cost of handling the freight in the terminal due to the longer haul necessitated by this arrangement.

**Two-Story Freight Houses.**—The best way of handling freight in and outbound without having to switch the cars from one shed to another, or having a very long trucking haul is to adopt a two story freight house. This type has other good features, such as economy of land, and is readily adaptable to modern conditions which require the tracks to be elevated or depressed in order to eliminate grade crossings. It is roughly estimated that $2 per square foot will cover the additional cost of a two-story, slow-burning construction building, above the cost of a single-story building of similar construction.

A modern freight shed with four different floor levels is that of the Wabash Railroad at Pittsburgh, Pa, illustrated in Fig. 6. The tracks are on a high level, and the space between the unloading and loading platform and the teamways is occupied with storage rooms. The total width of the house is 145 feet and the length 572 feet, and it has accommodation for 50 cars, or, including storage space, 125 cars.

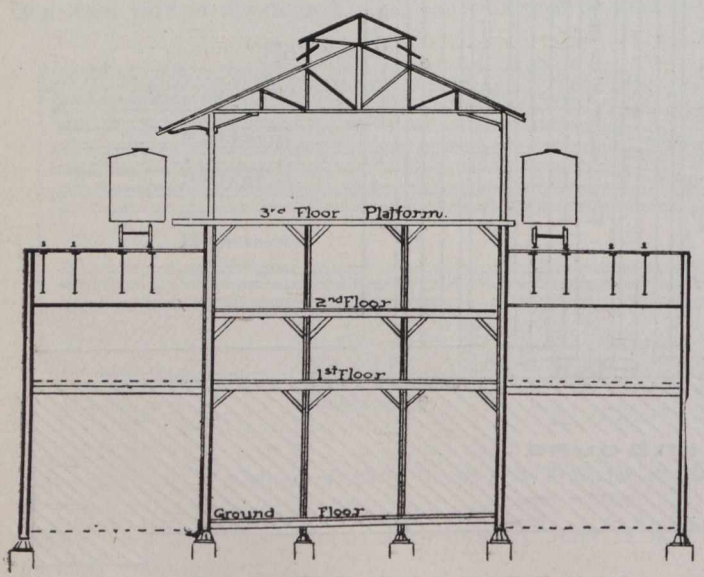


**Fig. 6.—Cross Section Wabash Freight Terminal, Pittsburgh, Pa.**

The ground floor is used for delivering and receiving freight and is paved with asphalt. The first and second floors are used for storage and are divided up into a number of warerooms, which are rented for the convenience of shippers. The third floor is that upon which is situated the platform for loading and unloading the freight from the cars. Five large high-power elevators are provided for handling the freight between the different stories.

Still another type is that of the Wisconsin Central in Minneapolis. This house is 417 feet long and varies from 66 feet 1 inch to 79 feet 7 inches wide. The tracks are below the street level, and all freight is handled on a 24-foot platform and outbound freight is brought in on a low level roadway direct to this platform, ten 6-ton scales being provided, one for each of the doorways. There are four 5-ton and one

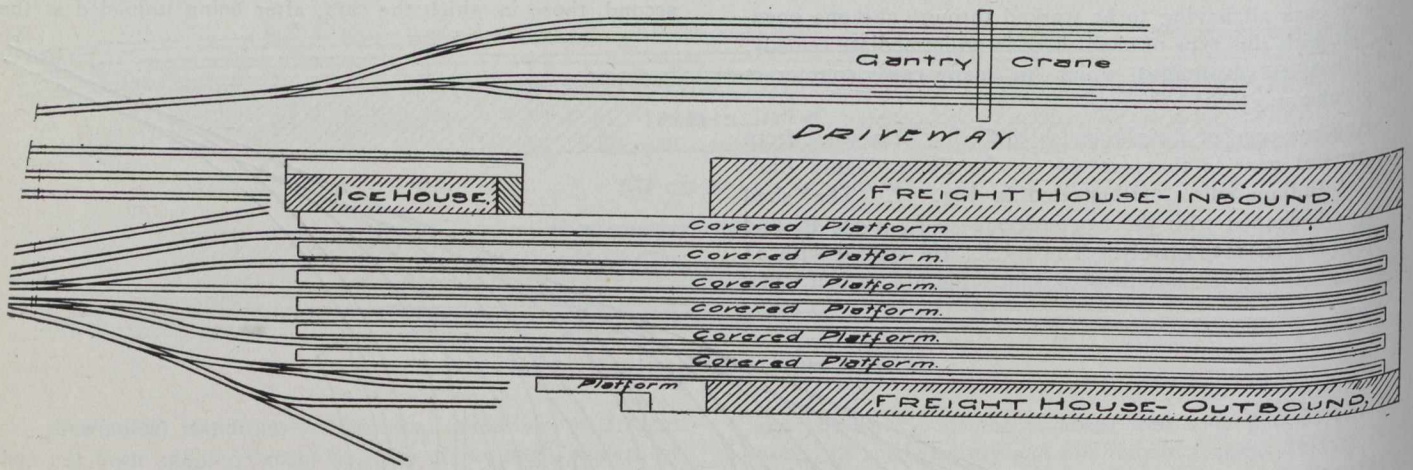


**Fig. 5.—Freight Shed, Lake Shore Railway, Toledo, Ohio.**

10-ton elevators for taking the inbound freight up to the street level, where it is stored or delivered to the teams. There are also two additional storage floors above this, the total storage area being 100,000 square feet.

In both these sheds the handling of the freight between the cars and teams and storage rooms is done entirely by hand trucking, but there are a number of sheds in which the freight is entirely handled by mechanical means, which will be described in connection with the mechanical handling plants.

**Mechanical Handling of Freight.**—At the present day there are very few plants in operation for the transference and general handling of package freight at terminals where large quantities of package freight are handled between cars and drays, but a great deal of attention has been paid to the subject within recent years, and there are quite a number of different methods from which one, or a combination of two or more, of these methods may be selected to meet the special requirements of any particular case. Quite a number of plants of different kinds have been installed at steamship piers and freight transfer stations and warehouses, but the conditions to be dealt with are usually quite different in these cases to those obtained at freight terminals for handling L.C.L. freight.

Now, before the subject can be dealt with in an intelligent way, the requirements, method of operating and all the local conditions have to be thoroughly understood. The old method of handling freight at the sheds required six operations for outbound freight and two to three for inbound, as follows:—

**Outbound Freight.**

(1) Checking and receipting freight at platform.
(2) Designating packages for proper cars.
(3) Moving the hand trucks to scales by one gang.
(4) Weighing.
(5) Trucking from scales to cars by another gang.
(6) Stowing in cars by third gang.