

dock wall in front of the transit sheds, with another tunnel branching off nearly at right angles, and leading to the granary. The tunnel in front of import shed No. 1 is 11 feet wide, and accommodates two grain-conveying bands. That in front of import shed No. 2 is widened out to take four bands. These bands are 22 inches wide, and run at a speed of 650 feet per minute. The grain is conveyed to them from the ships through chutes, and is delivered by them to four weighing machine elevators at the eastern end of the granary. These discharge into automatic weighers, which take 3,000 lbs. of grain per turn of the scale, and discharge each successive load into a boot, whence it is again raised by one of four elevators, having a capacity of 100 tons of wheat per hour. These deliver the grain to conveyer bands on the top floor, which are fitted with movable throw-offs, so that the grain can be passed into any of the 78 silos or other part of any of the six grain floors.

Chutes enable the grain to be put into sacks on the ground floor, or to be passed to conveyer bands in a tunnel under the basement, which communicates with the grain elevators. This admits of grain stored at any one point being removed automatically to any other point.

For the despatch of grain by rail, loading ways, 26 feet 6 inches wide, covered by lean-to roofs of galvanized iron, have been built on the sacking-off floor level, on each side of the granary. For shipping grain into barges and coastwise craft, an overhead conveyer has been constructed from the granary to the dock. This will take sacks or grain in bulk, and has a capacity of 800 sacks per hour, with a belt speed not exceeding 250 feet per minute.

Electric and Hydraulic Cranes.—On the roof of each of the import sheds six movable electric jib cranes have been erected, which, from their position, can either

(1) Take cargo from the hold of the vessel and deposit it direct into cars on the quays;

(2) On to the ground floor of the shed;

(3) On to the second floor of the shed;

(4) On to the roof of the shed if non-perishable, or can transfer goods from any part of either of the floors to the floor above or below it. These cranes are shown on Fig. 62, and have a radius of 60 feet maximum and 24 feet minimum; lift 100 feet; hoist $1\frac{1}{2}$ tons at 250 feet per minute; slew $1\frac{1}{2}$ tons 450 feet per minute; luff in and out 90 feet per minute. On the export quay there are two 10-ton electric cranes, two 3-ton, and one $1\frac{1}{2}$ -tons, as shown in Fig. 63. At the graving dock there is a 25-ton crane and two 3-ton cranes.

Electric and Hydraulic Capstans.—A large number of electric and hydraulic capstans, varying from 2 to 11 tons, are provided all round the docks. These are used mostly for hauling cars, thereby saving a vast amount of locomotive shunting.