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P. BLATT.

DUMPING WAGON.

APPLICATION FILED FEB. 23, 1905.

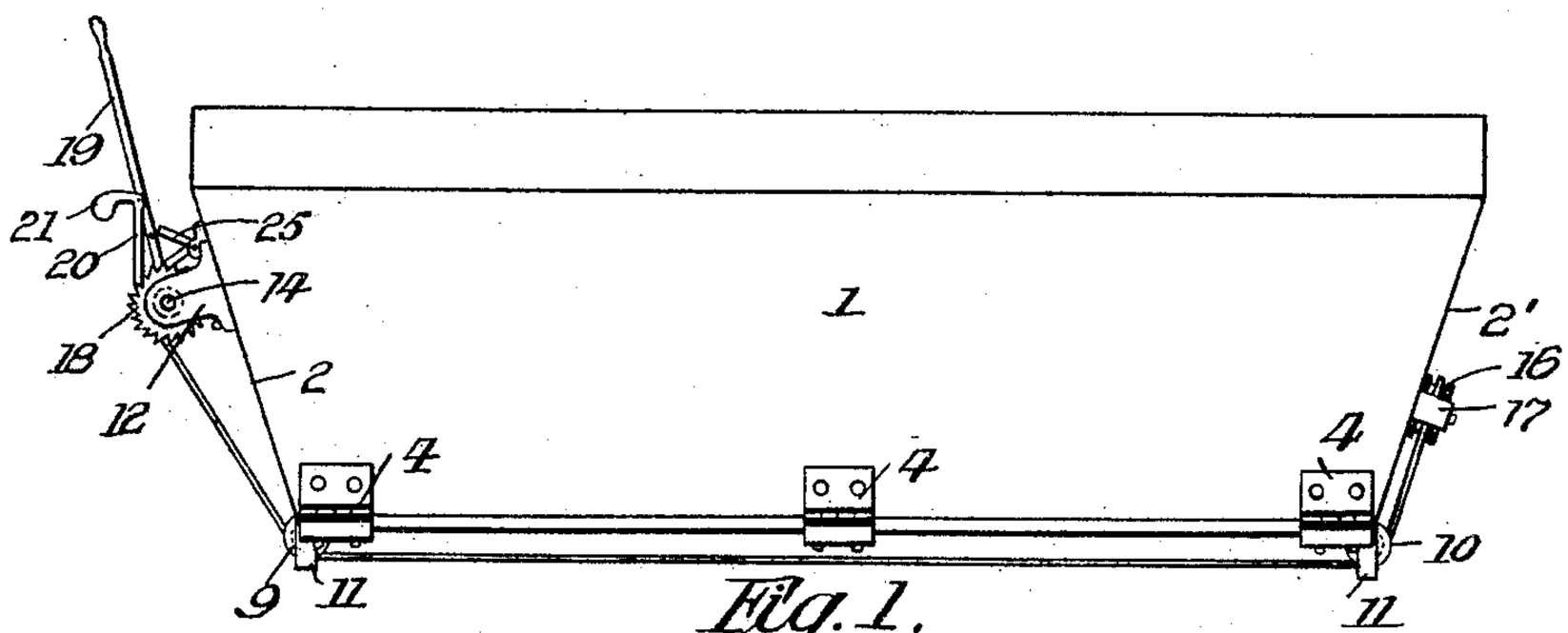

Fig. 1.

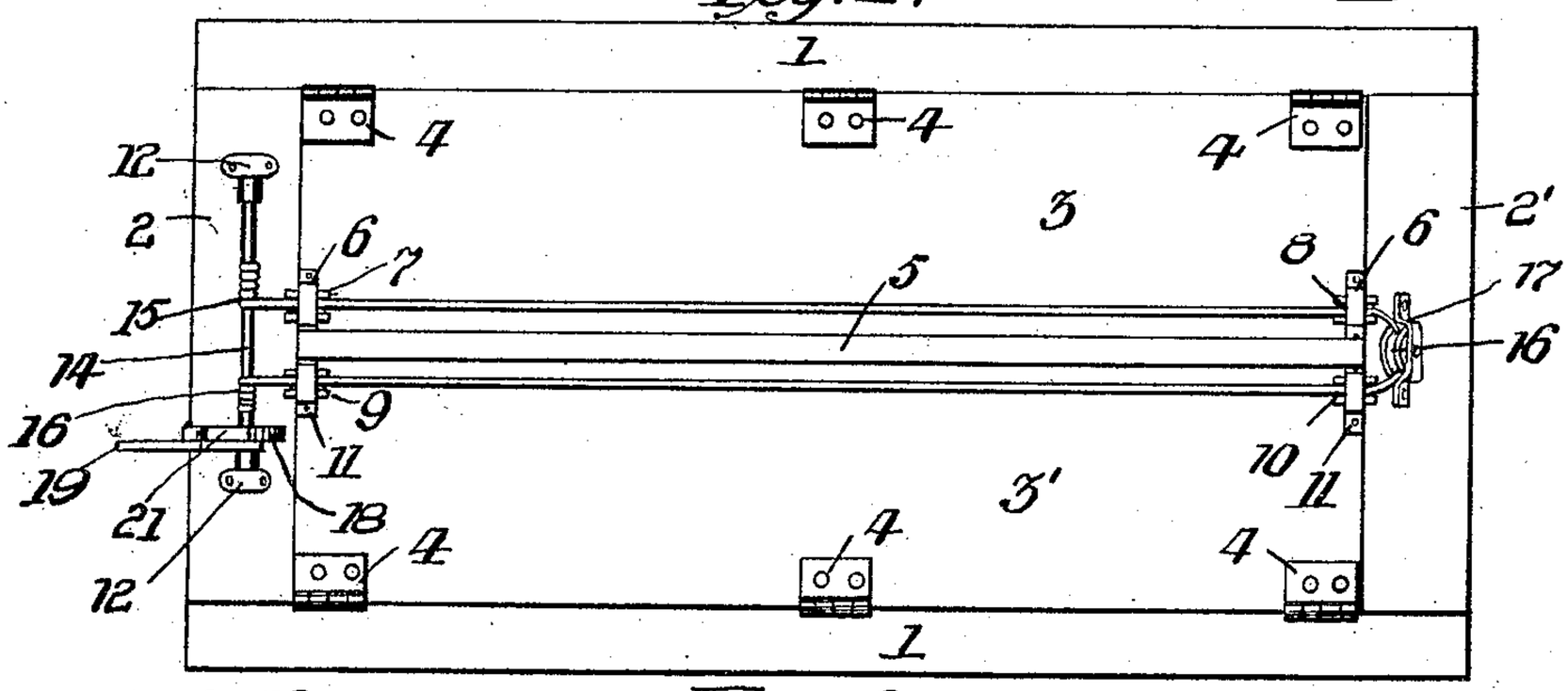

Fig. 2.

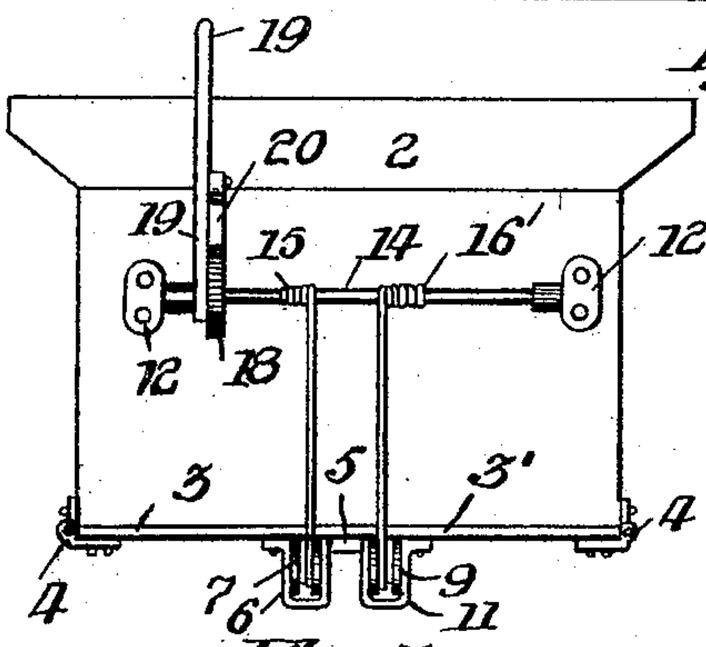

Fig. 3.

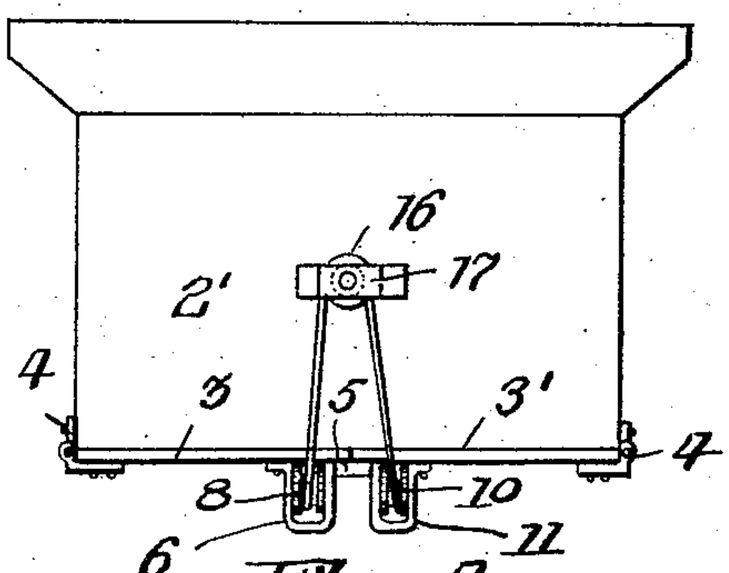

Fig. 4.

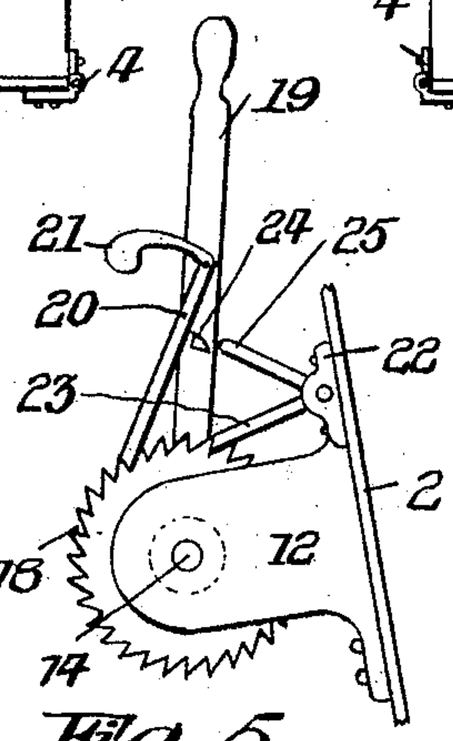

Fig. 5.

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UNITED STATES PATENT OFFICE.

PETER BLATT, OF ALLEGHENY, PENNSYLVANIA.

DUMPING-WAGON.

No. 799,588. Specification of Letters Patent. Patented Sept. 12, 1905.

Application filed February 23, 1905. Serial No. 246,987.

To all whom it may concern:

Be it known that I, PETER BLATT, a citizen of the United States of America, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Dumping-Wagons, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in dumping-wagons, and has for its object the provision of novel means for manipulating the hinged doors or gates of the wagon.

Another object of this invention is to provide novel means in connection with an operating-lever for locking the gates or doors in a closed position.

The invention aims to dispense with the numerous chains and mechanism generally used in connection with this type of wagon for closing and opening the dumping doors or gates of a wagon.

The wagon as constructed by me is extremely simple in construction, strong and durable, and comparatively inexpensive to manufacture.

With the above and other objects in view the invention finally consists in the novel construction, combination, and arrangement of parts, which will be hereinafter more fully described and then specifically pointed out in the claims, and referring to the drawings accompanying this application, like numerals of reference designate corresponding parts throughout the several views, in which—

Figure 1 is a side elevation of a wagon constructed in accordance with my invention. Fig. 2 is a bottom plan view thereof. Fig. 3 is an end view of my improved wagon, illustrating the operating mechanism thereof. Fig. 4 is a view of the opposite end of my improved wagon, and Fig. 5 is an enlarged detail elevation view of the operating mechanism.

To put my invention into practice, I employ a wagon consisting of side-boards 1 1 and end-boards 2 2′, all of which gradually taper and form the body portion or hopper of my improved wagon. To the sides 1 1 of the wagon and at the lower edges thereof are hinged doors or gates 3 and 3′, hinges 4 of a conventional form being employed in this connection. The confronting edge of one of the doors is provided with a cleat 5, which is adapted to overlie the adjoining door when in a closed position. The ends of the door 3 near its confronting edge are provided with brackets 6 6, in which are journaled pulleys 7 and 8, that serve functionally as sheaves. The door 3′ is also provided with similar pulleys 9 and 10, journaled in brackets 11 11.

My invention resides in the novel means I employ for manipulating the doors or gates 3 and 3′, and I have aimed to locate the operating mechanism of my improved wagon conveniently near to the driver of the wagon. Upon the end-board 2 I secure brackets 12 12, between which is journaled a shaft 14. To the shaft is attached a cable or chain, as indicated at 15, and said cable is adapted to pass down around the pulley 7, along the confronting edge of the door 2, and over the pulley 8, from where it passes upwardly over a pulley 16, journaled in a bracket 17, carried by the end-board 2′. The cable then passes downwardly over the pulley 10, along the confronting edge of the door 3, over pulley 9, upwardly to the shaft 14, where it is secured, as indicated at 16′, forming an endless elevating-cable.

To retain the doors or gates 3 and 3′ in a closed position and to elevate them at any desired time, I have provided the shaft 14 with a ratchet-wheel 18 and an operating-lever 19. The operating-lever is mounted adjacent to the ratchet-wheel 18 and is provided with a pivoted pawl 20, having a weighted arm 21. The pawl 20 is adapted to normally engage the ratchet-wheel and is retained in engagement with said wheel by the weighted arm 21. Mounted contiguous to the ratchet-wheel 18 upon the end-board 2 is a bracket 22, in which is journaled a substantially V-shaped pawl 23. This pawl is normally held in engagement with the ratchet-wheel 18 by gravity and is elevated by a beveled lug 24, carried by the operating-lever 19, which is adapted to engage the angular arm 25 of the pawl 23 when said operating-lever is moved rearwardly. The doors or gates 3 and 3′ are normally held in a closed position by the pawls 20 and 23, and when it is desired to release the same the operating-lever 19 is moved rearwardly, said movement causing the lug 24 to engage the arm 25 of the pawl 23 and slightly elevate the same without at this time disengaging the pawl 23 from the ratchet. The engagement of the lug 24 with the arm 25 causes said arm to strike the pawl 20, and said pawl 20 will be elevated, releasing the ratchet-wheel 18. The further rear-

ward movement of the lever 19 will bring the lug 24 still farther under the arm 25 and will result in raising the pawl 23 completely out of engagement with the ratchet-wheel 18, and the weight of the load within the wagon causes the doors 3 and 3′ to open and the cable to unwind upon the shaft 14.

From the foregoing description it will be observed that the first portion of the rearward movement of the lever 19 has the effect of causing the arm 25 to release the pawl 20 from engagement with the ratchet-wheel 18, and the further movement of the lever 19 has the effect of disengaging the pawl 23 from the ratchet-wheel 18. The successive releasing of the pawls 20 and 23 from engagement with the ratchet-wheel 18 in the order above described is of particular importance, for if the pawl 23 was first released the entire weight of the load being imposed upon the shaft 14 and the ratchet-wheel 18 would cause the lever 19 to be thrown rearwardly with great violence, and this movement would, if the operator maintained his hold of the lever, possibly inflict serious injury upon him or, if he released his hold of the lever, would impose a serious strain upon the lever and upon the pawl 20.

It will of course be understood that the ratchet-wheel 18 is fixed upon the shaft 14 and that the operating-lever 19 is loosely mounted thereon. By this construction I am enabled to close the doors 3 and 3′ by a plurality of oscillating movements exerted through the medium of the lever 19. The manner of arranging the cable and the pulleys upon the doors 3 and 3′ permits of both doors being raised and lowered simultaneously and easily manipulated by the driver of the wagon.

While I have herein described the preferred manner of arranging the operating mechanism of my improved wagon, I do not care to confine myself to the exact construction shown, as various structural changes may be made without departing from the general spirit and scope of the invention.

What I claim, and desire to secure by Letters Patent, is—

1. In a dumping-wagon, the combination with a hopper provided with hinged doors, of a shaft rotatably mounted in bearings upon one end of said hopper, means secured to said shaft and supported by an element mounted upon an opposite end of the hopper for normally maintaining said doors in their closed position and means for normally locking said shaft against rotation, said last-named means embodying a ratchet rigidly mounted upon said shaft, a lever loosely mounted upon said shaft and a pair of coacting pawls, normally in engagement with the teeth of said ratchet, one of said pawls being carried by said lever and the other being journaled in a bearing mounted upon the end of the hopper, said last-named pawl being provided with an arm adapted to engage said first-named pawl and said lever being provided with means for engaging the pawl on the hopper, said parts being so constructed and arranged that when the lever is moved rearwardly the pawl on the lever will be disengaged from the ratchet-wheel and the pawl on the hopper will be subsequently disengaged from the ratchet-wheel as and for the purpose described.

2. In a dumping-wagon, the combination with a hopper provided with hinged doors, of a shaft journaled in bearings upon one end of said hopper, a chain having its ends secured to said shaft and movably supported from said hopper, said chain being disposed in a position relative to said doors, whereby to normally maintain the same closed, a ratchet rigidly mounted upon said shaft, a lever loosely mounted upon said shaft adjacent said ratchet, a counterweighted pawl loosely mounted upon said lever and adapted to engage the teeth of the ratchet to rotate the same upon movement of the lever, an L-shaped pawl mounted in a bearing upon the end of the hopper adjacent to said lever, said pawl being in normal engagement with the teeth of the ratchet to prevent the backward movement of the shaft under the weight of the doors and the load supported thereby, an extension carried by said lever and adapted, upon the movement thereof, to engage one arm of said L-shaped pawl to release the latter from engagement with the teeth of the ratchet.

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

PETER BLATT.

Witnesses:
K. H. BUTLER,
E. M. BLATT.