1894

SHEFFIELD CAR CO.,

MANUFACTURERS

LIGHT CARS,

THREE RIVERS, MICH.,

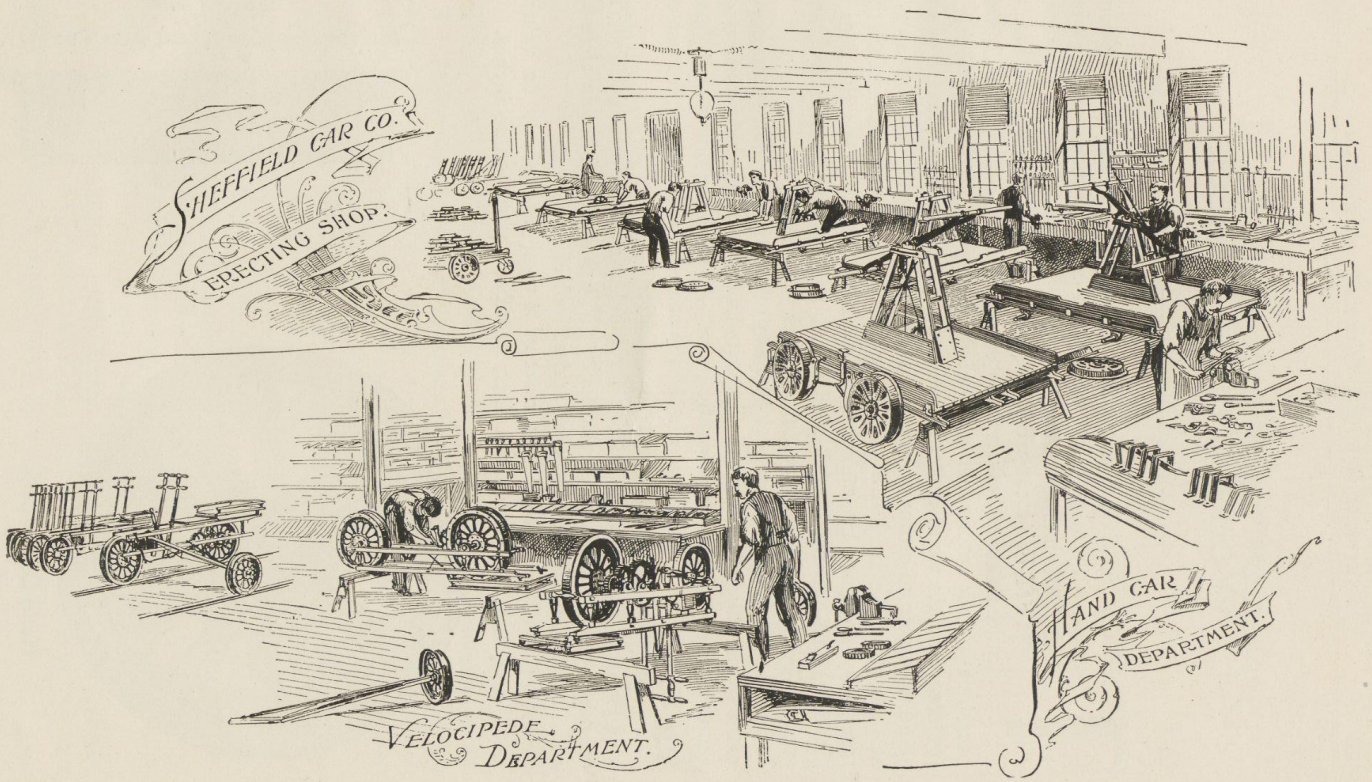
U. S. A.

Please do not forget that we are designers of, and are glad to submit specifications and estimates on, cars for all kinds of industrial work, as we make many styles not shown in catalogue, including all forms of metal construction of latest improved types. Contracts made subject to approval of drawing before building cars. Write us fully as to what you want to do and we will gladly assist you in getting a car suited to your peculiar conditions. Prices made on iron work only, whenever desired.

SHEFFIELD CAR CO.

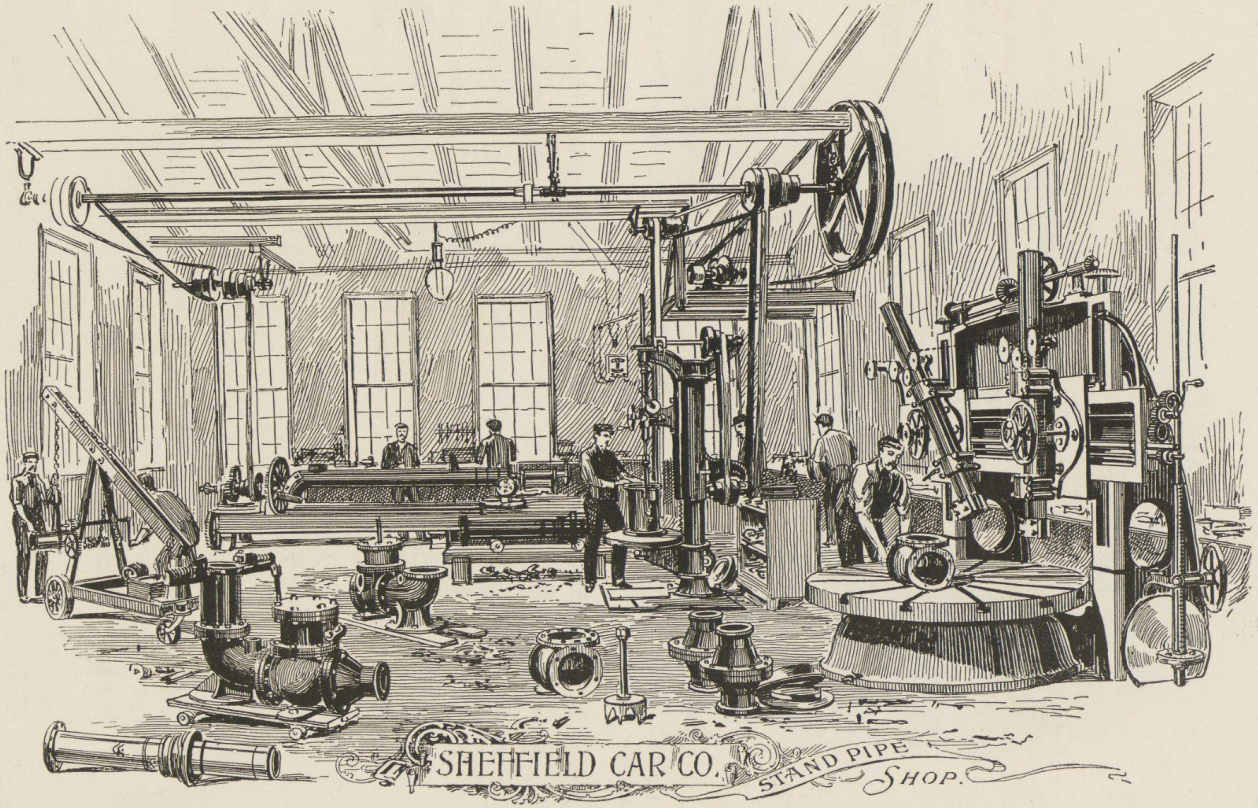
22—104—5—1

THREE RIVERS, MICH.


SHEFFIELD CAR CO.
ERECTING SHOP.
HAND CAR
DEPARTMENT.
VELOCIPEDE
DEPARTMENT.

OFFICE & ENGINEERING DEPARTMENT


SHEFFIELD CAR CO.
MACHINE SHOP.


SHEFFIELD CAR CO.
STAND PIPE
SHOP.

A Word About Our Power.

OUR works are situated in the Second Ward of the village of Three Rivers, and cover about seven acres. Our shops lie along the bank of the St. Joseph, they being bounded on the opposite side by a canal or race, from which we get our water power.

Both the Michigan Central and Lake Shore & Michigan Southern Railroads have switches run into our yards, each of them running nearly through the whole length of the same.

We have, as above intimated, water power, but not sufficient to insure what we need under all circumstances, so, as will be noted on opposite page, we have supplemented it with steam.

Our buildings being almost exclusively one story, it was found difficult, as we erected buildings from time to time, to get power to them, but with the aid of an electric generator, we were able to solve the problem very satisfactorily. Three of our departments are now run by electric motors.

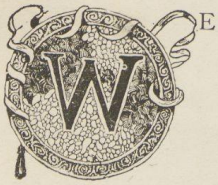
All our buildings, except Foundry, Office and Designing Department, are heated by steam. Our Wood-working, Paint and Erecting Room Departments are heated by the Sturtevant Hot Blast System, the others by direct radiation ; the office by hot water.

All our buildings are lighted by electricity, we having ten arc and one hundred and fifty incandescent lights installed.

Aside from our water power, we have three engines—a Two-hundred H. P. Compound Condensing Westinghouse, with vacuum pump, an Atlas, and a Westinghouse Simple Engine. With our two sources of supply for power—steam and water—and with our lighting plant, it will readily be seen that we have unusual facilities for crowding our work, as, if necessary, we can run 24 hours per day.

H

The Velocipede Car.



E believe we can safely say that there is not a well equipped railroad in the United States that has not the Velocipede Car in use, and so large has been our sale of these cars in foreign countries, that this fact must apply with equal force to the railroads of the whole world.

We were the first to place on the market a light car that could be propelled by one man, and it is with natural pride that we can say that the car designed by us in the first instance for this work, is practically the same as that used by us to-day, and is acknowledged by all candid men to be the best style of construction for a car of this description.

Many different designs of light three-wheeled cars have been tested by us, but that "best test" of all, actual use in service, has demonstrated that the original design is by all means preferable. While the design has not changed materially, there have been many changes made in construction of parts, experience demonstrating the weak points, which, not having sooner developed, we have immediately strengthened.

We can, therefore, say that while the casual observer would not notice any marked change in the cars we are now making, from those first made by us, the mechanic, upon investigation, would find a radical change in all of the working parts, and could easily see that in point of durability and workmanship the later cars were far in advance of the cars first sold.

It seems unnecessary for us, in view of the large numbers now in actual service, to call attention to the uses to which the velocipede cars can be profitably put, the more important being track inspection, wood and tie inspection, telegraph repairs, etc., etc.

The cuts on following pages show different styles of these cars. On pages 28 and 29 of catalogue, please note improvements recently made on these cars.

No. 1 VELOCIPEDE CAR.—Actual weight, 140 lbs.; boxed for ocean shipment, 265 lbs. Can be arranged adjustable from narrow to standard gauge, if desired.

"A Flyer."

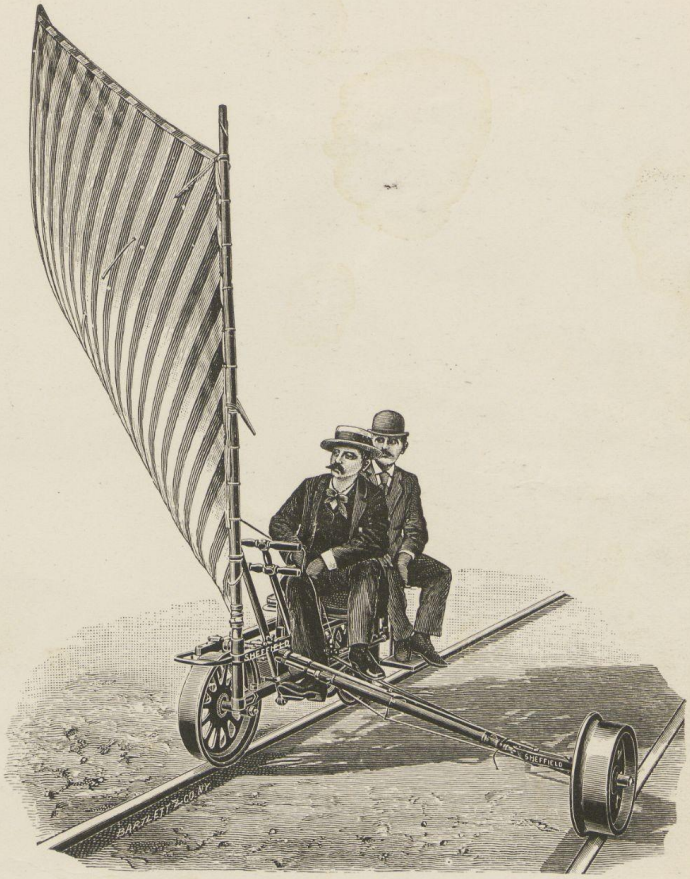
ON THE opposite page is cut, taken from life, of two of the officials of one of our largest systems of railroad, with their Sheffield Car rigged up with sail. They were out on a tour of inspection, in which service the car has traveled many thousand miles, and attained a speed as high as 29 miles an hour. It seems truly a novelty to harness the winds to the service of a railroad company, and one would think that there would be practical difficulties in the way to any degree of success, but the party advises us that, by rigging the sail right, there were few times when the wind could not be turned to account, either in greater or less degree.

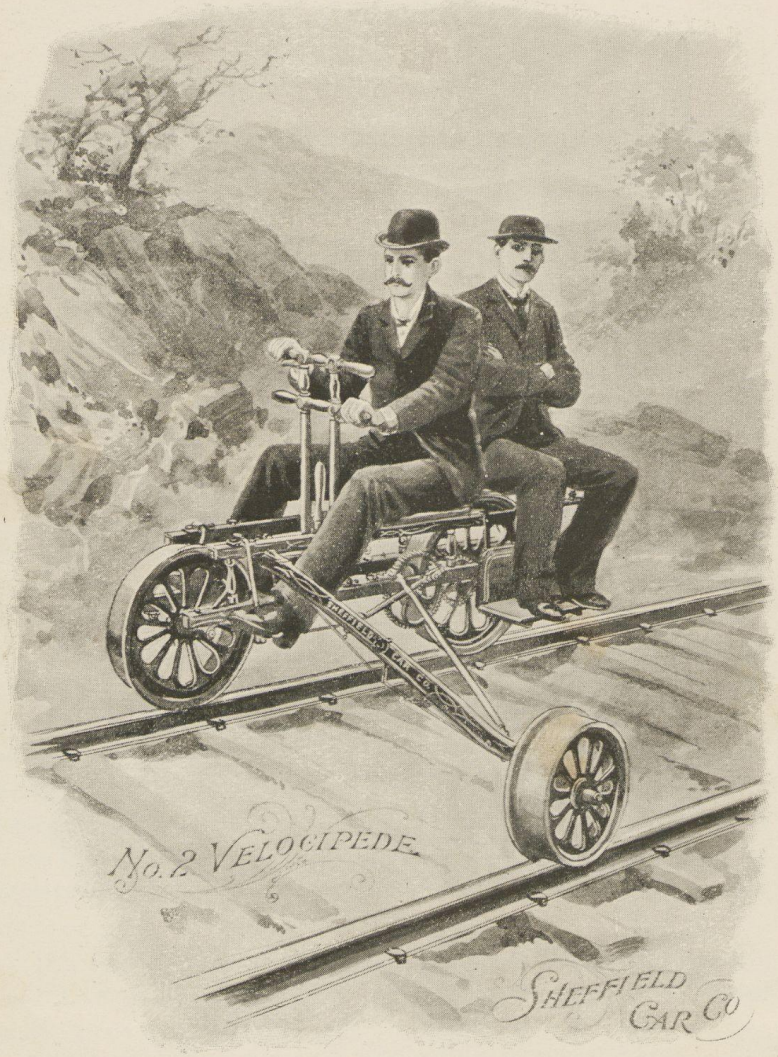
While in the hands of the right persons it proved its usefulness, yet we would hesitate to advise its indiscriminate adoption, as from the very nature of the case the user would be apt to realize, unless experienced in such things, the truth of the adage, "The more haste, the less speed."

A word, however, of description may not be out of place. An ordinary sprit sail is used, 7 feet high, stepped in an appropriate socket on the inside of forward end of frame. The car should be rigged to throw out of gear when sailing, and by means of a movable lock the brake should be arranged so as to engage drive wheel by the movement of the propeling lever. Then, with one hand holding the sheet, which should *never be fastened*, and the other on the lever, the speed can be regulated and so much of the pressure of the wind utilized as safety will admit.

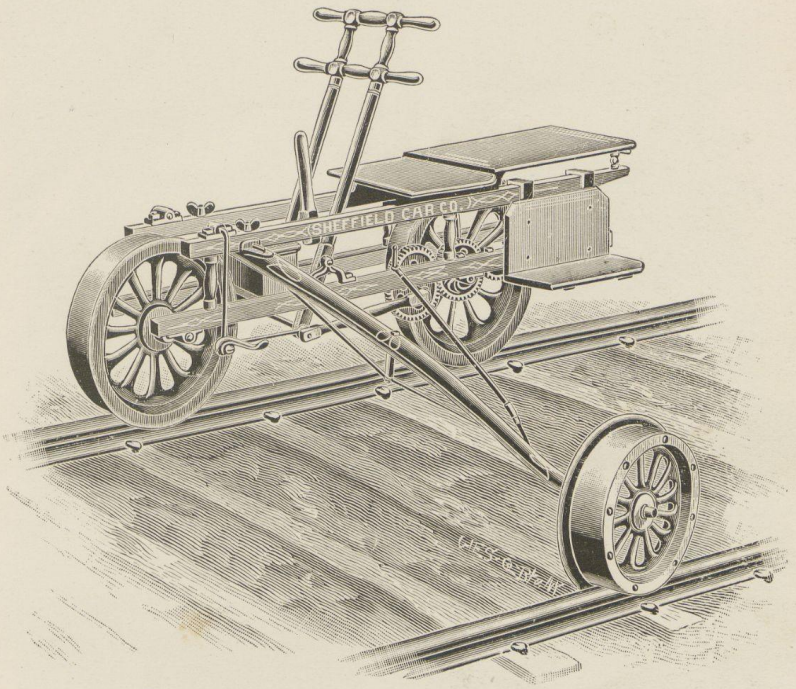
If a second passenger be not at hand to act as ballast, a grain sack of sand is a desirable substitute, and a good-sized weight should be carried on the guide or third wheel

If any of our friends try it, permit a word of advice—don't try to go too fast.


SHEFFIELD
SHEFFIELD
BARTLETT & CO. N.Y.



NO. 2 VELOCIPEDE CAR.—Actual weight, 140 lbs.; boxed for ocean shipment, 265 lbs. Can be arranged for any gauge from 3 feet to standard.



NO. 2 VELOCIPEDE CAR (without person), showing details of construction.

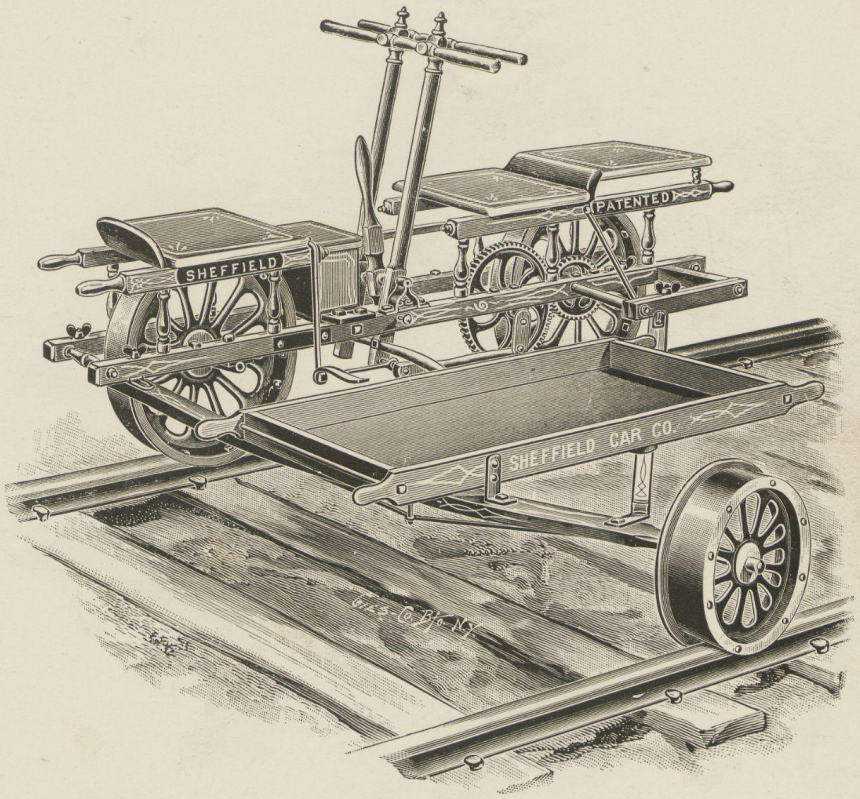
VELOCIPEDE CAR EXTRAS.

Cushions, each $1.50
Lock and chain, each 1.50

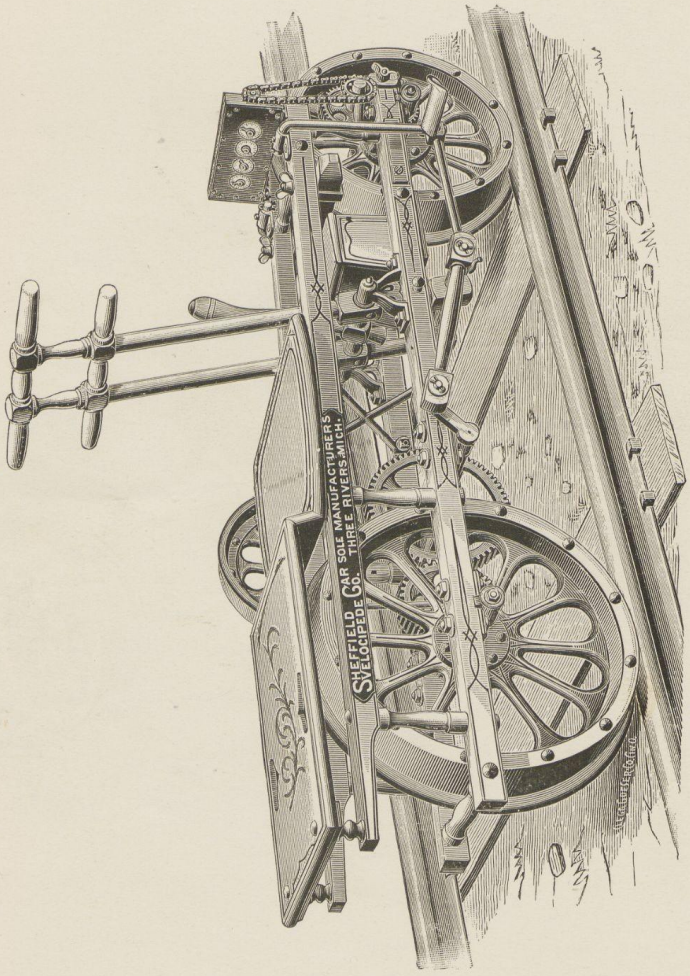
We can also, when desired, arrange these cars to throw out of gear when going down grade. For this attachment there is an additional charge of $5.00.

A wrench and oil can are furnished with each car, without extra charge.

NO. 3 VELOCIPEDE CAR (sometimes called Telegraph Car)--Actual weight, 175 lbs.; boxed for ocean shipment, 300 lbs. Made for any gauge desired.

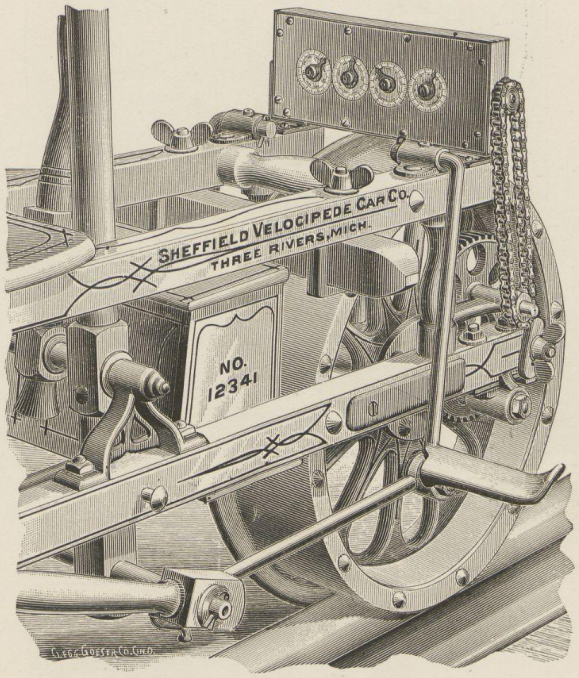


NO. 3 VELOCIPEDE CAR (without rider), showing details of construction.



THE ODOMETER CAR.

The Odometer Car.

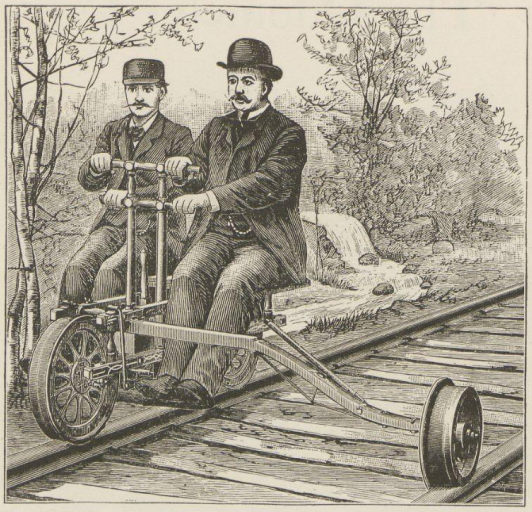


THIS device is an adaptation of the three-wheeled car to purposes of measurement. By its use we claim that locations can be ascertained and measurements made more accurately than by any other known method, for the reason that with a wheel of known diameter, propelled over the track—a practically plain surface as compared with the surface of the earth—a much closer result is obtained than by chain, however carefully done. Then, too, there is no possibility of error in computation, this work being done by the machine and delivered in feet to the eye of the operator, a simple record in suitable book being all that is required.

The recording mechanism, though fine and accurate, is not easily injured or gotten out of order, and is instantly removed from car by loosening thumb screw when not in use. The car should be kept for this purpose and used for no other, to insure the truth of the measuring wheel.

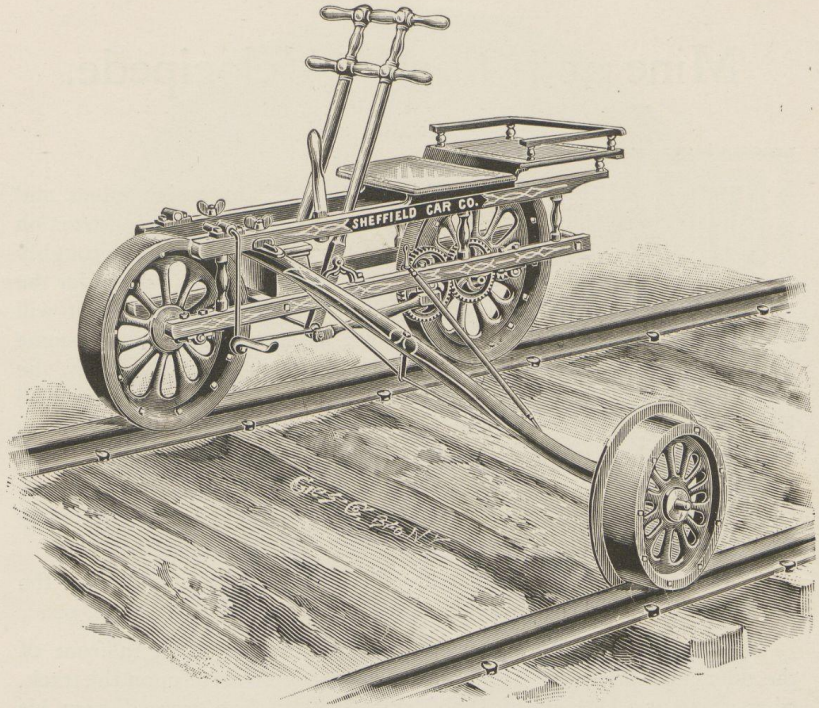
The chief engineer will find this car a valuable assistant and we solicit correspondence.

The Odometer is in use on several leading roads, reference to which will be given, if desired.



NO. 4 VELOCIPEDE CAR (arranged for two riders)—Actual weight, 145 lbs.; boxed for ocean shipment, 270 lbs.

NO. 4 VELOCIPEDE CAR (arranged for one rider)—Actual weight, 145 lbs.; boxed for ocean shipment, 270 lbs.



NO. 1 VELOCIPEDE CAR (without rider), showing details of construction.

GAUGES.

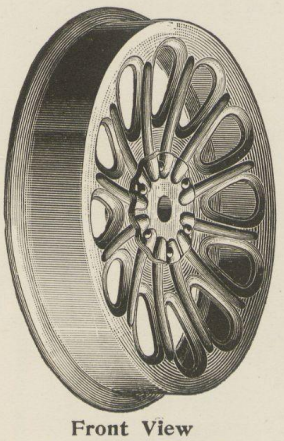
ALL OF our Three-wheeled Cars, except the Telegraph Car, can be so made that the arm will be adjustable in the main frame, so that the car can be adapted to run on any gauge of track from three feet up to five, or even a greater gauge, and without any extra expense.

We, however, when cars are ordered and no gauge is specified, understand that they are wanted for standard gauge track, and in such cases send the regular arm for standard gauge, which is not adjustable to different gauges. Parties, therefore, wishing car with arm so arranged as to run on different gauges of track, will please specify same with their order, when arm of this description will be furnished without extra charge. Where the No. 3 or Telegraph Car is wanted with this adjustability, it will be necessary to order an extra arm and brace rod, for which there will be an additional charge of $3.50.

Steel Car Wheels.

AMONG the wants which have been most keenly felt by the wide-awake railway manager, for many years past, has been a good wheel for light cars, such as are used for section work and the like. Such a wheel must be light, yet strong and durable. It must be unaffected by hot or cold weather, wet or dry, and it must be capable of standing about the same treatment ordinarily given to a bar of T-rail—namely, the hardest kind of usage. A cast wheel fulfills these latter requirements, but is necessarily heavy. A wrought-spoke wheel is lighter but breaks badly. A wood-center wheel, if well made, is better, but in hot climates still leaves something to be desired.

After extensive experiments, extending over a term of years, we are now able to offer to our railway friends the All-steel Wheel illustrated on this and the following page, which we have adopted as standard, and which we candidly believe to be absolutely unapproachable for all light car uses.

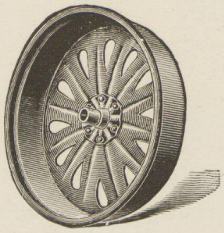


Front View of All-steel Wheel.

We show in the margin, front and reverse views of the wheel, also a sectional view, which shows quite clearly the construction.

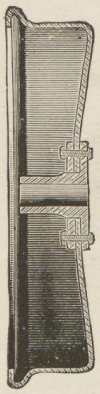
It is made from a sheet of toughened homogeneous steel, which passing through a series of operations is brought to the shape shown, which, it may be remarked in pas-

sing, is that giving the greatest possible strength for a given amount of material. To this end the center is not only dished but is radially corrugated, adding immensely to its strength.



Reverse View.

The flange is returned upon itself and adds very greatly to the stiffness under rolling loads. The hub is a drop forging made from a single piece of steel, additional support being given by a separate wrought-steel flange upon the opposite side of the plate, the whole being firmly bound together by steel rivets. So much of the metal as does not add strength is now cut away, and the result is a wheel which for lightness and strength simply has no rival. In weight it is less than half that of a properly constructed cast wheel ; in strength it will carry any load that can be put upon it under the conditions of its use, without distortion; and in appearance it is all that could be desired ; in fact, it only needs to be seen to be appreciated. In short, the All-steel Wheel has every desirable quality and not a single drawback.



Sectional View.

It is furnished mainly twenty inches in diameter, and, as before indicated, has been adopted as standard upon all our improved styles of Four-wheeled Section, Hand and Push Cars.

These wheels are made throughout in our shops, cut on opposite page showing our wheel department.

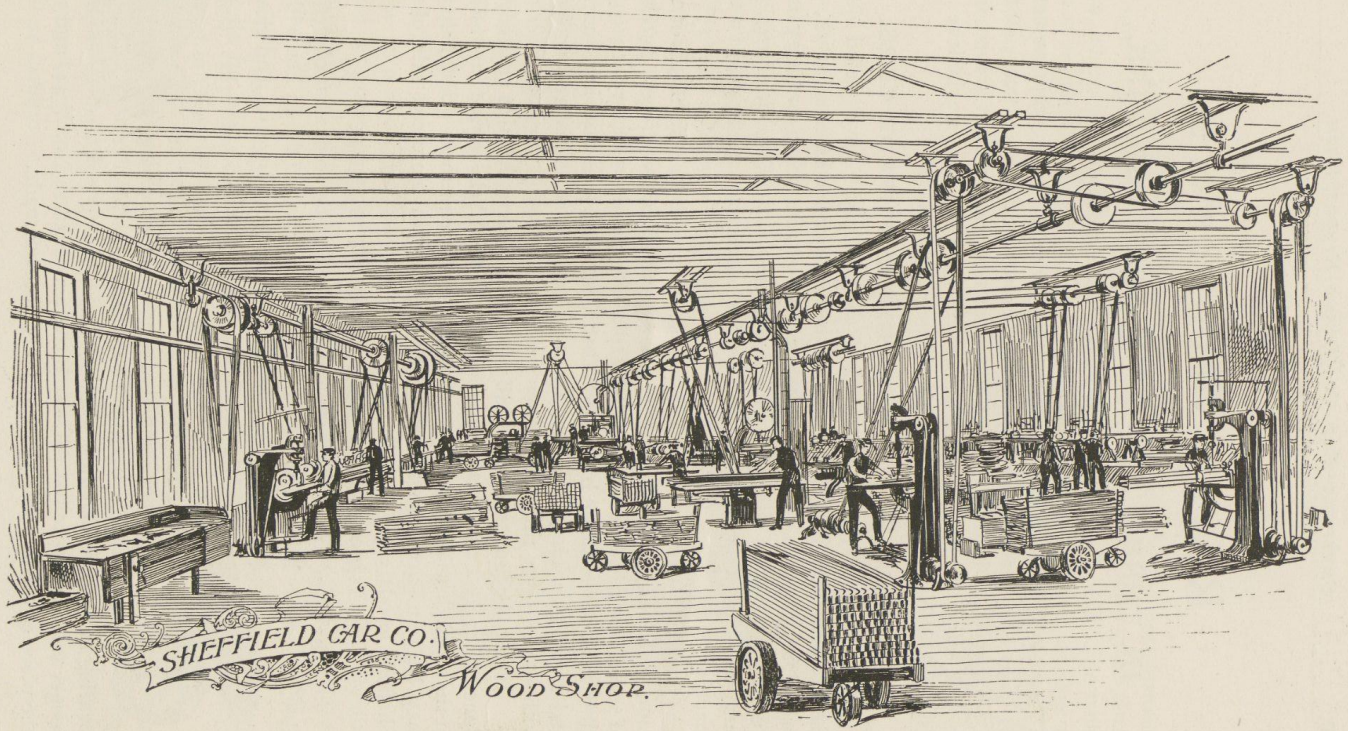
Wood-working Department.

IN THE manufacture of Hand Cars, Velocipede Cars and the greater portion of the cars used in industrial work, the question of the wood that enters into them is of very great importance, if they are to be durable. Situated as we are in the midst of the Michigan hardwood belt, we have unusual facilities for getting very fine qualities of White Ash and White Oak, and tributary as we are to Northern Michigan, from that source we can get Norway Pine, White Pine and Rock Elm, to the very best advantage.

The matter of properly seasoned lumber is also of great importance. We carry in our lumber yard about one million feet of lumber, that we may be assured of, at all times, having on hand seasoned material for our work. We cannot comprehend how anyone in our line of work can depend on lumber yards for their supply of material for Hand Cars, and on ordinary planing mills to get out their material, they simply bolting the wooden portions together.

We have found that, to make a thoroughly good article, we have had to go outside the general line of wood-working machinery, and in our wood shop will be found many special machines built on our order, for our peculiar work. We found these machines necessary that our work should be uniform and interchangeable.

When the wooden parts of our cars leave the wood shop, they are piled up in the stock room, and from there taken down and bolted together, making the frames of the different cars. The frames then go into the paint room and from there into the erecting rooms, where the iron parts are added, and the car is complete, ready for shipment.


SHEFFIELD CAR CO.
WOOD SHOP.

Recent Improvements

IN THREE AND FOUR-WHEELED CARS.

WE DESIRE to call your attention to the improvements which have been made during the past year in the leading articles of our manufacture, which are so well known throughout our land; in fact, we believe we may say throughout the railway world.

CUT GEAR FOR HAND AND VELOCIPEDE CARS.

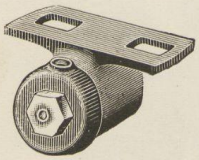
The Sheffield Velocipede Car and the Sheffield Four-wheeled Hand Car are acknowledged to be, each in their respective lines of work, the easiest running cars on the market. If that is true, using ordinary cast gears, what will be the effect when supplied with **Cut Gearing**, put out by the latest and most thoroughly and accurately made gear-cutting machinery.

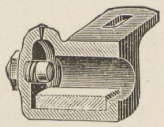
On the theory that there is nothing too good for the users of our cars, we have arranged for, and are now in position, by a recent purchase of several thousand dollars worth of specially made machinery, to equip all cars hereafter made by us with **Cut Gearing**, thus insuring an easy and smooth running car from the very beginning. This we are doing without adding to the price of our goods.

It will be understood by all of our customers that this can only be done at a large extra cost of manufacture, but we believe that our efforts in their behalf will be appreciated, and that through their good help we may be reimbursed to a degree, at least, by an increased sale of the Sheffield goods.

IMPROVED VELOCIPEDE BOXES.

The open end of our velocipede boxes being somewhat objectionable, we some little time ago adopted a new form (shown herewith in perspective, also in section) having the end closed. This also gives us an opportunity to take up all end play in the axles, by means of an adjustable end stop. An oil cellar is also provided, and means for keeping the bearing continually oiled. The bearing surface of the box is also hardened, giving much longer wearing capacity. These boxes are listed as No. V 44, and take the place of the former style, which are not now made.



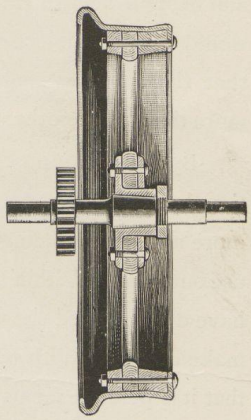


NEW AXLE.

The hubs of the track wheels of the Velocipede Car were formerly shrunk on the axles. This was not entirely a desirable form of construction, when the axle became worn and needed to be replaced. The wheel cut in section shows the present axle, which is made of steel and has an enlarged center for wheel bearing. This is turned to a slight taper and held in place by a heavy nut, tightly fitting a threaded portion of the axle, and is readily removed at any time that repairs are necessary.

CONCAVE TIRE.

It will be remembered by those who used the Three-wheeled Hand Cars manufactured by us the first few years, that the tires of the wheels were made in two parts, and that the outer edge of the tread was a trifle higher than at a point close to the flange. Some of the users of our car have thought this shape of tread was an advantage in preventing the rear wheel from leaving the track when the rail is covered with a light snow, or when it is slippery by reason of rain, or from any other cause. Upon the adoption by us of a steel tire and flange in one piece, we did not ourselves consider this peculiar shape of tread at all important, and therefore simply made them with the ordinary flat tread. Having, however, had some inquiries for drive wheels with concave tread we have, at considerable expense, arranged to and will hereafter furnish all Velocipede Cars with forward and drive wheels with this shaped tread as shown in cut. Beaded tire furnished when specially ordered.



It is our constant aim to adopt all possible improvements in our goods, regardless of cost, and our motto, as heretofore, will remain "Excel in Quality."

In conclusion, we solicit an opportunity to submit prices to all who are in want of either Hand or Velocipede Cars; in short, light cars of any kind, as we make, in addition to the above, the latest types of cars for Mining, Logging, Contractors' and Plantation use—each class in almost endless variety.

Hand Cars.

TEN YEARS ago it was almost the universal practice for railroads to make their own hand cars. They were, without exception, cumbersome, heavy affairs, weighing from 800 lbs. upward. So heavy were they that a force of six to eight men had to go with the car to properly propel and handle the same.

About that time we put on the market our Section Hand Car, our aim being to build a car weighing in the neighborhood of 500 pounds, that would have sufficient strength and durability for the purpose. Since that time we have sold nearly 20,000 of these cars, selling in that time more than all the other manufacturers of Hand Cars in the United States.

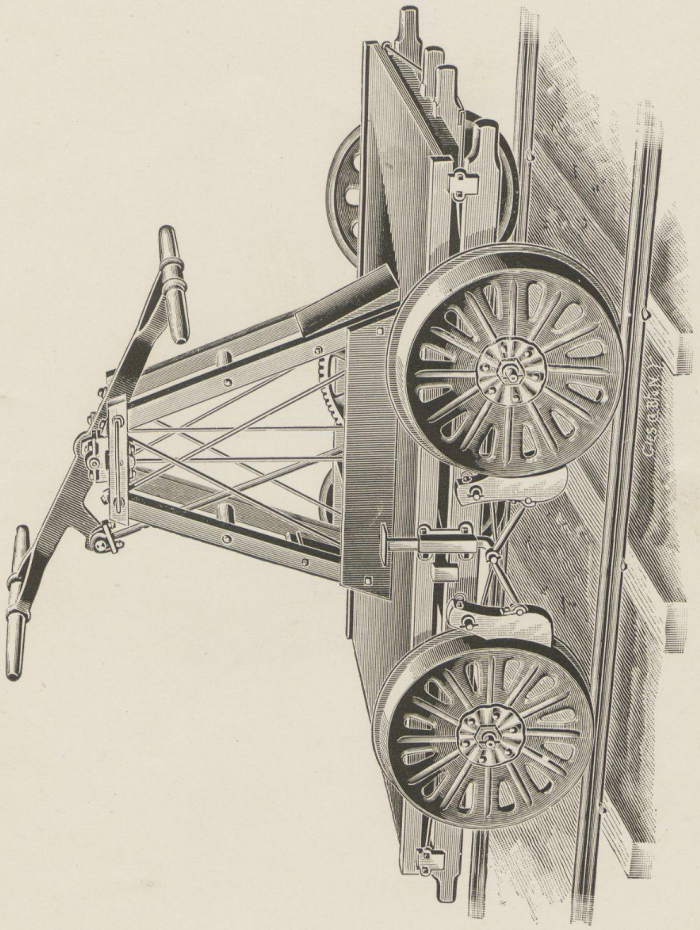
By the use of this lighter car, the force of section men has in that time been diminished nearly, if not quite, 50 per cent., and railroads are more and more coming to understand that it is a matter of economy to use our cars. Within the past year a number of the larger companies have discontinued the manufacture of Hand Cars and are purchasing our make of car. With our thoroughly equipped factory we are confident that it is possible for us to furnish Hand Cars to railroads for less money than they can themselves build them, and a much better car.

Our Hand Cars are made of rock elm—the best material obtainable for frame stuff, we believe—cold-drawn steel for axles, steel wheels with forged-steel hub, wrought-iron walking beam, cast-iron **gears cut from solid metal,** and brass bearings for connecting rod and axles.

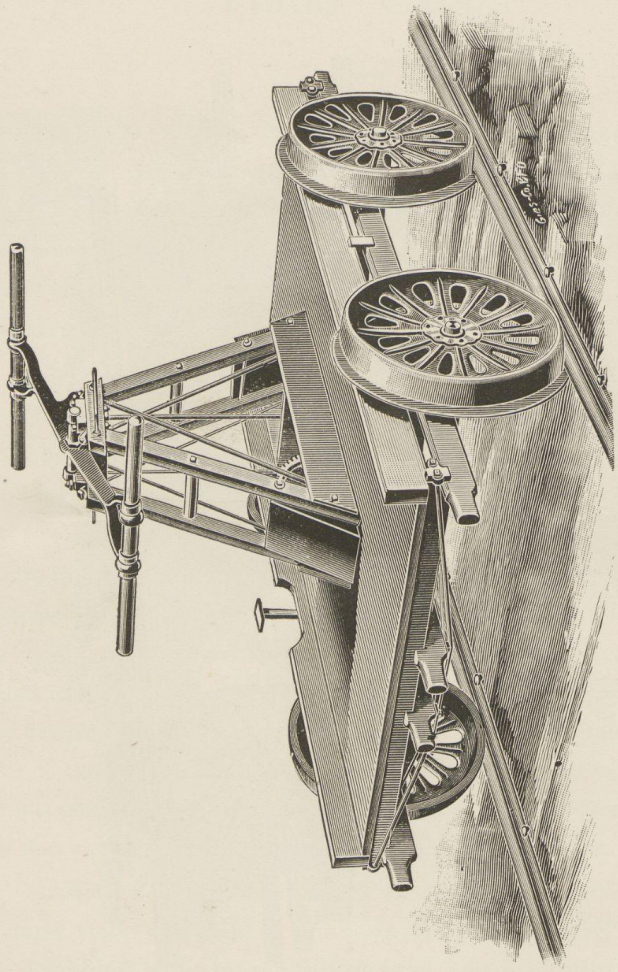
They are light, therefore easily handled, durable, and guaranteed to be superior to any hand car on the market.

On the following pages we show different styles of cars made by us.

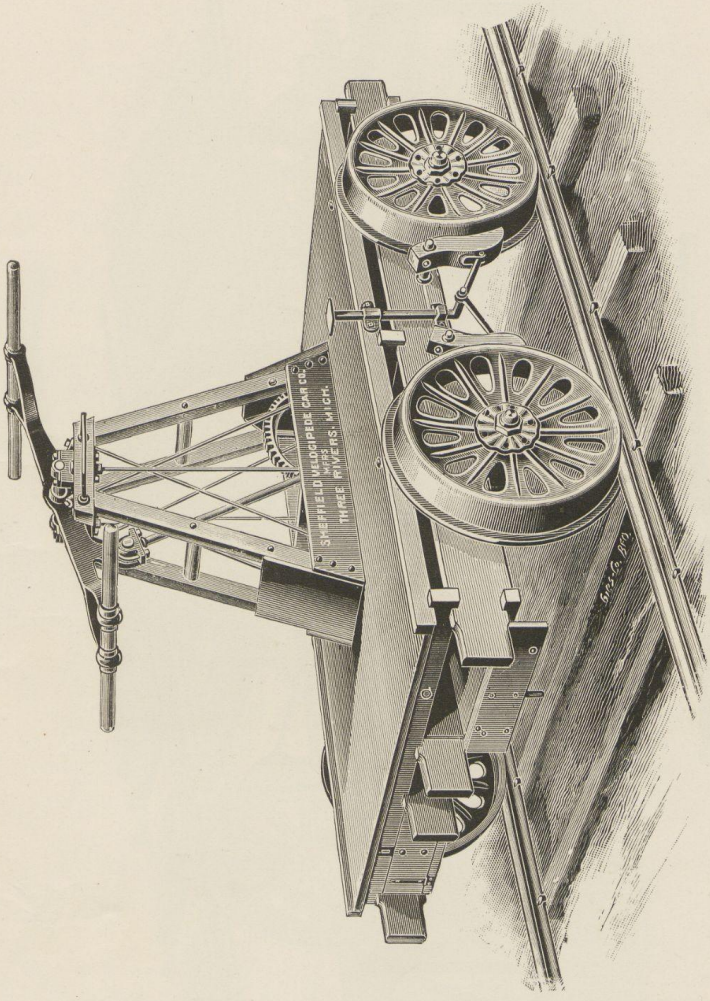
Special designs made as required.



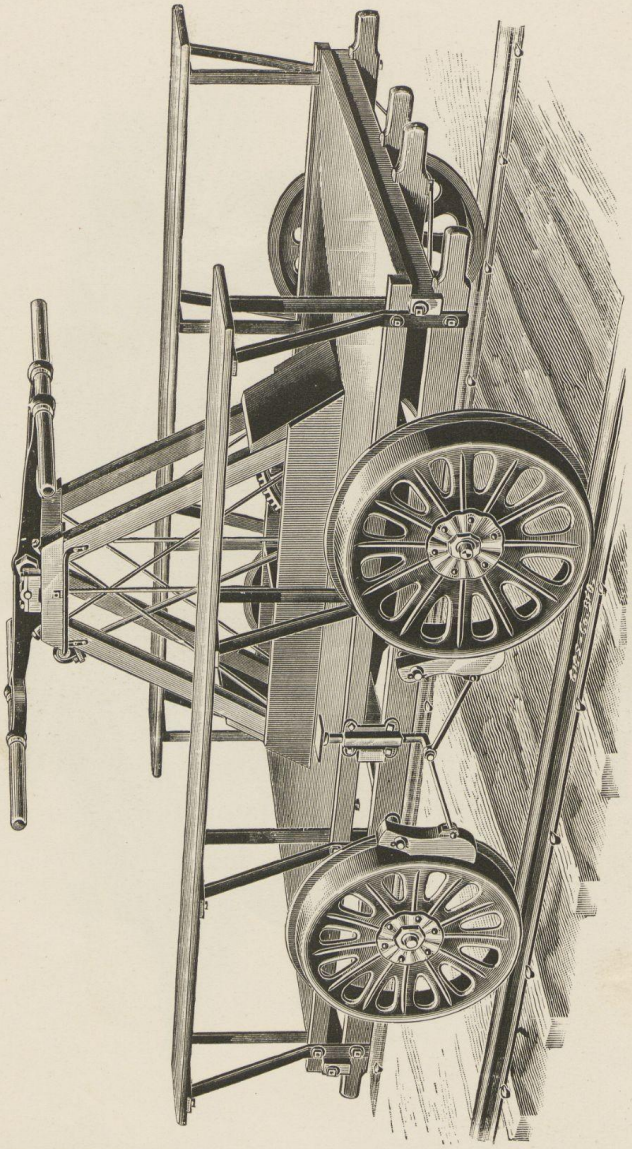
NO. 1 STANDARD SECTION HAND CAR (standard gauge)—Platform, 6 ft. long by 4 ft. 4 in. wide. Wheels, wood center or all steel, 20 in. diameter. Actual weight, 510 lbs.



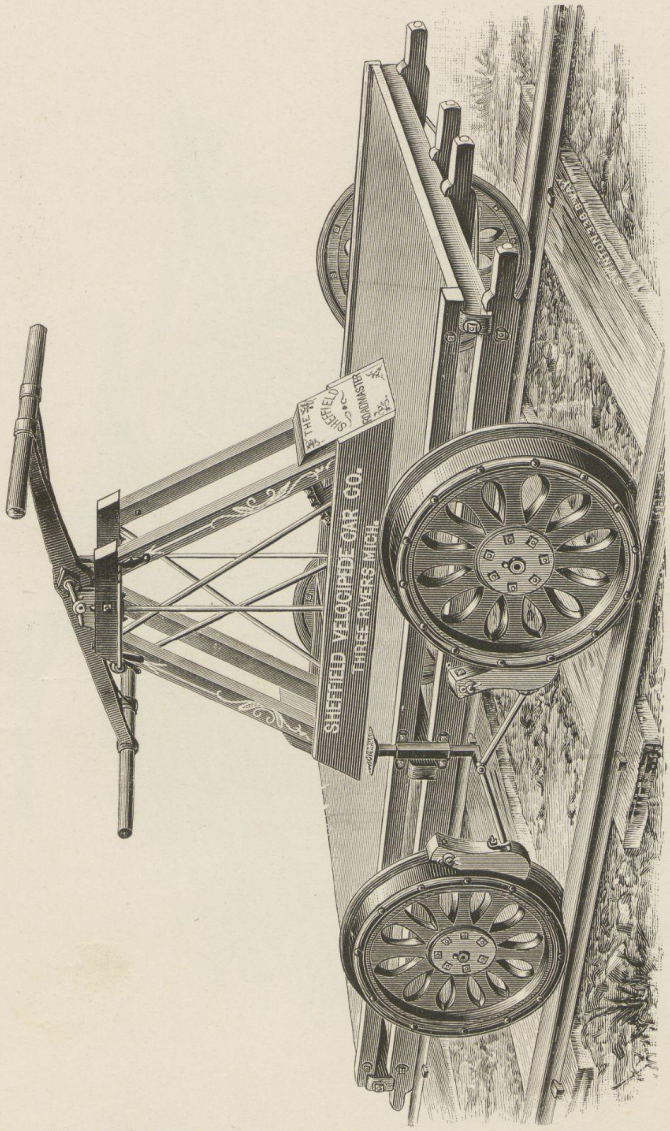
NO. 20 STANDARD SECTION HAND CAR—Similar to No. 1, but with wide side rails extending 3 inches above deck. Actual weight, 520 lbs.



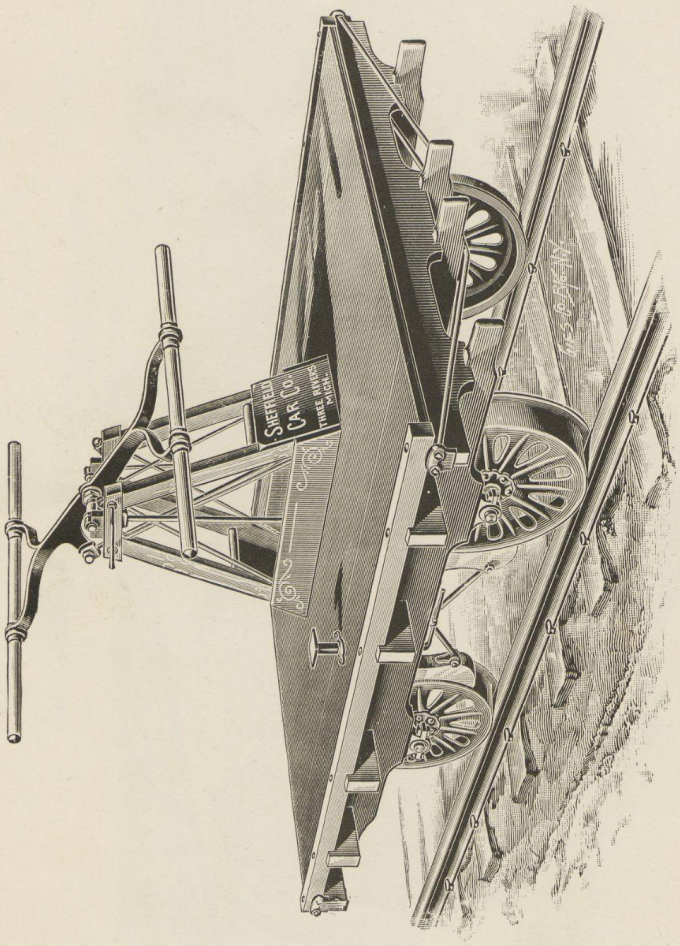
No. 15 STANDARD SECTION HAND CAR—Platform same as No. 1, but with tool box underneath. Car shown has also insulated wheels for use on block signal stations. Actual weight, 600 lbs.



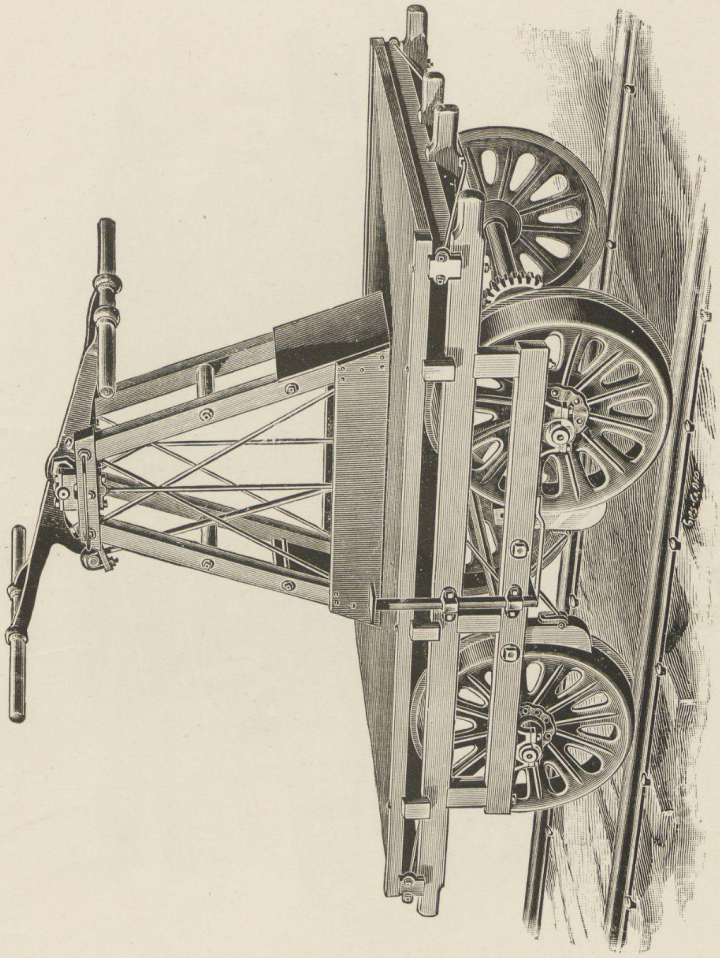
No. 2 SPECIAL HAND CAR—Platform, 7 ft. 6 in. by 4 ft. 4 in. Frame heavier than No. 1 Car. Seats running lengthwise over wheels, supported by four wrought-iron brackets. Steel wheels, 20 inches diameter, or wood-center wheels, if desired. Actual weight, 610 lbs.



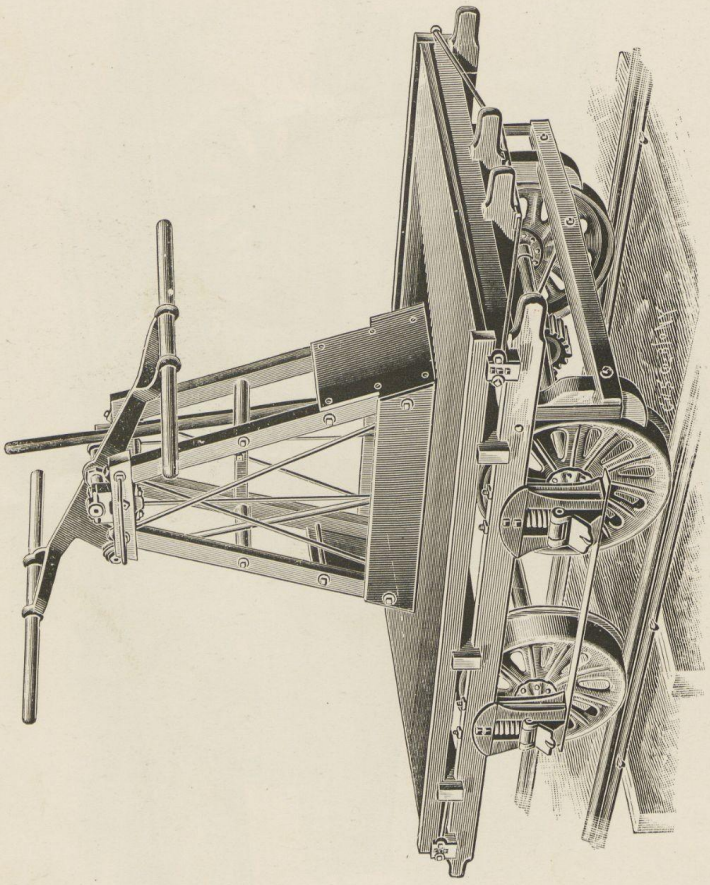
No. 9 SPECIAL HAND CAR—Same as No. 2, but without side seats. Car illustrated shows 22-in. wood-center wheels, which can be furnished if desired; 20-inch steel wheels furnished unless otherwise ordered. This car furnished with wide side rail like No. 20, when ordered. Actual weight, 535 lbs.



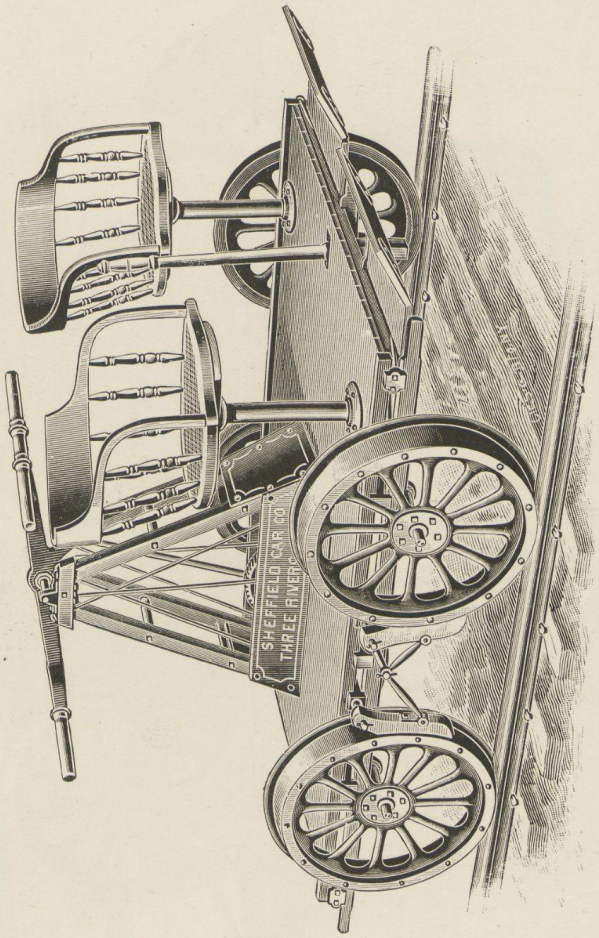
No. 3 BRIDGE GANG HAND CAR—Extra heavy. Platform, 8 ft. by 5 ft. 7½ in. Gallows frame in center of car, intermediate gear being used to gear to driving shaft. Very strong, substantial car, with steel wheels 20 inches diameter. Actual weight, 735 lbs.



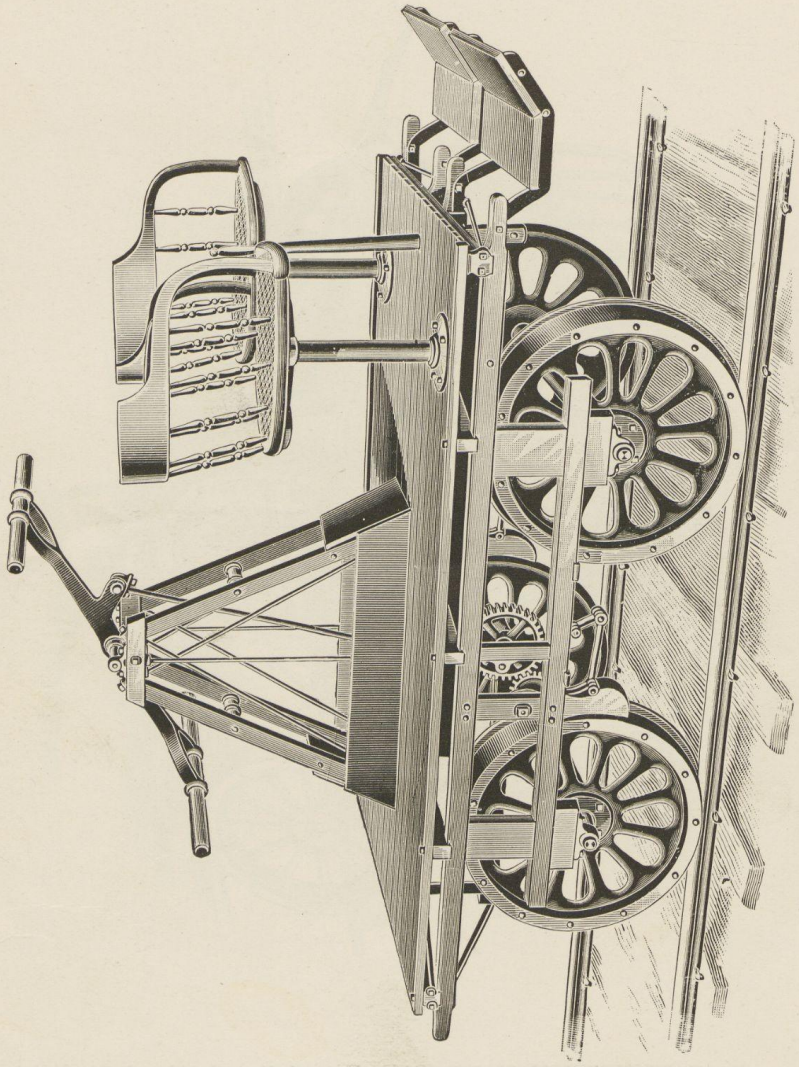
No. 5 NARROW-GAUGE HAND CAR—Platform, 6 ft. long by 4 ft. wide; outside bearings. Steel wheels, 20 inches diameter. Actual weight, 510 lbs.



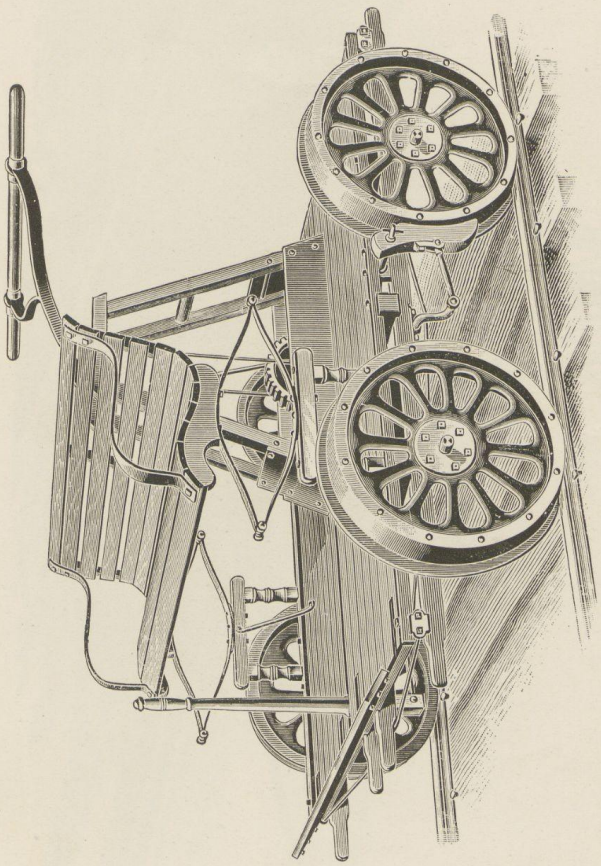
No. 21 NARROW-GAUGE HAND CAR—With pedestals and springs, designed for plantation work. Furnished for any width track under standard or 4 ft. 8½ in. Platform, 6 ft. by 4 ft. Steel wheels, 20 inches diameter. Actual weight, 525 lbs.



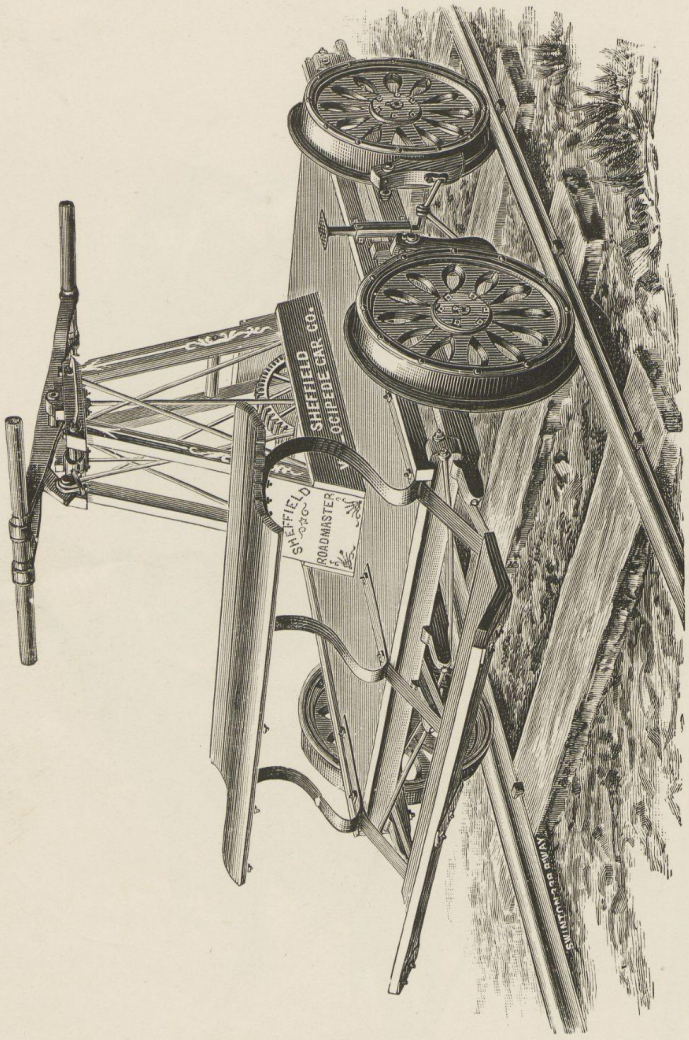
No. 7 INSPECTION HAND CAR—Especially designed for light uses in track work; made as light as possible, consistent with strength. Two revolving chairs on front of platform. Weight, with chairs, 470 lbs.; without chairs, 390 lbs. Wheels, wood center, light pattern, 22 inches diameter.



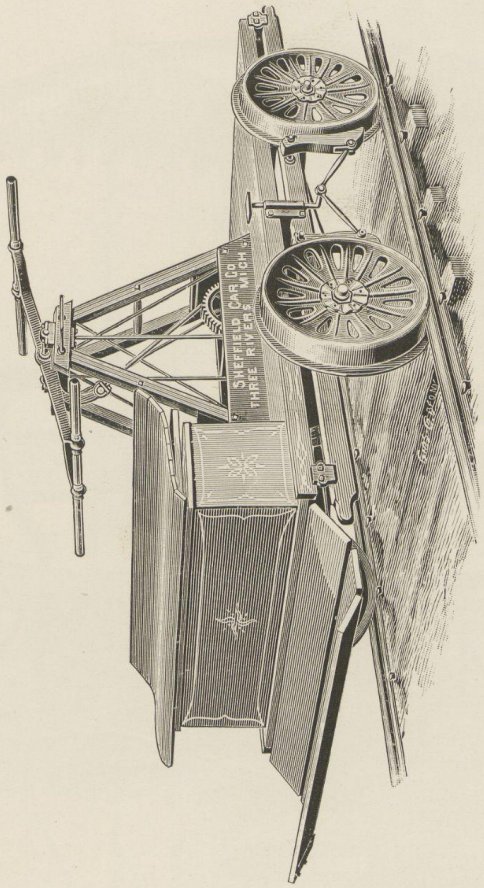
No. 22 INSPECTION HAND CAR—Similar to No. 7, but for narrow gauge track.



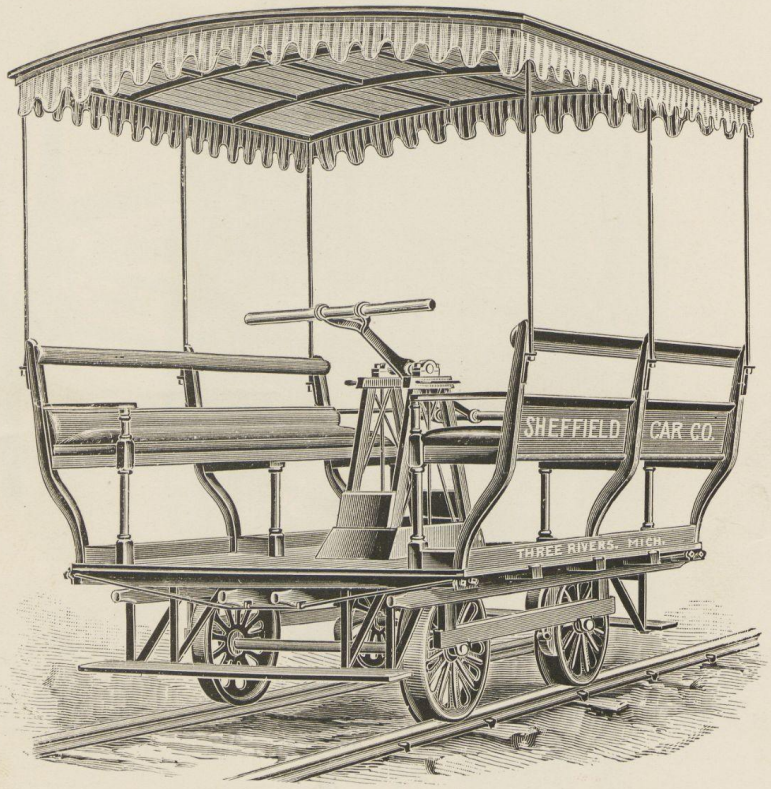
No. 13 INSPECTION HAND CAR—Similar to No. 7 in construction but with long seat in front. Walking beam arranged to work at one end only, and has extra length handle. Weight same as No. 7.



No. 8 ROADMASTER'S HAND CAR—This car is Standard No. 1 Hand Car, special spring seat being added, together with foot rest, for inspector of track. We make this car with seat and foot rest detachable, when desired. Illustration shows car with 20-in. wood-center wheels; steel wheels furnished unless otherwise ordered. Actual weight, 550 lbs.



No. 14 ROADMASTER'S CAR—Similar to No. 8, but longer and with tool box underneath seat. Actual weight, 560 lbs.



No. 17 CANOPY-TOP CAR—Platform, 7 ft. 6 in. by 5 ft. 7 in., with upholstered seats running lengthwise the car, and canopy top. Steel wheels, 20 inches diameter. Actual weight, 760 lbs.

Weed-cutting Car.

THE car illustrated herewith is the invention of a section foreman, of a very practical turn of mind, on one of the leading systems of road in the Northwest. In the locality where he is engaged the weeds grow very fast, and cover the ground very closely; so much so that a very large portion of the section men's time from July to October is occupied in fighting them; a condition of things true on the greater portion of the railroads in the West and Southwest.

The device is well shown in the illustration and may be briefly described as follows: A special car is constructed, similar to our Standard Hand Car, but larger and heavier, and geared up for the special work to be done. To the side of this car, opposite the brake, is attached and strongly braced a six-foot cutter bar. The sickle bar running in this is driven by positive motion from the axle, and so arranged that it can be folded when passing bridges or other obstruction, and thrown out of gear when not in use. It can be adjusted to cut as low as the ends of the ties will permit, and to a point *8 feet from the rail or 6 feet from the ends of the ties*. From the peculiar construction of the cutting attachment, it can be operated *equally as well down the angle of a hill, or up the side of a cutting*, as on level ground.

When the cutting season is over, this portion of the device can be removed and stored till another year, and there is remaining a very substantial hand car, suitable for heavy work for many years.

The car is so geared that *when cutting* it can be run easily by *4 to 6 men* at a speed of *4 to 5 miles per hour*. It is intended that one be placed upon a division of road of say 100 miles in length, and when the weedy season is on, it should be transferred from one section to another, either in charge of a man accustomed to it, or otherwise, as may be thought best, and thus in a few days the whole division be cut over, leaving the men leisure to devote their time to the track work proper until such time as the work needs to be repeated.

With this car the heaviest growth of weeds can be easily and quickly cut, and it will *save its cost* on any division several times over in a single season, beside leaving the regular force nearly all of their time to devote to their legitimate work; hence this work will be better done, and with less help.

Weight, 750 pounds. Correspondence solicited.

WEED-CUTTER CAR.

SHEFFIELD CAR CO.
FOUNDRY.

Foundry Department.

IN THE manufacture of articles in which cast iron is used, it is of very great importance that suitable castings be furnished. Wonderful advancement has been made in the manufacture of castings in the past few years. When we first added a foundry to our plant, there were very few firms that kept a record of their mixtures, and each day thoroughly tested, by means of a testing machine, the quality of castings they were turning out.

We put in a testing machine years ago, and, that we might be assured that the castings we are using are all that they should be, we each day mold not less than three test bars, pour the same at different points of the heat, and the next morning test their strength, keeping a daily record of the same and of the irons that entered into the mixture.

We have two cupolas, one of which we use in making casting on which machine work is necessary, such as gears for our Hand Cars, Velocipedes and Standpipe work, the other being used for making wheels. In the first named we use iron that will give us the requisite strength and at the same time work readily under the machine tool; and in the other we use a mixture that will give us the requisite chill and have proper strength.

Having within a short distance furnaces that make the Lake Superior Charcoal Iron, it will readily be seen that we are so situated that we can use the best of stock at lowest possible cost. We make our own castings, not so much for the reason that we can make them cheaper than we can buy them, as for the reason that we may know just what quality of castings are going into our work.

From the above and from illustration on opposite page, our customers will see that we are well equipped as to foundry work, and that care is taken to give them only the best of everything that enters into the manufacture of our goods.

Forging Shop.

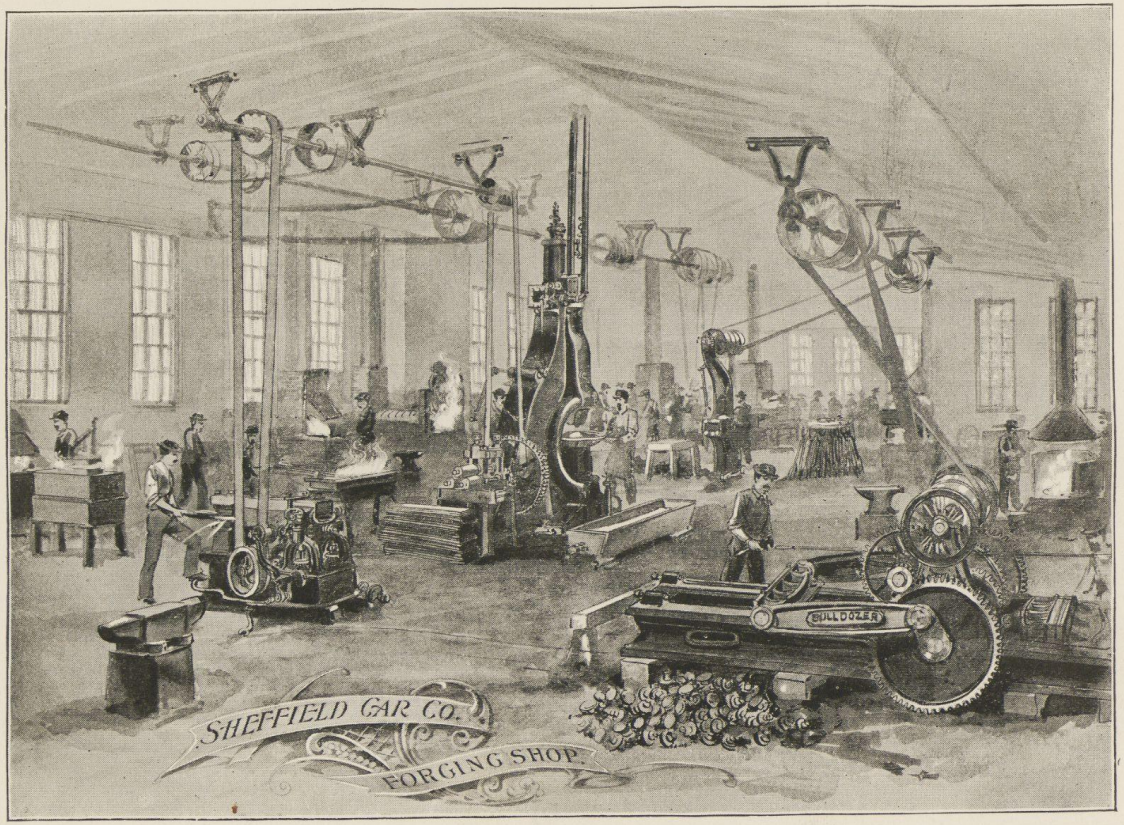
IT IS surprising the wonderful advancement that has been made in the manufacture of forgings of irregular shapes. A few years ago hand cars had solid cast-iron wheels, cast-iron walking beam, cast-iron crank shaft. When we determined to build a light hand car that would be amply strong, we found that we would be compelled to displace the cast iron, so far as possible, with wrought iron.

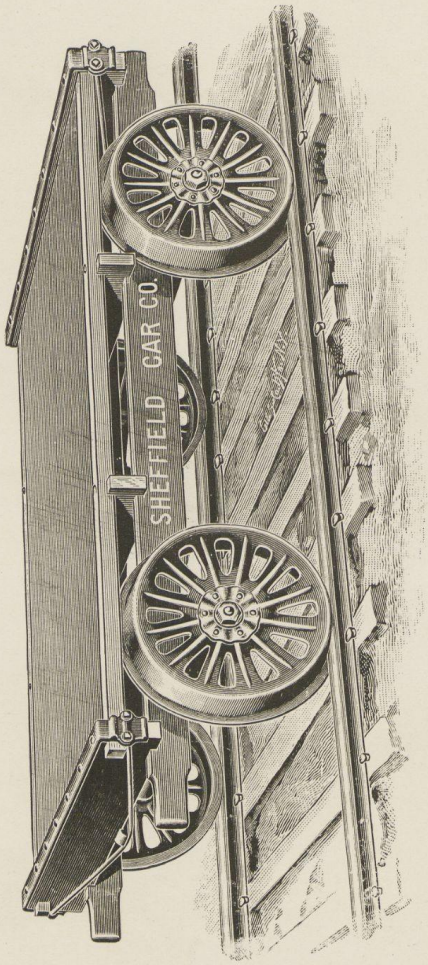
In the manufacture of our wood-center wheel we at first used cast hubs and cast tires, then came the wrought tires to overcome the complaint of breakage, and later the wrought hub to overcome a similar objection to it. This continual necessity of supplanting castings with wrought work has compelled us to have a well-equipped forge shop, as shown on opposite page. The manufacture of our wrought-steel tire and flange, formed up from a single piece, for use on wood-center wheels, necessarily required some novel forging machinery.

Our hand car hub, both for wood-center and steel wheels, is formed from a solid piece of soft steel. In all this difficult forging work we had to strike out for ourselves, as it was exceptional if we could find anyone to undertake the work.

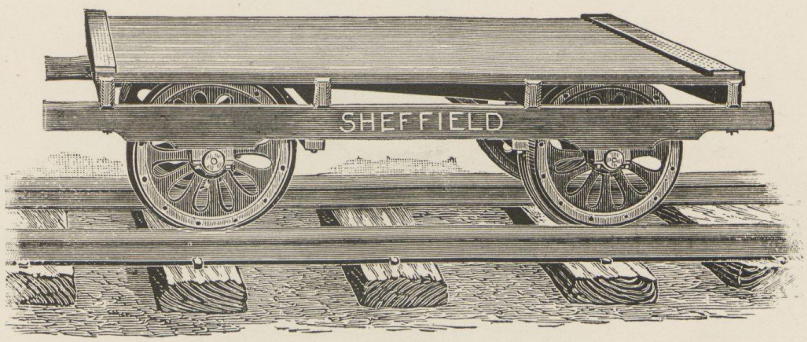
Much of our work has been a great surprise to many excellent steel workers, and often the question has been raised by them if it could be possible that we were doing the work in our own shops. We take pride in saying that in this department we also do our own work, buying our steel and shaping it ourselves.

By this means we know the quality of stock we are using and, therefore, what we are furnishing to our customers.

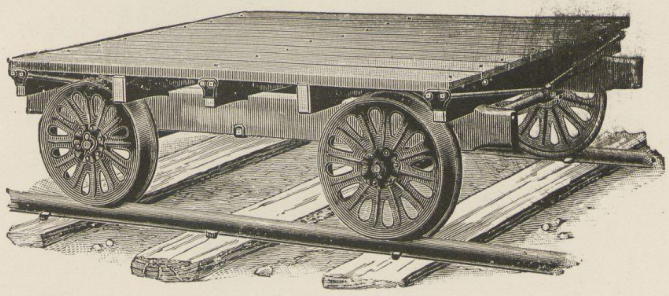

BULLDOZER
SHEFFIELD CAR CO.
FORGING SHOP



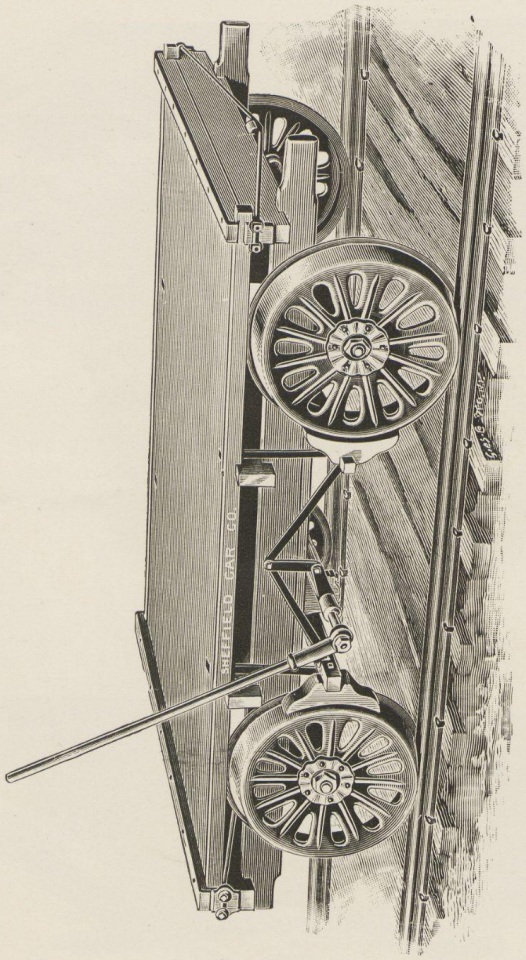
No. 4 STANDARD-GAUGE PUSH CAR—Platform, 7 ft. by 5 ft. 6½ in. Steel wheels, 20 inches diameter. Construction best material, strongly made and well trussed. Actual weight, 470 lbs. All push cars now furnished with hardwood rail across end, 1 in. thick and 2½ in. wide, as shown, same covered with iron plate.



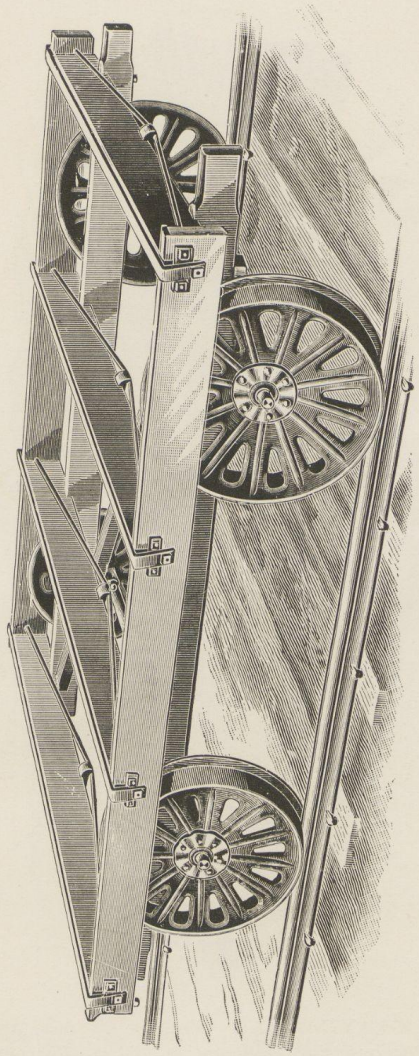
No. 6 NARROW-GAUGE PUSH CAR—Platform, 7 ft. long by 5 ft. wide. Outside bearings; otherwise general construction same as standard-gauge car. Actual weight, 470 lbs. Unless otherwise ordered, steel wheel is furnished.



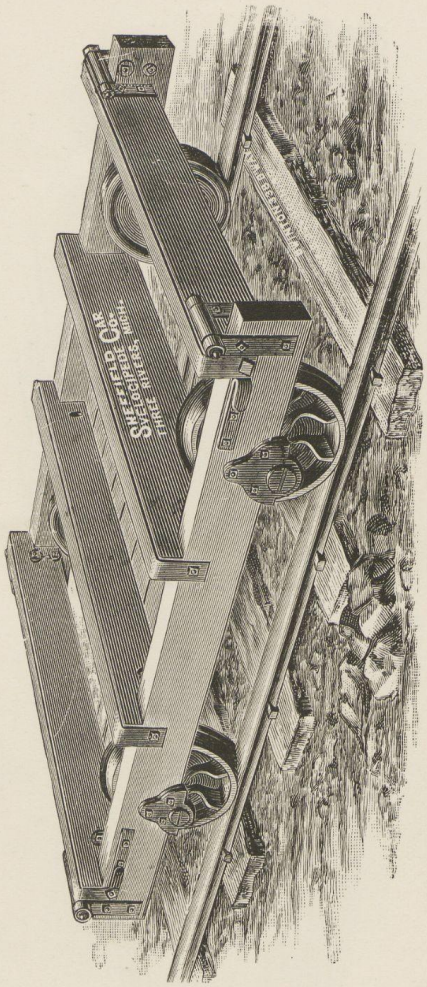
No. 12 EXTRA-HEAVY PUSH CAR—For construction work. Platform, 7 feet long by 5 feet 6½ inches wide. Steel wheels, 20 inches diameter. Actual weight, 700 lbs.



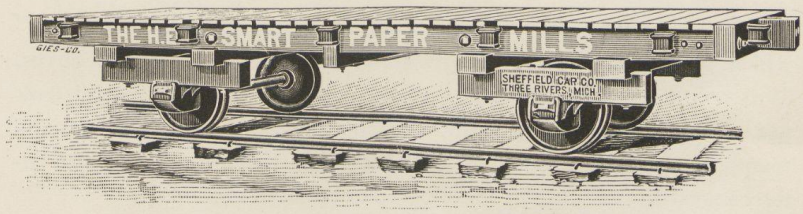
No. 18 PUSH CAR—Same as No. 4 Push Car, but furnished with brake, as shown. Actual weight, 490 lbs.



No. 19 PUSH CAR—General dimensions same as No. 4, but without decking, car sills being covered with heavy plate of iron.



No. 11 TRACK-LAYING CAR—Weight of car, about 1,350 lbs. Capacity of car, 20,000 lbs. Length of car over sills, 7 feet 8 inches. Width of car over sills, 6 feet 2⅞ inches. Height of car above top of rails, 1 foot 8 inches. Length of wheelbase, 4 feet 5 inches. Four cast wheels, thoroughly chilled, 16 inches diameter. Two wheels loose on axles, placed diagonally from each other, and two wheels keyed on.



No. 50 HEAVY 4-WHEEL FLAT CAR—10-ton capacity. Arranged with or without draw head, as may be desired.

Tool Department.

A POINTER.

A FEATURE of the greatest importance to the buyer is often lost sight of entirely in the anxiety to purchase at the lowest possible cost. We refer to the re-duplication of parts, which we have always carried out so carefully that the same part wanted for a car, years after its original purchase, can always be had and with perfect assurance that it will "fit."

This is only possible through a well-organized "Tool Department," which in many shops is not given the consideration that it deserves. With us it does not mean a part of the shop where various small tools are made, but it is charged with the responsibility of all gauges, jigs and templates used, as upon their accuracy depends the perfection and interchangeability of all parts entering into the work.

For this reason, therefore, a good tool room lies at the foundation of good work throughout the shop, and, in charge of a good foreman, has an immense influence upon the perfection of the product.

From these hints it will be seen that only the very best machinery obtainable is used in this department; accordingly, we find here among several lathes, two of the best that money can procure, and a Brown & Sharpe Milling Machine, of which a workman using it once said with pride, "Why, it will do almost anything but talk"; also several grinding machines for sharpening and truing up drills, cutters and reams of all kinds.

We do not make our own taps and drills, feeling that this is the proper province of the specialist in that line, but when anything of the sort of a peculiar nature or form is wanted, we turn to this room, knowing it will be produced in a short time and perfectly adapted to its work.


SHEFFIELD CAR CO.
TOOL ROOM

Railroad Standpipes.

OUR system of delivering water to the locomotive by means of a jointed Standpipe or Water Crane, having for its leading feature a flexible rubber in the overhanging arm or spout, is well known, being in use on many leading railways throughout the country.

The motion of the valve in the automatic style is taken from the pressure of water in the supply pipe, controlled by an auxiliary slide valve operated from tender. This can be regulated so as to open and close as quickly or slowly as is desirable at the particular point of location, thus avoiding water hammer in the pipes. The flexible joint allows depression of spout so that it enters manhole of tender, thus avoiding wastage of water upon tracks by wind or otherwise, common to other styles. It is specially vulcanized and resists perfectly extremes of both heat and cold.

The construction of the pipe is exceedingly simple and has no complicated points to get out of order. The waterway is also unobstructed through the pipe, thus allowing passage of greater volume of water for given size than any other style.

We call attention to the following very desirable additional features in our cranes :

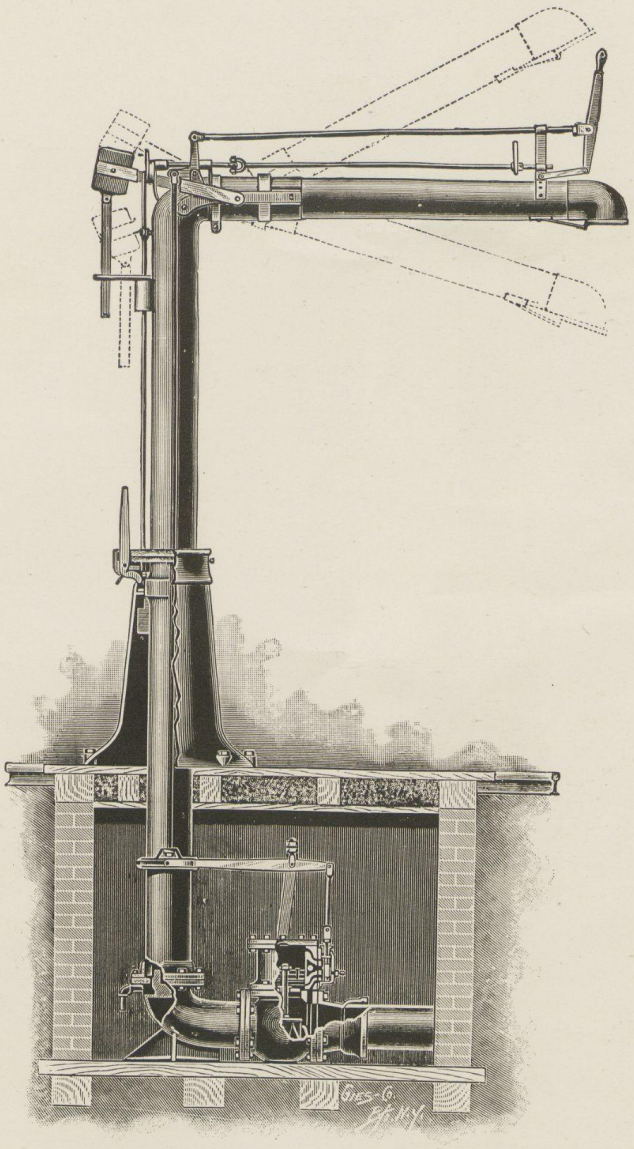
Ease of Rotation—The weight of the moving parts is carried on a center bearing, thus securing the utmost ease in operation.

Support—A high base, measuring 38 inches from top of rail, insures the most perfect possible support for the rotating parts.

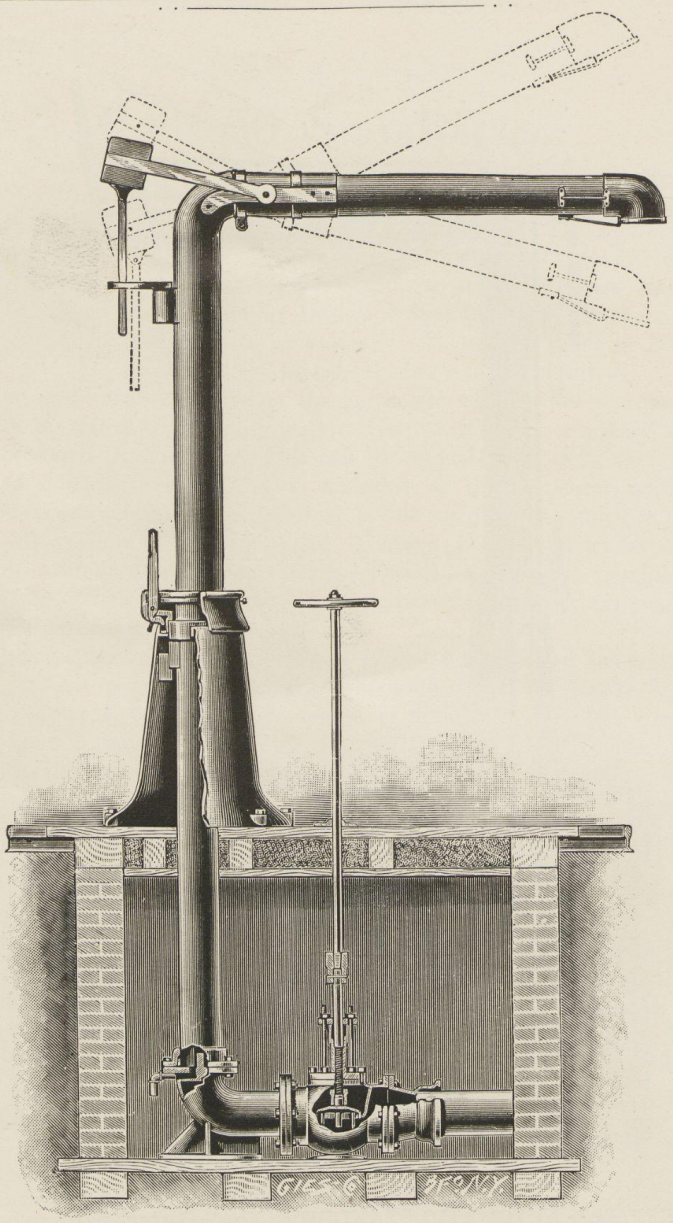
Locking Device—We use an automatic lock which is positive in its action and operates instantly upon the pipe, being returned to its normal position parallel with the tracks, which can only be unlocked from the tender of the locomotive. In the plain, or two-man pipe, operated from the ground, a similar gravity lock is used, fastened by an ordinary switch lock. After opening it can be relocked at once, so that the brakeman can return to his post immediately upon shutting off the water and turning pipe to place, the gravity feature operating automatically. It cannot again be opened except by key.

In these plain pipes quick-opening valves are used, operated by screw, which still cannot be closed so rapidly as to cause any ram in the supply pipes.

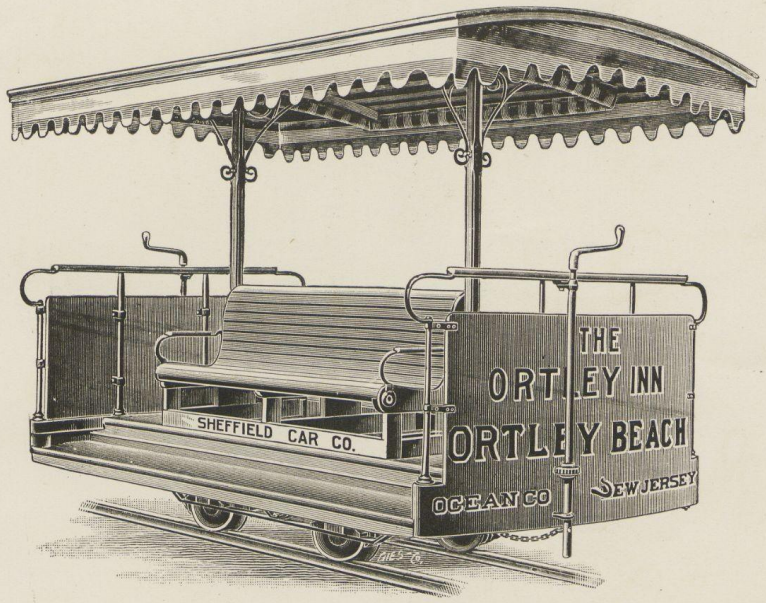
All pipes are made in three sizes, viz.: 6, 7 and 8-inch.



SHEFFIELD AUTOMATIC STANDPIPE, No. 1—Latest pattern center bearing. Rubber joint. Automatic locking device. Made in three sizes: 6, 7 and 8-inch.



SHEFFIELD PLAIN OR TWO-MAN PIPE, No. 2—Latest pattern center bearing. Automatic locking device. Made in three sizes: 6, 7 and 8-inch.



LIGHT TRANSFER PASSENGER CAR—Has curtains for enclosing occupants in stormy weather. Weight, 1400 lbs.

Wood-center Wheels.

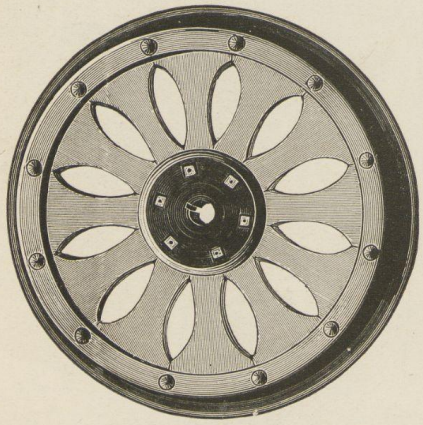
THE CATALOGUE of our manufactured goods would not be complete without showing our Wood-center Wheels, and giving brief description of same.

For hand car work we realize that the steel wheel has, to quite an extent, taken the place of the wood-center wheel, but we occasionally find, among our railroad friends, those who still indicate a preference for the wood-center wheel, and we still think it a wheel that will stand up under all ordinary circumstances, especially as we are making it at present. The steel tire which we use on these wheels is made by machinery designed by ourselves, and covered by patent; the hub is similar to the hub used on all-steel wheel, forged out of solid steel, and securely bolted to the web portion of wheel.

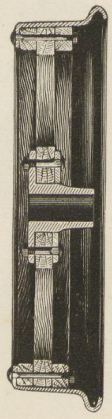
One advantage of this wheel over any other wheel is that, without any extra labor, they are practically insulated when on their axle, the wood-center portion completely insulating them. As shown in illustration, however, we make a car with steel wheels, the same to be insulated, for use on roads where the block signals are in operation.

We still furnish these wheels for hand car use, where specified; in all other cases furnishing steel wheels. We make them in four sizes for hand car use, namely: 20, 22, 24 and 26 inches diameter.

Another style of wood-center wheel is used exclusively on velocipede cars, and is made in three sizes, namely: 14, 17 and 20 inches.



Hand Car Wheel.



Hand Car Wheel in section, showing New Flange.