

No. 609,182.

Patented Aug. 16, 1898.

W. A. COWLEY.  
DUMPING VEHICLE.

(Application filed Jan. 18, 1898.)

(No Model.)

2 Sheets—Sheet 1.

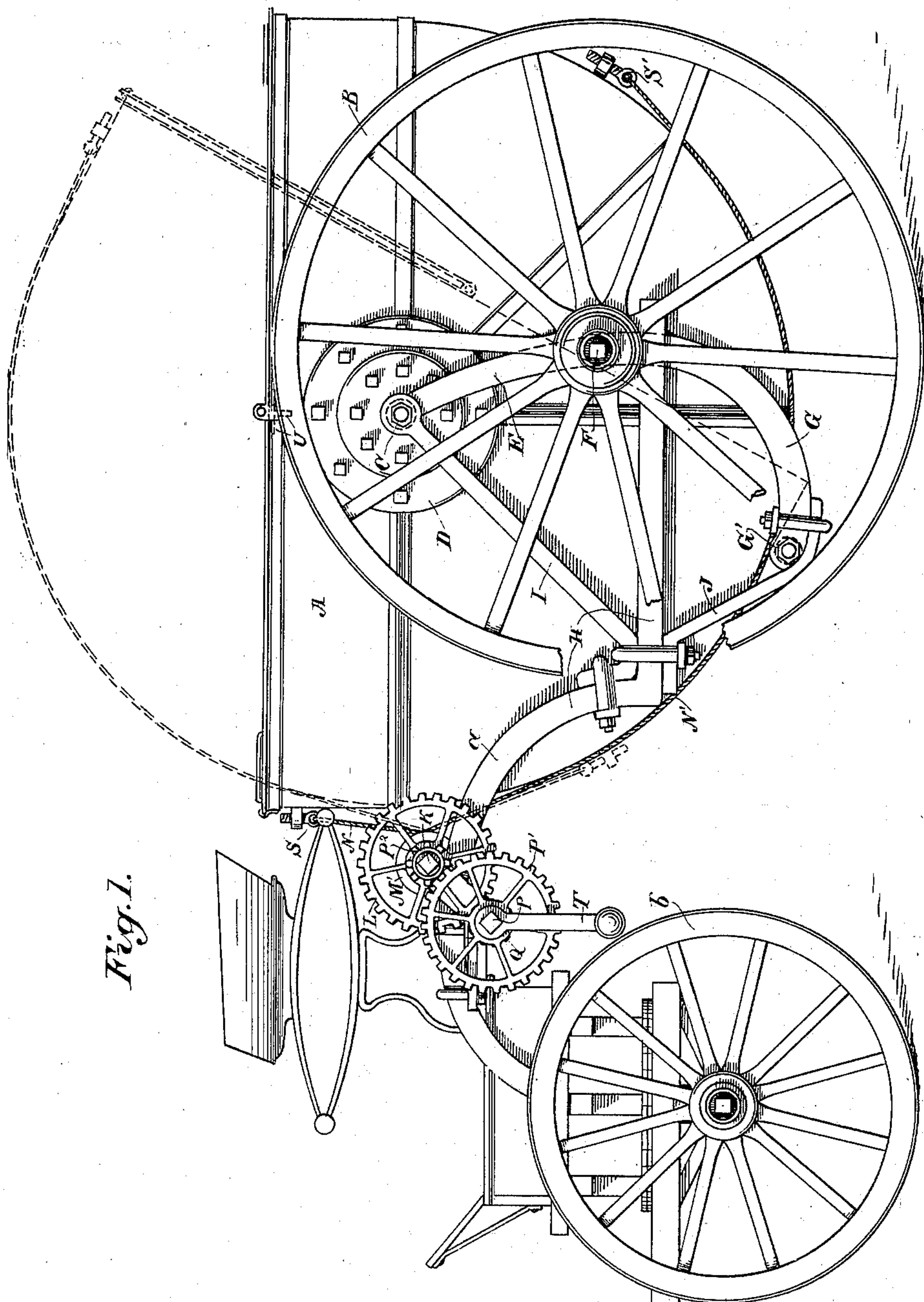


Fig. 1.

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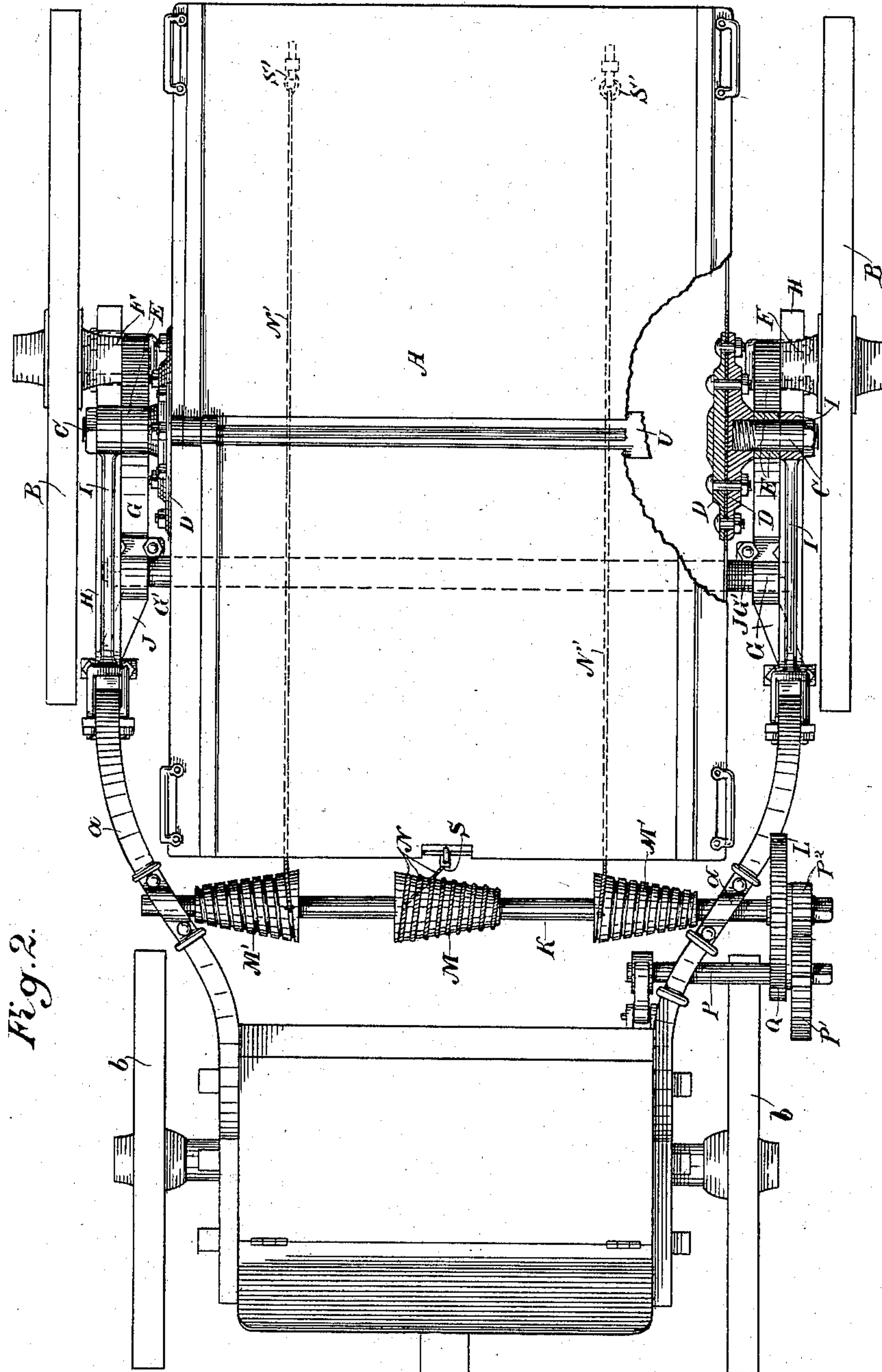


Fig. 2.

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# UNITED STATES PATENT OFFICE.

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## DUMPING-VEHICLE.

SPECIFICATION forming part of Letters Patent No. 609,182, dated August 16, 1898.

Application filed January 18, 1898. Serial No. 667,055. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM ASHLINE COWLEY, a citizen of the United States, residing at Benicia, county of Solano, State of California, have invented an Improvement in Dumping Carts and Wagons; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in dumping carts or wagons, and it is especially applicable to vehicles having bodies turning upon pivots or fulcrum-points which are fixed with relation to the body; and it consists, essentially, in an improved manner of suspending the body with relation to the main frame and crank-axle thereof, whereby the body may be turned and dumped, so as to discharge the entire load without contact with the axle, and in a means for turning the body to dump the load and to return it to its normal upright position.

It also consists in details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is a plan view of my device.

In the transportation of garbage and similar material it is customary and necessary to employ what are called "sanitary" carts, these carts being made to be hermetically closed during transportation and to be readily discharged at the end of the journey, and various devices have been employed for this purpose.

In my invention I make the body A of sheet-steel or other suitable material, and it is in the form of a semicylinder or segment with any suitable closing-covers upon the flat surface, which stands uppermost when the cart is in position for transportation. The crank-axle comprises the members E, G, and G', and the bearing-wheels B turn upon the spindles F of the axle-arms, and these arms extend downwardly upon each side, as shown at G, curving also away from the vertical line of the axle-arms F to the point G', where it bends or cranks and extends across beneath the body A, but at a considerable distance to

one side of its center. The crank-axle has posts or extensions E rising upward to points above the spindles F, and having upon the upper ends the trunnions C, upon which the body A is suspended and turnable. These extensions may be inclined to any desired degree from a vertical line, so as to shift the supporting-trunnions with relation to the spindles. In the construction here shown the vehicle is four-wheeled, and the trunnion-supports E are inclined forwardly of the spindles to distribute a part of the weight upon the front wheels.

D are flanges fixed upon the sides of the body, and the trunnions are set into these flanges. The flanges are here shown made in pairs and bolted through the sides of the body A, so as to make a sufficiently strong support for the trunnions without presenting any interior projections upon which the contents might lodge.

The trunnions C are axially the centers about which the radius of curvature of the body A is formed, so that when this body is turned about the trunnions its periphery will remain essentially at the same distance from the trunnions during its rotation, and consequently it turns freely above the transverse portion G' of the crank-axle and without contact therewith.

By reason of the curvature of the arms G, so as to carry the portion G' out of the vertical line of the spindles F and the trunnion C, it will be seen that the body A may be turned so that the discharging edge is carried beyond the vertical line of support and rotation without ever being brought into line with the portion G' of the crank-axle, and this allows of the entire dumping and discharging of the contents of the cart without any portion touching and hanging upon or otherwise fouling the crank-handle.

The main frame H extends upon each side of the swinging body A and, as here shown, has a gooseneck a, and the front end of this frame is supported in any usual or suitable manner upon the front bearing-wheels b.

The attachment for hauling the vehicle (not here shown) is such as is usually em-



ployed, and a seat may be mounted upon the front portion of the gooseneck, as shown. From a point where the curvature of the arch of the gooseneck commences braces I extend upwardly and rearwardly and connect with the trunnions C, to which the cart-body is suspended, and other braces J extend downwardly from the frame H to the transverse portion of the crank-axle G', thus holding the whole firmly in place.

In order to turn the body and dump it when it is desired to discharge, I have shown wire ropes or chains N, which extend from separated points of attachment S on the outer periphery of the body around winding-drums M'. These drums are mounted upon a shaft K, which has a spur-gear L fixed upon the outer end, and this gear is engaged by a pinion Q upon a shaft P, which has a crank T and handle by which it may be rotated, so that sufficient power is provided to turn the gear L and with it its shaft and the drums M M'. A gear-wheel P' is fixed upon the shaft P, and a loose pinion P<sup>2</sup>, independently turnable upon the shaft K, meshes with the gear P'. This pinion shaft or sleeve also has an attachment for a crank, so that when more power is needed the crank T may be transferred from the shaft P.

The drums M M' are made tapering or conical, as shown. The upper portions of the ropes or chains N, extending downwardly from their points of attachment S, are caused to wind upon the drums M, and the lower parts N' of the chains or ropes wind correspondingly upon the drums M', extending thence around the under part of the body A to the points of attachment S'.

The taper of the drums M M' is such that when the body A is to be first started to turn and discharge the ropes N and N' are coiled upon the larger parts, because the load is fairly balanced upon the trunnions and will start easily. As the weight begins to resist the turning by reason of its transfer forward of the trunnions, the chains will act upon the smaller parts of the cones with an increased power. By reversing the movement of the crank T the drums are rotated in the opposite direction and the body is restored to its normal position.

Any slack in the chains or ropes N N' can be taken up by turnbuckles or other adjusting devices at the points of attachment S. The crank-axle may be conveniently made in sections, the sides being fitted and secured by nuts upon the ends of the transverse bar, so that if either part is broken it may be easily replaced.

A T-bar, of iron, U extends across the top of the containing-box A and the cover-sections are hinged to it, closing toward the ends. This transverse bar, in conjunction with the crank-axle and the trunnion-supporting extensions, form a rigid strengthening inclosing truss for the containing-body, while not in any way obstructing the interior of the

body or giving any point of lodgment for the contents when discharged.

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

1. In a dumping-vehicle, a segmental body having trunnions axial with relation to the curved periphery, a crank-axle comprising a cranked portion extending across beneath the body and out of the vertical line of its support, said cranked portion having arms upon which the bearing-wheels of the vehicle are journaled and turnable, and extensions above said arms to which the bearing-trunnions of the body are connected out of the vertical line of the bearing-wheel journals, whereby the body is suspended approximately above the wheel-bearings, and is turnable upon its trunnions to discharge its contents without contact with the cranked portion of the axle.

2. In a dumping-vehicle, a body portion having trunnions upon which it is turnable, a crank-axle comprising a cranked portion extending across beneath the body and out of the vertical line of its trunnions, said cranked portion having its side arms curving into the line of said trunnions, which are formed upon the upper portions of said arms, spindles carried by the arms and adapted to receive bearing-wheels, a main frame extending upon each side of the body and braces extending diagonally from the body to the trunnions above and to the cranked portion of the axle below.

3. In a dumping-vehicle, a body suspended upon axially-disposed trunnions about which it is turnable, drums mounted upon a horizontal shaft extending across the vehicle-frame in front of the body, chains coiled upon said drums, one of the chains extending upwardly to a point of attachment near the top of the body, and the others extending around the lower periphery to other points of attachment, and a gear, pinion, and crank mechanism whereby the drums are rotated to rotate the body in either direction.

4. In a dumping-vehicle, a body turnable upon trunnions axially disposed with relation to its periphery, shafts journaled across the framework of the vehicle having gears, pinions and crank whereby said body is turnable, conical tapering drums, one of said drums having a chain extending upwardly to a point of attachment near the top of the cylindrical body and the other drums having corresponding chains extending therefrom around the lower part of the body to points of attachment, whereby said chains respectively coil upon and uncoil from the drums with a variable power during the turning and discharging of the receptacle.

5. In a dumping-vehicle of the character described, a containing-body, trunnions about which the body is turnable, disks or plates by which the trunnions are carried, said disks or plates disposed in pairs with one disk or plate of each pair on the inside of the body and the other disk or plate on the outside thereof and



said plates forming approximately smooth interior surfaces and bolted together through the sides of the body.

5 6. In a dumping-vehicle of the character described, a containing-body, trunnions upon which it is revoluble, an axle comprising a cranked portion extending beneath the body and independent arms extending upward  
10 upon each side of the body with spindles for the bearing-wheels and bearings for the trun-

nions of the body, said trunnions arranged out of the vertical line of the spindles, and means for detachably securing said arms to the cranked portion of the axle.

In witness whereof I have hereunto set my 15 hand.

WILLIAM ASHLINE COWLEY.

Witnesses:

W. G. ESPEY,

WM. W. CUNNINGHAM.