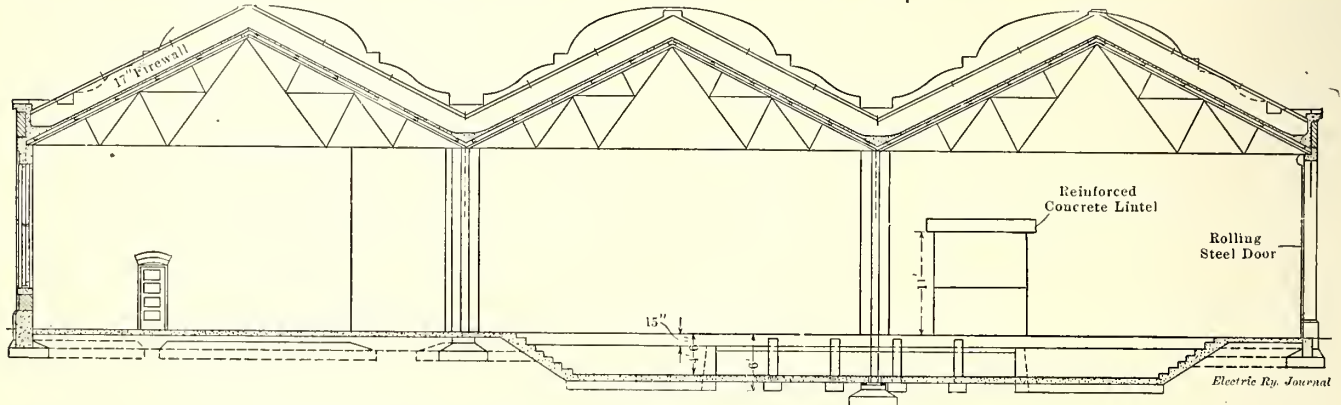


**NEW SHOPS OF UTAH LIGHT & RAILWAY COMPANY**

Since the control of the Utah Light & Railway Company passed to the Harriman interests about four years ago, some extensive construction and rehabilitation work has been carried on in connection with the company's railway property as well as its light and power departments. In the convention issue of the *ELECTRIC RAILWAY JOURNAL* for Oct. 2, 1909, an extensive account was given of the improvements completed and under

The new shops that are now nearing completion are located on the northwest quarter of the block, track connections being furnished by means of the ladder tracks leading from the west end of the car house to Fifth South Street, while the ladder on the east side of the grounds is connected by a spur leading to the east end of the transfer table pit. There are two principal shop buildings, the northerly one containing the storehouse, paint shop and carpenter shop. The southerly building contains the blacksmith shop and foundry and the machine shop. Between



**'Salt Lake Shops—Transverse Section—Machine Shop and Blacksmith Shop**

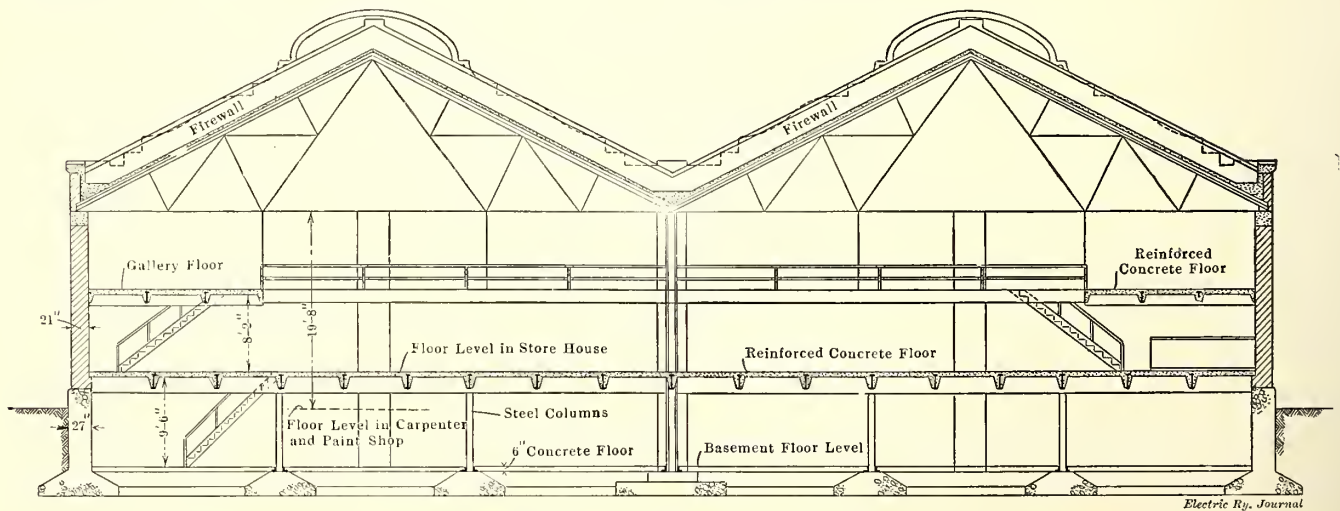
way at that time. The company's new car house under construction was then described, and this article has for its object some further reference to the car house and an account of the shops now being erected.

The site on which the car house and shop buildings stand consists of an entire city block located between Fifth South and Sixth South Streets and Sixth East and Seventh East Streets, a little over a mile southeast from the commercial center of the city. The block is 680 ft. square and has a general slope of 1 per cent toward the west, thus providing excellent drainage. The new car house, 430 ft. long x 229 ft. wide, is placed on the south half of the property, and, as previously described, is connected at both ends by tracks leading to the railway lines on Fifth South and Seventh East Streets. The architectural treatment is of the California Spanish Mission type, presenting a very pleasing appearance for so utilitarian a building.

the two buildings is the transfer table pit, 50 ft. wide and 288 ft. in length, extending beyond the buildings at either end. The table operates on four 40-lb. rails, placed 18 in. below the yard trackage on 12-in. concrete walls spaced 16 ft. 1 in. center to center. A 6-in. gravel fill covers the entire pit.

**CARPENTER SHOP**

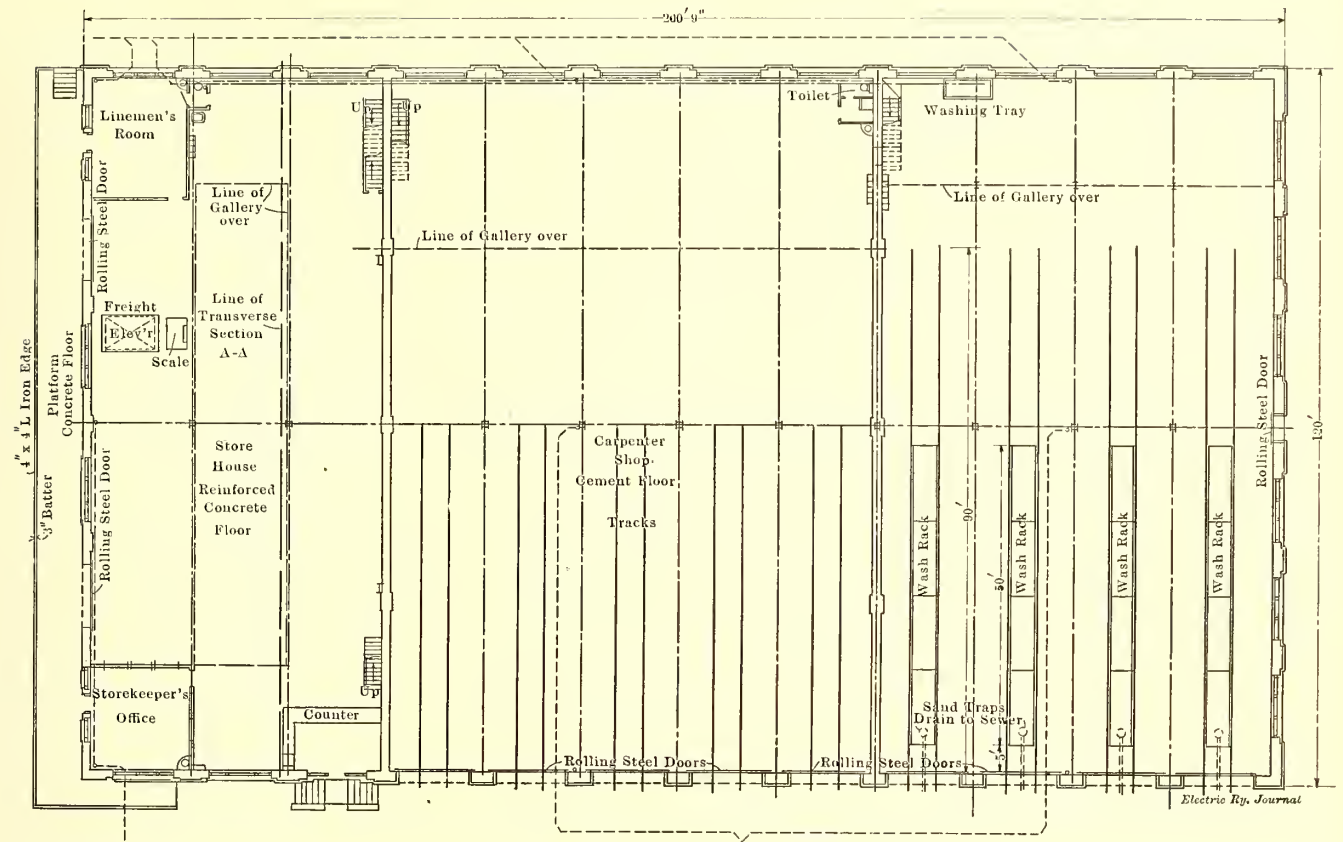
The carpenter shop building is 200 ft. 9 in. long x 120 ft. wide. The storehouse occupies 51 ft. 3 in. of the west end of the building, the paint shop 67 ft. 7½ in. of the east end and the carpenter shop the central portion, 81 ft. 10½ in., the length of each shop being the width of the building, 120 ft. The construction consists of 17-in. brick walls resting on 27-in. concrete foundation walls, with 21-in. brick pilasters carrying the steel trusses of the roof. The two division walls are of solid brick 17 in. thick, with no openings except one 3 ft. wide between the paint and carpenter shops, protected by means of a rolling steel door.



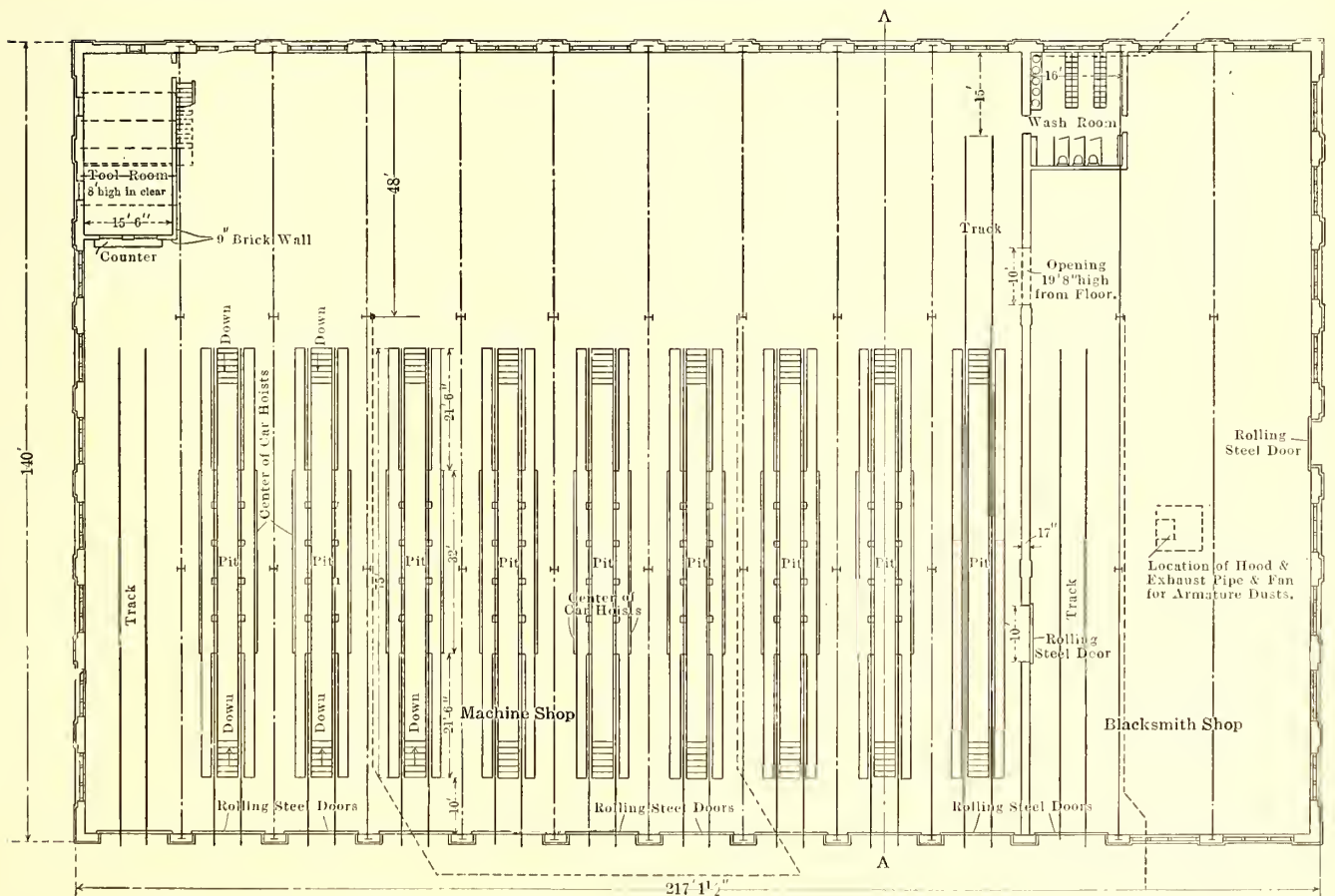
**Salt Lake Shops—Transverse Section—Carpenter Shop, Paint Shop and Storehouse**

A feature of this car house is the elaborate system of fire protection installed. For general protection purposes four sprinkler mains are run under the roof in each of the four bays, one directly over each track. There are also six lines of aisle sprinklers in each four-track bay, all supplied from a 50,000-gal. tank. The tracks at the west end of the car house are on grade, so that the cars can be run out by gravity if necessary. A low insurance rate has been obtained.

The storehouse has a gallery 16 ft. wide extending around all four sides, having a central court 15 ft. 11 in. high in the clear between floor and bottom of the roof trusses. In the southwest corner of the main floor, under the gallery, is partitioned off the storekeeper's office, 16 ft. square. In the northwest corner is the lineman's room, 16 ft. x 20 ft. The partition in each case is of metal lath with cement plaster. A basement 9 ft. 6 in. high under the floor shop is provided under the



Salt Lake Shops—Main Floor Plan of Carpenter Shop, Paint Shop and Storehouse

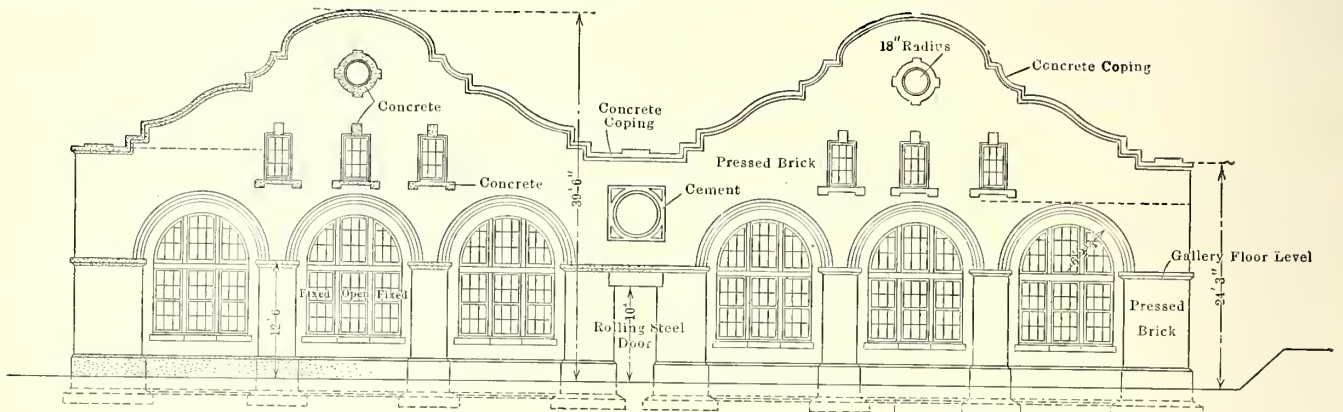


Salt Lake Shops—Floor Plan of Machine Shop and Blacksmith Shop



entire storehouse. All floors are of concrete and steel frame construction. Along the entire west side of the storehouse is an 8-ft. platform with concrete floor 3 ft. 9 in. above grade and level with the storehouse main floor. A track alongside the platform and also a wagon roadway permit ready unloading of

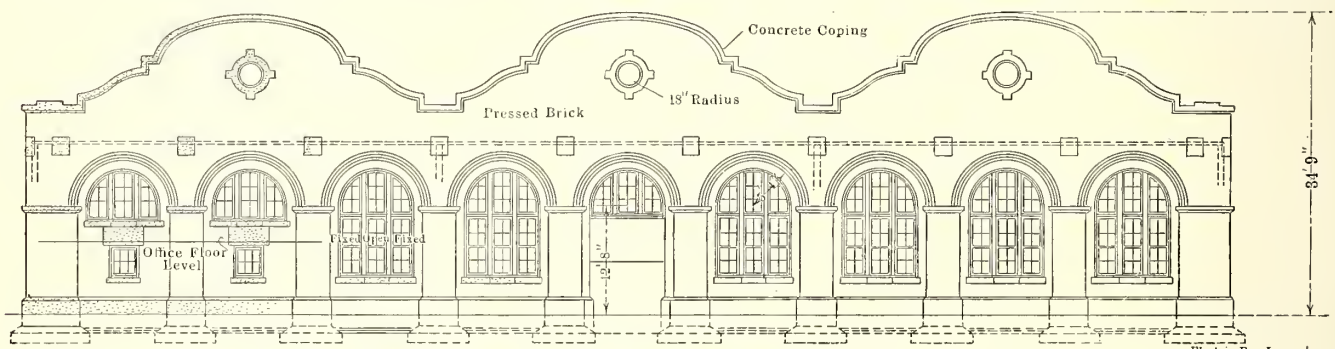
the shop, the remaining half of the room with a 28-ft. gallery over the northern end being left for woodworking machines, workbenches, etc. The four paint shop tracks are carried back 90 ft., each track having a wash rack grating installed in four removable sections 12 ft. 6 in. long. At the south end of each



Salt Lake Shops—East Elevation—Carpenter Shop, Paint Shop and Storehouse

supplies, while a runway to grade 5 ft. wide at the southwest corner of the building permits trucking of heavy stores from the storehouse. Entrance from the platform is afforded by two rolling steel doors 6 ft. 11 in. high and 10 ft. 6 in. wide.

track is an 18-in. sand trap with drain to sewer. Across the northern end of the paint shop extends an 18-ft. gallery. Each track opening is 12 ft. 4½ in. wide x 19 ft. high and is protected by a Kinnear steel rolling door. Both carpenter and



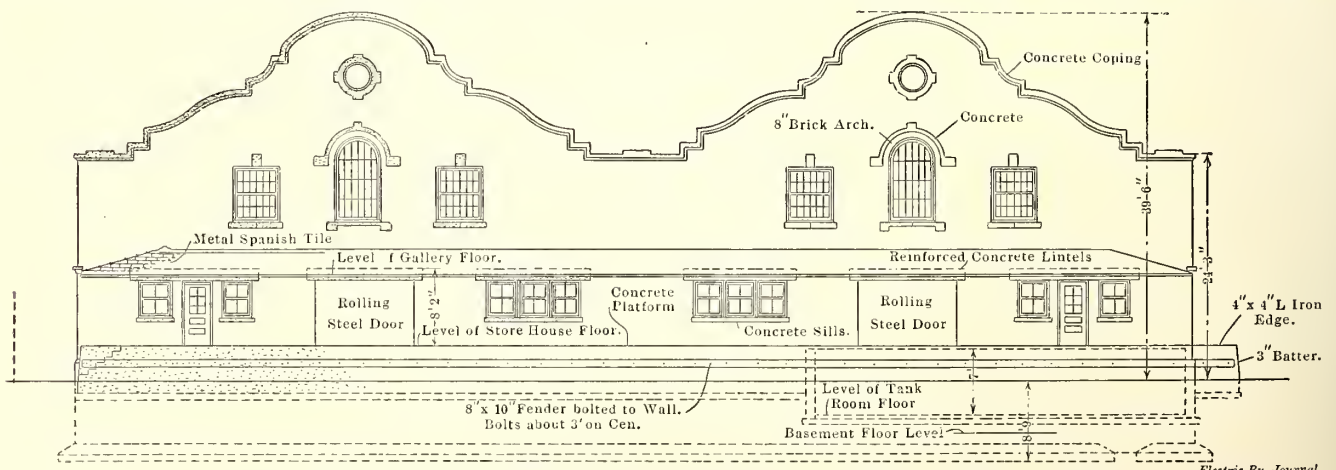
Salt Lake Shops—East Elevation—Machine Shop and Blacksmith Shop

An awning covered with metal Spanish tile covers the entire platform. As a protection from teams and trucking, the platform has a 4-in. x 4-in. angle-iron edge, and on the face of the platform wall, 22 in. above grade, is bolted an 8-in. x 10-in. fender. A freight elevator with platform 6 ft. x 8 ft. 6 in. serves the storehouse from basement to gallery. At the south-

paint shops have concrete floors, their elevation being at grade or 3 ft. 9 in. below that of the storehouse.

MACHINE AND BLACKSMITH SHOP

The machine and blacksmith shop building is 217 ft. 1½ in. long x 140 ft. wide. The western end, 51 ft. 3 in. x 140 ft., is given up to the blacksmith shop and foundry and has one



Salt Lake Shops—West Elevation—Carpenter Shop, Paint Shop and Storehouse

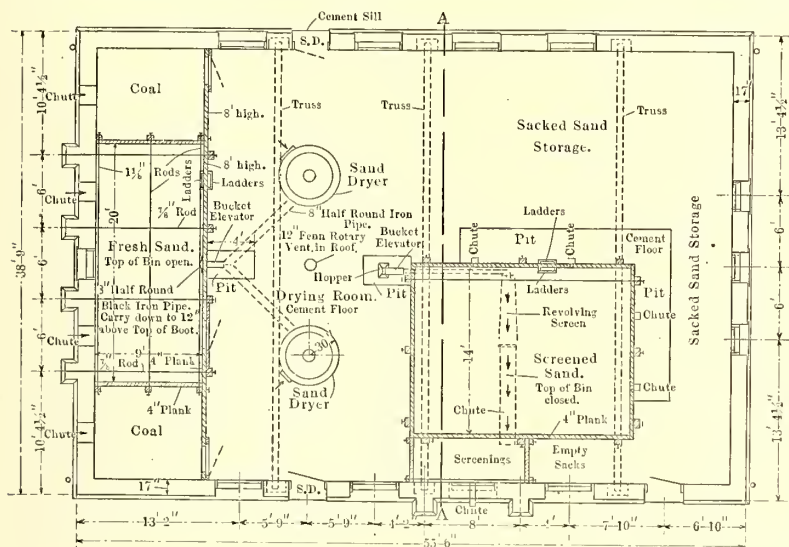
east corner of the storehouse are a counter and employees' entrance for dispensing stores and supplies.

The carpenter and paint shops are each provided with tracks connecting at the south end with the transfer pit. The five tracks of the carpenter shop are carried only to the center of

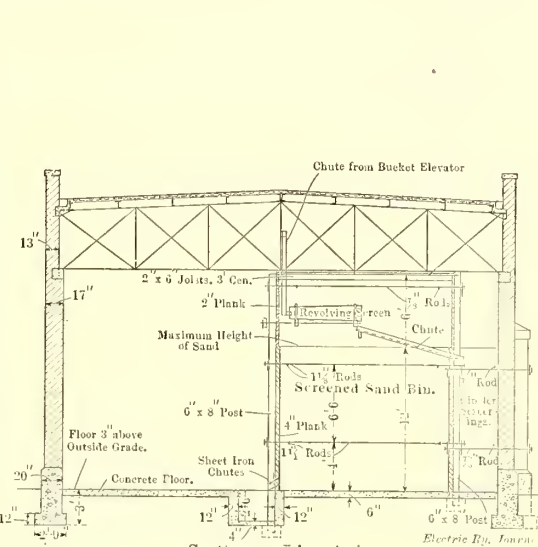
track extending back from the entrance a distance of 85 ft. Dividing this shop from the machine shop is a 17-in. brick fire wall, which has two 10-ft. openings, one being equipped with a rolling steel door. The machine shop is a single room 140 ft. x 165 ft. 10½ in. It has 10 tracks for the transfer pit, extend-

ing back a distance of 85 ft. from the entrances, with the exception of the one on the west end, which runs within 15 ft. of the rear wall. Nine of these tracks are provided with pits 75 ft. in length, eight of which have, midway between their ends, a 32-ft. car hoist. The hoisting members of the latter consist of

In the southeast corner of the machine shop is partitioned off a tool room 32 ft. long x 15 ft. 6 in. wide, an office for the master mechanic being located directly over. The entire southern side of the machine shop will be utilized for machine tools and machining operations.



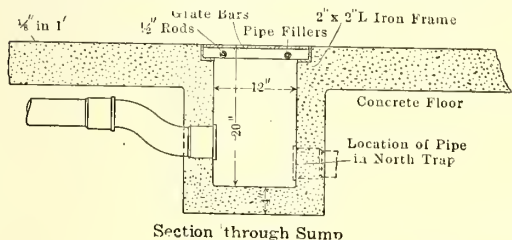
Salt Lake Shops—Plan of Sand House



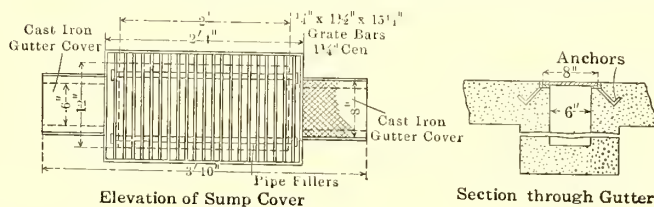
Section on Line A-A

12-in. I-beams, 31 1/2 lb. per foot, spaced 9 ft. 6 in. center to center. For the length of the hoists the space between pits is open, supports for the hoists being provided by 12-in. x 18-in.

ARCHITECTURE  
As in the case of the car house, the shop buildings are designed in the California Spanish Mission style. Red pressed



Section through Sump



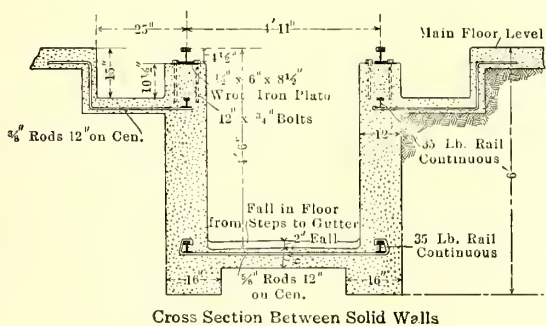
Elevation of Sump Cover

Section through Gutter

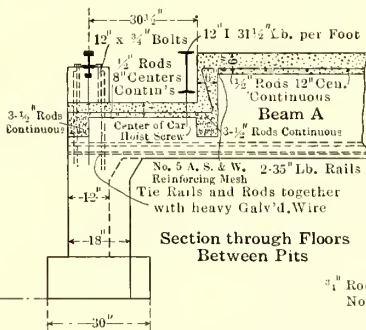
Salt Lake Shops—Details of Pits in Machine Shops

reinforced concrete posts and 30-in. x 12-in. cross beams, also of concrete. At the ends of the pits solid walls carry the track, the pits being 4 ft. 6 in. deep x 3 ft. 9 in. wide. Outside of

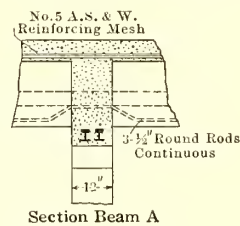
brick is used for the exterior with concrete lintels, sills and copings. The roofs are of 3-in. concrete slab covered with magnesia roofing, and are supported on steel trusses, which



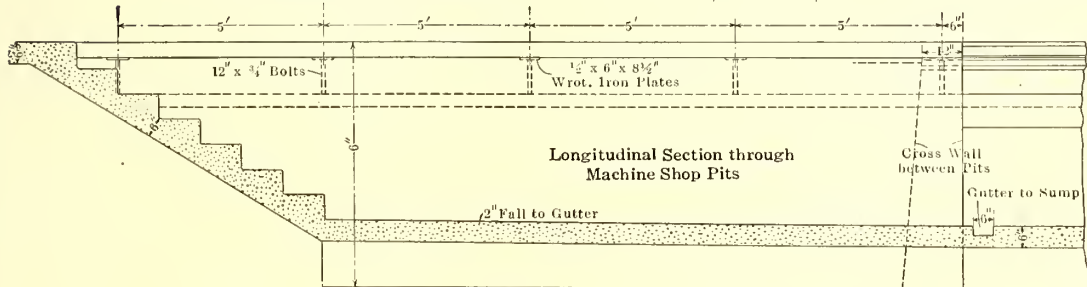
Cross Section Between Solid Walls



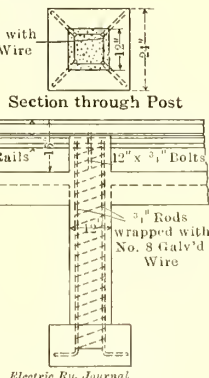
Section through Floors Between Pits



Section Beam A



Longitudinal Section through Machine Shop Pits



Section through Post

Salt Lake Shops—Details of Pits in Machine Shop

the tracks the pits are 21 in. wide x 15 in. deep. The floors of the pits drain to 6-in. gutters, which lead into a sump and sewer. A 6-in. concrete floor covers the entire machine shop.

divide the buildings into longitudinal bays, two in the case of the carpenter shop and three in the machine shop. In each building a clear height under the roof trusses of 19 ft. 8 in. is



provided. Special attention has been given in the case of the shops, as in the car house, to keeping the insurance risk down by providing fire walls, iron stairs, concrete floors and roofs, Kinnear steel rolling doors for all openings, metal lockers for the workmen, etc. The buildings are all heated from a central boiler house by means of a hot-water system built according to designs of Jesse C. Coogan, Milwaukee.

The company's monogram, cast in concrete, 6 ft. x 6 ft. in size, is set in the end walls of the buildings, adding to the general decorative treatment.

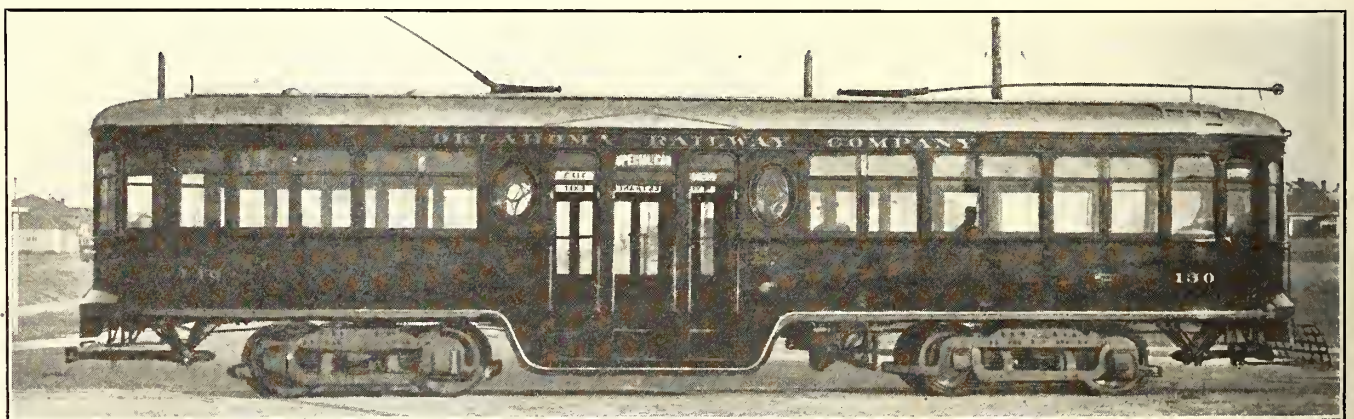
#### SAND HOUSE

Since the original plans for the car shops were drawn a very important addition has been made, consisting of a sand house, that is now nearing completion. This is located in a building by itself 55 ft. 6 in. long x 38 ft. 9 in. wide, located east of the machine shop and convenient to the car house. Fresh sand will be received at one end of the building in a 9-ft. x 20-ft. bin, from which it will be carried by means of a bucket elevator to two 8-in. half-round iron pipes that discharge into two 5-ft. diameter sand dryers located in the drying room. From the dryers the sand is fed by hand into a hopper and is taken by means of another bucket elevator to a chute which discharges into a revolving screen in the top of a 14-ft. x 18-ft. closed screened sand bin.

The revolving screen discharges the screenings onto a chute, from which they drop into a separate bin whence they can be removed outside the buildings by means of another chute. A maximum height of 12 ft. is provided for the screened sand, so that a capacity of over 3000 cu. ft. is thus obtained. Sand is drawn from the bin by means of four chutes and is sacked and stored until needed. The storage for sacked sand will take care of over 6000 cu. ft.

#### EMERGENCY LIGHTING FOR INTERURBAN RAILWAY ROLLING STOCK

A point in the lighting of interurban railway cars which has received little attention is that of providing an emergency car-lighting service. It is decidedly annoying to have the entire car in darkness every time a gap in the third rail or overhead conductor is passed, when going over crossings and switches or through short tunnels in the daytime. A storage battery offers a very simple means of overcoming this trouble. The



Center-Vestibule Car—Side View of One of the Ten Steel Passenger Cars Recently Placed in Service by the Oklahoma Railway

practice of one of the best high-speed lines in the East is to have one lamp in each of the five car clusters always in circuit with a storage battery. Even when the main-line current is cut off for an appreciable period, these battery lamps continue to burn, so that a car is never plunged into darkness. An emergency car-lighting system of this kind undoubtedly avoids many occasions for alarm on the part of nervous passengers. It can also prove very effective in minimizing the danger of an accident when, for one reason or another, the regular power supply has suffered interruption.

#### CENTER-VESTIBULE STEEL CARS FOR THE OKLAHOMA RAILWAY COMPANY

No better evidence could be presented of the rapid yet substantial growth of Oklahoma and the progressiveness of its electric traction companies than the decision of the Oklahoma Railway Company to use steel cars for its long-haul city and suburban service. The cars operated are of the prepay-



Center-Vestibule Car—End-On View of Car in Operation

ment center entrance and exit type and therefore no platforms are used. Ten of these cars have been constructed by the Niles Car Company in accordance with the design made by the engineering department of the Oklahoma Railway Company under the direction of W. A. Haller, former general manager. The first car of this type was placed in operation on Nov. 18 and proved an unqualified success as a prepayment car. The traveling public willingly co-operated in the introduction of the prepayment feature.

The principal purpose in adopting a steel car of this type was to attain the minimum dead weight per passenger consistent with strength. The latest gasoline-electric car built by the General Electric Company was considered so excellent an example of a light-weight design that it was used as a model with such modifications as were necessary to adapt it for use as a steel center-vestibule car for street railway service. The result is a car which, while seating 54 people, weighs only 53,000 lb., or 981 lb. per passenger. The value of this light weight is apparent from the designer's estimate that the sav-



# Electric Railway Journal

A CONSOLIDATION OF

Street Railway Journal and Electric Railway Review

Vol. XXXVI.

NEW YORK, SATURDAY, DECEMBER 10, 1910

No. 24

PUBLISHED WEEKLY BY

**McGraw Publishing Company**

239 WEST THIRTY-NINTH STREET, NEW YORK

JAMES H. MCGRAW, President.

HUGH M. WILSON, 1st Vice-President. A. E. CLIFFORD, 2d Vice-President.

CURTIS E. WHITTLESEY, Secretary and Treasurer.

TELEPHONE CALL: 4700 BRYANT. CABLE ADDRESS: STRYJOURN, NEW YORK.

HENRY W. BLAKE, Editor.

L. E. GOULD, Western Editor.

Associate Editors:

RODNEY HITT, FREDERIC NICHOLAS, WALTER JACKSON.

News Editors:

G. J. MACMURRAY, FRANK J. ARMEIT.

CHICAGO OFFICE.....1570 Old Colony Building  
CLEVELAND OFFICE.....1015 Schofield Building  
PHILADELPHIA OFFICE.....Real Estate Trust Building  
EUROPEAN OFFICE....Hastings House, Norfolk St., Strand, London, Eng.

#### TERMS OF SUBSCRIPTION:

For 52 weekly issues, and daily convention issues published from time to time in New York City or elsewhere: United States, Cuba and Mexico, \$3.00 per year; Canada, \$4.50 per year; all other countries, \$6.00 per year. Single copies, 10 cents. Foreign subscriptions may be sent to our European office.

Requests for changes of address should be made one week in advance, giving *old* as well as new address. Date on wrapper indicates the month at the end of which subscription expires.

#### NOTICE TO ADVERTISERS.

Changes of advertising copy should reach this office ten days in advance of date of issue. New advertisements will be accepted up to Tuesday noon of the week of issue.

Copyright, 1910, by MCGRAW PUBLISHING COMPANY.

Entered as second-class matter at the post office at New York, N. Y.

*Of this issue of the ELECTRIC RAILWAY JOURNAL 8500 copies are printed.*

NEW YORK, SATURDAY, DECEMBER 10, 1910.

#### CONTENTS.

Reviewing National Convention Reports at a State Meeting.....	1135
Through Rates and Joint Routes in New York City.....	1135
The Result of a Track Improvement.....	1136
A Greater Subway System.....	1136
Lessons from Recent Battery Car Design.....	1136
The Inducements to Capital Fifty Years Ago.....	1137
New Shops of Utah Light & Railway Company.....	1138
Emergency Lighting for Interurban Railway Rolling Stock.....	1142
Center Vestibule Steel Cars for the Oklahoma Railway.....	1142
Railway Power Supply by Central Stations.....	1144
Dayton Meeting of Central Electric Railway Association.....	1145
Improved Truck Brake Rigging.....	1148
City Electric Railways and Their Relations to the Public.....	1148
Report of Committee on Traffic and Tariffs.....	1149
Synopsis of Report of the Committee on Way Matters.....	1150
Discussion on Report of the Committee on Way Matters.....	1151
Hearing on Service in Subways in New York.....	1152
Training of Transportation Employees.....	1153
Allowance for Obsolescence Upheld in Franchise Tax Case.....	1154
Center Vestibule Steel Trailers for Pittsburgh.....	1155
Hearing Before Interstate Commission on Steam Electric Interchange.....	1155
Hearing on Service of New York & Queens County Railway.....	1155
Another Subway Proposal in New York.....	1156
Discussion of the Report of the Committee on Equipment.....	1158
Training of Transportation Employees.....	1159
Report of Committee on the Meaning of "Center-Bearing".....	1160
Quarterly Meeting of the Street Railway Association of the State of New York.....	1160
News of Electric Railways.....	1168
Financial and Corporate.....	1169
Traffic and Transportation.....	1171
Personal Mention.....	1174
Construction News.....	1175
Manufactures and Supplies.....	1177

#### Reviewing National Convention Reports at a State Meeting

A commendable feature of the quarterly meeting of the Street Railway Association of the State of New York held this week in Syracuse was the review of several reports made by committees at the last convention of the American Electric Railway Association. Thus Mr. French contributed an excellent synopsis of the report of the committee on way matters, Mr. Schreiber presented some interesting comments on certain points brought up in the same report, while Mr. Harvie discussed the work of the Engineering Association's committee on car equipment. The talks on the training of transportation employees also had a close bearing on the work done along this line of endeavor at Atlantic City in 1910. Those who are familiar with the hurly-burly inseparable from a big convention will appreciate how much more can be got out of the papers and reports there presented if they can be reviewed in the more informal surroundings of a local association meeting. This practice has the further merit of bringing out the sentiments of many important operators who could not attend the national convention, so that the different committee members are made better acquainted with the general trend of opinion on the subject which has been assigned to them.

#### Through Rates and Joint Routes in New York City

The acceptance by the receivers of the Metropolitan Street Railway of the terms of the order requiring the company to exchange transfers with the Fifty-ninth Street crosstown line indicates their desire to meet a public need in a liberal spirit. The concession is mainly one of principle. No one can seriously claim that the 8-cent and the 10-cent fare to be charged for a ride, with one or two transfers respectively, over the lines of the Metropolitan Street Railway and of the Central Park, North & East River Railroad is not an adequate charge compared with the rate paid on other parts of the Metropolitan system. At the same time we can easily realize that the number of the abuses practised with the present transfer system and the loss to the company which has followed its extension and illegitimate use have made the management dread the establishment of new transfer points. Another serious problem is the proper division of the fare. Should it be shared equally, or should it be divided according to the average distance traveled per passenger on the joint transfer? These questions have an important bearing on future arrangements of the same kind. But it is equally true that the order sets the precedent of a charge for transfers, and of a still higher charge for a double transfer. If the public becomes used to paying for the privilege of changing cars at Fifty-ninth Street it will not seem so strange to make the same payment for the extra service rendered when one changes cars at Twenty-third Street, or at Fourteenth Street, or at any other junction point.