No. 855,161. PATENTED MAY 28, 1907.

# R. G. & L. CATOR.

## DUMPING WAGON.

APPLICATION FILED JULY 27, 1906.

Fig. 1.

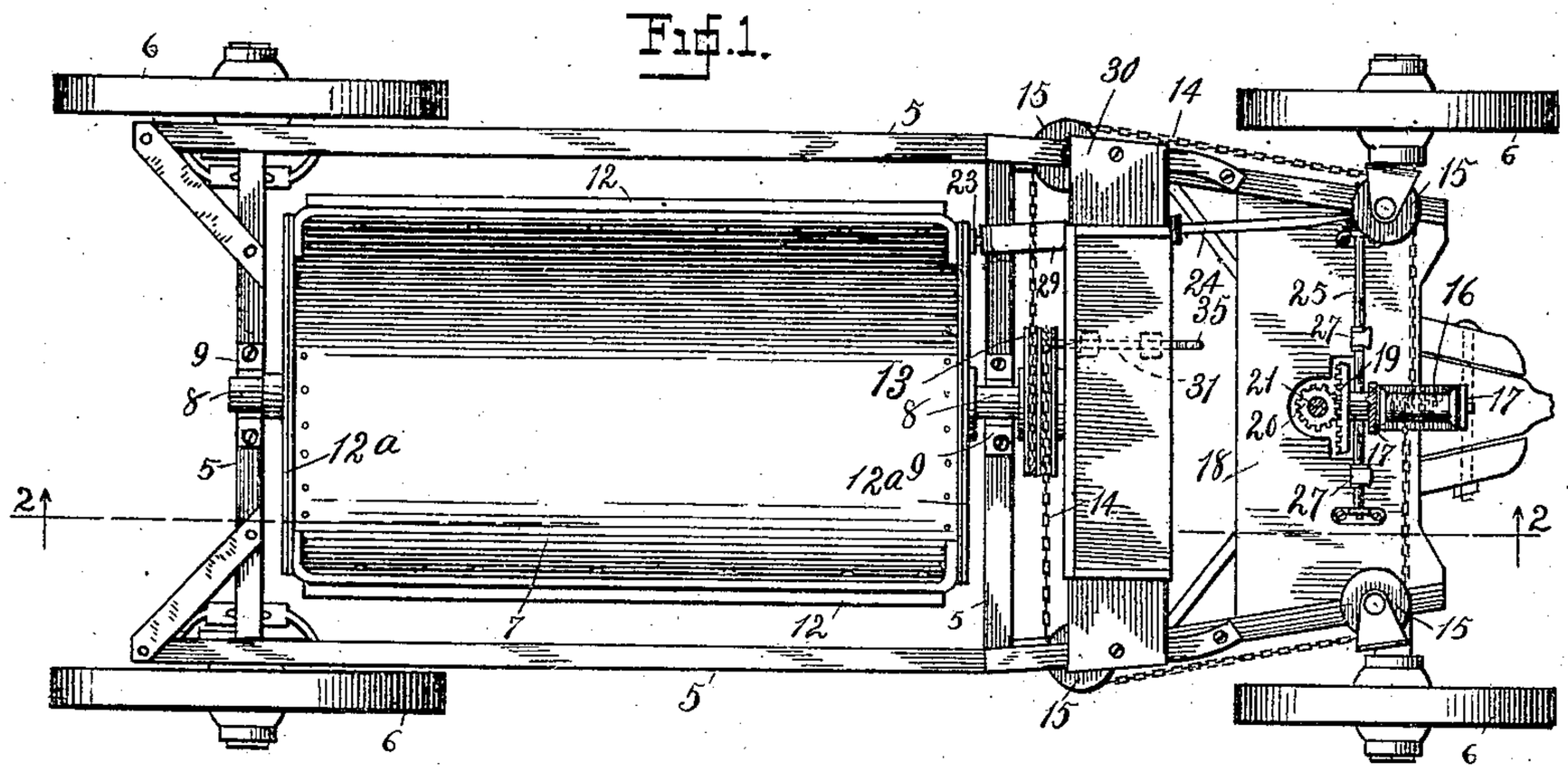



Fig. 2.

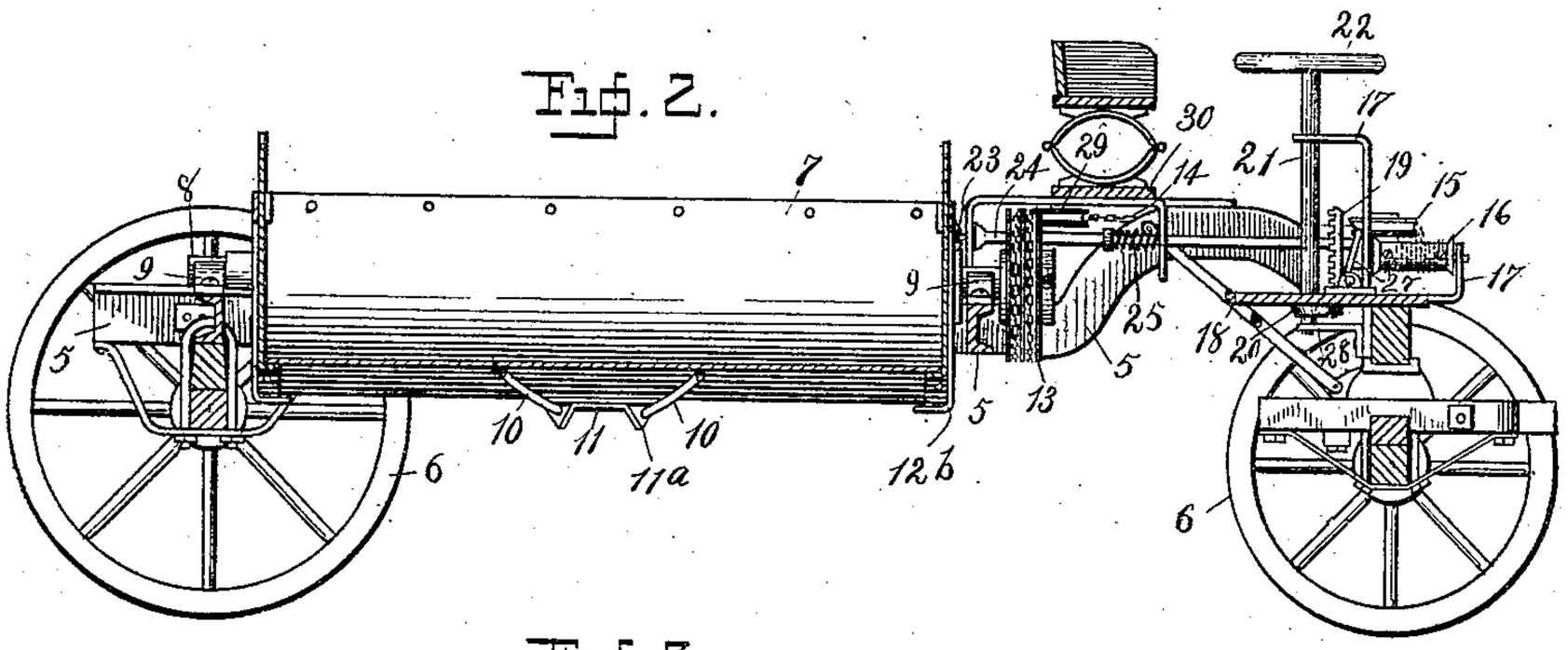



Fig. 3.

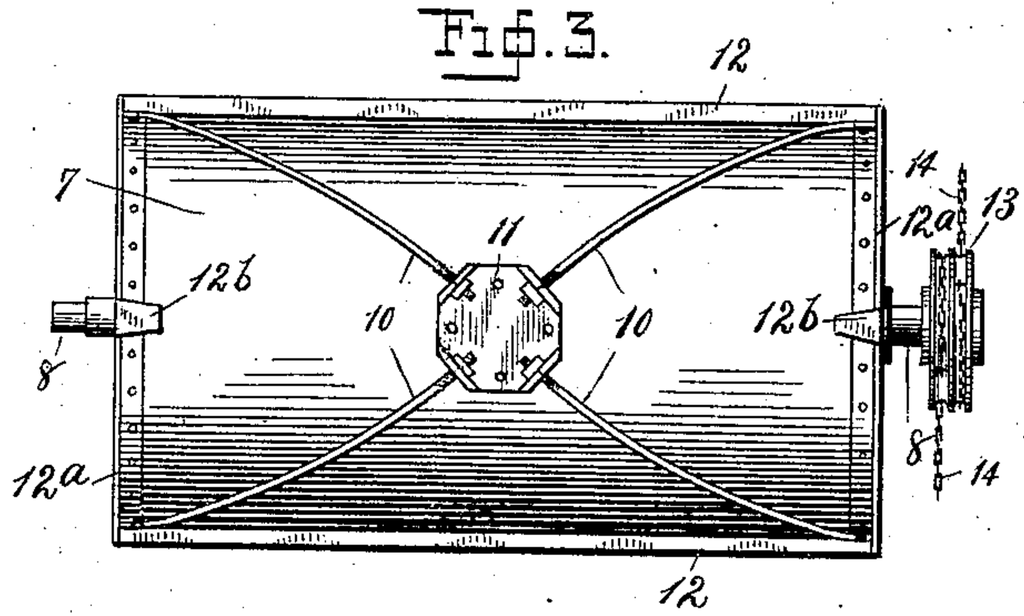



Fig. 4.

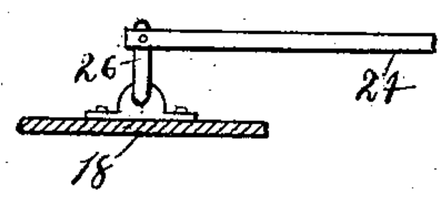
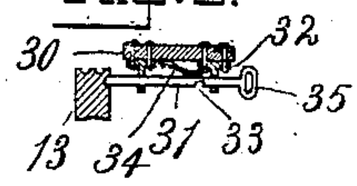



Fig. 5.

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# UNITED STATES PATENT OFFICE.

RICHARD G. CATOR AND LEON CATOR, OF PALMYRA, NEW YORK, ASSIGNORS TO CATOR DUMP WAGON COMPANY, OF PALMYRA, NEW YORK, A CORPORATION OF NEW YORK.

## DUMPING-WAGON.

No. 855,161. Specification of Letters Patent. Patented May 28, 1907.

Application filed July 27, 1906. Serial No. 328,008.

*To all whom it may concern:*

Be it known that we, RICHARD G. CATOR and LEON CATOR, citizens of the United States, residing at Palmyra, in the county of Wayne and State of New York, have invented certain new and useful Improvements in Dumping-Wagons, of which the following is a specification.

This invention relates to improvements in dumping wagons of the class in which the box is constructed of metal and in which means are provided for operating the box from the front of the wagon.

The especial object of the improvements which form the subject matter of this application is to produce a wagon box chiefly from sheet-metal, which will retain its shape, strength and efficiency under the varying conditions, excessive strains and stresses to which it is subjected especially when used for hauling sand, mortar and like heavy materials.

A further object of our invention is to provide means whereby, as the box loses its shape through the stretch of the metal, it may be readily restored to its correct contour.

A still further object is to provide a trough-shape box in which the load is equally distributed so that no undue strain falls upon certain portions or parts.

Another object is to provide easily operable means for dumping the box and restoring it to normal position.

Other objects of general utility, durability and economy of construction are conserved by our invention as will readily appear to those skilled in the art, from the following specifications, and from the accompanying drawing in which:—

Figure 1 is a top-plan view of a wagon constructed according to our invention; Fig. 2 is a longitudinal section on line 2—2 of Fig. 1; Fig. 3 is a bottom plan detail of the wagon-box alone, and Fig. 4 is a fragmentary detail of a portion of the locking means. Fig. 5 is a fragmentary detail in section and elevation showing a locking device employed in our wagon.

Referring to the details of the drawings, 5 represents the various members of a wagon frame constructed preferably from channel or angle iron and suitably braced to provide a strong rigid structure. This frame is supported on the usual bolsters, fifth wheel and axles and the latter are supplied with wheels 6. The front portion of the side-members of the frame are bent upwardly as shown in Fig. 2, so that the forward truck can turn under same, all in a well known manner.

7 represents a metal wagon box, semi-cylindrical in shape and made up of plates of sheet-metal of suitable thickness, the side edges of which are riveted to angle-bars 12 to stiffen same. Other bars or plates $12^a$, are riveted to the ends of the box and vertical strips $12^b$ serve to reinforce same where the trunnions 8 are secured. Riveted to the central portion of the bottom of the box is a square iron plate 11 the corners of which are bent upward at right angles to form lugs $11^a$. Through these lugs are passed the threaded ends of tie rods 10 which extend diagonally from said plate to the corners of the box where they are riveted. These rods follow the curvature of the bottom of the box, are supplied with nuts which bear against the inner face of the lugs and when screwed up or down on the rods serve to adjust the latter. When properly adjusted, the rods will receive and equally distribute a portion of the load on the box in a manner that will be readily understood, and furthermore will hold the box to its true shape.

The trunnions 8 are journaled in suitable boxes secured to the cross-members of the frame 5, and on the forward trunnion is fixed a double grooved pulley 13 on which is arranged a chain 14 which extends horizontally in opposite directions, travels over grooved pulleys 15, 15, mounted on the wagon-frame and has its ends secured to a drum 16 which is journaled in a standard 17 secured to the bolster. On one end of the drum is fixed a bevel gear 19 which meshes with and drives a pinion 20 fixed on a vertical shaft 21. This shaft is journaled in the standard 17 and in a bracket 28 secured below the platform 18, and on the upper end of the shaft is a hand-wheel 22 conveniently arranged for operation by the driver from his seat.

Secured to the front end of the box is a notched plate 23, which is engaged by one end of a bolt-rod 24 which passes through suitable openings in a bracket 29 secured to

the under side of the seat platform 30 and to the forward frame member 5. The rod 24 is held under normal conditions in engagement with the notched plate, by a coil spring 25 one end of which bears against a collar fixed on the rod, and the other end against the bracket 29. The rod 24 is retracted or disengaged from said plate, through a crank shaft 26 which is journaled in suitable blocks secured to the platfrom 18, to this is pivoted the rod 24, and has secured thereto two footplates 27, so positioned as to be convenient for operation by the feet of the driver. Forward pressure on either or both of the plates 27 will rock the shaft 26 and thereby pull forward the rod 24 and disengage its free end from the notched plate 23, whereupon the box may be turned on its axis represented by the trunnions 8. The direction in which the box is turned is controlled by the driver in operating the hand-wheel, the construction and arrangement of parts being such, that the contents of the box may be dumped on either side of its longitudinal axis. When the box is restored to its normal or upright position, the end of the rod will automatically engage the notched plate and thus lock the box in position for filling.

As means for holding the wagon-box in its tilted or inclined position, we provide hangers 32 on the under side of the board 30 and slidably arrange therein a bar 31 having a handle portion 35 and provided with a notch 33 in its under side, said notch adapted to engage the adjacent hanger when the bar is pulled forward by the driver. To insure the notch dropping over the hanger a downwardly bent spring 34 is secured to the under side of the board 30, and its free end bears on the upper side of the bar with sufficient tension to push the bar downwardly.

In the outer face of the chain wheel 13 recesses are formed at suitable intervals, to receive the inner end of the bar when it is pushed rearwardly by the driver, thus preventing the further rotation of the wheel. The notches will be so arranged that they will respectively register with the bar when the box is inverted and when it is tilted so as to dump its contents on either side of its axis.

Having thus described our invention, what we claim is:—

1. In a wagon, a semi-cylindrical box, rods secured to the corners of the box and extending diagonally therefrom toward the center of the under side of the box, and means connecting the inner ends of said rods with the bottom of the box.

2. In a wagon, a semi-cylindrical box, rods secured to the corners of the box, and extending diagonally therefrom toward the center of the box and following the curvature of the box, and means for adjustably connecting the inner ends of the rods with the bottom of the box.

3. In a wagon, a semi-cylindrical box, rods secured to the corners of and extending under said box, a plate secured to the under side of the box, and means for adjustably connecting the inner ends of said rods with said plates.

4. In a wagon, a semi-cylindrical box, brace rods extending diagonally under said box and means adjustably connecting said rods with said box.

5. In a wagon, a sheet metal box, means for bracing said box, said means consisting of a plate secured to the under side of the box at its center, said plate having lugs thereon, threaded rods passing through said lugs and having adjusting nuts adjacent to said lugs, said rods being rigidly secured to said box.

6. In a wagon, a rotatably mounted box, means for locking said box against rotation, said means adapted to be released by the foot or feet of the driver, and to automatically engage the box when in its normal position, and manually operable means for rotating said box in either direction.

7. In a wagon, a semi-cylindrical metal box having trunnions rotatably mounted in a suitable frame, means for rotating said box, said means consisting of a pulley mounted on one of the trunnions, a chain wound on said pulley and on a drum, normally operable means for operating said drum, and means for locking said box against rotation, said means comprising a spring held latch engaging the box, and a foot operated shaft connected with said latch.

8. In a wagon, a semi-cylindrical metal box rotatably mounted in a suitable frame, means for rotating said box, said means comprising a grooved pulley secured to said box, a chain traveling over said pulley and means for manually operating said chain, in combination with manually operable means for locking said pulley against rotation when the box is in dumping positions.

In testimony whereof we affix our signatures in presence of two witnesses.

RICHARD G. CATOR.
LEON CATOR.

Witnesses:
E. C. NORTH,
W. L. KNAPP.