in the lower left foreground.

The next operation is that of punching the flange holes in the sill members, in the punch shown to the right of the storage pile in fig. 4. The entry table of the latter is right hand pair in the foreground. In the bottom of these U retainers, there are rollers, along which the sills are moved into line with the entry carriage. On the column back of these rollers, there is a stationary again passed through for the punching of the holes in the flanges on the other side. The inner 100 ft. crane picks up the flanges on the completion of this operation, and carries them over to the punch along the south

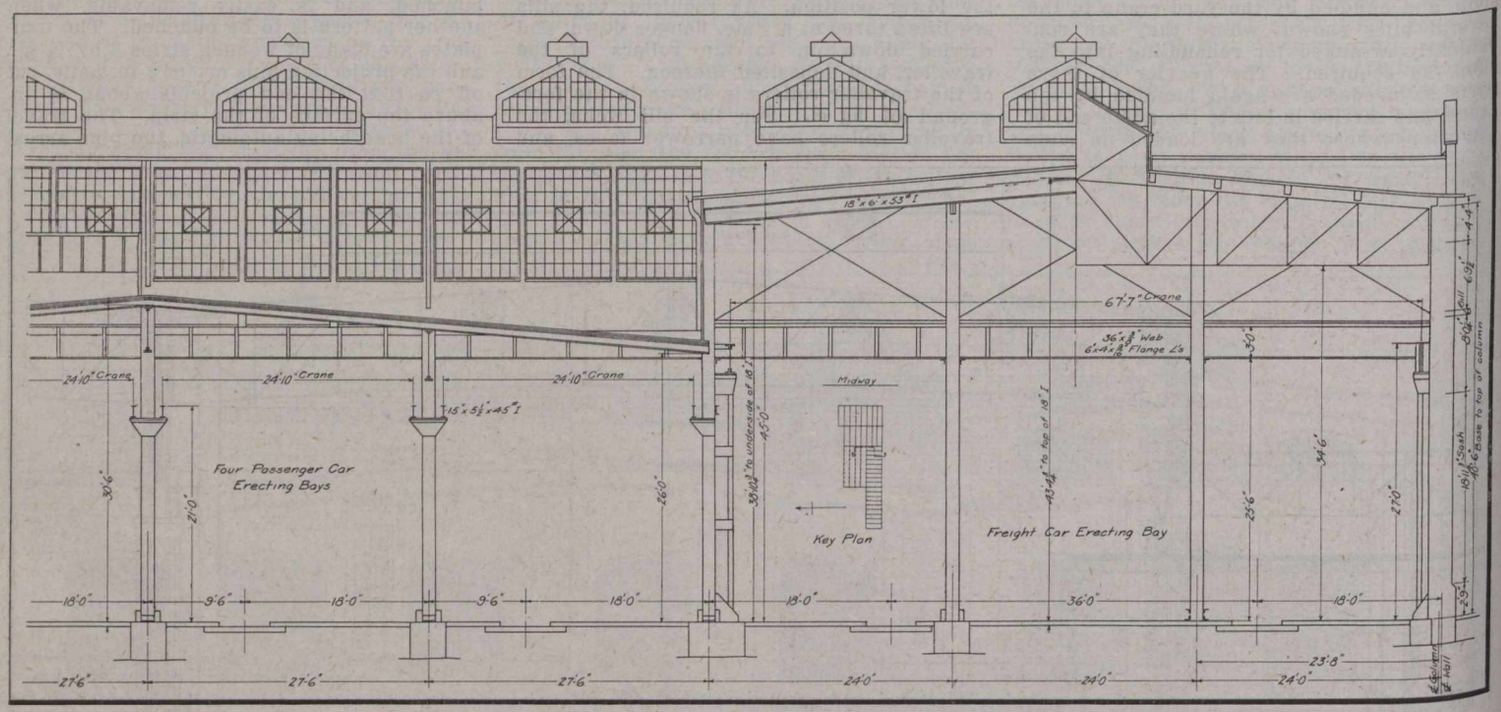

Fig. 4.—Cross section through Passenger and Freight Car Erection Sections.

placed directly opposite the delivery end of the web punch for obvious reasons. The traveller rollers in this case have wider surfaces, as the sills travel through the punch resting their flanges, two at a time, back to back. In the storage pile, a pair of jib, as shown in this view, by means of which the pair of sills are lifted on the rollers, and run into the machine, where the sills are clamped by the traveller head on the far side. The sills pass through the punch, and have all the flange holes punch wall where the draft gear slot is punched. This completes the operation on the sills.

With the present output of the shop, the web punching spacer works as described for only one half the time, the balance of the time being used on cover plates and similar

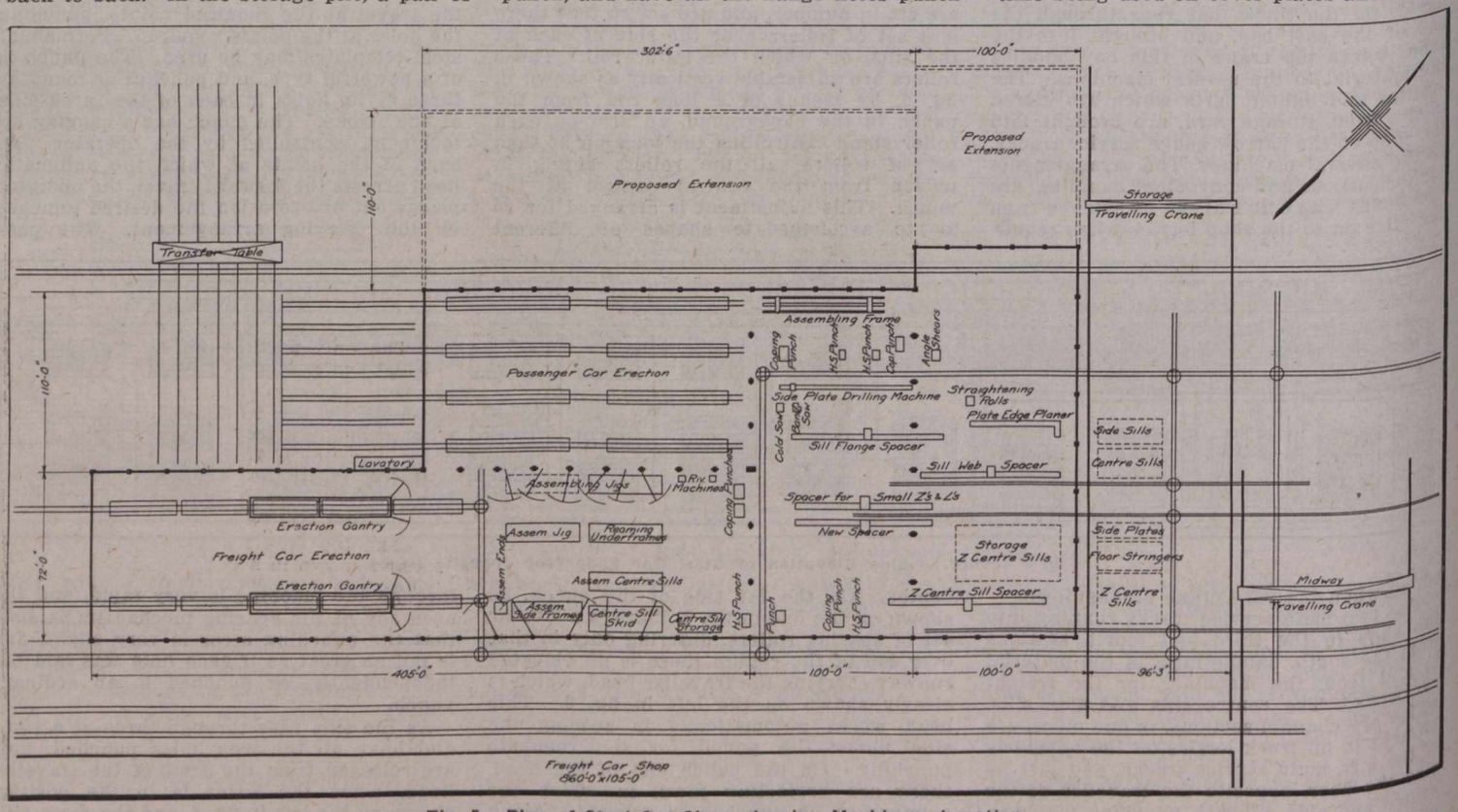

Fig. 5.—Plan of Steel Car Shop, showing Machinery Location.

the sills are bolted together, back to back, and lifted from the pile by the same jibs, and deposited by them in the U forms between the storage pile and the entry rollers of the second traveller, as shown by the ed. When through to the far end, the sills are disengaged from the head clamps, and pushed back to the starting point, where they are again lifted by the stationary jib crane, and turned over in a chain loop, and flat work. The new punch shown, has been installed for the flanges, and the spacing table so set up that without disarranging the handling of the material, it will be possible to double the output of these machines.