

the crushed coal into the storage bunkers by means of a traveling tripper. The bunkers, having a capacity of over 750 tons of coal storage, are so constructed that they feed the coal directly to the automatic stokers by gravity.

The conveyor is 225 feet between centres and is 20 inches wide, and is a 6-ply standard canvas belt. The top strand of this belt is carried on a three-pulley troughing idler; the return strands being carried on two pulley straight face idlers. This conveying belt is equipped with an automatic self-propelling and self-reversing tripper, provided with a brush for cleaning the belt and also a two-way discharge spout for distributing the coal evenly along the storage bunker.

The operator on the tower has his station in the cab and operates two controllers, two clutch levers and one foot lever to handle and control all the movements of the buckets. Windows are provided in the tower to enable the operator to look in all directions. A single laborer is needed part of the time in the car to clean up the coal that cannot be reached by the grab bucket. The bucket will handle nearly every particle of coal, and at no time will more than one-quarter ton remain in the car.

A tower is built of structural steel, weighing approximately 65,000 pounds, towering in height 71 feet. A cantilever truss is a trifle over 30 feet long and is counterbalanced by the machinery house. The method adopted for the removal of the ashes is simple, the ashes coming from the ten fires in deep steel barrows and dumped into the ash pit, where they are loaded to the railway cars by the grab bucket.

The results of the official tests made by the engineers in charge for the Peoria Gas and Electric Co. have also been made known and indicate that a car containing 30 tons of fine coal, was unloaded by the grab bucket in 25 trips, averaging one and two-tenths tons of coal per trip, in less than twenty-five minutes. The total cost of labor and actual power consumed for the entire 30 tons amounted to less than 40 cents. The cost per ton for handling the coal for the previous three months ending March 31st showed a total net saving of over 16 cents per ton, compared with the former methods, when only hand labor had been used for this same purpose, and the actual saving of over \$10,000 for the first year with the use of this modern installation.

Another equipment which has proven very economical for unloading coal is what is known as a run around conveyor, the featuring being a V-shaped bucket which will either elevate or scrape along through a trough thus making a combination elevator and conveyor.

My talk to-night has been very general, my object being, as I explained before, merely to describe standard methods of hand-