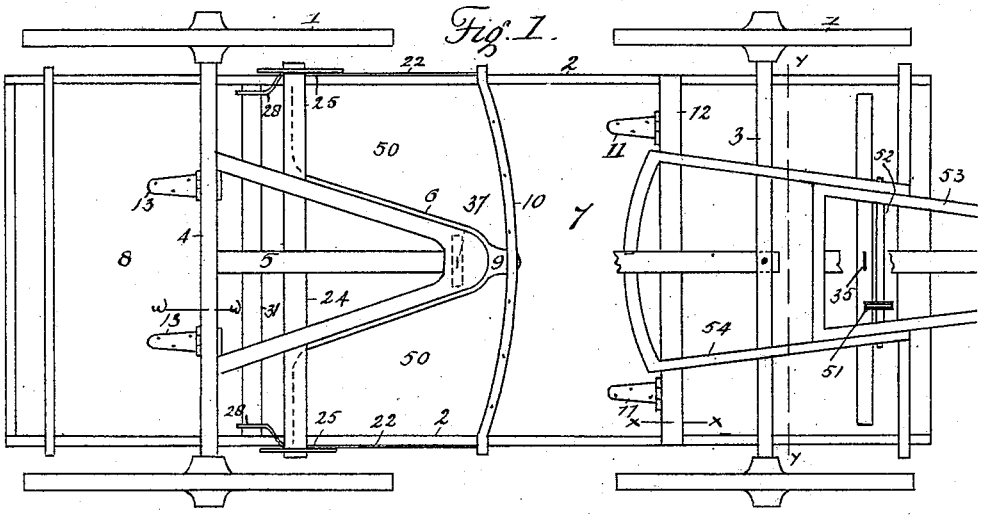
(No Model.) 2 Sheets—Sheet 1.

J. M. STONER.

DUMPING WAGON.

No. 456,319. Patented July 21, 1891.

Fig. 1.



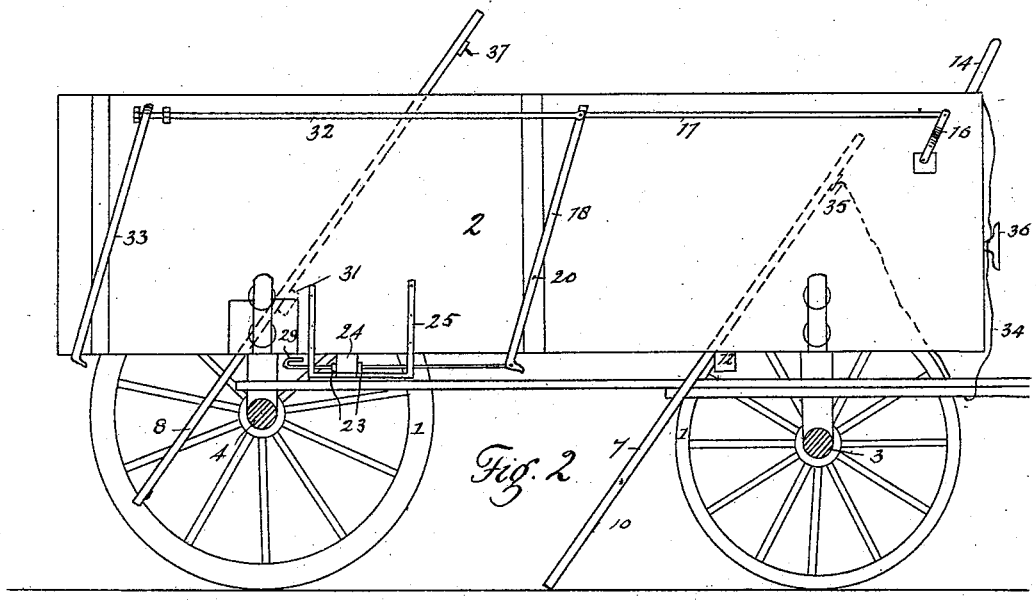


Fig. 2.

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Wm. McConnell

INVENTOR
James M. Stoner
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ATTORNEY.

(No Model.) 2 Sheets—Sheet 2.

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DUMPING WAGON.

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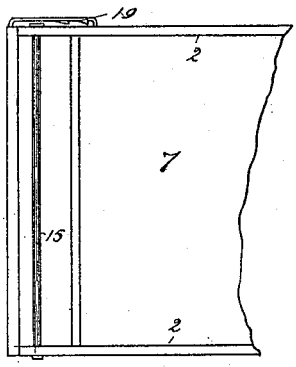


Fig. 3

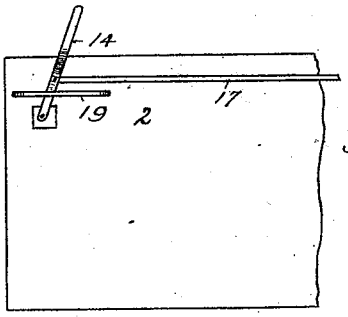


Fig. 4

Fig. 5

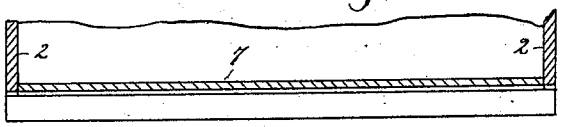


Fig. 6

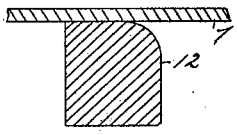


Fig. 7

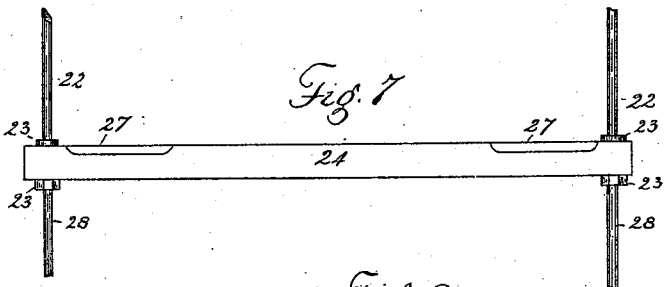


Fig. 8

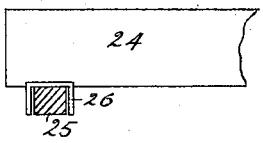


Fig. 9

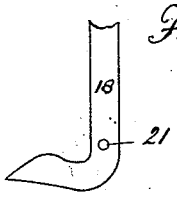


Fig. 10

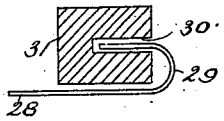


Fig. 11

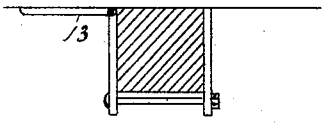
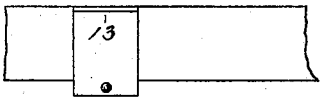


Fig. 12



WITNESSES.

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UNITED STATES PATENT OFFICE.

JAMES M. STONER, OF DENVER, COLORADO.

DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 456,319, dated July 21, 1891.

Application filed October 25, 1890. Serial No. 369,318. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. STONER, a citizen of the United States of America, 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, and is designed more especially as an improvement on my invention for which Letters Patent were granted me July 22, 1890, said Letters Patent being numbered 432,963.

The object of my improvements is to simplify my previous device and at the same time increase its capacity for the rapid and successful handling of all kinds of amorphous or other material which it is designed to unload or discharge from the box with rapidity.

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

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

Figure 1 is an underneath view of the wagon provided with my improvements; Fig. 2, a side elevation thereof, the parts being shown in the dumping position; Fig. 3, a top view of the front part of the box thereof; Fig. 4, a side elevation of the same; Fig. 5, a vertical section on the line $x\,x$, Fig. 1; Fig. 6, a cross-section on the line $y\,y$, Fig. 1; Fig. 7, a detail view of the locking-bar constituting a prominent feature of my invention; Fig. 8, a section on the line $z\,z$, Fig. 2; Fig. 9, a detail view of construction; Fig. 10, a section view showing a detail of construction; Figs. 11 and 12, detail views showing the manner of hinging the rear section of the bottom to the running-gears of the wagon.

Referring now to these views, wherein similar reference-characters designate corresponding parts, the numeral 1 designates the wheels of the wagon, which are mounted on the front and rear axles 3 and 4, respectively.

The numeral 2 designates the box, and 5 the reach, of the wagon. The bottom of this box is divided by the tortuous line 6 into two sections 7 and 8, 7 being the front and 8 the rear section thereof. By reason of this division the inner portion of the rear section is tongue-shaped, while the corresponding part of the forward section consists of wings or side extensions 50 50, engaging or embracing the tongue-shaped part of the opposite section on either side. It will thus be seen that in the action of dumping the wings of the forward section straddle the rear hounds, and also the reach or coupling-pole, which in this improvement remains intact, the opening between the wings 50 being of sufficient depth to permit them to reach the ground, ample space being left for the coupling-pole without coming in contact with the section. This advantage over the construction shown in my former Letters Patent is obvious, since in attaching my device as now improved to the running-gear of the ordinary wagon no change whatever is made in the reach. This feature not only simplifies the construction, but adds greatly to the ease and rapidity of its operation. Secured to the under side of section 7 is the cross-bar 10, which strengthens the bottom of the wagon, serves as a support for the forward extremity of the rear section 8, and is engaged by the hooked levers in holding the sections in the closed position. Of these sections 7 and 8 the front section 7 is hinged by means of hinges 11 to an underneath cross-piece 12, extending transversely across the wagon-box, said piece 12 being located, preferably, a little in front of the center of gravity of the section and having its rear superior edge rounded, as shown in Fig. 6, so that when it is desired to dump the load that portion of the bottom—namely, the front section—is allowed to rotate freely on said cross-piece 12 and over the rounded corner thereof as a bearing. The rear section 8 of the bottom is hinged to the rear bolster by means of hinges 13, substantially as shown in Figs. 11 and 12, said hinges allowing the section to turn freely thereon when it is desired to dump the load.

It may be well here to state that though I prefer the styles of hinging the sections of the bottom herein shown I am not limited to this

particular construction, since any suitable means of effecting the desired result may be employed.

In order to simplify the construction and reduce the number of parts necessary to its successful operation to a minimum, I have made provision whereby the mechanism sustaining both sides of both sections may be operated by a single lever and the two sections dumped simultaneously or separately, as may be deemed advantageous and desirable. This mechanism consists of a lever 14, rigidly mounted on one extremity of a rod 15, extending transversely across the wagon-box, said rod projecting for a short distance on each side of the box and being journaled in the sides 2 thereof. This rod 15 serves as a fulcrum for lever 14, which is a lever of the second class. Rigidly mounted on the opposite extremity of rod 15 from that on which lever 14 is secured is a short arm 16, lying in the same radial plane with reference to rod 15 as does lever 14. To lever 14 is hinged one extremity of a connecting-rod 17, adapted to operate hooked rods or levers 18, substantially as shown and described in my prior Letters Patent, as before referred to.

On the opposite side of the wagon from that on which lever 14 is located a connecting-rod 17 is hinged to the free extremity of arm 16, said connecting-rod 17 being connected with a hooked rod or lever 18, similar to that located on the opposite side of the wagon-box. Thus it will be seen that by a stroke of a single lever 14 the hooked rods or levers 18 are made to disengage the sections of the bottom, as described in my prior Letters Patent.

Lever 14 is provided with a ratchet-guide 19, so constructed that the lever may be locked in any desired position.

In the lower extremities of hooked levers 18, which are pivoted to the sides 2 at 20, are apertures 21, by means of which the rearwardly-extending rods 22 are hinged thereto. (See Figs. 2 and 9.) Rigidly secured to rods 22 by means of nuts 23 is the cross-bar 24, which extends across and underneath the wagon-box. This cross-bar is preferably secured to rods 22 by means of apertures therein, through which said rods pass, said cross being firmly located thereon by means of the nuts 23. This cross-bar is supported at its extremities by means of stirrups 25, rigidly secured to and depending from the sides of the box, said stirrups being large enough to allow the bar 24 to slide back and forth therein as the hooked levers 18 are moved. By referring now to Fig. 8 it will be seen that the extremities of cross-bar 24 are provided with guides 26, adapted to sit astride the stirrup and so guide said bar in its movements. Bar 24 is also provided with beveled portions 27 near each extremity, said portions adapting it to slide more easily under the extremities of the wings of section 7 of the bottom when the parts are being locked in the closed position. The object of this construction is to support the rear extremities of the front section of the bottom, and so obviate all danger of accidental dumping. It will also be observed that this cross-bar affords a reliable support for the forward extremity of the rear section of the bottom.

Extending backwardly from cross-bar 24 are the rods 28, said rods being preferably continuous with rods 22. These rods are curved inwardly, so as to conform themselves to the desired position, and are provided at their rear extremities with hooks 29, said hooks being adapted to catch in sockets 30, made in the rear surface of the cross-bar 31, which is rigidly secured to the under side of section 8 of the bottom. Thus it will be observed that in locking the sections of the bottom in the closed position both hooked bars or levers 18 are made to engage the extremities of cross-bar 10, and that simultaneous with this operation cross-bar 24 is drawn under the extremities of the wings 50 of section 7, the hooks 29 being drawn into the sockets 30 in cross-bar 31, which is secured to the under side of section 8 of the bottom, as before described, while in dumping the wagon the reverse operations are performed, levers 18 disengaging the extremities of cross-bar 10, cross-bar 24 being pushed from under the extremities of the wings 50 of section 7 and hooks 29 being made to disengage sockets 30. Thus it will be seen that in the construction of my improved device rods 32 and levers 33 may be dispensed with, since the only object of those parts is the locking and releasing of the rear section of the bottom, and these functions may be accomplished by the other mechanism just described.

The reference-numeral 34 designates a suitable rope or equivalent device secured to the forward extremity of section 7 by means of a ring 35 or in any approved manner, said rope engaging a pulley or spool 51 and extending thence under the front of the wagon-body and up to a suitable anchoring device 36, where it is within easy reach of the driver. Pulley 51 is journaled upon rod 52, which passes through the rear portion of the tongue 53 and secures the same to the front hounds 54. The object of this construction is to enable the driver to pull the section to its closed position without leaving his seat. A ring 57 or other suitable device is also secured to the front extremity of the rear section 8, by means of which a similar device may be applied to said section if deemed advantageous.

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 into two sections hinged to suitable supports underneath, a sliding bar extending across the bottom underneath and supported in suitable stirrups secured to the sides of the box, said bar being adapted to maintain the sections of the bottom in a closed position, and suitable means of sliding said bar within

its supports for the purpose of locking or releasing the sections, said means consisting of levers pivoted to the sides of the box and having their lower extremities suitably connected with the locking-bar, substantially as and for the purpose set forth.

2. In a dumping-wagon, a box or body having its bottom divided crosswise of its length into two sections, said sections being provided with lugs projecting horizontally beyond the sides of the box, hooked levers pivoted to the sides of the box and adapted to engage the lugs for the purpose of supporting the sections in the closed position, a transverse rod extending through the front portion of the box, within which it turns freely, a hand-lever 14, secured to one extremity of this rod outside of the box, a short arm 16, secured to the opposite extremity thereof, a connecting-rod pivoted at one extremity to the hand-lever and at the opposite extremity to one of the hooked levers, and another connecting-rod pivoted at one extremity to arm 16 above its connection with the transverse rod and at its opposite extremity to the other hooked lever, whereby the hooked levers on the opposite sides of the box are manipulated simultaneously by the movement of lever 14, substantially as and for the purpose set forth.

3. The combination, in a dumping-wagon, of a body having its bottom divided on the curved line 6 into two sections, the inner extremity of the rear section being tongue-shaped and the corresponding portion of the front section cut out for its reception and provided with extensions or wings engaging said tongue-shaped part on either side, and means of returning the forward section to the closed position after dumping, said means consisting of a cord or rope secured to said section forward of its means of support, and a pulley secured to a rod passing through the forward hounds of the wagon and adapted to receive said rope and guide the same as it passes forward, and suitable means of securing the rope to the forward part of the wagon-body within reach of the driver, substantially as described.

4. In a dumping-wagon, a box or body having its bottom divided crosswise of its length into two sections hinged to suitable supports underneath, a sliding bar extending across the bottom underneath and supported in suitable stirrups secured to the sides of the box, said bar being adapted to maintain the sections of the bottom in the closed position, and suitable means of sliding said bar within its support for the purpose of locking or releasing the sections, said means consisting of two levers, one pivoted to each side of the box and having their lower extremities connected with the locking-bar, and means connected with the upper extremities of the pivoted levers, whereby they are simultaneously actuated, substantially as described.

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

JAMES M. STONER.

Witnesses:
FRANK J. HANGS,
WM. MCCONNELL.