

and other expensive attendants of the preparation of aluminium, have dwarfed the development of this, which promised to be no unimportant branch of metallurgy, the unique properties of the metal fitting it for numerous and widespread applications in the arts. It now finds its chief employment not in its elemental condition, but alloyed with other metals, many of such alloys being cheaply prepared without the preliminary isolation of the alloying metals.

ONTARIO COLLEGE OF PHARMACY

PRESIDENT, - - - Wm. ELLIOT, Esq.

The regular meetings of the College take place on the FIRST FRIDAY evening of each month, at the Mechanics' Institute, when, after the transaction of business, there is a paper read, or discussion engaged in, upon subjects of interest and value to the members.

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HENRY J. ROSE, Secretary.

THE CANADIAN Pharmaceutical Journal.

E. B. SHUTTLEWORTH, EDITOR.

TORONTO, ONT., AUGUST, 1870.

Correspondence and general communications, of a character suited to the objects of this JOURNAL, are invited, and will always be welcome. The writer's name should accompany his communication, but not necessarily for publication.

Subscriptions will not be acknowledged by letter, as our sending the paper may be taken as sufficient evidence of the receipt of the money.

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"EDITOR CANADIAN PHARMACEUTICAL JOURNAL,
TORONTO."

THE MANUFACTURE OF SALT IN CANADA.

We need offer no remarks on the advantages to be derived from the possession of salt deposits of such a valuable description as have been recently shown to exist in the North-western section of this Province. Although but four years have elapsed since the first experiment was made, at Goderich, the work has been pushed forward with energy, and, at the present time, not only is the supply of salt fully equal to home demand, but a considerable surplus is available for

exportation. The attention of manufacturers should now be directed to improvements in the manner of working, by which the cost can be reduced, so as to allow a wider margin for profit in competing with the salt producers of the United States.

The Report of Dr. T. S. Hunt, on the Goderich Salt Region, recently issued by the Geological Survey, is replete with information of the greatest value to manufacturers, and contains much which is interesting to the general reader. The extent and locality of the deposits; analyses of the brines, and comparison of their strength with those of the United States, as well as full details of the methods of concentration employed here, as well as in other places, are fully entered into, and described in detail.

We learn that the first boring was made near Goderich, in 1866, when, after a depth of one thousand feet had been reached, a bed of rock salt, estimated as having a thickness of about forty feet, was reached. From this well a constant supply of brine has been obtained, up to the present time. Several other wells were opened, successfully, near the same locality; and, a year later, the salt bearing stratum was reached, at Clinton, thirteen miles to the south-east of the former locality. We may mention, in passing, that to-day—Aug. 1st—we noticed a telegram in the daily papers, announcing that the Clinton Salt Company had just been rewarded by finding a deposit, at the depth of 1,130 feet from the surface. In 1868 a boring was made at Kincardine, thirty miles north-east of Goderich, showing the existence of the salt-bearing stratum at a depth of 900 feet. Dr. Hunt thinks it probable that the whole region between Clinton and Kincardine will be found underlaid by salt, and may belong to a single basin, whose extent yet remains to be ascertained.

Wells have been sunk in various other localities, as at Tilsonburg, London, Southampton, Port Elgin, and Waterloo; most of these have been abandoned, as unsuccessful, although the proprietors of the well at Tilsonburg report the finding of brine marking from 35° to 50° of the salometer, which would seem to indicate the proximity of a saliferous stratum.

The great purity of the brines met with at Goderich has been made the subject of remark by Prof. Goessman,—former chemist to the Onondaga Salt Company—who, in 1868, drew up a report on the subject. He says "the present brine of Goderich is not only one of the most concentrated known, but also one of the purest, if not the purest, at present turned to practical use for the manufacture of salt." Allusion is made to the very small proportion of the obnoxious deliquescent chlorids of calcium and magnesium,

which are only present in one fourth to one fifth of the quantity existing in the brines of Syracuse, N. Y. The brines of Saginaw, Michigan, are still more impure, containing, as shown by various analyses, from sixty to ninety times the amount of earthy chlorides found in the Goderich brines.

The Goderich Company's well has been worked continuously since October, 1866, and has yielded, for the greater part of the time, one hundred bushels of salt, daily. It appears, however, that this large consumption of brine has not been followed by a very marked diminution in its strength; for from four analyses, made at intervals of about a year, we find the specific gravity had only decreased from 1.205 to 1.187; corresponding, respectively, to 25.70 to 23.64, per cent. of salt. The last analysis made by Prof. Hunt gave the following as the composition of the solid constituents:

Chloride of sodium.....	236.410
" of calcium.....	190
" of magnesium.....	410
Sulphate of lime	4.856
	<hr/>
	241.868

Specific gravity..... 1.187

A brine of this strength yields about a bushel of salt for every 24 gallons; while 40 gallons of Syracuse brine, which contains about 15 per cent. of salt, are required to make a like quantity.

The evaporation of the brines, at Goderich, is carried on in large cast iron kettles, of a capacity of from 120 to 140 gallons. These pans are arranged in two parallel rows of from twenty-six to thirty each, over a furnace, the larger ones being placed in front, so that they may receive the greater heat. The cost of a block of sixty kettles is about \$1,500, to which may be added a similar amount for the construction of the furnaces.

The fuel hitherto employed has been chiefly wood, which is cut in the vicinity, and costs about \$2.50 per cord. From data furnished to Prof. Hunt, by several manufacturers, the amount of salt obtained by the consumption of one cord of hard wood, is about 35 bushels, of 56 pounds each. It has been found that a cord of wood gives nearly the same results as a ton of ordinary coal—one pound of coal producing a pound of salt, so that, in Goderich, the choice of fuel is easily settled, as the cost of coal is considerably higher than that of wood.

Although the Goderich brines are fifty per cent. richer than those of Syracuse, and consequently should require less evaporation, yet it has been found that while adopting the same system, the yield of salt for a given quantity of fuel, is, in the latter place, much larger. It appears that the evaporation is too rapid for the strength of the brine, and on this point Dr. Goessmann remarks that