

the new foundry and yard runways on the site of same. Following this, the old foundry has been torn down, and on its site a portion of the new erection shop is now being erected.

Fig. 2 shows an interior view of the centre bay of the foundry, which is used for moulding all heavy parts. The building has a high monitor with continuous sash operating the whole length, so that all smoke and gases can find an easy exit.

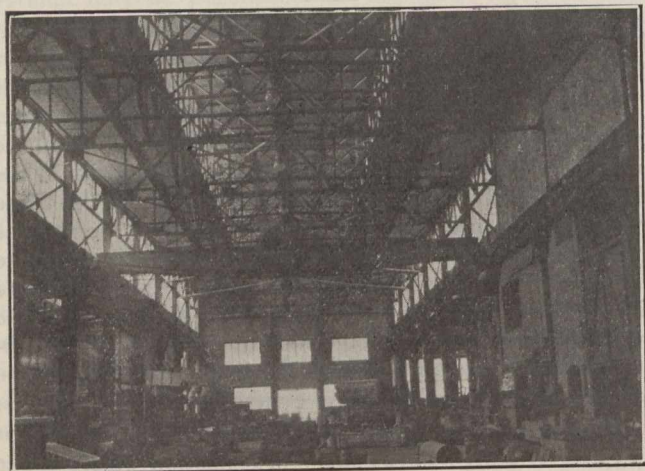


Fig. 2.—View of Centre Bay of Foundry.

A cross-section of the new erecting shop is shown in Fig. 3. This has a centre bay 80 feet wide with a 200-ton travelling crane for lifting locomotives and a 20-ton travelling crane below it. There will be fifteen erecting pits running crosswise, spaced at 17-foot centres, in this shop when completed. This shop has two side bays with galleries in which will be located pipe shop, superheater shop, paint shop and electrical departments. The main bay opens directly into the new machine shop, and runs at right angles to same, while the 20-ton crane in the erecting shop runs 20 feet into the machine shop, so as to deliver heavy material directly to engines there being erected. The new machine shop will also be served by a 20-ton travelling crane.

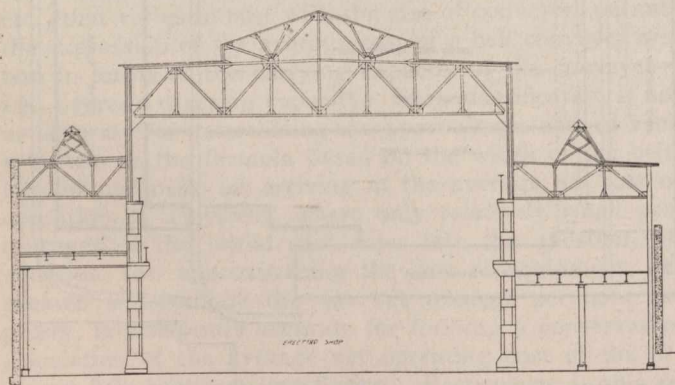


Fig. 3.—Cross-Section Through Erecting Shop.

A carpenter and pattern shop with pattern storage is being erected on a new site. As soon as these are completed the present carpenter shop, located at the south end of the old boiler shop and new tank and tender shop, will be torn down to provide space for a new blacksmith and hammer shop to be erected on this site. Following this, the old blacksmith shop will be razed and an addition to the new erecting shop and the old boiler shop will be built.

After these buildings are completed the old erecting shop and stores and office building running on Ontario Street will be demolished, and on this site a new four-story reinforced concrete store and office building, and a new machine shop will be built.

The convenience of the layout is at once apparent. Every building will be in open communication with all the others. In addition, it will be noted that the focal point of construction is the erecting shop, about which every building in the plant is arranged, all the parts feeding directly into that final point.

The total area of the plant covers about 9.5 acres and 7.5 acres of this will be covered by buildings.

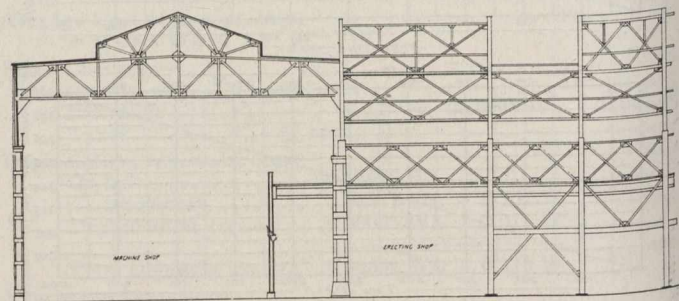


Fig. 4.—Cross-Section Through Machine Shop.

The general design of these buildings has been worked out by the firm of Henry Goldmark, consulting engineers, New York; all details regarding buildings and their equipment, and the construction work, have been carried out under the personal supervision of C. J. Goldmark, of that firm.

RAILWAY CARS OF STEEL.

Apparently acting upon the idea that collisions cannot be avoided, the different railroad companies are considering the advantages that will follow the introducing of all-steel cars in their rolling stock equipment. While one might suppose that this change would add largely to the element of cost, it is a fact that the outlay per passenger carried for the two styles of cars is about the same.

This practical identity of cost is due to the fact that although steel cars cost \$17,000 each and wooden cars only \$6,000 each, the former cars are seventy feet long and the latter only fifty-four feet, and there is a further advantage in favor of the steel construction by reason of greater durability. Of course, the two main points in favor of steel cars are that they do not crumple up after the shock of a collision and they do not burn in the event of the always possible and usually probable fire.

It is now generally recognized that if the Bar Harbor Express had been made up of steel cars exclusively at the time of the North Haven disaster, there would have been no lives lost. Just how steel cars behave under such conditions is shown by the experience of a collision in Pennsylvania early in the present year, when a passenger train going thirty-five miles an hour crashed into another standing still and no one was injured.

Of course, from the railroad point of view, the main question is, How does the steel construction affect the question of cost? At first it was thought that the saving in maintenance on the new style cars over the wooden ones would take care of interest on the larger investment. This has not yet been achieved, but it is being closely approached as the railroads discover and remedy the faults of the first steel cars delivered.