

No. 771,255.

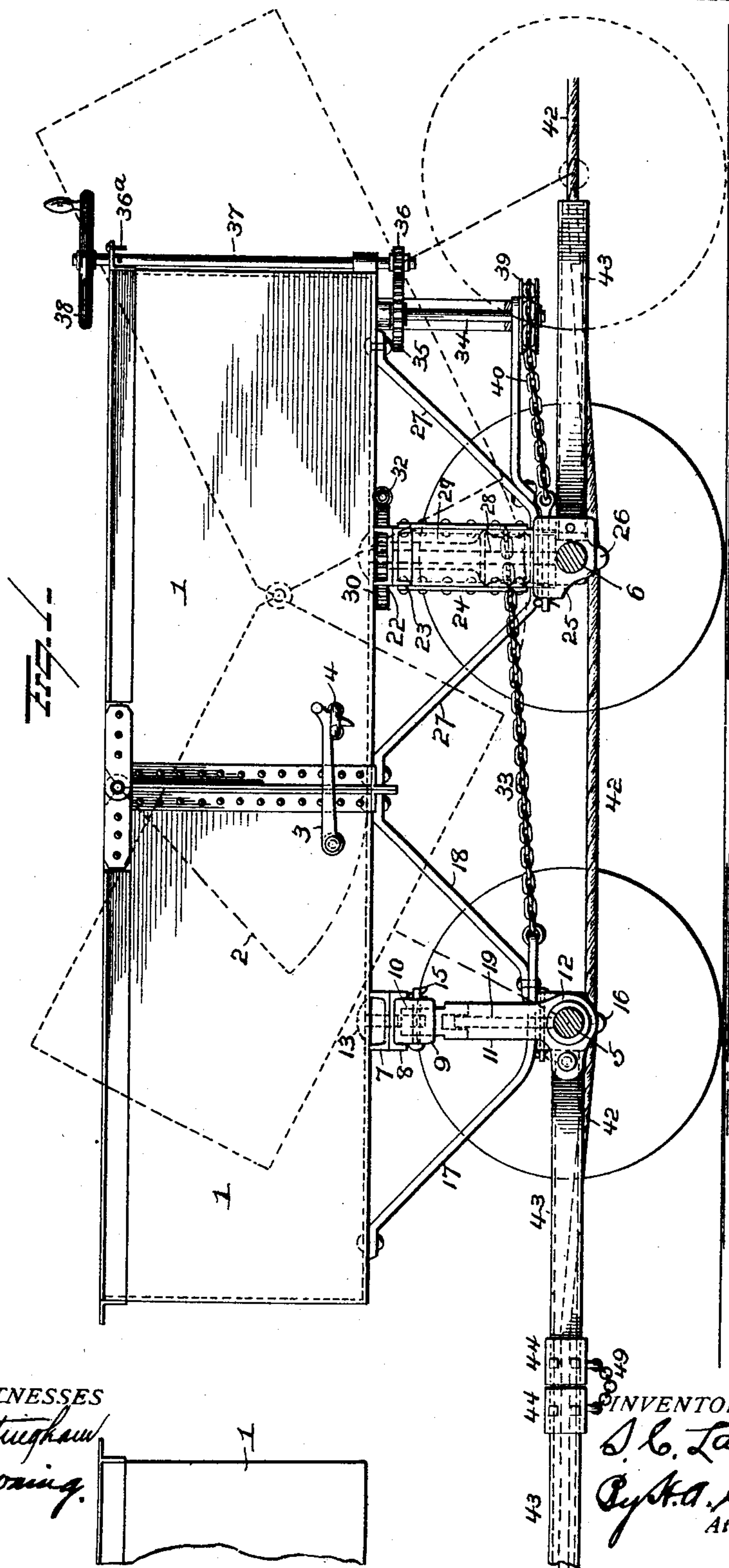
PATENTED OCT. 4, 1904.

S. C. LANCASTER.
DUMPING WAGON.

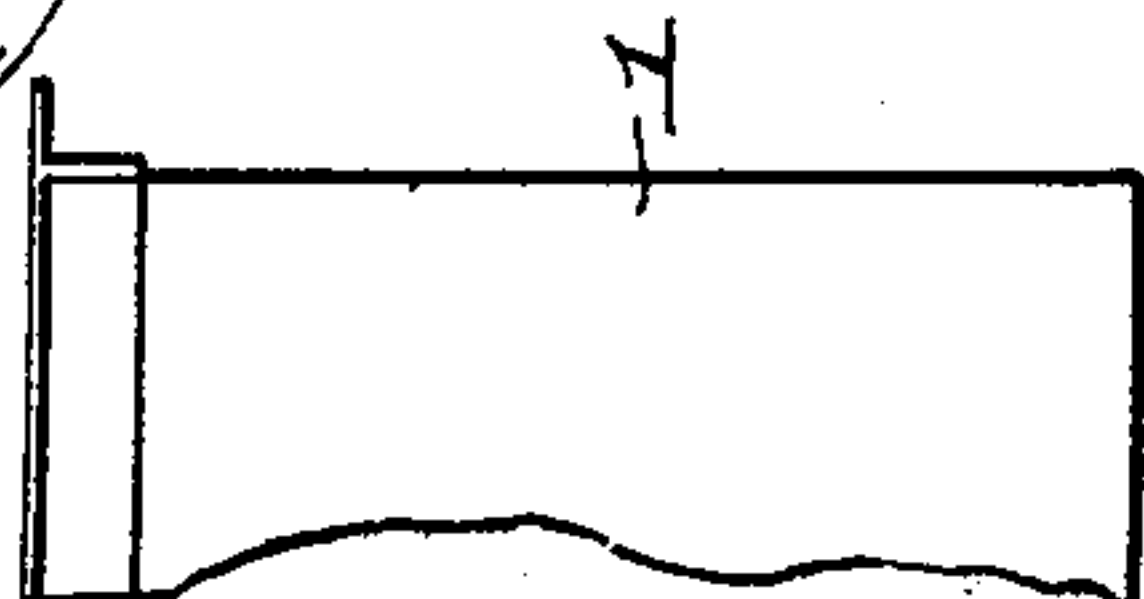
APPLICATION FILED JAN. 30, 1904.

NO MODEL.

3 SHEETS—SHEET 1.



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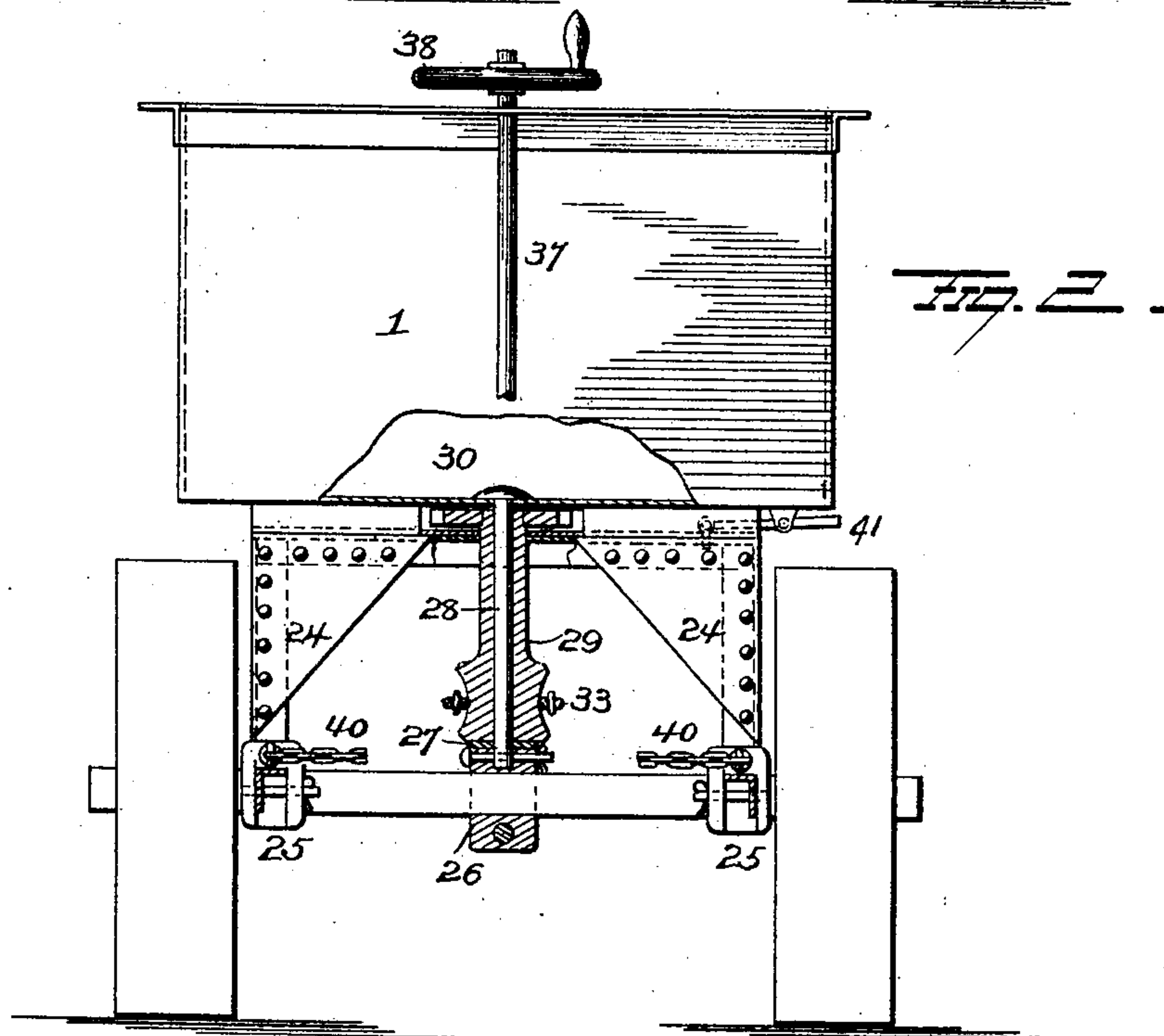
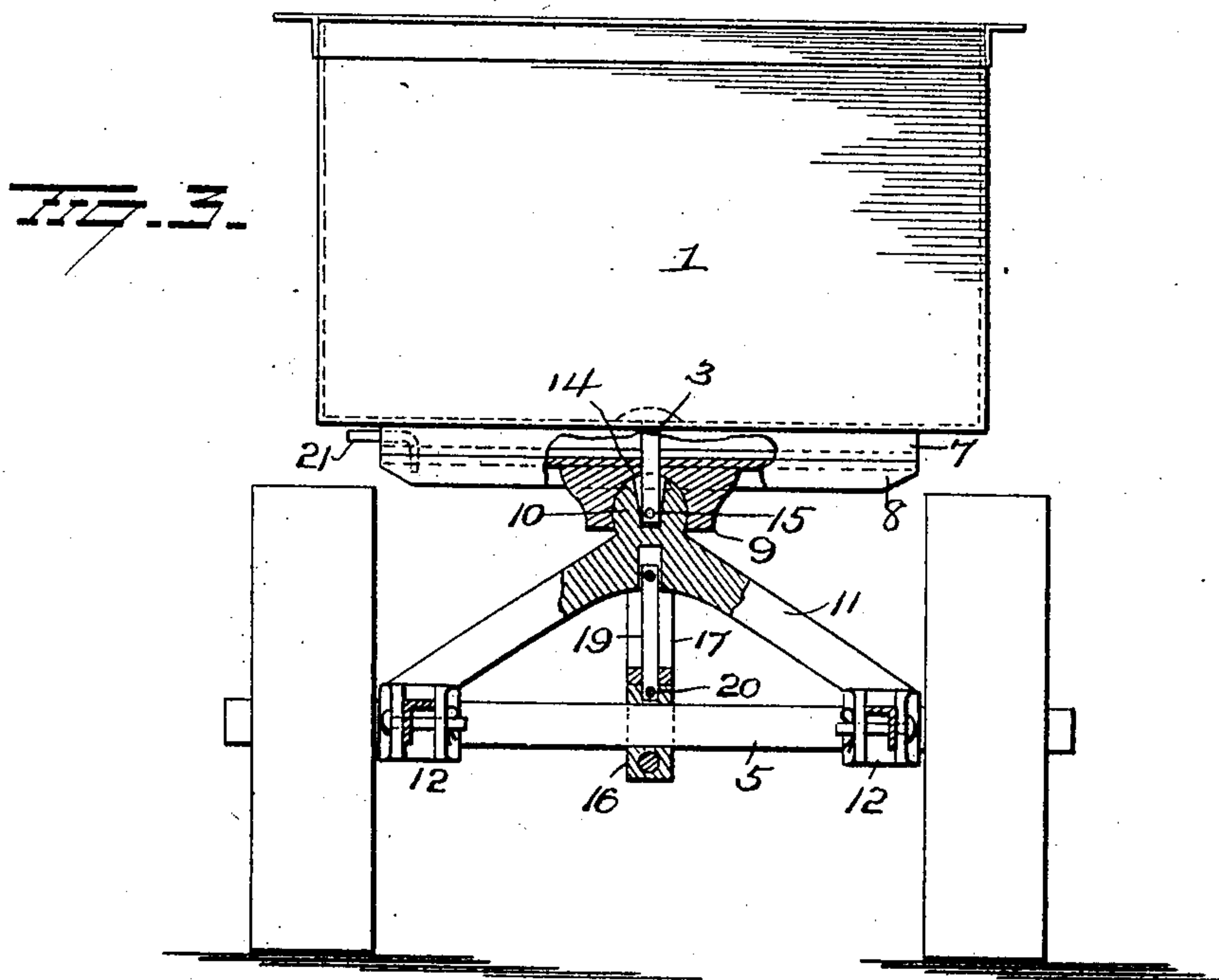
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3 SHEETS--SHEET 2.



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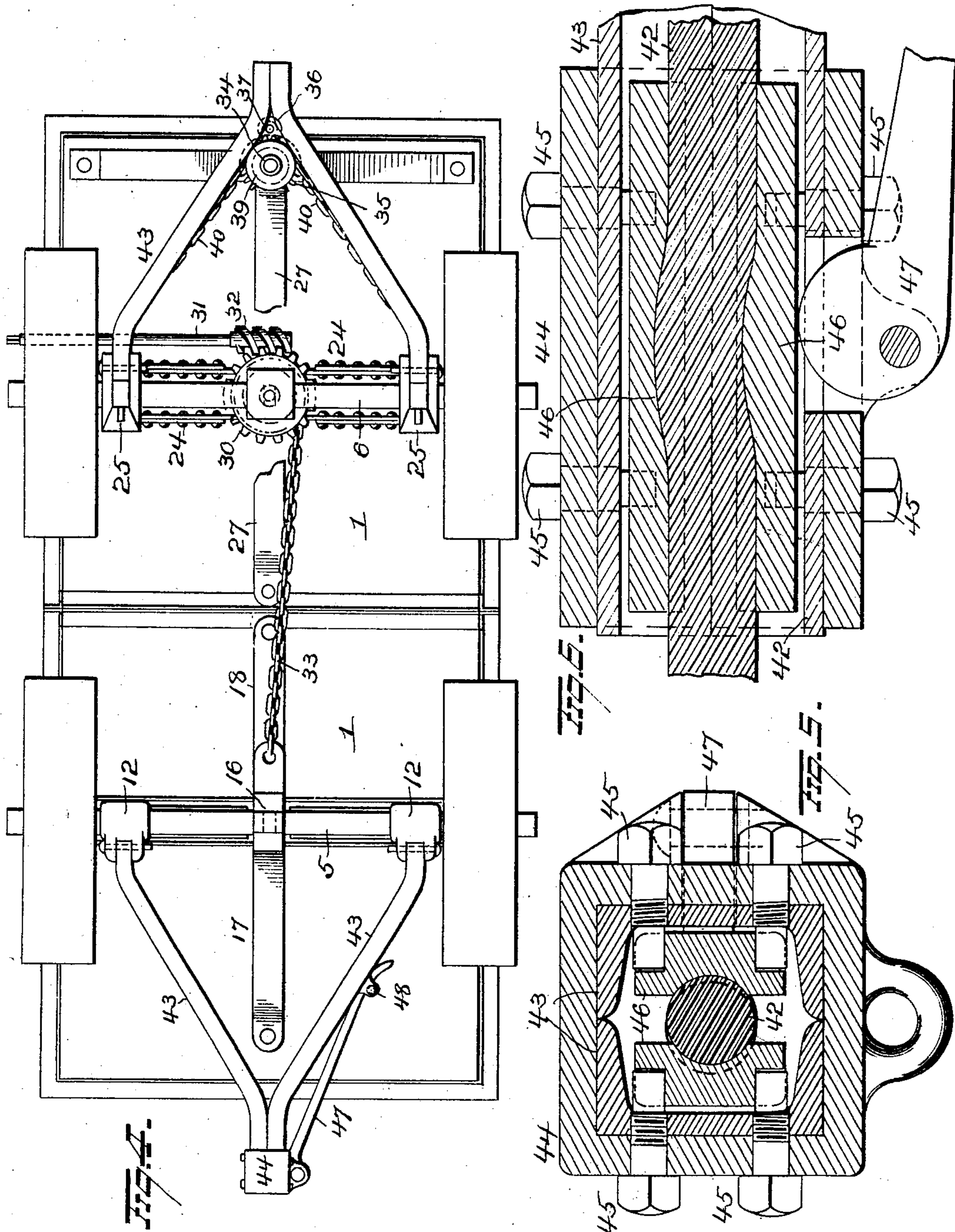
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

SAMUEL C. LANCASTER, OF JACKSON, TENNESSEE.

DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 771,255, dated October 4, 1904.

Application filed January 30, 1904. Serial No. 191,358. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL C. LANCASTER, a resident of Jackson, in the county of Madison and State of Tennessee, have invented certain new and useful Improvements in Dumping-Wagons; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved dumping-wagon, the object of the invention being to provide a wagon with body, comprising two sections hinged together at their inner or meeting ends, adapted to break at the center and drop downward to open when the trucks or axles separate and provide improved mechanism for controlling such opening and also the closing movement.

A further object is to provide improved mounting for the body on the axles or trucks, permitting either or both axles to turn or be locked at pleasure.

A further object is to provide improved steering mechanism for the wagon and coupling mechanism to enable a number of such wagons to be used in a train.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation, illustrating my improvements. Figs. 2 and 3 are views in end elevation, partly in section, illustrating the mounting at the ends of the wagon. Fig. 4 is a bottom plan view. Fig. 5 is a transverse sectional view of the coupling and grip devices, and Fig. 6 is a longitudinal sectional view of the same.

1 1 represent two body-sections, composed of sheet metal, of general rectangular shape, open at their adjacent ends and hinged together at the upper edge of their meeting ends, the sections being strengthened throughout their edges with angle-irons, as clearly shown, and one section may have side extensions 2, telescoping into the other section when the body is closed and adapted when opening

to prevent side delivery of the material. A hook 3 of any approved construction is pivoted to one section and adapted to engage an eye 4 on the other section to secure the sections together.

For convenience of description axle 5 will be referred to as the "front" axle and the other axle, 6, as the "rear" axle, although it is to be understood that the wagon can be drawn in either direction and operate perfectly, regardless of which end draft is applied.

A channel-iron 7 is secured across the bottom of the front section 1 with its flat face downward, resting on the flat face of a similar channel-iron 8, to the bottom of which latter at its center a block 9 is secured and made with a central recess to receive an enlargement 10 at the apex of a yoke 11, secured to axle-bearings 12. This enlargement 10 and recess in which it is located are both curved in the arc of a circle in cross-section, permitting pivotal movement of the axle sidewise to compensate for unevenness in the road, said enlargement being straight or flat longitudinally of the wagon, preventing forward and rearward tilting movement of the yoke 11. A king-pin 13 is passed through openings in the bottom of the body down through both channel-irons 7 and 8 and terminates in a recess 14 in enlargement 10 and secured in such position by a pin 15, passed through the enlargement and king-pin.

A bearing-block 16 is located on the center of axle 5, and a brace-rod 17 is secured to the bottom of the front section 1 near its forward end and extends down and across block 16, and another similar brace 18 is secured to brace 17 and extends up to and secured to the bottom of front section 1 near its inner edge. A pin 19, secured in a recess in the center of yoke 11, is passed through an opening in brace 17 and into block 16, where it is secured by a cross-pin 20, and this pin 19 is located in alinement with the king-bolt 13, so as not to interfere with the turning movement of the axle, the channel-irons 7 and 8 rubbing smoothly against each other, and a suitable locking-pin 21 may be provided to lock these channel-irons and prevent turning of this forward axle.

The rear body-section 1 has a channel-iron 22 secured across its bottom with flat face downward, resting on the flat face of a similar iron 23, which latter is supported on metal framework 24, forming a yoke secured to the axle side bearings 25. A center bearing-block 26 is located on rear axle 6, and a brace-rod 27 is secured at its ends to the bottom of rear section 1 and between its ends located across block 26 and held in contact therewith by a long king-bolt 28, extending through the bottom of the body-section down through an opening in brace-rod 27 into bearing-block 26, where it is secured against displacement by a cross-pin 15 passed through the block and king-bolt.

A drum 29 is located on king-bolt 28 and extends up through openings in channel-irons 22 and 23 and has a worm-gear 30 secured on its upper end. A shaft 31 is mounted in any suitable bearings on the bottom of the body and has a worm 32 thereon in mesh with worm-gear 30 and adapted to turn the same and drum 29 when shaft 31 is operated. This shaft 31 projects out beyond the body and is made angular to receive a suitable crank-arm or wrench to turn the same.

A chain 33 is secured at one end to the drum 29, wound around the same and secured at its other end to the rearwardly-extending end of brace-rod 17, so that when said drum is turned in one direction the chain will be shortened and the body-sections drawn tightly together and when turned in the reverse direction the chain will be slackened and the sections permitted to separate.

A vertical shaft 34, suitably braced, depends from the bottom of the body at or near its rear end and has a gear-wheel 35 thereon meshing with an operating-pinion 36 on a shaft 37, on which a suitable hand-wheel 38 is located. This shaft 37 is mounted to move vertically to throw its pinion 36 out of mesh with gear 35 and can be locked in such elevated position by a cross-pin 36^a. A flanged sprocket-wheel 39 is located on the lower end of shaft 34, and a chain 40 is secured at its ends to the axle side bearings 25 and passed around the sprocket-wheel 39, so that the operator can by turning hand-wheel 38 turn the axle 6 and steer or guide the wagon. This axle 6 can also be locked against movement by means of a pin 41, passed through openings in channel-irons 22 and 23.

When my improved wagon is to be used in a train of such wagons, for which purpose it is especially adapted, I preferably employ a cable 42, to which all of the wagons are secured, said cable being passed through openings in the center bearing-blocks 16 and 26. The side bearings on both front and rear axles have secured thereto angle-iron yokes 43, on the ends of which couplings and cable-grips are located, as will now be explained, and while I have illustrated the coupling and grip at one end only of the car it is to be under-

stood that both ends are preferably so provided. The grip comprises an angular sleeve 44, located on yoke end 43 and having inwardly-projecting screws 45 entering recesses in clamping-bars 46, holding the latter against displacement. These bars 46 have curved grooves to receive the cable, and one of said bars has its groove deepened at one point, and the other bar is enlarged opposite the same, so that the bars will pinch the cable when forced toward each other. For operating the gripping-bars I illustrate a cam-lever 47, engaging one bar, and when said lever is swung against the side of the yoke and secured in such position by a pin 48 the cable will be tightly clamped, and when the lever is thrown out the cable will be released. As a preventive against accident, should the cable break or grip slip, I connect the yokes by coupling-chains 49.

In operation, to dump, the cable-grip is first released and hook 3 thrown out of locked position. Drum 29 is turned to slack chain 33, when under ordinary conditions the preponderance of weight at the center will separate the sections as far as the chain will permit, and the material may be entirely dumped or partially dumped, and a small opening may be formed between the sections through which the material can escape and be distributed along as the wagon is moved. It may be necessary in some cases to employ brakes to hold one pair of wheels while the other pair is drawn forward to separate the body-sections. To close the sections, the drum 29 is turned by mechanism above explained and the chain wound on the drum tightly, closing the body-sections.

A great many changes might be made in the general form and arrangement of the parts described without departing from my invention, and hence I would have it understood that I do not restrict myself to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. In a dumping-vehicle, the combination with two body-sections hinged together at the upper edge at their meeting ends, of axles supporting said sections, a drum carried by one section of the vehicle, a chain secured to said drum and to the other section, and means for turning said drum to wind the chain thereon and close the sections.

2. In a dumping-vehicle, the combination with two body-sections hinged together at their inner meeting ends, of axles supporting said sections, a drum on one axle, a chain connecting said drum with the other axle, and means for turning the drum to close the sections or permit them to open.

3. In a dumping-vehicle, the combination with two sections hinged together at their inner meeting ends, of axles supporting the sections, a drum on one axle, a chain connecting
5 said drum with the other axle, a gear connected with the drum, a worm meshing with the gear and adapted to control the turning of the drum to wind or unwind the chain thereon and regulate the separation of the axles and the
10 opening and closing of the sections, and a shaft for operating said worm.

4. In a dumping-vehicle, the combination with two sections hinged together at their inner meeting ends, of axles pivotally connected
15 with said sections, and means for locking one or both of said axles against pivotal movement.

5. In a dumping-vehicle, the combination with two body-sections hinged together at
20 their inner meeting ends, of axles supporting said sections, a drum on one axle, a chain connecting the drum with the other axle, means for turning the drum to wind the chain thereon and close the body-sections by bringing the
25 axles nearer together, and pivotal connections between both of said axles and their respective body-sections.

6. In a dumping-vehicle, the combination with two body-sections hinged together at
30 their inner meeting ends, of channel-irons secured across the bottoms of said sections, similar irons supporting them, axles supporting said last-mentioned irons, and king-bolts passed through said channel-irons.

35 7. In a dumping-vehicle, the combination with two body-sections hinged together at

their inner meeting ends, of cross channel-irons secured to the bottom of said sections, similar irons supporting the first-mentioned
40 irons, king-bolts passing through the irons pivotally securing them, axles supported in wheels, yokes connecting said axles with the lower irons, one of said yokes having lateral pivotal connection with its iron, and means
45 for governing the separation of the axles and body-sections.

8. In a dumping-vehicle, the combination with two body-sections hinged together at their meeting ends, of axles supporting said
50 sections, a drum on one axle, a chain connecting the drum with the other axle, means for turning the drum, a sprocket-wheel at one end of the vehicle, a chain passed around said sprocket-wheel and secured at its ends to the
55 wheel to move the chain and swing the axle to guide the vehicle.

9. In a dumping-wagon, the combination with two body-sections hinged together at their meeting ends, of means for controlling
60 the opening of said sections, couplings carried by the vehicle for coupling with similar vehicles, and a grip carried by the vehicle to grasp a cable.

In testimony whereof I have signed this
65 specification in the presence of two subscribing witnesses.

SAMUEL C. LANCASTER.

Witnesses:

A. W. FOSTER,
R. S. FERGUSON.