

of this arrangement is that when material is brought by the midway crane from the storehouse, forge shop, or foundry to the machine, erecting or boiler shop, it is placed at the door nearest to the machine on which the material will be handled, or to the engine upon which it will be used. In this way the delivery of material is not concentrated at one spot at the extreme end of the building. It avoids distribution from a congested area, and it obviates long haul through the shop. Material is laid down at a point as near as possible to its destination, and economy of time and labor, as well as facility in handling, is thus secured.

The system of placing machines is such that the movement of material will be in one direction, and the distance over which any locomotive part is carried will not be unnecessarily lengthened by journeys forward from one machine and back to another. The continuous one-way movement of material saves time and labor and prevents interference.

The pits in the locomotive shops are supplied with steam, compressed air, hot and cold water. Depressions in the pit walls carry the pipes. By this arrangement the working space in the pits is not restricted, and the pipes are not where they can be easily damaged by workmen cropping material on them; and thus while being quite safe, they are out of the way.

The forge shop and the boiler shop are placed as near as possible to the power house. This is important, for in the case of the forge shop, where hammers are operated by live steam, the short distance between boiler and hammer reduces condensation and delivers steam where it is required with small loss. A similar condition holds good in a sense, for the delivery of compressed air to the boiler shop machinery. The nearer the source of supply, the less the pipe friction involved and the smaller the losses due to the forcing of air through the pipes.

Industrial tracks form convenient means of communication between the various shops. The buildings, cars, engines and supplies are protected by a water-system arranged to be readily put in use in case of fire. A further protection is afforded by reason of the use of concrete and steel in the various structures.

The shops are situated at Quebec, and have been named after Major R. W. Leonard, chairman of the National Transcontinental Railway Commission, under whose administration they were projected. The outlay has been carefully supervised, so that excellent results will be attained and full value received for the money expended. The permanent and substantial character of the shops and the size of the plant will be of material advantage to the city of Quebec, by providing steady employment for

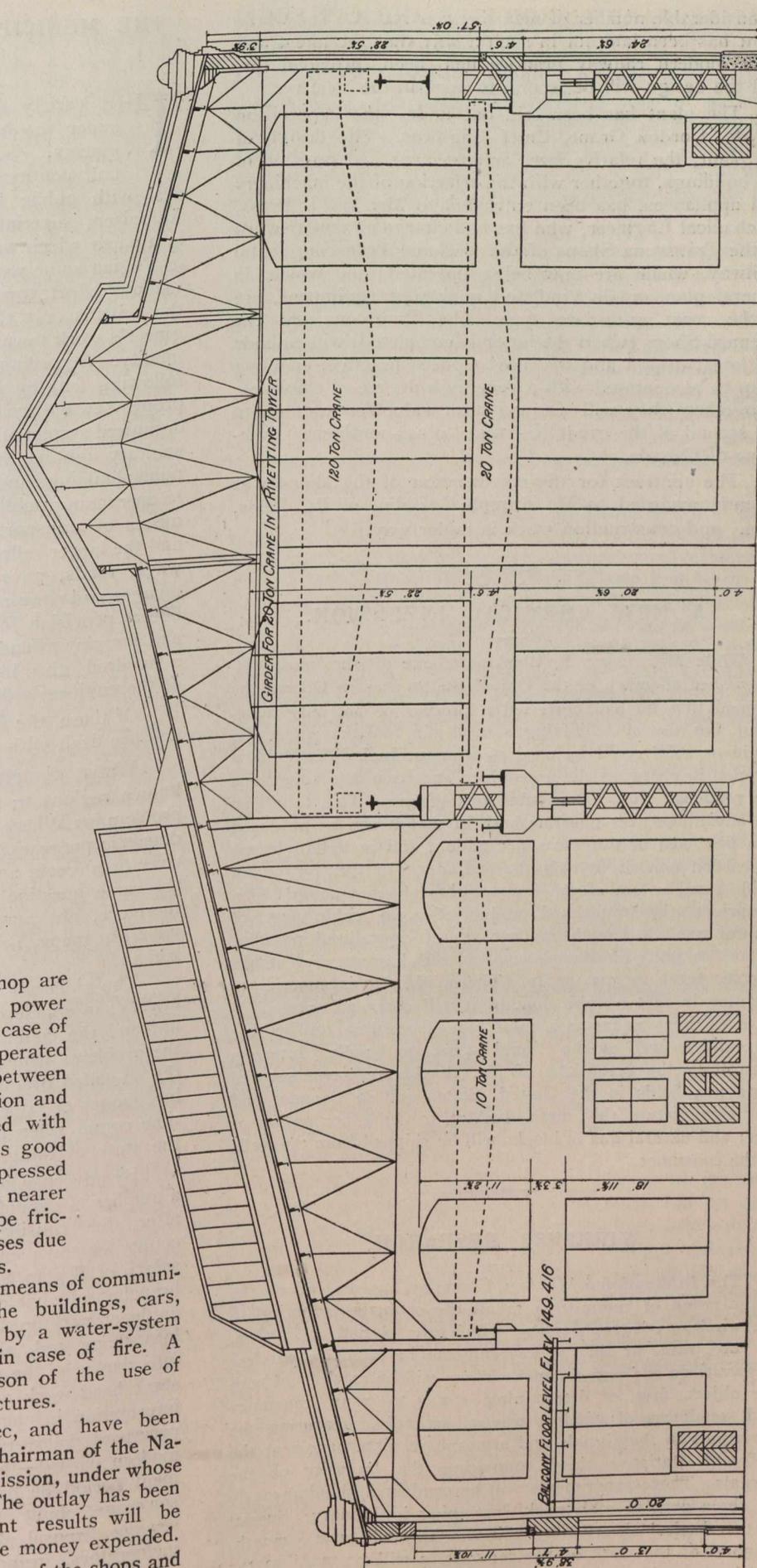


Fig. 2.—Cross-Section of Locomotive Shop—National Transcontinental Railway, Quebec.