

No. 671,627.

Patented Apr. 9, 1901.

E. P. LE GORE.  
DUMPING WAGON.

(Application filed Nov. 28, 1900.)

(No Model.)

2 Sheets—Sheet 1.

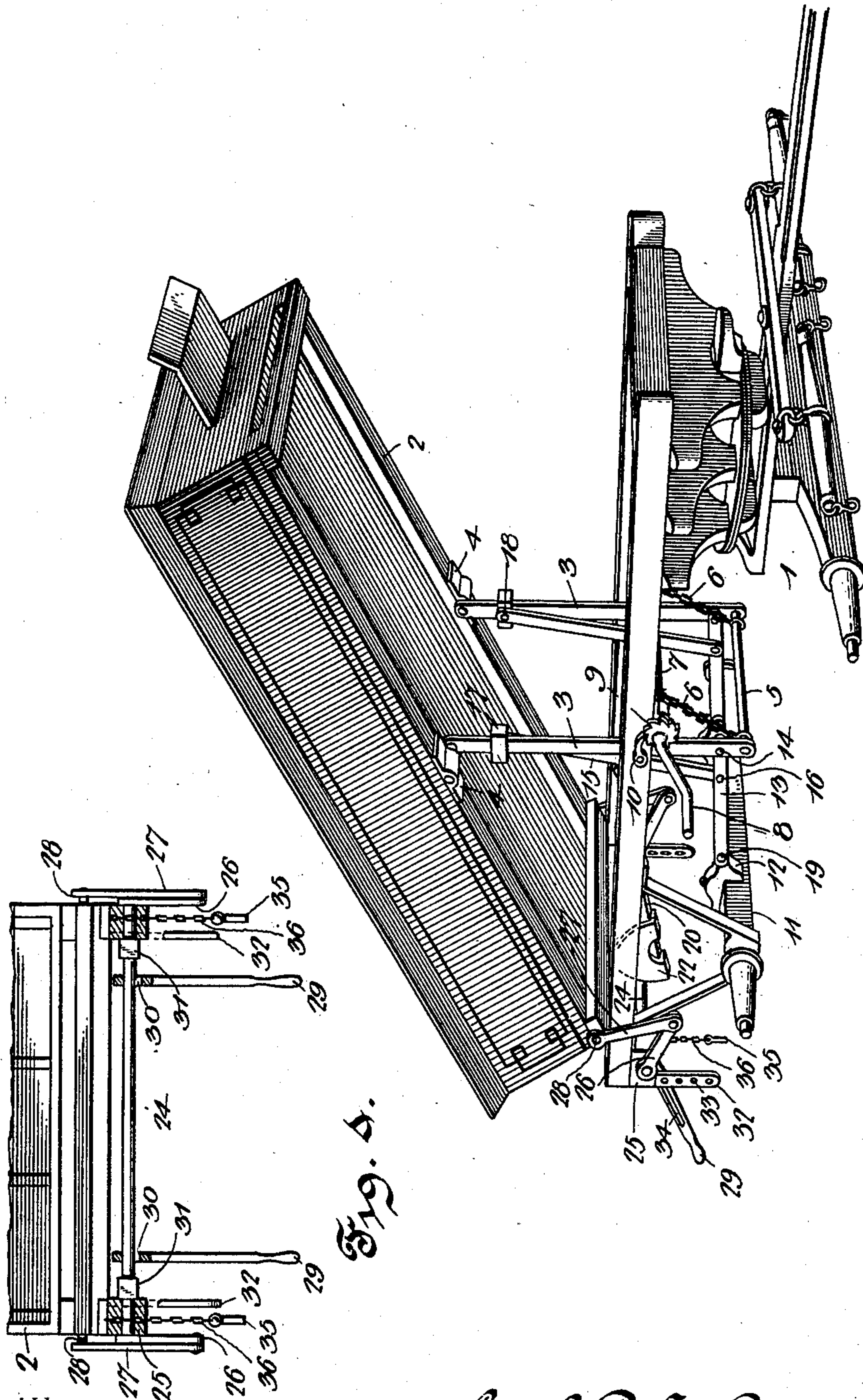


Fig. 1.

Fig. 4.

Witnesses

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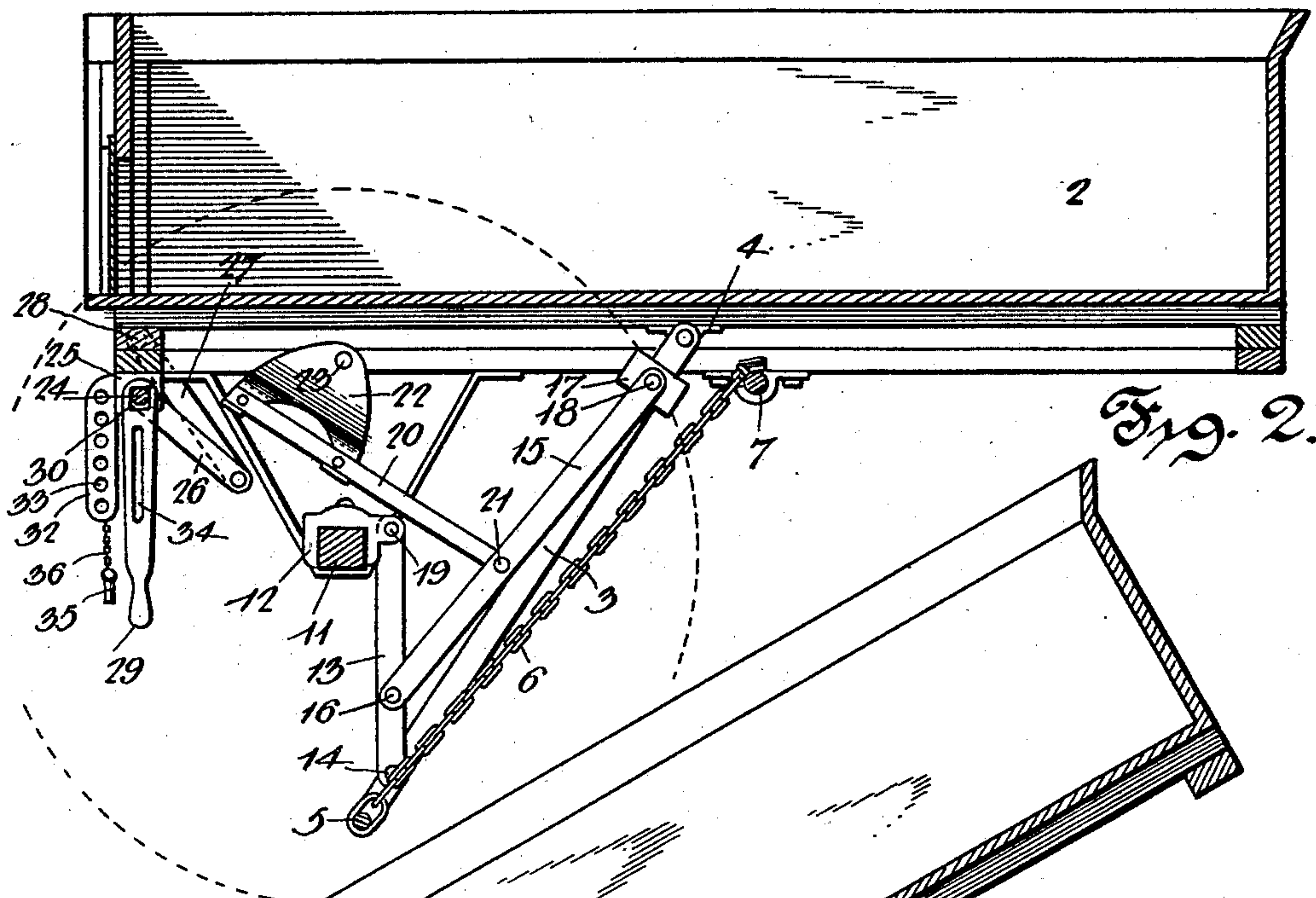


Fig. 2.

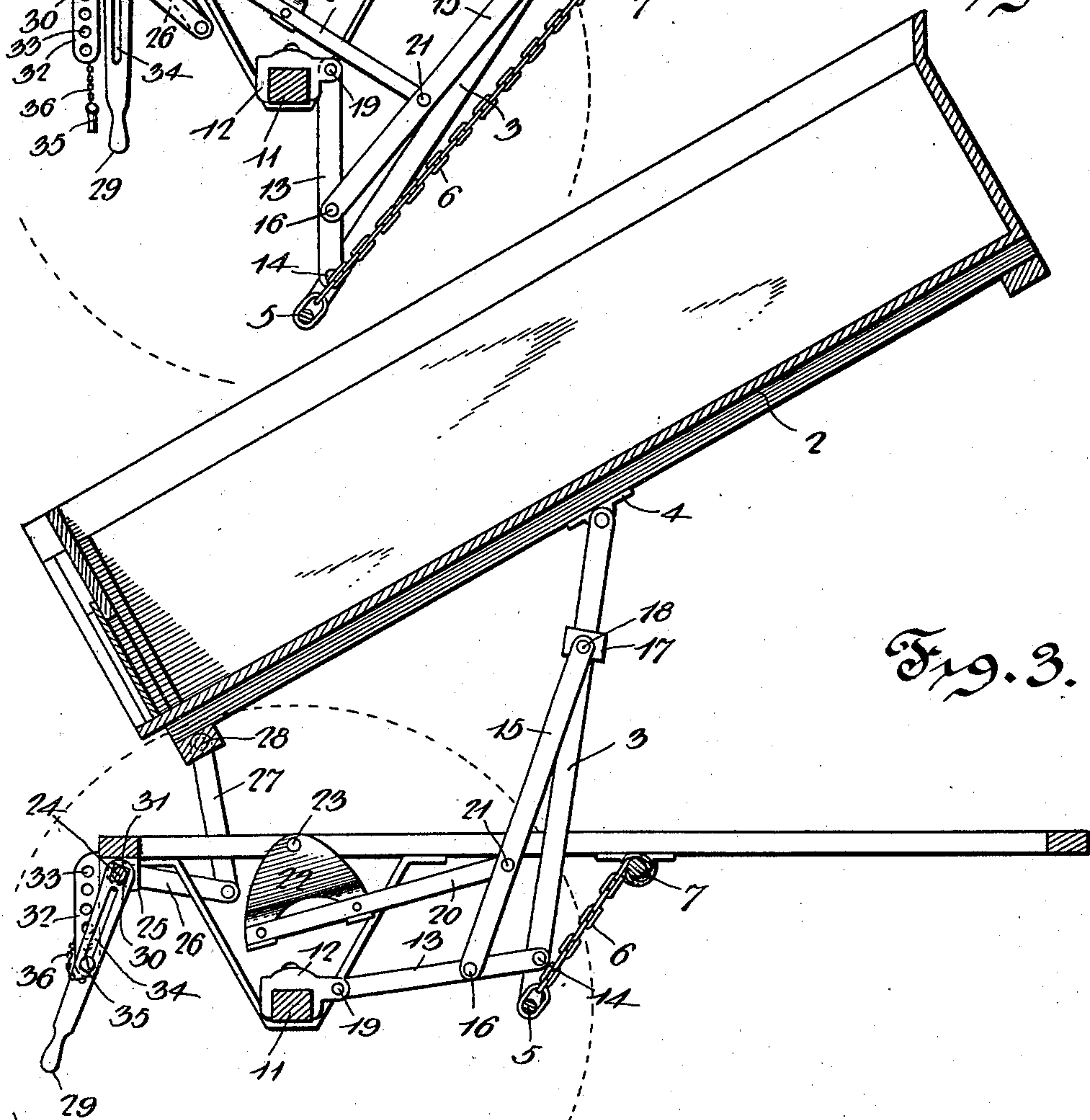


Fig. 3.

Witnesses

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# UNITED STATES PATENT OFFICE.

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## DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 671,627, dated April 9, 1901.

Application filed November 28, 1900. Serial No. 38,048. (No model.)

*To all whom it may concern:*

Be it known that I, EARL PHILBURN LE GORE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Dumping-Wagon, of which the following is a specification.

This invention relates to dumping-wagons, and has for its objects to provide improved means for elevating the body of a wagon from the running-gear thereof and for tilting said body, so as to dump or slide the contents thereof out through the rear end of the body. It is also designed to arrange the elevating and tilting mechanism, so that it may be applied to any ordinary wagon and to arrange the same for manipulation by a single operator, and, finally, to provide for a slight additional adjustable elevation of the rear end of the wagon-body, so as to vary the inclination thereof at different elevations to accommodate the discharge to different circumstances.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view of the body and the running-gear of a wagon having the present dumping mechanism applied thereto, the wagon-body being elevated and tilted in position to dump. Fig. 2 is a central longitudinal sectional view thereof, the wagon-body being in its normal position. Fig. 3 is a similar sectional view with the wagon-body elevated and tilted. Fig. 4 is a sectional end elevation of the rear end of the wagon.

Like characters of reference designate corresponding parts in all of the figures of the drawings.

The present invention is especially designed for application to coal-wagons, which may or may not be provided with chute attachments, and in the drawings 1 designates the frame of the running-gear of any common or ordi-

nary wagon having the body 2 removably supported thereon.

In carrying out the present invention there is provided the opposite substantially vertically disposed elevating-standards 3, which are located within the opposite longitudinal sides of the running-gear frame and have their upper ends pivotally connected to the bottom of the wagon-body by means of suitable bearing-brackets 4, so that the standards may swing longitudinally of the wagon. The lower ends of the standards are connected by a cross bar or rod 5, so as to maintain the standards in a fixed mutual relation. Opposite chains or cables 6 have their lower ends connected to the cross-bar and their upper ends connected to a rotatable transverse shaft 7, mounted across the lower side of the running-gear frame and provided at one end with a removable crank-handle 8, located exteriorly of the frame and designed for the manipulation of the elevating mechanism. A suitable ratchet-wheel 9 is provided upon one outer extremity of the shaft, and a gravity-dog 10 is mounted upon the frame and in engagement with the ratchet wheel or disk, so as to prevent accidental unwinding of the chains. By this arrangement the chains may be wound upon the shaft, so as to raise the opposite standards, and thereby elevate the body of the wagon. As best indicated in Figs. 2 and 3 of the drawings, it will be seen that the shaft is mounted substantially midway between the opposite ends of the wagon, and the standards are located adjacent to and in rear of the shaft.

In order that the standards may be steadied in their vertical movement, a linked connection is provided between the lower ends thereof and the rear axle 11 of the wagon. This connection is formed by means of the opposite brackets or clamps 12, suitably secured to the intermediate portion of the axle and arranged in alinement with the inner sides of the respective standards. A connecting-link 13 has its rear end pivotally joined to the adjacent bracket and its front end pivotally connected to the inner side of the adjacent standard, as at 14, at a point just above the connecting rod or bar 5.

Rising from an intermediate point of each link there is an arm 15, which has its lower



end pivotally connected to the inner side of the link, as at 16. The upper end of the arm is provided with a cuff or sleeve 17, which is connected to the outer side thereof by means of a suitable pivotal connection 18, whereby the sleeve may rock in a vertical direction and also longitudinally of the wagon. Each sleeve slidably embraces the intermediate portion of the adjacent elevating-standard, so that the latter may slip through the sleeve, as the standard moves faster than the arm, for the reason that it is farther away from the common center 19, formed by the pivotal connection between the link 13 and the wagon-axle. By this arrangement the elevating-standards are braced from a common center both at their bottoms and their upper intermediate portions, so as to secure rigidity and stability of the elevating mechanism.

The intermediate portion of each arm 15 is braced by means of a link 20, which has its forward end pivotally connected to the outer side of the arm, as indicated at 21, while its rear end is fixedly secured to a rocking or swinging bracket 22, that is pendent from the inner face of the adjacent side of the running-gear frame, as indicated at 23.

In the normal position of the wagon the elevating-standards incline downwardly and rearwardly, whereby the connecting-links 13 assume substantially vertical positions pendent from the axle, while in the elevated position of the wagon-body the links 13 are thrown upwardly into substantially horizontal positions, with the other connecting elements assuming correspondingly-elevated positions. Thus the wagon-body may be conveniently elevated and returned to its original position by a single operator, the mechanism being under complete control through the medium of the removable crank-handle, which is normally removed, so as to obviate unnecessary projections in the normal condition of the wagon.

It will be understood that the rear end of the wagon-body has a pivotal connection with the running-gear frame in order that the front end of the body may be elevated to give the body a rearwardly and downwardly inclined tilt for sliding or shooting the contents of the wagon-body outwardly through the rear end thereof.

In some instances it is necessary or desirable to slightly elevate the pivotally-mounted rear end of the body after the opposite front end has been swung upwardly, so that the discharging contents thereof may be properly directed to an opening in a pavement or the like, and therefore I have provided an adjustable pivotal connection between the rear end of the body and the running-gear, comprising a rock-shaft 24, which is best shown in Fig. 4 of the drawings, and is mounted transversely beneath the rear end of the running-gear frame in suitable bearings 25, carried by said frame. Each end of this shaft projects outwardly beyond the adjacent bear-

ing and is provided with a terminal fixed crank-arm 26, which normally inclines downwardly and forwardly. To the outer free end of this crank-arm there is pivotally connected an upstanding link 27, which has its upper free end pivotally connected to the adjacent rear portion of the wagon-body, as indicated at 28. By rocking the shaft, so as to throw the opposite crank-arms upwardly, the corresponding links will also be elevated, thereby raising the rear end of the wagon-body.

For convenience in manipulating the rock-shaft there is provided an operating lever or crank 29, one for each end portion of the shaft, so as to be accessible from either side of the wagon. Each lever has an inner terminal angular opening 30, as best shown in Fig. 2 of the drawings, which normally and loosely embraces the intermediate portion of the shaft, so as to hang downwardly, and thereby prevent an unnecessary projection at the rear end of the wagon. To operatively connect the lever to the shaft, the latter is provided with an angular enlargement or head 31 next to the inner side of the adjacent bearing 25 and upon which the angular opening of the lever is designed to be slid, thereby fixedly connecting the lever and the shaft for operation by the former.

To hold the rear end of the wagon-body at any elevated adjustment, there is provided a pendent rack 32 for adjustable engagement with the lever, so as to hold the rock-shaft stationary, and thereby secure the wagon-body at any elevated adjustment. This rack is preferably formed by an arm pendent from the adjacent bearing 25 and is provided with a vertical series of perforations 33. The lever has a longitudinal slot 34, and this slotted portion passes across the inner face of the perforate arm, so that a locking pin or key 35 may be inserted through one of the perforations and the slot in the lever, thereby locking the latter and the rock-shaft against accidental motion. To prevent loss of the pin, it is connected to the running-gear frame by means of a chain or other flexible connection 36.

From the foregoing description it is apparent that the present form of elevating mechanism may be applied to any ordinary wagon without altering or changing the latter, and the device may be conveniently manipulated without requiring any particular skill or experience.

It is particularly desired to call attention to the fact that the rear pivotally-mounted end of the wagon-body remains relatively fixed in its substantially normal position upon the running-gear during the upward swing or elevation of the front end of the body, and said pivotal end of the body is adjustably elevated from its normal position upon the running-gear after the front end of the body has been swung upwardly, so as to adjust the inclination of the body for facilitating the connection of a chute attachment or for any



other purpose. Thus there are two distinct steps in the adjustment of the body—first, the swinging upwardly of the front end of the body upon the pivotal mounting of the rear end thereof as a center, and, second, the adjustable elevation of the pivotally-supported rear end of the body after the first step has been taken. Moreover, as the rock-shaft is normally free to turn and the link is pivotally connected to the crank-arm the pivotal connection 28 between the upper end of the link and the wagon-body is arranged to slide in opposite directions with the body, so that the latter, or rather the pivotal connection of the latter, may automatically accommodate itself to the upward swing of the front end of the body.

What is claimed is—

1. In a dumping-wagon, the combination with the running-gear thereof, and the wagon-body, of an elevating-standard pivotally pendent from the body, a pivotal link-brace connection between the standard and the running-gear, a brace-arm pivotally connected to the link and having a slidable connection with the standard, and a standard-elevating device mounted upon the running-gear.

2. In a dumping-wagon, the combination with the running-gear, and the body thereof, of an elevating-standard pivotally pendent from the body, a pivotal brace between the standard, and the running-gear, a brace-arm having one end pivotally connected to the former brace, a sleeve pivotally connected to the opposite end of the arm and slidably embracing the standard, and a standard-elevating device mounted upon the running-gear.

3. In a dumping-wagon, the combination with the running-gear, and the body thereof, of an elevating-standard pivotally pendent from the body, a link pivotally connecting the standard to the axle, a brace-arm pivotally connected to the link, and also having a slidable connection with the standard, another swinging brace pivotally connected to the running-gear and the arm, and a standard-elevating device mounted upon the running-gear.

4. In a dumping-wagon, the combination with the running-gear, and the body thereof, of opposite elevating-standards pivotally pendent from the body, a cross-bar connecting the lower free ends thereof, one or more chains or cables connected to the bar, a transverse operating-shaft mounted upon the running-gear and connected to the cables, opposite links pivotally connecting the respective standards to the rear axle, opposite arms pivotally connected to the respective links and also slidably connected to the respective

standards, opposite braces pivotally connected to the intermediate portions of the respective arms, and opposite brackets pivotally connected to the running-gear and fixedly connected to the respective braces.

5. In a dumping-wagon, the combination with the running-gear, and the body, of a pivotal connection between the rear end of the body and the running-gear, which connection is also constructed to slide longitudinally in opposite directions upon the running-gear, means for elevating the front of the body upon the rear pivotal end thereof as a center, the pivotal connection being slidable to automatically accommodate itself to the connection between the body and running-gear afforded by the elevating means, and an elevating device for adjustably raising the pivotal connection after the front end of the body has been elevated.

6. In a dumping-wagon, the combination with the running-gear, and the body, of a pivotal connection between the rear end of the body and the running-gear, which connection comprises a transverse rock-shaft mounted upon the running-gear, a normally pendent crank-arm hung from the shaft, and an upstanding link pivoted at opposite ends upon the crank-arm and the wagon-body, means for adjustably rotating the rock-shaft, the latter being normally free to turn, and means for locking the rock-shaft against rotation after the rear end of the body has been adjustably elevated.

7. In a dumping-wagon, the combination with the running-gear, and the body, of a pivotal connection between the rear end of the body and the running-gear, which connection comprises a transverse rock-shaft mounted upon the running-gear, and provided with an enlarged polygonal portion, a normally pendent crank-arm hung from the shaft, and an upstanding link pivoted at opposite ends upon the crank-arm and the wagon-body, and a hand-lever provided with a polygonal opening, which normally loosely receives the normal portion of the rock-shaft, the lever being constructed to be slid longitudinally upon the shaft to snugly receive the polygonal portion of the latter within the opening of the lever whereby the lever and the shaft are interlocked for simultaneous movement.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EARL PHILBURN LE GORE.

Witnesses:

L. O. LE GORE,  
H. G. LE GORE.