

HARRY HILDEBRAND, General Superintendent.

Copyright 1938

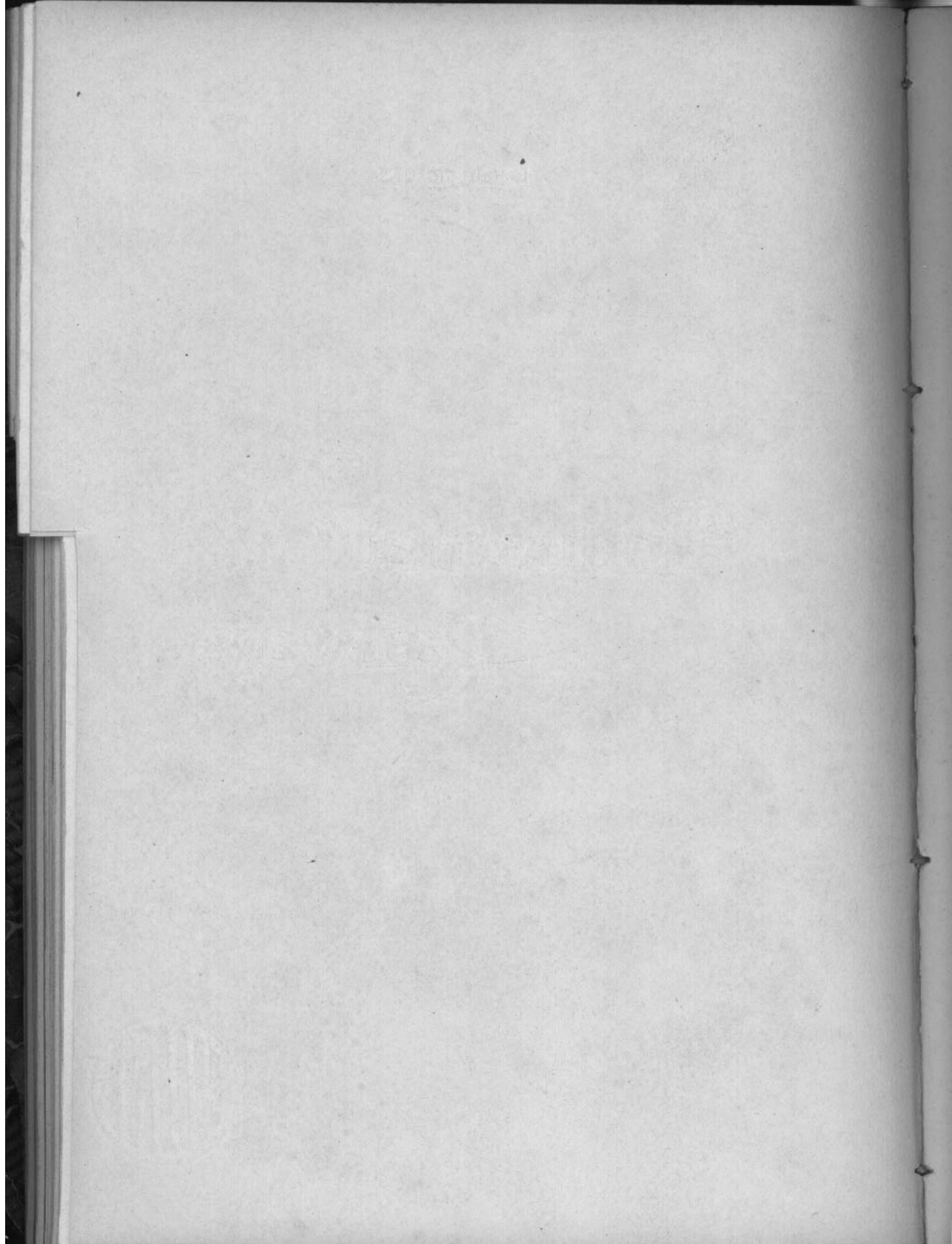
“Industrial”
Railway

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CATALOGUE 038

NARROW GAUGE RAILWAY

MADE BY THE C. W. HUNT COMPANY AND SOLD UNDER
THE TRADE NAME OF

“INDUSTRIAL”

The word “INDUSTRIAL” was registered in the U. S. Patent Office in 1893, by C. W. Hunt Company, as a trade mark for its railway material and equipment. It is unlawful to sell or offer for sale any imitative railway material or equipment whether it contains a label or not, or to affix or to apply to such material, either by means of writing, printing or word of mouth, any word resembling this Trade Mark.

A manufacturer who needs a railway for handling material is immediately confronted by such questions as :

What gauge is the best for this purpose ?

What radius curves should be used ?

How heavy should the rail be ?

What style of cars will be best ?

What kind of cross-ties should be used ?

How shall the switches and crossings be made ?

Can turntables be avoided ?

Can a locomotive be used ?

And so on, until it looks as though he would have to abandon his regular business to decide these details.

This system of railways answers these questions, and furnishes without trouble, delay or expense the results arrived at by those who have given the subject careful consideration for many years, both as builders and users of this class of machinery. These railways offer conveniences and advantages that cannot be obtained in any other manner. One man will carry a loaded car to any point in the works. The track comes made up in sections all ready, and when laid the gauge is correct, switches and frogs right, and further attention is not required.

The cars run as easily around curves of twelve feet radius as a wagon turns a corner.

The ease of running on curves, the safety from derailment, the rapidity of operation, are all advantages that will be appreciated by every one who has had experience with ordinary rigid wheel base cars, and more than justify the cost of radial axles, spring supported bodies, and a perfect construction of the curves and switches.

C. W. HUNT COMPANY

ESTABLISHED 1872

HEAD OFFICE AND WORKS :

WEST NEW BRIGHTON, STATEN ISLAND, N. Y.

CITY OFFICE : 45 BROADWAY, NEW YORK

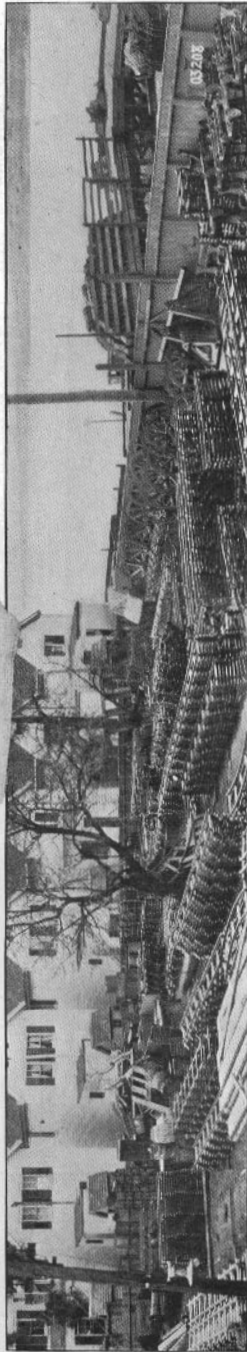
CABLE ADDRESS : “COALSHOVEL, NEWYORK”

CODES : {
“A 1”
“A B C, 4TH AND 5TH EDITIONS”
“LIEBERS”
“WESTERN UNION”

038

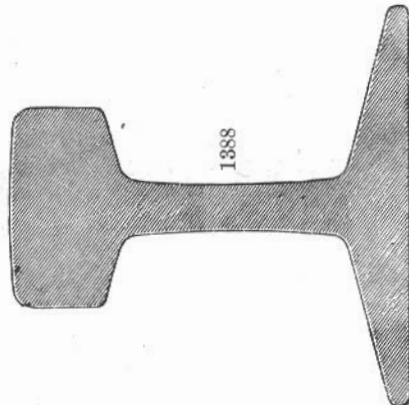
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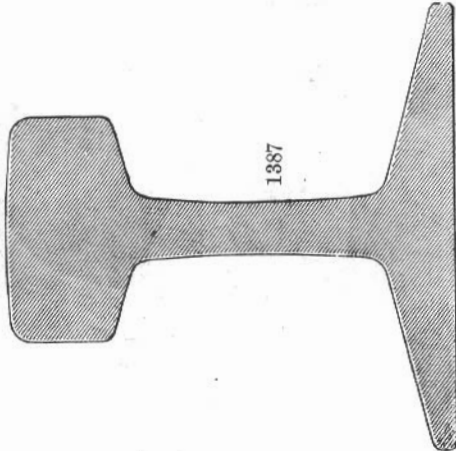
No. 05208

A full stock of all sizes of made-up track, switches and crossings is kept on hand, ready for immediate delivery



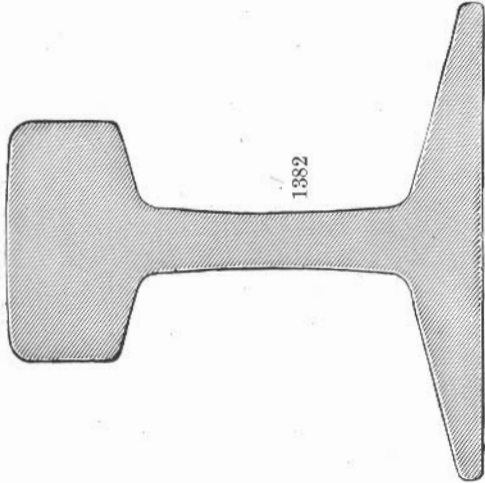
No. 12 Rail

The load on a four-wheel car should not usually exceed three tons on a track laid with this size rail.



No. 16 Rail

The load on a four-wheel car should not usually exceed five tons on a track laid with this size rail.



No. 20 Rail

The load on a four-wheel car should not usually exceed eight tons on a track laid with this size rail.

Full Sized Sections of Hunt "Industrial" Rails.

HUNT "INDUSTRIAL" RAILWAY

Railway is a Tool A system of cars and tracks in a manufacturing establishment is as much an "implement" as a "lathe", a "screw machine", a "planer", or a "loom", and should be judged in the same way; that is, the saving effected in labor, the increased efficiencies of other machines, or of the whole works, and the general convenience must be balanced against the interest on the investment and expense of maintenance.

An Investment Suppose a system of tracks in a manufacturing establishment would save the wages of a boy at fifty cents per day, this saving of \$150 per year would pay ten per cent. interest on an investment of \$1,000. One can scarcely imagine a place where so large an investment could be made for a system of tracks and cars, and no greater saving result.

Price It may be assumed that manufacturers of good commercial standing each ask a fair and reasonable price for articles of their manufacture. If a different price is asked for an article of the same name, in every case it will be found that the articles are in reality different in some features, although having the same commercial name.

Quality To illustrate this by an example familiar to all, take the case of a Waltham and a Waterbury watch. They are about the same size and appearance, each keeps time and will fill the conditions found in the current engineering specifications, such as: "All material used throughout this construction shall be of the best of its kind for the purpose"; "The workmanship and finish shall be equal to the best practice", etc., etc. Every one knows that the two watches are quite different articles, one selling at several times the price of that of the other, although each watch is really made of the best quality of materials for the purpose, and the workmanship is the best that each manufacturer is capable of doing with their designs, their shops and their workmen.

The Best vs. This illustrates the well known, but frequently forgotten fact that the "best" of one manufacturer is not the same as the best of another maker.

The Best The British Admiralty protect their interests by receiving bids only from firms of recognized financial and commercial standing, who have had their names placed on the Admiralty list by submitting evidence of their having suitable shops, equipment and experience to do the class and quality of work called for. The individual purchaser of machinery may not have a similar list, but he has the same problem to solve in every purchase.

C. W. HUNT COMPANY, NEW YORK

Space Saved Freight cars of 4 feet 8½ inches gauge are usually 8 feet 6 inches wide, and a space of not less than 9 feet 6 inches wide must be left for their passage through the works. The tops of our "Industrial" Railway cars are 33 inches wide, but a clear space of 4 feet is usually left for the passage of the car and its load. If we estimate that the length of a track inside of a building is 300 feet, the Standard 4 feet 8½ inches gauge track occupies 2,850 square feet of floor area in the shops, while the same length of "Industrial" Railway track at most occupies only 1,200 square feet. The value of this space in the first cost of foundations, floors and roof to cover the ground occupied by these tracks, cannot be estimated at less than \$1.50 per square foot. The cost of the extra and wasted space in the buildings occupied by the broad gauge railway would be \$2,475, or over \$8.25 per lineal foot of track. This is more than three times the whole cost of "Industrial" Railway tracks, including the switches and cars complete.

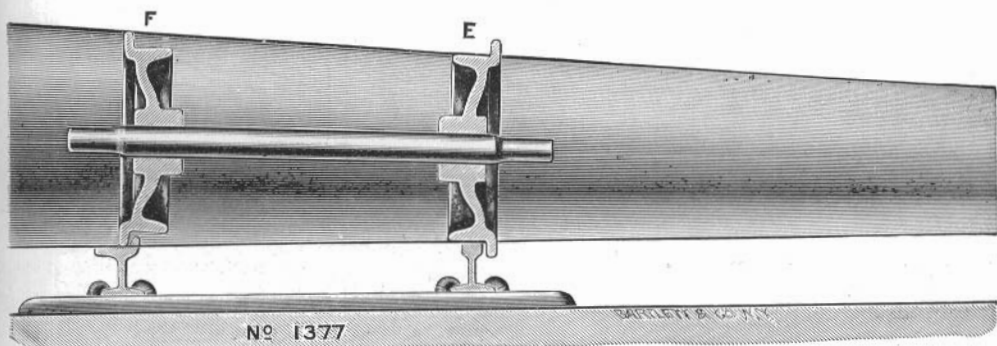
Load Carried In determining the gauge and the radius of the curves most suitable for a railway of this character, it is necessary to take into consideration, not a few, but all of the circumstances under which it is to be used. A brief consideration will show that the load which can be carried on a railway depends, not upon the gauge, but upon the strength of the track; consequently whatever strength is needed to carry a certain load can be obtained with a narrow gauge as well as with the Standard 4 feet 8½ inches gauge.

Narrow Gauge For the purpose for which this system of railways was designed, a narrow gauge is an absolute necessity. As to the exact gauge that should be used, opinions may differ, but from the experience gained in building and using railways of this character for many years, we believe that, if our gauge is not the ideal one, it is very near it. *In all of the railways that we have built, we have never had a user of them even suggest that a broader gauge would be better for any purpose.*

Cheapest Construction The standard gauge of the Hunt tracks is 21½ inches, measured from out to out of the rail heads. The rail is hot riveted to the cross tie by 6 rivets, half-inch in diameter. The rivets never come loose. It is incomparably better than bolts. The tie projects beyond the rail at each end to give a firm support to the rail. While no expense has been spared in making up this track in the strongest manner for the most durable permanent way, the cost when laid in position ready for use is usually less than when wooden cross ties are used. The cost of the wooden cross ties, the expense of laying them in position, spiking the track, leveling and making the gauge exactly right, will generally exceed the cost of track made up with steel cross ties. The riveted track is superior in every respect. The simplicity and rapidity of laying is another advantage, as it can be laid by any intelligent workman without difficulty, and when laid the gauge is correct, the switches and frogs are right, and suitable ballast will make it a perfect and durable track.

**Flexible
Wheel Base
Cars**

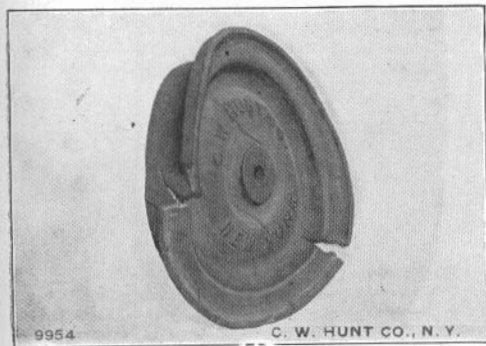
Our cars have a flexible wheel base, the axles taking a radial position on a curve, the wheels and the radius of the curve being so proportioned that there is no slipping on the rails to cause a waste of energy in friction. The principle on which these cars turn a curve is illustrated in cut No. 1377. A cylinder rolls on a plane in a straight line, without sliding friction; a cone also rolls without sliding friction on a plane, but in a circular direction. If a pair of wheels rigidly fixed on an axle running on a curve have the same diameter as the cone would have at each rail, they are virtually portions of the cone, and the wheels would run around the curve without sliding friction, the axles taking a radial position.



No. 1377

**Outside
Flanges**

It is for this reason, viz.: the ease of running on curves, that we build our cars with outside flanged wheels. On a straight track it is immaterial whether the flanges are inside or outside. This variation from ordinary railroad practice makes no difference whatever in the operation of the cars or the general construction of the railway, except that the curves, switches and frogs must be especially arranged to suit wheels with outside flanges.



No. 9954

TWELVE-INCH DIAMETER STEEL WHEEL, USED ON OUR ONE-TON "INDUSTRIAL" CARS. TESTED BY TWO BLOWS OF A DROP WEIGHT, 2,190 POUNDS, FALLING TWENTY FEET

**Radial
Axles**

In applying these principles, we make the outer rail around the curve of a special form for the wheel to run on the flange instead of on the tread. The axle bearings are pivoted in the center, between the wheels, permitting them to take a radial position.

**Design of
the Cars**

Each size of these cars has been carefully proportioned in every part for the load it will have to carry, so that a workman is not pushing a dead load, or using a car that is liable to fail at a critical moment.

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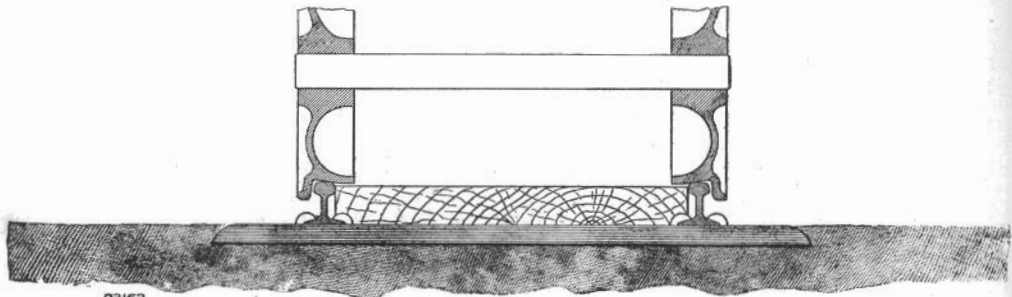
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C. W. HUNT COMPANY, NEW YORK

The illustrations here given show various methods of laying the track.

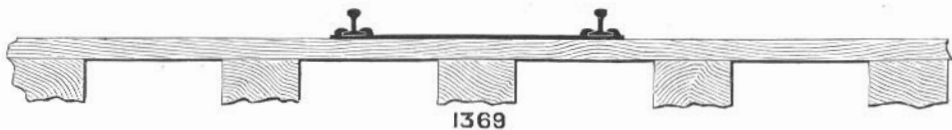


No. 1288



No. 03163

The space between the rails can be filled in with plank, making a cleanly and elastic walk for the workman in foundries and shops. The flange of the wheels being on the outside of the rails, there is no groove to be filled up with sand or dirt.



Track can be made up to order with flat cross-ties instead of the regular cup-tie.



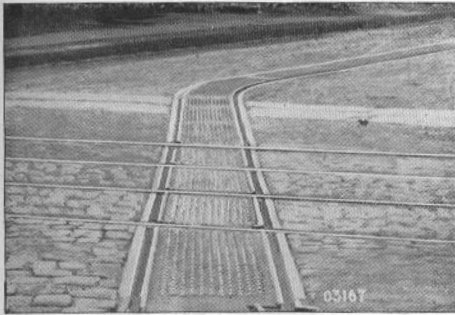
No. 03164



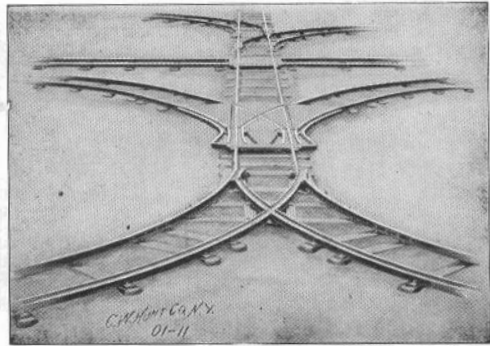
No. 03165

For convenience in using hand trucks, workshop floors may have a beveled plank on each side of the track.

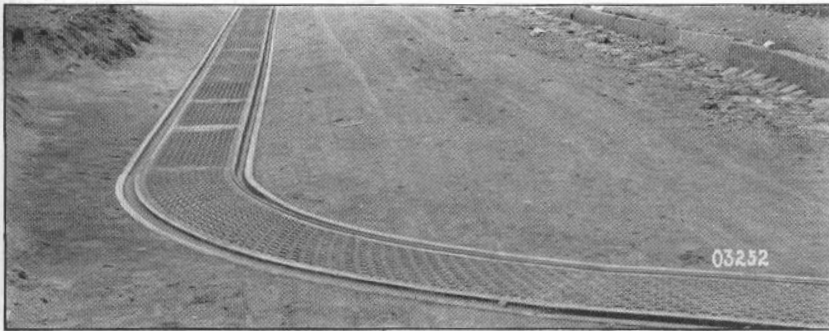
"INDUSTRIAL" RAILWAY



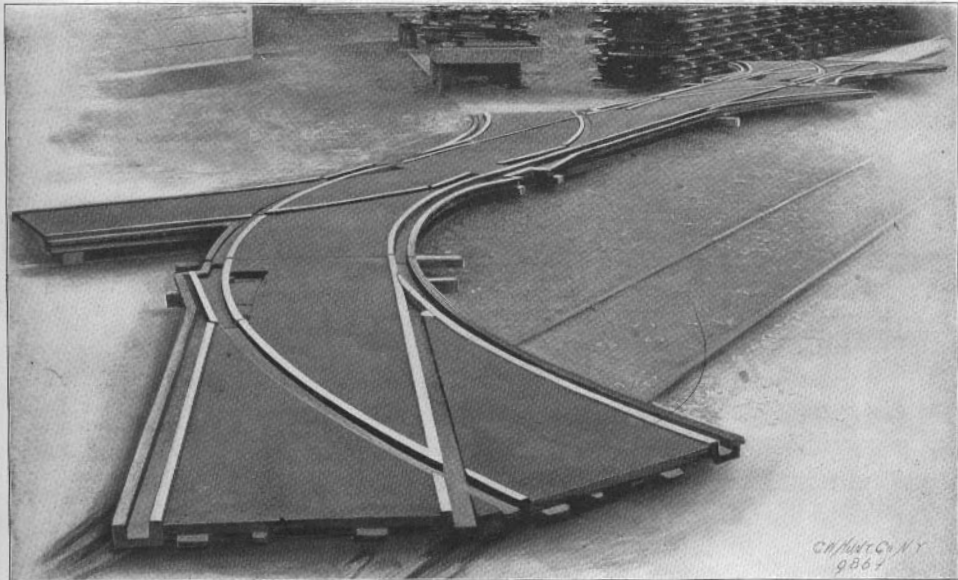
No. 03167
"INDUSTRIAL" RAILWAY CROSSING ELECTRIC
STREET CAR TRACKS



No. 0111
MADE-UP STEEL RAIL WITH CROSS-TIES



No. 03252
CAST-PLATE TRACK IN THE CENTER OF A STREET, SHOWING THE PROJECTIONS, BY WHICH A GOOD FOOT-
HOLD FOR DRAUGHT HORSES IS SECURED



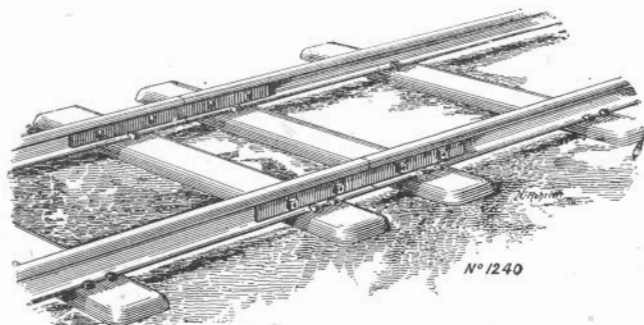
No. 9864
PORTION OF CAST-PLATE TRACK, AND SWITCHES, FITTED TOGETHER BEFORE SHIPMENT

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STRAIGHT TRACK

ROLLED RAIL IN 20 FT. SECTIONS

KEPT IN STOCK FOR IMMEDIATE DELIVERY



No. 1240

We keep on hand, ready for immediate shipment, a large stock of track, together with standard switches, curves, crossings and turntables.

The standard rolled steel track for these railways is made up in sections 20 feet long, firmly riveted to steel cross-ties, and fitted with 4-bolt fish plates. The cross-ties are spaced $24\frac{1}{2}$ inches apart, with the end ties placed near the ends of the rails, which bring two ties close together at the joint, giving the greatest support where the track is weakest. This support, in combination with the 4-bolt fish plates, makes an unusually firm track. The cross-ties are of steel, flanged to a cup form, which give not only the necessary strength, but they take a firm hold of the ballast. These ties have a large bearing surface on the foundation to support the load, the area in proportion to the load being about double that on the best constructed railways of 4 feet $8\frac{1}{2}$ inches gauge.

The flanges of the wheels being on the outside of the rails, the space between the rails can be filled with ballast, which not only holds the track in alignment, but makes a dry and convenient walk. Planking instead of ballast is frequently used.

PRICE LIST

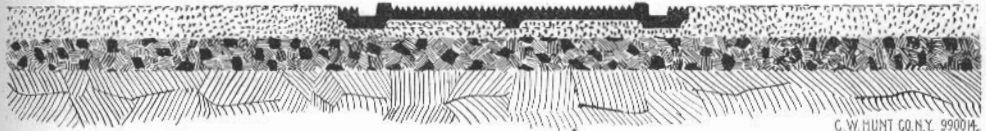
STANDARD STRAIGHT TRACK, $21\frac{1}{2}$ INCHES GAUGE, SECTIONS 20 FEET LONG

	Rail No. 12	Rail No. 16	Rail No. 20
Price per lineal foot of track, in 20 ft. sections.....			

Full-size sections of these rails are shown on page 2.

STRAIGHT TRACK

CAST-IRON PLATE IN SECTION, FIVE FEET LONG

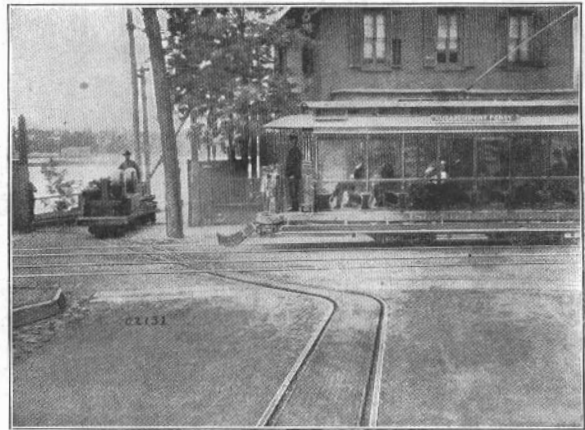


No. 990014

Track for shop or boiler room floors is best made of cast-iron plates, the rails being cast integral with the plate. The space between the rails is level, but the surface is roughened by small diamond-point projections that prevent the slipping of the workman's foot, and permit a broom to easily sweep out the ashes or dirt. Straight cast-plate track is made in sections 5 feet long and 27 inches wide. Shorter sections are made to order. The plates are so made that the sections interlock and maintain permanently their alignment and level.

The plate track may be laid flush with the surface of the floor or as shown in the cut. For boiler room floors the track can be bedded in cement and the remainder of the floor area covered with our cast-iron floor plates, 13 inches square, bedded in cement the same as the tracks, as shown on page 7. This makes a floor that is unequalled for its fine appearance and, in addition, is the most durable floor in use for this purpose, and easily kept clean.

For street crossings or other points where very heavy traffic will pass over the "Industrial" railway, extra heavy cast-plate track can be provided. These plates are of extra thickness and reinforced by deep webs to withstand the severest shocks of traffic (see cut 03162, page 7). On the surface deep cleats are cast to prevent draught horses from slipping. The pattern for the surface has been approved by the Assistant Commissioner of Public Works of the City of New York. In all other respects the plates resemble those of standard weight track and can be joined to them or to the standard riveted-up track. The straight plates are made in 5 foot lengths, the curves 12 feet radius and $11\frac{1}{4}$ degrees long. The length of the switches is given on page 13.



No. 02131

THIS ILLUSTRATION SHOWS A CAST PLATE TRACK CROSSING A BUSINESS THOROUGHFARE. THE STREET TAKES THE HEAVY TRUCKING TO AND FROM THE VARIOUS SHIP YARDS LOCATED NEAR BY

PRICE LIST. STRAIGHT CAST TRACK 21½ INCHES GAUGE. SECTIONS 5 FEET LONG

Price per lineal foot of track, standard size..
Price per lineal foot of track, heavy weight. for streets.....

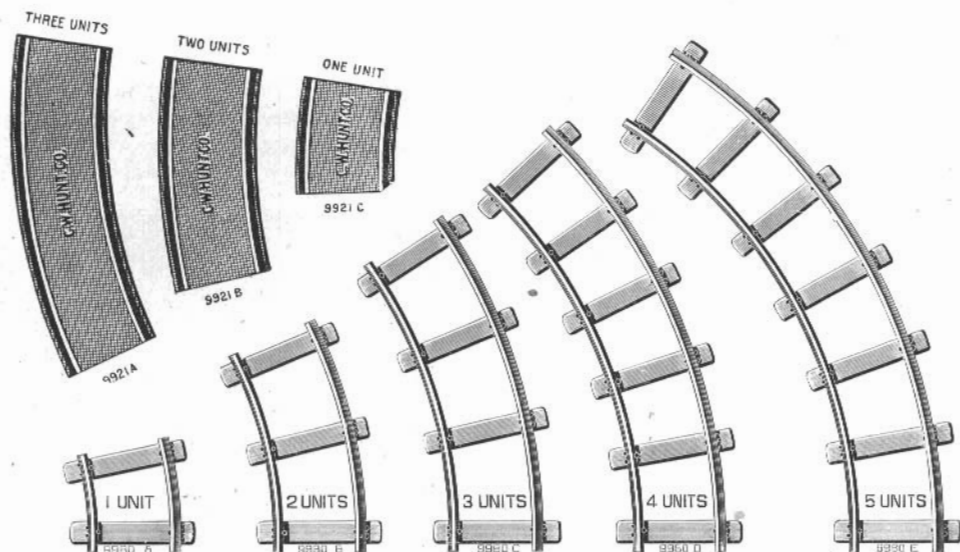
Shorter lengths are made to order.

CURVED TRACK

SECTIONAL AND CAST PLATE

Curved "Industrial" Railway track is invariably of 12 feet radius, measured to the center of the track. It is made of rolled steel rails riveted to cross-ties (Cut No. 9980), or of plate cast iron (Cut No. 9921), ready for laying in position.

The rails on the curves are so constructed as to enable the outer wheel to run on its flange and the inner wheel on the tread, which enables our standard car to run around curves as easily as on a straight line. (See page 5, Cut No. 1377.)



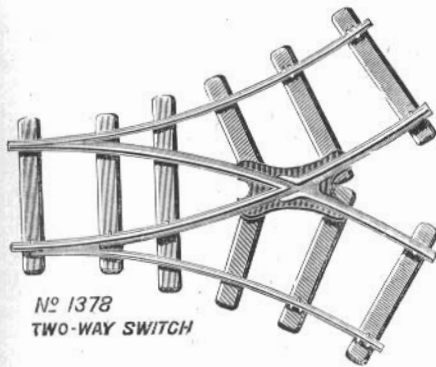
Standard lengths of curved track are kept in stock ready for immediate delivery. For convenience, their lengths are measured in "units" of $11\frac{1}{4}$ degrees. The sections are one, two or three "units" in length, corresponding with $11\frac{1}{4}$ degrees, $22\frac{1}{2}$ degrees, $33\frac{3}{4}$ degrees; thus, a track for a quarter of a circle, 90 degrees, would be composed of eight "units." (See page 49 for information required by engineers.)

PRICE LIST OF CURVED SECTIONS OF TRACK

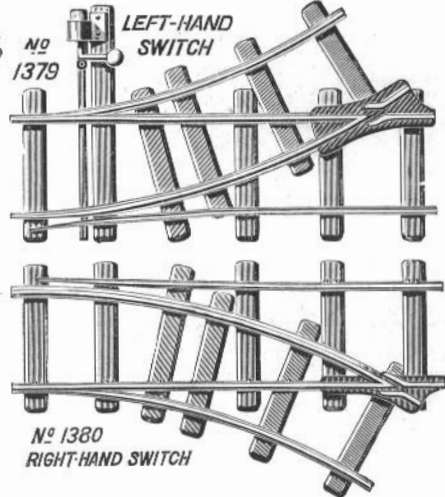
21 $\frac{1}{2}$ INCHES GAUGE, 12 FEET RADIUS	No. 12 Rail	No. 16 Rail	No. 20 Rail
Steel rolled rail curve, Cut No. 9980, per "unit" of $11\frac{1}{4}$ degrees.....			
Cast-plate curve track, per "unit" of $11\frac{1}{4}$ degrees. See cuts 9921, a, b, c..			

Full-size sections of the rails are shown on page 2

MADE-UP SWITCHES



No 1378
TWO-WAY SWITCH



No 1379
LEFT-HAND SWITCH

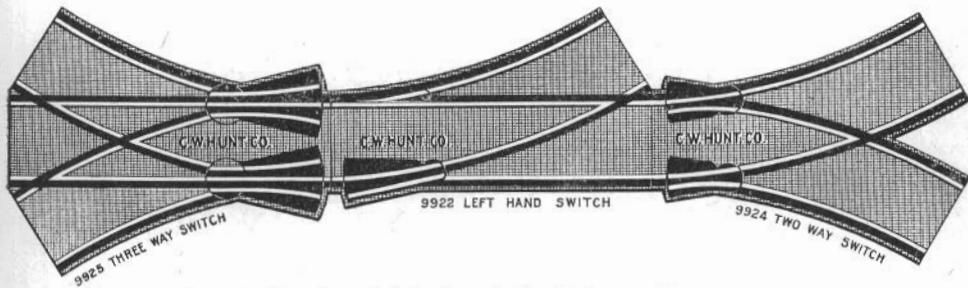
No 1380
RIGHT-HAND SWITCH

The switches for the "Industrial" Tracks are arranged for the outside flanged wheels, with a special rail on the curve, in order that the outer wheels may run on the flange, instead of the tread, causing the axles to take a radial position, and the cars pass over the curves easily and without friction from the wheels slipping on the rails.

The switches are either of cast-plate track, shown below, or of rolled rails riveted up solid to the cross-ties, with steel switch points and frog complete. The points are usually moved by the workman's foot, but we make switch stands for made-up switches when ordered, as shown in Cut No. 1379. They are not made for cast-plate switches.

CAST-PLATE SWITCHES

WITH STEEL TONGUES AND FROGS COMPLETE



The curved part of each switch is invariably 12 feet radius and corresponds with the curved sections of track, so as to be interchangeable with them or with the straight sections. The length of the curved part of each switch is three "units," or 33 1/3 degrees. The three-way switch is made only in cast-plate track. The frog is an integral part of the switch.

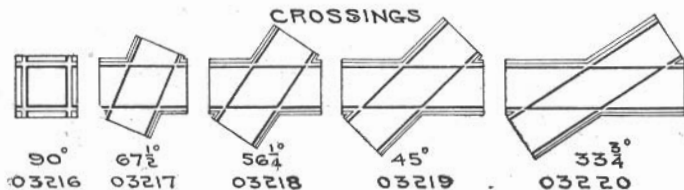
PRICE LIST OF STANDARD SWITCHES

KEPT IN STOCK, READY FOR IMMEDIATE DELIVERY

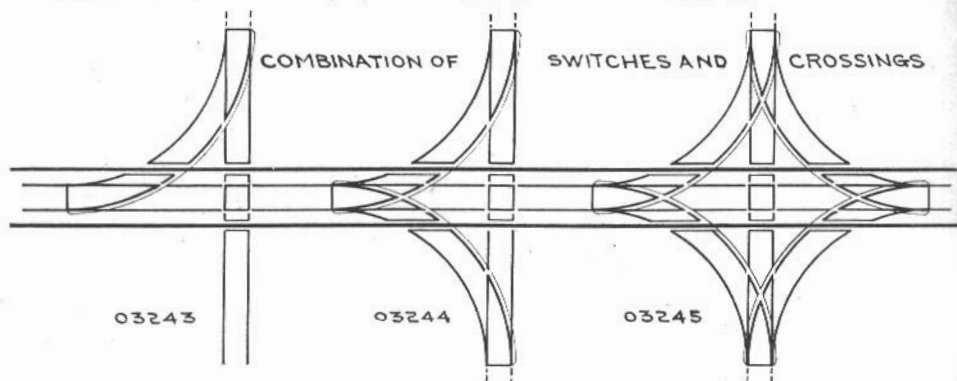
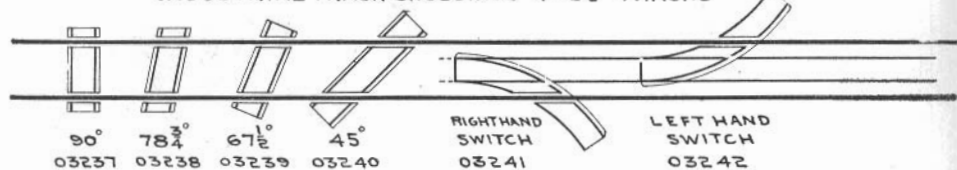
	Rail No. 12	Rail No. 16	Rail No. 20	Cast Plate
The price is for a switch complete, including points and frogs, ready to lay				
The curved part is three "units" long, the points to be moved by the foot. Switch stands will not be sent unless specially ordered				
Right or left-hand made-up switch and frog complete, cuts 1379-80				
Two-way switch and frog complete, cut 1378				
Extra for switch stand for switches				
Extra for spring switches				
PRICE OF CAST-PLATE SWITCHES				
Right or left hand cast-plate, No. 9922				
Two-way cast-plate, No. 9924				
Three-way cast-plate, No. 9925				
Switches to cross 4 ft. 8 1/2 in. gauge tracks. Cuts 03241 and 03242.				

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CROSSINGS



INDUSTRIAL TRACK CROSSINGS 4'-8 $\frac{1}{2}$ " TRACKS



The crossings for "Industrial" Railway tracks require to be specially made to suit wheels with outside flanges and the peculiar features of the flexible running gear of the cars. They are made of cast-plate track, with the grooves for the wheel flanges formed so that they can be easily swept out and kept free from dust.

The crossings and switches used in connection with 4 feet 8 $\frac{1}{2}$ inches gauge tracks do not require the rails to be cut. They can be used to cross main lines as well as sidings, as they are no obstruction to the regular railway traffic. See pages 50 and 51 for an illustration of these switches and crossings.

The following crossings are carried in stock. Other angles are made to order.

"INDUSTRIAL" TRACK CROSSING "INDUSTRIAL" TRACK

2 $\frac{1}{2}$ INCHES GAUGE. CUTS NO. 03216 TO 03220

Angle of the tracks, degrees	90	67 $\frac{1}{2}$	56 $\frac{1}{4}$	45	33 $\frac{3}{4}$
Length of track taken up, inches	30	42	53	60	90
Price for the crossing, complete.....					

"INDUSTRIAL" TRACK CROSSING 4 FT. 8 $\frac{1}{2}$ IN. GAUGE TRACK

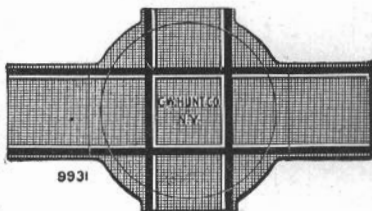
CUTS 03237 TO 03240

Angle of the tracks, degrees.....	90	78 $\frac{3}{4}$	67 $\frac{1}{2}$	45
Length of tracks taken up, inches	77 $\frac{1}{2}$	84 $\frac{3}{8}$		131 $\frac{1}{4}$
Price for the crossing, complete.....				

For switches see page 13

TURNTABLES

Our turntables are supported on a ring of hardened steel balls, that run in a machine-turned groove, which also holds oil for lubrication. This makes an almost frictionless support, and contributes greatly to the ease of the operation of the tables. The surface of the table is roughened in the same manner as our cast-plate track. The car track is 21½ inches gauge, and is cast solid with the table. The tracks cross at right angles, but the entrance track on the outer ring can, in special cases, be at any angle desired. Unless ordered otherwise, the tracks will be at right angles to each other. Any other angle desired will be furnished at a special price.

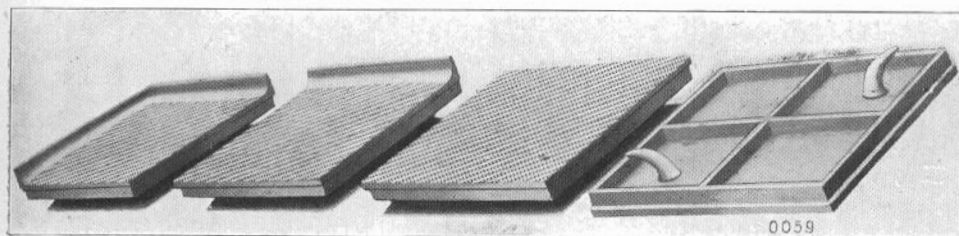


TURNTABLES FOR 21½ INCHES GAUGE

Trade number of the turntable.....	52	60	68	76
Diameter of the revolving table, inches.....	52	60	68	76
Track space taken up, inches.....	58	65½	75	81
Depth from the bottom to the top of the plate, inches.....	5	7	6	6
Maximum distance between car axles, inches.....	38	46	55	64
Price F. O. B. New York.....				

BOILER ROOM FLOORS

We make cast-iron floor or pavement plates to correspond, both in size and finish, with the plate railway track described on page 11. The surface is roughened by very small diamond point projections, that prevent the slipping of the workman's foot and permit a broom to easily sweep out the ashes or dirt. The floor never gets slippery no matter how long in use.



CORNER

SIDE

Center
No. 0059

CENTER (REVERSED)

It is, without any exception whatever, the best, most cleanly and durable boiler or engine room floor in use. The plates are so small that they do not get loose from expansion when the fires are drawn out on them; so heavy they do not break when slice bars are dropped on them; so durable that we have never furnished a repair plate.

The line of plates next to the wall have the edges turned up, making a concave surface all along the floor line at the base of the wall, thus avoiding the otherwise sharp angle in which dirt so quickly accumulates, and from which it is so difficult to remove it. Irregular spaces around posts or car tracks are filled by cutting 13 x 26-inch plates with a hack saw to fit the space.

The floor plates have hooks which hold them firmly in position when imbedded in the cement. The floor requires a space of two inches, same as our cast-plate track described on page 11, and an allowance in floor level to correspond should be made by the architect. See cut 98170, page 7. See page 44 for illustrations of the appearance of this style of floor.

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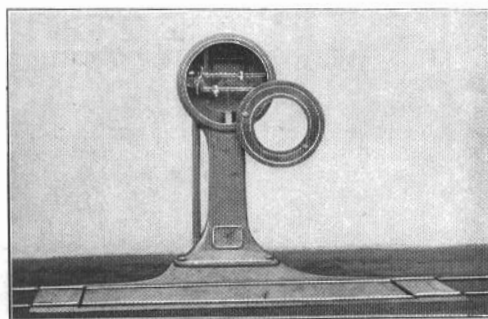
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IRON FRAME SCALES

The accompanying cut illustrates a floor scale which is especially adapted for use in connection with "Industrial" railway tracks in boiler rooms or store rooms having cement-paved, or iron floors.

There are two interesting features to this scale. The whole scale is of iron, and the beam-box is dust-tight. The cover to the beam-box is lathe-fitted to the case, nickel-plated, and contains a beveled plate-glass front. The whole makes a finished and ornamental case that adds greatly to the general appearance of the scale.

The track is the Hunt standard gauge, $21\frac{1}{2}$ inches, cast in the platform and in the frame. The remaining floor surface is roughened with small, diamond-point projections, which can be easily swept clean, and prevent the slipping of the workman's foot. The total length of the platform frame is $5\frac{1}{2}$ feet 6 inches. The beam is placed 43 inches from the center of the platform. The weighing platform is 5 feet long and 27 inches wide, the same width as the cast-plate track. The total floor area occupied by the entire platform is 26 square feet.



No. 98106

SCALE WITH CAST-IRON FLOOR, FRAME AND PLATFORM, WITH THE BEAM INCLOSED IN A DUST-TIGHT IRON CASE, FITTED WITH BEVELED PLATE GLASS IN THE DOOR

The double beam furnished with this scale is arranged for the weights on one beam to be set to balance the weight of the empty car, and the other beam used to weigh the net load on the car. The beams are graduated to pounds, or, when ordered, to kilograms.

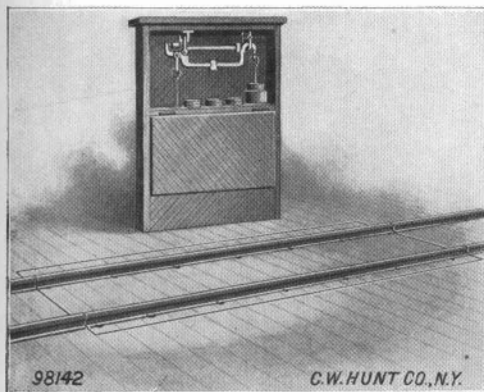
TABLE OF BOILER ROOM SCALES.

Capacity, tons.....	2	3	3	5
Length of platform, feet.....	5	5	7	5
Width of platform, inches.....	27	27	27	27
Center of platform to beam, inches.....	43	43	43	43
Depth of pit required, inches.....	22	22	22	22
Price, F. O. B. N. Y., including cast-iron beam-box.....				

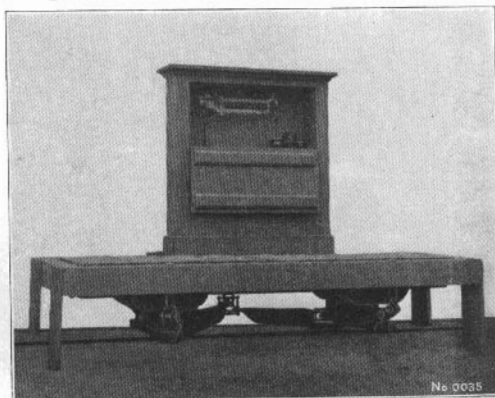
WOODEN FRAME SCALES

The platform scale, illustrated below, is adapted for weighing "Industrial" railway cars.

The platforms are twenty-seven inches wide, the same width as our cast-plate track (page 11). The platform is made in three lengths—five, eight, and twelve feet long—to accommodate the different sizes and types of our narrow gauge cars. The five-foot platform is suitable for standard shop, charging, and push cars, the eight-foot platform for Automatic railway and tip cars, and the twelve-foot platform for eight-wheeled platform cars, Cable railway cars, or Electric Locomotives.



No. 98142



No. 0035

"INDUSTRIAL" RAILWAY SCALE, WITH WOODEN BEAM-BOX, PLATFORM AND FRAME

AUTOMATIC AND CABLE RAILWAY SCALES, SHOWING MECHANISM AND DEPTH OF PIT

The scale beam is placed forty-three inches away from the center of the track, which allows space for a locomotive and for all ordinary cars to pass. The beam can be located, by means of extension levers, as far away from the platform as the requirements of the situation may demand. The graduation of the beam is in pounds, or in kilograms when so ordered.

We ship the ironwork and working parts, and send directions for installing these scales. The purchaser furnishes and builds the frame, wooden platform and wooden beam-box.

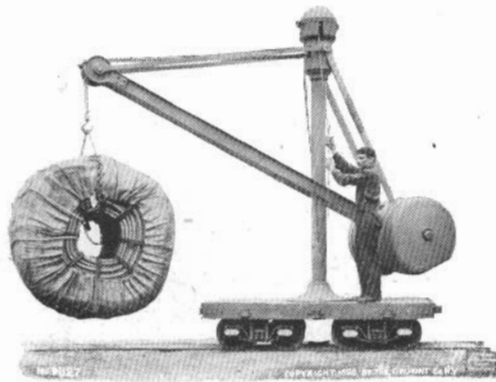
TABLE OF INDUSTRIAL RAILWAY FLOOR SCALES

Capacity, tons.....	2	2	3	3	5	6	6	10
Length of platform, feet.....	5	8	5	8	5	8	12	12
Width of platform, inches.....	27	27	27	27	27	27	27	27
Center of platform to beam, inches.....	43	43	43	43	43	43	43	43
Depth of pit required, inches.....	20	20	22	22	22	22	22	24
Price, F. O. B. New York, without beam-box.....								

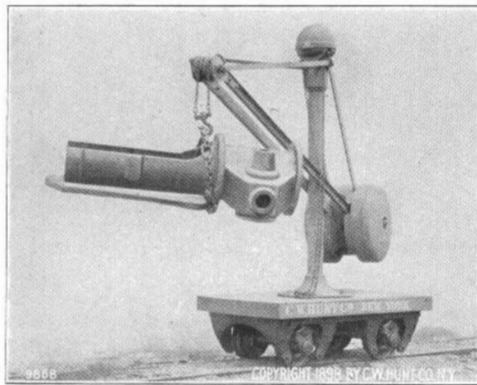
We make hanging scales for overhead hoppers in boiler rooms. Send for our circular on Scales

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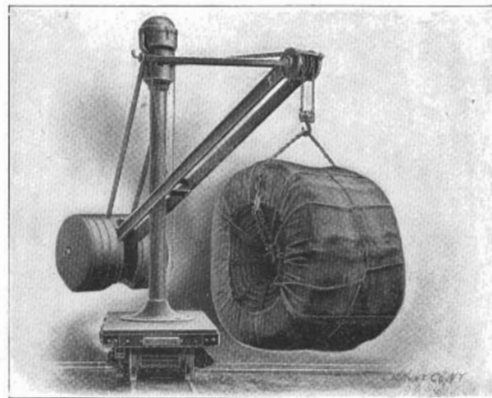
BALANCED CRANE AND CAR



No. 9827



No. 9868



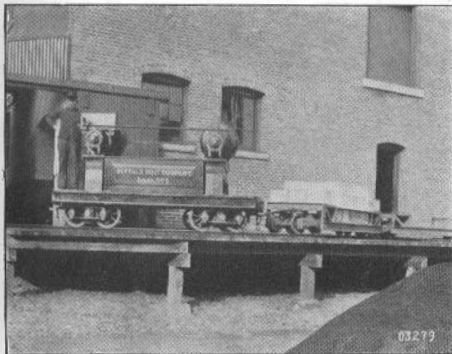
No. 9860

Our balanced crane is especially designed for use on narrow-gauge tracks. To keep the center of gravity over the center of the track, both when light and when loaded, the counter-weight swings horizontally away from the column to a greater or less extent in accordance with the weight on the end of the crane. There is no overturning tendency whatever to the car. The load is hoisted by pulling the differential hand chain hanging down by the side of the mast. All parts of the gearing are protected from the weather and from dust, but are easily accessible for oiling. The counter-weight makes the car so heavy that the load is usually put on a separate car, coupled to the crane car. An electric motor can be used on the crane hoist—taking its power from a connection to the battery on the electric locomotive.

The cranes are regularly made to carry loads from 1,000 lbs. up to 2,000 lbs. capacity, 6 feet from the center of the car; and from 2,000 lbs. to 4,000 lbs. capacity, 8 feet from the center of the car. Other sizes, heights and reach of boom are made to order. Prices on application.

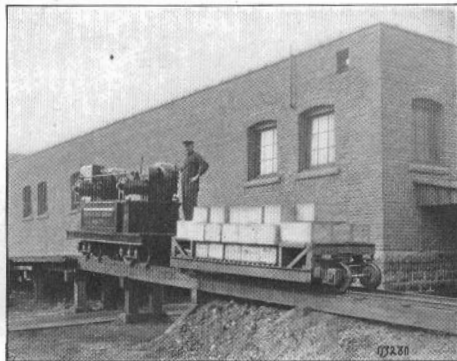
ELECTRIC LOCOMOTIVES

WITH ALL OF THE GEARING ABOVE THE PLATFORM AND ENCLOSED IN A DUST-TIGHT CASE



No. 03279

NARROW GAUGE ELECTRIC LOCOMOTIVE ROUNDING
A CURVE OF TWELVE FEET RADIUS



No. 03280

NARROW GAUGE ELECTRIC LOCOMOTIVE HAULING
LOADED CARS UP FIVE PER CENT. GRADE

An Electric Locomotive is the ideal motive power for use in shops, foundries, manufactories, and all places where cars are to be switched or material is to be moved on cars.

There is no fire risk and no increase in the insurance rates.

It runs freely around a curve of twelve feet radius.

The motors are iron-clad and the gearing is enclosed in an oil-tight case.

The mechanism or batteries require no attention from morning till night.

Every part of the machinery is above the platform of the car.

The batteries are as easily examined as though on a table before the inspector.

Every wheel is a driver, thus utilizing every pound of weight to give draw bar pull.

Double ended, with ample room at each end for the workman.

Reaches any part of the works where there is a track, permanent or temporary.

There are no trolley wires to interfere with overhead cranes or belts.

Less technical skill is needed than there is with horses, steam or gasoline.

No electrolysis of pipes from return ground currents.

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No. 0383

TWENTY-TON SWITCHING ELECTRIC STORAGE BATTERY LOCOMOTIVE, 4 FT. 8½ INCHES GAUGE

The energy furnished by the batteries in driving the locomotive during the day must be restored by charging the batteries at the noon hour and at night. That this should be surely, safely and conveniently done is just as important in maintaining the efficiency and durability of the batteries as it would be to have the feed pump, safety valve and blow-off valve of a steam boiler correctly applied and used.

The great weight of the lead storage batteries used on these locomotives precludes the consideration of a storage battery locomotive for long and steep grades, or for high speeds. The battery weight is an advantage in giving a great draw bar pull and the available speed is ample for the work required. On tracks substantially level or with short grades up to 5 or 6 per cent., sometimes found in manufacturing establishments, it is incomparably the most convenient, economical and efficient source of power.

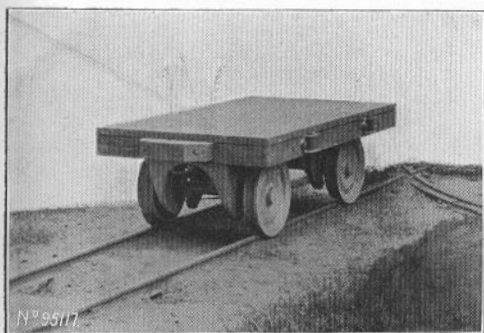
One man with this locomotive will handle all the material of a large manufacturing establishment.

	Narrow Gauge	4' 8½" Gauge
Weight of locomotive.....	5 tons.	20 tons.
Gauge.....	21½ inches.	4 ft. 8½ in.
Length of locomotive, over all.....	12 feet.	20 feet.
Width of locomotive, over all.....	5 ft. to 6 ft	9 feet.
Height of locomotive, over all.....	70 inches.	12 ft. 6 in.
Speed, per hour, variable from.....	1 to 4 miles.	2 to 5 miles.
Range in shop work, general switching.....	10 hours.	10 hours.
Hauls on the level in switching service.....	50 tons	200 tons.

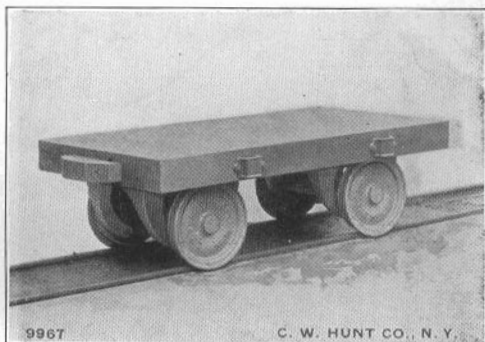
We print a special catalogue on our Electric Locomotive

SHOP CARS

KEPT IN STOCK



No. 95117



No. 9967

The great advantage of these cars is that they run around curves of 12 feet radius as easily as a wagon turns a corner, and reach every part of the works as easily as though the machinery was arranged in a straight line. If one man can push the car on the level he can carry it around all switches and curves.

The track for these, as well as all other "Industrial" cars, must be made to exactly suit the wheels, or the ease of running both on the curves and on the straight track will be largely sacrificed. Strap rail or a broad-headed rail of any kind will not work well even on a straight track. On the outer rail of a curve nothing should be used except the special rail rolled for this purpose.

The wheels and all the metal work are of steel or malleable iron, no cast iron being used in their construction.

We make the bearings in two styles, "roller" and "oil" bearings. The "roller" bearings practically eliminate the loss from axle friction and are desirable where ease of running is the first consideration.

The "oil" bearings have a reservoir under the axle, and extra large bearing surfaces to prevent the load from pressing out the lubricant.

Each size car has been carefully proportioned to the load it has to carry, so that the workman is not pushing a useless dead load or using a car liable to fail at a critical moment.

Parallel tracks should not be less than 48 inches apart.

INSIDE BEARING SHOP CARS

Load the car will carry, tons.....	½	1	2	3	5	7
Length of body of car, inches.....	60	60	62	66	68	68
Length of the top, inches over bumper.....	68	68	70	74	76	76
Width of the top, inches.....	30	33	33	33	33	33
Height of the top above the rail, inches.....	16	18	18	20	20	20
Turntable, diameter, inches.....	52	52	52	52	52	52
Scales, length of platform, feet.....	5	5	5	5	5	5
Price of car, oil bearings.....						
Price of car, roller bearings.....						
Couplings, add to above.....						

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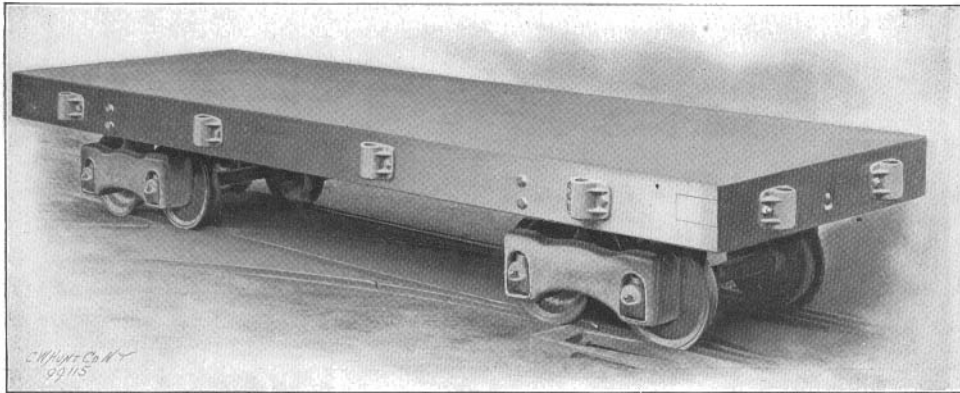
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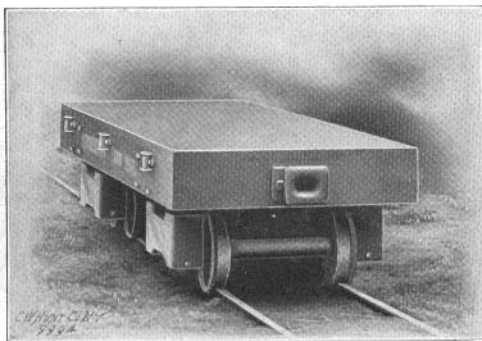
EIGHT-WHEEL FLAT CARS



No. 99115

An eight-wheel car is convenient for handling long, heavy or bulky articles, and has the further advantage of distributing heavy loads on more wheels, carrying on a light track double the load that can be carried on a four-wheel car, as the load per wheel is limited by the strength of the rail. It is an unnecessary expense, in many cases, to make all of the tracks of a system heavy enough to carry an occasional heavy load that may be needed only a few times in a year when one or two eight-wheel cars will handle all of that class of loads.

Load the car will carry, tons.....	3	5	10
Length of the body, feet.....	10	10	10
Width of the body, inches.....	40	40	40
Height of the top above the rails.....	22	22	24
Length of scale platform required, feet.....	10	10	10
Price of car, F. O. B. New York.....			
For couplings, add to above.....			
For brakes, add.....			



No. 9994

EIGHT-WHEEL, TEN-TON FLAT CAR, FOR U. S. GOVERNMENT, AT CHARLESTON, S. C.

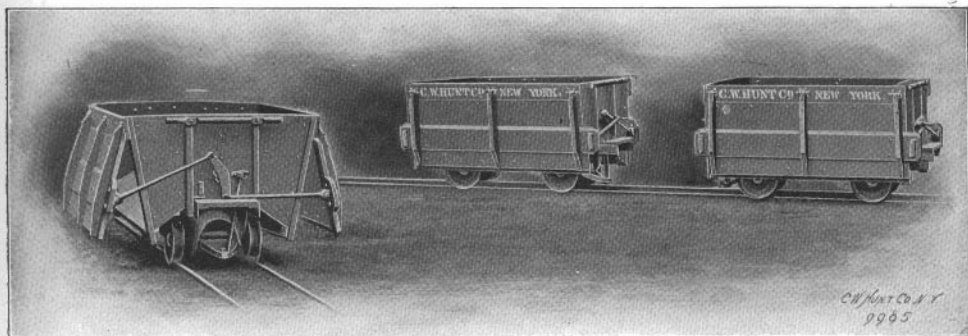


No. 9837

FLAT-TOP CAR WITH EXTRA LONG BODY

SELF-DUMPING CARS

KEPT IN STOCK FOR IMMEDIATE DELIVERY



No. 9985

These cars are the easiest running and the most satisfactory that can be used for carrying bulk materials. The bottom of car is inclined at an angle suitable for coal, but we make to order cars with the bottom at any angle, suitable for clay, phosphates, iron ore, or other material.

These cars are frequently used on elevated tracks for handling coal, dumping the load on both sides of the track by a tripping block placed on the center of the track at the desired point. The car is unloaded without stopping by running over the tripping block, a saving both in time and in the labor of operation.

These are the best cars that can be built to stand the severe shock and strain of dumping into them buckets of half or three-quarters of a ton of broken stone, gypsum, or iron ore, which is necessary in unloading vessels transporting these materials.

They are built of wood and lined with sheet steel, and are fitted with our patent wheels, axles and bearings, for running easily around a curve. They are supported on springs, making them run easily and smoothly. The bearings are fitted with either roller bearings, or oil bearings, described on page 21. The axles swivel to a radial position in passing around a curve. The wheels are steel, 12 inches in diameter with deep flanges to prevent accidental derailment from shocks.

Parallel tracks should not be less than six feet apart for these cars.

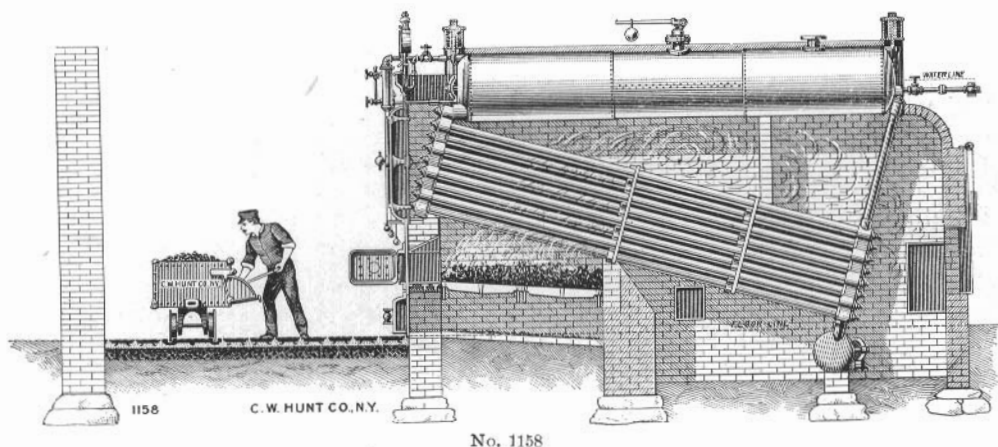
PRICE LIST OF SELF-DUMPING COAL CARS

Coal the car will carry, tons.....	$\frac{3}{4}$	1	2
Height of the top of the car above the rail, inches.....	37	39	52
Distance between the axles, inches.....	35	35	35
Width of the car over all, inches.....	48	53	60
Turntable, diameter, inches.....	52	52	52
Scale platform, length, feet.....	5	5	5
Price of the car with oil bearings.....			
Price of the car with roller bearings.....			
For couplings, add to the above.....			

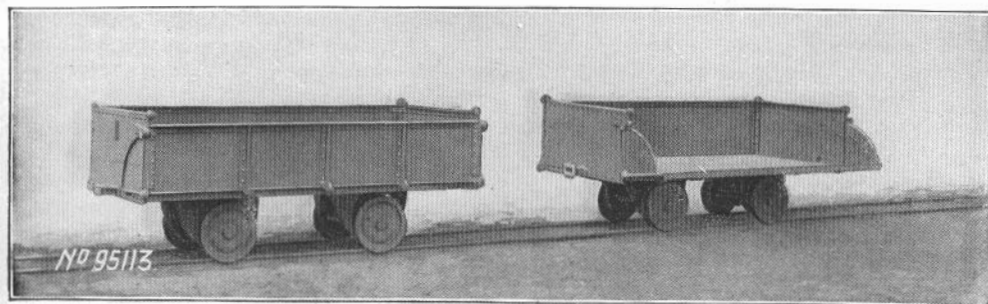
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CHARGING CARS

KEPT IN STOCK READY FOR IMMEDIATE DELIVERY



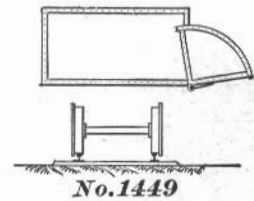
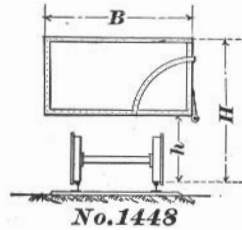
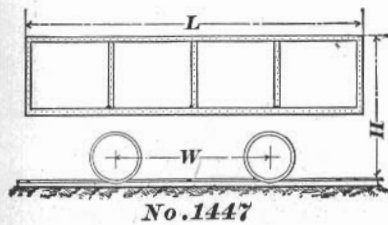
This car is designed for bringing coal from the storage bins to boiler rooms and retort houses. This is not only a convenient and economical way of carrying coal to the boiler room, but it is the least laborious in firing, as the coal is at the most convenient distance from the furnace and at the right level for ease in shoveling. The coal remains in the car until it is shoveled directly into the furnace, and the floor of the boiler room is kept entirely free from dust and dirt, and as clean as the most fastidious could desire. The center of the car track should be about 8 feet from the boiler front.



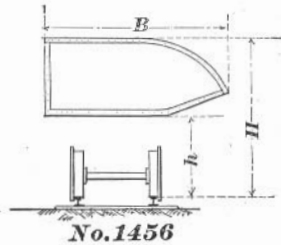
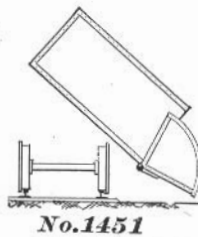
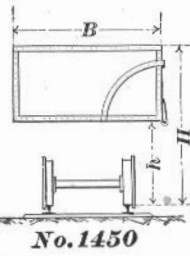
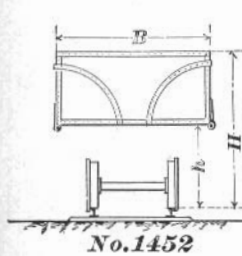
No. 95113

These cars are made of sheet steel, stiffened with angle iron, the corners rounded for the workman's hand, the bottom flush riveted, and specially arranged to have the surface of the door, when let down, a little higher than the floor of the car, so that the coal shovel will not catch on the edge of the car bottom. The tipping body cars have a dumping gear which keeps the body completely under control in dumping the load, and prevents the violent shocks that occur when the body dumps by gravity alone. The cars have springs, which make them run easily and ride smoothly. The bearings are fitted with reservoirs filled with oil and packed with sponge, thus insuring constant lubrication. They have the wheels rigidly pressed on the axles, and flexible bearings for running easily around a curve of 12 feet radius.

The cars of this style shown in cuts 95113, 1447, 1448 and 1449, are standard, and kept in stock. The other styles are made to order.



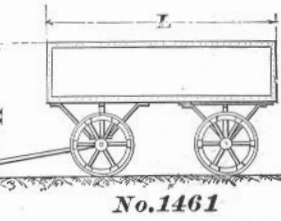
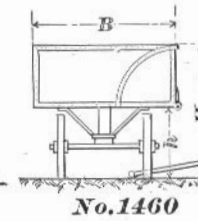
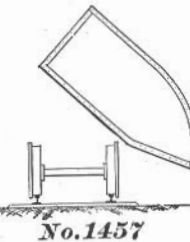
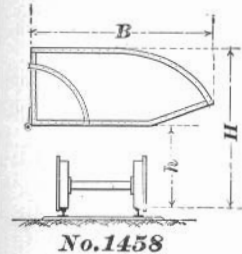
Standard one ton charging car, with one side to let down, always kept in stock ready for immediate delivery. We make them to order with both sides to let down, as shown below, or one or both ends to let down.



Car No. 1452 is similar to 1447, 1448, 1449, but arranged for both sides to let down.

Car No. 1450 is similar to 1447, but is arranged with dumping rigging.

Car No. 1456 has one side inclined instead of a door to let down. It carries one ton.



Car No. 1458 is similar to 1456, but having one side to let down.

Car No. 1457 is similar to 1456, but arranged to dump without tracks.

Half-ton car charging wagon for use on floor.

The bottom of charging cars that dump their load are higher from the floor than the standard cars, cut No. 1447.

STANDARD CHARGING CARS

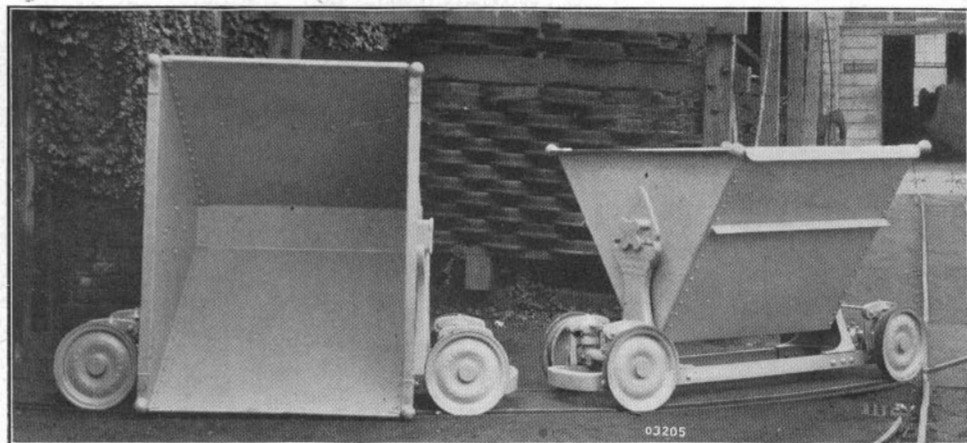
STYLE OF CAR—ENGRAVING NUMBER	1447		1456	1452	1458	1457	1450
	1460	1448					
Coal capacity of the car, tons.....	1/2	1	1	1	1	1	1
Length over all, inches.....	73	94	94	94	94	94	94
Width over all, inches.....	39	43	52	43	54	52	44
Height of the top of the car, inches.....	36	35	38	35	38	45	42
Height of the bottom, inches.....	17	17	17	17	17	24	24
Scale platform, length, feet.....	5	5	5	5	5	5	5
Turntable, diameter, inches.....	52	52	52	52	52	52	52
Price of the car, F. O. B. New York.....							

Charging cars, with inside flange wheels and rigid wheel base, will be made to order for any gauge less than 30 inches

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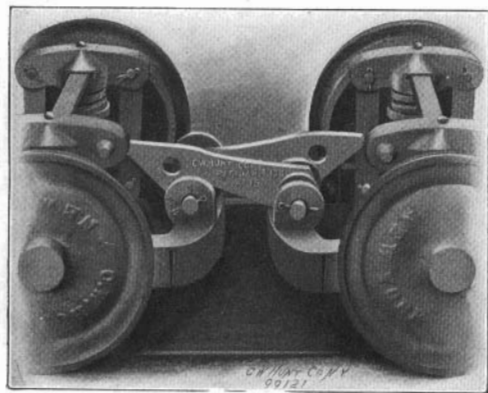
TIP CARS

KEPT IN STOCK



No. 03205

These cars are serviceable for handling all varieties of bulk material used in a manufactory. They have the body hung between the wheels, making them nearly a foot lower than those having the wheels underneath the body, thus making it much easier for the workmen to load them.



No. 99121

HUNT PATENT COUPLING FOR TIP CARS

The edge of the car comes down to the rail in dumping, making them especially suitable for dumping into a pit or from a trestle. They are not well suited for dumping on a level floor.

They are fitted with our patent running gear, and run easily on a curve, the axles taking a radial position. The car has steel wheels, and is carried on springs, which make it run easily and smoothly. Details of the oil and roller bearings are given on page 21. Parallel tracks should not be less than six feet apart for these cars. Couplings are to order only.

PRICE LIST

Capacity, heaped to 15 degrees, cubic feet.....	12	16	20	27	36	40
Capacity, even full, cubic feet.....	11	14	17	23	32	37
Length of the car over all, inches.....	70	72	75	77	82	82
Height of the top of car above the rail, inches.....	36	40	42	47	50	59
Width of the top of car, inches.....	46	49	53	59	65	72
Diameter of turntable required, inches.....	68	68	68	68	76	76
Scale platform, length required, feet.....	5	8	8	8	8	8
Price of car, F. O. B. New York, without couplings.....						
Price of car, with couplings.....						

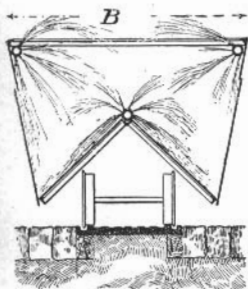
Unless specially ordered, cars without couplings will be sent

Unless otherwise specified, oil bearings will be sent

GAS-COKE CARS

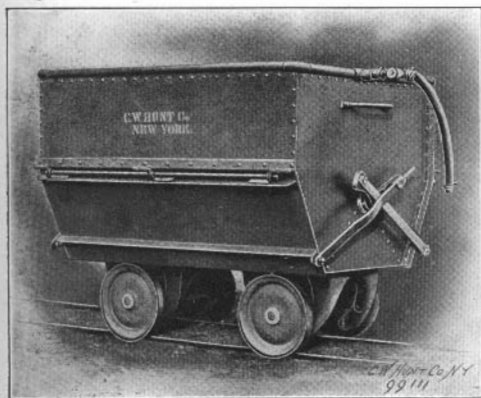


No. 9538

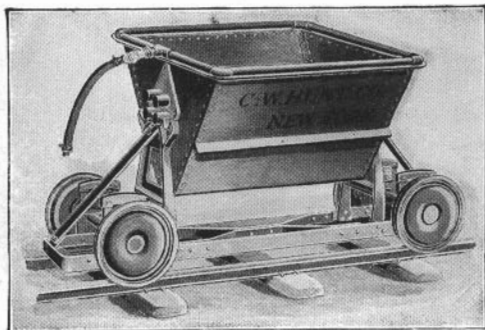


No. 1218.

We build these cars of steel, especially for handling hot coke in gas houses. The coke is drawn directly from the retorts into the cars, which stand on the floor beneath. Before the coke is drawn into the cars, they are connected by a short piece of hose to a water pipe, which sends a spray of water over the entire surface of the sides and bottom of the cars, preventing the steel from becoming overheated when the coke is drawn into the car. This is not intended to entirely quench the coke, which is done by hand-hose in the usual manner, but to keep the car from getting red hot, and at the same time to partially quench the coke. These cars are fitted with our patent wheels, axles and bearings, for running easily around a curve of 12 feet radius. The axles swivel to a radial position in passing around a curve. The wheels are 12 inches in diameter, fast to axle, and have flanges unusually deep to prevent accidental derailment.



No. 99111



No. 970307

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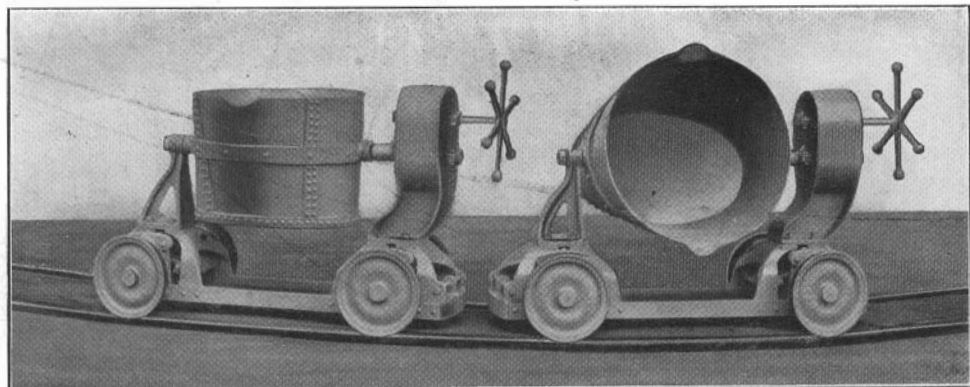
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FOUNDRY LADLE CARS



No. 0380

LADLE CARS ON A CURVE, 12 FEET RADIUS

The height of the top of the ladle above the rails, when upright, is from 36 to 40 inches. For convenience in pouring into hand ladles, the shape of the body and the position of the trunnions are arranged so that the spout, when tipped, pours into a ladle 14 inches high.

The gear for revolving the ladle locks the ladle in every position, and possesses the valuable feature of having both the ladle and the hand-wheel revolve in the same direction. When the handle is moved, the ladle moves steadily in the same direction as the handle, but only one-twelfth as fast.

These cars are not only more convenient to use in distributing the metal, but are also safer than any other plan. No accident has ever occurred in the use of these cars.

The space between the rails of the track should be filled with planking or other material, which makes a perfect walk, not only for the workmen pushing the car, but for others passing on the track. Parallel tracks should not be less than 49 inches apart for these cars.



03157

No. 03157

TAPPING OUT METAL FROM THE CUPOLA INTO LADLE CAR



03158

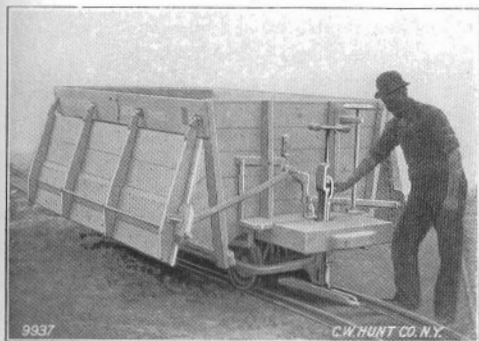
No. 03158

LADLE CAR DISTRIBUTING METAL INTO HAND LADLES ON THE FLOOR,

Three sizes are made: 1,500, 2,000 and 3,000 pounds capacity

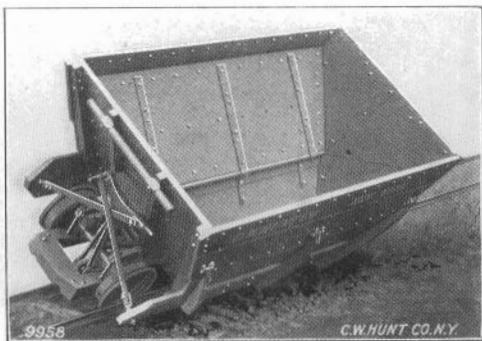
SPECIAL CARS

It is necessary, for special work, to build cars varying from our regular styles and sizes. We can do this within reasonable limits, and we show on this and the succeeding pages some illustrations of various cars that we have made; but it should be borne in mind that even slight changes from standard proportions entail an extra cost, for which we must make an extra charge. It may seem a small matter to a customer to make a change from our regular cars; but it disarranges the plan of our manufacture, and makes the cost, when singly made, much greater than regular cars. We invariably accept orders for irregular work, therefore, only at advanced prices, and such orders, when work has been commenced, cannot be countermanded.



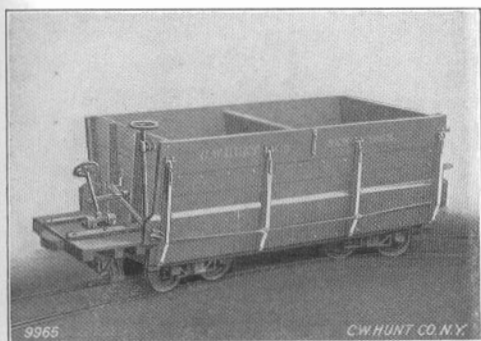
No. 9937

GRIP CAR, FOR J. ROUGHAN, MYSTIC WHARF
CHARLESTOWN, MASS.



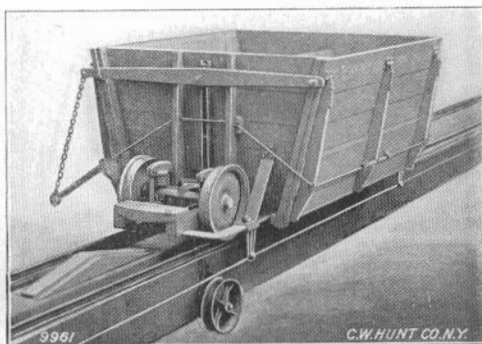
No. 9958

PUSH CAR, WITH A MOVABLE CENTER PIECE TO DUMP
THE LOAD ON ONE SIDE OF THE TRACK



No. 9965

EIGHT-WHEEL CABLE RAILWAY CAR, FOR THE TERM-
INAL COALING STATION OF THE BOSTON &
MAINE RAILROAD, BOSTON, MASS.



No. 9961

AUTOMATIC DUMPING CABLE COAL CAR, FOR PLYMOUTH
CORDAGE CO., PLYMOUTH, MASS.

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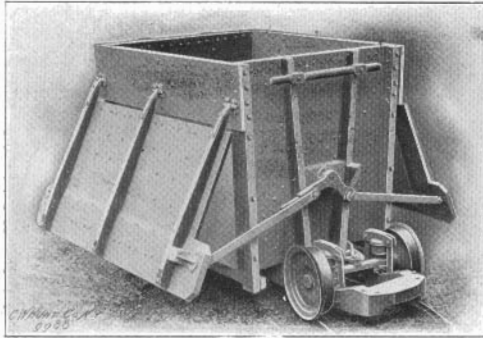
026

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051

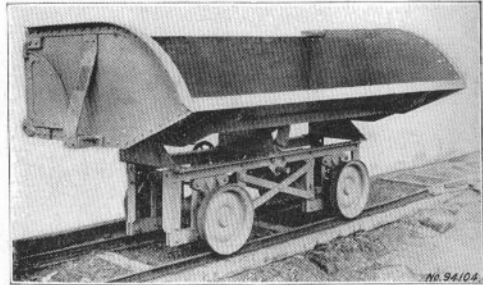
C. W. HUNT COMPANY, NEW YORK

SPECIAL CARS



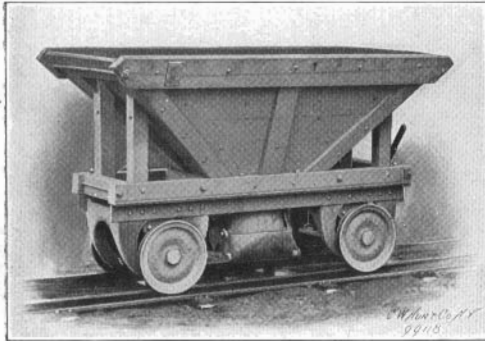
No. 9988

SELF-DUMPING CAR, WITH NARROW BODY, FOR THE
EQUITABLE GAS LIGHT COMPANY, NEW YORK



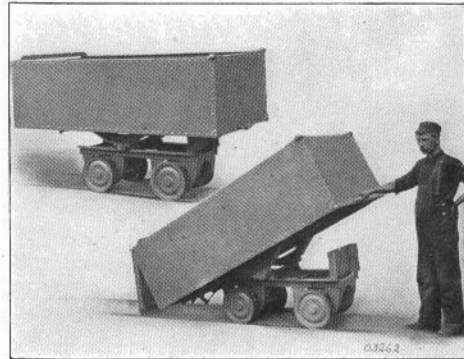
No. 94104

DUMPING COAL AND ASH CAR, FOR THE CAMDEN
STREET RAILROAD CO., CAMDEN, N. J.



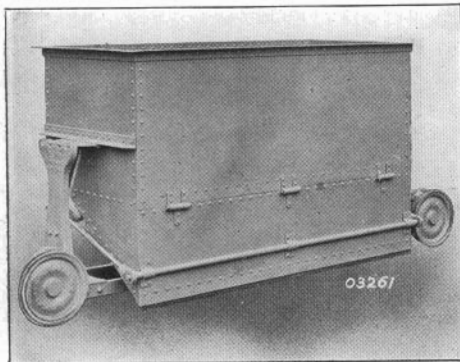
No. 99118

ONE-TON BOTTOM DUMP LIMESTONE CAR, FOR
UVALDE ASPHALT COMPANY



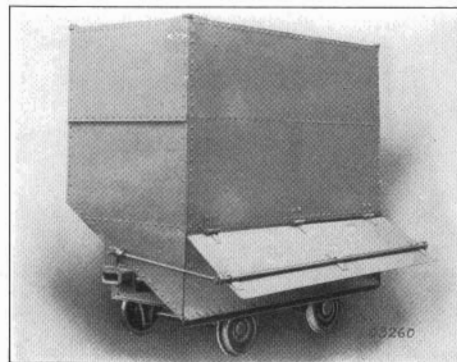
No. 03262

DUMP CARS, OPEN AND CLOSED, N. Y. C. & H. R. R. R.



No. 03261

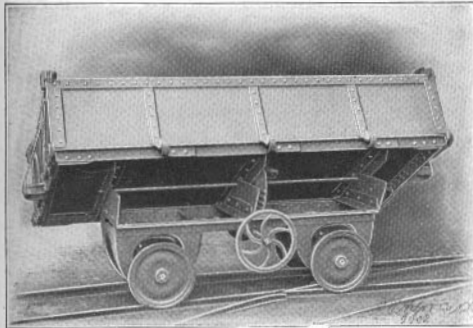
ASH CAR, SEATTLE ELECTRIC LIGHT CO.,
SEATTLE, WASH.



No. 03260

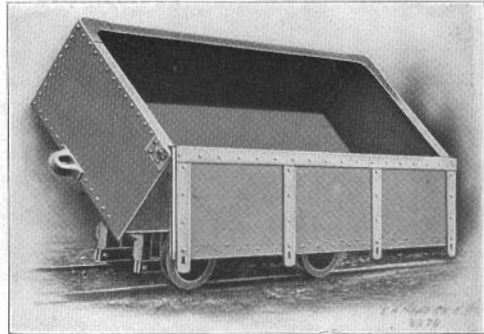
ASH CAR FOR GENERAL ELECTRIC CO.,
SCHENECTADY, N. Y.

SPECIAL CARS



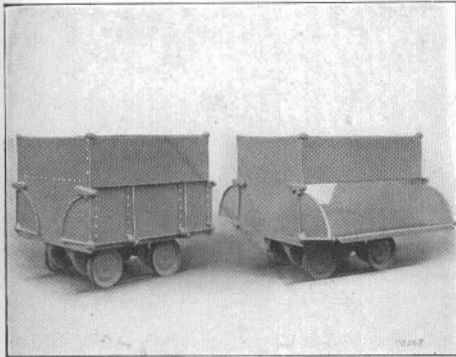
No. 9992

CHARGING CAR, TIPPED TO DISCHARGE THE LOAD



No. 9976

CHARGING CAR ARRANGED TO TIP, FOR G. H. GILBERT MFG. CO., GILBERTVILLE, MASS.



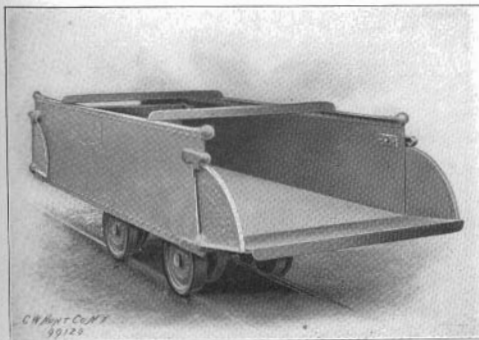
No. 03268

CHARGING CAR, SMITH & LOVETT, NEWPORT, R. I.



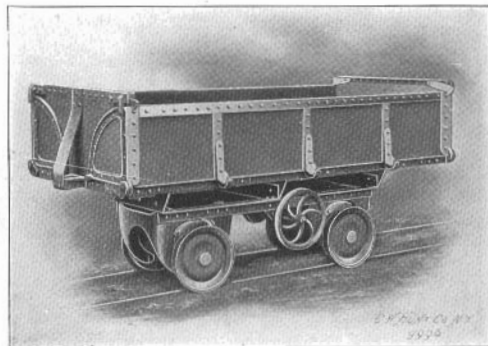
No. 03266

TIPPING CHARGING CAR, MALDEN ELEC. CO., SOMERVILLE, MASS.



No. 99120

CHARGING CAR, WITH A DOOR AT EACH END, FOR H. G. MORRIS, PHILADELPHIA



No. 9992

TIPPING CHARGING CAR, WITH DOORS ON BOTH SIDES

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C. W. HUNT COMPANY, NEW YORK

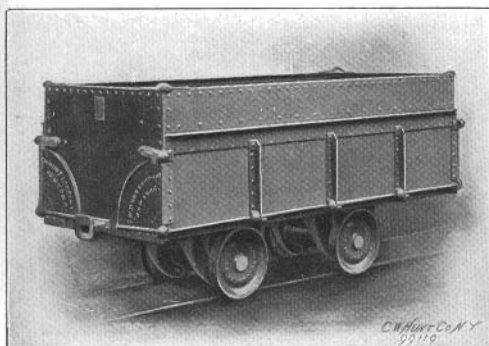
SPECIAL CARS



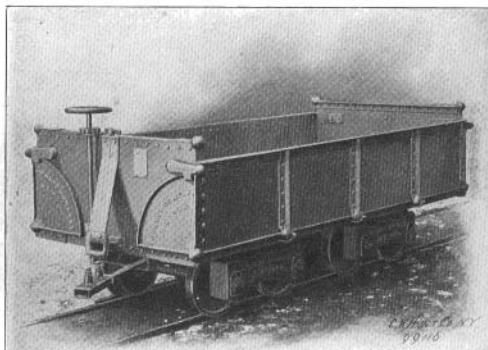
No. 98108
RIGID WHEEL BASE CHARGING CAR, FOR TOLEDO
GAS LIGHT CO.



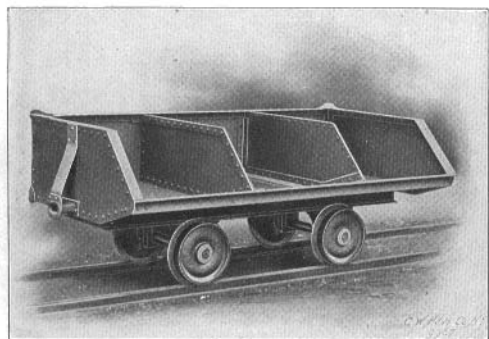
No. 98166
CHARGING CAR, WITH EXTRA LARGE BODY



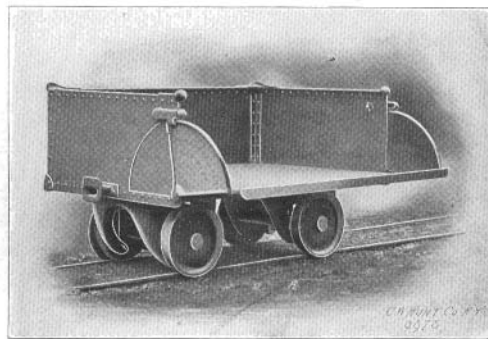
No. 99119.
DOUBLE DOOR, EXTRA CAPACITY CHARGING CAR, FOR
CONSUMERS' LIGHT, HEAT & POWER CO.



No. 99116
DOUBLE DOOR CHARGING CAR, FOR THE TERMINAL
STATION, BOSTON & MAINE R. R., BOSTON



No. 9987
SPECIAL THREE-TON SCRAP METAL CAR, MADE
FOR COE BRASS CO.



No. 9975
CHARGING CAR WITH A SHORT BODY, TO BE HOISTED
ON AN ELEVATOR

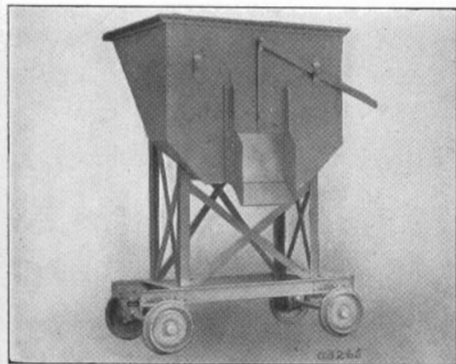
SPECIAL CARS



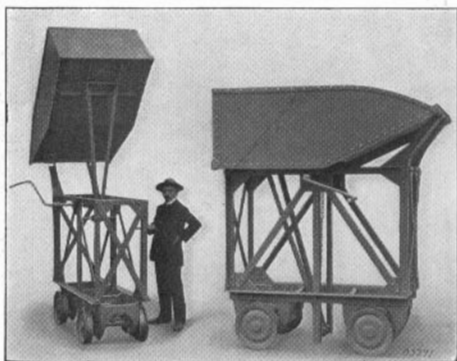
No. 9957
COAL CAR FOR CHARGING THE GENERATORS OF THE
NORTHERN GAS LIGHT CO., NEW YORK CITY



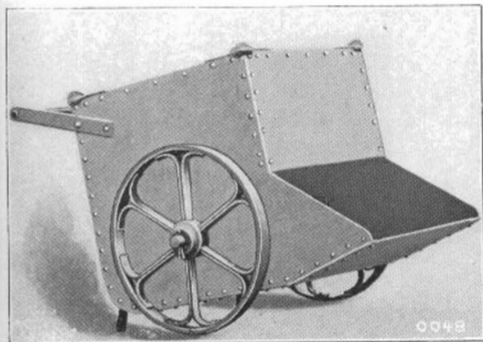
No. 98107
SPECIAL CHARGING CAR, MADE FOR METROPOLITAN
STREET RAILWAY CO., NEW YORK



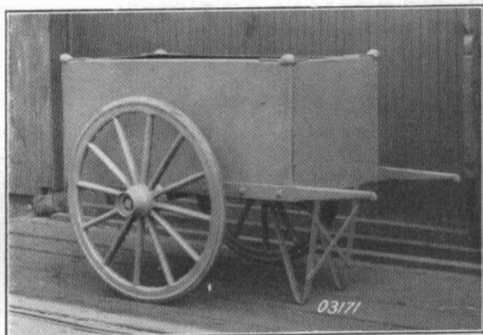
No. 03265
CHARGING CAR, AMERICAN FORCITE & POWDER CO.,
NEW YORK CITY



No. 03371
CHARGING TIPPING CAR, W. B. LEEDS, NEW YORK CITY.



No. 0048.
SPECIAL COAL CAR



No. 03171.
HAND CARTS FOR U. S. WAR VESSELS, FITTED WITH
RUBBER TIRES TO PREVENT INJURY TO THE DECK

0223

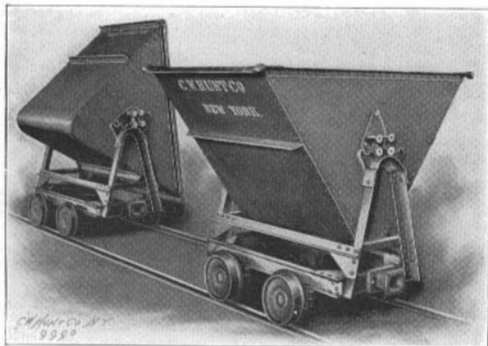
058

046

026

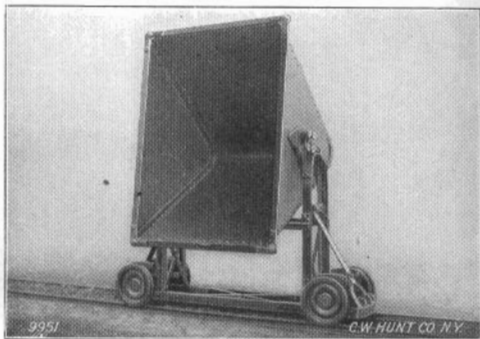
042

SPECIAL CARS



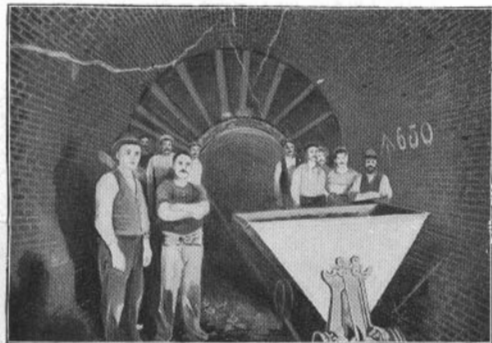
No. 9900

FORTY CUBIC FOOT TIP CAR, 36 INCHES GAUGE, INSIDE FLANGE WHEELS, FOR COLORADO COAL & IRON CO.



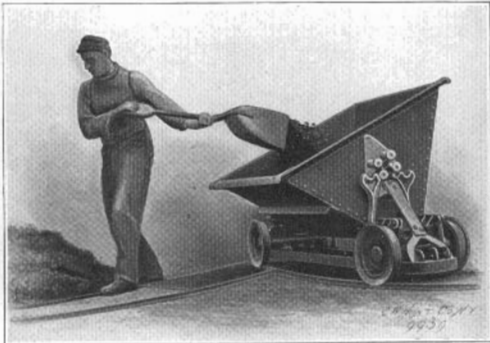
No. 9951

CAR FOR CHARGING GAS GENERATORS, FOR MILWAUKEE GAS LIGHT COMPANY, MILWAUKEE, WIS.



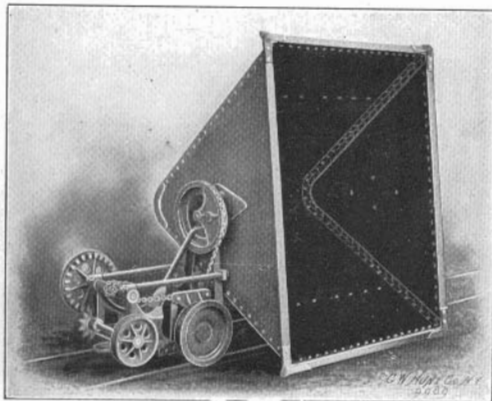
No. 970309

TIP CAR USED IN A SEWER TUNNEL, 85 FEET BELOW THE STREET, IN THE CITY OF BROOKLYN, N. Y.



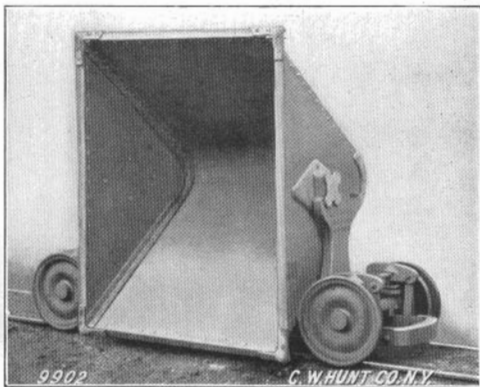
No. 9939

TIP CAR WITH INCLINING ATTACHMENT, FOR ELLERSLIE GAS & COKE CO., WINIFREDE JUNCTION, W. VA.



No. 9989

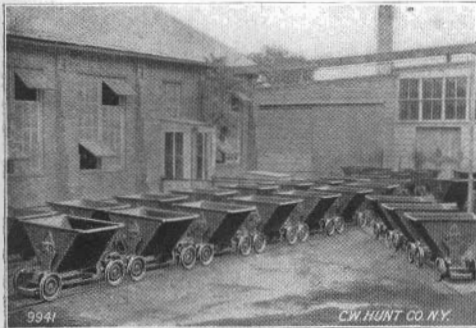
ACID PHOSPHATE CAR, WITH AUTOMATIC DUMPING MECHANISM, FOR MORGAN & CO., SHADY SIDE, N. J.



No. 9902

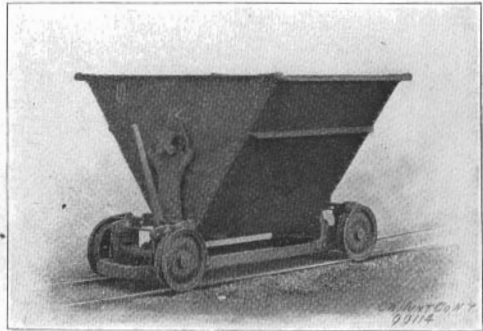
TIP CAR, 20 CUBIC FEET CAPACITY.

SPECIAL CARS



No. 9941

TIP CARS FOR THE BRAZILIAN GOVERNMENT, BAHIA



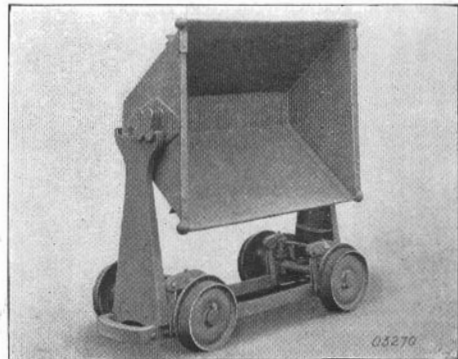
No. 9914

TIP CAR WITH BRAKE, FOR PATERSON PARCHMENT
PAPER COMPANY



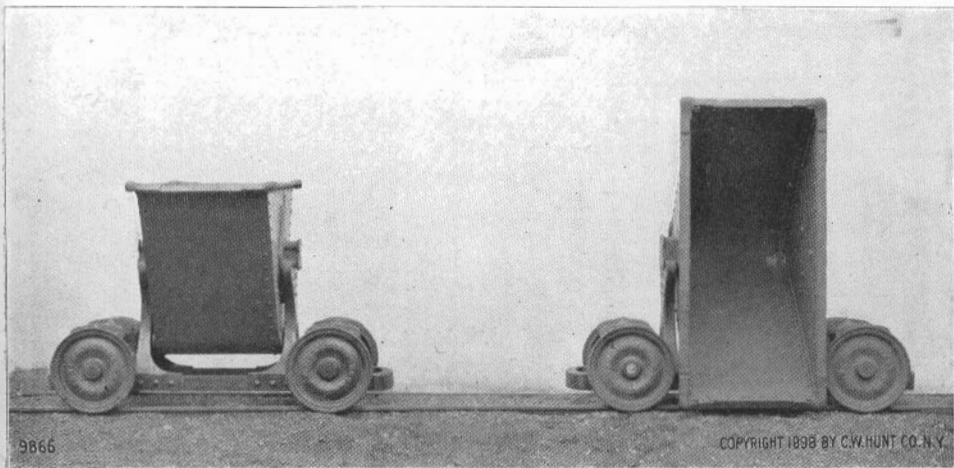
No. 03257

HIGH BODY TIP CAR, AMERICAN FORCITE &
POWDER CO., NEW YORK CITY



No. 03270

TIP CAR FOR THE QUEEN RUN FIRE BRICK CO.



No. 9866

SHORT BODY TIP CAR, FOR BALBACH SMELTING & REFINING CO.

0223

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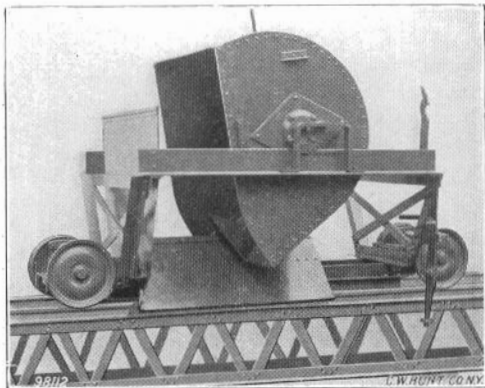
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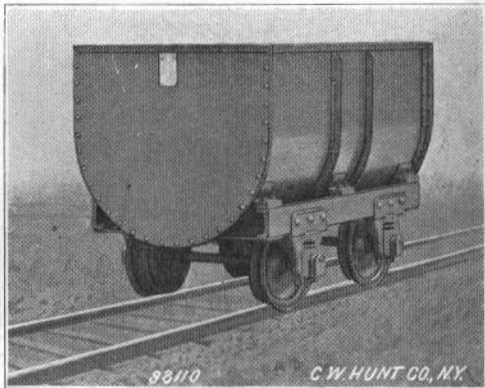
0413

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SPECIAL CARS



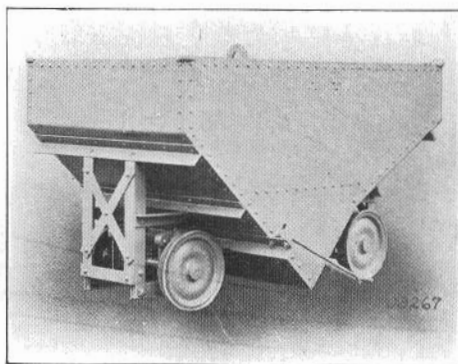
No. 98112
SPECIAL PHOSPHATE CAR, FOR CROCKER
FERTILIZING CO.



No. 98110
CAR FOR CARRYING LIQUIDS, FOR EASTMAN KODAK
CO., ROCHESTER, N. Y.



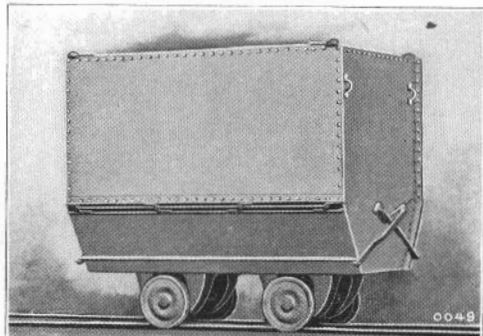
No. 03264
SAND CAR, KELLY & JONES, GREENSBURGH, PA.



No. 03267
TRACK TUB FOR COALING, N. Y. C. & H. R. R. R.

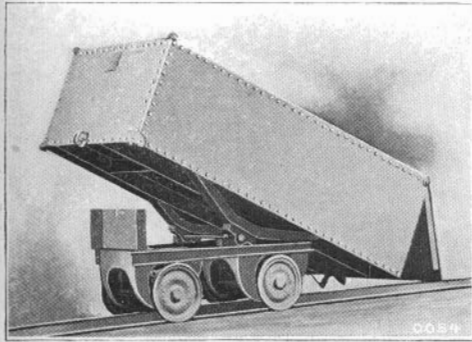


No. 9999
COAL CAR TO RUN UNDER BOILER-ROOM CEILING FOR
STREET & SMITH, PUBLISHERS, NEW YORK

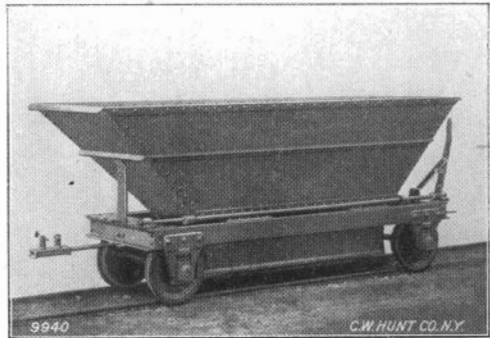


No. 0049
COKE CAR, MADE FOR LOUISVILLE GAS CO.

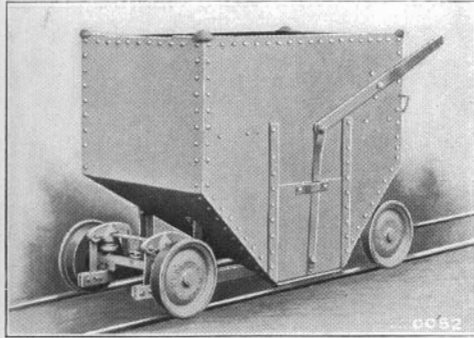
SPECIAL CARS



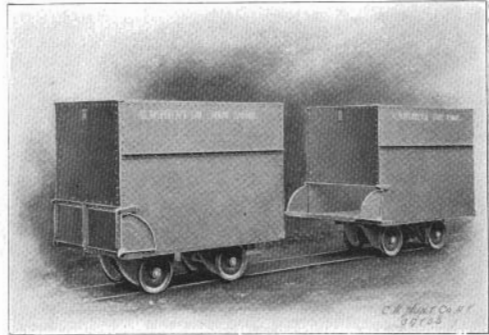
No. 0054
END DUMP COKE CAR, FOR LOUISVILLE GAS CO.



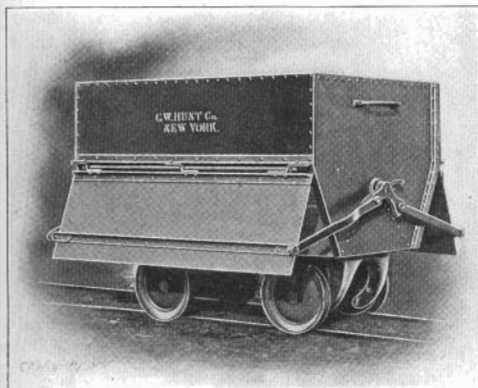
No. 9940
SPECIAL COKE CAR, FOR MONTREAL GAS CO.,
MONTREAL, CANADA



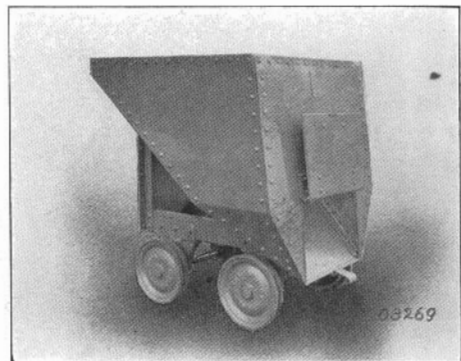
No. 0052
SPECIAL GAS COAL CAR



No. 99106
COKE CARS, FOR EDGAR ZINC CO., CHERRYVALE, KAN.



No. 99107
GAS COKE CAR



No. 03269
ELEVEN CUBIC FT. CAR, VULCANITE CEMENT CO.,
PHILADELPHIA, PA.

0223

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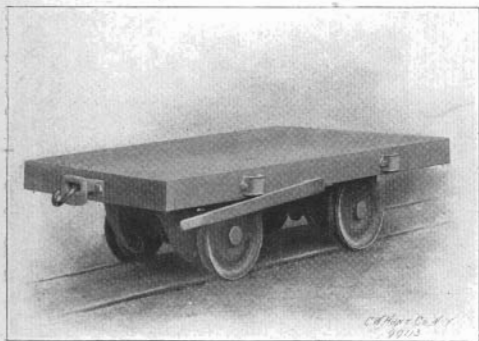
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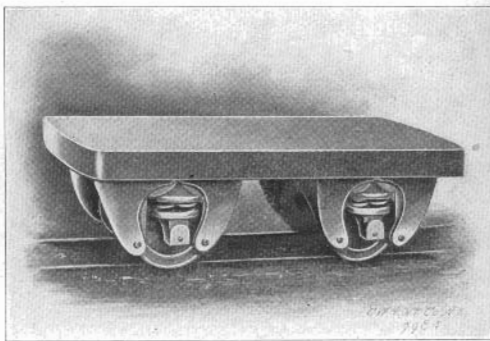
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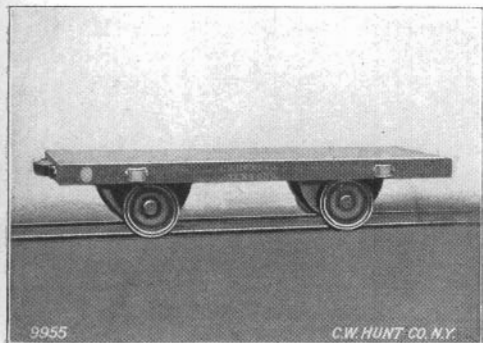
SPECIAL CARS



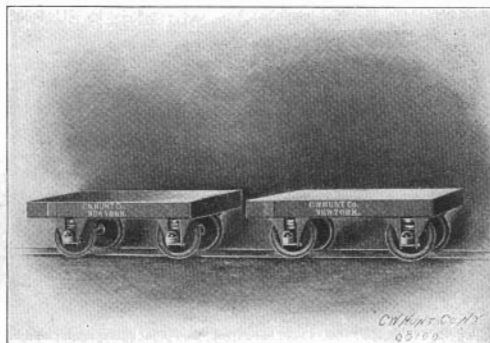
No. 99113
SHOP CAR WITH BRAKE



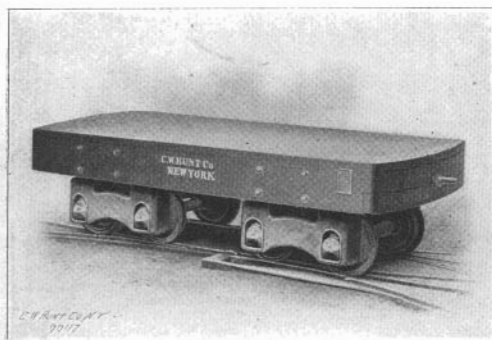
No. 9984
SHOP CAR WITH BEARINGS OUTSIDE OF THE WHEELS



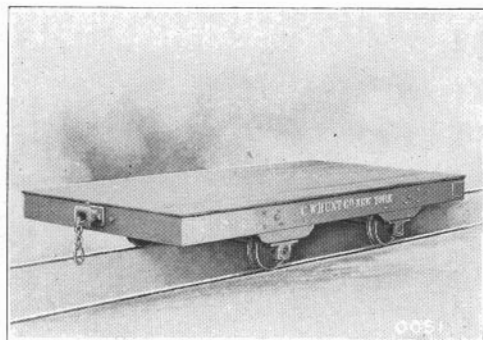
No. 9955
SHOP CAR WITH THE TOP 8 FEET LONG



No. 98109
RIGID WHEEL BASE CARS, MADE FOR ELECTRIC
BATTERY RAILWAY CO.

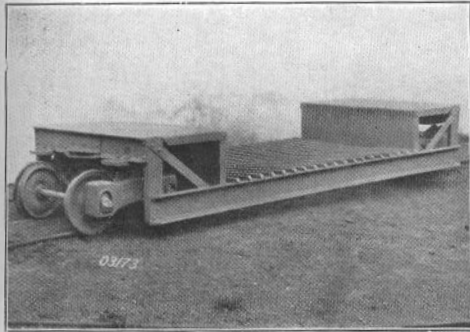


No. 99117
TEN-TON SHORT PLATFORM CAR



No. 0051
SPECIAL 4 FT. 8 1/2 IN. GAUGE FLAT TOP CAR, FO
U. S. NAVY YARD, BROOKLYN, N. Y.

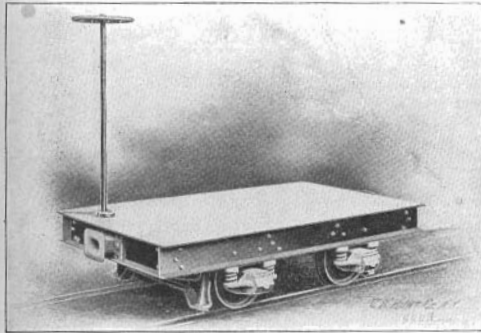
SPECIAL CARS



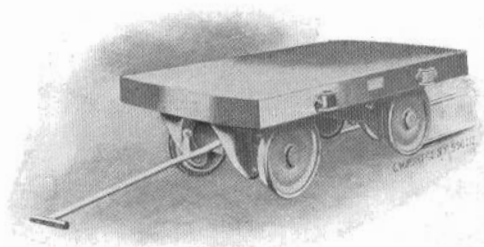
No. 03173
EIGHT WHEEL LOW CAR FOR BUFFALO BOLT CO.



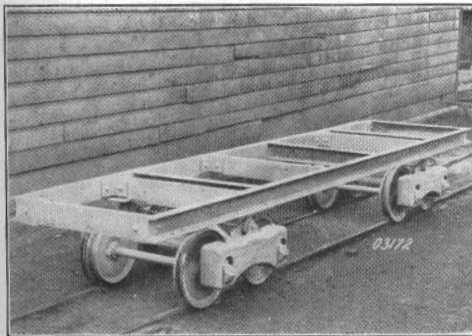
No. 03263
ELECTRIC DOCK TRUCK



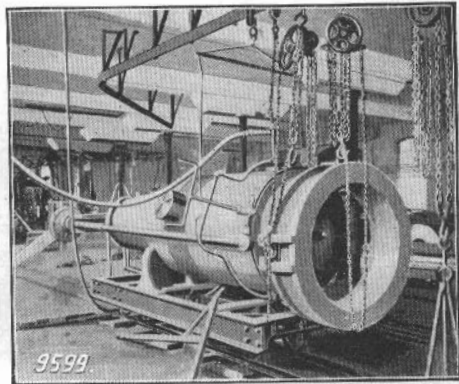
No. 9908
CAR TO CARRY A STEAM BOILER AND PUMP, FOR THE
KNOWLES PUMP CO., BOSTON, MASS.



No. 990012
SHOP CAR FOR USE ON BOTH TRACK AND SHOP FLOORS.
RUNS ON A 12-FOOT RADIUS CURVE



No. 03172
LONG-BODIED FLAT CAR, FOR ANSONIA BRASS &
COPPER CO., ANSONIA, CONN.



No. 9599
HANDLING THE COAST DEFENCE MORTARS ON THE
"INDUSTRIAL" RAILWAY, BUILDERS' IRON
FOUNDRY CO., PROVIDENCE, R. I.

0223

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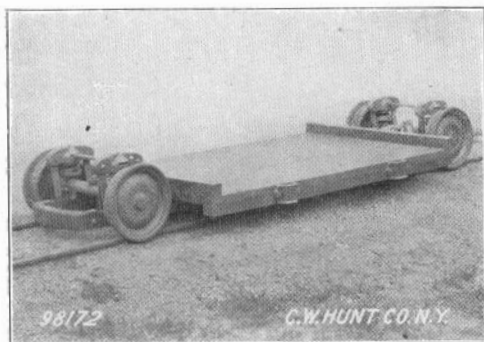
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051 0413

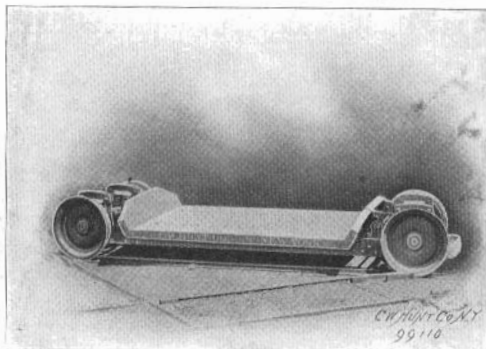
C. W. HUNT COMPANY, NEW YORK

SPECIAL CARS



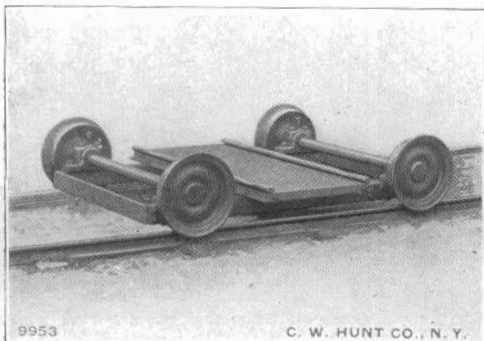
No. 98172

LOW CAR FOR TRANSFERRING ASH CANS, ETC., MADE FOR STANDARD OIL CO., OF NEW YORK



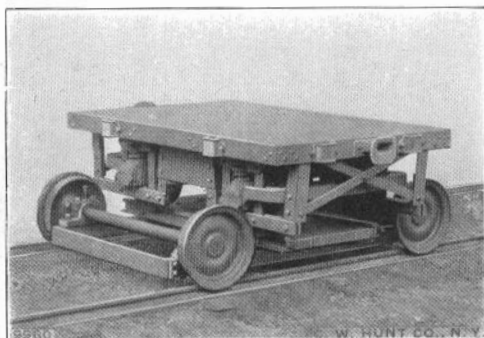
No. 99110

CAR WITH FLOOR 7 IN. ABOVE THE RAILS, BROWN & SHARPE MFG. CO., PROVIDENCE, R. I. THE RADIAL POSITION OF THE WHEELS ON THE CURVE IS WELL SHOWN IN THIS CUT



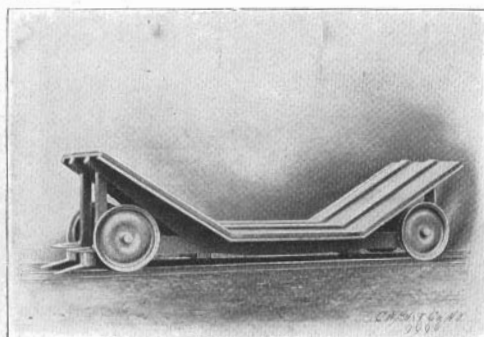
No. 9953

CAR USED TO TRANSFER STANDARD 2 1/2 INCH GAUGE CARS TO PARALLEL TRACKS. FOR EASTMAN KODAK CO., ROCHESTER, N. Y.



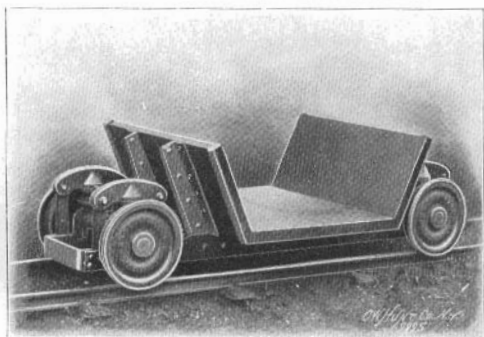
No. 9930

TRANSFER TABLE, WITH CAR MOUNTED TO TRANSFER TO PARALLEL TRACK. FOR EASTMAN KODAK CO., ROCHESTER, N. Y.



No. 9996

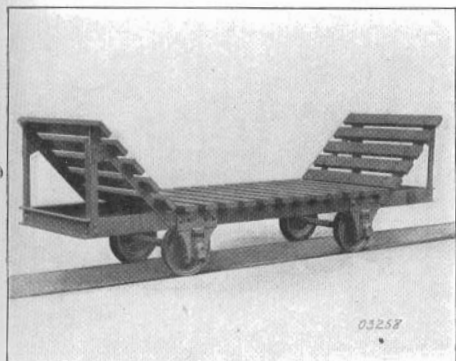
CAR FOR CARRYING BAG SALT, ALEXANDER KERR & CO., BALTIMORE, MD.



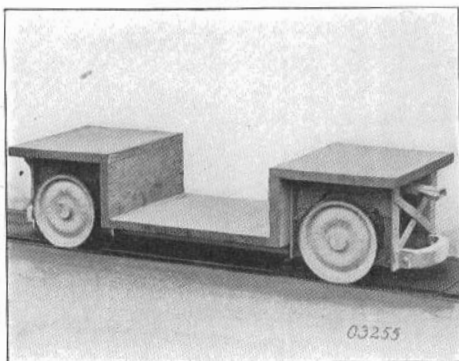
No. 9995

THREE-TON COPPER INGOT CAR, FLOOR 8 1/2 IN. ABOVE RAILS, ANSONIA BRASS & COPPER CO., ANSONIA, CONN.

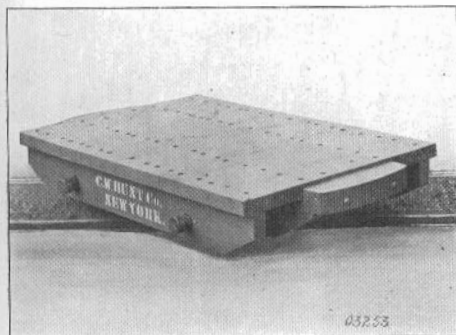
SPECIAL CARS



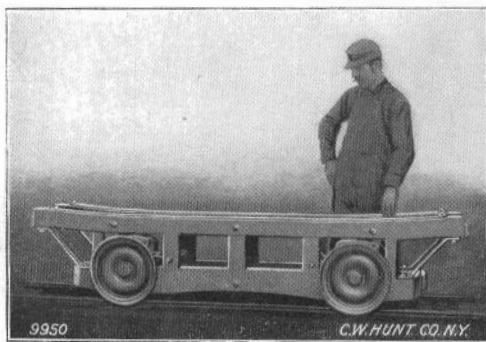
No. 03258
CAR FOR CONVEYING CLOTH, WALSCOTT & CAMPBELL
CO., ONEIDA CO. N. Y.



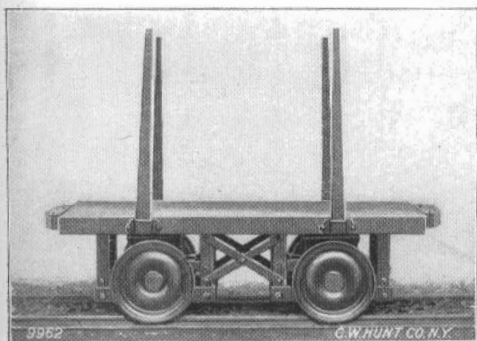
No. 03255
CAR FOR CARRYING MARBLE, RUTLAND FLORENCE
MARBLE CO., RUTLAND, VT.



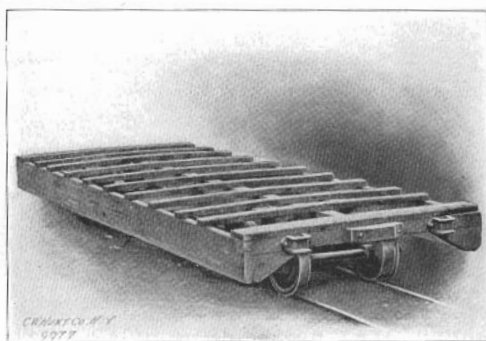
No. 03253
CAR FOR CARRYING MARBLE, RUTLAND FLORENCE
MARBLE CO., RUTLAND, VT.



No. 9950
BARREL CAR FOR ORFORD COPPER CO.,
BERGEN POINT, N. J.



No. 9962.
CAR FOR USE IN THE BASEMENT OF MR. ELBRIDGE
T. GERRY'S RESIDENCE, NEW YORK CITY



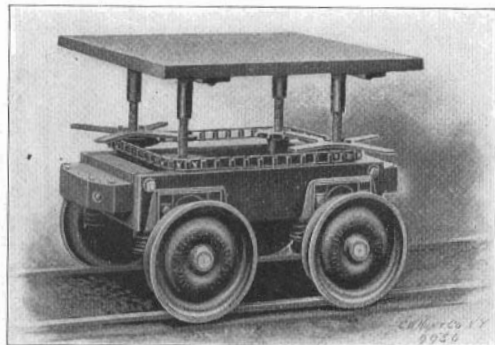
No. 9977
DRY KILN LUMBER CAR

0223

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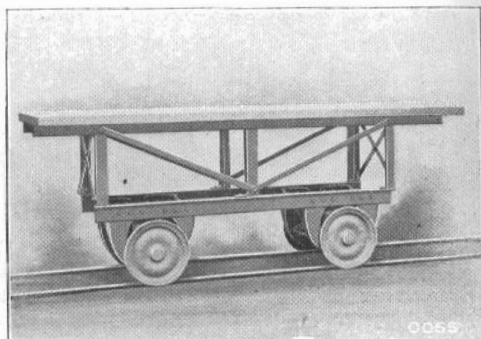
046

SPECIAL CARS



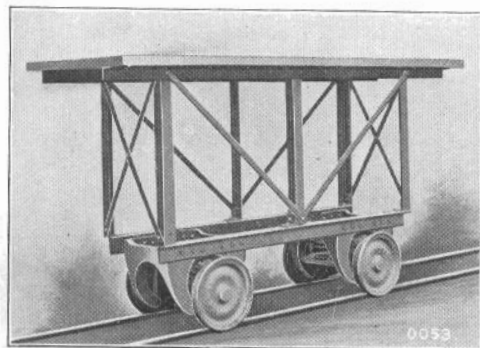
No. 9956

CAR WITH ELEVATING TOP, FOR THE MANHATTAN
ELECTRIC STORAGE BATTERY CO., NEW YORK



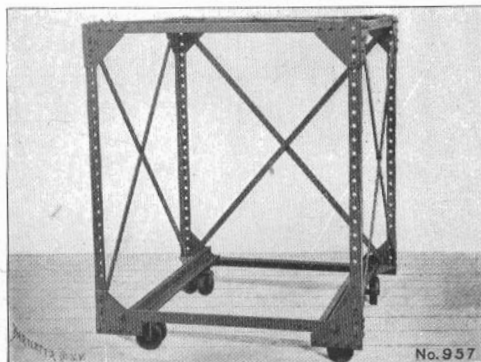
No. 0055

TRANSFER CAR WITH A HIGH PLATFORM



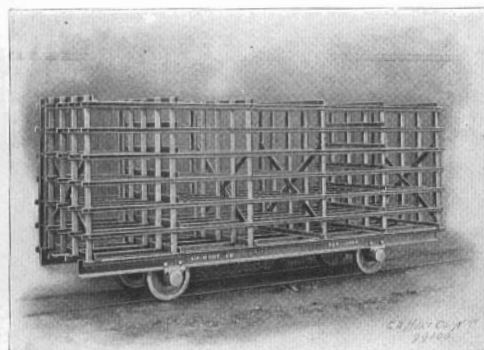
No. 0053

TRANSFER CAR, WITH THE TOP AT HEIGHT OF A
FREIGHT CAR FLOOR



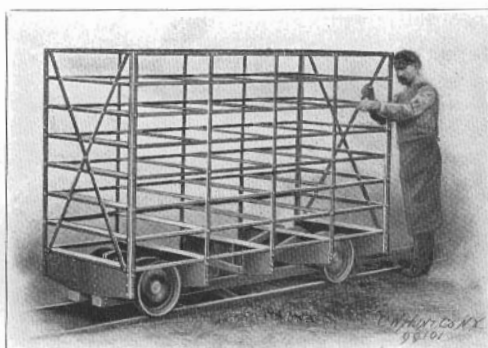
No. 957

JAPPINGING CAR, FOR THE STANLEY WORKS,
NEW BRITAIN, CONN.



No. 99100

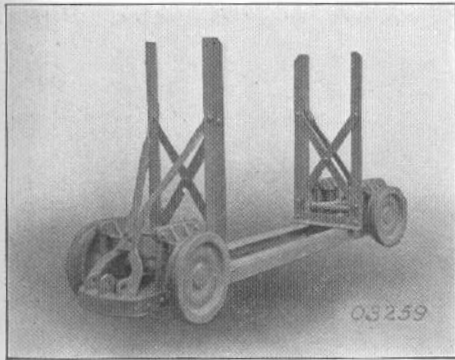
OVEN CAR, WITH ROLLER BEARINGS, FOR THE
AMERICAN TUBE CO., BOSTON, MASS.



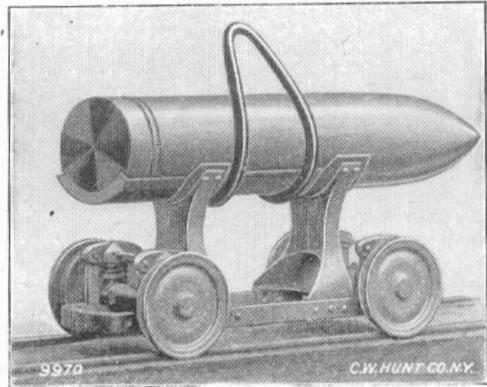
No. 99101

JAPAN OVEN CAR, WITH ROLLER BEARINGS, FOR THE
BRIDGEPORT MALLEABLE IRON CO.,
BRIDGEPORT, CONN.

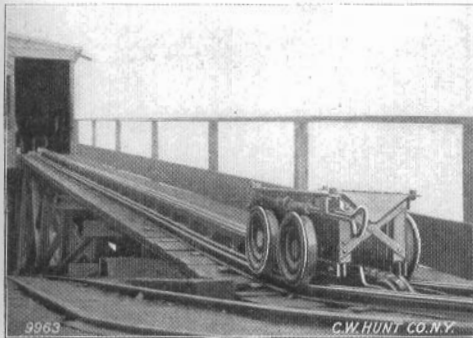
SPECIAL CARS



No. 03259
CAR FOR CARRYING WIRE REELS, SPENCER WIRE CO., WORCESTER, MASS.



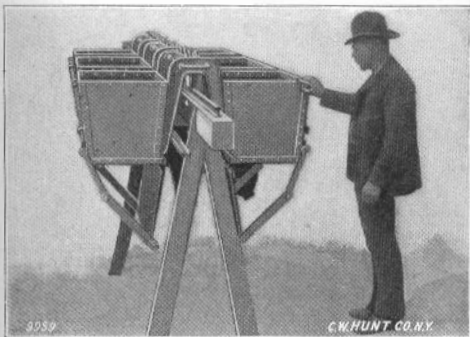
No. 9970
SPECIAL CAR MADE FOR TRANSFERRING 12-IN. SHOT. BUILT FOR U. S. ENGINEERS, SAVANNAH, GA.



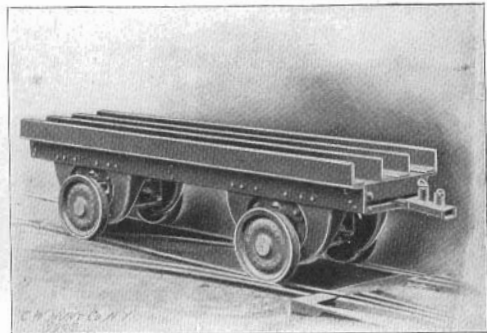
No. 9963
CAR FOR CARRYING PIG-LEAD BARS, FOR BALBACH SMELTING CO., NEWARK, N. J.



No. 9952
GYPSUM CAR, FOR J. B. KING & CO.



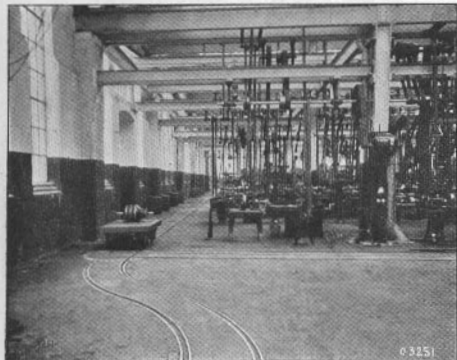
No. 9959
LARTIGUES SINGLE RAIL SYSTEM CARS FOR THE NATIONAL HARBOR IMPROVEMENT WORKS, TAMPICO, MEXICO



No. 9997
BILLET CAR, FOR READING IRON CO., READING, PA.

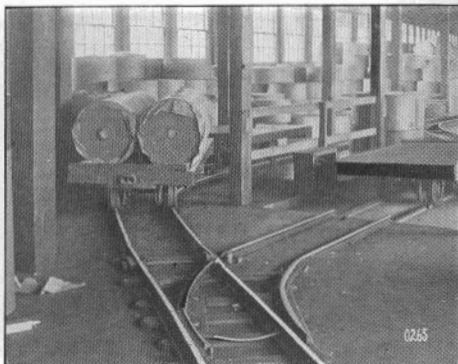
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C. W. HUNT COMPANY, NEW YORK



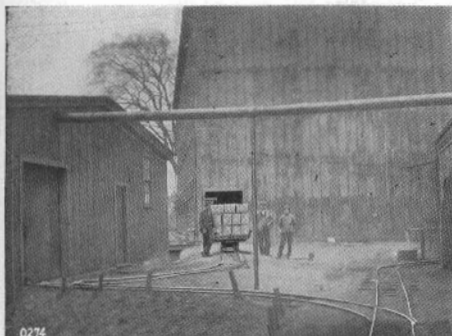
No. 09251

TURNTABLE ON AN "INDUSTRIAL" RAILWAY



No. 0205

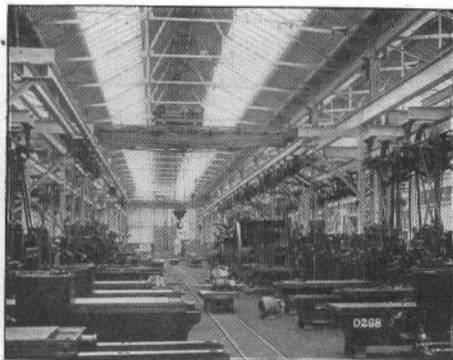
CARS WITH EXTRA LARGE BODIES, PAPER WAREHOUSE



0274

No. 0274

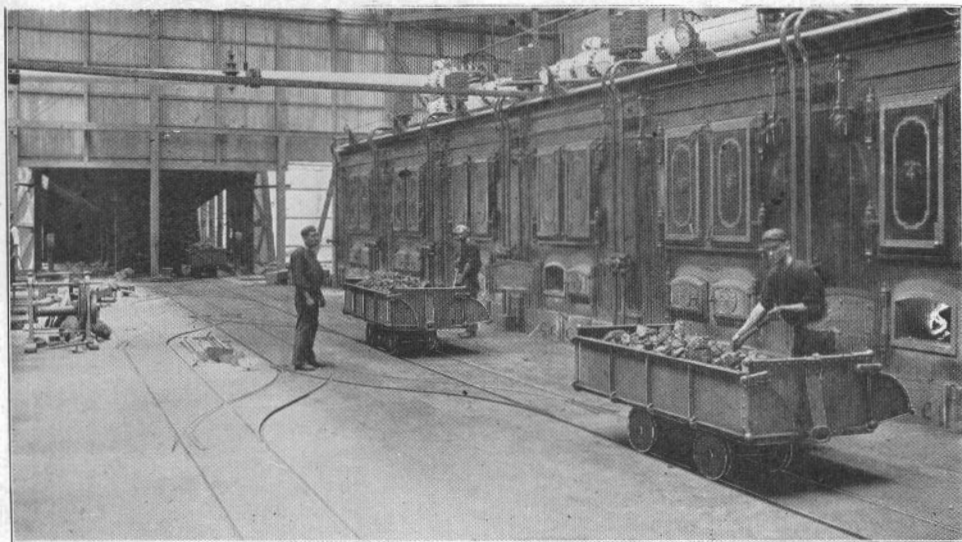
STOREHOUSE TO STOREHOUSE "INDUSTRIAL" RAILWAY



0298

No. 0298

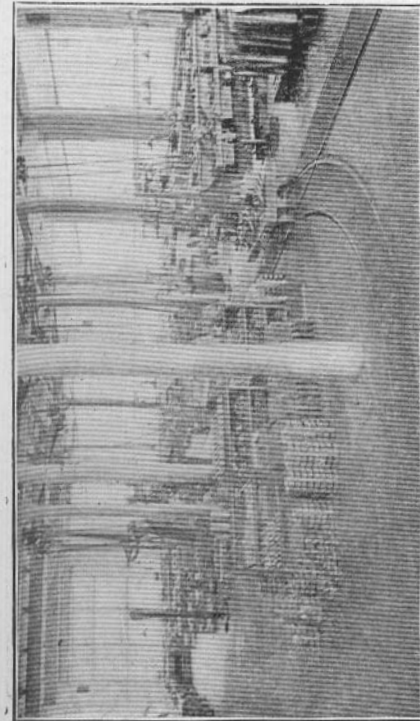
MACHINE SHOP



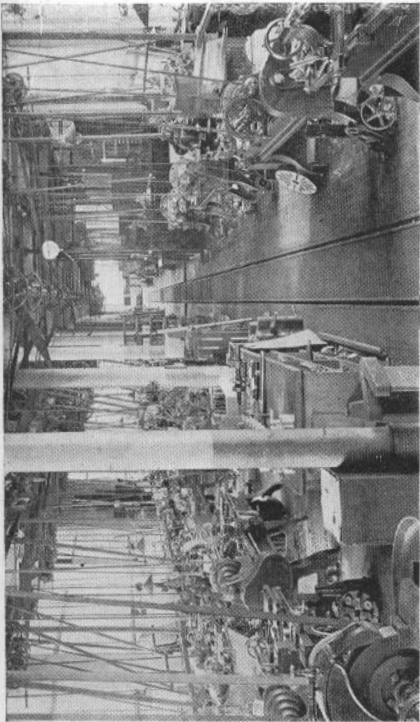
No. 001

"INDUSTRIAL" RAILWAY TRACKS AND EQUIPMENT. BOILER-ROOM FLOOR IS MADE OF OUR CAST-PLATE TRACKS. GOVERNMENT TRAMWAYS POWER STATION, SYDNEY, NEW SOUTH WALES

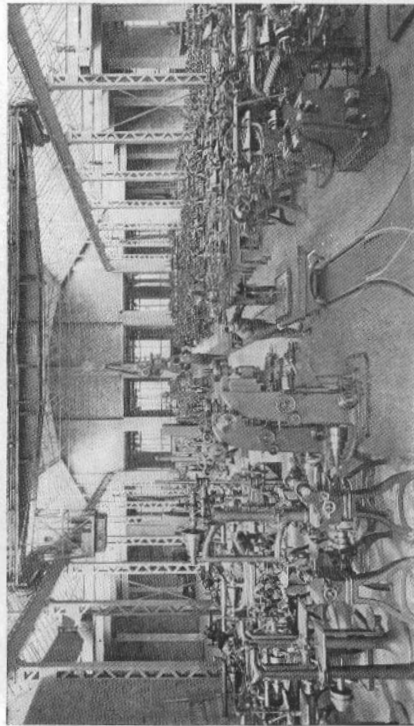
"INDUSTRIAL" RAILWAY



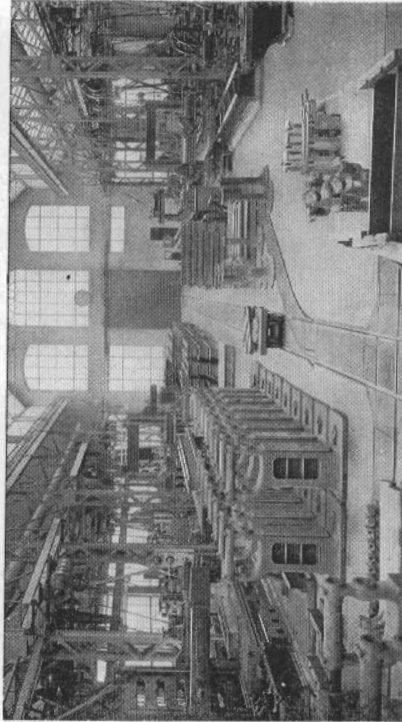
No. 10005
LATHE DEPARTMENT



No. 1900
LIGHT FITTING DEPARTMENT



No. 19004
STORE ROOM FOR FINISHED MACHINES
CAST PLATE "INDUSTRIAL" RAILWAY TRACKS IN THE WORKS OF LUDWIG LÖEWE COMPANY, BERLIN, GERMANY



No. 190026
MACHINERY HALL
WORKS OF LUDWIG LÖEWE COMPANY, BERLIN, GERMANY

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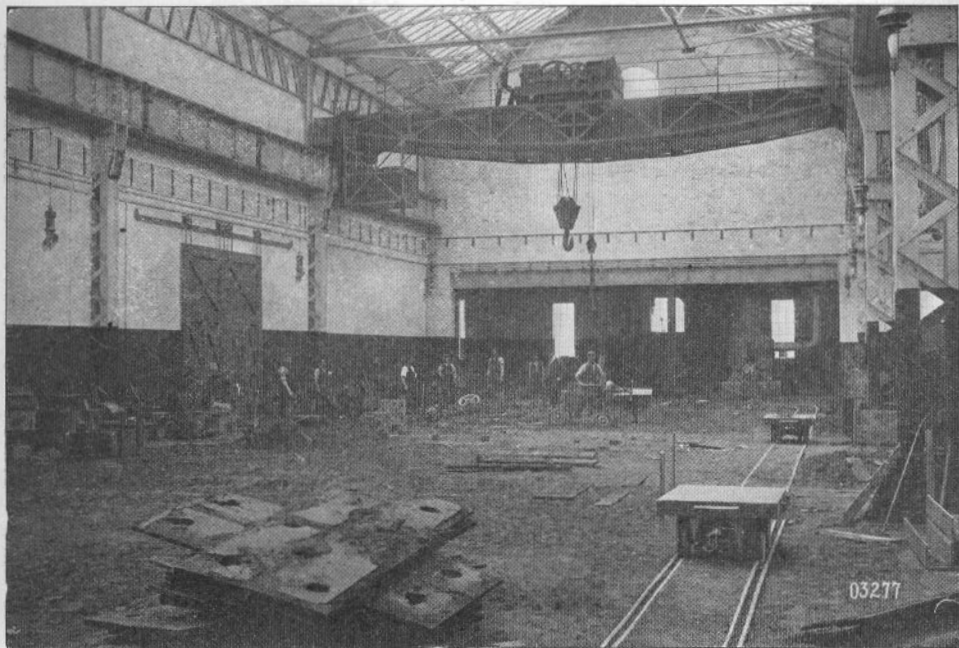
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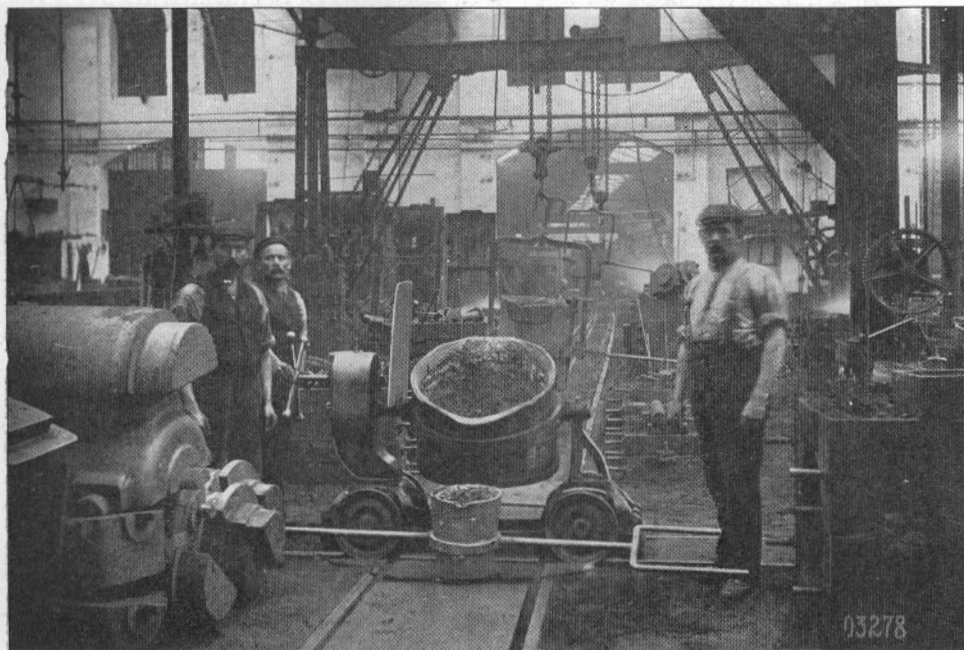
051



No. 03277

The ladle cars are used for transporting the molten metal, and the flat top cars for carrying the flasks in and about the foundry, and also to carry the pig iron to the charging floor.

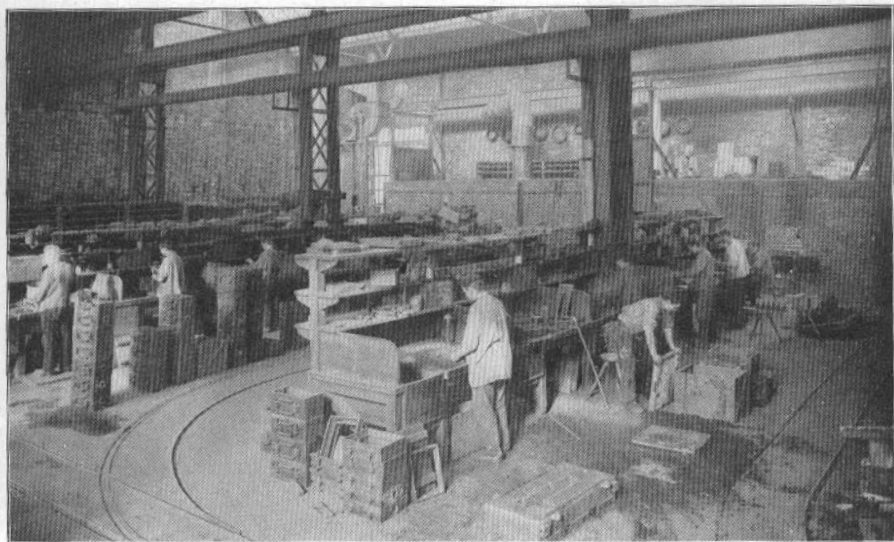
HUNT "INDUSTRIAL" RAILWAY IN THE FOUNDRY OF BRITISH THOMSON-HOUSTON, LTD.,
RUGBY, ENGLAND



No. 03278

LADLE CAR IN POSITION FOR POURING INTO HAND LADLE
HUNT "INDUSTRIAL" RAILWAY, RUSTON, PROCTOR & CO., LINCOLN, ENGLAND

"INDUSTRIAL" RAILWAY



No. 03272

ARRANGEMENT OF MOLDING BENCHES

The prepared sand is carried from the mixers to the benches and molding machines by means of an "Industrial" Railway



No. 03273

POURING FLOOR

An "Industrial" track is used for transferring the molds to the pouring floor
HUNT "INDUSTRIAL" RAILWAY EQUIPMENT IN THE FOUNDRY OF SIEMENS & HALSKE, BERLIN

0223

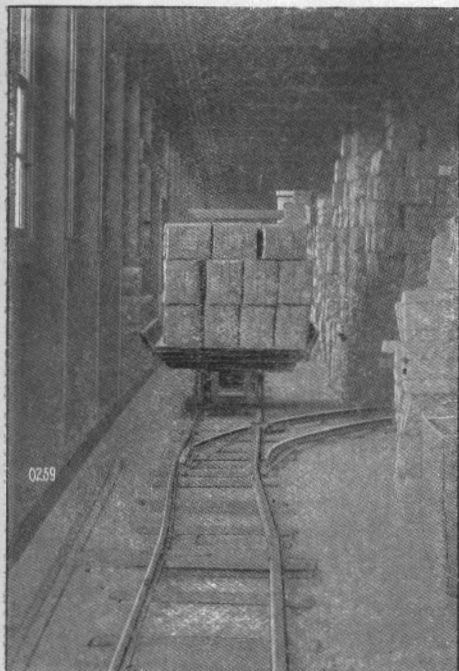
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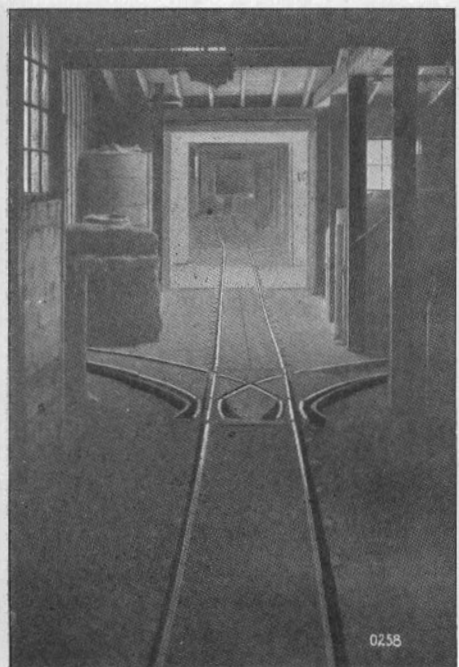
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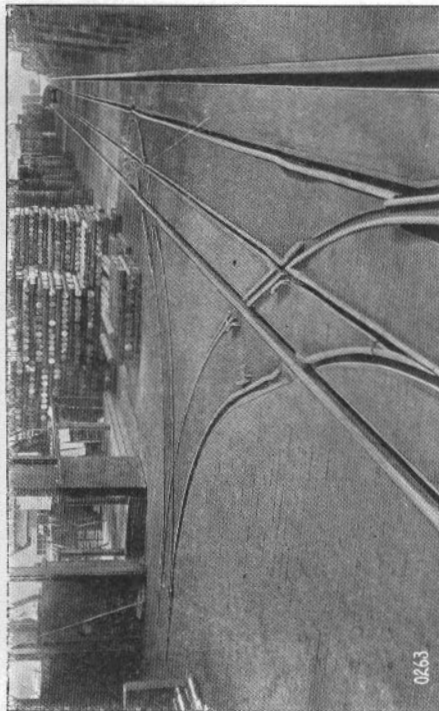
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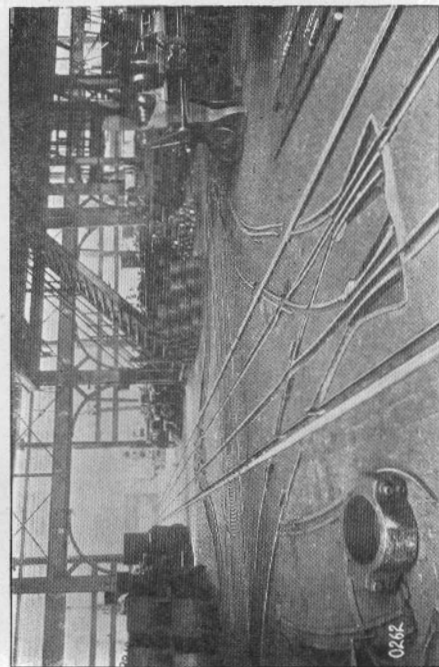
No. 0259.
"INDUSTRIAL" CARS WITH BULKY LOAD



No. 0258.
THREE-WAY SWITCH IN A NARROW PASSAGE



No. 0263.
"INDUSTRIAL" TRACKS RUN IN THE CENTER OF THE
WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, EAST PITTSBURGH, PA. THE INTERESTING FEATURE IS THAT THESE SWITCHES AND CROSSINGS
ARE MADE WITHOUT CUTTING OR NOTCHING THE STANDARD RAILS



No. 0262.
WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, EAST PITTSBURGH, PA. THE INTERESTING FEATURE IS THAT THESE SWITCHES AND CROSSINGS
ARE MADE WITHOUT CUTTING OR NOTCHING THE STANDARD RAILS

MEMORANDA FOR ENGINEERS AND ARCHITECTS

Our cars, tracks and switches are made to standard sizes; the parts are interchangeable, and kept in stock, ready for immediate shipment. An arrangement of tracks with these stock sizes can be furnished more expeditiously and at a lower price than when special sizes are required. In laying out plans for our "Industrial" Railway tracks, bear in mind the peculiarities of the system which are epitomized below:

The engravings show various combinations of switches, curves and crossings, which can be made from the stock kept on hand for prompt delivery.

The wheels are rigidly fastened to the axles, with the flanges to run on the outside of the rails.

On a curve, the outer wheels run on the flange, and the inner ones on the tread, the axle taking a radial position.

The wheels and the curves are so proportioned that the wheels do not slip on a curve, and the cars run around a curve as easily as a wagon turns a corner.

The steel cross-ties are spaced $24\frac{1}{2}$ inches apart, center to center.

The standard length of the straight sections of track, with steel cross-ties, is 20 feet.

The rail joints are fastened with 4-bolt fish plates, 18 inches long.

The radius of the curves is invariably 12 feet, measured from the center to the middle of the track.

The curves are kept in stock, made up complete, in lengths of $11\frac{1}{4}$ degrees, $22\frac{1}{2}$ degrees and $33\frac{3}{4}$ degrees, which we call one, two and three "unit" pieces.

The curved cast-iron plate track is cast in pieces, one, two or three "units" long.

The straight track of a switch, made up of rolled rails is 8 feet long; of the cast-plate switch it is 7 feet 6 inches long.

The curved track of each switch is $33\frac{3}{4}$ degrees, or three "units" long. The frog is an integral part of the switch.

Parallel tracks connected by a switch and a three-unit piece (Cut 03225), or by a crossover made of two switches, will be 49 inches, center to center. When the tracks have a double crossover (Cut 03229) or are connected by a tangent equal in length to the crossing, the distance apart of the tracks, center to center, is 6 feet.

The two-way switch is seldom used for connecting parallel tracks. The tracks would be 8 feet 2 inches, center to center (Cut 03230).

Tracks laid 49 inches center to center can be used by shop cars, ladle cars and charging cars. Tracks 6 feet centers should be laid for all other styles of cars. When the space for the tracks is not limited, a greater distance is advisable, to prevent the possibility of a man being caught between the cars as they pass each other.

Switches can be placed close together, as shown in Cut 03232. With cast-plate switches, the tracks will be 8 feet center to center. With made-up switches, the distance will be 7 feet 6 inches.

The straight cast-iron plate track is in pieces 5 feet long. Shorter lengths are made to order.

The cast-plate track is two inches high, and, in making concrete floors, this depth should be allowed for.

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MEMORANDA FOR ENGINEERS AND ARCHITECTS

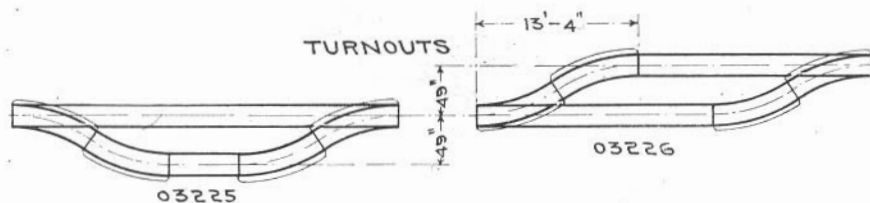
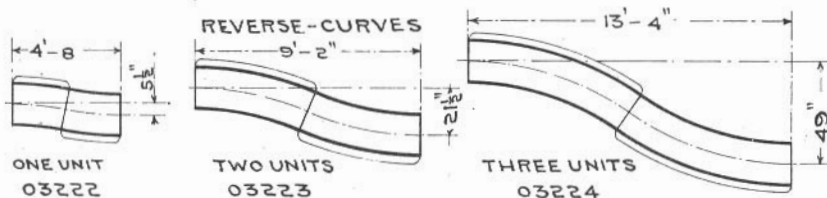
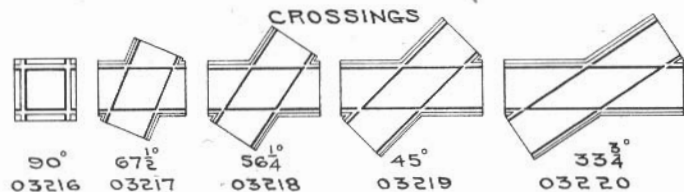
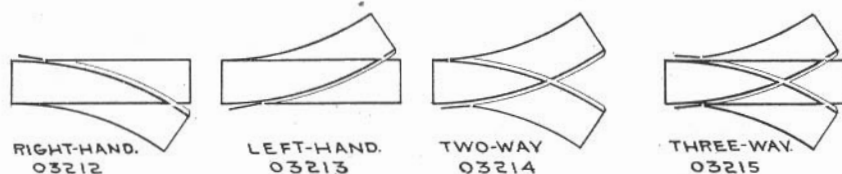
The cast-iron floor plates are 13 inches square, equal to 1.17 square feet area.

The maximum load on a 4-wheel car recommended on page 2 puts a fiber stress on the rail of about one-third the elastic limit of the steel, considering the rail a beam with a center load and supported on cross-ties $24\frac{1}{2}$ inches apart.

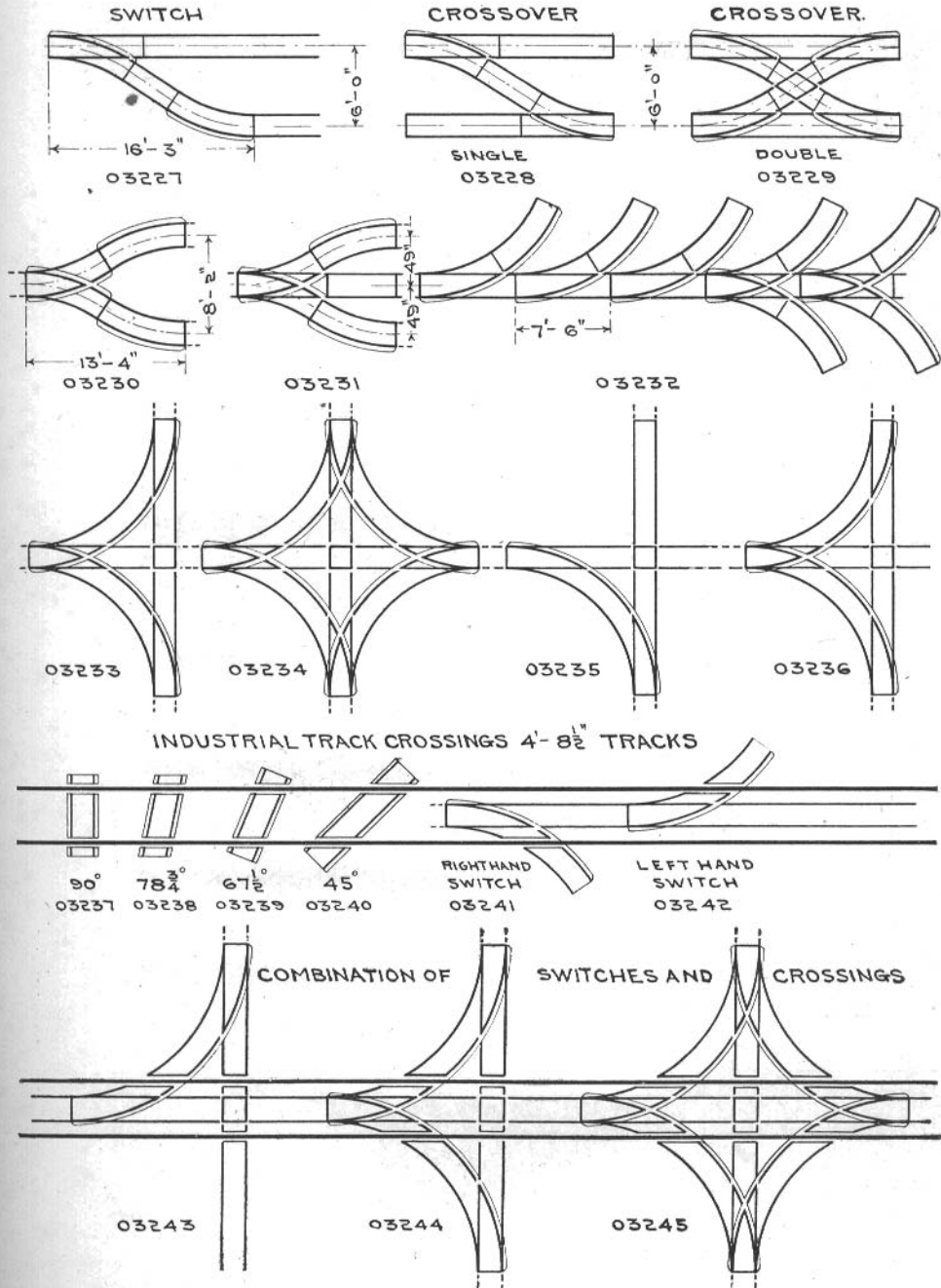
We will make a drawing of the tracks, arranged to suit the customer's situation, when sufficient data are sent with the request.

We invite and will take pleasure in replying to inquiries relating to "Industrial" Railways and their equipment.

Crossings and switches $21\frac{1}{2}$ inches gauge used in connection with 4 feet $8\frac{1}{2}$ inches gauge require special instructions. They are laid without cutting the broad gauge rails.



MEMORANDA FOR ENGINEERS AND ARCHITECTS



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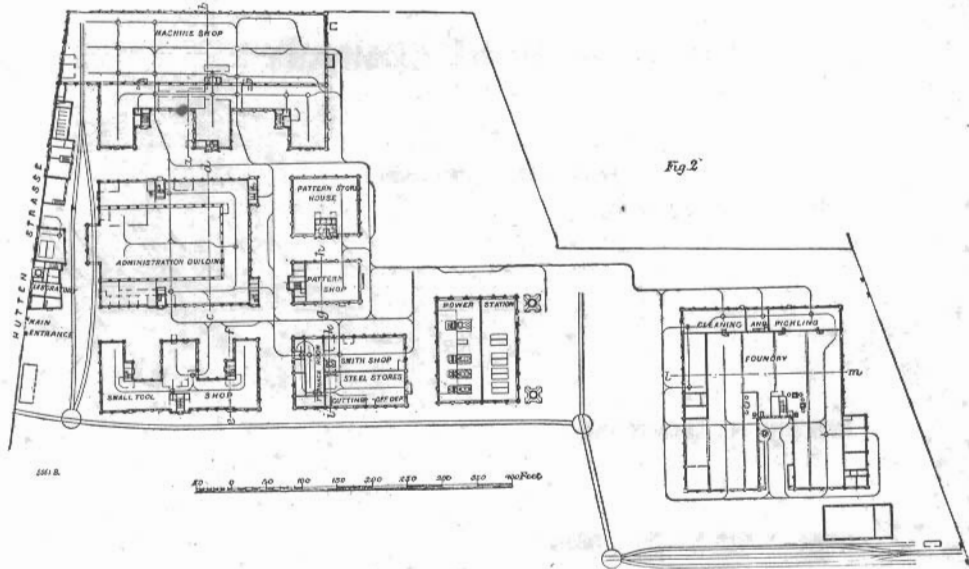
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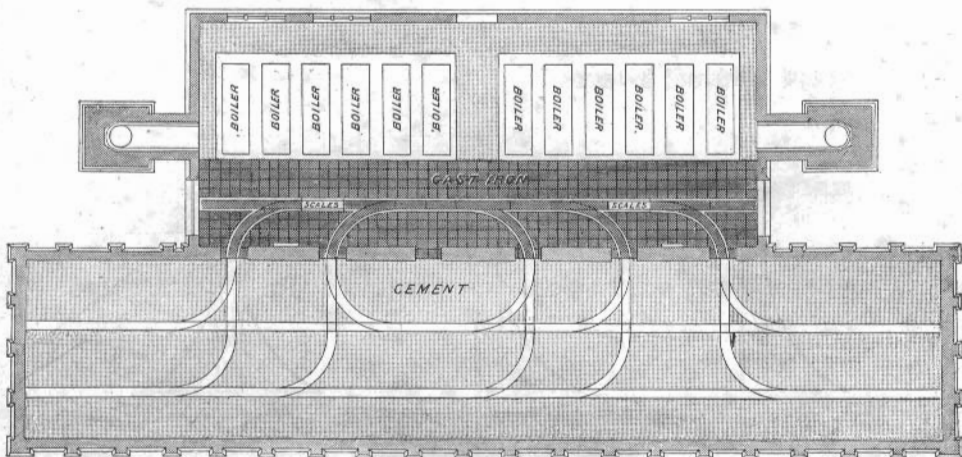
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TRACK PLANS



No. 190010

Plan of tracks in the works of Ludw. Löwe & Company, Berlin, Germany. The narrow single lines are the "Industrial" Railway, 21½ inches gauge; the double lines are the Standard Railway, 4 feet 8½ inches gauge.



No. 940717

RIDGEWOOD PUMPING STATION, BOILER HOUSE AND COLD STORAGE BUILDING, BROOKLYN WATER WORKS

The boiler room is 107 feet long, with a floor made of cast-iron plates, described on page 15, bedded in Portland cement on a concrete foundation. The coal storage room is 36 feet wide, 175 feet long, with our standard track bedded in the Portland cement floor.

THE C. W. HUNT COMPANY

(ESTABLISHED 1872)

West New Brighton, Staten Island, N. Y.
New York Office: 45 Broadway

MANUFACTURE

INDUSTRIAL RAILWAYS

A special railway, 21½ inches gauge, for use in manufacturing establishments. Every part is especially designed with the idea that a railway for this purpose is as much a "machine" as a "lathe," a "steam hammer," or a "loom," and requires the same care in design, and the same quality of machine work. The track is made up with the steel cross-ties securely riveted to the rails, and, with the switches, curves, crossings, and turn-tables, is kept in stock ready to lay. The cars are made to suit every variety of service, and have running gear so arranged that they run around a curve of 12 feet radius as easily as a wagon turns a corner. We furnish every part required for the installation of a railway.

ELECTRIC LOCOMOTIVES

Designed and built for service in connection with Industrial Railways, with running gear arranged to run easily around a curve of 12 feet radius. This locomotive is specially adaptable to manufacturing establishments.

COAL HANDLING MACHINERY

of many varieties, for handling Coal, Ore, Stone, etc., from the simple Mast and Gaff hoisting from canal boats to the most elaborate plant that will unload the largest vessel in one day: Automatic and Cable Railways, Coal Tubs, Steam Shovels, Wheelbarrows, Coal Chutes, Valves and Screens, Coal Crackers, Receiving and Weighing Hoppers, Hoisting Blocks for both Wire and Manila Rope.

CONVEYORS

Hunt Noiseless Gravity Conveyor, which carries the material in any direction, without shock, breakage or violence, and every bearing arranged to be kept thoroughly lubricated, and the whole machine as durable as an ordinary machine tool.

STEAM HOISTING ENGINES

Heavy Duty Engines, with extraordinarily heavy working parts, large wearing surfaces and accurate workmanship. To prevent danger from frost, the steam passages are so arranged that all condensed water automatically drains away.

ELECTRIC HOISTING ENGINES

Built for heavy and continuous work, from 5 to 150 horse-power, and having drums, clutches, brakes and other parts corresponding to those usually used with steam hoisting engines.

MANILA ROPE

This rope is made for **Rope Driving and Hoisting only** and is sold under the trade name of "**Stevodore**." We guarantee that **more work** can be done with it, in proportion to its cost, than with any other rope in the market, without any exception whatever, and will gladly refund the difference in price if it is not all we claim.

We have over thirty-two years' experience in this work, ample shops and capital. We manufacture and guarantee the material and workmanship of every article we sell.

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