The stock yard of the open hearth furnace shop, which runs parallel to the main building of the shop, is a covered building 152 m long and 30.5 m wide (measured on the column axes). It is equipped with two magnet-grab cranes of 10/10 ton capacity and two magnet cranes of 15 ton capacity each. The capacity of the grab is 2 m³ and the power of the magnet is 11 kw. The stock yard has four railroad tracks: two are intended for unloading the cars and two for loading charging buggies (Fig. 1).

Fig. 1. Schematic diagram showing the layout of railroad tracks, bunkers, and bins in the stock yard.
1) Magnesite powder bunker; 2) rough dolomite bunker; 3) burnt dolomite bunker; 4) limestone bunkers; 5) bauxite bunkers; 6) iron ore bunkers; 7) iron scrap pit; 7a) fine scrap; 8) ferromanganese bunker; 9) 12% ferrosilicon bunker; 10) ferroalloy bins; 11) office; I) iron scrap unloading track; II) bulk (loose) material unloading track; III) bulk material loading into charging buggies; IV) track used for unloading ferroalloys, fine scrap, and half-filled ingots.

Charging materials are stored in special 4-5 m deep bunkers and bins.

The loading frontage for handling bulk materials takes 10 two-axle buggies on one track. Two charging-buggy trains, each consisting of 20 two-axle buggies, are available for the transportation of bulk materials.

Metal scrap is transported in 0.91 m³ capacity charging boxes (22 four-axle buggies) and in 0.56 m³ capacity charging boxes (18 four-axle buggies); 15 buggies with 0.91 m³ capacity charging boxes are allocated to the transportation of scrap from the finishing department to the open hearth furnaces (400-450 t/24 hours), the remainder is used for the transportation of scrap from the stock yard (600-700 t/24 hours).

The highly efficient operation of the stock yard depends on:

a) correct placing of the rolling stock in loading and unloading;
b) effective use of cranes in loading and unloading;
c) skill of crane drivers and the methods they use;

d) correct disposition of stock yard operators and organization of their work.

Stock yard foreman A. N. Zhernovoi bases the disposition of rolling stock on the scheduled shift output, location of scrap and its arrival for unloading, and on the possibilities of the use of cranes. Quick loading of metal scrap into the charging boxes is achieved when idle runs of cranes are avoided and the driver concentrates his attention on the work of the magnet; the bridge is used only to move the crane from one buggy to another.

Figure 2a shows the order in which the empty buggies are placed for loading and the method of employing cranes in this work (Fig. 2b). When the rolling stock is placed according to this plan, the cranes are used inefficiently. They obstruct one another with the result that the loading time is increased.

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\text{Fig. 2. The disposition of buggy trains during the loading and the direction in which the travelling cranes operate.}
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A. N. Zhernovoi arranges the operation of travelling cranes during the loading in such a manner that at certain times both cranes are engaged in loading the same train and then move on to the next train. This considerably reduces the shunting needed to replace a full by an empty train. Other stock yard foremen use the cranes for the simultaneous loading of two trains, as a result of which some cranes have idle periods, the time taken for loading is increased and the shunting made more difficult.

With proper care the crane driver can load metal scrap so that it remains in the charging boxes well within the loading line and at the same time frees loading workers for use in other jobs. Foreman A. N. Zhernovoi systematically introduces into the organization of the work of crane drivers and loading workers advanced, highly effective methods. For example, during his shift the crane driver only partially loads some charging boxes with scrap and goes on to fill other boxes. After the workers have finished levelling the scrap in the first charging boxes, the cranes complete their loading, while the workers are levelling the scrap in the next section of boxes; which procedure is continued until the whole train is loaded.

After the light scrap has been loaded into the charging boxes, heavier off-cuts are added until each buggy has reached the fixed average weight of 18-20 tons.

A continuous study of advanced methods and their introduction into the work of stock yard workers enabled the best way of organizing the production processes to be found, and also the best methods of preparing the metal charge and its loading into the charging boxes, the elimination of stoppages and the considerable reduction of the charging time of open hearth furnaces.