

No. 713,054.

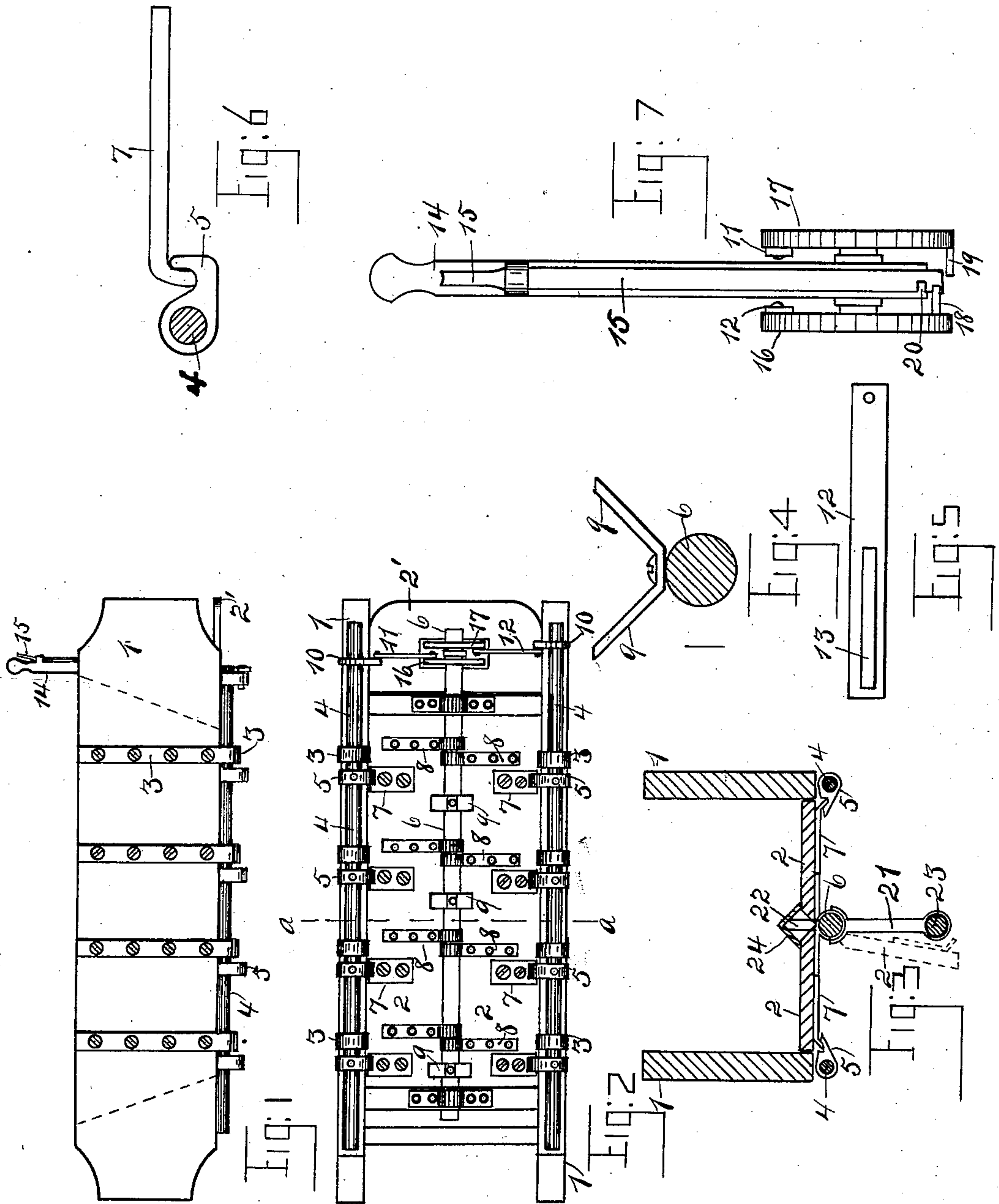
Patented Nov. 11, 1902.

E. P. BURNHAM.  
DUMPING WAGON BOX.

(Application filed Apr. 2, 1902.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:  
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Inventor:  
Edward P. Burnham:  
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his Atty:

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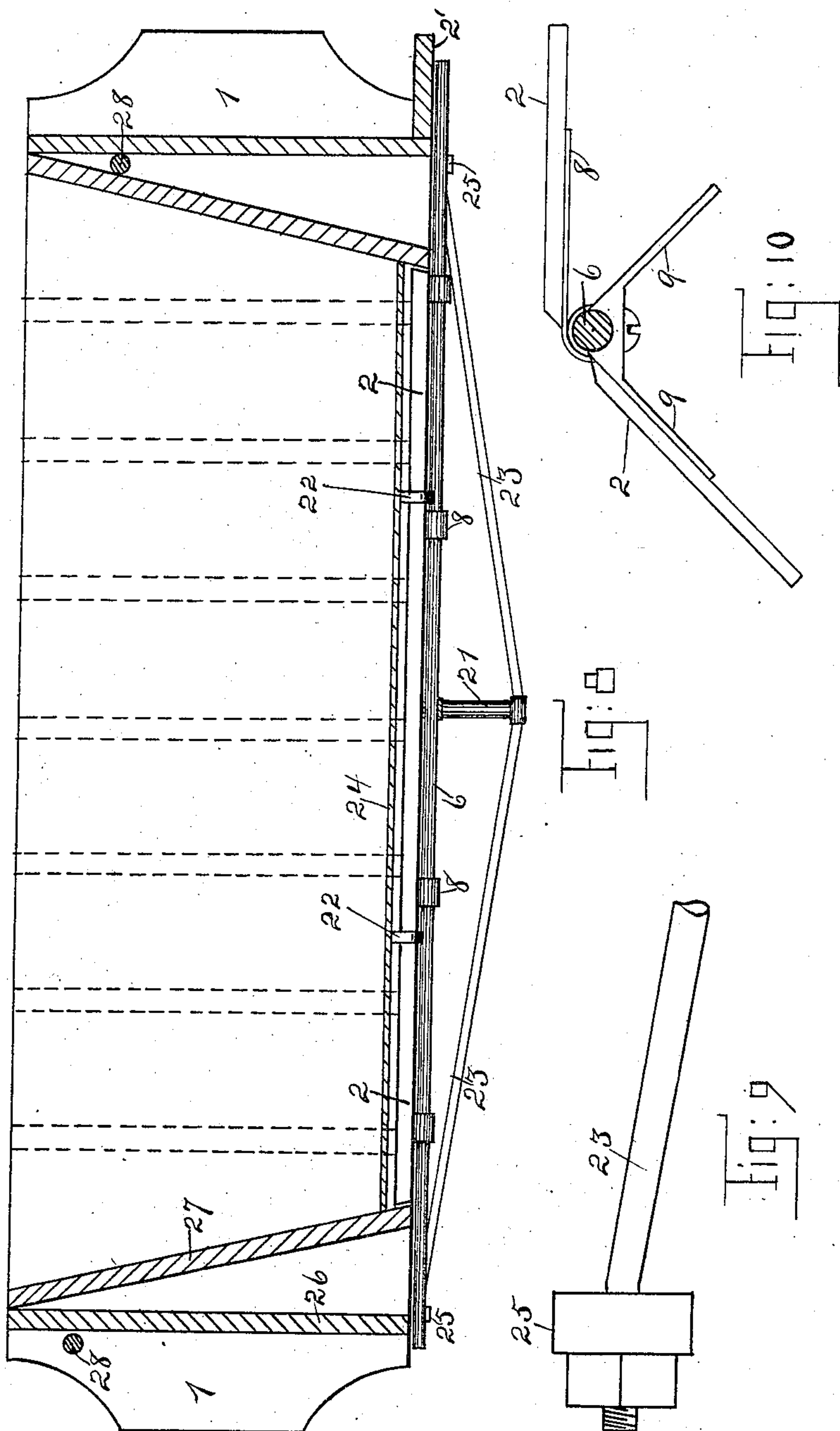
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# UNITED STATES PATENT OFFICE.

EDWARD P. BURNHAM, OF ALBANY, NEW YORK.

## DUMPING-WAGON BOX.

SPECIFICATION forming part of Letters Patent No. 713,054, dated November 11, 1902.

Application filed April 2, 1902. Serial No. 101,091. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD P. BURNHAM, a citizen of the United States, residing at Albany, New York, have invented certain new and useful Improvements in Dumping-Wagon Boxes; 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a new and improved dumping-wagon box for use on any of the ordinary forms of work-wagons in common use.

In the drawings, Figure 1 is a side elevation of my box; Fig. 2, a bottom plan view; Fig. 3, a vertical sectional view taken on line *a a* of Fig. 2; Fig. 4, a cross-section of the rod by means of which the bottom is operated, showing in end elevation one of the lifting wings or levers; Fig. 5, a plan view of one of the operating-levers; Fig. 6, a side elevation of one of the locks; Fig. 7, a similar view of the operating-lever and its mechanism; Fig. 8, a longitudinal sectional view of my box; Fig. 9, a side elevation of one end of one of the truss-rods; and Fig. 10 an end elevation of the wings forming the bottom of the box, showing the left-hand wing in the act of being closed.

The numeral 1 shows the side-board of my wagon-box, which is stiffened or strengthened by the metallic strips 3, the lower ends of said strips 3 passing under the lower edge of the side-board 1 and forming not only supports to the revoluble rod 4, but also journal-boxes, in which said rod 4 is held and allowed to rotate. The revoluble rod 4 is preferably set under the lower edge of the side-board 1 and is preferably let into a groove therein sufficiently shallow so as not to receive the whole rod, but to allow the rod to present about two-thirds of its surface below the groove, as seen in Fig. 1. On this rod 4 are fixed catches 5, these catches projecting slightly under the wings 2, which form the box-bottom, the preferred form of these catches being shown in Fig. 6, wherein it is shown that the inner surface of the outer

hooked end forms a portion of the arc of the cycle of action of the catch as it revolves with the rod 4—i. e., if a pair of compasses be used, one leg resting in the center of the rod 4 and the other set at the upper inside corner of the hooked end and swung downward, it will be seen that the inner surface of the hooked end is a portion of the circle so struck. This is so designed that when the catch 5 is in its normal retaining position the interlocking end of the latch 7 will have the least possible tendency to press the catch 5 downward. On the wing-pieces of the bottom are attached the latches 7, practically as seen in Fig. 2, arranged to lock with the catches 5, practically as shown, when the bottom wings 2 are closed.

Centrally along the bottom 2 runs the revoluble rod 6, journaled to stay-pieces attached to the box. On this rod 6 are hinges 8, one set being attached to one of the wings and the other set to the remaining wing and arranged so the wings may be opened and closed separately. Also on this rod 6 are set winged pieces 9, the function of which is to assist in forcing the wings upward and to close when the rod 6 is operated for that purpose.

At the under and forward end of my box and affixed to the rod 4 are plates or rings 10, to which are pivoted levers 11 and 12, the inner ends of which levers are pivoted to disks 16 and 17, said disks being affixed to the revoluble rod 6. On the rod 6 is fixed the adjustable throwing-lever 14, resting, preferably, between the disks 16 and 17. The clutch-lever 15, forming a part of the lever 14, has an up-and-down motion when its handle is pressed and released, and as it operates the same as all such levers which are in common and every-day use its mechanism is not more particularly set forth, as it is well known to those skilled in the art. At the lower end of the piece 15 is a notch 20, and when its lower end is in its normal position it catches the pin 18 on disk 16, and when lever 14 is thrown to one side it revolves disk 16 and rod 6, operating one of the wings 2 of the box-bottom; but when 15 is clutched the notch 20 registers with the pin 18, and the lower end of 15 then catches pin 19 and operates one of the wings 2 of the wagon-box. Each of the levers 12 has a slot 13 at the end attached to



the plates or rings 10, so that they have a sliding motion on the pivots by which they are attached, as seen in Fig. 5.

The inner edges of the wings 2 2, forming the box-bottom, are beveled, as seen in Fig. 2, leaving a V-shaped indenture between their inner edges, and over this V-shaped indenture is set the inverted-V-shaped piece 24, so as to prevent dirt or sand from filling the indenture, and the inverted-V-shaped piece 24 is fastened, preferably, to the ends of the box and is also preferably stayed by upright posts 22, the lower ends resting on the rod 6, as seen in Fig. 8.

In order that the rod 6 shall not spring or sag, I make use of the truss-rod 23 and its central support 21, its outer ends passing through a cross-piece 25 and having a tightening-nut at its free ends, as seen in Fig. 9. Thus trussed the rod 6 is able to withstand all downward pressure without sagging or getting out of true, and any slackening coming from long use may be taken up by the nuts at the free ends of the rod 23.

When my box is arranged as seen in Fig. 8, it is ready for carrying sand, gravel, or any other similar matter; but when I desire to draw lumber or like long material I remove the end-board at the rear of the box. This end-board is preferably made of the two boards 26 and 27, and they are set in grooves preferably made in the side-boards, or cleats may be affixed to the side-boards forming such grooves, as may be desired. The end-boards 26 and 27 then may be removed and replaced at pleasure and any long materials, such as lumber, be readily placed in the box. The object in having two boards for an end-board is that board 26, with the stay-rods 28, helps to stiffen the side-boards, while board 27 being set at an angle not only helps to further stiffen the side-boards, but forms a slanting surface, down which all such material as sand, dirt, &c., will readily slide, thus assisting in the dumping of the box.

The operation is as follows: The box being loaded with dirt or other material of a similar nature, the driver standing on the foot-board 2' throws the operating-lever 14, say, to the left. Catch 15 will strike pin 18 on disk 16 and revolve it with the rod 6. Lever 11 will then move outward on its slotted end until the rear end of the slot will force plate 10 to revolve, thus revolving rod 4 and turning catches 5 out of connection with the latches 7. When at this point, the outer edge of the wing 2 having no support left it, the weight of the contents of the box will force it to swing downward or open, and that half of the load resting on that wing will be dumped. The driver now desiring to dump the other half of the load presses handle 15 against the lever 14 and throws the lever in the opposite direction, which causes rod 6 to revolve and draw the catches 5 from the latches 7 on that side of the box-bottom, and that side will therefore dump on account of the lever 12

rolling the catches and rod in the proper direction; but as this is being done the winged pieces 9 9 on the rod 6 have assumed the position shown in Fig. 10, and the left-hand wing has turned, so as to press upward against the under side of the left wing of the box-bottom, and as the rod is continued to be turned this wing continues to rise and forces the wing 2 of the bottom into place, and the revolving of the rod 6 also throws the catches 5 into engagement with the latches 7 on that side, thus closing the left wing of the bottom, and by now throwing the operating-lever 14 in the opposite direction again just far enough to swing the winged piece 9 over and against the right bottom wing the right wing of bottom of the box will be closed without opening the left wing, and thus the box-bottom will be closed, ready for being filled again. When the levers 11 and 12, with their slots 13, are properly adjusted to the disks 16 and 17 and to the plates 10, these movements are readily carried out. The inverted-V piece 24 prevents dirt, &c., from filling the V-shaped opening between the wings of the box-bottom, while the truss-rod 23 keeps the rod 6 in position.

In Fig. 2 I have not shown the truss in order to more clearly show the other parts of the invention.

I have shown the disks 16 and 17 as a means for operating the levers 11 and 12 and through them the rods 4 and their locking devices; but it will be at once perceived that other equivalent devices may be used in their place and stead, and I therefore claim all such equivalents.

Having described my invention, what I claim is—

1. In a dumping-wagon box, a bottom consisting of a plurality of wings or doors; a centrally-disposed revoluble rod under said wings or doors to which the wings or doors are hinged; winged members attached to said rod arranged to force the doors to swing upwardly; revoluble rods disposed under the side-boards of the box; levers in connection with said last-named rods arranged to rotate them; catches on said rods revoluble with them; a throwing-lever in connection with the levers on the rods arranged to operate them; latches in connection with the wings or doors forming the bottom of the box arranged to lock and unlock with the catches on the said rods, all arranged and operating substantially as herein shown and described.

2. In a dumping-wagon box, a bottom consisting of wings or doors hinged to a centrally-disposed revoluble rod underneath the wings; revoluble rods arranged under and operating in grooves in the bottom edge of the side-boards; stiffening-straps for the side-boards, the lower ends of which are formed and arranged as journal-boxes in which the revoluble rods in the grooves may turn; levers in connection with the last said rods arranged to rotate them; catches on said rods revoluble with



them; a throwing-lever in connection with the rods arranged to operate them; latches arranged in connection with the wings or doors forming the bottom of the box arranged to lock and unlock with the catches on the rods substantially as described.

3. In a wagon-box, stiffening straps or pieces arranged upon the sides of the side-boards, their lower ends projecting below the lower edges of said side-boards and arranged to act as journal-boxes; rods under the lower edges of said side-boards arranged to revolve in said journal-boxes and having means to revolve them; a plurality of bottom boards running lengthwise the box and arranged to open and close and means for opening and closing them; latches on the bottom boards and catches on the rods arranged to lock and be unlocked at will, the meeting surfaces of the latches and catches forming the arc of the circle of their motion substantially as described.

4. In a dumping-wagon-box a bottom therefor consisting of a plurality of wings or doors, the meeting central edges thereof being formed to leave an opening between their up-

per edges; a cover for said opening; a centrally-disposed single rod under the wings or doors; supports for said cover resting on said rod and an adjustable stay or truss arranged to support the rod substantially as described.

5. In a dumping-wagon box a plurality of wings or doors forming its bottom and hinged to a single centrally-disposed revoluble rod; latches on said wings or doors; a revoluble rod and catches thereon having a hooked end arranged to lock with the latches, the inner surface of the hooked end on the catch being the arc of the circle of revolution of the catch substantially as described.

6. A locking device for swinging and other doors consisting of a latch and a revoluble catch, said catch having an indent to receive the latch, the inner surface of said indent forming an arc of the circle of revolution of the catch substantially as described.

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

EDWARD P. BURNHAM.

Witnesses:

W. M. BROWN,  
G. T. DAVIS.