No. 838,176. PATENTED DEC. 11, 1906.

M. J. ELY.

DUMPING WAGON.

APPLICATION FILED APR. 5, 1906.

3 SHEETS—SHEET 1.

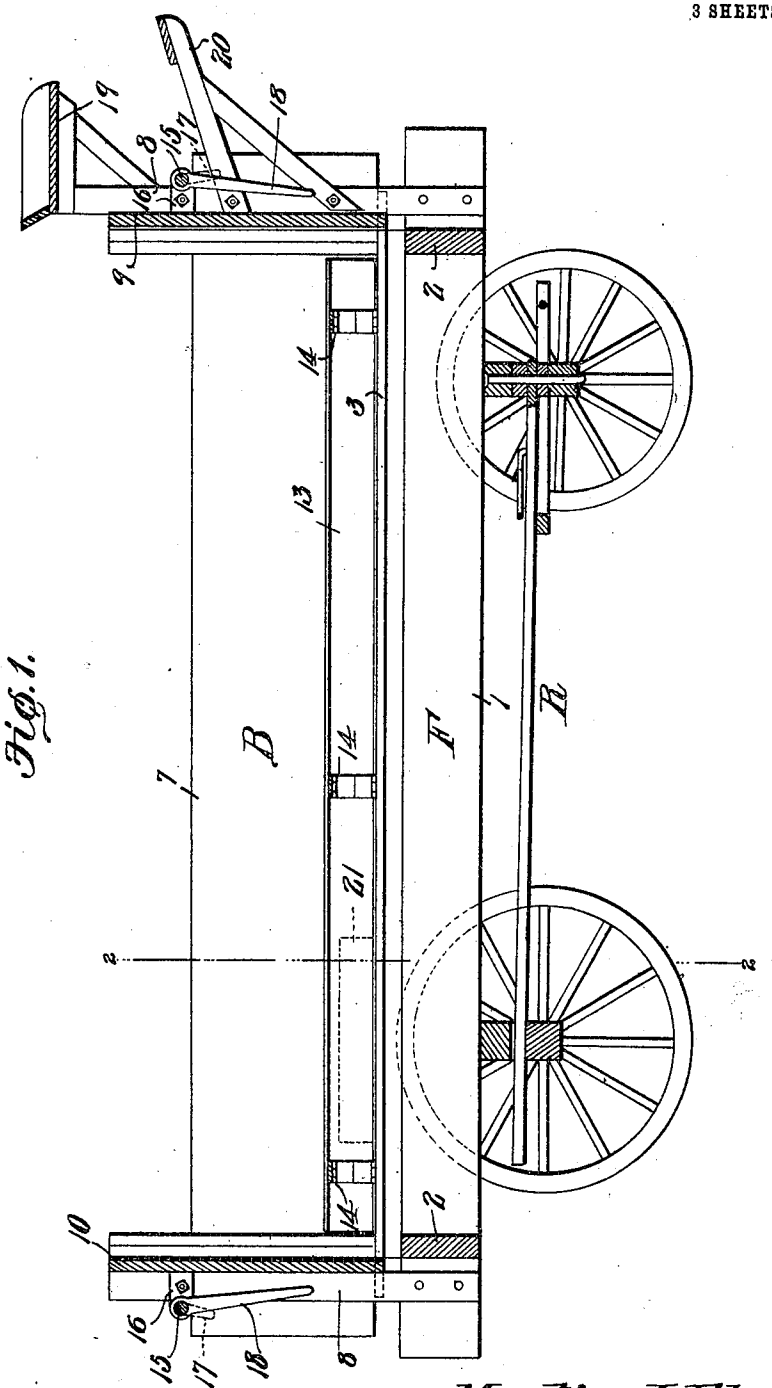

Fig. 1.

WITNESSES:

E. J. Stewart

Wm. Bagger

Martin J. Ely,
INVENTOR.

By C. A. Snow & Co.
ATTORNEYS

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3 SHEETS—SHEET 2.

Fig. 2.

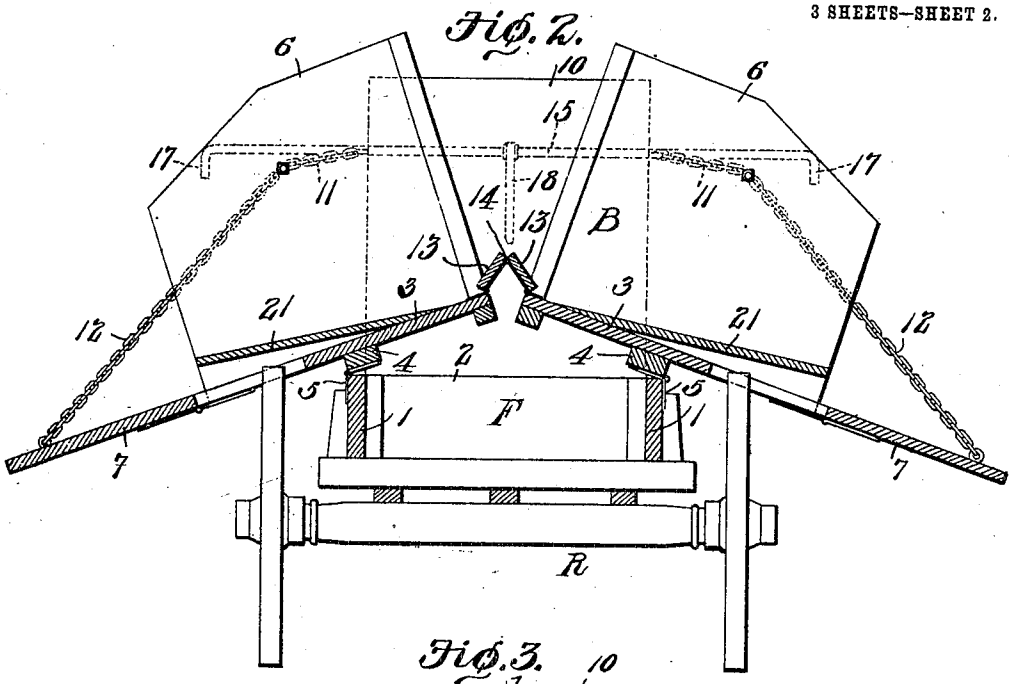
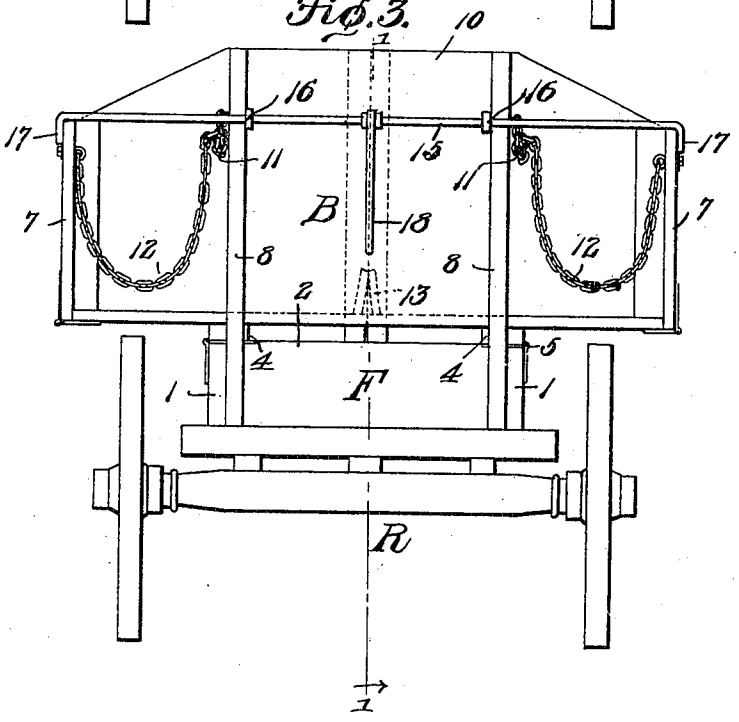


Fig. 3.



WITNESSES:

E. F. Allen

Wm. Bagger

Martin J. Ely,
INVENTOR.

By Church & Co
ATTORNEYS

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3 SHEETS—SHEET 3.

Fig. 4.

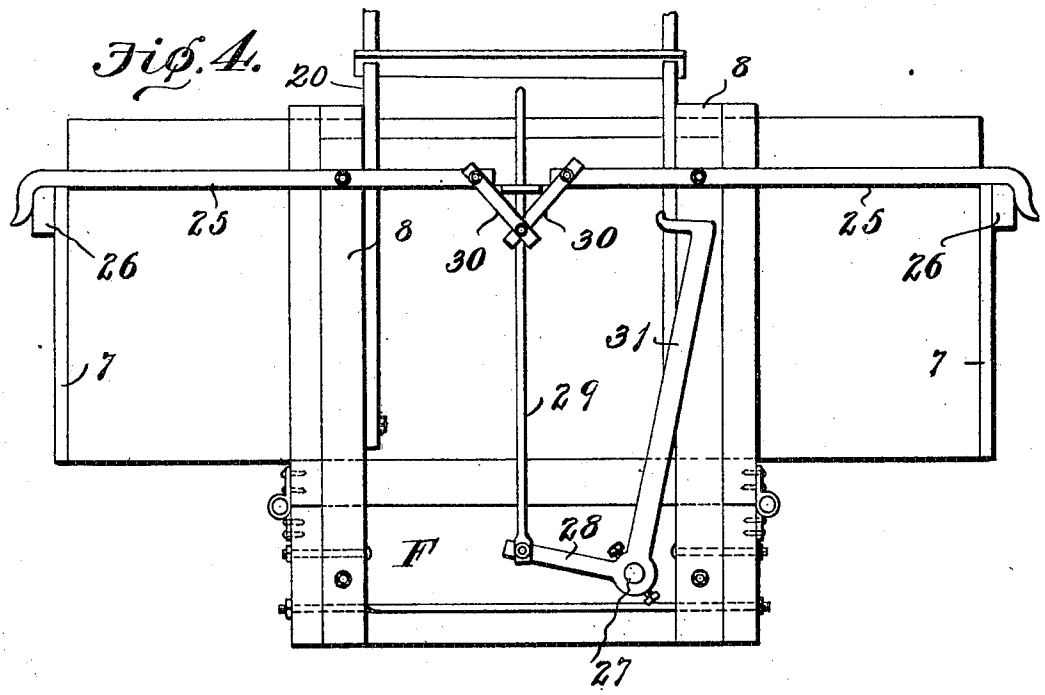
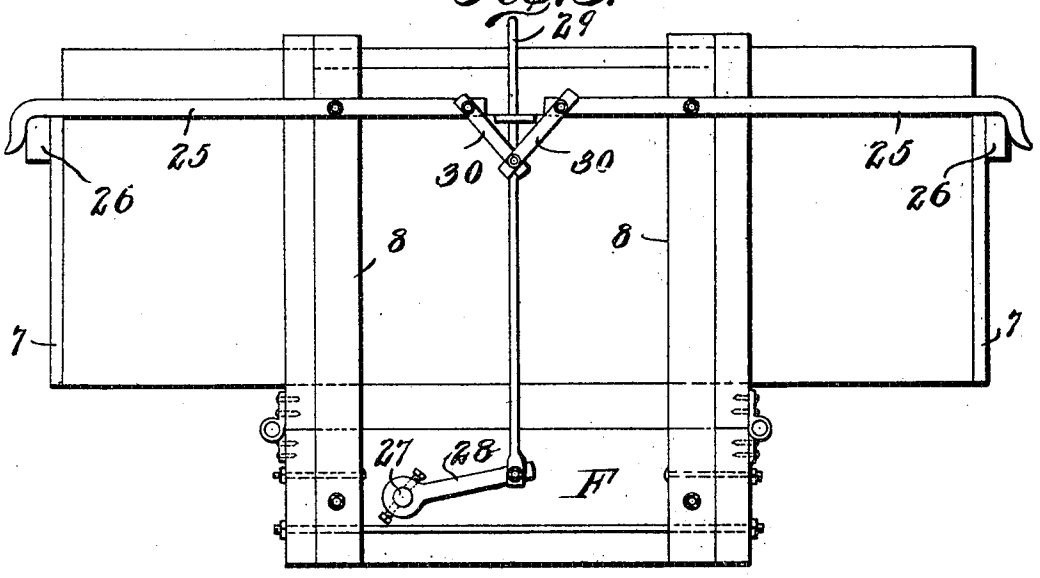


Fig. 5.



Martin J. Ely,
INVENTOR.

WITNESSES:

E. L. Stewart

Wm. Bagger

By C. A. Snow & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

MARTIN J. ELY, OF OXNARD, CALIFORNIA, ASSIGNOR OF ONE-HALF TO LOUIS HACHE, OF OXNARD, CALIFORNIA.

DUMPING-WAGON.

No. 838,176. Specification of Letters Patent. Patented Dec. 11, 1906.

Application filed April 5, 1906. Serial No. 310,108.

To all whom it may concern:

Be it known that I, MARTIN J. ELY, a citizen of the United States, residing at Oxnard, in the county of Ventura and State of California, have invented a new and useful Self-Dumping Wagon, of which the following is a specification.

This invention relates to dumping-wagons; and it has for its object to simplify and improve the construction and operation of this class of devices and to provide a self-dumping wagon which shall be useful for the transportation of various articles in bulk.

With these and other ends in view the invention consists in the improved construction, arrangement, and combination of parts which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations, and modifications within the scope of the invention may be made when desired.

In the drawings, Figure 1 is a longitudinal sectional view of the improved dumping-wagon, taken on the plane indicated by the line 1 1 in Fig. 3. Fig. 2 is a transverse sectional view taken on the plane indicated by the line 2 2 in Fig. 1. Fig. 3 is a rear end view. Fig. 4 is a front end view illustrating a modification. Fig. 5 is a rear end view illustrating the modification shown in Fig. 4.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

The body of this improved dumping-wagon, (designated B,) is mounted upon a frame F, which latter is in turn supported upon a running-gear R of ordinary construction. The frame F includes side members 1 1 and end pieces 2 2, which are suitably connected or framed together, the side members 1 1 being in the nature of sills. The bottom of the wagon body or box is longitudinally divided, said bottom being composed of two sections or members 3 3, provided upon their under sides with longitudinal cleats 4 4, which are connected, by means of hinges 5 5, with the upper outer edges of the frame-sills 1 1, thus enabling the sections or members of the bottom to be tilted, as will be seen in Fig. 2 of the drawings. The bottom members 3 3 carry the end members 6 6 of the wagon-box, one end member being supported at each end of each bottom member, and said end members coöperating to form the front and rear ends of the box. The side-boards 7 7 are hinged at the outer edges of the bottom members 3 3 in such a manner as to be capable of swinging outward, as shown in Fig. 2.

At the front and rear ends of the frame F there are mounted stakes or uprights 8 8, serving to support the stationary front and tail gates 9 and 10, said gates being disposed adjacent to the outer sides or faces of the end members of the box. Flexible members, such as chains 11, connect the uprights 8 with the end members 6 to limit the outward tilting movement of the sections of the wagon-box, and similar flexible members 12 connect the end members 6 with the side-boards 7 to limit the outward swinging movement of the latter.

Hingedly connected with the inner edges of the bottom members 3 3 of the wagon-box are guard-cleats 13, that extend longitudinally through the box, the proximate edges of said guard-cleats being connected with each other by means of hinges 14, whereby said guard-cleats when the wagon-box is folded, as in Fig. 3 of the drawings, will be enabled to fold in the direction of each other, while when the sections of the wagon-box are tilted for the purpose of discharging the load, as shown in Fig. 2, the guard-cleats will spread apart, thus covering the slit or opening between the inner edges of the bottom members of the wagon-box, so as to prevent any portion of the contents of the box from spilling out therebetween.

For the purpose of locking or securing the wagon-box in a closed position for the reception and transportation of a load there are provided rock-shafts 15, said rock-shafts being supported in bearings 16 upon the stakes or uprights 8 and provided at their ends with hooks 17, adapted to engage the side-boards 7 when the latter are folded, as shown in Fig. 3. The rock-shafts 15 are provided with handles or levers, as 18, whereby they may be manipulated for the purpose of disengaging the side-boards from the hooks 17 when it shall be desired to discharge the load. A seat 19 and a foot-board 20 are provided at the front end of the wagon, said seat and

foot-board being supported by the front uprights 8 8.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood. The construction of the improved dumping-wagon is very simple and inexpensive, and a wagon of large capacity may be readily constructed at a moderate expense. When the side members of the wagon-box are locked or secured together by the means provided for the purpose, the box or receptacle may be readily loaded, either by hand or by loading machinery of any description. In order to discharge the load, the rock-shafts 15 are manipulated to disengage the hooks 17 from the side-boards 7, which latter, under the pressure of the contents of the box, will swing outward, being followed by the contents of the box, which in seeking to escape will shift the center of gravity beyond the hinges 5, and thus causing the bottom members to be tilted to the discharging position (shown in Fig. 2) without assistance on the part of the operator, it being understood that when the wagon-box is closed and loaded, the centers of gravity of the side members of the box are lolocated approximately in the vertical planes of the hinges 5. The contents of the wagon-box will thus be very quickly and easily discharged, after which the wagon-box may be readily restored to the closed position. (Shown in Fig. 2.)

The bottom members 3 3 of the wagon-box have been shown as provided with housings 21 for the accommodation of the upper edges of the hind wheels of the running-gear when the load is being dumped. It is obvious that when low wheels are used these housings may be dispensed with.

In Figs. 4 and 5 of the drawings there has been illustrated a modification whereby the driver of the wagon is enabled to dump or discharge the contents of the wagon-box without leaving his seat. Under this modification the rock-shafts 15 are dispensed with, and in place thereof there are provided hook members 25, which are pivotally mounted upon the stakes or uprights 8 8, and the hooked extremities of which are adapted to engage the side-boards 7 when the latter are folded, it being preferred to provide the said side-boards with cleats 26, adapted to be engaged by the hooks. The end pieces 2 2 of the supporting-frame of the wagon-box are provided with bearings for a rock-shaft 27, provided at its ends with cranks 28, the free ends of which are pivotally connected with suitably-guided slides 29, said slides being connected by links 30 with the inner ends of the hook members 25. The rock-shaft 27 is provided near its front end with a lever 31, whereby it may be conveniently manipulated, the free end of said lever being preferably extended upwardly within reach of the foot of the driver, who may thus by kicking the lever to one side oscillate the rock-shaft sufficiently to actuate the hook members 25 and to release the side-boards, thus dumping the contents of the wagon. I desire to reserve the right to use this means for simultaneously releasing the side-boards in order to discharge the load when preferred.

Having thus described the invention, what is claimed is—

1. In a dumping-wagon, a longitudinally-divided box having bottom members, and guard-cleats hinged to the inner edges of the bottom members.

2. In a dumping-wagon, a longitudinaily-divided box, guard-cleats hinged to the inner edges of the bottom members of said box, and hinges connecting said guard-cleats with each other.

3. In a dumping-wagon, a supporting-frame including longitudinal sills, a longitudinally-divided box having bottom members provided on their under sides with longitudinal cleats hingedly connected with the sills, and flexible means connected with the inner edges of the members to form a guard when the members tilt to a dumping position.

4. A dumping-wagon, a single body for receiving a load to be transported, said body comprising two members arranged to carry the load and adapted to tilt outwardly from each other and divide the load into two parts for dumping the same, and a flexible means extending longitudinally of the body and connected with the inner edges of the members to form a guard when the latter tilt to a dumping position.

5. In a dumping-wagon, a supporting-frame having longitudinal sills, a longitudinally-divided box having bottom members hinged upon the sills, and hingedly-connected guard-cleats hinged upon the inner edges of the bottom members.

6. In a dumping-wagon, a supporting-frame having longitudinal sills, stationary front and tail gates at the ends of the frame, bottom members hinged upon the sills, end members rigid on the front and rear ends of the bottom members to tilt therewith, side-boards hinged at the outer edges of the bottom members, means for limiting the swinging movement of the side-boards and the bottom members, and a flexible element extending longitudinally of the bottom members and connected with the inner edges thereof to form a guard when the members tilt to a dumping position.

7. In a dumping-wagon, a supporting-frame having longitudinal sills, stakes or uprights at the ends of the frame, stationary gates supported by said uprights, bottom members hinged upon the sills, end members at the front and rear ends of the bottom members, side-boards hinged at the outer edges

of the bottom members, flexible members connecting the side-boards with the end members and the latter with the stakes or uprights, and rock-shafts supported upon the latter and having terminal hooks for engagement with the side-boards.

8. In a dumping-wagon, a supporting-frame, uprights at the front and rear ends of the frame, stationary gates supported by the uprights, bottom members hinged upon the sills, guard-cleats hinged upon the inner edges of the bottom members, hinges connecting the guard-cleats with each other, side-boards hinged at the outer edges of the bottom members, means for limiting the swinging movement of the side-boards and the bottom members, and means for locking the side-boards and the bottom members in a closed or folded relation.

9. In a dumping-wagon, a wagon-box having hinged side-boards, pivoted hook members adapted to engage the side-boards, vertically-movable slides, links connecting said slides with the inner ends of the hook members, a rock-shaft having arms connected with the slides, and means for oscillating the rock-shaft.

10. In a dumping-wagon, a supporting-frame, uprights at the front and rear ends of the frame, stationary gates supported by the uprights, bottom members hinged upon the sills or longitudinal side members of the frame, guard-cleats hinged upon the inner edges of the bottom members, hinges connecting the guard-cleats with each other, side-boards hinged at the outer edges of the bottom members, hook members pivoted upon the uprights at the ends of the frame and adapted to engage the side-boards to sustain the latter in folded or closed position, vertically-movable slides, links connecting said slides with the pivoted hook members, a rock-shaft extending longitudinally through the frame and having cranks connected with the slides, and an operating-lever near the front end of the rock-shaft.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

MARTIN J. ELY.

Witnesses:
ALPHA ADAMS,
H. M. TURNER.