

6 ft. wide and of any length required. Its principal feature is a system of upper carrying bars, made of fire-clay, on which the garbage is first dried, then dumped into the furnace. Mr. Jones saw one of these destructors in operation at Fort Wayne, and considered it to be the best system he had so far observed.

The measurements of the new furnace over all are: Length, 35 ft. 4 in.; width, 14 ft. 6 in.; height, 12 ft. 6 in. The chamber is built of brick work 2 ft. thick, having $4\frac{1}{2}$ in. of fire-brick; a 4-in. air space, and the remainder red brick. In shape it is a segment of a circle. At the back of the furnace over the upper grates is a small opening through which evaporation from the garbage when in the drying chamber is carried along with the draft from the burning chamber into the flue or duct leading to the chimney. The flue is provided with a circular damper to increase or reduce the draft at will. The waste heat passing through the opening just referred to is sufficient to destroy all gases and effluvia generated in the upper or drying chamber. Fronting this opening is a hood formed of three upper carrying bars. At the firing end the carrying bars are clustered for a distance of 2 ft. 3 in., forming a hood, so that the garbage is carried that distance from the coal fire, preventing the fire being smothered while the materials are drying. The roof of this cluster is sloped so that nothing will lodge there.

The inside measurements of the furnace are: Length, 29 ft. 4 in.; width, 10 ft. 6 in.; height, 7 ft. 7 in. In a day of 24 hours it will consume from 75 to 80 cart loads of an average weight each of 1,500 lbs., or a total of 50 tons of garbage and refuse materials of all kinds. Night soil is not cremated, its handling and disposal in Toronto being done by private contractors.

The quantity of the refuse collected in the city varies somewhat according to the season of the year. The average collection contains about 30 per cent. of garbage proper, that is kitchen waste, consisting of animal and vegetable matter, the balance being manufacturers' waste and household rubbish. In the summer season the waste from factories, stores, and such like provides the necessary fuel for operating the furnace, and very little coal is required.

During the fruit season, and also in winter, when the collections contain more or less moisture, about half a ton of slack is required to operate the furnace 24 hours; that is, half-ton of slack to consume 60 tons of refuse. The residue from the materials consumed averages about 7 cu. yd. every 24 hours. It is of little or no commercial value.

Assuming that half-ton of slack is burned per day, the cost for fuel (at \$3.00 per ton) would be \$1.50. The labor (six men at \$1.80 each per day) would be \$10.80. This makes a total per day of 24 hours of \$12.30, which represents a cost of 20 cents for every ton of refuse consumed.

The furnace was built by day labor. The fire-bricks were supplied by the Harbison-Walker Co., of Pittsburg, and

the fire-clay bars by the Stowe-Fuller Co., Cleveland, the freight on which was of course considerable. The total cost of the furnace only was \$5,000. The chief advantages claimed by Mr. Jones for this furnace are cheapness of construction, effectiveness in rapid and thorough combustion, entire absence of odor or nuisance of any kind, economy in operation.

The Vancouver Pipe & Foundry Company, Limited, has recently been incorporated at Vancouver, B. C.

The new works now under construction for the Singer Sewing Machine Company, at St. Johns, Que., are of great magnitude, and a very large quantity of material will be used in their construction. Upwards of eight miles of railway track have

already been laid on the premises. Nine millions of bricks and one hundred thousand barrels of cement will be used in the process of construction.

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