perhaps the heavy lead ores. By this process you secure all the product, be it gold free, or in combination with other matter—silver, iron, copper, etc., so that the saving of the base metals as by-products adds immensely to the value, and may even, in many cases, pay the expense of treatment. Whereas, no other Process at present in use, can approach such results.

The Smelter, as a personal investment, is wholly without the reach of the individual or company, owing to the enormous expense of plant, costing from $250,000 for a small one to the millions. Besides this a smelter requires varieties in ores so that it is only to large capital that such process can be constructed and carried on as is best shown by the very few of such in operation on this continent. Apart from this fact, the transportation charges alone from the mine to the smelter, would only be more than the entire cost of our treatment, but will leave a profit over and above.

Your special attention, however, is called to the cost of Fuel, which is about three-quarters less, since only about 500 degrees of heat is necessary by the Beam process, whilst to desulphurize requires from 1,600 to 2,000 deg. F. There is also a great saving of time as it only requires from one to one and a half hours exposure, whilst by the old process requires from 8 to 24 hours.

Our process of conversion consists in placing the ore in tightly closed muffle furnaces; these muffles are erected in series; the number depending upon the daily capacity desired; the muffles themselves being constructed of fire clay sections, jointed and made airtight, and enclosed in an outer frame-work of common brick, with flues from the fire boxes so arranged that each muffle is completely surrounded by the flames; generated from any convenient fuel (coal or wood, the whole being braced and brickstaid in the usual way.

At a certain stage in the process of roasting conversion, hot air is admitted under pressure through a pipe specially provided for this purpose and furnishing a supply, at all times completely under the control of the operator.

By means of a screw conveyor, or other automatic arrangement, the pulverized ore is carried to the charging funnels of the furnace, the proper chemicals in required proportion being added in the meantime and thoroughly mixed with the ore.

From this conveyor the ore is fed through the charging funnels on to the floor of the muffles, which are tightly closed until the proper stage is reached for the admission of hot air through the pipe previously mentioned. The finished ore will be found to contain all its gold in a form absolutely free and bright, its silver either as a sulphide or a chloride, according to the character of the original ore, and its copper and arsenic in combination which speaks for itself.

Comparison with Smelter treatment on E. W. Dee ore, "Hamilton Gold M. & M. Co.," Colorado:—

1. Returns by assay from Smelter		$29 60
2. Returns by our treatment		60 00
Cost of smelting per ton	$ 3 75	
6 per cent. loss in smelting	1 77	
$19 per oz. for gold	1 46	
Moisture 1 per cent. total substraction	29	
		$ 7 27
Net from Smelter		$22 33
Cost of treatment	$ 5 00	
Loss in extraction	1 50	
		$ 6 50
Total returns from our treatment	53 50	
Amount in our favor		$31 17

Therefore, we ask you to investigate our method, as the more it is investigated the more you will be satisfied that it is the "Ne Plus Ultra" in treatment of ores. It is easily worked. Can be erected upon any property, with a capacity of any size, comparatively inexpensive in erection as against stamp mills and other machinery, and much more efficient.

Briefly we claim:

1. Cheapness in treatment which amounts to from $1.50 to $2 per ton, according to wages, fuel, etc.

2. Absolute control of all conditions by the operator.

3. Thorough efficiency in its treatment of free milling as well as refractory ores, and will treat all classes (including arsenical ores) with the exception of heavy lead ores.

4. Will separate gold in the metallic state and other metals such as silver, copper, etc., as by-products.

5. Cheaper than a stamp mill and much more efficient, because it not only saves free gold but also that which is in combination. The latter by the stamp mill process is lost.

6. Superior to cyanide and similar processes, and in addition extracts other metals as well as gold.

7. Not as expensive as a smelter, yet more efficient; uses less fuel, saves in time and can be placed on your own property, under your own management, thus saving heavy smelter charges and cost of transportation.

8. Economy, simplicity, high extraction and accuracy in handling.

For further particulars address W. Theophilus Stuart, M. D., and G. H. Patterson, (of Denver, Colorado), 78 King street west, Toronto, who control the patents for the Dominion of Canada and are now organizing a company to operate same.

NOTE.—Every mine owner is eagerly looking for a cheap and efficient method of extraction of the values in his ore, and rightly enough demanding proof of the claims made for each process presented to him and as several of these class of ore, in any quantity, from 100 lbs. to a car load, under the supervision of the manager, or some one specially appointed for that purpose by any person or company desiring to test this process. The larger the quantity the better, as the furnace can be cleaned out and the work shown to better advantage.

In this way it can be demonstrated to treat the particular character and class of ore you have on your property, before deciding to erect any other method, which will save many thousands of dollars in useless and expensive appliances not adapted to your ores. Considering the great result at stake, it is well worth your while for the small amount it will cost you to act upon our suggestion by sending a quantity of ore to one of the furnaces above referred to, and which we will be pleased to arrange for, and thus prove the value of this treatment as applied to your own ore.