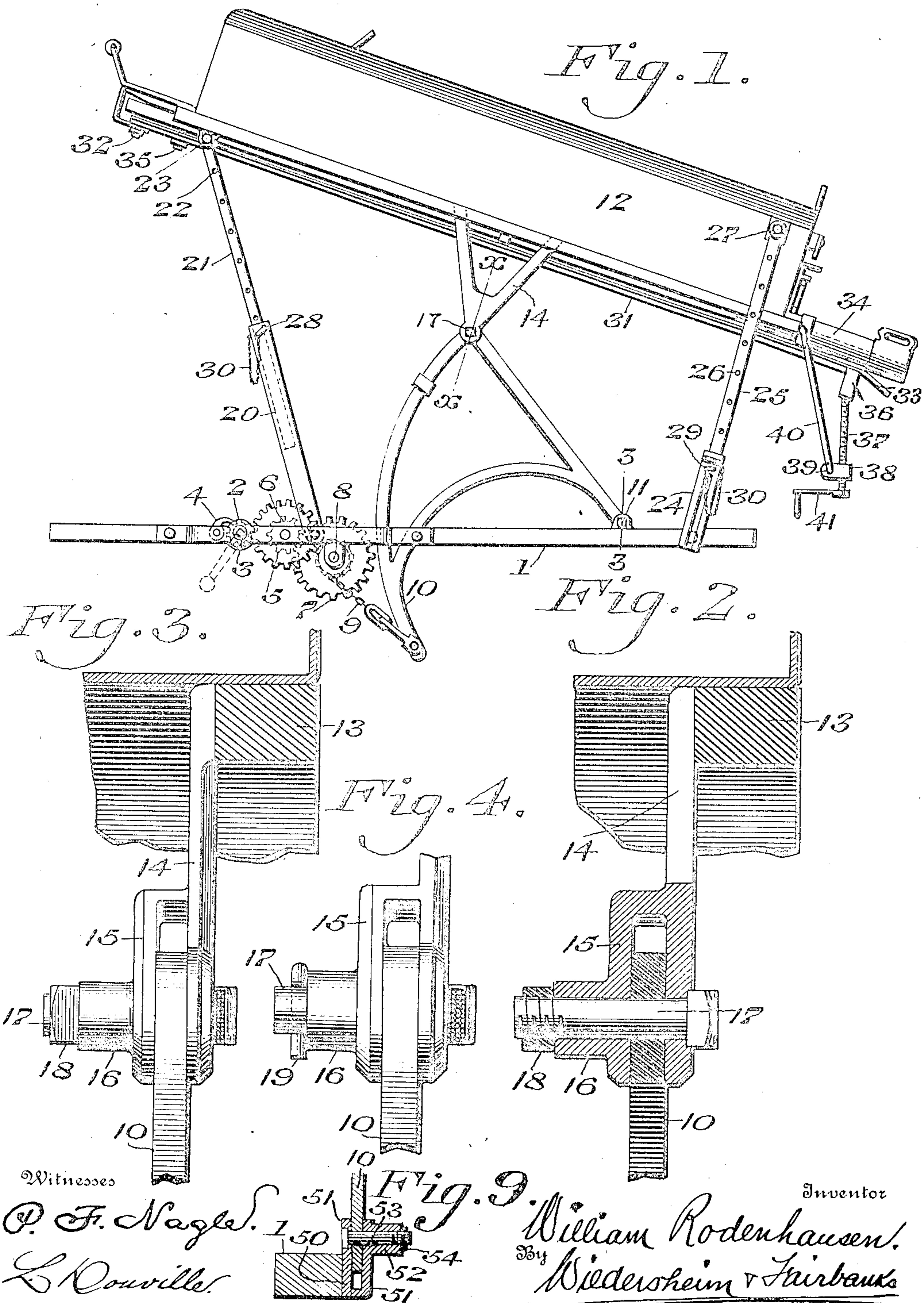


W. RODENHAUSEN.
DUMPING WAGON.
APPLICATION FILED JULY 30, 1908.

927,813.

Patented July 13, 1909.
2 SHEETS—SHEET 1.



Witnesses
P. F. Nagle.
L. Douville.

Inventor
William Rodenhause.
By Wiedersheim & Fairbanks
Attorneys

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2 SHEETS—SHEET 2.

Fig. 5.

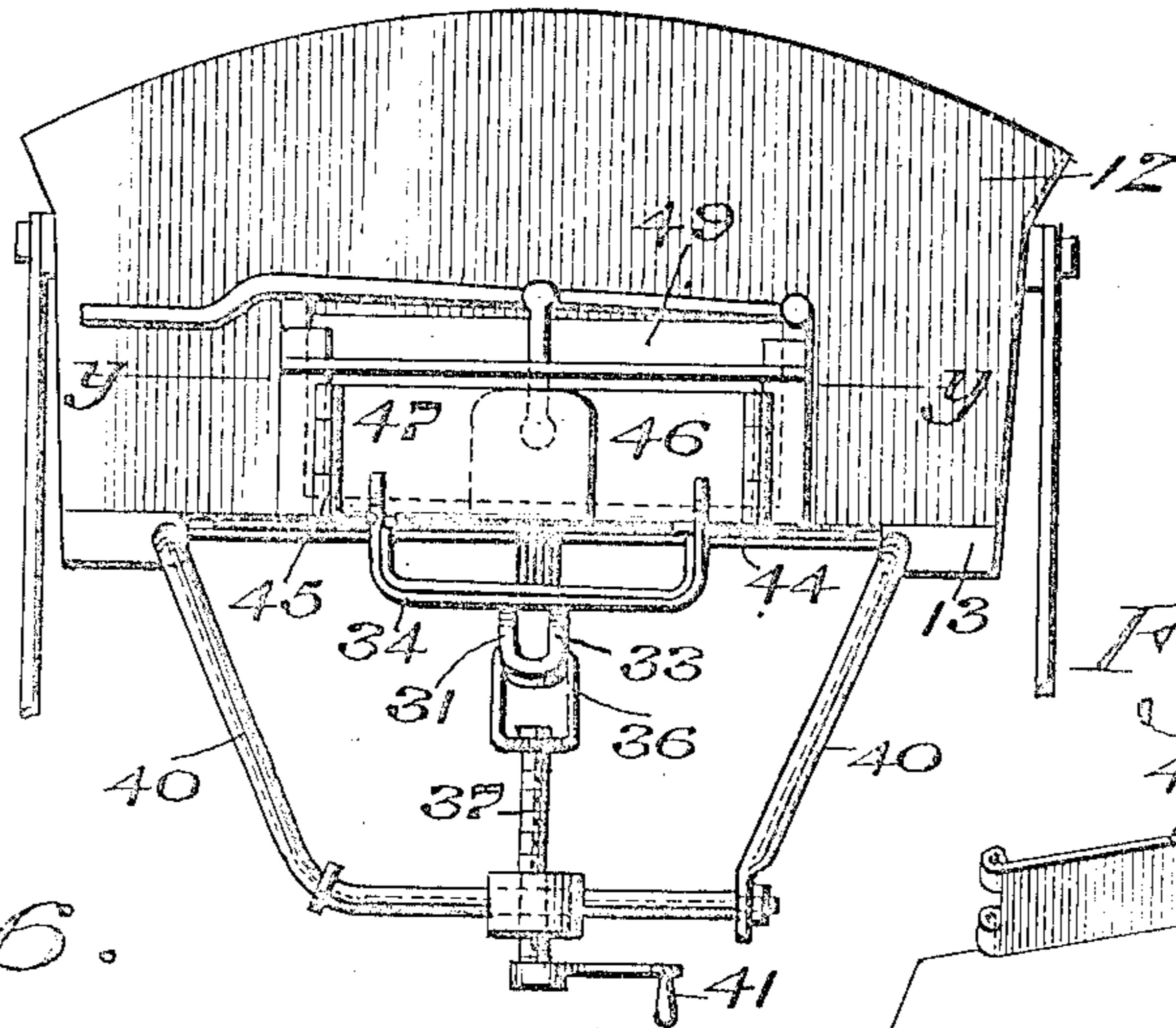


Fig. 6.

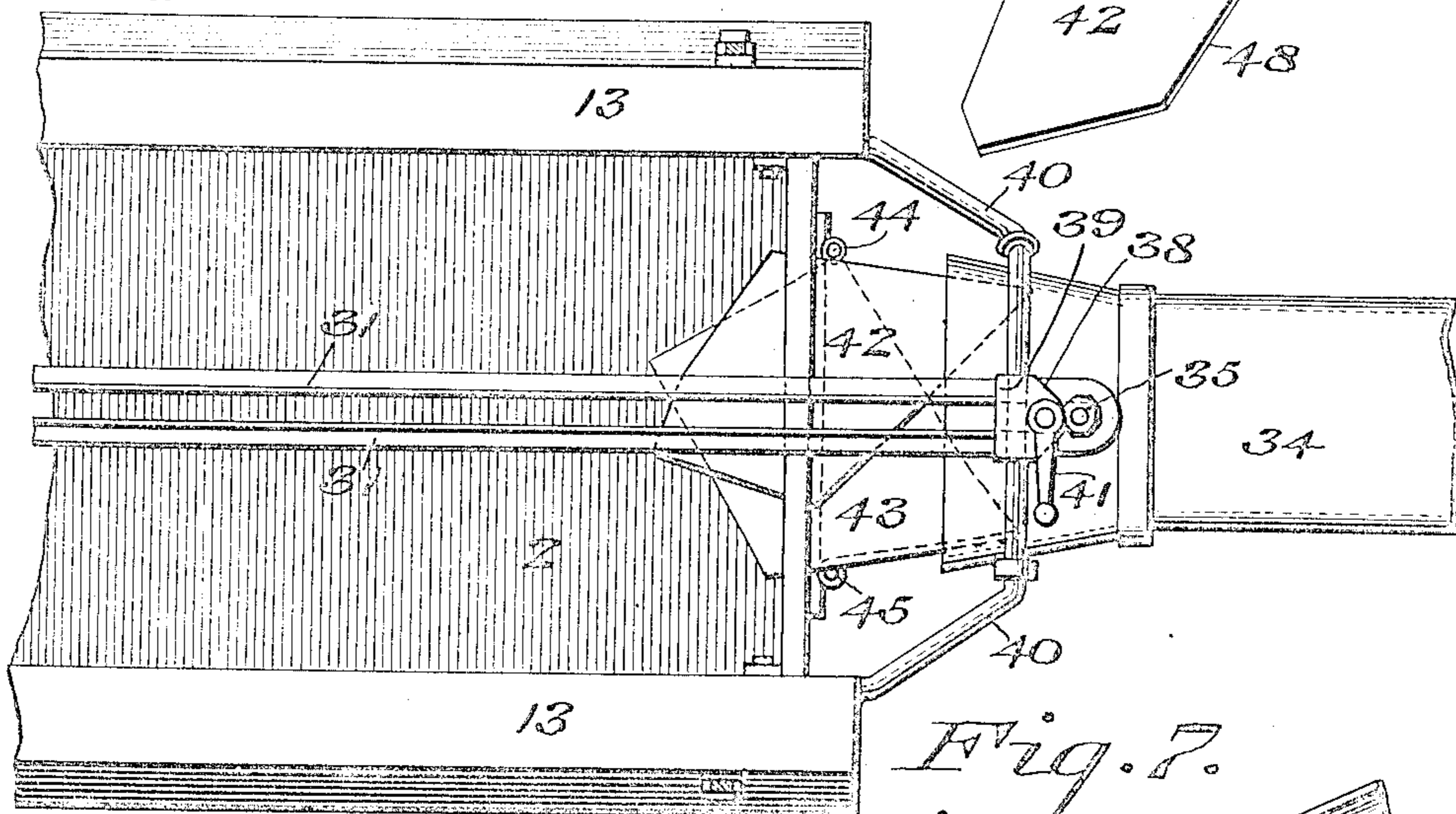
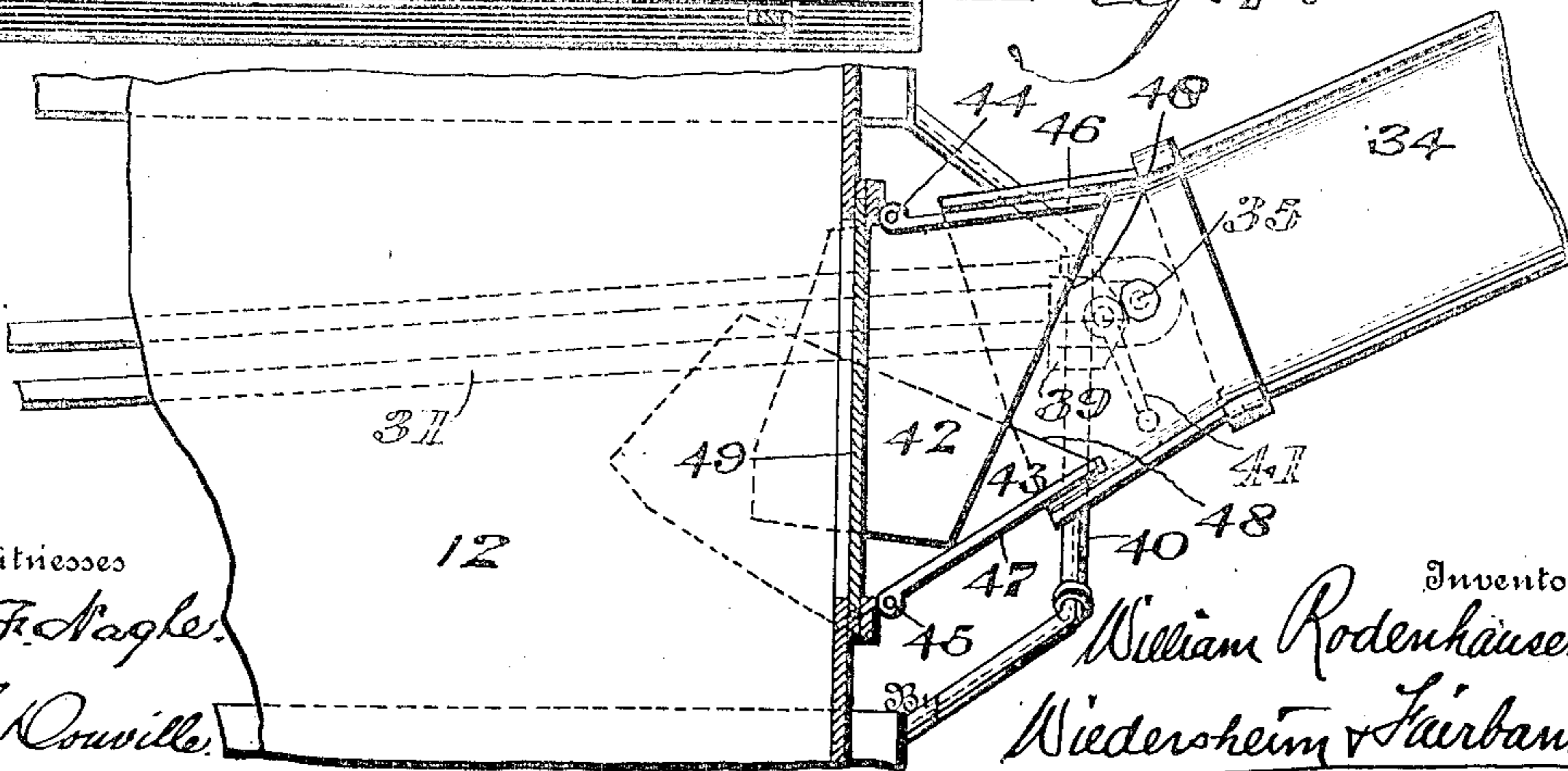


Fig. 7.



Witnesses
P. F. Nagle.
L. Rouville.

Inventor
William Rodenhäusen,
Wiederheim & Fairbanks,
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM RODENHAUSEN, OF PHILADELPHIA, PENNSYLVANIA.

DUMPING-WAGON.

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Specification of Letters Patent.

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Application filed July 30, 1908. Serial No. 446,053.

To all whom it may concern:

Be it known that I, WILLIAM RODENHAUSEN, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Dumping-Wagon, of which the following is a specification.

My invention relates to new and useful improvements in dumping wagons and consists essentially in means whereby I am enabled to attain a greater elevation of the body for dumping without increasing the length of the wagon running gear. I provide the body with depending brackets to which the quadrants are pivotally connected at a material distance from the wagon body, whereby a shorter radius and an easier lift are obtained. I am thus enabled to shorten up the running frame so that the wagon shall occupy as little room as possible in the direction of its length so as to permit of the passage of trolley cars, etc. while unloading without the necessity of having to move the wagon to allow them to pass.

It further consists of a novel form of hanger or bracket formed with a laterally projecting journal to prevent wear on said bracket by the bolt, and further forming a support or means for attachment of one end of a cross brace.

It further consists of novel details of construction, all as will be hereinafter fully set forth.

Figure 1 represents a side elevation of a wagon and portion of the running frame with the elevating mechanism connected therewith. Fig. 2 represents a sectional view on line $x-x$ Fig. 1, on an enlarged scale. Fig. 3 represents an elevation of the parts shown in Fig. 2. Fig. 4 represents an elevation showing a different construction from that shown in Fig. 2. Fig. 5 represents an end elevation of a portion of the wagon showing the dumping means. Fig. 6 represents a bottom plan view of a portion of the dumping wagon showing a portion of the chute in operative position. Fig. 7 represents a sectional view on line $y-y$ Fig. 5, of a portion of the wagon, showing a portion of the chute held at an angle. Fig. 8 represents a perspective view of one of the deflectors or guide plates employed. Fig. 9 represents a sectional view on line $z-z$ Fig. 1.

Similar numerals of reference indicate corresponding parts in the figures.

I have found in practice in the construction of dumping wagons now in use that it is impossible to always raise the wagon body to the desired height and it is also difficult to prevent the coal from falling before it reaches the chute. My invention is designed to overcome these defects and in the drawings, I have shown a construction which I have found in practice operates successfully but it will be evident that the arrangement of the parts may be varied and other instrumentalities may be employed which will come within the scope of my invention and I do not therefore desire to be limited in every instance to the exact construction as herein shown and described but desire to make such changes as may be necessary.

Referring to the drawings 1 designates the running frame of the vehicle which is suitably supported upon the running gear which may be of any desired or preferable construction. At suitable points on the frame 1, I mount a spur wheel 2 having the squared end 3 for engagement by a suitable handle for rotating the same, the pawl 4 preventing improper rotation of said spur wheel. Meshing with said spur wheel 2 is a gear 5 carrying the spur wheel 6, which is in mesh with the gear 7 on the shaft 8 which is suitably journaled with respect to the frame 1 and with which is suitably connected one end of the chains or cables 9 one on each side of the wagon, the opposite end of said chains being connected with one end of a quadrant 10, one on each side of the frame 1 and which are pivotally connected at 11 therewith, said quadrants being suitably connected by cross bars thus forming practically a single quadrant.

12 designates the body of the wagon which is of suitable size and form and which has connected therewith, in the present instance, the bar 13, to which is attached in any suitable or desired manner a bracket or hanger 14 on each side of the body and each having a yoke or fork 15 adjacent its lower end from one side of which projects a journal 16, it being noted that a suitable portion of the quadrant 10 is seated in the forks 15 and is pivotally held therein by any suitable means as by a headed bolt 17 which is held in place by any desired means as for example by a nut 18 engaging with the threaded end of said bolt or by having a pin 19 passing through a suitable opening in said bolt from which it will be understood that while

the quadrant is pivotally connected with the fork 15 the same can be quickly and easily removed therefrom should occasion arise.

At a suitable point upon each side of the running frame 1 of the vehicle, I pivotally connect a hollow bar 20 which is adapted to telescopically receive a bar 21, which is provided at intervals with openings 22 and which is pivotally connected as at 23, with the body 12, of the vehicle, it being understood that this connection is formed in such a manner that the same can be quickly and easily removed from engagement with or reconnected with the body as desired.

24 designates sockets one of which is pivotally connected with the running frame 1 on each side thereof and are adapted to movably receive a bar 25 provided with suitable openings 26 at intervals therein each of said bars being pivotally connected at one end as at 27, with the body 12 of the vehicle in such a manner that the same can be quickly and easily removed from connection with or reconnected with the body 12 of the vehicle.

28 and 29 designate pins which are adapted to pass through suitable openings in the hollow bar 20 and the socket 24 respectively and also through the openings 22 and 26 respectively of the bars 21 and 25, in order to hold the said bars in locked position with respect to the hollow bar 20 and socket 24 respectively, any suitable means for carrying the pins being employed and in the drawings, I have shown a chain 30 connected with each of the pins and with the bar 20 and the socket 24 for this purpose.

The hanger or bracket with its projecting journal and the bolt 17 provides a quick and efficient means whereby the quadrant may be readily removed when desired and by reason of this form of depending bracket I am not only enabled to place the pivot 17 of the quadrant "low down" but at a material distance from the bottom of the wagon and utilize the projecting journal as means for the support and attachment of a cross brace for which said journal forms the fulcrum.

The operation of the parts just described will be readily apparent. When it is desired to raise or lower the wagon a suitable tool or handle is applied to the squared end 3 connected with the spur wheel 2 and by proper rotation thereof motion is imparted to the gear 5 and thus to the spur 6 which is in engagement with the gear 7 so that the shaft 8 on which the spur 7 is mounted is rotated in the proper direction thus winding up on unwinding the chains 9 connected with the quadrant 10. If the wagon body is in lowered position and the chains 9 are wound upon the shaft 8 the end of the quadrant 10 with which the chains are connected is elevated turning said quadrant upon its pivotal support 11 and elevating the body 12. At

the same time the hollow bars 20 are properly rotated upon their pivotal points as are also the sockets 24 while the rods 21 and 25 are extended or removed out into the position seen in Fig. 1, tilting the wagon body 12 to the desired position at which time the pins 28 and 29 are passed through the openings in the hollow bar 20 and socket 24 and will thus engage with a suitable opening 22 in the bar 21 and a suitable opening 26 in the bar 25 and the body 12 will thus be held in its elevated position, seen in Fig. 1. After the coal has been discharged and it is desired to lower the wagon the pins 28 and 29 are removed from the openings and the pawl 4 is removed from engagement with the spur wheel 2 so that the weight of the body 12 forces down the quadrant 10 unwinding the chains 9 from the shaft 8 and causing the rods 21 and 25 to be lowered in the hollow bars 20 and sockets 24. It will be seen that in this way the front and rear portions of the body are supported at all times as well as the center and that by providing the hangers 14, I am enabled to raise the body 12 to a greater height than heretofore, with the same size quadrant employed, the advantages of which are evident. In addition, by reason of the connection at the pivotal points 23 and 27 of the rods 21 and 25 and of the connection between the quadrant 10 and the hangers 14 the entire body portion can be quickly removed and replaced by another should any damage occur to the body. In order that the coal can be discharged at an angle from the body, if desired, I have provided means for laterally moving the chute and means for preventing falling of the coal before it reaches the chute.

31 designates a guide preferably formed of bars suitably connected at one end as at 32 with the body of the wagon, at the bottom thereof, said guides extending beyond the rear end of the wagon and having a closed end 33 to prevent entire accidental removal of the chute 34 which is provided with a pin 35 movable between the guides so that said chute 34 can be slid under the wagon when not in use and pulled out therefrom but being held in proper position by the guides. In order to lock the chute in its closed position, I have provided a locking device which can be actuated in order to hold the chute in position beneath the wagon.

36 designates a stirrup or strap connected with the guide 31 with which is suitably connected a screw 37 which is in threaded engagement with a journal 38 carried by a sleeve 39 which is movably mounted on the bracket 40 connected with the wagon body, said screw 37 having an operating handle 41 connected therewith so that by the rotation of said handle the screw is raised or lowered in the journal 38, which screw 37 raises or lowers the free end of the tracks 31 and

when raised press against the bottom of the chute and lock the same between the bottom of the wagon and the guides so that said chute will be locked in position. The pin 5 35 permits turning of the chute 34 in either direction with respect to the tracks so that said chute can be set at any desired angle with respect to the body or if desired the sleeve 39 can be moved along the bracket 40, 10 as best seen in dotted lines Fig. 7 at the same time as the chute 34 is placed in its desired position, the advantages of which will be evident.

In order to provide that the coal from the 15 body 12 will be properly directed into the chute 34 and will be prevented from falling through the space between the end of the chute and the wagon body, I provide two pivoted deflectors or guide plates 42 and 43 20 which are pivoted at 44 and 45 respectively to the wagon body and which are moved independently of each other being so arranged that one slides beneath the other, said deflectors being provided with the sides 46 and 25 47 respectively, extending preferably vertically from the bottom plate of the deflectors and the front edges of which bottom plates extend at an angle as at 48 and said deflectors are so arranged that they can be 30 placed in proper position with respect to the chute 34 in order to form practically a continuation thereof with the sides 46 and 47 at such an angle with respect to the opening in the wagon body that as the coal leaves 35 the same the sides 46 and 47 prevent the coal from passing sidewise while the bottom plates of the deflectors 42 and 43 prevent the coal from falling as above described, so that in no matter what position 40 the chute 34 is placed the said deflectors 42 and 43 can be arranged accordingly in order to provide a proper surface over which the coal will pass to the chute. When the chute 45 is in its closed position the said deflectors 42 and 43 can be moved into position beneath the bottom of the wagon body with the sides 46 and 47 resting against the rear end thereof. The wagon body is provided with the usual discharge opening controlled by the 50 gate or door 49 as usual, which is provided with suitable means for actuating the same.

The operation of the parts just described will be apparent. When the chute 34 is not 55 used it is situated beneath the wagon body and is locked in position by the guides 31 as already described. When it is desired to discharge the coal from the wagon the handle 41 is properly rotated to release the chute after which the same is moved outwardly 60 into its desired position and adjusted or placed at the desired angle after which the deflectors 42 and 43 are moved into proper position and the door 49 of the wagon can be opened and the coal properly discharged.

I desire to call particular attention to the arrangement and construction of the means for pivoting the quadrant 10 to the frame of the wagon and in Fig. 9, I have more clearly 70 shown the construction in which 50 designates a plate which is attached in any desired manner to the frame 1 and which has the ears 51 projecting upwardly from the plate between which a suitable portion of the quadrant 10 is seated. One of the said ears 75 is provided with an extension or boss 52 which serves as a suitable support for a bolt 53 which passes through the ears and through the opening in the quadrant in order to pivotally connect the parts. The 80 extension or boss 52 serves as a means of support and connection for a suitable brace, and a fulcrum on which said brace may work.

54 designates a nut which is screwed on 85 the threaded end of the bolt in order to lock the parts in position, it being understood that the said bolt is provided with a suitable head and that one of the ears is counter-sunk in order to receive the head so that the 90 said head will not project beyond the walls of the ear. By removing the nut the bolt 53 can be withdrawn and the quadrant can thus be removed quickly and easily, the replacing of the parts being also quickly ac- 95 complished.

By the arrangement of the ears projecting from the frame 1 they also serve the purpose of preventing side movement of the wagon body 12 when in lowered position. 100

By reason of the depending hangers, I am enabled not only to place my pivotal connection between the quadrant and the hanger at a material distance from the bottom of the body but am also enabled to dispose such 105 pivot at a point at all times materially in front of a vertical plane through the pivot 11 that connects the quadrant with the frame. This not only gives me the greater extent of movement and elevation desired 110 but it avoids the necessity of shifting the pivotal connection between the hanger and quadrant from one side to the other of the vertical line through the pivot 11, thus avoiding any tendency to breakage or undue strain by reason of this shifting of the pivot. 115

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:— 120

1. In a device of the character stated, a running frame, a body, a hanger rigidly secured to and depending from the under side of the body, a quadrant pivotally connected with the running frame and with 125 said hanger at a material distance from the bottom of the body and means connected with said quadrant for operating the same and disposed substantially beneath the pivot between the quadrant and hanger, whereby 130

a short radius and easier lift are provided with a minimum length of running frame.

2. In a device of the character stated, a running frame, a body, a hanger rigidly secured to and depending from the under side of the body, a quadrant pivotally connected with the running frame and with said hanger at a material distance from the bottom of the body and means connected with said quadrant for operating the same and disposed substantially beneath the pivot between the quadrant and hanger, whereby a short radius and easier lift are provided with a minimum length of running frame, the pivot connecting said quadrant and hanger having a lateral journal for attachment of a brace.

3. In a device of the character stated, a running frame, a body, a hanger rigidly secured to and depending from the under side of the body, a quadrant pivotally connected with the running frame and with said hanger at a material distance from the bottom of the body and means connected with said quadrant for operating the same and disposed substantially beneath the pivot between the quadrant and hanger, whereby a short radius and easier lift are provided with a minimum length of running frame, the pivot between the quadrant and hanger having a laterally extending journal for the attachment of a brace.

4. In a device of the character stated, a running frame, a body, hangers fixed to the bed of the body and depending therefrom, quadrants pivotally mounted on the running frame with their pivots above the same and pivotally connected with said hangers at a material distance from the bed of the body, the pivots of said quadrants having laterally projected journals for the attachment of braces, and means connected with the quadrants for raising and lowering the same and with them the body.

5. In a device of the character stated, a hanger having an offset member forming a yoke and a laterally projecting journal for

the attachment of a brace, combined with a segment pivotally mounted in said yoke.

6. In a device of the character stated, a hanger having an offset member forming a yoke, and a laterally projecting journal for the attachment of a brace, combined with a body to which said hanger is connected, a running frame, a quadrant pivotally connected with said frame and having a portion received in said yoke, and a bolt passed through the yoke, the quadrant and the journal and having means to retain it in place.

7. In a device of the character stated, a hanger having an offset member forming a yoke, and a laterally projecting journal for the attachment of a brace, combined with a body, a running frame, a quadrant pivotally connected with said frame and having a portion received in said yoke, and a bolt passed through the yoke, the quadrant and the journal and having means to retain it in place, the head of the bolt being countersunk in said yoke.

8. In a device of the character stated, a body, a hanger secured to the sill of said body and having an offset portion forming a yoke and a lateral journal forming a support and fulcrum for a brace, a quadrant pivotally connected with said yoke, a running frame to which said quadrant is pivotally connected, and means connected with the quadrant for raising and lowering the same and with it the body.

9. In a device of the character stated, a pivot-supporting member having an offset forming a yoke and an integral journal projecting laterally from said offset member to receive a pivot and to form a support or fulcrum for a brace, combined with a segment pivoted in said yoke.

WILLIAM RODENHAUSEN.

Witnesses:

C. D. McVAY,

L. H. BREWINGTON.