

sugar, the syrup must not be boiled further than to reach the *hook proof*. Crystallization lasts 24 hours. After this time, the mould is placed in a room at the ordinary temperature, the bottom is unplugged and all the liquid syrup is allowed to run off. When the syrup has ceased running, a saturated solution of sugar in water is emptied on to the surface, say about a quart for three gallons of the stuff. This solution called *liquor* traverses the loaf of sugar, washes the crystals and drains off. It is left to drain perfectly, then the sugar thus obtained is dried.

#### *Animal Charcoal.*

To make the bone black or animal charcoal required for experiments in a small scale, a strong sheet iron pipe is taken, similar to those in use in houses for heating, a fixed bottom is fitted in and a movable cover; it is filled with broken bones and exposed to the moderate heat of a kiln. When no more thick smoke escapes the operation is finished. The pieces of bone that have become white by being too much burnt are rejected. The charcoal is reduced to small pieces, as small as possible by breaking them. To revivify it, it is allowed to ferment several days, it is washed with hot water and it is reburnt.

The filter is otherwise constructed as much as possible, on a small scale, in the same plan I mentioned in the second chapter.

#### § CONCLUSION.

Beet root sugar manufacture cannot fail to prosper in Canada, when established, as it has prospered

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