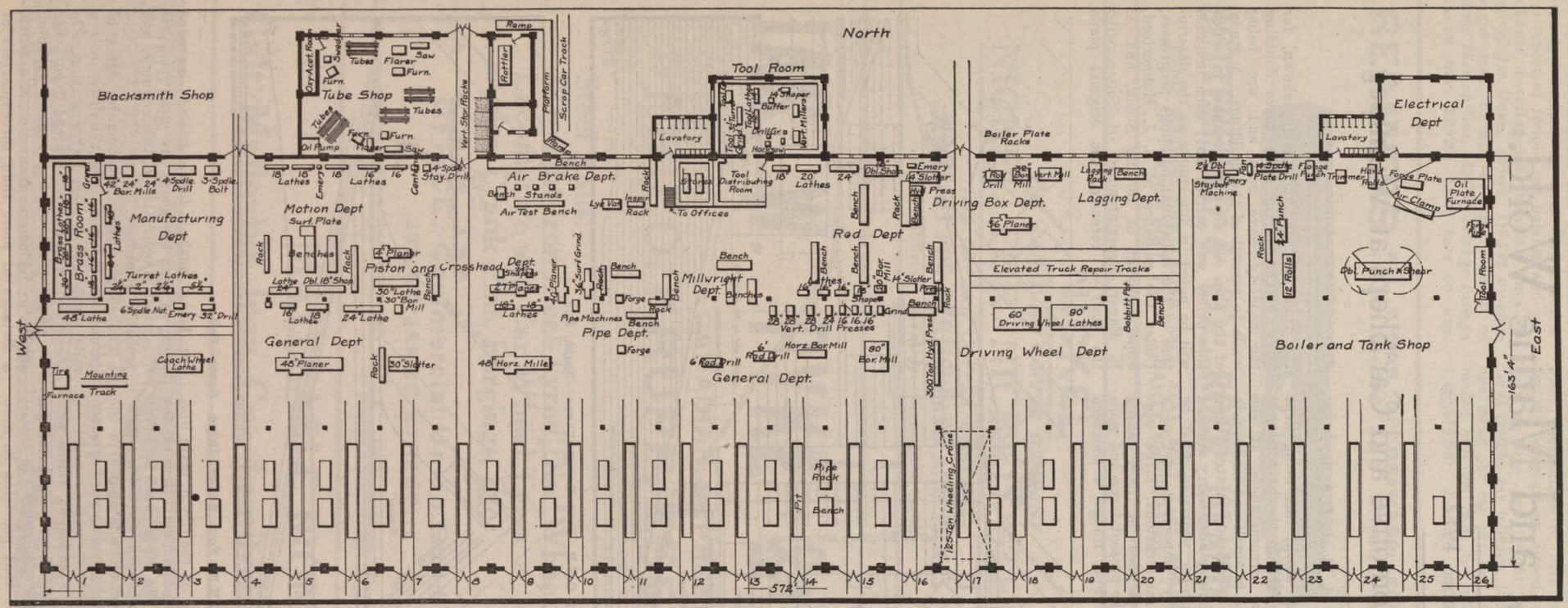

Fig. 2.—Interior Layout and Machine Tool Distribution in Machine and Erecting Shop.

part near the north end and the repair yard and rip tracks at the south end. At the widest point, across the roundhouse and machine shop, there is a width of about 800 ft., narrowing off towards each end. The office of the Superintendent of Rolling Stock is located at the foot of Scotland avenue, convenient to the buildings of both the locomotive and car departments, by which means both he and the Superintendent of Shops are constantly in touch with the work.

THE LOCOMOTIVE DEPARTMENT, D. Galloway, General Foreman, comprises all the shops handling and repairing such motive power as has been turned over by the operating department for shopping. The main buildings in the group consist of the machine and erecting shop, blacksmith shop and foundry. All the buildings have close communication with each other, the machine shop and erecting shop under one roof, the machine and blacksmith shops connected, and the foundry close in the rear of the latter, making connection in the rigorous winters to which this part of the country is subject, particularly easy.

MACHINE AND ERECTING SHOP.—These allied departments are housed in a large building of conventional design, 572 ft. by 163 ft. 4 ins., a plan of which is shown in fig. 2, and interior views from the west end in figs. 3 and 4. The shop is divided lengthwise into three bays. The south one, fig. 4, is the erecting floor, while the other two are the machine tool bays, the central one, fig. 3, for the larger machines and general departments, and the north bay for the department groups of smaller machine tools. The offices of the General Foreman, and of A. Hopkirk, Shop Engineer, and A. Hough, Foreman Machine Shop, are located a few feet above the ground, as shown to the left in fig. 5, about the centre of the light machine tool bay, in a position commanding a view of the whole shop.

The building is a brick structure, built on a concrete step footing, with a maximum width of 9½ ft. on the light tool bay side, and 8 ft. on the erecting shop side, these foundations in both cases being sunk to a depth of 6½ ft. The central bay is 51 ft. 4 ins. wide, and the outside bays each 55 ft. 4 ins., making a symmetrical construction. The roof, with a central height of about 40 ft., is carried by roof girders, spaced 22 ft. centres, down the length of the building, of a construction to be seen in figs. 3 and 4, the ends resting on abutments of the brick walls, and on steel columns along the lines of the bay divisions, these columns being built up of a plate 16 x 9-16 ins., to which are rivetted four 6 x 3½ x 9-16 in. angles. The clear height to the bottom chord of the roof trusses is 28 ft. over the whole shop. The steel columns rest on step concrete footings, 6½ ft. deep, the lower face being 8¾ ft. square. Bedded in the bottom step of the footing is a double layer, five in each, of 8 ft. lengths of old rail section, to reinforce the footing. This solid construction of foot bearings was made necessary by the nature of the ground on which the shops are built, the land being largely of a swampy nature prior to its use as a site for the shops. The surface soil is mucky, with a base of thick clay, which forms a good foundation if a wide enough bearing be obtained. Hence the large area of all the foundations. The floor is surfaced with 3 in. planks, secured to 4 x 6 in. sleepers at 4 ft. centres, bedded in a 12 in. layer of gravel.

Special provision has been made for heating. The original plans called for hot air heating, with fans located at three points along the north wall in lean-to buildings. This plan was changed to the use of steam heat. Steam at 125 lbs. pressure is brought from the power house on an elevated trestle, entering the erecting shops near the roof level at the southwest corner of the building. Here is located a large reducing valve to provide the low pressure of the heating system. Along the north wall and the two end walls, there are banked 34 coils of 2 in. pipe, in separate units between each of the windows and doors. On the south wall, where the large locomotive entry doors are located, special provision was made by increasing the banking of pipes around the buttresses to 52 coils of the same size, as shown along the right wall in fig. 4. This arrangement, with 3 or 4 lbs. of steam, has been found ample to keep the shops quite comfortable in winter, the extra coils on the south side quickly bringing the shop back to normal when locally chilled by the spotting of a locomotive on a pit.

A 6 in. main, carried alongside the steam main on the trestle, supplies air for the shop, a pipe with double connection at the