No. 754,228. PATENTED MAR. 8, 1904.

H. A. MOYER.

DUMP WAGON.

APPLICATION FILED JAN. 11 1904.

NO MODEL.

Fig. 1.

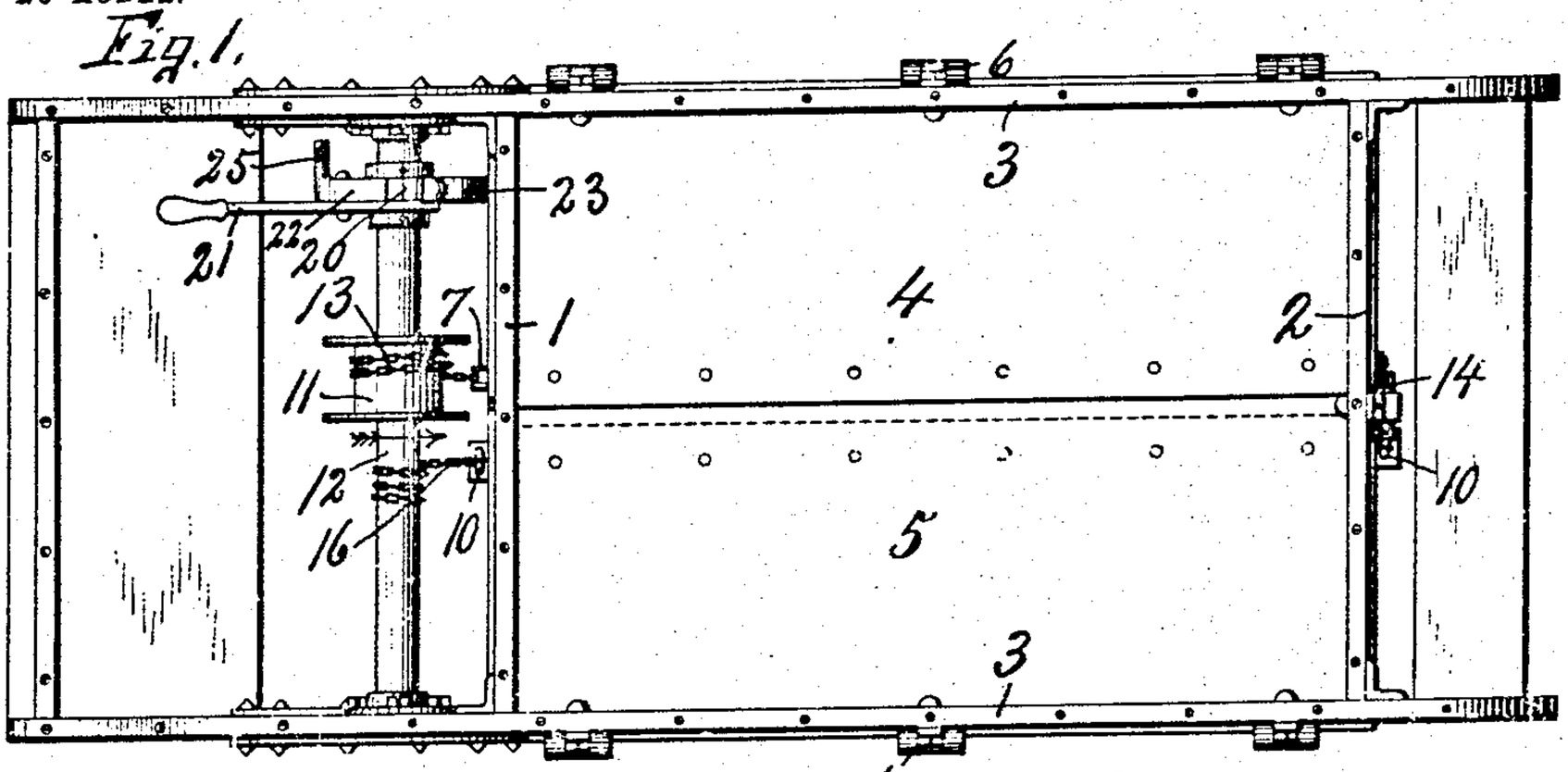


Fig. 2.

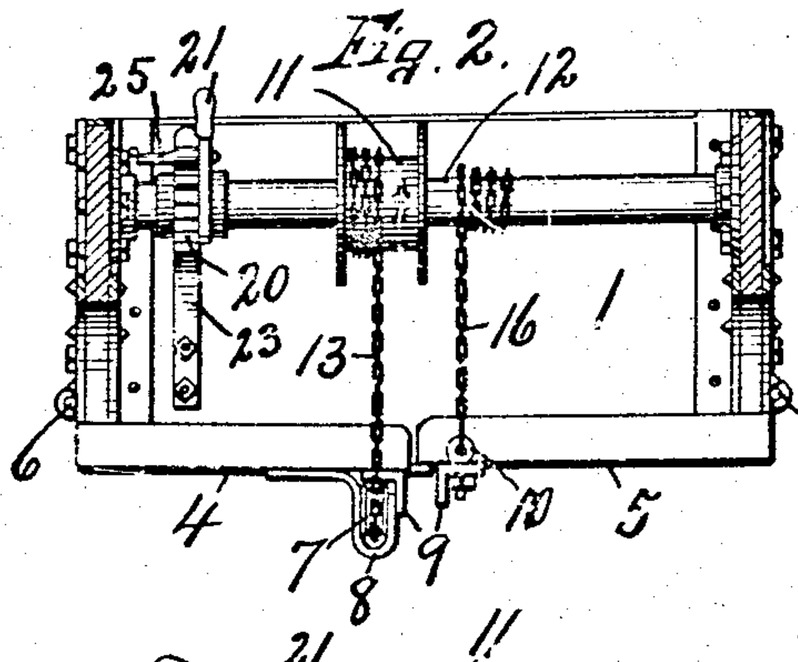


Fig. 3.

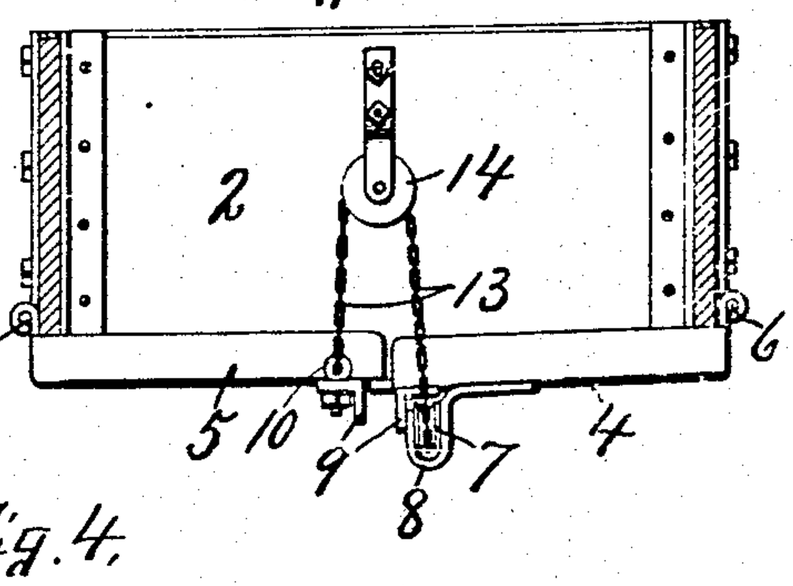


Fig. 4.

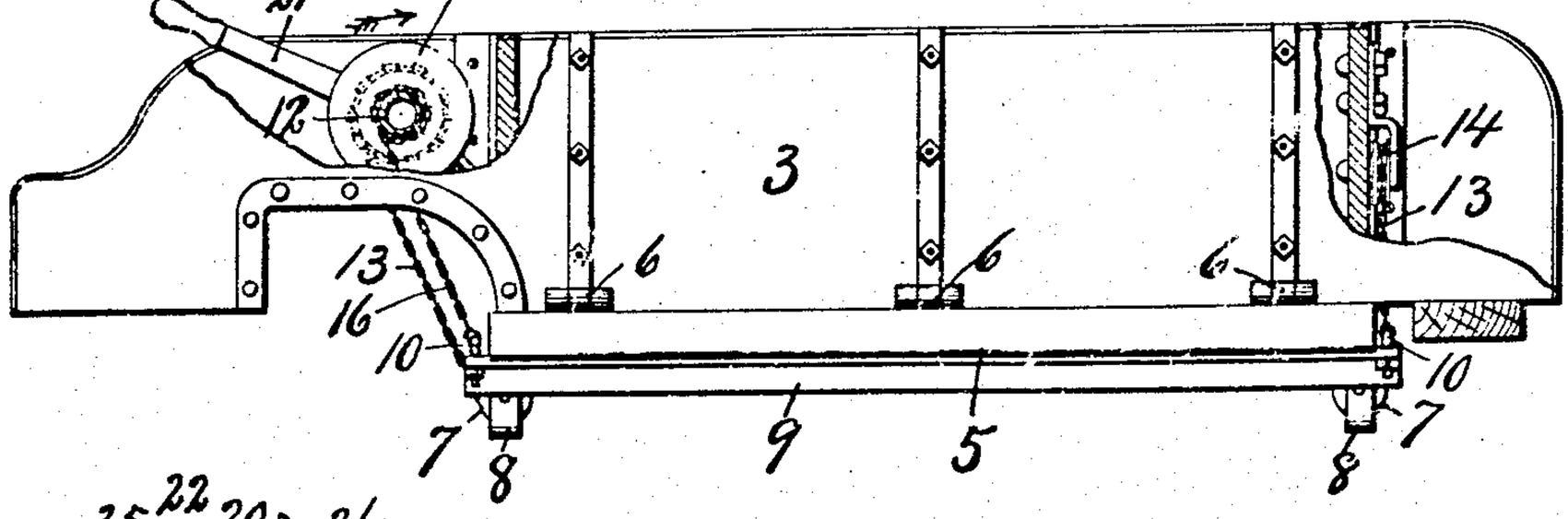
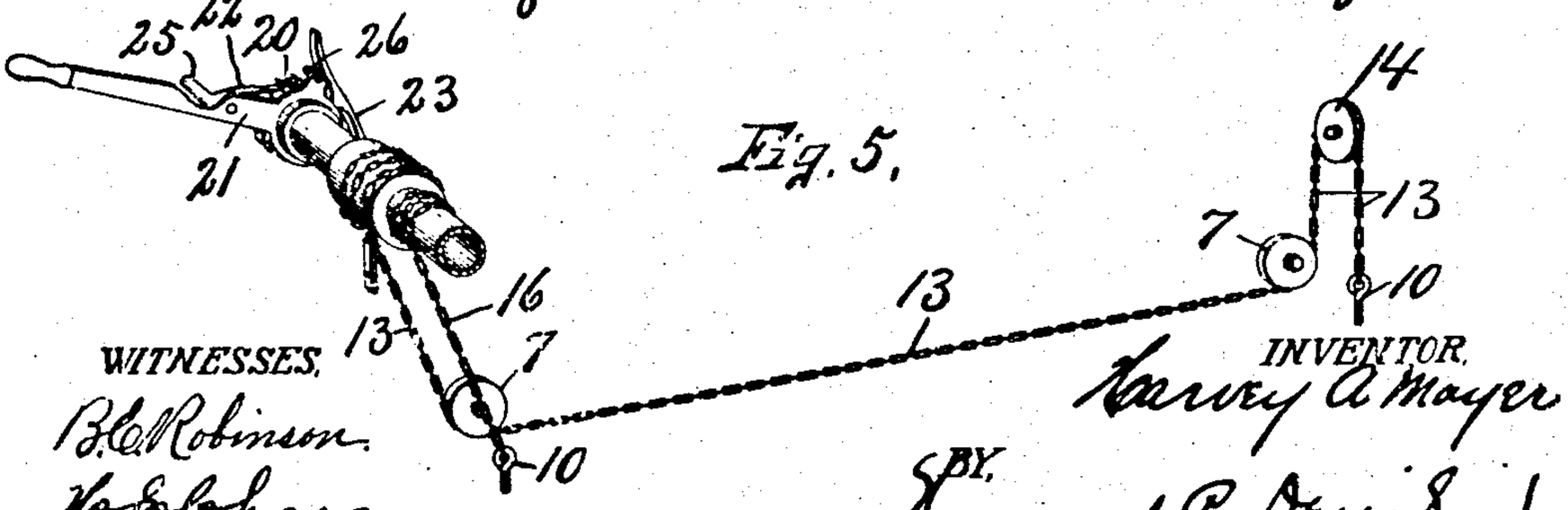


Fig. 5.



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No. 754,228. Patented March 8, 1904.

UNITED STATES PATENT OFFICE.

HARVEY A. MOYER, OF SYRACUSE, NEW YORK.

DUMP-WAGON.

SPECIFICATION forming part of Letters Patent No. 754,228, dated March 8, 1904.

Application filed January 11, 1904. Serial No. 188,600. (No model.)

To all whom it may concern:

Be it known that I, HARVEY A. MOYER, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Dump-Wagons, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in dump-wagons in which the dump-box is provided with laterally-swinging bottom sections or doors hinged to the sides and meeting near the longitudinal center of the box.

The object is to control the operation of the doors through the medium of two drums of unequal size which are located at the front of the box and are connected by suitable cables to the ends of the doors, the cable leading from the larger drum extending under one of the doors and over a sheave at the rear end of the box and is then anchored to the rear end of the other door, so that a single cable is operatively connected to both ends of one door and to the rear end of the other door to close both of the doors, while the front end of the second door is connected directly to the smaller drum. The purpose of this connection is to avoid the use of more than one long cable and to enable the operator to apply sufficient power to the rear end of the doors to positively close the same and at the same time to establish a direct upward pull upon the front end of both doors through the medium of the long cable as well as the short cable.

Other objects and uses will appear in the subsequent description.

In the drawings, Figures 1, 2, 3, and 4 are respectively top, plan, front, and rear end views and a side elevation of a dump-box of the class described, showing the various features of my invention, portions of the front and rear ends of the frame being cut away in Figs. 2 and 3 and parts of one side being broken away in Fig. 4 to disclose the interior mechanism. Fig. 5 is a perspective view of the detached door-operating mechanism.

Similar reference characters indicate corresponding parts in all the views.

The dump-box proper consists of front, rear, and side walls 1, 2, and 3 and swinging bottom-sections 4 and 5, all of which parts are connected to form a substantially rectangular box to receive the load, and the sides are extended forwardly and rearwardly from the front and rear ends 1 and 2 to receive the front and rear bolsters or axles, (not shown,) but which are located at the front and rear of the main box to permit the bottom-sections to swing downwardly and laterally between the axles.

The bottom-sections 4 and 5 are hinged at their outer edges at 6 to the sides 3 and meet at or near the longitudinal center of the box in a line substantially parallel with the swinging axes of the doors, although one of the doors, as 4, preferably extends under the meeting edge of the other door, so that the meeting edges slightly overlap each other to prevent any accidental opening due to the sag of the doors and also for another purpose hereinafter described.

One of the doors, as 4, is provided with sheaves or idlers 7, one near each end, and these idlers are secured in position beneath the doors by suitable metal straps or brackets 8, and each door is reinforced near its meeting edge by a lengthwise angle-iron 9, which is secured to the under face of the door. One of these angle-irons is extended a slight distance beyond the front and rear edges of the door 5, and in these extensions are secured suitable eyes or anchors 10.

A pair of drums 11 and 12 are rotatingly mounted in front of the front end wall 1 and are preferably secured together on the same axes of rotation. In this instance one of the drums consists of a transverse tube which is rotatingly mounted in the bearings on the front extensions of the sides 3, and the drum 11 is secured to this tube by any fastening means, not necessary to herein illustrate or describe, the latter drum 11 being of greater diameter than the drum 12.

One end of a chain or cable 13 is attached to the periphery of the drum 11, and its other end is passed downwardly and rearwardly under the door 4 and around the sheaves 7 and then upwardly over the sheave 14 on the rear end wall 2, and its extremity is then anchored to the eye 10 on the rear end of the door 5.

It is now apparent that the cable 13 is anchored to the drum 11 and also to the rear end of the door 5 and has a sliding connection with the door 4 through the medium of the sheaves or idlers 7 and 14, so that when the drum 11 is rotated the cable operates to close both doors simultaneously and is particularly effective in closing the rear ends of the doors remote from the drum by reason of the fact that the power is applied directly to the rear ends of the doors through the medium of the chain 13.

The drum 12 is connected directly to the eye 10 on the front end of the door 5 by means of a short cable 16, and the circumferences of these two drums 11 and 12, upon which the chains 15 and 16 are wound, are so proportioned as to effect the simultaneous closing of both ends of both doors, the drum 11 being necessarily larger by reason of the fact that it operates to close both doors; but the chain 16 is usually adjusted so as to bring the meeting edge of the door 5 above the underlying meeting edge of the door 4, so that when the chain 13 is tensioned to close the doors the portion of the door 4 underlying the meeting edge of the door 5 serves as an additional support for the latter door and also serves to reinforce the meeting edges of both doors when the load is applied thereto. In fact, in some instances the cable 16 might be dispensed with, for the reason that the cable 13 operates to close both doors, and if the meeting edge of the door 4 is allowed to project slightly under the adjacent edge of the door 5 it is evident that both front and rear ends of the door 5 will be firmly held in their closed position, the only function of the cable 16 and drum 12 being to insure a positive closing of the front end of the door 5.

Any desired means may be employed for rotating the drums 11 and 12; but I have shown the rotary tube to which these drums are secured as provided with a ratchet-wheel 20, and upon this tube is loosely mounted a lever 21, having a pawl 22 for engaging the ratchet-teeth and rotating the drums in the direction indicated by arrow *x* as the lever is elevated, thereby winding the chains 13 and 16 over the front face of the drums 11 and 12.

A suitable spring-detent 23 is attached to the front wall 1 and coacts with the ratchet-wheel to hold the drums and doors connected thereto in their adjusted position.

When it is desired to release the swinging bottom-sections in the act of dumping the load, the operator engages the extension 25 on the pawl and throws the same out of engagement with the ratchet-wheel 20 and then draws the lever 21 upwardly, thereby forcing the shoulder 26 on the lever against the spring-detent 23 to disengage the detent from holding engagement with the ratchet-wheel, which instantly releases the swinging bottoms 4 and 5 and permits them to dump the load.

The above description is believed to be sufficient to enable any one skilled in the art to manufacture and operate my improved dump-wagon, and although I have described a specific mechanism for controlling the operation of the doors it is apparent that this construction may be modified without departing from the spirit of this invention. Therefore I do not limit myself to the precise construction and arrangement shown and described.

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

1. A dump-box having swinging bottom-sections hinged to the sides and meeting near the longitudinal center of the box, in combination with a sheave at the rear end of the box, a rotary drum at the front end of the box, and a cable having one end riding on the sheave and anchored to the rear end of one of the doors, and its other end passed under the other door and attached to the drum.

2. In combination with the swinging bottom doors of a dump-wagon, two drums of unequal diameters rotating together, a cable connecting the smaller drum directly to one door, and a second cable operatively connected to the larger drum and to both doors.

3. In a dump-wagon, a dump-box having bottom doors hinged to its sides, a winding-drum at the front and a sheave at the rear end of the doors, a cable attached to the drum and extending rearwardly under one door and over the sheave and having sliding connection with one door and its rear end fixed to the rear end of the other door.

4. In a dump-wagon, a dump-box having bottom doors hinged to its sides, a winding-drum at the front and a sheave at the rear end of the doors, a cable attached to the drum and extending rearwardly under one door and over the sheave and having sliding connection with one door and its rear end fixed to the rear end of the other door, a second drum rotating with the former drum and a second cable connecting the second drum directly to the front end of the last-named door.

5. In a dump-wagon, a dump-box having bottom doors hinged to its sides, two winding-drums of unequal diameter at the front end of the doors, chains of unequal lengths leading from the drums, the one from the smaller drum connected to the front end of one door, and the one from the larger drum operatively connected to both doors.

In witness whereof I have hereunto set my hand this 8th day of January, 1904.

H. A. MOYER.

Witnesses:
M. M. NOTT,
HOWARD P. DENISON.