ontario, a favorable site for a charcoal furnace plant if a company could be formed. Hoping I have not trespassed too much on your time and attention,

I remain, yours very truly,

Hudson, N. Y.

CHARLES ALGER.

A NEW POWER HAMMER.

An opportunity was afforded, since our last number was issued, to observe the working at the workshops of the Ontario Central Prison, in Toronto, of what is designated the Optimates Power Hammer. This powerful, yet convenient tool, is the invention of Wm. H. Law, of Peterboro, Ont., who has secured a patent therefor under date June, 1892. It illustrates a most ingenious application of power, the mechanism transforming a pendulum motion into a lever motion of the first quality. It has been objected to, as a defect in power-hammers such as the Bradley and the Beaudry, that in order to strike a light blow the operator has to let the belt slip. In the case of the Optimates hammer, the motion of the propelling power is continuous, but the force of blows given by the hammer can be varied from one-quarter inch fall to ten inches, and thus made light or hard. The weight of hammer is about 150 pounds. A marked advantage is the nature of the adjustment, which permits the hammer to be raised so that whatever thickness of material you wish to pound, the extent of fall desired can yet be obtained, and rapid continuous motion at the same time secured. Some very well-known and experienced Canadian manufacturers have expressed great admiration of its working. THE ENGINEER is indebted to R. E. H. Buchner for courtesies in showing the working of the hammer.

Mr. Lowe and Mr. Eaton, of the Dominion Geological Survey, started last month to explore thoroughly the interior of Labrador. Their object is in connection with the contemplated extension of the northern limits of Quebec. They will be absent two years or more

METAL IMPORTS FROM GREAT BRITAIN.

The following are the values in sterling money of the shipments of metals, etc., from Great Britain to Canada, as shown by the British Board of Trade returns for May and the five months ending May, compared with like periods last year:

	Month of May.		Five months ending May.	
	1892.	1893.	1892.	1893.
Hardware and cutlery.....	8,547	10,223	40,130	39,454
Iron, etc.—				
Pig iron	9,193	4,932	17,482	11,637
Bar, etc.	3,593	3,182	15,272	10,905
Railroad	48,381	59,941	79,437	128,459
Hoops, sheets, etc.....	6,553	8,553	18,361	16,685
Galvanised sheets.....	3,619	8,707	14,126	21,665
Tin plates	14,518	28,278	84,538	60,681
Cast, wrought, etc., iron.....	8,685	20,937	44,001	45,764
Old (for manufacture)	9,364	18,416	23,773	37,438
Steel	13,196	15,810	46,354	50,512
Lead	7,838	4,068	11,545	5,051
Tin, unwrought.....	1,581	1,477	11,896	6,267
Alkali	9,445	8,069	24,493	24,843
Cement	5,977	8,871	10,391	17,010

In the five months ending May there were imported into Great Britain from Canada copper ore to the value of £6,665 compared with £1,845 in the same time last year.

THE Geomagnifier is the name of an electric apparatus used for stimulating the growth of crops. It consists of a high pole which supports an insulated head of galvanized iron terminating in the air in a sort of plexus of copper points and branches. This collector of electricity, which is set up in the field where the crops are growing, is connected with a network of wires which ramify through the earth among the growing roots. This apparatus gathers up the electricity which is ever present in the atmosphere, and transmits it to the earth. The stimulus which results from this is said to be very marked.

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