

No. 641,647.

Patented Jan. 16, 1900.

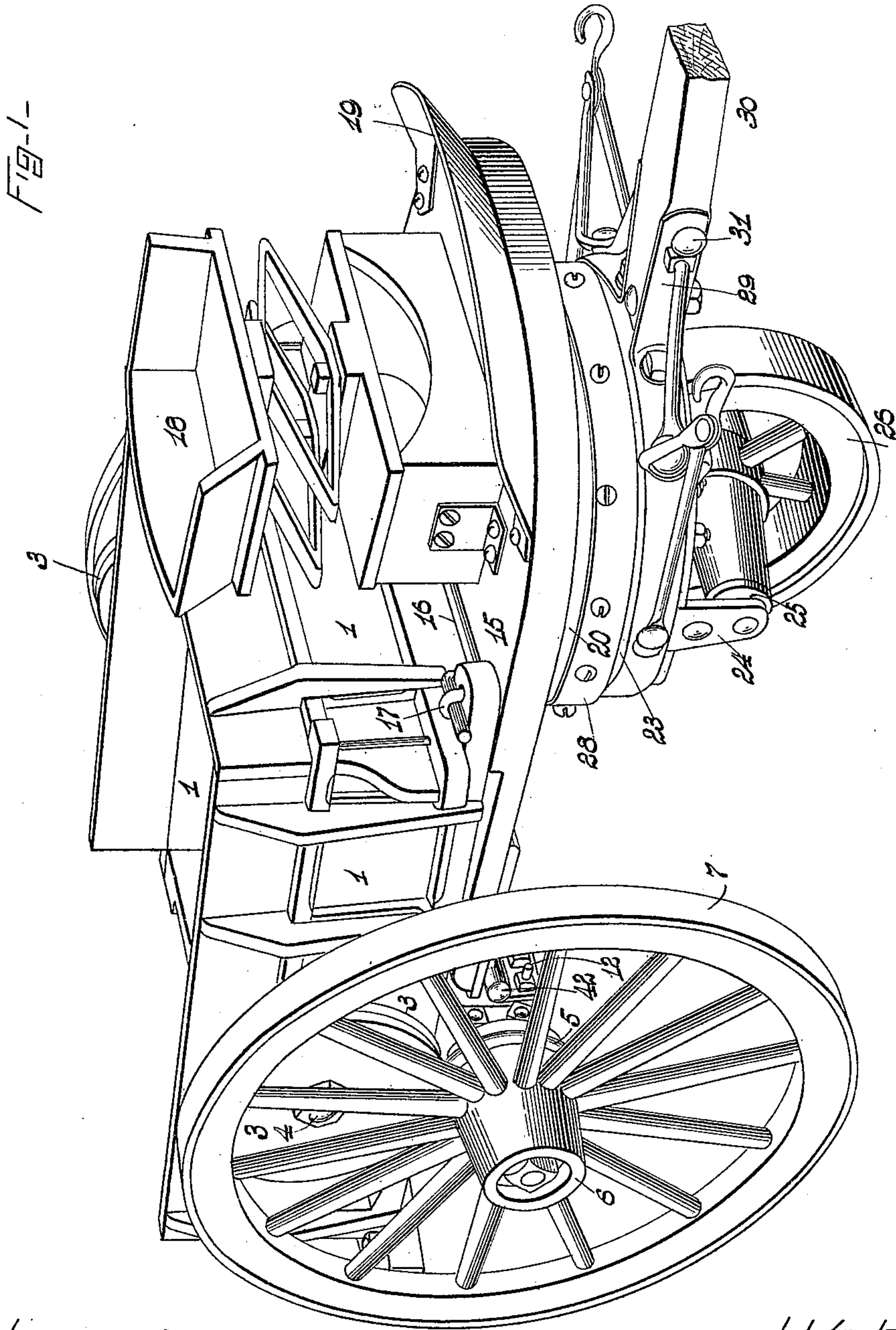
T. L. QUIGLEY & P. MALONE.

CART.

(Application filed Apr. 12, 1899.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES—

Am. H. Varnum.

Edward H. Temple.

INVENTORS—

Thomas L. Quigley  
and Peter Malone

by their attorney

Charles S. Gooding.

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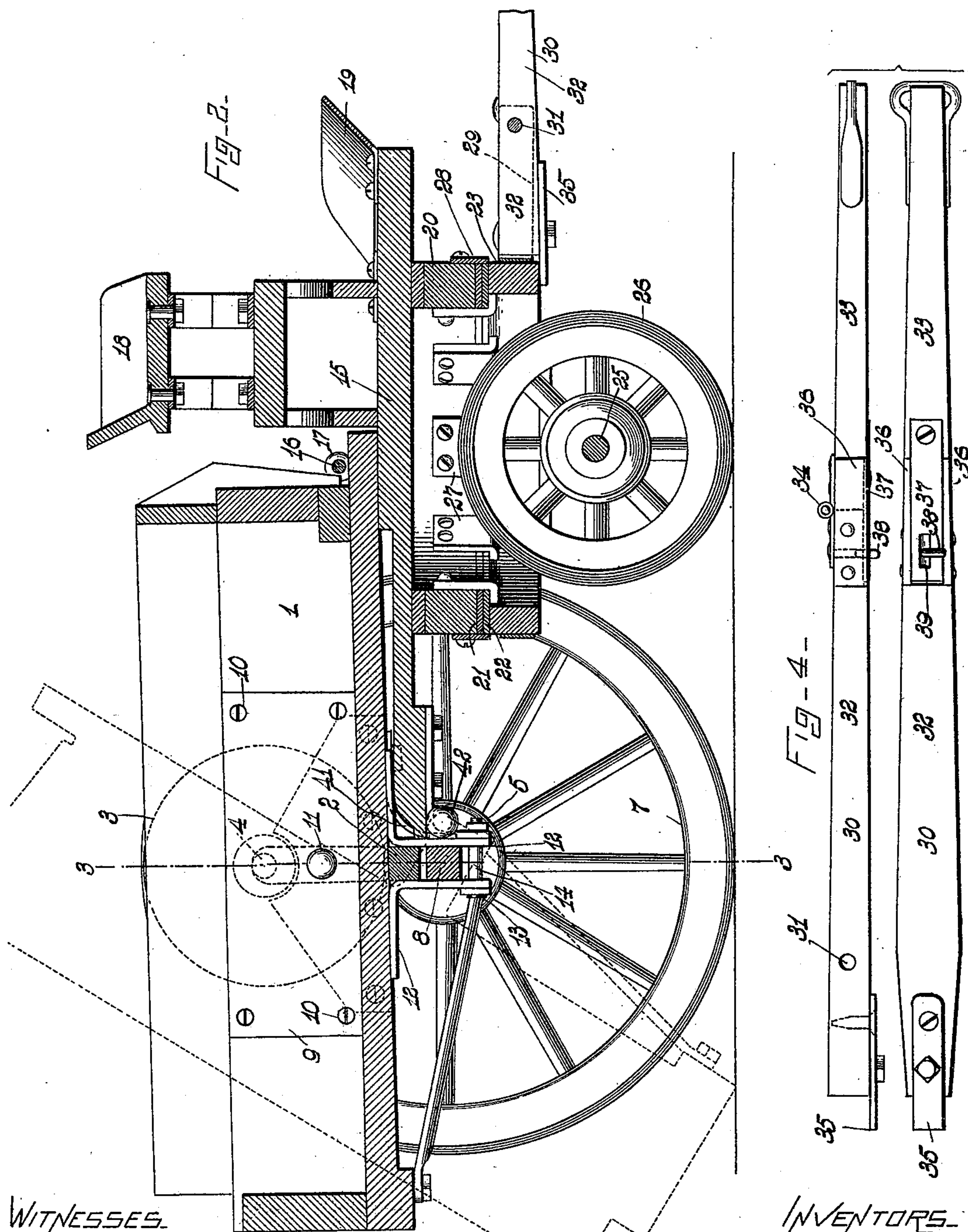
**T. L. QUIGLEY & P. MALONE.**

**CART.**

(Application filed Apr. 12, 1899.)

(No Model.)

**3 Sheets—Sheet 2.**





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3 Sheets—Sheet 3.

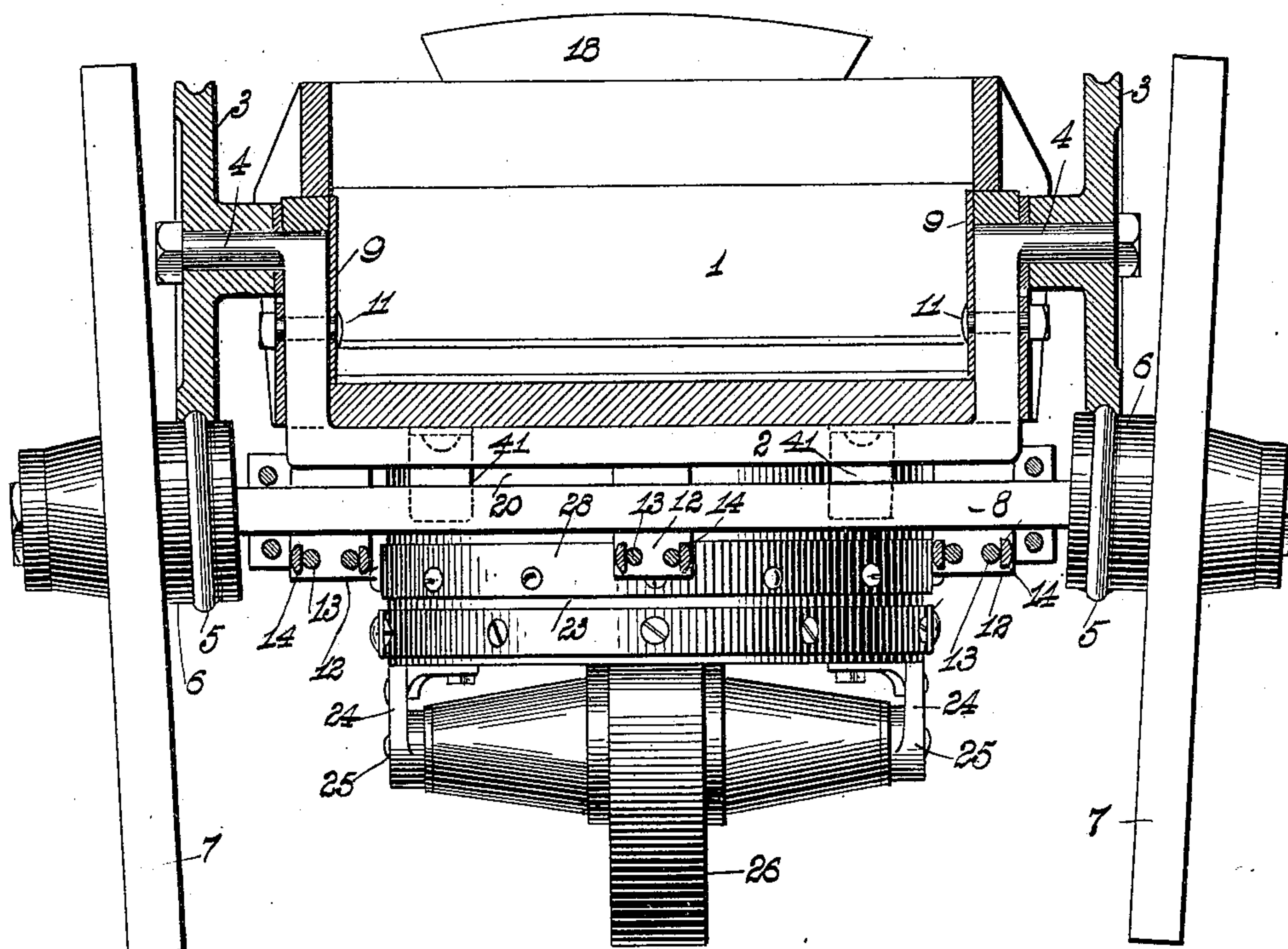


Fig-3-

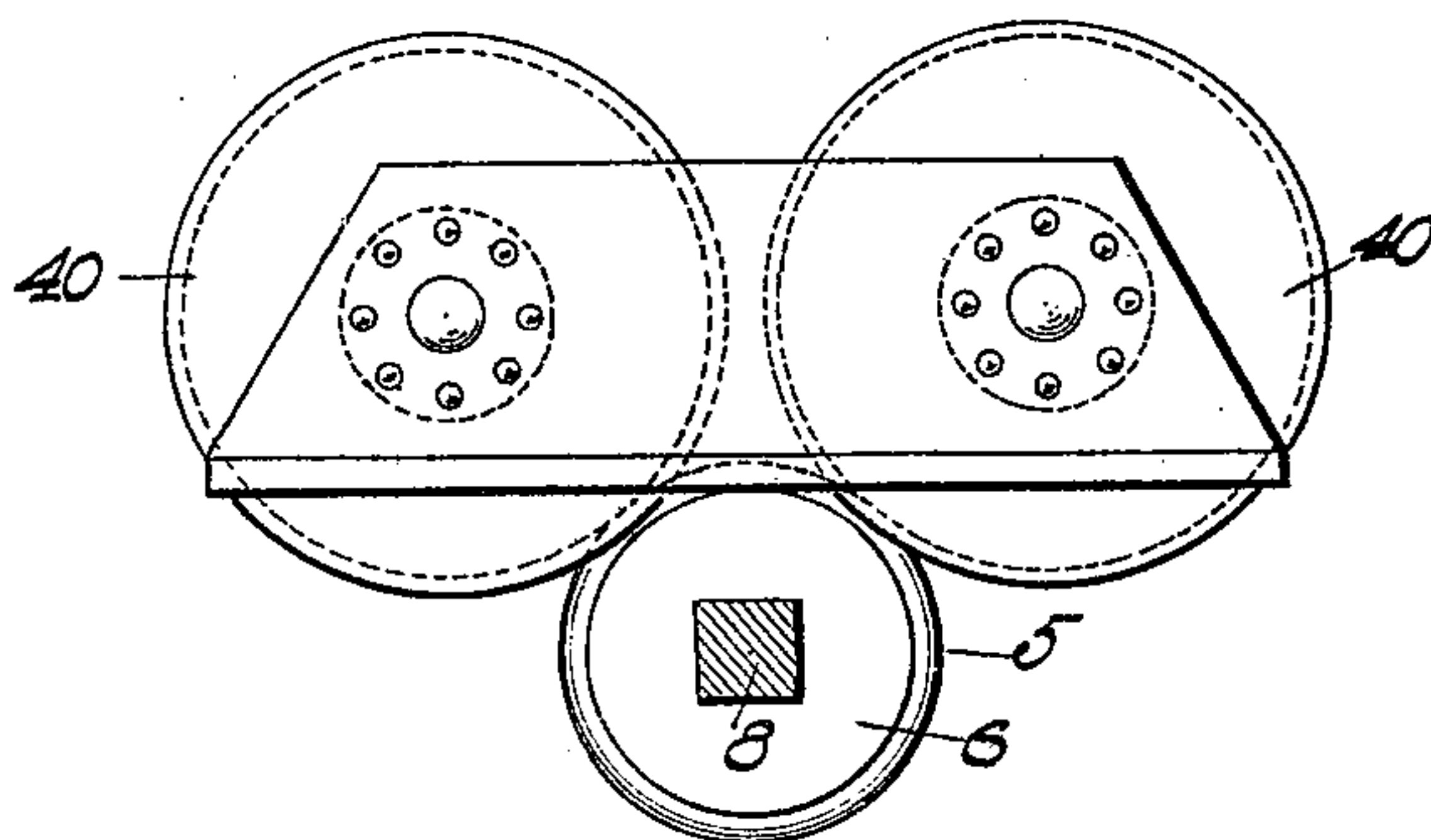


Fig-5-

WITNESSES.

Wm. H. Varnum.

Edward H. Temple.

INVENTORS.

Thomas L. Quigley  
and  
Peter Malone

by their attorney

Charles S. Gooding



# UNITED STATES PATENT OFFICE.

THOMAS L. QUIGLEY AND PETER MALONE, OF BOSTON, MASSACHUSETTS.

## CART.

SPECIFICATION forming part of Letters Patent No. 641,647, dated January 16, 1900.

Application filed April 12, 1899. Serial No. 712,706. (No model.)

*To all whom it may concern:*

Be it known that we, THOMAS L. QUIGLEY and PETER MALONE, citizens of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Carts, of which the following is a specification.

The object of our invention is to produce a strong, convenient, and durable cart or vehicle which shall be capable of being turned around in a small space and in which the friction upon the main axle is reduced to a minimum.

The invention consists in a certain construction and combination of parts, as fully set forth in the following specification and particularly pointed out in the claims thereof.

Referring to the drawings, Figure 1 is a perspective view of our invention as applied to a dump-cart, the pole being shown broken off. Fig. 2 is a longitudinal section of the same, the body of the cart being shown tipped up in dotted lines. Fig. 3 is a section, partly in elevation, line 3 3, Fig. 2, looking toward the right in said figure. Fig. 4 is a plan and side elevation of the pole detached. Fig. 5 is a side elevation of a modified form of a portion of our improved cart, the axle being shown in section.

Like numerals refer to like parts throughout the several figures of the drawings.

In the drawings, 1 is the body of the cart, said body being hung upon the U-shaped axle 2. Said axle 2 is supported upon the grooved wheels 3 3, which rotate upon the cylindrical portions 4 4 of the axle 2. The wheels 3 3 are grooved upon their peripheries and bear upon tracks 5 5 on the peripheries of the hubs 6 6 of the wheels 7 7. The wheels 7 7 rotate in the usual manner upon the axle 8. The body 1 is reinforced on the sides by plates 9 9, which are bolted to each other and to the body 1 by the bolts 10 10 and to the vertical portions of the axle 2 by the bolts 11. To the bottom of the cart-body are bolted angle-irons 12, the vertical side of said angle-irons bearing against the vertical sides of the axles 2 and 8. The lower ends of the angle-irons 12

are joined together by bolts 13, the pieces 14 serving to prevent the said angle-irons from being drawn together sufficiently to bind upon the axle 8. Springs 41 41 are fastened to the under side of the cart-body 1, the free end of said springs bearing against the front side of the axle 8 to prevent the same from rattling against the angle-irons 12 12.

The forward end of the body 1 rests upon a platform 15 and is locked thereto to prevent the body from tipping up by the rod 16, which passes through the eyebolts 17, fast to the platform 15, in the usual well-known manner. The platform 15 has a seat 18 thereon and a curved foot-rest 19 attached thereto.

The platform 15 is hinged at 42 to the angle-irons 12, so that when the body 1 is tipped up to the position shown in dotted lines, Fig. 1, the platform 15 remains horizontal.

Upon the under side of the platform 15 is fastened a hollow cylindrical flange 20, having a metal plate 21 upon its lower face. Said plate 21 rests upon another metal plate 22 upon the upper face of the hollow cylindrical flange 23. To the under side of the flange 23 are fastened two brackets 24 24, which have bearings 25 therein for the axle of the single front wheel 26. The flange 20 has angle-irons 27, fast to the inner face thereof, which turn outwardly at the bottom to engage the under side of the plate 22, thus holding the platform 15 and flange 20 down on the flange 23. A cylindrical metal flange 28 is fastened to the outer face of the flange 20 and projects downwardly therefrom to a sufficient distance to engage the plate 22 on the lower flange 23, thus receiving any end or sidewise thrust tending to separate the lower flange 23 and wheel 26 from the upper flange 20.

To the lower flange 23 are fastened two brackets 29, to which the pole 30 is pivoted upon a bolt 31. The pole 30 is made in two parts 32 and 33, hinged together at 34. A plate 35, bolted to the under side of 32, rests against the under side of 23 when the pole is down in a horizontal position, as shown in Figs. 1 and 2. The part 33 is hinged to 32 at 34, two plates 36, bolted to the sides of 32, acting to take any side strain upon the pole. A plate 37, bolted



to the under side of 33, rests against the under side of 32 when the pole is in the position shown in Figs. 1 and 2.

One important feature of our invention is the manner in which we support the load of the body and its contents. It will be seen and understood that the larger part of the weight of the body of the cart and its contents comes upon the wheels 3 3, and is thence transferred to the hubs 6 of the wheels 7, and as the wheels 3 rest upon the hubs 6 at a point nearly over the point where the tire of the wheel 7 rests upon the ground it will be seen that the larger part of the thrust of said weight will be taken directly through said wheels 7 and very little weight will be brought to bear upon the axle 8. It will therefore be understood that there will be very little friction upon the axle 8 at the points thereof upon which the wheels 7 bear. It will also be seen and understood that, supposing the friction upon the bearings 4 to be equivalent to the friction of the wheels 7 upon the axle 8 when arranged in the usual manner, the power required to turn the wheels 3 will be inversely as the diameters of the wheels 3 to the diameters of the hubs 6 at the point where said wheels 3 bear thereon, or in the case of the cart illustrated in the drawings the power required to move the cart, as far as friction of the axles is concerned, would be about one-half that required to move the cart constructed in the usual manner, the wheels 3 being about twice the diameter of the hubs 6 at the point where said wheels bear upon said hubs and rotating at one-half the speed of the wheels 7.

Another important feature of our invention is the single front wheel and the manner of attaching it to the cart-body. In the ordinary construction there are two wheels swiveling upon a bolt attached to the wagon-body, and the whole strain of pulling the load comes upon this bolt, which often gets worn or crystallized and breaks.

In our construction there is no possibility of an accident of this kind, as the flanges 20, 23, and 28 take all the pulling strain and are very strong. It is evident that with a single wheel in front a cart can be turned very much more easily and in smaller space than where there are two front wheels. It is also evident that the pole is kept straight with much less strain and pull upon the horses where one wheel is used than where two are used, for the reason that if the wheel is in the center of the cart and it strikes a rock or other obstruction it will ride up over it, whereas if there are two front wheels and one of them strikes a rock or other obstruction it will be thrown around, bringing a strain upon the horses to keep the pole and wheels straight.

Still another feature of our invention is the jointed pole. It is obvious that the part 33

of said pole can be folded back upon the part 32 and the part 32 then turned up on the pivot 31 against the side of the platform 15 and locked thereto to prevent the cart from being stolen or for the sake of economizing space in the stable.

In order to lock the two parts 32 33 in line with each other, as shown in Fig. 4, we provide a swivel-hook 38, which passes through a slot 39 in the plate 37 and is then turned at right angles to said slot, thus locking the two parts of the pole, as shown in said figure.

In Fig. 5 we have illustrated a modified form of our invention, in which there are on each side of the body 1 two wheels 40 40, which bear against the periphery of the hub 6 on the wheel 7 instead of one wheel 3 on each side of said body.

The curved foot-rest 19 is another feature of our improved cart, the object being to supply a foot-rest which shall present a firm foothold for the driver whether the horses are pulling straight ahead or whether they are being turned around at an angle with the body of the cart.

In the foot-rest in ordinary use if the horses are turned at an angle with the body of the cart the driver will be pulling in one direction upon the reins and his legs and feet will be pushing in a different direction, resulting, oftentimes, in slipping and in all such cases in a comparative loss of power.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a cart, in combination, a body, an upper and a lower axle, a pair of wheels on each axle, the peripheries of the wheels on the upper axle arranged to bear upon the peripheries of the hubs of the pair of wheels on the lower axle, said body being fast to said upper axle and having a sliding connection with said lower axle, substantially as described for the purpose specified.

2. In a cart in combination, a body, an upper and a lower axle, a pair of wheels on each axle, the peripheries of the wheels on the upper axle arranged to bear upon the peripheries of the hubs of the pair of wheels on the lower axle, said body being fast to said upper axle, angle-irons fast to said body and forming a sliding connection with said lower axle, all so constructed and arranged that the weight of the body is transferred directly from the wheels upon the upper axle through the wheels upon the lower axle to the ground, substantially as described for the purpose specified.

3. In a cart, in combination, a body, two axles, a pair of wheels on each axle, the peripheries of one of said pairs of wheels arranged to bear upon the peripheries of the hubs of the other pair of wheels, angle-irons 12 and springs 41 fast to said body, and ar-

ranged to bear against one of said axles, substantially as described.

4. In a cart, a body, an axle fast to said body, and a pair of wheels on said axle, in  
5 combination with a single wheel pivotally connected to said body in front of and midway between said pair of wheels, a cylindrical flange 20 fast to said body, a cylindrical flange 23, attached to said single wheel, a plate 22  
10 fast to said flange 23, angle-irons 27 and a cy-

lindrical flange 28 fast to said flange 20, substantially as described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

THOMAS L. QUIGLEY.  
PETER MALONE.

Witnesses:

CHARLES S. GOODING,  
WM. H. VARNUM.