(No Model.) 2 Sheets—Sheet 1.

M. BOWES.

DUMPING CART.

No. 312,078. Patented Feb. 10, 1885.

Fig. 2.

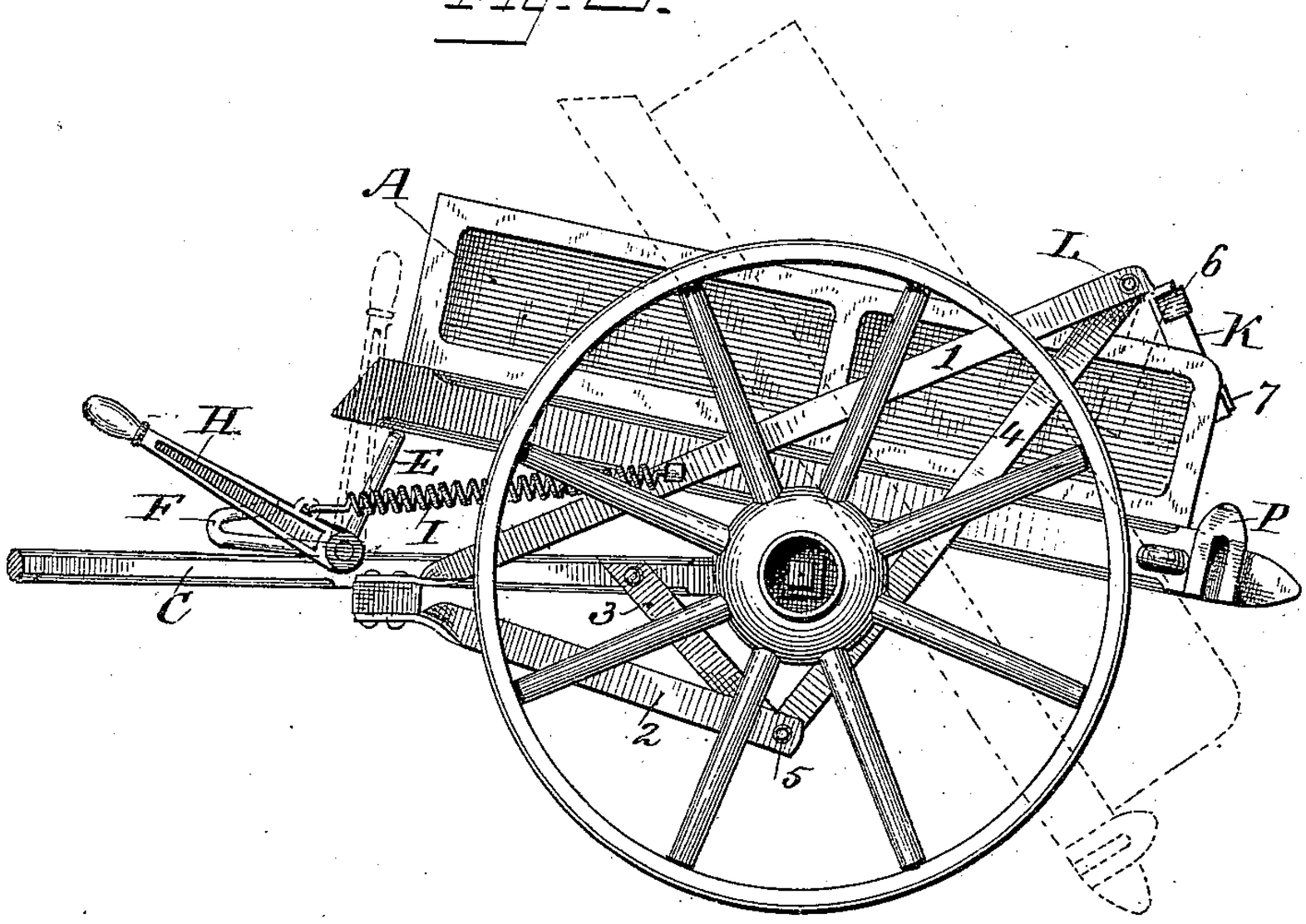
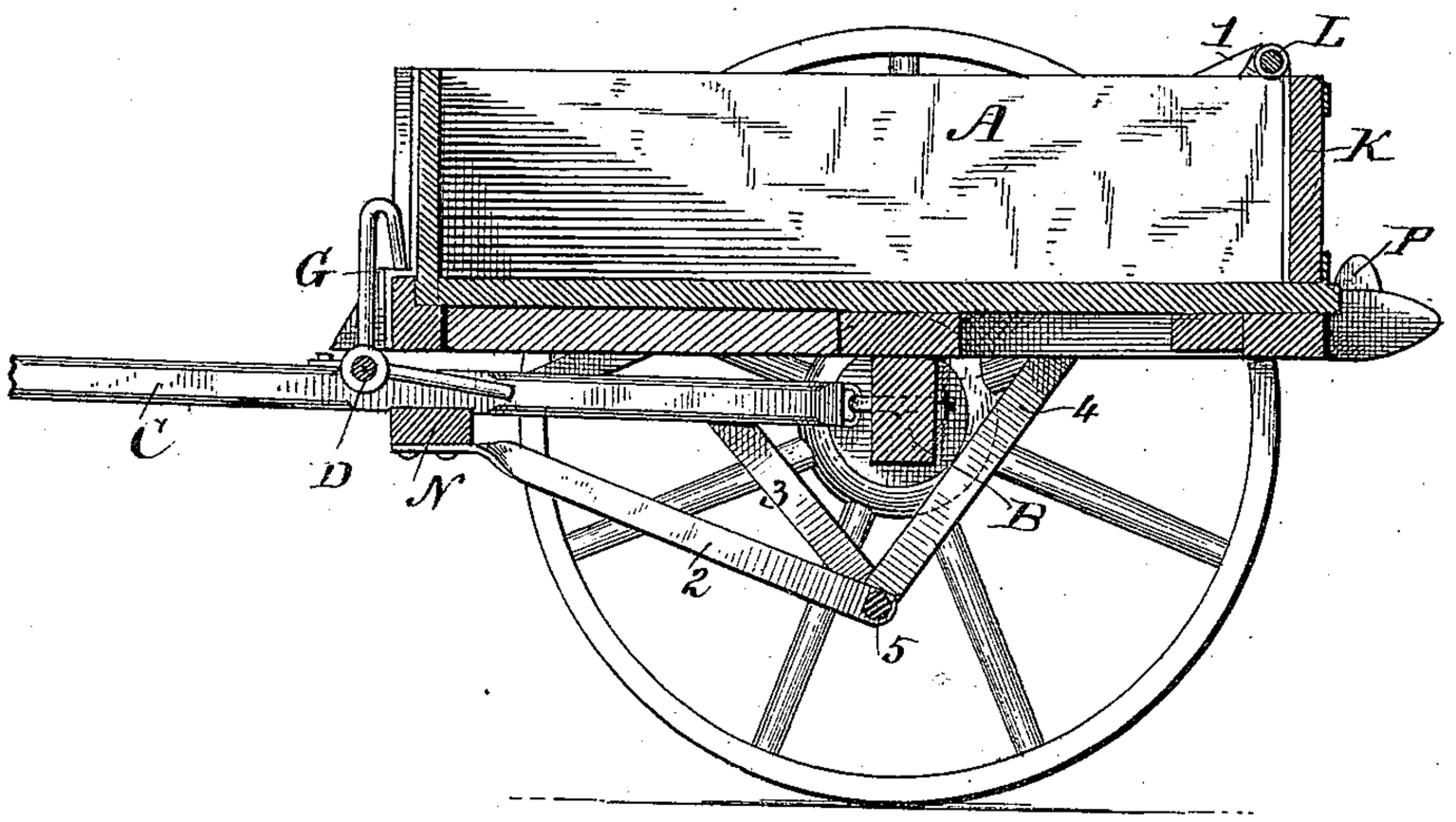


Fig. 1.



Witnesses
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E. E. Masson

Inventor:
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(No Model.) 2 Sheets—Sheet 2.

M. BOWES.

DUMPING CART.

No. 312,078. Patented Feb. 10, 1885.

Fig. 3.

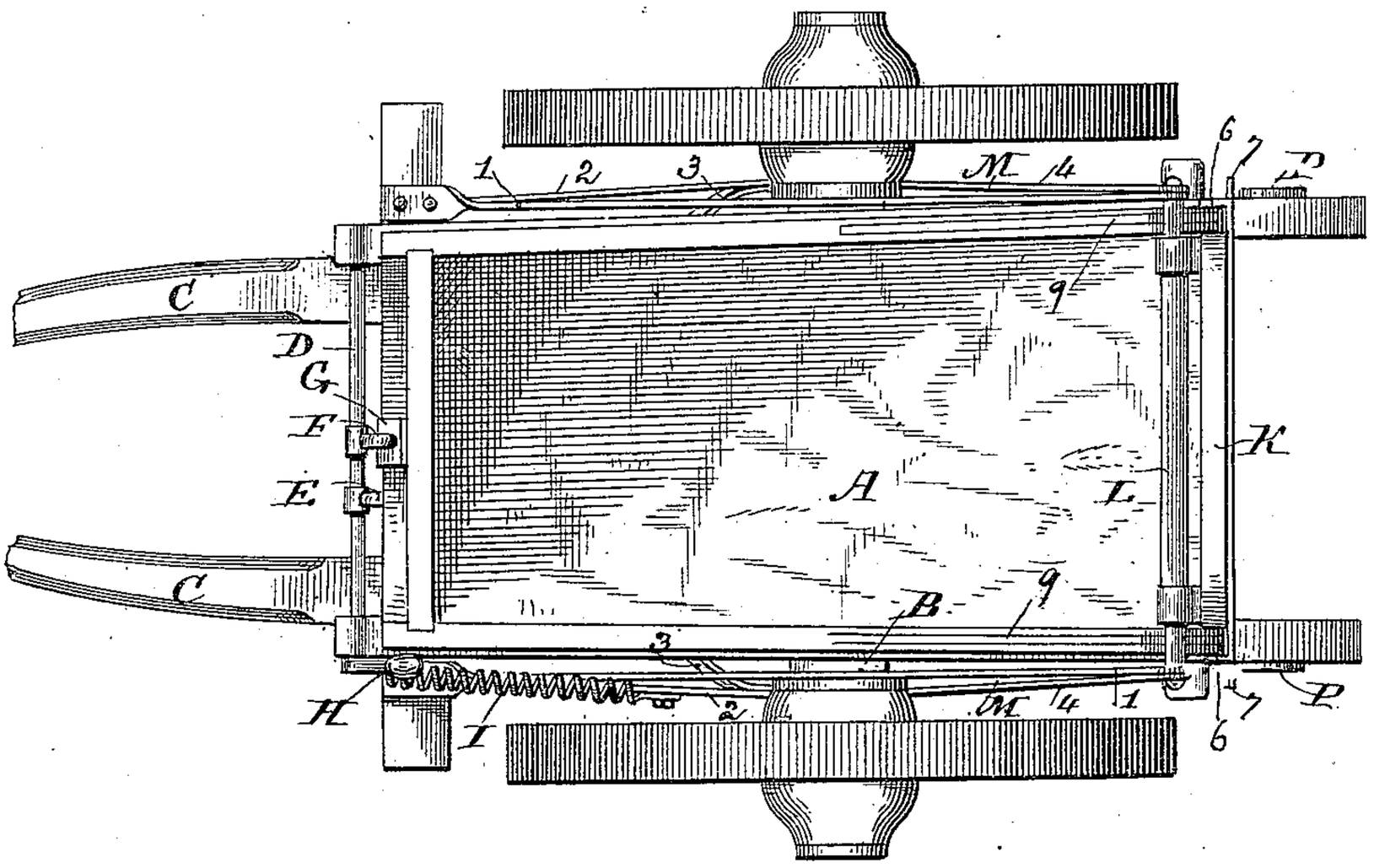
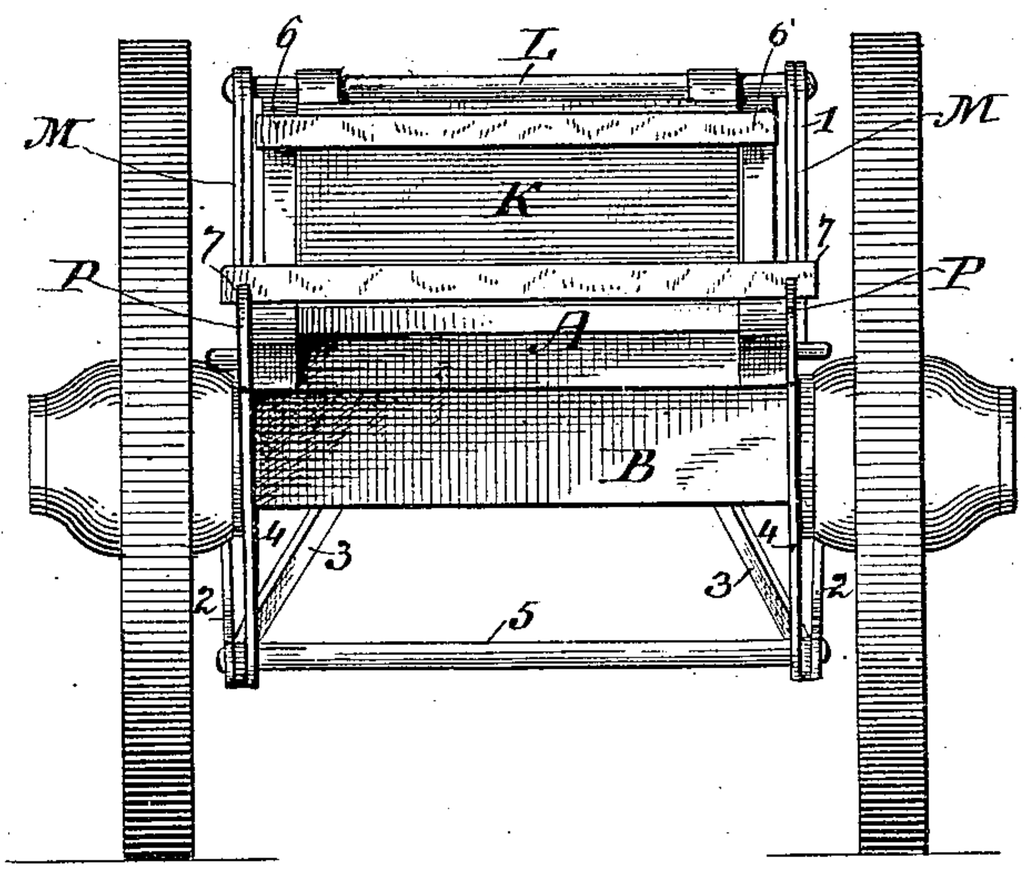


Fig. 4.



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UNITED STATES PATENT OFFICE.

MICHAEL BOWES, OF RALEIGH, NORTH CAROLINA.

DUMPING-CART.

SPECIFICATION forming part of Letters Patent No. 312,078, dated February 10, 1885.

Application filed October 2, 1884. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL BOWES, a citizen of the United States, residing at Raleigh, in the county of Wake and State of North Carolina, have invented certain new and useful Improvements in Dumping-Carts, of which the following is a full, clear, and exact description.

This invention relates to carts or wagons in which the body is tipped or tilted to unload the contents, the tail-board being temporarily removed. It has for its object to provide improved means for tilting the body and for removing and replacing the tail-board automatically. The body of the vehicle when in its normal or horizontal position is engaged by a latch or catch, which holds said body stationary and prevents its accidental tilting, and this latch or catch is so connected with a device for tilting the said body that one movement of a handle connected with said parts first releases the latch or catch and then tilts the cart-body. The tilting device employed consists of an arm or a rock-shaft, which arm projects under the front end of the body, so that when the rock-shaft is turned in the proper direction the tilting-arm lifts the front of the body and dumps the load. The retaining-catch is attached to or carried by the rock-shaft, and is withdrawn when the latter is turned, as stated. A spring is arranged to return the rock-shaft, the tilting-arm, and the catch as soon as the handle is released; and the catch is so constructed that when the cart-body is returned to its normal position the catch snaps into engagement and retains it in place.

It is not new to use a rock-shaft provided with a tilting-arm to raise the front of the cart-body for dumping. It is, however, believed to be new so to combine the retaining-catch with the rock-shaft and arm that one movement of the handle or operating device releases the catch and dumps the load, and also to employ the particular devices and arrangement described. Heretofore the cart-body was connected by a chain with a second arm of the rock-shaft, and a latch or catch engaging a third arm prevented the rock-shaft from being moved until it was released.

In order that the tail-board may be removed when the body is tilted, it (the tail-board) is connected with a supporting-frame, which prevents it from descending with the tail end of the cart-body. It is hinged to this frame or support, so that the lower part can swing out to pass around the corners of the sides, or to allow the load to fall out. When in place at the end of the cart, it is prevented from swinging by stop-pieces on the cart-body. When after dumping the cart-body is replaced, the bottom of the tail-board is swung out by contact with the sides of the cart, so as to pass around the square corners.

Heretofore the tail-board has been fastened to a frame or support, which upholds it when the cart or wagon body is tilted; but in all cases, so far as I am aware, it has been fastened to the frame so that it cannot turn, the sides of the cart-body being cut slanting at the ends in order to allow the tail of the cart to descend without obstruction from the tail-board.

In order to apply the frame or support to uphold the tail-board to the ordinary form of cart, which has the shafts hinged to the axle and the latter fastened to the cart-body, said support or frame is fastened to the shafts in front of the axle, and extends past the axle to the tail of the cart, where it is connected with the tail-board.

The accompanying drawings represent a dumping-cart embodying the invention in what is considered the best mode of applying the principle thereof.

Figure 1 is a view in vertical longitudinal section, showing the cart-body and tail-board in their normal position; Fig. 2 is a side view, showing the position of the parts in tilting; Fig. 3 is a plan, and Fig. 4 is a rear end view.

A is the cart-body, which is supported at the middle, and there fastened to the axle B. The shafts C are hinged to the front of the axle, as is very common. The rock-shaft D, journaled in bearings on the shafts C, has an arm, E, that extends under the front end of the cart-body. It is further provided with a bent or notched arm, F, which serves as a catch and engages the ledge G on the front of the cart-body; and also with a handle, H, and retractile spring I, in the form of a spiral tension-spring. The tail-board K is fastened at the top to the cross-shaft L, which is journaled at the ends in the frames M on each side of the cart-body. As shown, the tail-board is suspended from a

point in front of the same, in order that the bottom may tend to swing forward, and thus give to the tail-board the proper angle at which to meet and enter into position behind the rising cart-body. The frames M are attached to the shafts, and consist each of the bars 1 2 3 4, of strap-iron or other suitable material. The bars 1 and 2 are screwed, bolted, or otherwise fastened to the cross-piece N of the shafts. The bar 3 is fastened to the side of the corresponding shaft. The frames M are connected together under the axle by the cross-bar 5. The inner end of the retractile spring I is fastened to one of the frames M, the outer end being secured to the handle H. The tail-board fits in between the sides of the cart-body. It is provided at the top on each side with the flat hooks 6, which fit over the end of the side-boards, and at the bottom with the projections or pins 7, which in the normal position of the cart-body are confined by stop-pieces, P. These stop-pieces are fastened to the cart-body. As shown, they extend up a short distance; but they could be as high as desired.

In order to dump the load, the driver catches hold of the handle H and draws it forward. He thus turns the rock-shaft D, first withdrawing the catch F from its position above the ledge G, and then having brought the arm E into contact with the bottom of the cart-body, raising the front end and tilting the body into the position shown in Fig. 2. The tail-board, being upheld by the frames M, is removed from the end of the cart and occupies the position shown in full lines in Fig. 2. The bottom of the tail-board has been pushed out of the perpendicular by the action of the ends of the side pieces against the projections or pins 7. When the cart-body has been tilted to the position shown, the load will ordinarily overbalance and carry the body into the position represented in dotted lines. The position of the tail-board at full-dump is also shown in dotted lines.

To return the parts into position for receiving a new load, it is only necessary to restore the cart-body to a horizontal position. The top of the side pieces will by contact with the projections or pins 7 swing out the tail-board until said projections or pins pass around the corner, when the tail-board will drop into a vertical position, the projections or pins fitting behind the stop-pieces. The edges of the side pieces which act against the pins or projections 7 are, or may be, provided with metal strips or rails 9. The catch F will be pressed out by the front ledge, G, and, as soon as this has passed, the spring I draws the catch into engagement.

It is evident that modifications may be made in the details without departing from the spirit of the invention, and also that parts of the invention may be used separately.

I claim the new improvements described, all and several, to wit:

1. The combination, with the vehicle-body, the rock-shaft, the handle or device for turning said shaft, and the tilting-arm for tilting said body when the shaft is turned, of the catch connected with said parts, substantially as described, so that one movement of said handle or operating device releases the catch and tilts the said vehicle-body, as set forth.

2. The combination, with the tilting vehicle-body, of the rock-shaft, the catch attached to and carried by said shaft, the arm on said shaft for tilting the said body, the handle, and the retractile spring, substantially as described.

3. The combination, with the tilting vehicle-body and the tail-board, of the frames for upholding said tail-board, the latter being hinged to said frames so that it can swing on a horizontal axis in removing and replacing the said tail-board, being provided at the bottom with projections or pins which guide the tail-board by contact with the side pieces of the vehicle-body, substantially as described.

4. The combination, with the tilting body, the frames for upholding the tail-board when the vehicle-body is tilted, the tail-board hinged to said frames so that it can swing on a horizontal axis, and the stop-pieces on the vehicle-body to prevent the tail-board from swinging out when the said body is horizontal, substantially as described.

5. A dumping-cart comprising the body, the axle fastened on the bottom of said body, the shafts hinged to the axle, the frames fastened to the shafts in front of the axle, and the tail-board connected with said frames, substantially as described.

6. The combination, in a dumping-cart, with the body and shafts of the cart, of the rock-shaft, tilting-arm, catch carried by and movable with the rock-shaft, retractile spring, frames, and tail-board, said rock-shaft and frames both being fastened to the shafts, and said frames upholding the tail-board whenever the vehicle-body is tilted by turning the rock-shaft, substantially as described.

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

MICHAEL BOWES.

Witnesses:
A. W. SHAFFER,
PHIL. H. ANDREWS.