(No Model.) 2 Sheets—Sheet 1.

R. ANDERSON & F. O. P. SHUTT.

DUMPING WAGON.

No. 561,471. Patented June 2, 1896.

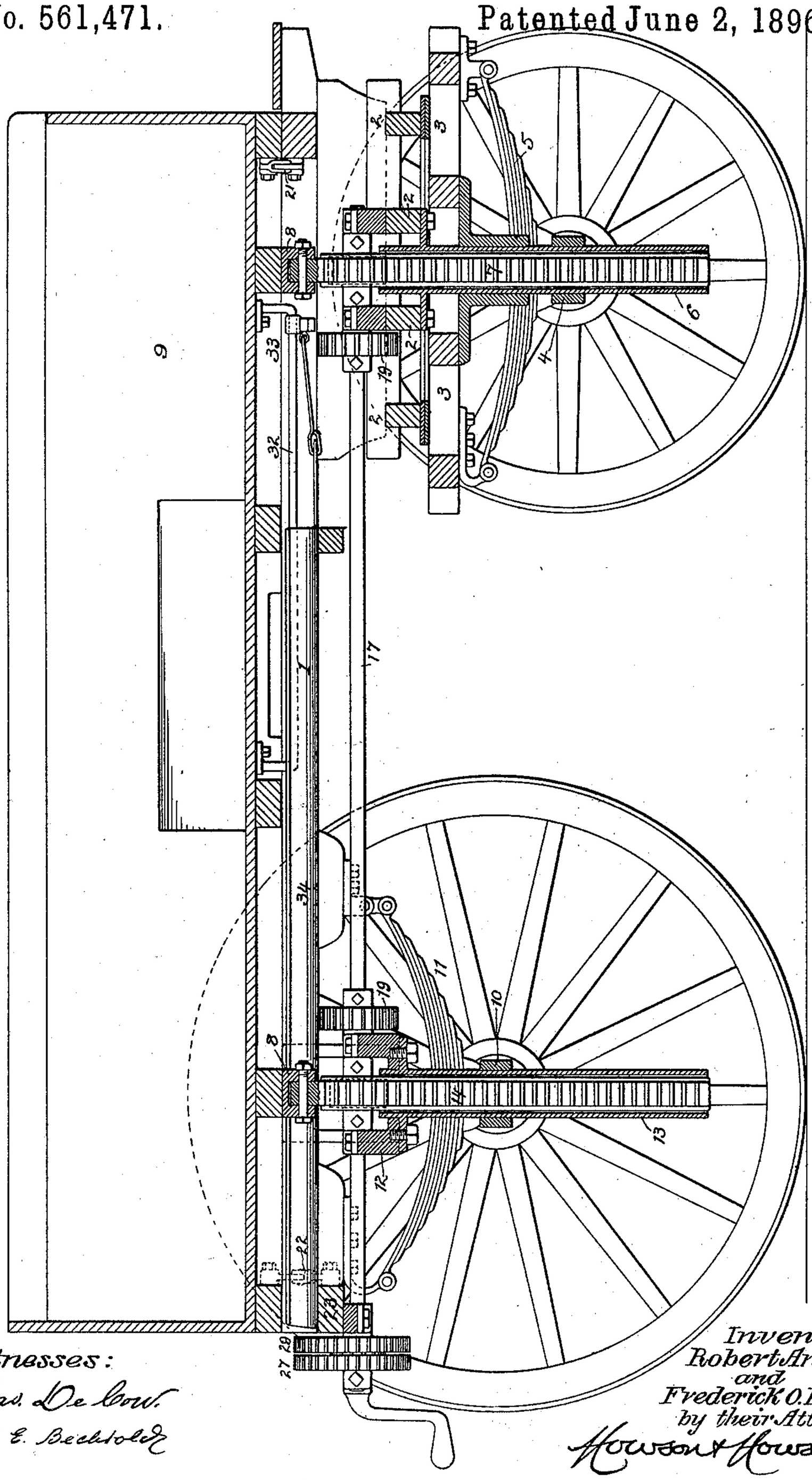

FIG. 1.

Witnesses:
Chas. De Bow.
Frank E. Beckhold

Inventors:
Robert Anderson
and
Frederick O. P. Shutt
by their Attorneys
Howson & Howson

ANDREW B. GRAHAM, PHOTO-LITHO. WASHINGTON, D.C.

(No Model.) 2 Sheets—Sheet 2.

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FIG. 3.

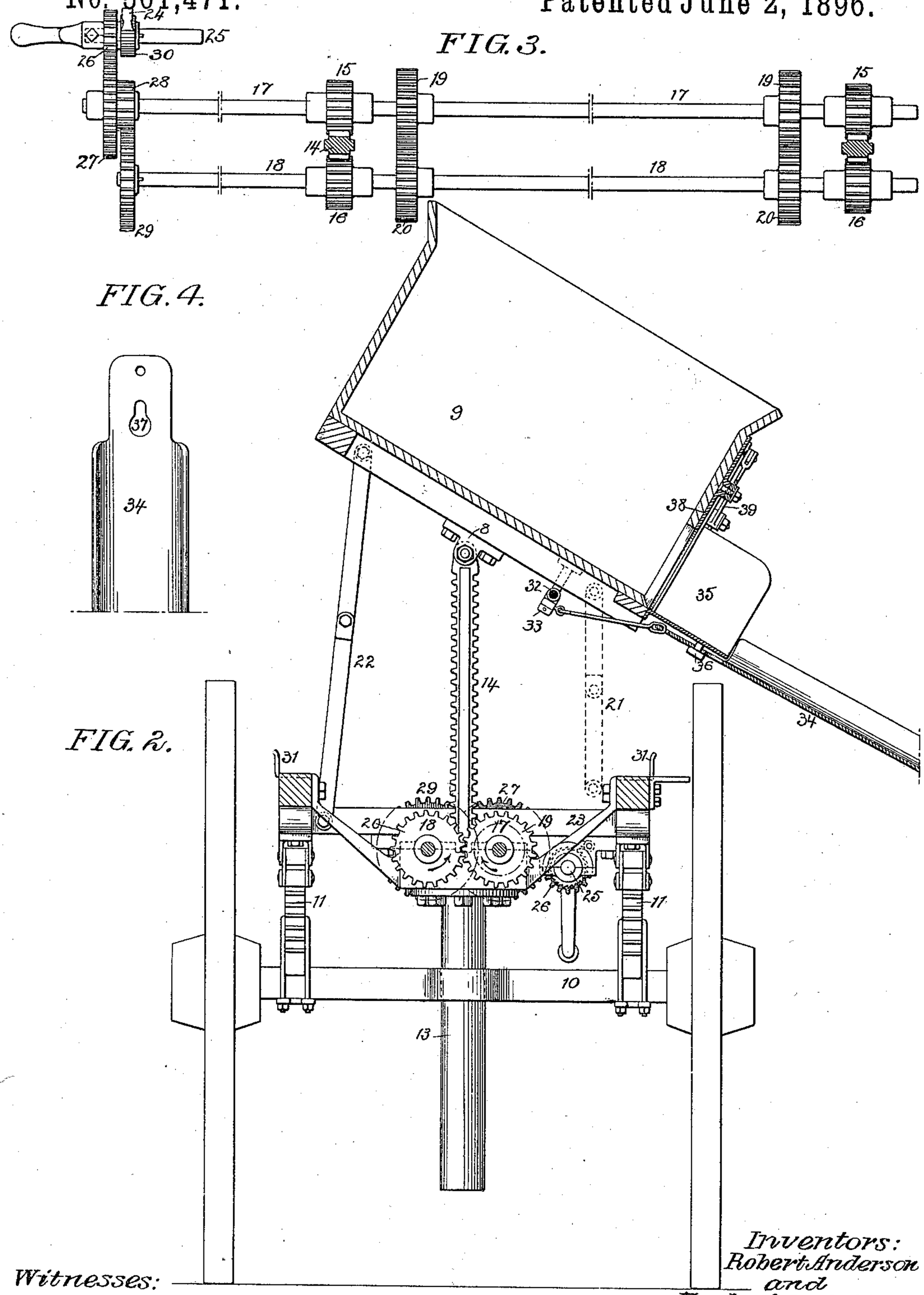

FIG. 4.

FIG. 2.

Witnesses:
Chas. De Cow.
Frank E. Beckhold

Inventors:
Robert Anderson
and
Frederick O. P. Shutt
by their Attorneys
Howson & Howson

UNITED STATES PATENT OFFICE.

ROBERT ANDERSON AND FREDERICK O. P. SHUTT, OF PHILADELPHIA, PENNSYLVANIA.

DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 561,471, dated June 2, 1896.

Application filed March 23, 1896. Serial No. 584,474. (No model.)

To all whom it may concern:

Be it known that we, ROBERT ANDERSON and FREDERICK O. P. SHUTT, citizens of the United States, and residents of Philadelphia, Pennsylvania, have invented certain Improvements in Dumping-Wagons, of which the following is a specification.

The main object of our invention is to so construct a dumping-wagon that the lifting devices for the body of the wagon will not interfere with the free turning of the front axle, a further object being to provide means whereby the body of the wagon is automatically tipped sidewise as it is raised and is securely held in this position, and a still further object being to provide a chute which is so connected to the wagon-body that it can be adjusted so as to be out of the way except when it becomes necessary to use it as an extension of the discharge-spout of the wagon, in which latter case it can be readily swung around and secured to said spout.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of a dumping-wagon constructed in accordance with our invention and showing the body lowered. Fig. 2 is a transverse section showing the body raised. Fig. 3 is a plan view of the gearing whereby the lifting-bars for the body are operated, and Fig. 4 is a view of part of the extension-chute for the discharge-spout.

The opposite sills of the wagon-frame are represented at 1, these sills being connected at the front by transverse bolsters 2, which are supported upon the spring-platform 3 of the front axle 4, springs 5 being interposed between this spring-platform and the axle.

A hollow king-bolt 6 is connected to the central transverse bolster 2 and extends downward through the spring-platform 3 and axle 4, and through this hollow king-bolt extends a rack-bar 7, which is pivoted at its upper end to a yoke or bracket 8 on the under side of the wagon-body 9.

The sills 1 are supported upon the rear axle 10 by means of springs 11, mounted upon suitable spring-blocks at the ends of the axle, and from one side sill to the other extend transverse bolsters 12, which carry a tubular guide 13 for a rack-bar 14, the latter, like the rack-bar 7, being connected to a yoke or bracket 8 on the under side of the wagon-body 9. The rack-bars 7 and 14 are duplex—that is to say, they have teeth on each side—and with the teeth of each rack-bar engage pinions 15 and 16, carried, respectively, by longitudinal shafts 17 and 18, which are adapted to suitable bearings in the front and rear bolsters and are geared together, so as to be compelled to rotate in unison, by means of spur-wheels 19 and 20, the spur-wheels 19 being carried by the shaft 17 and the spur-wheels 20 by the shaft 18. Hence when said shafts are caused to turn in the direction of the arrows, Fig. 2, the rack-bars 7 and 14 will be elevated and will likewise elevate the body 9 of the wagon.

As the wagon-body is elevated it is at the same time tipped laterally, the degree of lateral tipping or tilting of the body being determined by the relative length of pivoted link connections 21 and 22 between the wagon-body and sills or other fixed part of the framework, the shorter link connection 21 being on that side of the wagon-body which is to be lowermost. When the wagon is lowered, these link connections fold together, so as to be out of the way.

Power is applied to the shafts 17 and 18 from a primary shaft 25, suitably mounted in bearings in a rear bar 23 of the running-gear, said shaft having a pinion 26, which meshes with a spur-wheel 27, free to turn on the end of the shaft 17, said spur-wheel 27 having secured to or forming part of it a pinion 28, also free to turn on shaft 17, which meshes with a spur-wheel 29, secured to the rear end of the shaft 18. On the driving-shaft 25 is also a ratchet-wheel 30, with which engages a suitable pawl 24 in order to retain the shaft 25 in any position of adjustment, so that the wagon-body can be elevated to any desired height and retained in such position, the ratchet-wheel being released from the control of the pawl when it is desired to lower the body of the wagon.

There are on the sills 1 angle bars or plates 31, which receive the wagon-body as it descends and serve to retain said wagon-body in its proper lateral position on the sills.

On the under side of the wagon-body is a longitudinal bar or rail 32, on which is adapted

to slide a hanger-loop 33, which has a pivotal connection with one end of a chute 34, the latter, when the wagon is not being used to dump its load, resting longitudinally between the sills upon suitable transverse bars. When, however, the load has to be dumped, the chute 34 is thrown to one side of the wagon, so as to form a continuation of the discharge-spout 35, and is supported in this position by engagement with the T-headed bolt or projection 36 on the under side of the spout, the chute having formed in it a slot 37, enlarged at one end, as shown in Fig. 4, so as to permit of the passage of the head of the bolt through it, the chute being then slipped down on the bolt, so as to cause the stem of the latter to pass into the contracted portion of the slot.

The opening in the wagon-body communicating with the spout 35 has a sliding gate or valve 38, which is controlled by a lever 39, so that it can be raised or lowered as required.

By carrying the front lifting-bar of the wagon down through the hollow king-bolt of the front axle said lifting-bar offers no obstruction whatever to the free turning of said axle. Hence an objection to many forms of lifting devices employed in dumping-wagons is overcome. This feature of our invention may be adopted in wagons having lifting-bars other than racks, although we prefer the latter construction because it is definite and positive, permits of any desired multiplication of power, and provides for the necessary strength of the parts. The racks might, however, be single racks, in which case one of the shafts 17 or 18 and much of the gearing could be dispensed with, and even when the duplex racks and double shafts are retained one pair of gears 19 20 may be dispensed with, if desired.

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

1. A dumping-wagon having a body capable of being raised and lowered, and a front lifting-bar for said body passing down through a hollow king-bolt of the front axle, substantially as specified.

2. A dumping-wagon having a body capable of being raised and lowered, and front and rear lifting-bars for said body, the front bar passing down through a hollow king-bolt of the front axle, and the rear bar passing down through a tubular guide on the rear axle, substantially as specified.

3. A dumping-wagon having a body capable of being raised and lowered, front and rear bars hung to said body and each having a rack on each side, two pairs of pinions, each pair engaging with the racks of one of the bars, and means for operating the pinions so as to simultaneously raise or lower both bars, substantially as specified.

4. The combination in a dumping-wagon, of a body capable of being raised and lowered, a rack-bar connected to the body and serving as a means of lifting the same, said bar having a rack upon each side, pinions engaging with the racks of said bar, shafts carrying said pinions, and means for rotating said shafts in unison, substantially as specified.

5. The combination in a dumping-wagon, of a body capable of being raised and lowered and having a discharge-spout at one side, with a chute, a longitudinal guide-rail on the under side of the wagon, a hanger free to slide on said rail and having a pivotal connection with one end of the chute whereby the latter can be laid longitudinally on the frame beneath the wagon-body when the latter is lowered or can be swung around so as to form a continuation of the discharge-spout when the body is raised, the chute having a slot enlarged at one end and the spout having a headed bolt whereby the chute can be supported on the spout when extended or released from connection with the spout when it is to be laid beneath the wagon-body, substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ROBERT ANDERSON.
FREDERICK O. P. SHUTT.

Witnesses:
WILL. A. BARR,
JOS. H. KLEIN.