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# Engineers—And

## Refuse and Refuse Destructors

Chas. A. HODGETTS, M.D., D.P.H., Etc.

Medical Adviser, Commission of Conservation

(delivered before Stratford, Ont., Board of Trade.)

(Concluded.)

This is an economic point at which the total cost per ton of refuse burnt is at a minimum, and any increase in labour beyond that point results in an increased cost per ton of refuse burnt.

It must also be remembered that the calorific value of refuse differs in different districts.

In making a comparison of results obtained by various destructor plants regard must be had to the cost of labour in firing and clinkering.

The systems of discharging the refuse into the cell vary; the earlier installations having a top feed down an inclined chute, others a front feed, in which the refuse is shovelled in the front of the furnace, others again a back feed in which it is shovelled into the back of the furnace. There are also various mechanical devices as that of Boulnois and Brodie's patent, where wrought iron trucks are provided 5 x 3 feet, each truck being divided into compartments containing sufficient refuse for one charge of the furnace. These trucks run on rails placed over the cells and are arranged with a tipping floor at such a level that the refuse can be shot direct from the carts into the trucks. When it is desired to charge a cell, a truck is moved until one of the compartments is directly over the feeding hole of the cell, the sliding door at the base of the compartment is moved away and the refuse falls direct from the truck on to the drying hearth.

The advantages of this system are that the storage of the refuse is in a portable form and cool, and the process is cleanly and sanitary; it also requires less labour in handling the refuse.

In the Horsfall Direct Charging system, a large bin or hopper is arranged at the top of the cells, the top of this bin or hopper being on a level with the tipping floor, its base being formed by an extended table above the drying hearth. The refuse is tipped direct into the hopper and fed from the bin on to the drying hearth. To prevent the refuse in the bin from catching fire, troughs of water are arranged around the feed openings. This system involves the use of long rakes for the purpose of dragging the refuse forward from the drying floor on to the grate and in the process cold air passes into the cell, thus tending to reduce the temperature of the furnace.

The same firm have introduced a tub feed system in which the refuse is discharged from the carts into covered storage tubs, the refuse being discharged direct from the tubs into the cells through a water-sealed changing door.

The Marten patent changing apparatus consists of a travelling wrought iron hopper placed on the top of the cell and immediately over the drying hearth. This hopper can be moved to any cell required, and the refuse tipped into the cell. The cell itself is so arranged that the refuse can be readily raked forward and levelled. This portion of the system appears to lessen the cost of working but on the other hand it means additional carts in which to store the refuse.

In the Heenan system a modification has been