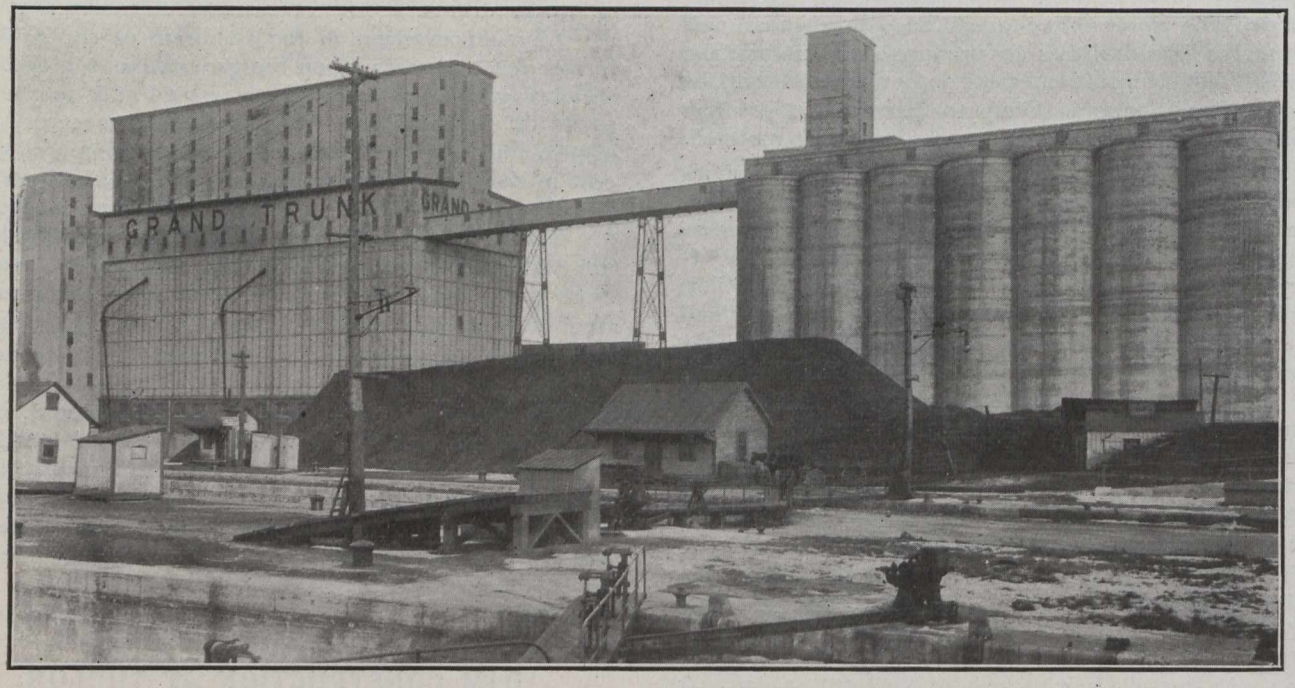
G. T. R. WINDMILL POINT ELEVATOR ANNEX, MONTREAL.

LATE in 1913 the Canadian Stewart Co., Limited, completed for the Grand Trunk Railway System a large annex to the latter's elevator between Windmill Point and the Lachine Canal Basin, Montreal. It consists of 28 storage tanks of approximately 1,070,000 bushels total capacity, and is located south of the main elevator at a distance of about 175 ft. from it. These tanks are arranged in four rows of seven each, and are 110 ft. in height with an inside diam. of 24 ft. 3 in., and with walls 7 in. in thickness. The entire structure is of reinforced concrete. The tanks have their adjacent sides rigidly united so that the 4-pointed star-shaped spaces between the circular tanks may be used for storage as well as the tanks themselves.



Windmill Point Elevator and Annex—Lachine Canal in Immediate Foreground.

The foundation consists of a concrete mattress resting upon piles arranged under the tank walls and interspaced bins to obtain a maximum of direct bearing and to economize on reinforcing steel and concrete in foundation slab without impairing its efficiency. The piles were supplied by the Simplex Piling and Construction Co., also of Montreal.

The tank walls were carried down to the foundation slab, thus eliminating an expensive foundation arrangement. The tank bottoms were constructed of concrete and steel in the form of conical hoppers supported upon concrete posts. Inclined slabs, spanning the interspaces formed the bottoms of these bins.

The tanks were surmounted by a concrete cupola of the ordinary storage annex type, with a head house at the end toward the old elevator to accommodate the elevator leg and scale. A steel conveyer gallery was also built to connect the old and the new buildings at the elevation of the bin floor. This gallery was constructed with concrete floor and corrugated sides and roof.

For filling the tanks and interspaces of this new annex there is a 36-inch belt conveyer running out from the bin floor of the old working house. This conveyer receives grain from any of the scales in the working house and discharges on to a system of cross and longitudinal conveyers of the same size on the bin floor of the storage annex, so that grain may be taken from any car or part of the old elevator to any part of the new elevator.

For shipping grain from the annex there are four 36-inch belt conveyers in the basement, one under each row of tanks, which by means of two cross conveyers discharges to a shipping leg having an elevating capacity of 15,000 bushels an hour. The elevator leg discharges into a garner over the scales where the grain is weighed, and from thence spouted on to a belt conveyer running into the old elevator, where it may be placed in any of the shipping bins, and from thence it will go out to vessels on the previously existing conveyer gallery system.

End View of Annex.

The conveyers are electrically operated, each having a separate motor.

The Canadian Northern tunnel under Mount Royal has been excavated to its full dimensions of 31 feet wide by 23½ feet high for practically the entire length of the tunnel, which is 3⅓ miles.