

No. 852,060.

PATENTED APR. 30, 1907.

W. T. GARRISON.
DUMPING WAGON.

APPLICATION FILED OCT. 5, 1906.

2 SHEETS—SHEET 1.

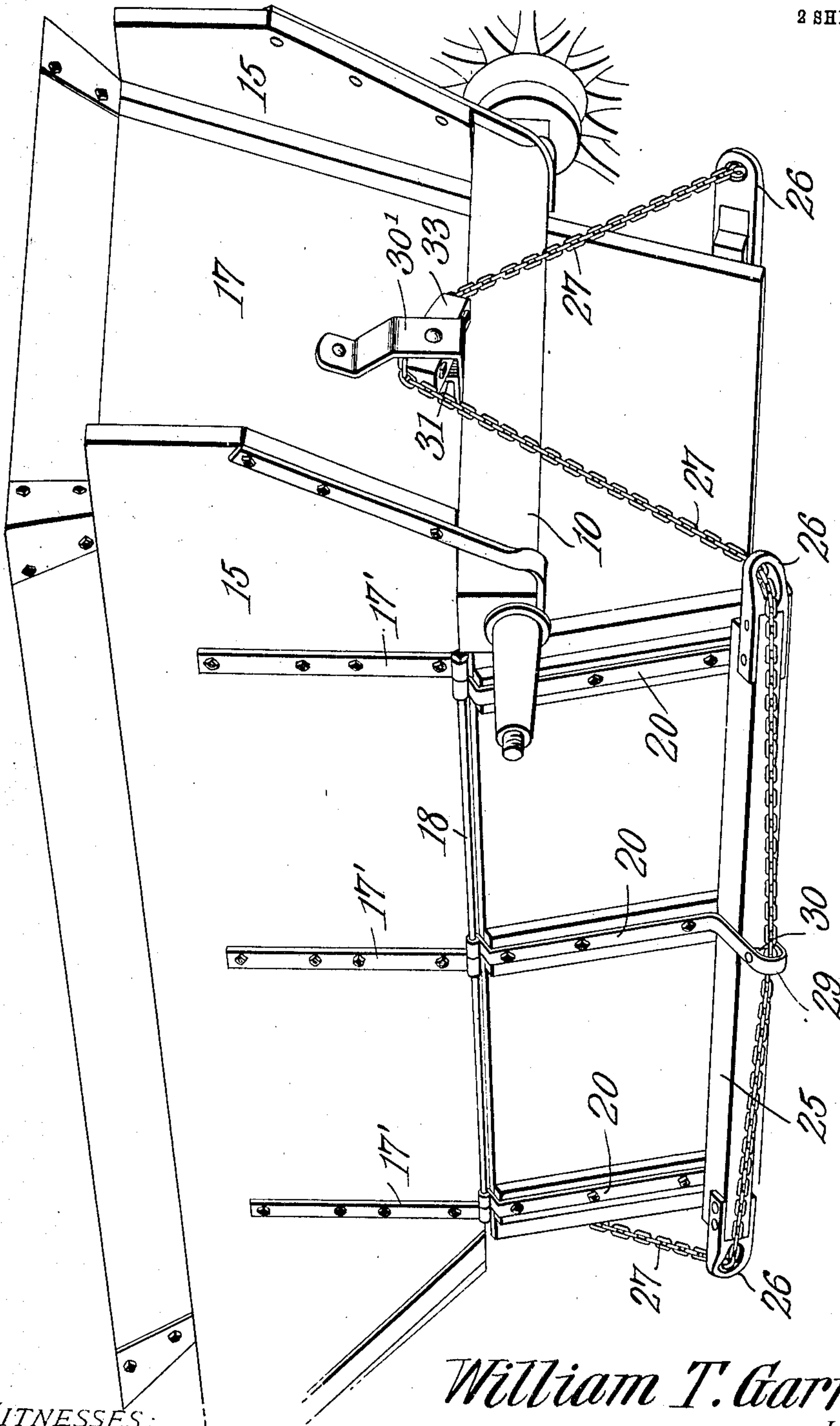


Fig. 1.

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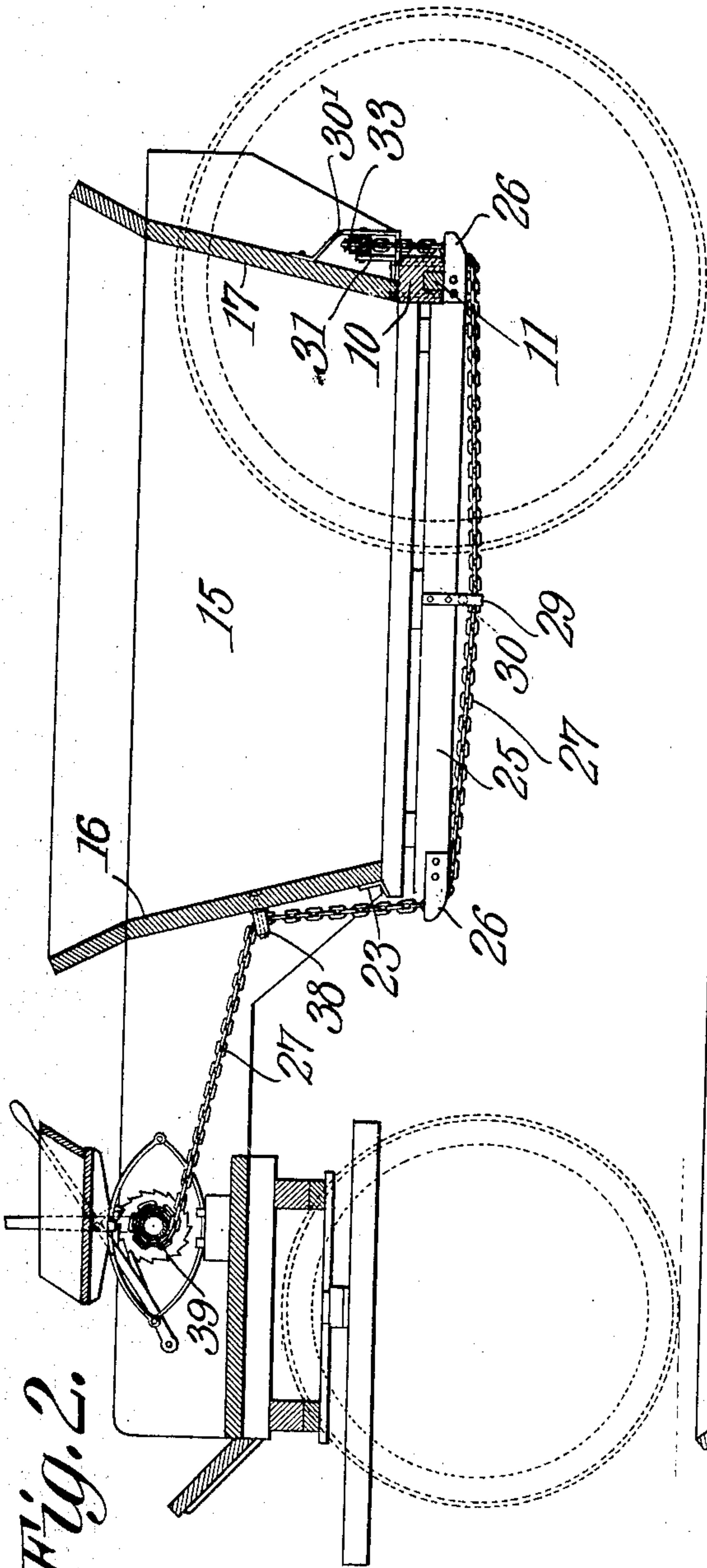
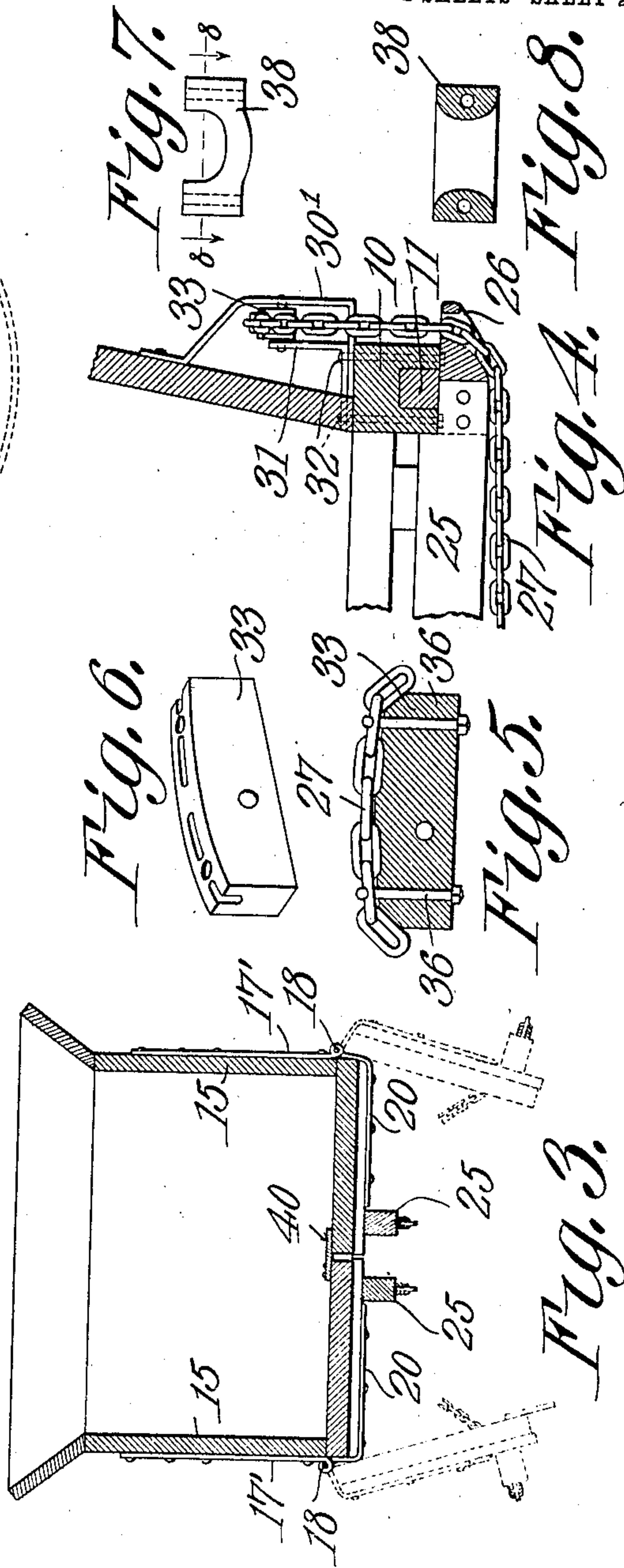


Fig. 2.

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UNITED STATES PATENT OFFICE.

WILLIAM T. GARRISON, OF COLUMBIA, PENNSYLVANIA.

DUMPING-WAGON.

No. 852,060.

Specification of Letters Patent,

Patented April 30, 1907.

Application filed October 5, 1906. Serial No. 337,606.

To all whom it may concern:

Be it known that I, WILLIAM T. GARRISON, a citizen of the United States, residing at Columbia, in the county of Lancaster 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 more especially to that class of wagons in which hinged bottom gates or leaves are used.

The principal object of the invention is to provide an improved means for effecting the closing movement of the gates, so that the edges of the same may overlap, one of the gates closing slightly in advance of the other.

A further object of the invention is to so arrange the gate closing mechanism that the gates will be firmly and securely held and a perfectly tight joint formed between them.

A still further object of the invention is to provide an improved form of lever on which the rear end or bight of the gate closing chain may be secured, and which will operate to effect the closing of the gates one after the other.

A still further object of the invention is to provide a connecting bar of such nature that one of the gates will be moved to closed position in advance of the other, the order in which the gates close being determined by the resistance which they offer to the closing movement, so that the left hand gate may close first at one time, while the right hand gate may close first the next time.

A still further object of the invention is to provide an improved chain guiding means which will permit free movement of the chains with minimum friction.

A still further object of the invention is to provide means for holding the gates from endwise play or movement, and to prevent the loss of portions of the load or raising of the gates while the wagon is being moved to the dumping point.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings:—Figure 1 is a perspective view of the rear end of the body of a wagon constructed in accordance with the invention. Fig. 2 is a longitudinal sectional elevation of the same. Fig. 3 is a transverse sectional view through the body of the wagon, showing the bottom gates in closed position and showing, also, the open position in dotted lines. Fig. 4 is an enlarged detail view of a portion of the structure shown in Fig. 2. Fig. 5 is a sectional elevation of the lever or connecting bar showing the manner in which the chain is attached. Fig. 6 is a detail perspective view of the bar detached. Fig. 7 is a plan view of one of the forward chain guides detached. Fig. 8 is a rear elevation of the same.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The body of the wagon is mounted on suitable supporting wheels, the rear wheels being disposed at the ends of an axle bed 10, formed of wood, the lower face of the axle having a longitudinally disposed recess in which is placed a reinforcing bar 11 formed of iron or steel, the bar being of less width than the axle for a purpose hereinafter described.

The sides 15, the front 16, and the rear wall 17 of the body may be of any ordinary construction and formed of any suitable material.

Secured to the outer faces of the side walls 15 are straps 17', the lower ends of which are provided with eyes for the passage of a pair of pivot-bolts 18 that extend for practically the full length of the gates, and on the gates are secured similar straps 20, also having eyes for the reception of the pivot bolts, the pivotal connections being preferably so arranged that when the gates are in open position there will be little or no gap between the gates and the sides 15.

The rear ends of the gates are arranged to fit snugly against the forward face of the axle bed, as will be evident on reference to Fig. 2, the joint formed being sufficiently close to prevent the passage of fine particles of the load from the receptacle. The front ends of the gates are provided with guard flanges 23 which preferably are formed of angle bar, the upper webs of these bars being disposed on lines parallel with the front wall of the receptacle, and being designed to fit snugly against the outer face of the front

wall in order to prevent the escape of particles of the load, and at the same time to avoid endwise movement of the gates while the wagon is moving. Secured to, and extending longitudinally of each of the gates is a bar 25 that is arranged near the front edge of the gate, each bar being provided at its rear end with a recess in order that it may properly fit against the axle, and extending from the ends of these bars are chain guiding eyes 26, the inner walls of which are rounded in order to permit free play of the gate closing chains 27. Near the central portion of each of the bars 25 is a small hanger or bracket 29 carrying a sheave or roller 30, against which the chain bears during the gate closing operation, so that force will be exerted at both ends and at the center of each gate in order to hold the same tightly closed.

Secured to the upper central portion of the axle 10 are two straps 30' and 31, the base portions of which are secured to the axle by bolts 32, the bolt openings being arranged beyond the edges of the metallic reinforcing bar 11 of the axle. The outer strap or bracket 30' is extended up and is bolted or otherwise secured to the rear wall of the receptacle. These two straps or brackets are provided with a pivot pin for the reception of a connecting lever 33, the pivot point of which is arranged to one side of the center so as to form two arms of unequal length. The upper face of the lever is arranged to engage with the chain 27, the lever being preferably recessed, so that the links of the chain may seat therein, and securing bolts 36 being employed in order to prevent any independent movement of the chain. The two runs of the chain extend through the guiding eyes 26 and engage with the sheaves or rollers 30, and at the front of the wagon are extended upward and pass through a guide 38 that is firmly secured to the front wall 16, the two runs of the chain thence passing to a suitable winding drum 39. The guide 38 is preferably in the form of a U-shaped bar of sufficient width to permit the free passage of the chain, and the inner wall of this bar is rounded, so that the chain is free to ride thereover, and to accommodate itself to the winding operation as the chain is coiled around the drum.

That run of the chain which extends from the shorter arm of the connecting lever 35 is a trifle shorter than the other run of the chain, and this insures perfect lapping of the gates or doors, and the formation of a tight joint between them to prevent the escape of the load.

The gate which closes first, being the gate which is connected by the chain to the shorter arm of the lever, is provided with a projecting lip or flange 40 formed of sheet metal, and the other gate is arranged to fit against this lip or flange after the first gate

has been moved to closed position. In operation, the turning of the winding drum effects a downward pull of both arms of the lever 35, but owing to the difference in the length of the arms, the longer arm will descend while the short arm is raised, and the gate to which this shorter arm is connected will, therefore, be moved to closed position in advance of the other. After the first gate reaches the closed position with the connecting lever still at an angle to the horizontal, the continued movement of the chains will draw the second door or gate closed, and as that run of the chain connected to the shorter arm is of less length than the other, the force of both chains will be employed in closing the second gate and the lever will be pulled from its inclined position to an approximately horizontal position during the latter portion of the gate closing operation, the force exerted at this point being sufficient to firmly hold the gates closed and make a tight joint between them.

It will be noted that the construction of the lever is such that there can be no possibility of said lever moving to inoperative position, or to such position as would render the matter of closing of the gate a matter of uncertainty. In all cases the gate connected to the shorter arm of the lever must first move to closed position, and it is not necessary to employ any auxiliary stops or other devices for limiting movement of the lever in either direction.

I claim:—

1. A dumping wagon having hinged bottom gates, guiding members on said gates, a lever pivoted at the rear portion of the wagon, and having arms of unequal length and unequal weight, the longer and heavier arm acting at all times to maintain the shorter and lighter arm in elevated position, flexible gate closing members secured to the lever and extending through the guiding members, and a winding means for the flexible members, whereby on the winding movement, the gate connected to the shorter arm of the lever will at all times move to closed position in advance of the gate connected to the longer arm.

2. A dumping wagon including a body portion, a front, and rear axles, a pair of bottom gates, the rear ends of which are arranged to fit closely against the forward edge of the axle bed, and flanges arranged at the front edges of the gates for engagement with the front wall of the load receptacle.

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

WILLIAM T. GARRISON.

Witnesses.

E. HUME TALBERT,
A. M. ROSE.