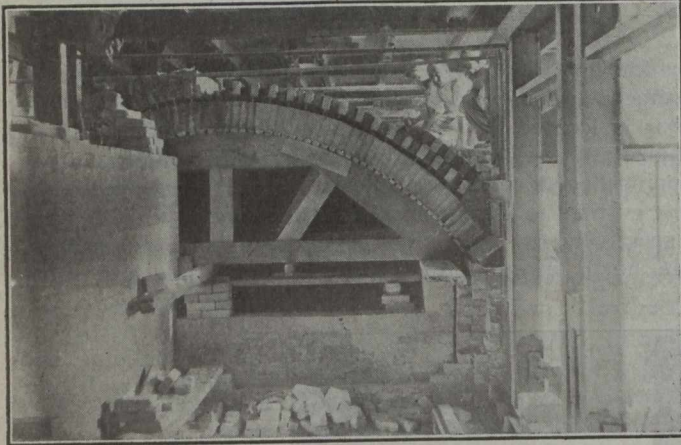


guarantee is undoubtedly based upon the plant operating under the worst possible conditions.

It is the intention to operate the plant on a two nine-hour shift, two unit basis, the third unit being held in reserve. By this mode of operation it is anticipated that approximately 100 tons of refuse will be disposed of each day.

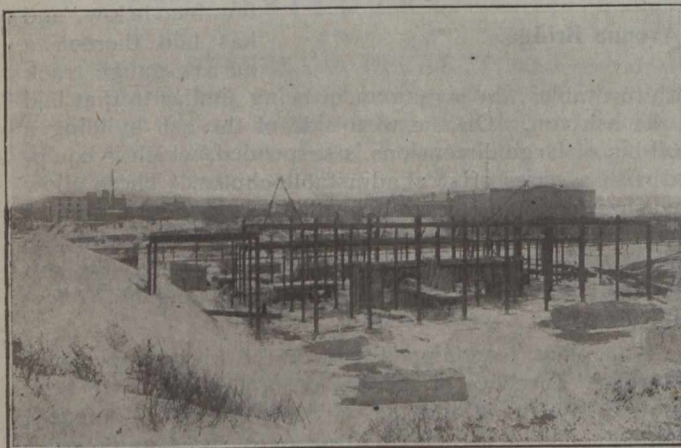
The specified requirements of the furnaces are such that the temperature in the combustion chamber shall not fall below 1,250° Fahrenheit for a greater duration than three minutes in any one hour, and that an average tem-



Detail of Combustion Chamber.

perature of at least 1,400° Fahrenheit shall be maintained. At the above temperatures, possible objection due to the presence of obnoxious gases will be entirely eliminated, inasmuch as all gases generated from the incineration of garbage are rendered odorless at a temperature of 1,050° Fahrenheit. It will thus be observed that the specified temperature affords a leeway of at least 200° Fahrenheit. Provision is made for the registration of the temperatures of each furnace on a daily chart by means of a continuous electrical recording pyrometer.

**Blowing System.**—Each of the furnaces is provided with an effective, induced, superheated draft system,



Early Stages in Construction.

generated by means of a direct-connected motor-driven fan. The air being drawn from the top of the furnace front by the fan, is forced into the regenerating chamber of the furnace, and whilst passing through this chamber it is raised in temperature. From the regenerator it passes into the airduct of the furnace at a temperature of

not less than 300° Fahrenheit. The admission of air under the grates is regulated by means of valves operated conveniently from the furnace front.

The furnace charging devices are placed on the furnace tops, and consist of a steel container for each cell, into which the material is fed, the containers and charging doors being opened and closed mechanically by the use of hydraulic rams which are also placed on the furnace tops. These rams are operated under water pressure, controlled from the stoking floor level.

The furnace and flues are lined throughout with fire-brick 9 inches in thickness; the outside walls being of suitable thicknesses, are constructed of common brick, faced with the best quality of salt-glazed brick. These bricks, being of a non-absorbent nature, were specified so as to permit of the brickwork being washed down, their glazed surface conducing to the maintenance of the furnaces in a clean and sanitary condition. Heavy buck-stays of structural steel are spaced at frequent intervals throughout the furnace and flue structures and are rigidly tied together with steel tie-rods. An air space of at least  $\frac{3}{4}$  inch between the lining and outside walls has been maintained throughout and vented at frequent intervals, thus permitting a continuous circulation of free air, thereby minimizing the transmission of the temperature of the lining to outside walls.

The operation of the plant is simple. The material is brought into the building over either of the bridges to the tipping floor, which is spacious enough to allow the free passage of wagons while others are dumping their loads. The wagons are backed against a bumper beam on the west side of the tipping floor and the material is dumped to the charging floor, some eight or nine feet below, where it is charged into the containers. From the containers it passes through the charging door on the furnace top and drops, at the will of the firemen, to a firebrick drying hearth located at the back of the furnace. A large percentage of the moisture is here absorbed from the material, which is then drawn over the grates, where incineration takes place. The flame and hot gases from the refuse pass into the combustion chamber, where total combustion is effected. From the combustion chamber a portion of the gases pass through the cast-iron regenerating tubes, and discharge into the connecting flue at the top; the remaining gases are carried through a by-pass flue and enter the connecting flue at the bottom of the uptake. The amount of gases passing through the regenerator is controlled by a damper. From the connecting flue the total products of combustion pass into the main flue, and thence into the chimney. Clean-out doors are placed at convenient points and afford ample means of removing dust accumulations from all parts of the furnaces and flues.

The clinker or residue from the grates is removed from the stoking floor level through the doors at the front of each furnace, and is dropped through a series of trap doors on the stoking floor into dump cars which operate on the industrial track in the ash run below. These cars are conveyed to the north end of the run where they are elevated by an electric elevator to the bin floor level of the ash building, where its contents are dumped into the ash bin, from which they may be loaded into cars or wagons as desired.

The radial brick chimney is located some 25 feet distant from the east wall of the building. The sub-foundation which supports the concrete foundation and structure consists of piles driven "to refusal," approximately 40 feet into the ground. Upon this foundation the octagonal base 25 feet in height is con-