

Smith Shop, all under one roof. The four latter shops are parallel to the main line, but at right angles to the Machine Shop.

A notable feature in connection with the Engine Erecting Shop is the arrangement of the pits. The main pit runs almost the entire length of the shop, while the track is continued across the Machine and Passenger Car Shops into the Paint Shop, where locomotives may be painted should the Erecting Shop be crowded. The side pits are all laid at an oblique angle to the main pit, and this arrangement provides greater facilities for stripping and repairing engines.

FOUNDATIONS.

The foundations rest on firm, dry, red clay. The pressure on the clay under the column footings and foundations was not allowed to exceed three tons per square foot.

The foundations are of 1-3-5 concrete, with a six-inch batter on each face, and wherever the load is concentrated, as in the case of side columns, the width of the foundation is increased proportionately. The column footings are in the form of truncated pyramids.

FREIGHT CAR SHOP.

This building is 134' 8" by 362'. Two rows of columns divide the shop into three bays, each 44' wide, and each containing two tracks through the entire length of the shop. In addition to these there are several narrow gauge tracks for small trucks.

The first wall course is 4' high by 24" thick on the ends, and 12" on the sides, this being increased to 20" at the side columns or pilasters. The upper outside edge of this first course has a 4" bevel running completely around the building. Expansion joints divide the wall into sections of 40'. On the sides, with 20' centres, extending from the first wall course to the roof, are the concrete pilasters, 4' 8" wide and 16" thick, with a small projection on each side which serves as a casing for the window frames. The space between the pilasters is entirely glass, except a strip 2' 3" wide, which is made up of 2" x 4" spruce studding, covered on both sides with expanded metal lath and plastered with Portland cement mortar.

In each end are six doors, 12' wide by 16' high, and above the doors the walls are only 12" thick, with the exception of the lintels, which are 6" thick and 8' high. The reinforcement in the lintels consists of horizontal steel rods laid 18" centre to centre, and vertical rods, with 2' centres, extending into the cornice. Each alternate row of horizontal rods through the lintels is carried completely across the building. A number of vertical rods are also run up in the concrete about 2" from the sides of the windows, in