

each week, at which time an absolute clean up is made of any material which would otherwise tend to accumulate.

Along the front of the shop, between it and the midway, there is a 100 ft. storage space parallel with the midway and shop, spanned by a 10 ton crane having a 96¼ ft. span, and at the same elevation as the two cranes in the front two bays of the shop, being similar to the latter in every particular. The midway crane has a 76 ft. 5 in. span and is lower than the crane referred to, the reason being that it is the intention at some future date to extend the shop from the present east wall to the midway, and as the outside crane in this space is similar to that inside, it will make three parallel bays,

wall of the latter parts. The crane of the front bay serves this track.

Through the freight car erecting shop, entering from the rear end, there are two standard gauge tracks at 36 ft. centres, extending the full length of the bay, the both of which at their forward end connecting through turntables with the track along the south wall. These tracks do not lead into the fabricating shop. Through each bay of the passenger car erecting shop section, there is a standard gauge track, leading in from the rear, the track in each section being placed slightly to the north of the centre line, 18 ft. from the south rows of columns, and 9½ ft. from the north rows. These tracks do not extend into the front shop

wheel of the punch from the motor, without the intervention of gearing. The clutch is of the 6 point type. Two punches are fitted to each head, both being controlled by a single gag lever, which has three positions, one for each punch, and one neutral. These punches are not equipped with spacing tables, as the slow movement of the latter, reduced the advantages to be attained for the high speed. The method adopted was that of using a drilled or punched template, and butting the piece against a gauge inserted in each successive hole in the template. In certain classes of work, the operator can move the material fast enough to catch every hole with the punch running at its 60 strokes per minute. This is three

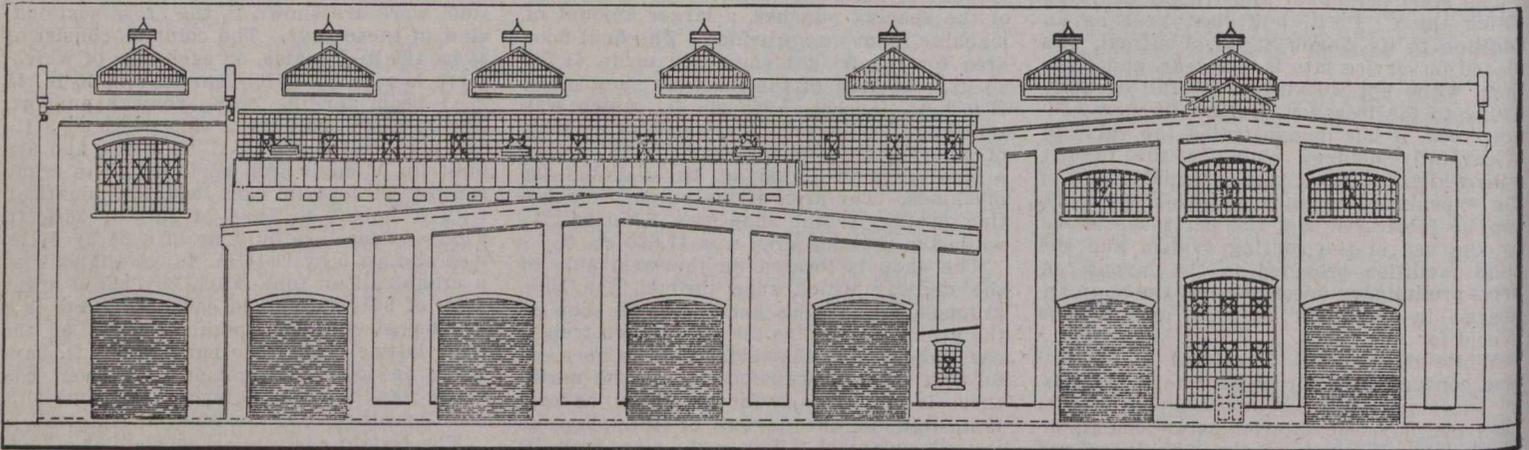


Fig. 1.—Rear Elevation of Steel Car Shop.

similar in all particulars. This outside crane extends a short distance south of the present limit of the shop, and a short distance beyond the north limit as it will be when the contemplated extension to the north is completed.

Along the outside of the south wall of the shop, there is a standard gauge track, extending the full length of the shop, and connecting with the track along the midway through turntables. It is served by the outside yard crane. Through the centre of the outside-crane-served yard at the front, there is a standard gauge track extending nearly the full length of the shop frontage, and con-

necting with a track through a turntable with a track running into the shop. A cross track from the track along the south wall, connects with this track inside the building. There are also a couple of entry tracks along the south side of the building in the freight car erecting shop section. The standard gauge track through the centre of the front storage yard has one of its rails serve as one rail of a narrow gauge service track, from which there are two tracks leading into the shop through turntables. Through the last section of the front bay, there is a standard gauge track leading in, which crosses the midway, leading through the front bay, paralleling the back bay and passenger car erecting shop along the north

section, but are entered from the rear, where there is a transfer table. Intermediate to each of the shop tracks, extending from the rear wall to the transfer table, there is a standard gauge track, of sufficient length to store a passenger car. The machinery equipment includes the latest in structural steel working machinery. The division line for the machine equipment for the passenger and freight car sections is the row of columns across the two 100 ft. bays, midway in the length of these bays, the northern section being for passenger car equipment, and the southern portion for the freight car equipment. The pas-

times as fast as on the spacing table, and while only one piece can be handled at a time, for light, short material, it is fully as cheap as when done on the spacer.

Special provision against the holding up of the plant due to a machine breakdown, has been made in a twofold manner. First, by the use of machines of relatively small capacity, but sufficient in number to obviate the expense and delay of changing dies and setting, and to prevent the big accumulation of material necessary to feed the shop without delay. The breakdown of such a large capacity machine would be a serious handicap. Secondly, the additional heavy punches

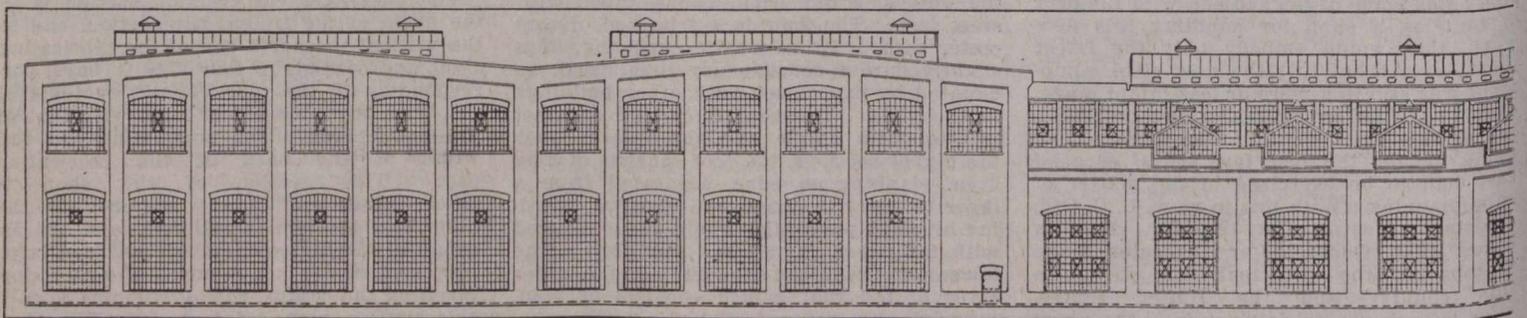


Fig. 2.—Side Elevation of Steel Car Shop (see opposite page).

enger car shop equipment consists of the following machinery: Two coping punches, two high speed punches, four spacing punches, angle shears, metal cold saw, metal band saw, bending rolls, plate rolls, plate planer and plate shears. The freight car section contains the following machinery: Five spacing punches, two coping punches and two high speed punches. The individual machines can best be described in dealing with the process of manufacture, to be outlined further on.

The high speed punches are of special construction, designed for this shop by John Bertram and Sons Co., Dundas, Ont. They operate at the high speed of 60 strokes per min., and are belt driven direct to the fly-

for coping, slotting, etc., are duplicates of those used in the spacing tables, so that, should any of the punches in the spacing table become totally disabled, it would be possible to substitute another punch, either whole or in part, with but short delay, and thereby keep the shop running. The interchange of punches, gags and other jigs has been carefully planned.

The crane served yard in the front of the shop, is used for the storage of the larger parts required in the manufacture of the steel cars, both freight and passenger. The majority of the smaller parts, such as carlines, corner pieces, and similar parts, a large number of which are made in the bulldozer and hydraulic press, come from the