

The BULLETIN *of the* *N. D. H. A.*

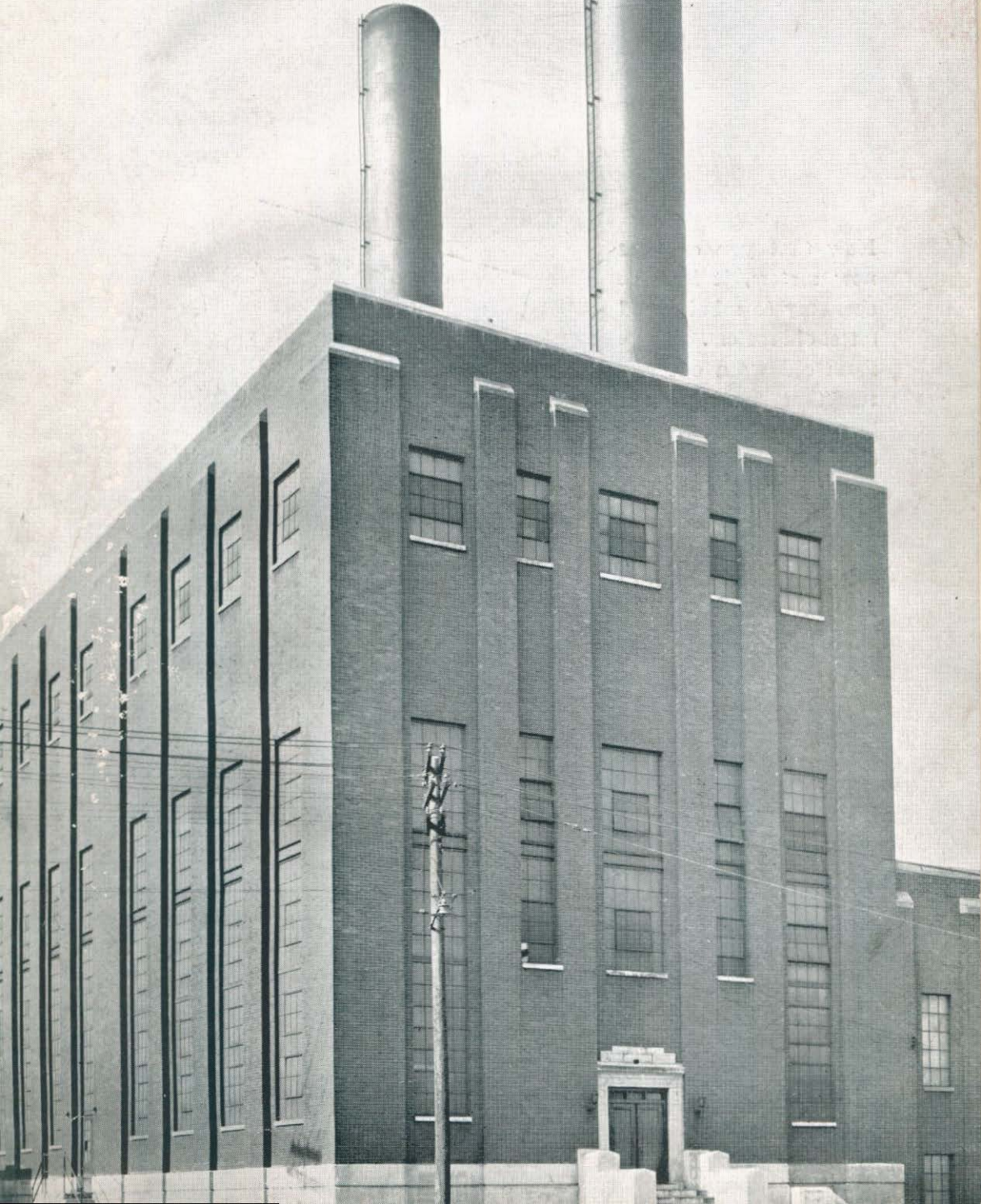
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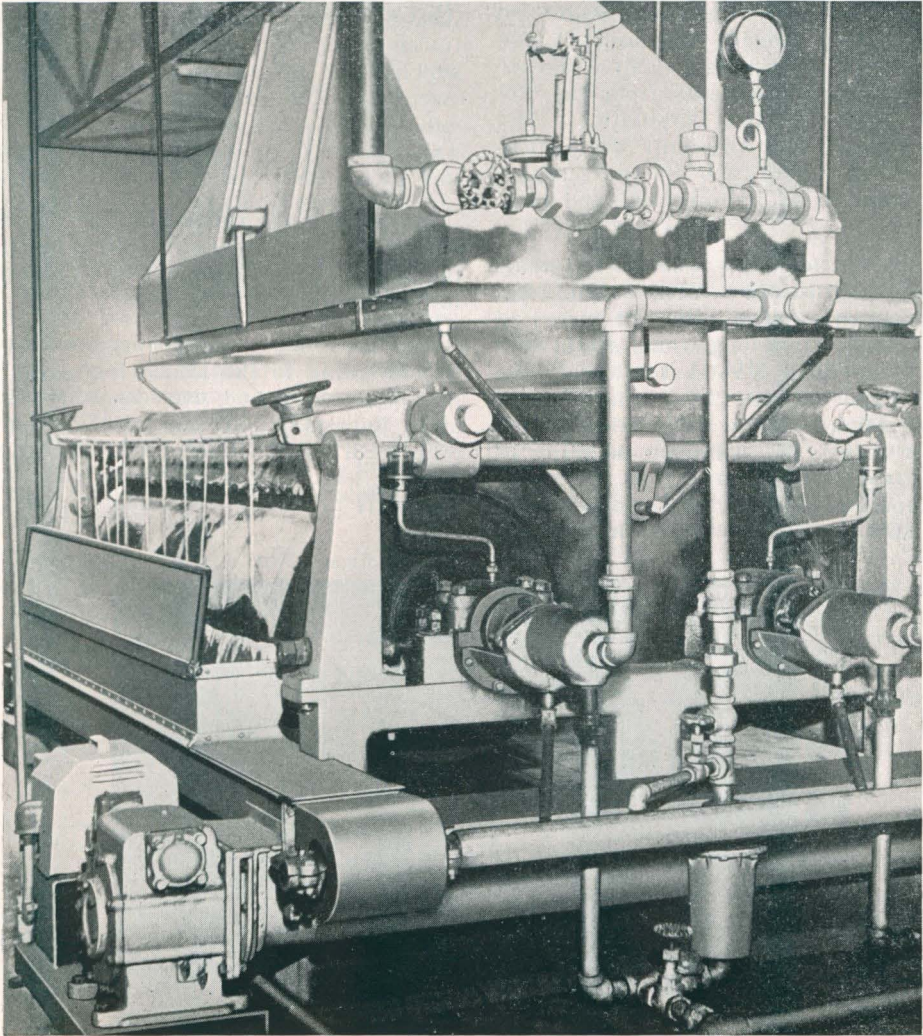
Dry Milk, Rochester's Newest Industry*

By LANDIS S. SMITH

The Bartholomay Dairy, Inc., have just installed two milk drying machines which add a large off-peak steam consumption to the load they are already taking from our steam mains. These machines are preserving in readily usable form some of the sur-

plus supplies of milk which are produced during the summer months in this vicinity.

The original Bartholomay Co. was founded in 1852 as a brewery and operated as such up to the advent of national prohibi-



Dry Milk Machine

* Reprinted from "On Our Lines" of the Rochester Gas & Electric Corporation.

tion. However, several years before this time the Company added dairy products to its business. It distributed milk as well as manufactured and sold ice cream. When national prohibition became the law of the land the brewing business was permanently discontinued.

The original company operated a large boiler plant for furnishing process steam as well as for the operation of its refrigerating equipment and other machinery. In 1939 the operation of this boiler plant, which had become out-moded and did not measure up to modern standards of efficiency, was discontinued and all steam requirements were purchased from the Rochester Gas & Electric Corporation. The installation of these two milk drying machines is one more step in the management's program of improvement and modernization.

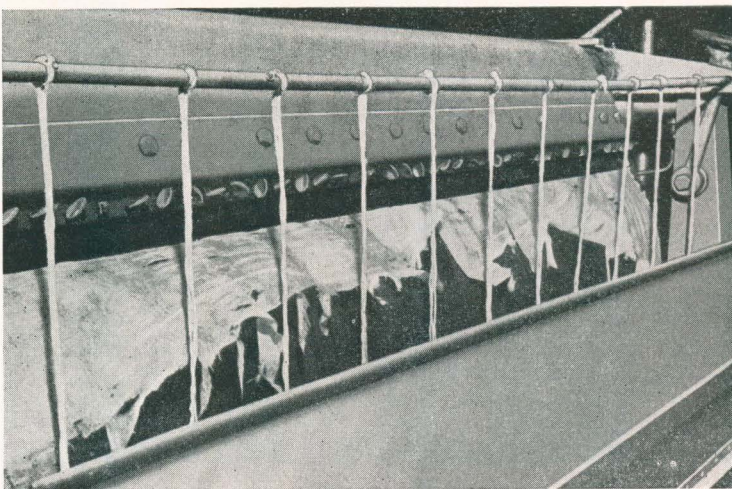
One of these machines is shown in the accompanying illustration. The machine has two large nickel steel rolls, 30 inches in diameter and 8 feet long which are in contact. One of these is rotated in a clockwise direction and the other in a counter clockwise direction so that the motion of the surfaces of the two rolls along their line of contact is downward. The rolls are heated with superheated steam at 70 pounds pressure. Milk conveyed by nickel steel piping

streams downward from a perforated pipe outlet to the rolls at the line of contact. This piping, like the rolls and all other parts of the machine in contact with the milk, is carefully steam cleaned and sterilized daily.

A thin film of the milk adheres to the surface of each roll and is dried very quickly by the heat of the rolls to form a tissue-paper thin coating of dried milk, which is scraped from the surface of each roll on the side opposite the line of contact. The sheet of dried milk may be seen in the illustration dropping into a conveyor chamber of which there is one on each side of the machine. The conveyors discharge the milk into barrels which are lined with waxed paper to protect the milk from moisture. Each barrel holds 150 pounds of milk.

By the time the dried milk film has been carried by the conveyor and discharged into the barrel, it is reduced by this handling to the familiar powdered form.

All this roller processed dry whole milk is now going to the armed forces for use in this country and overseas where it is often impractical or impossible to obtain pure fresh milk. When peace returns this product will go to such commercial establishments as hotels, restaurants, and bakeries.



Close-up of dry milk as it is scraped from surface of drum.