

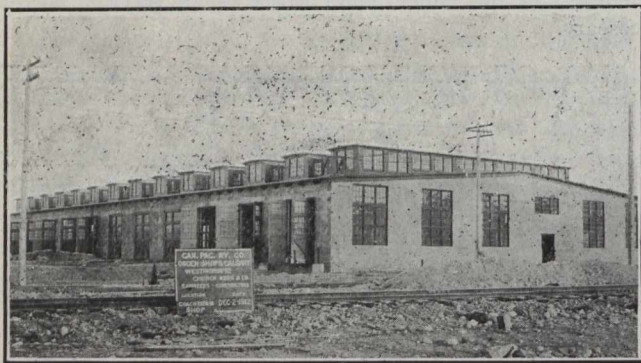
station two motor generator acts for supplying direct current are also located. The switchboard is also located in this sub-station for controlling the power and lighting circuits in the machine shop and for the tender shop and foundry. As far as possible distributing feeders are carried in conduit beneath the shop floor, thereby minimizing the amount of exposed wiring in the shops.

The building containing all of the above departments of the locomotive shop is constructed with structural steel frame carried on concrete foundations. The exterior walls up to the window-sill line are of concrete; above the window-sills of hollow tile, plastered.

Ample window area is provided in the side walls and in roof monitors and skylights so as to give sufficient natural lighting.

Good ventilation is obtained through ventilators in the monitors and skylights and by the use of swinging sash in the vertical walls.

With the exception of the blacksmith shop and a portion of the boiler shop, the floor throughout is constructed with a  $1\frac{1}{2}$ -inch asphalt mastic wearing surface, which is underlaid with a rough concrete slab about six inches thick. In the blacksmith shop and a portion of the boiler shop the floor is of cinders.



Coach Repair Shop.

The roof sheathing is constructed of  $2 \times 4$ 's, surfaced on one side and one edge and spiked together on edge, thus affording good fire-resistance qualities and materially reducing the heat losses. The roof waterproofing is four-ply tarred felt, pitch and gravel, with copper flashing. Suitable drain leaders are provided and connected into underground tiled drains to carry off the water from the roof.

The large skylight on the erecting shop bay is of steel bars, lead-covered with ribbed wired glass.

**Tender and Wheel Shop.**—This building is constructed with structural steel frame and with steel roof trusses, otherwise the general construction of the building is similar to that described for the main locomotive shop. It is an L-shaped structure, 263 feet by 80 feet wide, with L 180 feet long by 80 feet wide, and affords space for making repairs to locomotive tenders, steam shovels and other maintenance-of-way equipment.

That portion of the shop intended to receive the equipment to be repaired is spanned over its entire area by a 20-ton high-speed travelling electric crane equipped with two 10-ton trolleys.

Longitudinal tracks on 20-foot centres extend to the doors in the building wall.

A car-puller is installed for moving the equipment into and out of the shop.

A sufficient number of tracks extend through the rear wall of the building to facilitate the movement of material into the shop.

In the L portion of the building of lower cross section space is provided for steel tire wheel lathes, wheel and axle machinery and such other tools as are required.

A depressed track carried along the ends of the wheel storage tracks outside facilitates unloading and loading of wheels and axles.

The heating, lighting and service equipment is similar to that described for the main locomotive shop.

**Pattern Shop and Pattern Storage.**—Space for the pattern shop and pattern storage is provided in a separate building, located adjacent to the foundry, a fire-wall separating the pattern shop from the pattern storage.

The general construction of the building is the same as that of the other buildings—the roof of slow-burning mill construction. The structure is 162 feet long by 31 feet wide, is heated by the direct system, and lighted with keyless socket, marine type incandescent lamps. A sprinkler system is provided for fire protection.

**Foundry.**—The grey iron foundry building is 203 feet long by 80 feet wide, constructed with two bays. The frame is of structural steel, carried on concrete footings. The general construction is the same as that described for the other buildings, except that the floor is of the usual clay type used in foundries, and the roof over the cupola room is of corrugated asbestos.

The bay of higher cross-section is served over its entire length by a 10-ton high-speed travelling electric crane. Jib cranes, attached to building columns, are provided. These cranes are so arranged that they may be removed from one location to another if desired, being handled by the travelling electric crane. In the side bay of lower cross-section space is provided for core-making and shop moulding floor.

The charging floor for the cupola is located in the centre of the lower bay.

Heating is by the indirect fan system, with underground tile and concrete hot-air ducts. For general illumination flaming arcs are used in the high bay and ordinary arcs in the low bay, with outlet boxes for extension lamp cords.

Toilets, lavatories, and conveniences for the men are provided; also steam, air, and water service for fire protection and drinking purposes.

The location of this building alongside of and parallel with the travelling electric yard crane enables the unloading of scrap and pig-iron to be taken care of by the yard crane. This close proximity of the foundry to the yard crane also reduces to a minimum the handling of the castings from the foundry to storage, to the main shop, or in loading for shipment.

**Storehouse and Office Building.**—This building is 252 ft. 6 in. long by 60 ft. wide. One end of the building for a length of forty feet is carried up three stories, and contains offices on the second and third floors and a fireproof vault. The remainder of the building, for storehouse purposes, is two stories high and contains electric elevator, platform scales, material bins and shelving.

The walls are constructed of hollow-tile blocks on concrete foundations. The framing is of heavy timbers, with roof sheathing of two by fours, surfaced on one side and one edge, and spiked together on edge. The foundations are carried up to bring the floor of the storeroom to car door height.

The necessary toilet and lavatory facilities are provided. The offices are heated by direct radiation, the remainder of the building being heated by the indirect system. The lighting is by incandescent lamps. Fire protection is by automatic sprinklers.

The ground floor of the storehouse has an  $1\frac{1}{2}$ -inch asphalt mastic wearing surface. The other floors throughout the building are of wood.