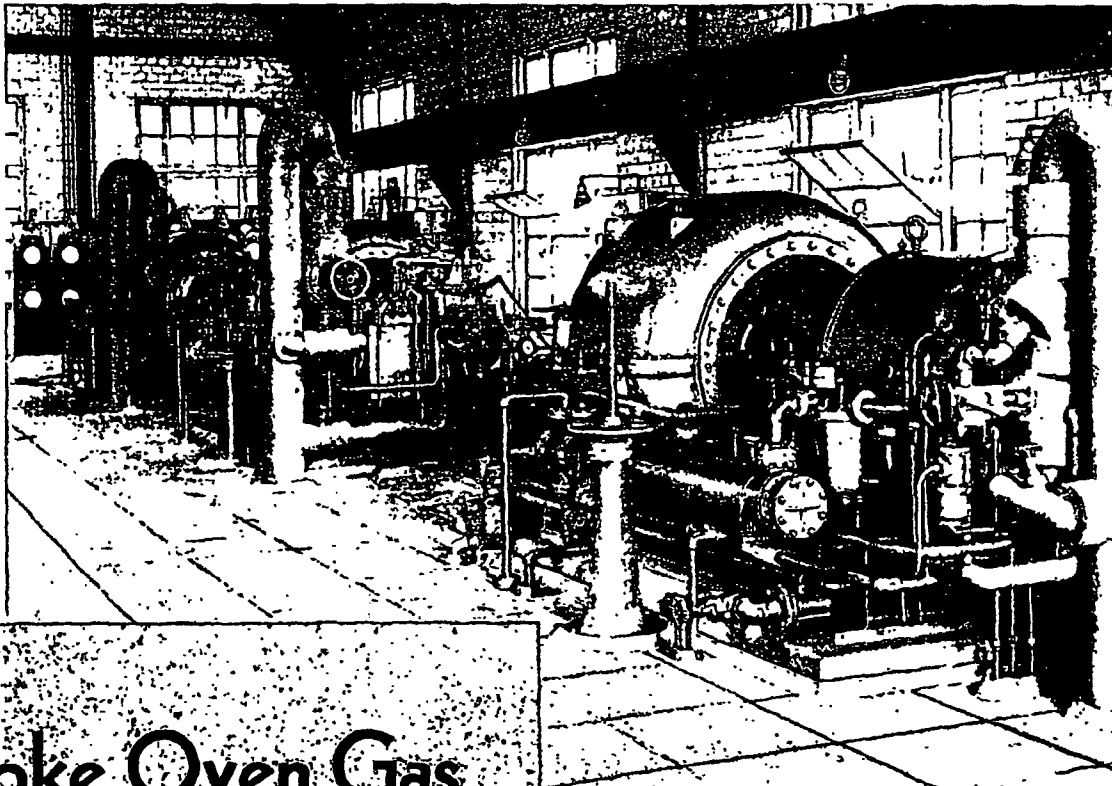




Coke Oven Gas exhausters

Three of the four Elliott coke oven gas exhausters which were installed last summer in a new blower building at the Lorain plant of National Tube Company. These multi-stage blowers are rated 29,750 cfm each at a pressure rise of 95 in. of water. Elliott 600-hp, multi-stage steam turbines drive the blowers at 5000 rpm.

● New coke ovens at the Lorain, Ohio, works of National Tube Company have boosted output by 800,000 net tons annual capacity, bringing the total capacity of the works to 1,850,000 net tons.

The new installation consists of three batteries, each of 59 regenerated ovens, designed for firing with coke oven gas having a calorific value of 500 to 550 Btu per cu ft. Later they may be underfired with blast furnace gas by the installation of suitable auxiliary equipment. Provision has been made for the construction of three additional similar batteries of ovens should conditions warrant.

Coke handling equipment consists of a 240-foot wharf, conveyors from the new wharf and two existing wharfs to a trunk line conveyor, coke scalping, crushing, screening and rail loading facilities, together with car haulage, sized coke surge bins, filling conveyors, motor-operated bin gates for unloading trucks, and motor-operated bin gates for the delivery of furnace and domestic coke to a pro-

posed conveyor system to the blast furnace bins.

Four Elliott turbine-driven exhausters serve the coke ovens at Lorain. These units are rated 29,750 cfm each, with pressure rise from minus 14 in. of water to plus 81 in. of water. Elliott 600-hp turbines drive each blower at 5000 rpm.

The gases generated in the coke ovens are removed by these centrifugal exhausters which, by automatic governor control, maintain a vacuum of 14 in. of water in the ovens. Discharging at a pressure of 81 in. water, they force the gas through the by-product recovery plant and into the main gas holder. Steam turbine drive is used in order to obtain best economy for variable load operation. An important advantage of the centrifugal type of exhauster is its ability to remove a good portion of the tar contained in the gas. The tar is thrown outward by centrifugal force onto the casing and is then drawn off at the bottom. The heat of compression keeps the tar in liquid form.