TRANSPORTATION DEPARTMENT'S OFFICE ACROSS FROM CARHOUSE

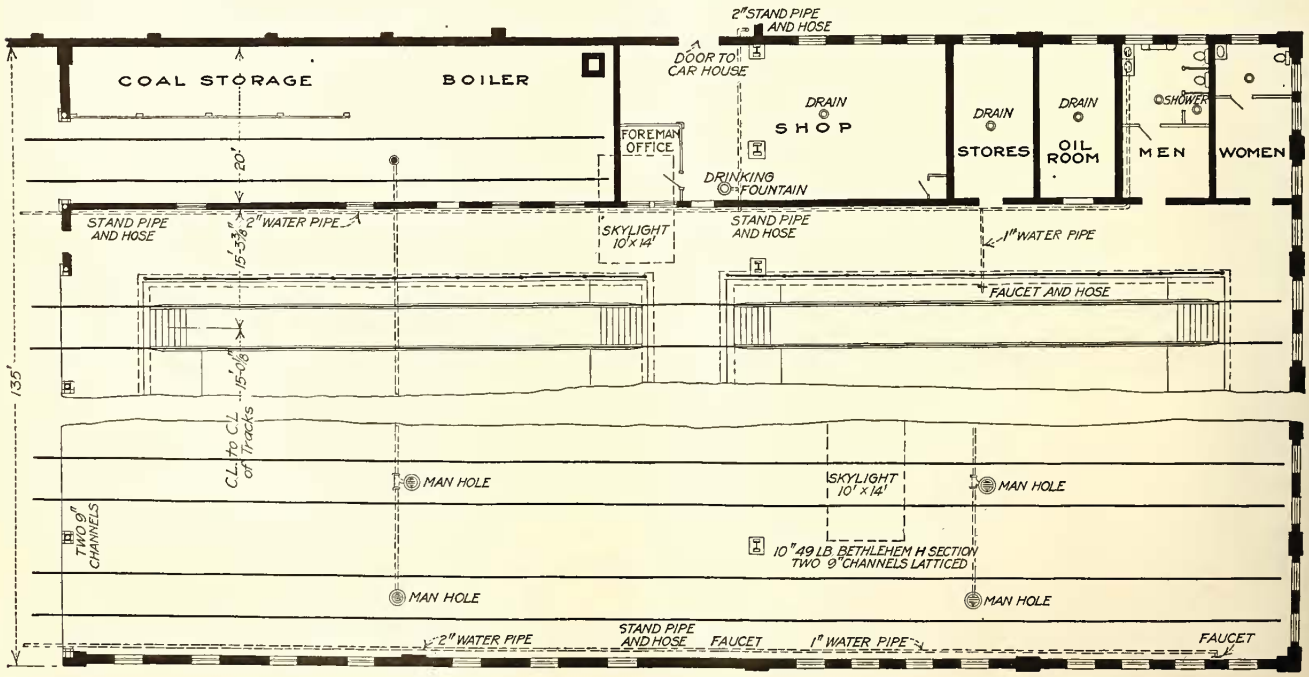
SIDE AND ENTRANCE TO CARHOUSE FROM CLEVELAND AVENUE

Columbus Inspection Shop Rebuilt As Unit, and Track Layout Improved

Inspection Shop and Track Changes at Milo Carhouse of the Columbus Railway, Power & Light Company—Car Movement Facilitated by Substituting Direct Connecting Tracks for Transfer Table

IN LINE with the present tendency among electric railways to arrange their carhouses and yards so that the handling of cars is facilitated and the most favorable and efficient working conditions are secured for making inspections and repairs, the Columbus Railway, Power & Light Company, Columbus, Ohio, has reconstructed and modernized its antiquated inspection shed at Milo. The track layout leading to this shop has also been improved. This property, which originally belonged to the Columbus Central Railroad, is the largest of the five carhouses of the present Columbus system, as nearly one-third of its transportation men work from this point. The buildings at Milo include a carhouse and an inspection shop, located as shown in one of the accompanying illustrations. The inspection shop adjoins the carhouse, about 200 ft. back from the street, and in front of the shop and switching tracks is a substation building which was formerly used for a power house.

The changes in track layout were made to give easier access to the inspection shop. The cars formerly pulled in over a track laid alongside the substation away from



FLOOR PLAN OF INSPECTION SHOP

ENTRANCE TO INSPECTION SHOP OVER NEW TRACK LAYOUT

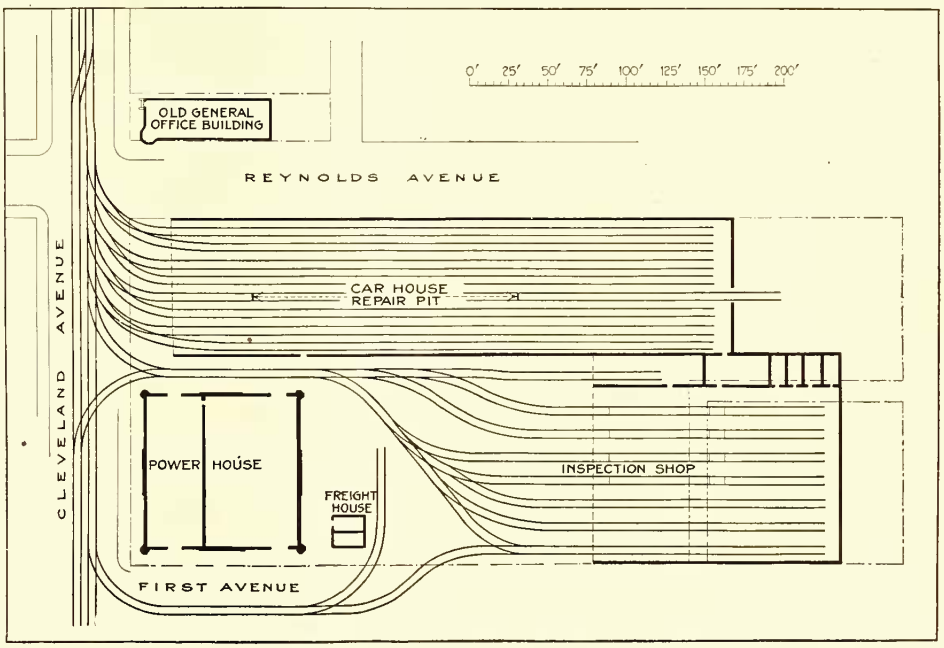
END AND PART OF ENTRANCE TO INSPECTION SHOP

the carhouse, and it had only one switch at the street. With the present layout the cars pull in from either direction over a new track laid between the carhouse and the substation and across the site of a building which adjoined the former and was used for the platform men's room.

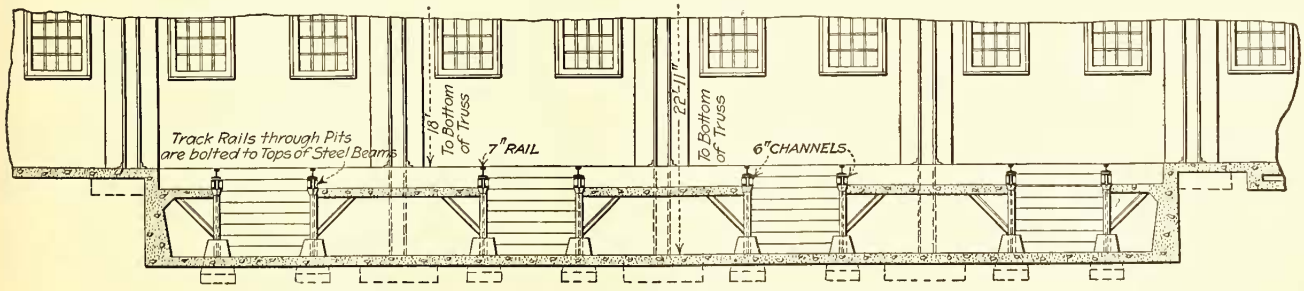
The principal building changes were made in the building now forming the inspection shop, which consists of two brick structures placed side by side. The common wall or partition, at right angles to the direction of the tracks, was replaced with a row of steel columns to support the roof, which was renewed. Sections of the front wall were also removed and steel columns with swinging doors were added to give a direct connection to all of the eight tracks entering the building. Previous to these changes a direct connection was provided for but three of the tracks, and in order to use the others it was necessary to shift the cars by means of a transfer table.

As seen from the accompanying layout, the inspection shop contains seven tracks running the entire length of the building, and several small rooms along one side. The track room is 160 ft. long and 135 ft. wide. Four tracks are constructed over pits for making inspections and repairs, and the remaining three tracks are used when cars are being washed. The entire floor is constructed of concrete, reinforced over the pits. A walk 10 ft. wide and on a level with the rail tops extends across the pits at the middle of the building.

The pit tracks are of open construction, built on short 8-in. I-beam columns, spaced 8 ft. 1½ in. apart. An 8½ ft. space between tracks gives ample room for workmen when repairing cars. Across this space is a 6-in. slab of concrete 13 in. below the top of the rails



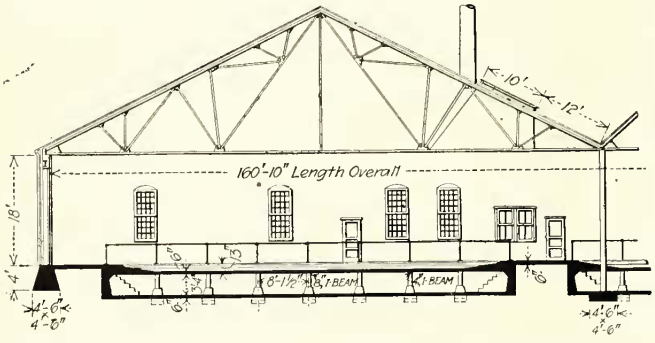
ARRANGEMENT OF BUILDINGS AT MILO AND PRESENT TRACK LAYOUT, COLUMBUS RAILWAY, POWER & LIGHT COMPANY



LONGITUDINAL SECTION THROUGH PITS IN INSPECTION SHOP

and held with 4-in. I-beams supported from the columns. At the ends these walks are ramped up to the tops of the rails. In the car-washing tracks the concrete is sloped to provide surface drainage.

A noteworthy feature of the arrangement of the smaller rooms along the side of the building is the location of a spacious boiler room and coal storage space, with a stub track on which fuel is brought into the building. There is also a hot-water heater in the boiler room for supplying water to the washrooms. One of the small rooms is used as a stockroom, one as a shop and one for oil storage. Special accommodations are provided for women, as it has been the practice of the



SECTIONAL ELEVATION OF INSPECTION SHOP, SHOWING PIT CONSTRUCTION

company for several years to employ them as car cleaners.

The remodelling of the inspection shop permitted the removal of a small shop in the main carhouse. The latter stood near the front of the building over one of the tracks, making it impracticable to use the rear portion of this track except for the storage of sweepers or other inactive equipment. With the maximum use of this track, the building now has a running capacity of about sixty-five cars.

Since the removal of the building containing the men's room to provide space for the pull-in track, as mentioned previously, the transportation foreman's office and quarters for the men are located in a two-story brick building just across the street from the main carhouse.

Pneumatic Tie Tamping Saves on Reconstruction

THE United Railroads of San Francisco recently tried out and adopted a pneumatic tie-tamping outfit which has been found to afford a saving in cost and labor. As careful records were kept of items entering into both hand and pneumatic tamping methods it has been possible to compare the two methods in detail.

The equipment used is an 8-in. by 6-in. Ingersoll-Rand ER-1 compressor which has a piston displacement of 94 cu.ft. per minute. This compressor, sufficient for the operation of four tools, is driven by a 20-hp. motor operated by connection between trolley and rail.

An average of seven jobs in which 2692 ft. of single track was ballasted with hand tamping gave the figures as to this cost given in Table I.

Based on the same wage conditions and on the same track, namely 6-in. by 8-in. ties, 8 ft. long on 2-ft. centers, the costs shown in Table II were found typical for pneumatic tamping. These figures being based on a crew of seven men and four tampers making 180 ft. of single track per day.

TABLE I—COSTS WITH HAND TAMPING

Labor	$0.257 per foot of single track
Tools, superintendence and overhead	0.017 per foot of single track
Total	$0.274 per foot of single track

Or $1,446.70 per mile.

Thus the saving effected by the pneumatic equipment amounts to about $686.40 per mile of single track. It is believed that a more compact roadbed can be secured by this method. Moreover, the fact that labor required is more than cut in half is considered a strong point in favor of the pneumatic method in times when the labor problem is acute.

TABLE II—COSTS WITH PNEUMATIC TAMPING

Labor, including moving	$0.117 per foot of single track
Current	0.011 per foot of single track
Maintenance, oils, superintendence and overhead	0.010 per foot of single track
Depreciation and interest	0.006 per foot of single track
Total	$0.144 per foot of single track

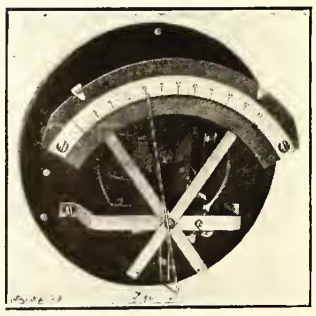
Or $760.30 per mile.

The work on the United Railroad properties is under the direction of B. P. Legare, chief engineer of maintenance of way and construction.

New Pressure-Governor for Gas and Liquid Systems

THE details of a new pressure governor for controlling selfstarters used with motor-operated compressors are shown in the accompanying illustration. A graduated pressure scale and indicating needle are used to indicate the pressure and as a guide in making adjustments.

The action of the governor is dependent on the Bourdon tube which is connected to an independent discharge pipe from the pressure tank. The free end of the tube is connected mechanically to the indicator needle referred to above. After the governor has been set to the pressure range desired, it will automatically maintain the pressure within those limits on any gas or liquid system, that will not corrode the Bourdon tube. It can be used on both a.c. and d.c. circuits, and will operate within settings of from 3 to 12 lb.



PRESSURE GOVERNOR WITH CASE REMOVED

The device is made by the General Electric company, in sizes for rated pressures of 60, 100, 160, 300 and 500 lb. Governors for higher pressures can also be supplied if desired. Adjustments of the cutting-in and cutting-out pressures are made by moving the pointers shown at the top of the graduated scale. The case is tapped and drilled at the bottom for the pressure pipe and for making the electrical conduit connections.