(No Model.) 2 Sheets—Sheet 1.

J. M. STONER.

DUMPING WAGON.

No. 432,963. Patented July 22, 1890.

Fig. 1

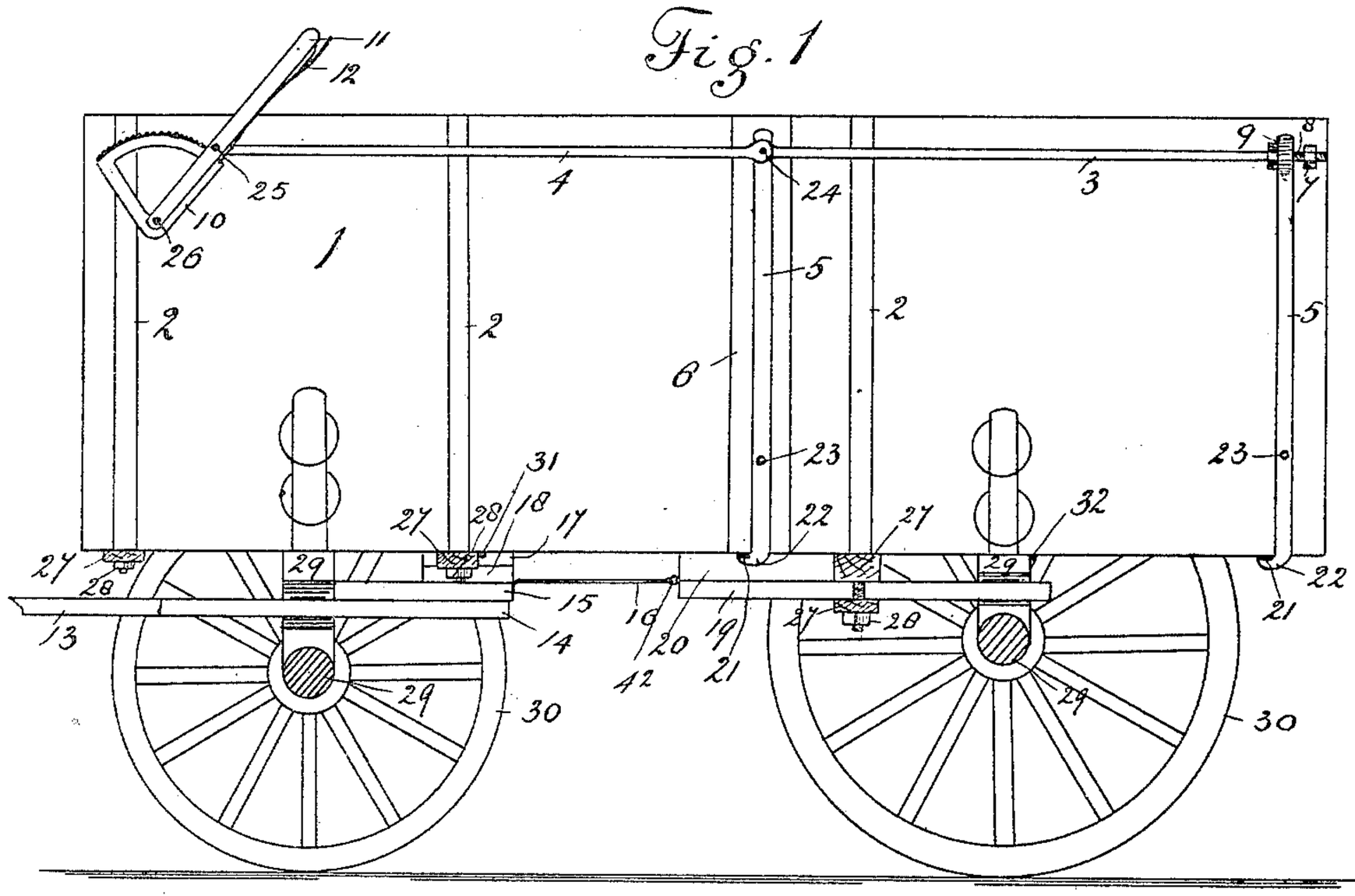
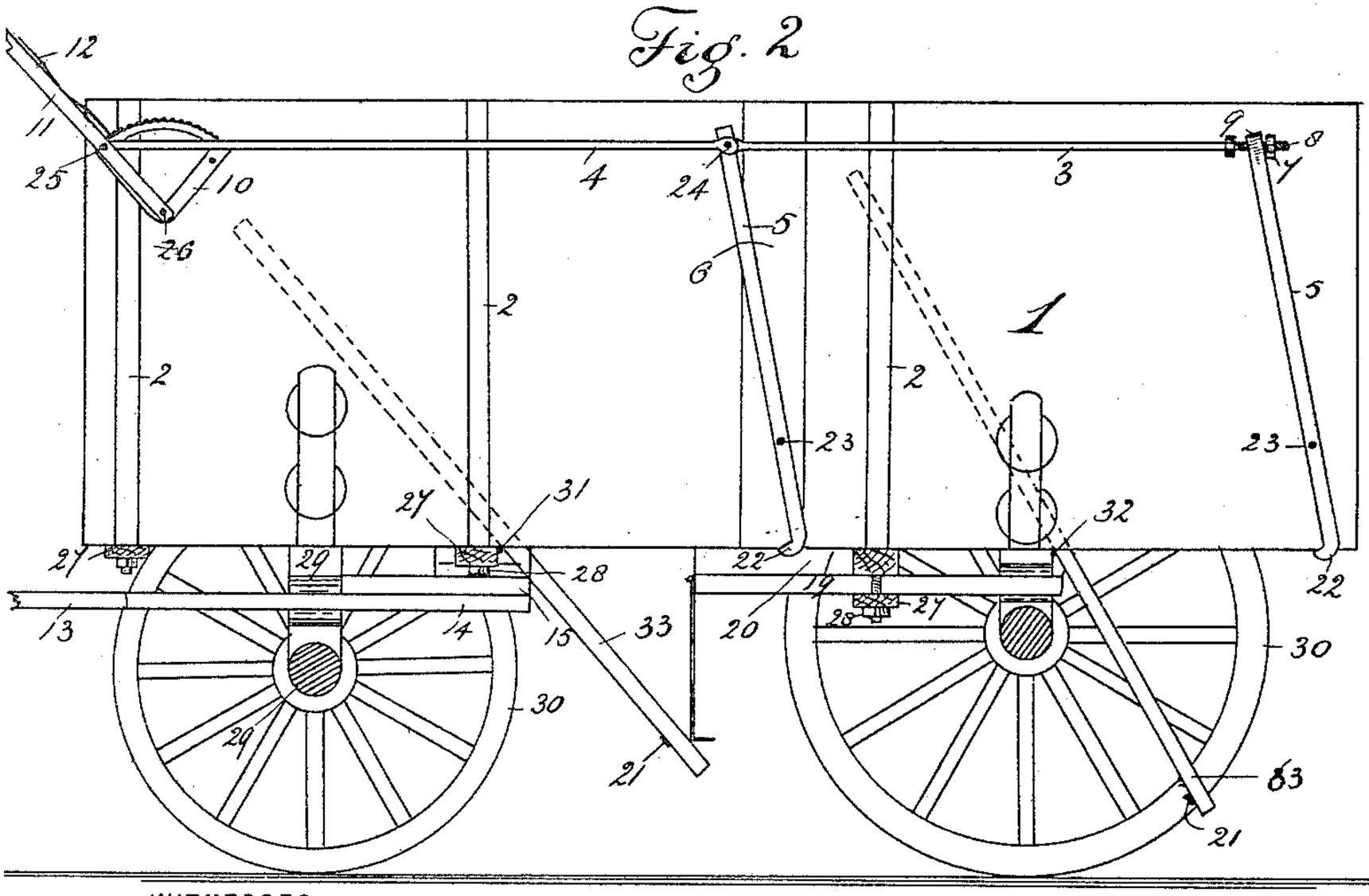


Fig. 2



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(No Model.) 2 Sheets—Sheet 2.

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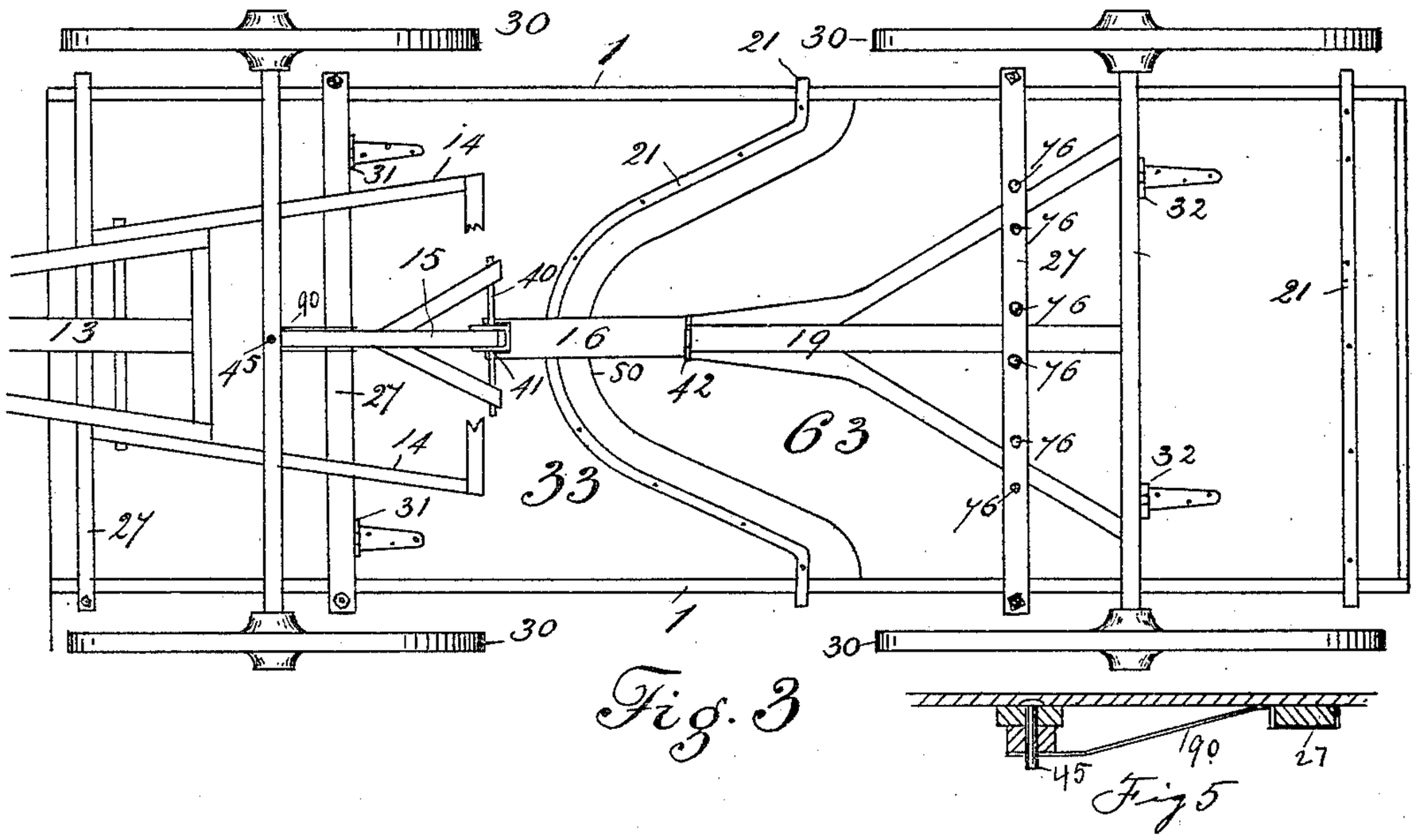

Fig. 3

Fig 5

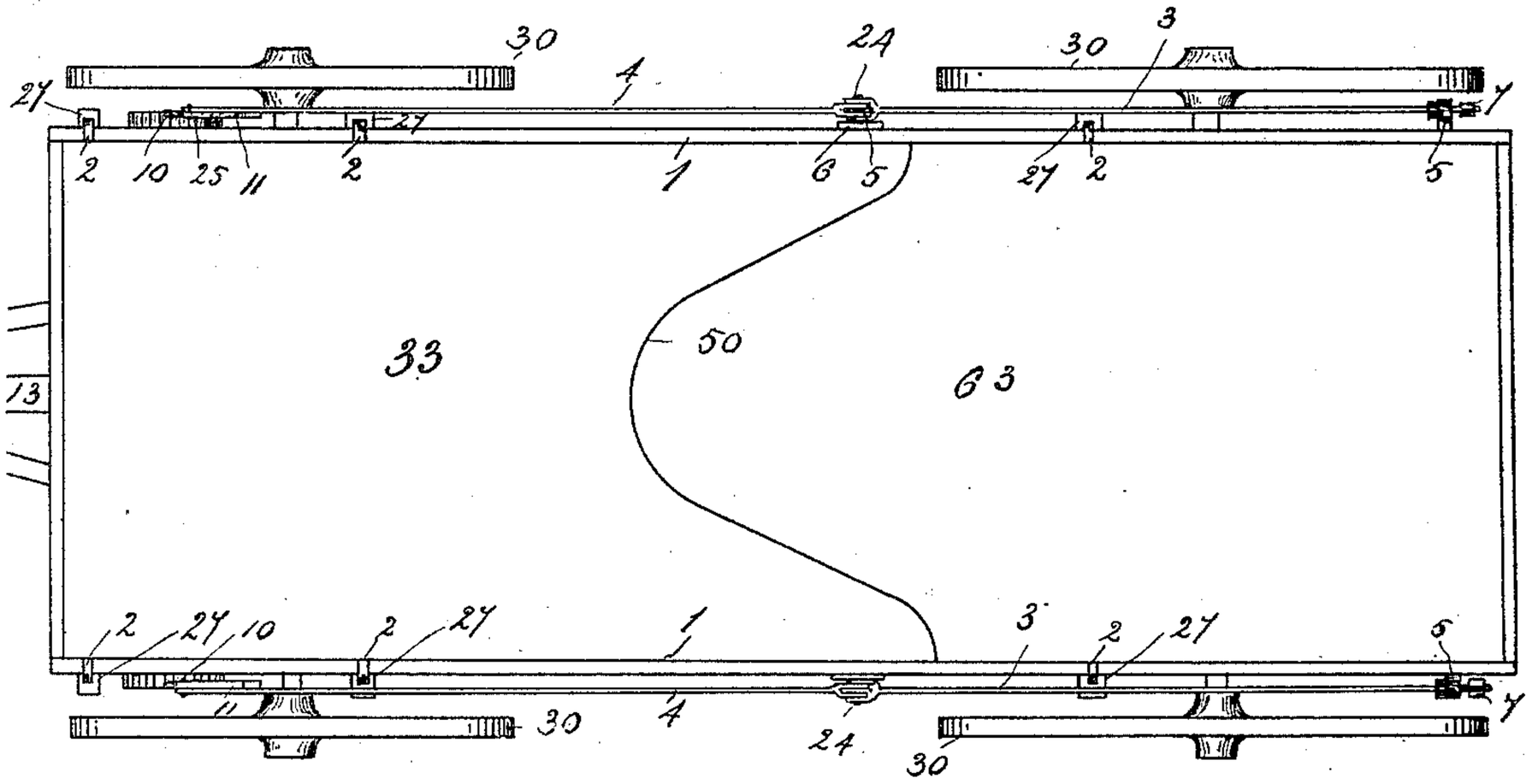

Fig. 4.

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JAMES M. STONER, OF DENVER, COLORADO.

DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 432,963, dated July 22, 1890.

Application filed May 13, 1890. Serial No. 351,679. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. STONER, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Dumping-Wagons; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in dumping-wagons of the class designed for dumping earth, sand, lime, coal, débris, and other materials with greater facility and ease than is now done by the old-fashioned dump-boards, resulting in a great saving of time and labor.

The dump-box is so constructed that it can be attached to any ordinary lumber-wagon, and can be detached therefrom in a few minutes by simply unbolting the connections and fastenings and replacing the original coupling-pole. The sides and ends are very similar to those parts in an ordinary wagon-box, the chief difference being in the bottom, which consists of two parts, which can be operated entirely independent and separate from each other.

The object, therefore, of my invention is to provide a device of the class stated which shall be simple in construction, economical in cost, reliable and durable in action, easily operated, efficient in use, of few parts and those not liable to become disarranged, a device thoroughly practicable and intended to meet all the requirements and demands of those using wagons of this class.

To these ends my invention consists of the features, arrangements, and combinations hereinafter described and claimed.

In the drawings is illustrated an embodiment of my invention, wherein—

Figure 1 is a side elevation of my improved dumping-wagon with two of the wheels removed to better illustrate the wagon body or box and its attachments, the axles being shown in section. Fig. 2 is a similar view showing the support or lever detached from the bottom of the box or body, the sections of which are tipped to the dumping position. Figs. 3 and 4 are an underneath view and a top view, respectively, of a wagon provided with my improvements. Fig. 5 is a detail of construction..

In the views, in which similar reference-characters refer to corresponding parts, let the numeral 1 designate generally the wagon body or box.

2 2 are vertical side cleats or strips, formed, preferably, of metal and designed to give strength and durability to the box. The lower extremities of parts 2 are secured to the cross-bars 27 and 31 underneath.

5 5 are levers pivoted at 23 to the sides of the box, their lower extremities terminating in the hooked ends 22, adapted to engage the projecting extremities of bars 21, secured to the rear portion of the dumping-sections 33 and 63, forming the bottom of the wagon.

The upper extremities of levers 5 or their large arms are connected by rods 3, the forward levers being pivoted thereto at 24, while the upper extremities of the rear levers 5 are formed into eyes 9, through which pass the rear threaded extremities 8 of rods 3, eyes 9 being large enough to permit these ends of the rods to pass freely therethrough. Two nuts 7 7 are placed upon these threaded rear portions of rods 3, one being located on each side of the eye 9. Nuts 7 are adjustable, and may be so regulated that the hooked extremities of the levers will be detached from bars 22 simultaneously, or so that the forward portion of the load shall be dumped first and the rear portion later, as may be desired, since it is often necessary, or at least advantageous, to leave part of the load at one locality and the remainder in another. Other rods 4 are pivoted to levers 5, and at the same time connected with the forward extremity of rod 3 by pivot 24. The forward extremity of rod 4 is pivoted at 25 to lever 11, which lever is pivoted to the wagon at 26, and provided with a spring-pawl or ratchet-lever 12, engaging the segmental notched rack 10, conveniently secured to the side of the body or box. Lever 11 projects sufficiently above the box to be within easy reach of the driver while sitting within the seat usually placed upon the forward portion of the wagon-body for the driver's use.

The bottom of box 1 is centrally divided into two sections 33 and 63, the curved line 50 indicating the division of the two sections and their adjacent or contiguous portions when the sections are closed. This line divides the bottom in such a manner that the front portion is hollowed out in the center at its rear extremity and provided with wings, one on either side of the reach and projecting backward on either side of the rear hounds, or side braces extending from the reach on each side to the rear axle. This construction is essential in order that the forward section 33 of the bottom may have sufficient surface in the rear of the bar 27, to which it is hinged, and at the same time dump without engaging the rear hounds, the wagon-body being so placed upon the running-gear that each axle or each pair of wheels shall bear its proportion of the weight. The forward extremity of the rear section 63 is tongue-shaped, and fits within the oppositely-fashioned end of the forward section, which it engages, as shown. It will also be observed that by dividing the bottom of the wagon-body upon the curved line 50, I am enabled to locate the projecting lugs of the forward bar 21 sufficiently far in the rear to avoid contact with the forward wheels when the wagon is cramped. This would not be the case were the division made on a direct line, properly dividing the bottom as regards the weight of the load which each section should support in order to dump properly.

The rear section 63 is secured to the axle by means of strap-hinges 32, while the forward section 33 is secured to a cross-bar 27, made fast to the sides of the box and supported by strips 2 2, the lower extremities of which are threaded and pass through suitable apertures in the outer extremities of bar 27, part 2 being secured thereon by means of nuts 75, screwed upon these threaded extremities. A second cross-bar 27 is also secured underneath the rear portion of the wagon-body by securing its outer extremities to the lower extremities of strips 2, in the manner just described in the case of the forward bar 27. The rear bar 27 is further secured to the coupling pole or reach and also to the side braces extending therefrom to the rear axle by means of bolts 76, &c., secured in place by suitable nuts.

The sections 63 and 33 of the bottom of the wagon-body are in effect levers of the first-class, and are preferably so balanced upon their fulcrums on the cross-supports to which they are hinged that when the wagon-body is empty these sections will both assume the closed position by reason of the gravity of the portions of each section lying forward of fulcrum or support 27, being slightly greater than that of the portion of each section lying in the rear of this line.

Instead of the ordinary continuous reach or coupling-pole uniting the forward and rear portion of the running-gear, I employ a coupling-pole consisting of three sections 15, 16, and 19, the forward and rear sections 15 and 19, respectively, being united by the central portion 16, which is secured to 19 by a hinge 42 and detachably connected with 15 by means of a hook 80, engaging a clevis secured to part 15 by a rod or bolt 40.

The forward portion of the wagon-body is secured to the front axle by means of a suitable strap 90, surrounding the forward cross-beam 27 and connected with the king-bolt, which passes through suitable apertures formed in the forward extremity of the strap.

From the description given the operation of my improved dumping-wagon will be readily understood.

I will suppose the wagon is loaded and the mechanism in the position shown in Fig. 1. The hinged central portion of the coupling-pole is first unhooked from the clevis-connection, when it drops to the position shown in Fig. 2. The driver then grasps levers 11 and forces them forward sufficiently to release forward lever 5 from its engagement with its corresponding bar 21. This may be done, as before stated, without disengaging rear levers, nut 8 being so adjusted that it shall not engage rear lever 5 until after the connecting-rods 3 and 4 have moved forward sufficiently to disengage forward arms 5 and dump the corresponding portion of the load, which is accomplished by gravity, since the weight of the load on the rear portion of sections 33 and 63 is greater than on the forward portions. Having dumped the forward portion of the load and moved the wagon to the desired position, levers 11 are again thrust forward sufficiently to disengage the rear levers 5 when section 63 assumes the position shown in Fig. 2, being forced downward by the gravity of the load which it dumps; or, as before stated, nut 8 may be so adjusted that the forward and rear levers 5 will be disengaged simultaneously and the entire load dumped at the same time instead; or section 63 may be so nicely balanced with reference to the load it supports that it will not dump until by the dumping of the forward portion of the load enough is permitted to fall forward from the rear portion thereof to destroy the equilibrium, when it will tip backward and dump the balance of the load.

Having thus described my invention, what I claim is—

1. In a dumping-wagon, a box or body having its bottom divided crosswise of its length on a curved line into two parts, the forward section being thereby hollowed out in the center and provided with projecting wings on either side, said wings being adapted to straddle the rear hounds in the operation of dumping, each part being hinged to a suitable support underneath, suitable levers for retaining the sections of the divided bottom in the closed position, and suitable means of disengaging said levers from their connection with said sections, substantially as described.

2. In a dumping-wagon, a body having a

bottom divided on the curved line 50 into two sections, the forward section being thereby hollowed out in the center and provided with projecting wings, one on either side, said wings being adapted to straddle the rear hounds while dumping, each section being hinged to a suitable support underneath, levers pivoted to the sides of the body and supporting the sections in the closed position, and means of disengaging said levers from their connection with said sections, substantially as described.

3. In a dumping-wagon, a body having a bottom divided crosswise into two sections, each section being hinged to a suitable support underneath, levers 5, pivoted to the sides of the wagon-body, said levers being provided with hooked lower extremities and adapted to engage lugs 21, secured to the hinged sections, and suitable means of disengaging levers 5 from their connections with said sections, substantially as described.

4. In a dumping-wagon, a bottom divided crosswise of its length into two sections, each section being hinged to a suitable support underneath and provided with lugs 21, projecting from its ends, levers 5, pivoted to the sides of the box and having their lower extremities fashioned to engage lugs 21 and hold the sections in the closed position, two sets of levers 5, pivotally connected on each side of the box by a rod 3, rods 4, pivotally connected with the top of the forward set of levers 5, and suitable levers 11, pivoted to the sides of the box and connected with rods 4 for the purpose of adjusting the levers 5, substantially as described.

5. In a dumping-wagon, a reach or coupling pole provided with a central section 16, hinged at one extremity and detachably secured at the opposite extremity, in combination with a wagon-body having the bottom divided crosswise into two sections, each hinged to a suitable support underneath and provided with metal straps terminating in lugs or projections on each side, levers 5, pivoted to the sides of the wagon-body and engaging lugs 21 and supporting the sections of the bottom in the closed position, rods 3, connecting bars 5 at the top, rods 4, connected with rods 3 at one extremity and levers 11 at the opposite extremity, levers 5 being so connected by rods 3 that the forward movement of lever 11 shall disengage the sections of the wagon-body from the supporting-levers, either simultaneously or at different times, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES M. STONER.

Witnesses:
FRED. W. FELDWISCH,
WM. MCCONNELL.