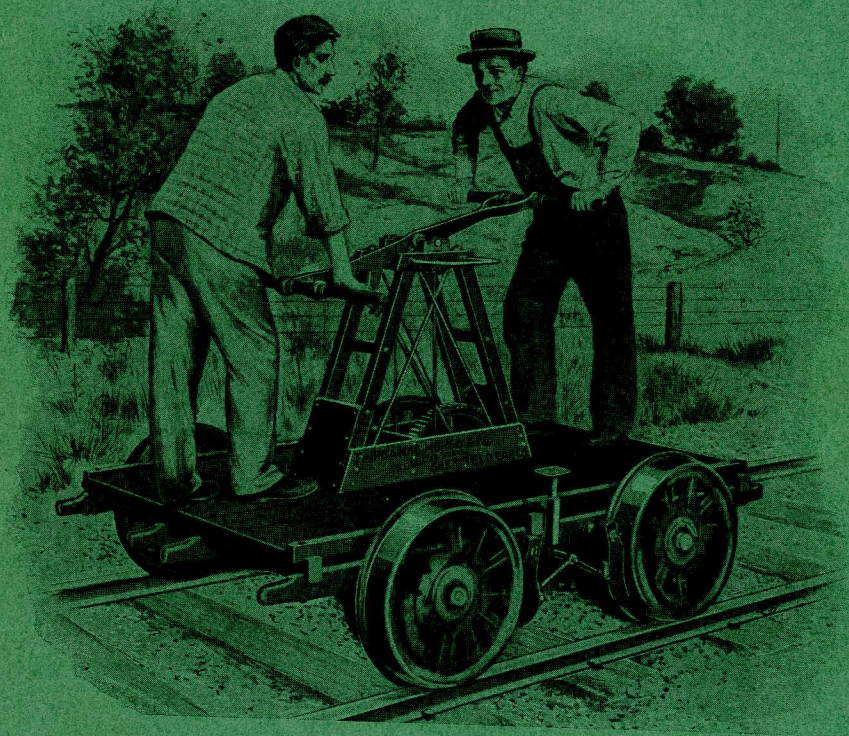
RAILWAY HAND CARS AND PUSH CARS

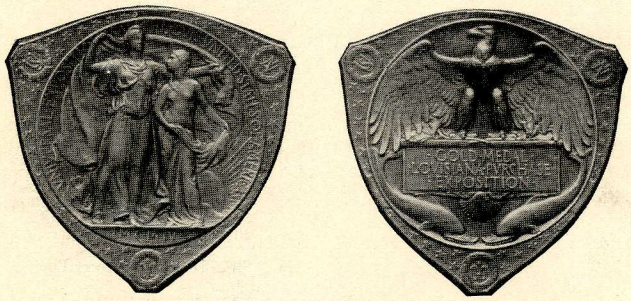
CATALOGUE No. 105A



FAIRBANKS, MORSE & CO.

Sheffield Hand Cars and Push Cars

CATALOGUE No. 105A



GOLD MEDAL

Awarded Sheffield Hand Cars and Push Cars at the
Louisiana Purchase Exposition,
St. Louis, in 1904

We reserve the right to make any changes in detail on our Hand Cars and Push Cars which may, in our opinion, develop an improvement or gain convenience for the operator, without reference to the description and cuts shown in this catalogue.

FAIRBANKS, MORSE & CO.

Address Our Nearest Warehouse

Chicago, Ill.
Cincinnati, Ohio
Cleveland, Ohio
Louisville, Ky.
Detroit, Mich.
St. Louis, Mo.
Indianapolis, Ind.
Kansas City, Mo.
Omaha, Neb.
Minneapolis, Minn.
New York, N. Y.
St. Paul Minn.
Salt Lake City, Utah
Spokane, Wash.
Seattle, Wash.
Denver, Colo.
London, England
Los Angeles, Cal.
San Francisco, Cal.
Bakersfield, Cal.
Santa Maria, Cal.
Portland, Ore.

5M-5-07.

We issue catalogues, pamphlets and circulars covering all of our different lines as classified in the following list. If interested in any particular subject, as indicated, we shall be pleased to furnish special printed matter on request.

ELECTRICAL BULLETINS.

No.	Pages	
204	8	Alternating Current "B" Type Constant Speed Induction Motors—Applications.
205	4	Alternating Current "B" Type Generators.
202	4	Alternating Current "B" Type Induction Motors.
32	2	Direct Connected Exhaust Fans.
30	16	Electric Light and Power Plants.
38	8	Engine Type Generators.
203	4	Induction Motor Starters.
26	8	Special Motors—Direct Current.
24	4	Standard "EE" Type Direct Current Dynamos and Motors.
22	4	Standard "E" Type Direct Current Dynamos.
20	4	Standard "E" Type Direct Current Motors.
21	8	Standard "TR" Type Direct Current Dynamos and Motors.

FAIRBANKS SCALES.

No.	Pages	
503	16	Agate Bearing Scales.
400	.	Automatic Scales.
379	28	Cement Testing Appliances.
396	16	Counter Scales.
387	16	Factory Scales.
506	296	Fairbanks Standard Scales—Complete Catalogue.
501	16	Fine Scale Catalogue.
389	16	Flour and Grain Scales.
393	16	Hay, Stock and Coal Scales.
384	36	Index and Code.
394	16	Packing House Scales.
386	16	Personal and Creamery Scales.
385	16	Portable Platform Scales.
504	16	Postal and Miscellaneous Scales.
395	16	Railway Scales.
121	20	Scale Booklet (General).
397	16	Trip and Even Balance Scales.
388	16	Warehouse Scales.
377	48	Weighmasters' Beams.
399	16	Weights and Parts.

GAS AND GASOLINE ENGINES AND SUCTION GAS PRODUCERS.

No.	Pages	
83	48	Gas Producers, Producer Gas Engines and Multi-Cylinder Vertical Engines.
44	32	Horizontal Engines—Stationary and Portable.
117	24	Jack-of-all-Trades Booklet.
112	...	Marine Engines—Heavy Duty.
111	8	Marine Engines—Light Duty.
115	8	Portable Engines—Horizontal and Vertical.
80	36	Small Vertical Engines.
80	32	Small Vertical Engines (Spanish).

MINING MACHINERY.

No.	Pages	
49	...	Mining Machinery.
123	12	Nissen Booklet—Modern Stamp Milling.
108	32	Nissen Stamp Mills.
1	12	Sinclair Rock Drills.

MISCELLANEOUS MACHINERY, INCLUDING HOISTS, AIR COMPRESSORS, ETC.

No.	Pages	
46	16	Air Compressors—Direct Connected to Engine and Belt Driven Types.
125	16	Coffee Mills—Hand and Power.
129	20	Concrete Mixers.
102	80	Elevator Machinery—Grain.
120	20	Friction Clutches.
45	32	Hoists—Gasoline, Steam and Electric.
130	12	Injectors.
131	40	Letter Presses.
142	12	Motor Vehicles for Commercial Use.
116	16	New Holland Feed Mills.
508	32	Trip Hammers and Saw Tables.
8	184	Trucks.

PUMPING MACHINERY AND IRRIGATION

No.	Pages	
128	48	Centrifugal Pumps.
110	...	Domestic Water and Light.
47	40	Gas and Gasoline Pumping Engines.
114	36	Irrigation—Practical.
122	20	Irrigation Machinery (Special Pamphlet).
48	88	Steam and Power Pumps.

RAILWAY MACHINERY AND SUPPLIES.

No.	Pages	
103	16	Coaling Stations.
132	4	Electric Lighting for Railway Stations.
105	16	Railway Hand and Push Cars.
101	16	Railway Motor Cars.
52	430	Railway Supplies (Complete Railway Supply Catalogue).
53	32	Railway Supplies (Pamphlet in Spanish).
106	8	Railway Velocipedes.
140	16	Sheffield Gasoline Locomotives.
127	32	Track Appliances.
109	32	Track Jacks.
104	12	Turntable Machinery.
126	32	Water Stations.

STEAM ENGINES AND BOILERS.

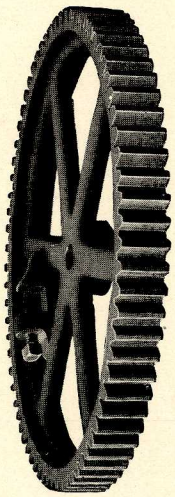
No.	Pages	
136	4	Horizontal Tubular Boilers, Hartford Specifications—125 Lbs. Working Pressure.
139	2	Internal Fired, Scotch Type Boilers.
133	4	Locomotive Portable Boilers.
138	4	Self-Contained Engines and Boilers Mounted on Skids.
135	4	Standard High Pressure Tubular Boilers.
134	4	Standard Horizontal Tubular Boilers.
79	...	Steam Boilers—General Catalogue.
81	...	Steam Engines.
137	4	Vertical Tubular Boilers.

WINDMILLS, PUMPS AND GENERAL MACHINERY SUPPLIES.

No.	Pages	
50	224	Machinery Supplies—Pumps, Windmills, Pipe and Fittings.
124	4	Shovels.
65	32	Windmills.

Section Hand Cars

IMPROVEMENTS IN FOUR-WHEEL CARS

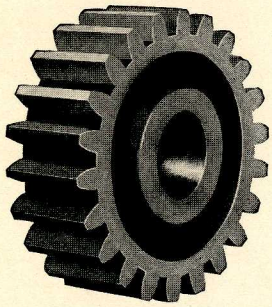


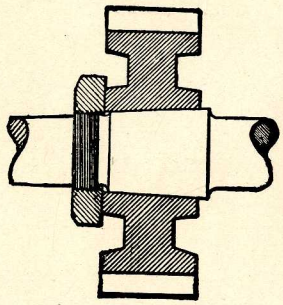
MACHINE CUT GEARS—These are exclusive features of our cars, possessing many important advantages. All the teeth are made an exact size and shape and perfectly smooth, in contrast with the rough and uneven teeth on the ordinary cast gear. Result: The drive gear and pinion work together with minimum amount of friction and wear, cars run much easier (a saving of time and labor), and the life of the gears is greatly prolonged (a saving of repairs).

TAPERING WHEEL FIT—By making ends of axles tapering and boring hubs of wheels in same manner, the screwing on of the nut forces the two cones together so as to make a tight fit without the troublesome and objectionable key-seating. By this method the wheels are made absolutely perpendicular and revolve in a perfect circle—not the case with keyseated wheels.

UPSET COLLAR ON THE AXLE—This is a comparatively new feature which effectually stops lateral or end play after the axles become worn. The collar being a part of the axle itself will never give annoyance by coming loose, as was formerly sometimes the case.

PINION GEAR





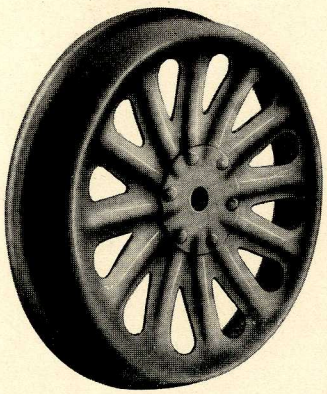
Showing Taper Fit for Pinion Axle

Provision has also been made for securing the pinion gear to driving axle by tapering fit, because by the old method, the driving of the key forced this wheel out of center with the axle, consequently it described an eccentric circle and would bind more or less on the drive gear at a certain point in every revolution. This, of course, interfered with the smooth and easy running of the car. With the taper fit this wheel revolves in a true circle.

INSULATED AXLES—Are furnished on any of our standard hand cars for use where electric signals are in use. These are always extra and should be specially ordered if wanted.

There are several other good points on which we might enlarge, such as the self-adjusting steady box on driving axle, the bracing of the gallows frame by vertical and diagonal rods, the bracing of frame and reinforcement of timbers by double truss rods, but most of these are too well known to need special mention here.

The real and best test is actual service, and those wishing to determine which is the best car in this way will find us ready to offer liberal inducement to that end.



Pressed Steel Wheels

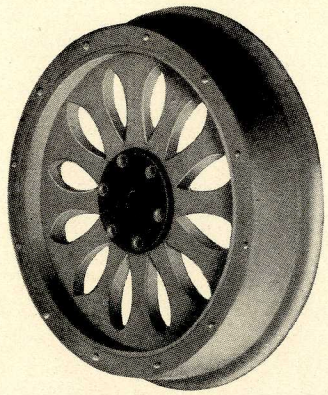
PRESSED STEEL WHEELS—So long have our pressed steel wheels been on the market, so widely distributed and satisfactory have they been, that we doubt if there is a man in the road department of any railroad not familiar with their merits.

Pressed to shape from toughened homogeneous steel plate, with dished and ribbed web, master car builders' turn-over flange, makes the lightest, strongest and best wearing wheel for section cars ever made. Hub is a drop forging, riveted to web. No surplus metal to add unnecessary weight; no parts to work loose. It is the pioneer pressed steel wheel, and experience has shown it combines in the best manner all the essentials of strength and great durability.

PRESSED STEEL WHEELS

No.	Diam., Inches	Description	Shipping Weight, Pounds	Code Word	Price
H 1225	18	$\frac{5}{16}$-inch stock, $1\frac{7}{8}$-inch straight bore, keyseated	50	Stelwel	$4.50
H 1228	18	$\frac{5}{16}$-inch stock, $1\frac{7}{8}$-inch straight bore, smooth	50	Stelyim	4.50
H 1073	20	$\frac{1}{8}$-inch stock, $1\frac{3}{16}$-inch taper bore	25	Stelzon	4.50
H 688	*20	$\frac{1}{8}$-inch stock, $1\frac{27}{64}$-inch taper bore for insulated wheel	25	Stelbup	4.50
H 1001	20	$\frac{1}{8}$-inch stock, $1\frac{7}{16}$-inch taper bore	25	Stelcas	4.50
H 778	*20	$\frac{1}{8}$-inch stock, $1\frac{43}{64}$-inch taper bore for insulated wheel	25	Stelfit	4.50
H 993	20	$\frac{1}{4}$-inch stock, $1\frac{7}{16}$-inch taper bore	44	Stelhow	4.50
H 996	*20	$\frac{1}{4}$-inch stock, $1\frac{43}{64}$-inch taper bore for insulated wheel	44	Stelkux	4.50
H 1243	20	$\frac{1}{4}$-inch stock, $1\frac{11}{16}$-inch taper bore	46	Stellaz	4.50
H 679	*20	$\frac{1}{4}$-inch stock, $1\frac{59}{64}$-inch taper bore for insulated wheel	46	Stelmeb	4.50
H 998	24	$\frac{1}{4}$-inch stock, $1\frac{7}{16}$-inch taper bore	60	Stelnic	5.00

Wheels can be bored otherwise up to $1\frac{7}{8}$-inch diameter.
*Insulating bushing and washers not included with wheels above.
Insulating bushing and washers, per wheel $0.55



Wooden Center, Steel-Tired Wheel

This is a strong, serviceable wheel, and is preferred by some on account of running more quietly than the steel wheel. Except in hot, dry sections it will give as good service as the pressed steel.

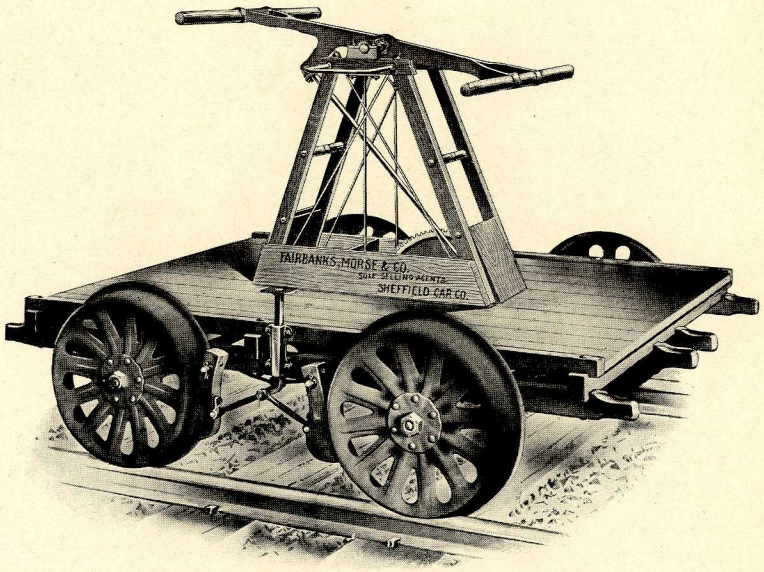
It is especially adapted for use on roads that have electric block signals, inasmuch as the wooden centers form a perfect insulation between the tire and the axle.

It is a combination of steel and wood, the spokes being of hard maple thoroughly seasoned. The tire is of toughened steel $\frac{1}{4}$ inch thick, cone tread, master car builders' turn-over flange. Hub and plate for same, steel forging. The hub is $2\frac{1}{2}$ inches in diameter, upon inner end of which spokes are closely fitted. These are driven tightly on hub and securely held by the steel tire, which is forced on by a heavy press. The outside diameter of spokes and retaining rings are turned to furnish a continuous bearing for this tire.

WOOD CENTER WHEELS

No.	Diam., Inches	Description	Shipping Weight, Pounds	Code Word	Price
H 1010	20	$1\frac{7}{16}$-inch taper bore	38	Woodwel	$4.50
H 1011	20	$1\frac{3}{8}$-inch straight bore, keyseated	38	Woodyim	4.50
H 1012	20	$1\frac{3}{8}$-inch straight bore, smooth	38	Woodzon	4.50
H 1013	22	$1\frac{7}{16}$-inch taper bore	40	Woodbup	4.50
H 1014	22	$1\frac{3}{8}$-inch straight bore, keyseated	40	Woodcas	4.50
H 1015	22	$1\frac{3}{8}$-inch straight bore, smooth	40	Woodfit	4.50
H 1016	24	$1\frac{7}{16}$-inch taper bore	50	Woodhow	5.00
H 1017	24	$1\frac{3}{8}$-inch straight bore, keyseated	50	Woodkux	5.00
H 1018	24	$1\frac{3}{8}$-inch straight bore, smooth	50	Woodlaz	5.00
H 1019	26	$1\frac{7}{16}$-inch taper bore	65	Woodmeb	5.50
H 1020	26	$1\frac{3}{8}$-inch straight bore, keyseated	65	Woodnic	5.50
H 1021	26	$1\frac{3}{8}$-inch straight bore, smooth	65	Woodpod	5.50

Wheels can be bored otherwise up to $1\frac{7}{8}$-inch diameter.



No. 1 Standard Section Hand Car

(STANDARD GAUGE)

Weight, 525 lbs. Packed for export, 835 lbs.
Code Word, Marmot

THE SHEFFIELD HAND CARS ARE THE BEST MADE

Platform, 6 feet long by 4 feet 4 inches wide. Wheels, all-steel or wood center, 20 inches in diameter. Steel wheels are standard and always furnished unless otherwise ordered.

Diameter of wheels—20-inch wheels are furnished on all hand cars unless otherwise specified, but any other size ordinarily used can be furnished if desired.

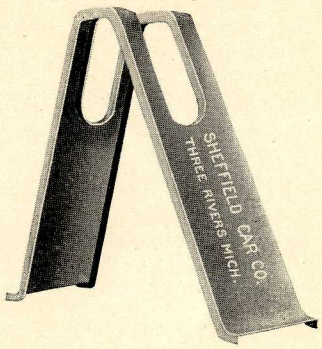
Our steel wheel cars can be insulated for use on roads having the electric block signal system.

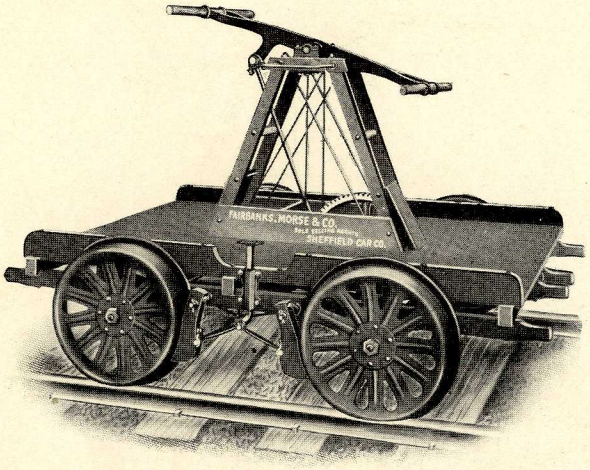
Improved Pressed Steel Gallows Frame

PATENTED

Formed from a single sheet of metal

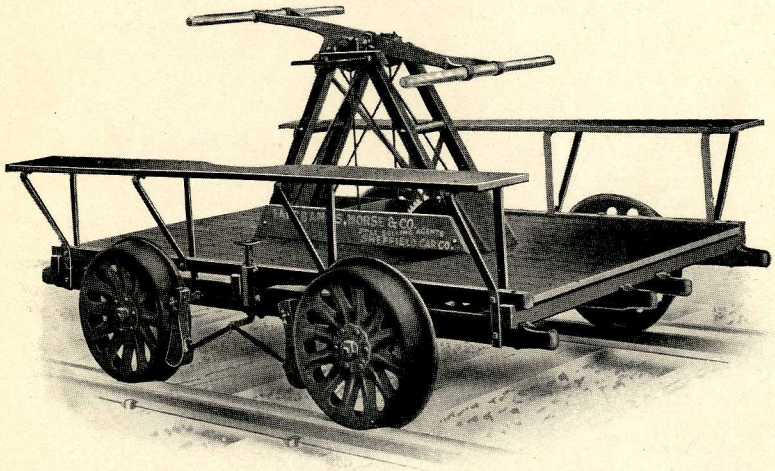
This style frame can be furnished instead of the usual wooden gallows frame when specially ordered, and at extra cost, on the following cars: Nos. 1, 20, 25, 27 and 31.





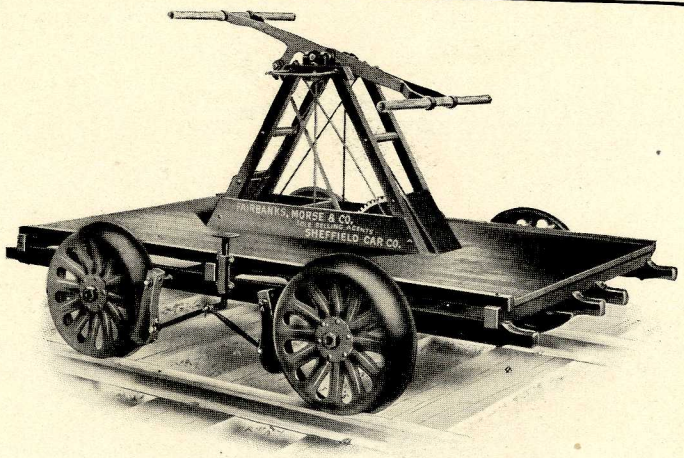
No. 20 Standard Section Hand Car

Similar to No. 1 but with high side rails extending 3 inches above deck. Actual weight, 565 lbs. Packed for export, 765 lbs. Code word, Maroon.



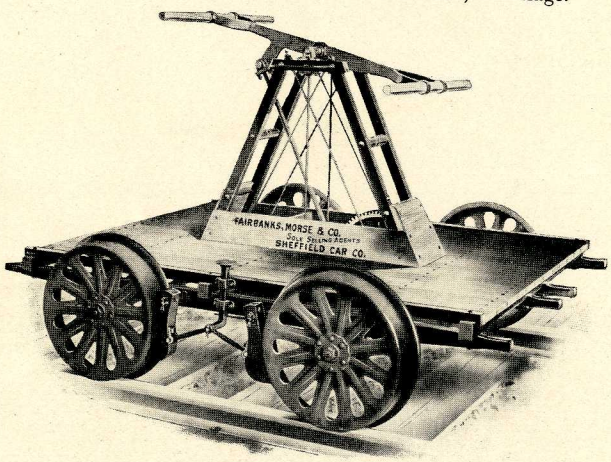
No. 2 Special Hand Car

Platform 7 feet 6 inches by 4 feet 4¼ inches. Frame heavier than No. 1 car. Seats running lengthwise over wheels, supported by four wrought-iron brackets. 20-inch diameter pressed steel wheels are standard. Wood center wheels are furnished, if specially ordered. Actual weight, 625 lbs. Packed for export, 915 lbs. Walking beam is 3½ inches longer than used on No. 1 hand car, giving much greater leverage. Code word, Marquis.



No. 9 Special Hand Car

Same as No. 2, but without side seats. 20-inch steel wheels furnished unless other wise ordered. This car fitted with side rail, like No. 20, when ordered. Actual weight, 560 lbs. Packed for export, 790 lbs. Code word, Marriage.



No. 25 Hand Car

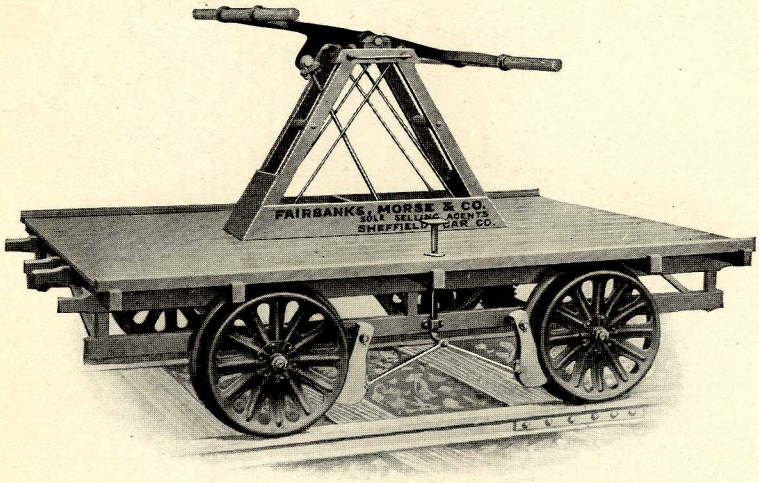
Designed to meet the demand for a lighter section hand car than ordinarily used. It weighs 390 lbs. Packed for export, 645 lbs. Has hardwood deck, screwed to frame and finished in natural wood. The driving axle is $1\frac{1}{2}$ inches and the loose axle $1\frac{1}{4}$ inches. Wheels are pressed steel, light pattern. A 20-inch or 22-inch diameter wooden center wheel will be substituted for the 20-inch steel wheel, if preferred.

Code word, with 20-inch steel wheels, Marron.

No. 45 Hand Car

No. 45 hand car is the same as the above except that the driving axle is $1\frac{1}{4}$-inch and that the deck is nailed to frame and painted standard hand car color.

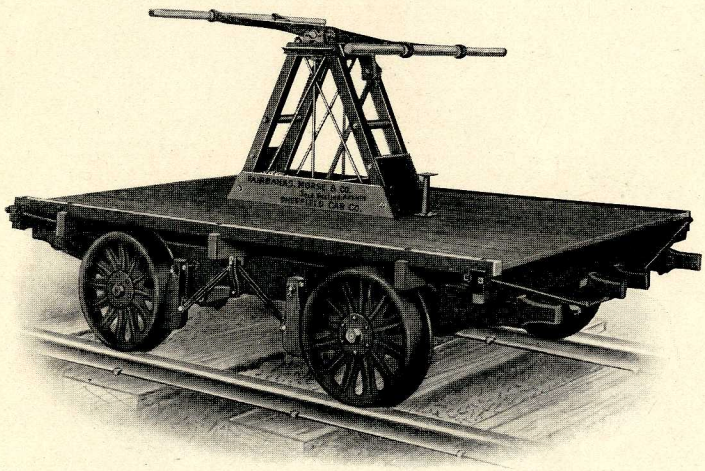
Code word, with 20-inch steel wheels, Marosup.



No. 38 Bridge Gang Hand Car

Platform 8 feet long by 5 feet 8 inches wide. 20-inch pressed steel wheels are standard. 20-inch wood center wheels will be furnished, if desired. Axle 1½ inches. Weight, 700 lbs.

Code word, Marotas.

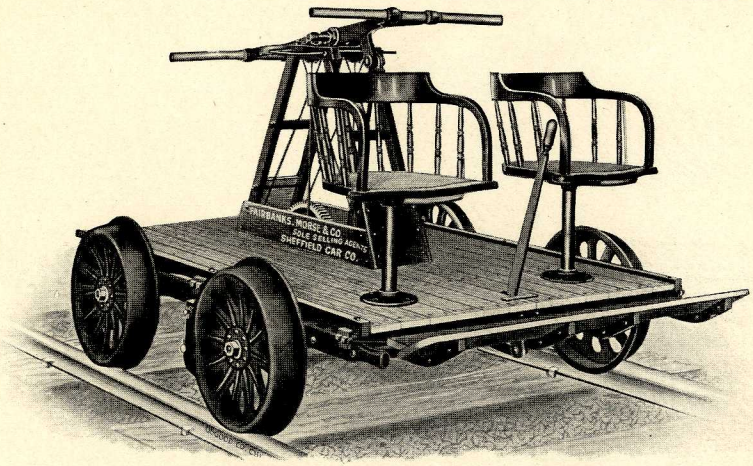


No. 28 Bridge Gang Hand Car

EXTRA HEAVY

Platform 8 feet long by 5 feet 8 inches wide. A very strong and substantial car with 20-inch pressed steel wheels and 1¾-inch axles. Weight, 865 lbs. Packed for export, 1260 lbs.

Code word, Marrow.



No. 27 Inspection Hand Car with Chairs

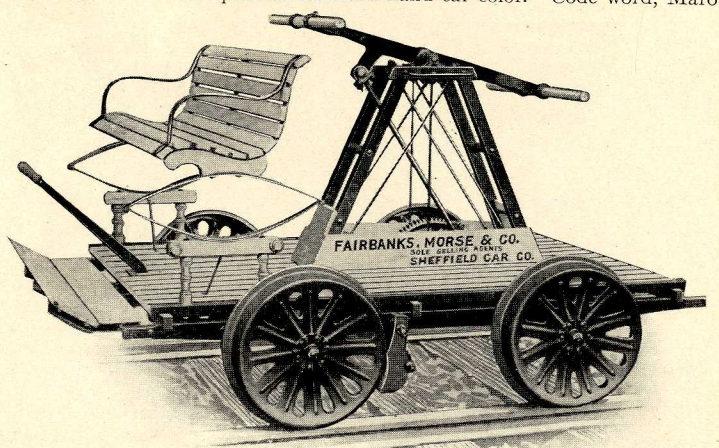
Especially designed for light use in inspection work; made as light as possible consistent with strength. Deck is fastened to frame by screws, and is made of hard wood finished in natural color. Two revolving chairs on front of platform. Weight, 480 lbs.; packed for export, 760 lbs. 20-inch pressed steel wheels, light stock ($\frac{1}{8}$-inch) are standard. Wood center wheels furnished if specially ordered. Code word, Martin.

No. 37 Inspection Hand Car

No. 37 Inspection hand car is the narrow gauge form of the No. 27 car. Code word, Maropin.

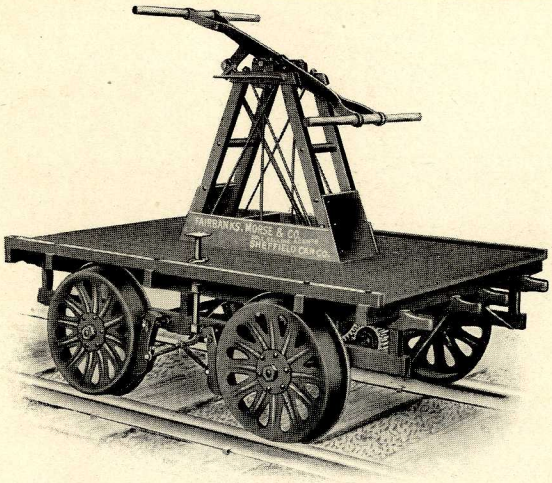
No. 47 Inspection Hand Car

No. 47 hand car is the same as the No. 27 except that axles are $1\frac{1}{4}$ inches and that deck is nailed to frame and painted standard hand car color. Code word, Marovet.



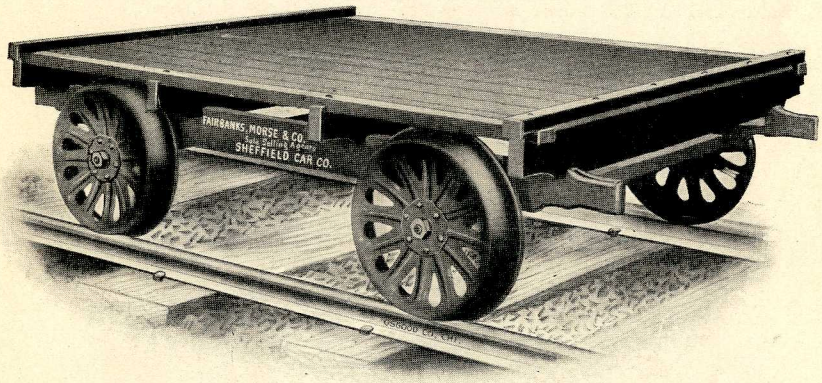
No. 27-A Inspection Hand Car with Slatted Seat

A very light weight inspection car with a comfortable slatted seat across front. Weight, 480 lbs. complete. Code word, Maronel.



No. 31 Narrow-Gauge Hand Car

Platform 6 feet long by 4 feet wide. Steel wheels, 20 inches diameter. Actual weight, 510 lbs. Packed for export, 775 lbs. Code word, Marry.



No. 4 Standard-Gauge Push Car

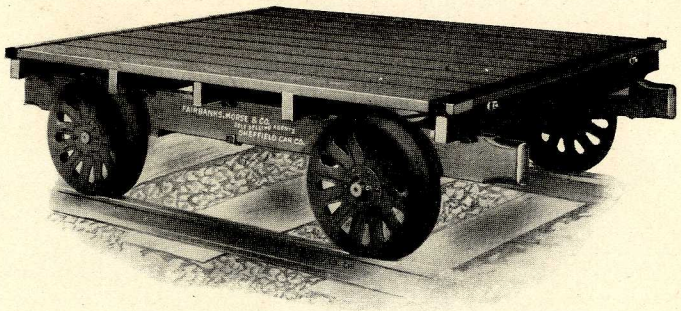
Platform 7 feet by 5 feet 6½ inches. Steel wheels, 20 inches diameter. Best materials and strongly made. Actual weight, 500 pounds. Packed for export, 750 lbs. All push cars now furnished with hardwood rail across end, 1 inch thick and 2½ inches wide, as shown, same covered with steel plate. Code word, Mastif.

No. 32 Narrow-Gauge Push Car

This is the narrow gauge form of the No. 4 push car. Platform (for 3-foot gauge) 7 feet long by 5 feet wide. Weight, 480 lbs. Code word, Matsoz.

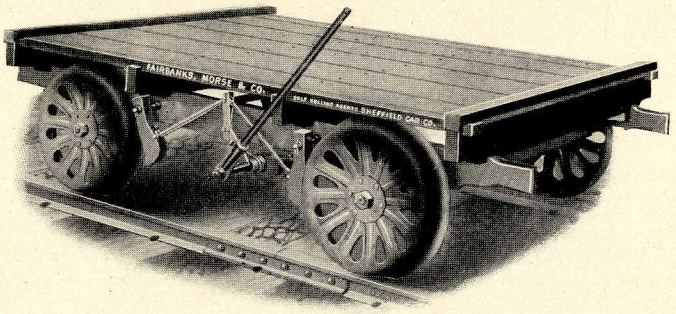
No. 24 Push Car

Light push car. Platform 4 feet 8 inches long by 4 feet 4¼ inches wide. 17-inch wood center velocipede wheels. 1¼-inch axles. Lever brake on four wheels. Weight, 290 lbs. Code word, Matsub.



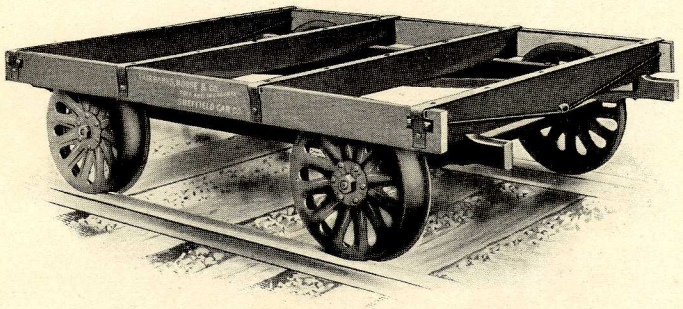
No. 12 Extra Heavy Push Car

For construction work. Axles and frame timbers extra large size to carry heavy loads. Platform 7 feet long by 5 feet 8¼ inches wide. Steel wheels, heavy pattern, 18 inches diameter. Actual weight, 700 lbs.; packed for export, 900 lbs. Code word, Matchless.



No. 18 Push Car

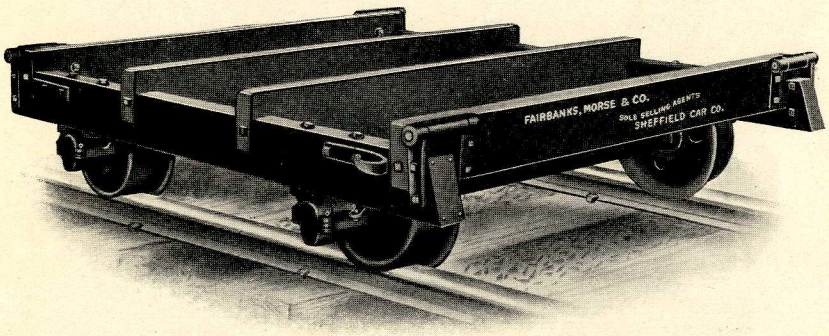
Same as No. 4 push car, but furnished with brake, as shown. Actual weight, 510 lbs.; packed for export, 790 lbs. Code word, Matinee.



No. 19 Push Car

General dimensions same as No. 4, but without decking, car sills being covered with heavy bands of iron. Weight, 470 lbs. Packed for export, 735 lbs.

Code word, Matrix.

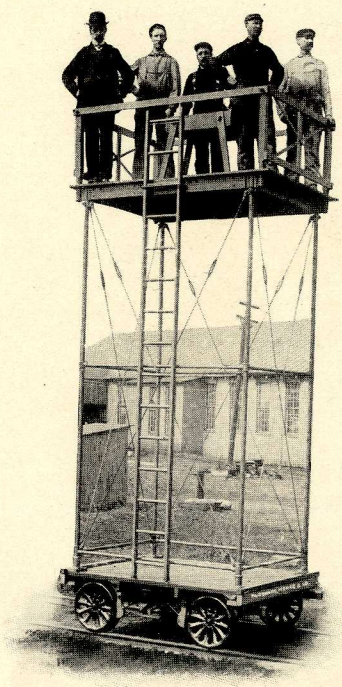


No. 11 Track-Laying Car

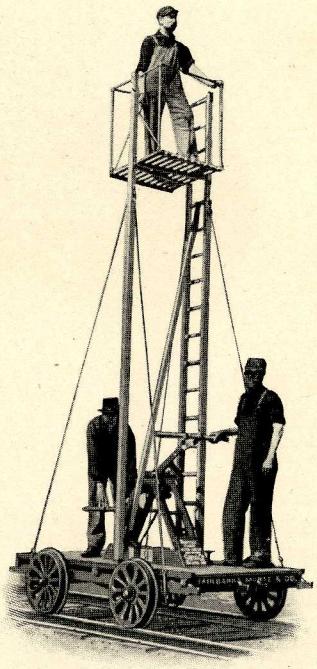
Weight of car about 1,350 lbs.; packed for export, 1,605 lbs. Length over sills, 7 feet 8 inches. Width over sills, 6 feet 2⅞ inches. Height above top of rails, 1 foot 8¾ inches. Length of wheelbase, 4 feet 5 inches. Four cast wheels thoroughly chilled, 16 inches diameter. These are double-plate wheels, having 5½-inch tread. Two wheels loose on axles placed diagonally from each other, and two wheels pressed on. Code word, Matting.

No. 34 Track-Laying Car

Same design as the No. 11 track laying car but lighter throughout. Safe for loads up to 12,000 lbs. Code word, Matvor.



Trolley Construction Car



Trolley Repair Car

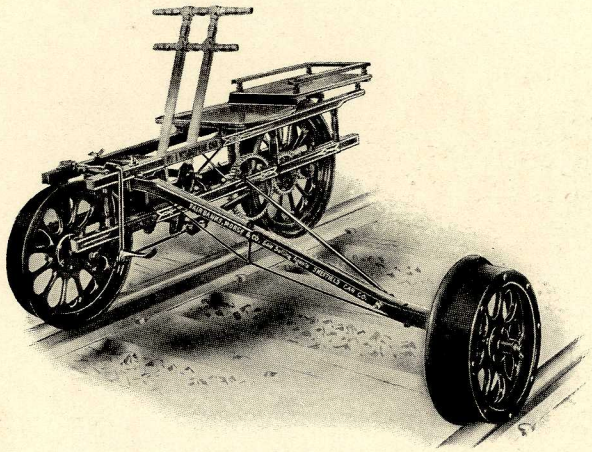
The Construction Car consists of an elevated platform supported by a very rigid trussed frame which is carried on springs and mounted on a car similar to our Standard No. 18 Push Car. It was designed for trolley line construction work, but may be used to advantage in repairing, where several men are desired to work at one time. A tool box with folding legs is provided on upper platform. The platform and frame are constructed in such a manner that same may be readily dismantled and stored, then occupying very limited space. The car may then be used as an ordinary push car.

All castings used above the car deck are of malleable iron. Wheels have special street car tread and flange. Weight of complete car, 1,360 lbs. Weight of superstructure only, 750 lbs. Code word, Trolcar.

The Repair Car was designed for trolley line repair work only, and the superstructure is made as light as possible without sacrificing rigidity of platform. The upper structure may be set up or taken down on very short notice, which makes it a very desirable "Emergency Car."

The upper work is mounted on car similar to our Standard No. 9 Hand Car, and when taken down the platform folds in small space, and together with ladder is readily carried on the car to any point where it is desired for repair work.

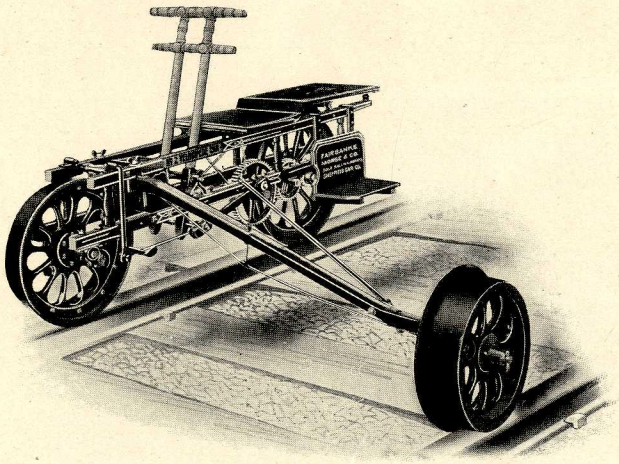
Car is provided with wheels having street car tread and flange, unless otherwise ordered, and can be quickly propelled with ladder and platform from point to point by two or more men. Weight of complete car, 660 lbs. Weight of superstructure only, 125 lbs. Code word, Troldes.



No. 1 Velocipede Car

BALL BEARING

Actual weight, 150 lbs.; packed for export, 300 lbs. Can be arranged adjustable from narrow to standard gauge, if desired. Code word, Marble.

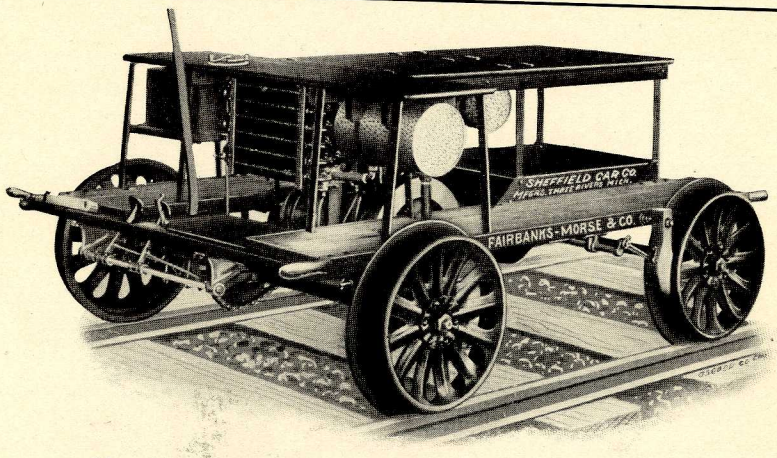


No. 2 Velocipede Car

BALL BEARING

It is the same in general design as the No. 1, but has in addition a seat and foot rest in rear of operator for carrying a second person. It makes an excellent inspection car, as the inspector can sit facing the track and carefully note its condition as the car proceeds. Weight, 158 lbs.; packed for export, 310 lbs. Code word, Margot.

In our Catalogue No. 106 we show other styles of Railway Velocipedes.

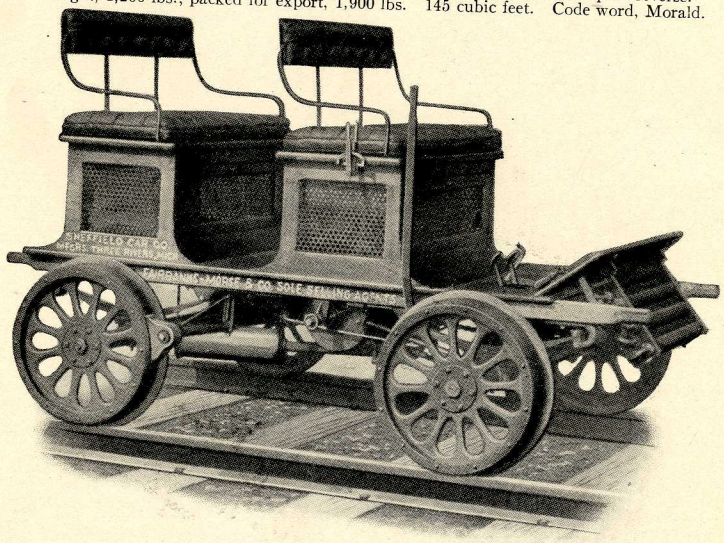


Sheffield Section Motor Car No. 14

AUTOMOBILE TYPE

WHEELS ..... 20-inch wood center or pressed steel. M. C. B. flange and tread.
AXLES ..... 1¾-inch and 1½-inch steel, M. C. B. standard gauge.
FRAME ..... Of steel angles and channels riveted together.
BRAKE ..... Brake on two wheels.
POWER ..... Single cylinder, 4-cycle engine of ample size to propel car and load over any grades that a locomotive will go over.
SPEED ..... Maximum speed, ahead, fifteen miles per hour; and reverse, five miles per hour Variable at will of operator.
TRANSMISSION ..... Planetary type, giving slow and fast speed ahead, and slow speed reverse.

Weight, 1,200 lbs.; packed for export, 1,900 lbs. 145 cubic feet. Code word, Morald.



Sheffield Inspection Motor Car No. 15

AUTOMOBILE TYPE

Motor Car No. 15, ready for service, can be operated at any speed desired, at will of operator, up to thirty miles per hour, and ten miles per hour on the reverse. Weight, 1,200 lbs.; packed for export, 1,865 lbs. Code word, with two seats as shown, Motrin; with rail guard in place of rear seat, Mordant.

In our Catalogue No. 101 we show a very complete line of Motor Cars adapted for railroad work.

Fairbanks, Morse & Co.

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