

No. 637,523.

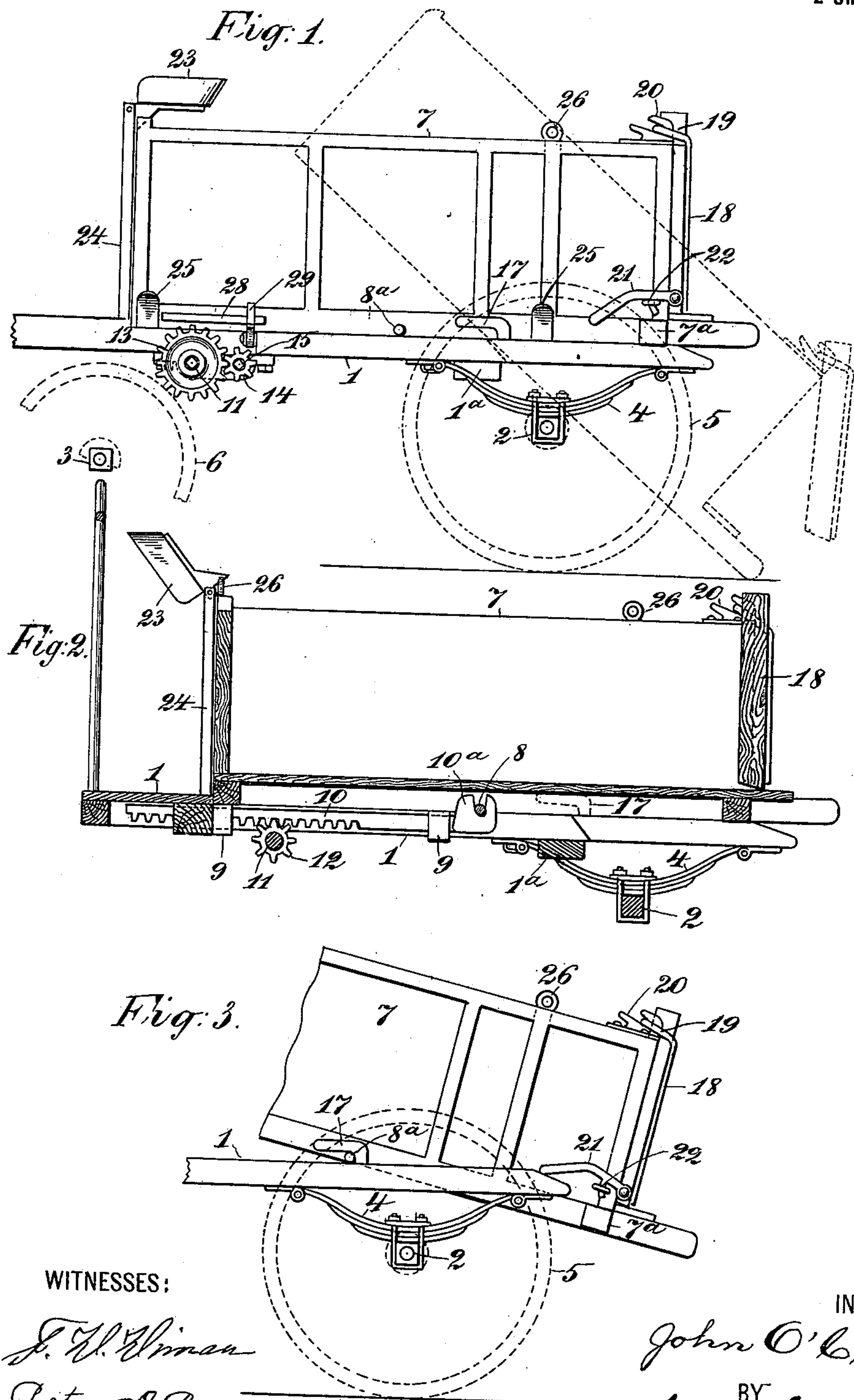
Patented Nov. 21, 1899.

J. O'CONNOR.
DUMPING WAGON.

(Application filed Sept. 14, 1899.)

(No Model.)

2 Sheets—Sheet 1.



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Fig. 4.

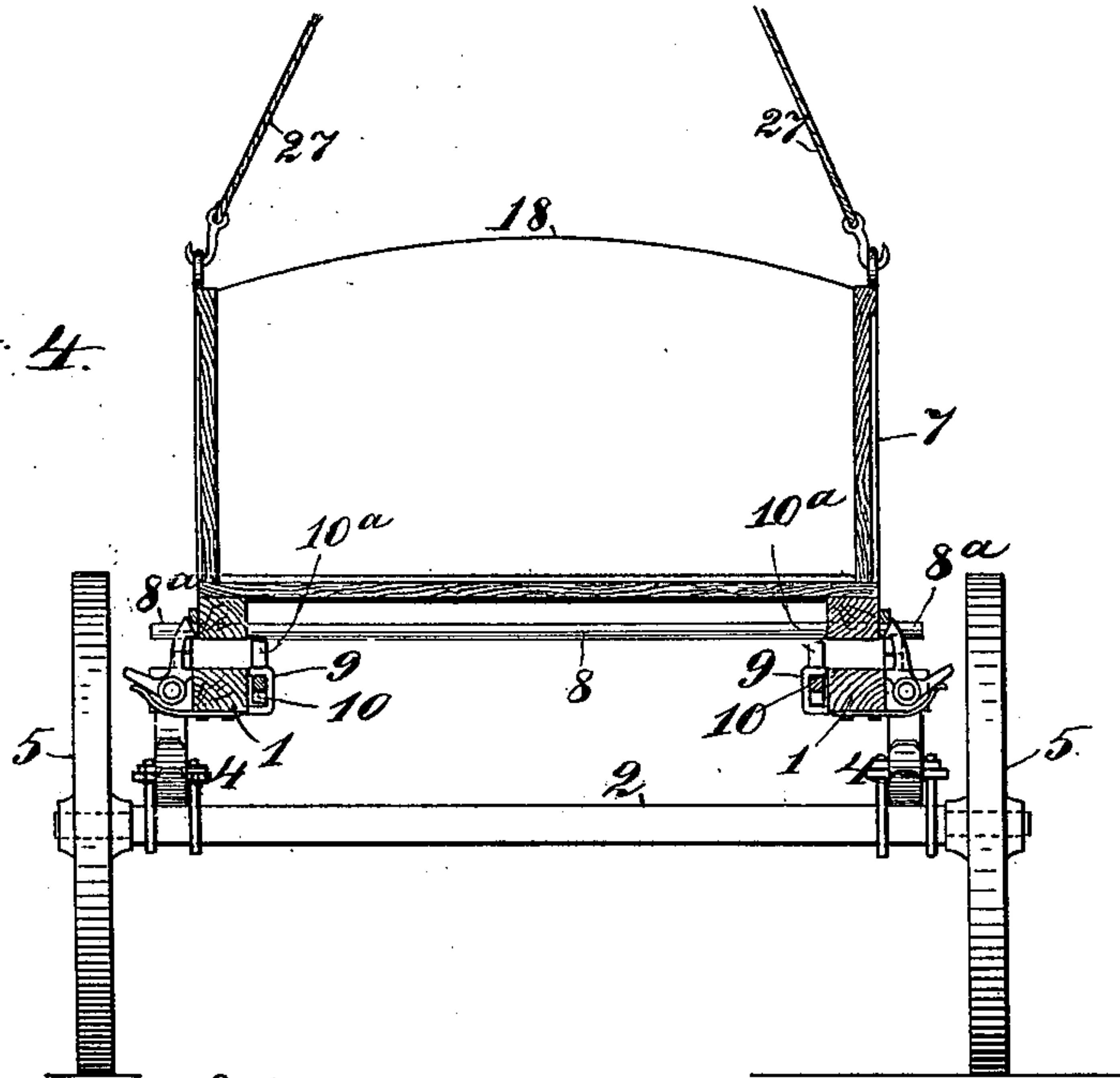


Fig. 5.

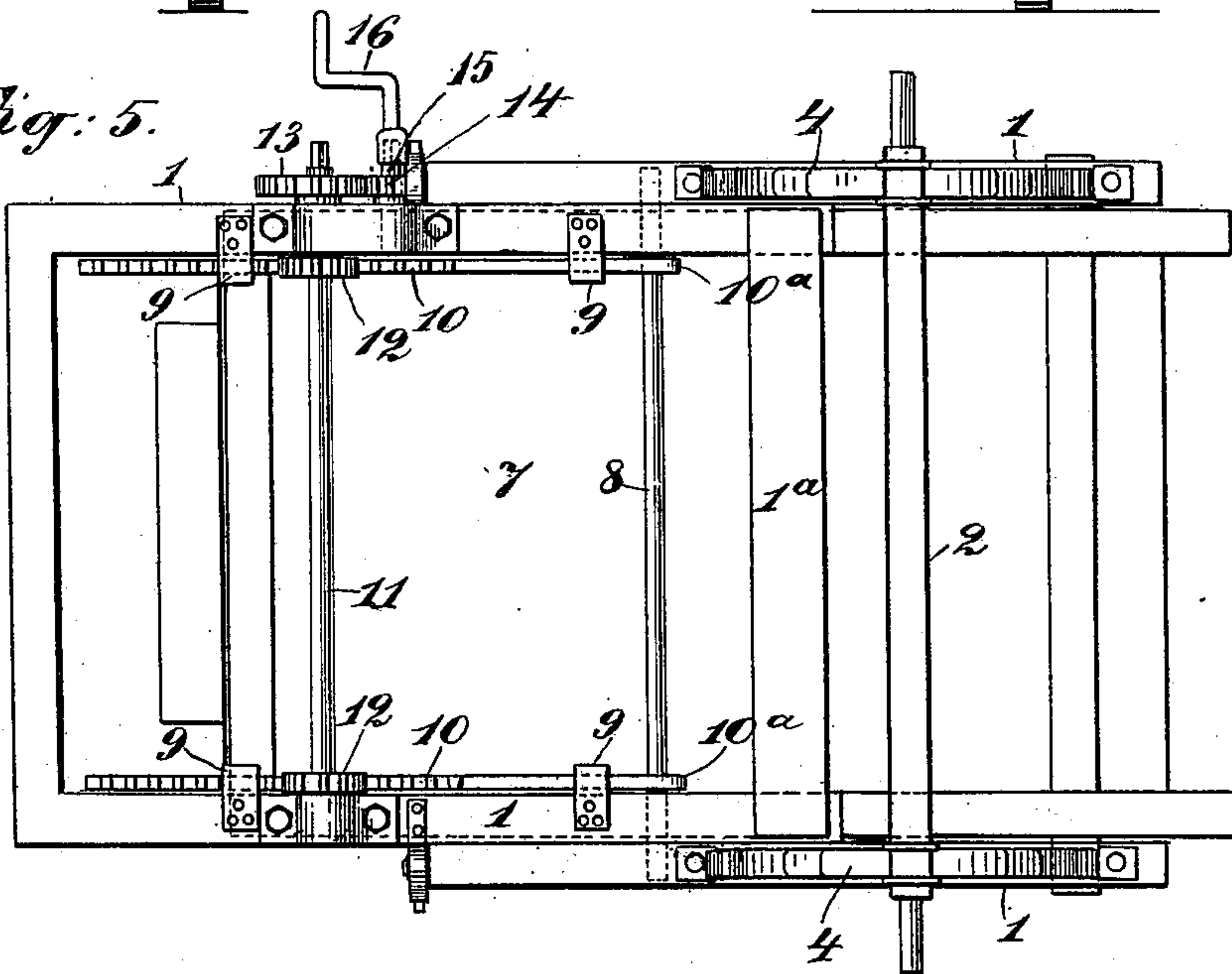
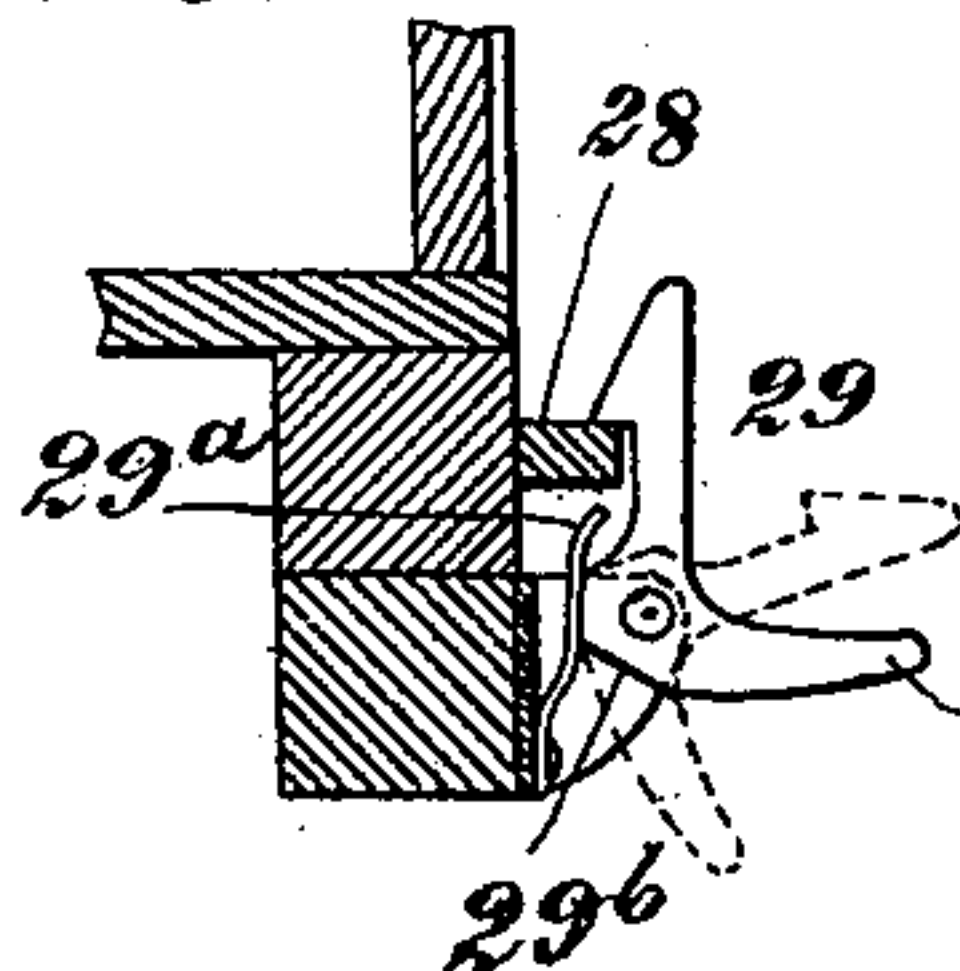


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN O'CONNOR, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO JOHN GOODCHILD, GUARDIAN, OF SAME PLACE.

DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 637,523, dated November 21, 1899.

Application filed September 14, 1899. Serial No. 730,420. (No model.)

To all whom it may concern:

Be it known that I, JOHN O'CONNOR, a citizen of the United States, residing in the city, county, 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 the class of dumping-wagons wherein the body is pivoted nearly at its center of gravity and is moved to the rear by a rack-and-pinion mechanism at the time of dumping.

The object of the invention is in part to provide a dumping-wagon wherein the body may be conveniently lifted off by a crane, lowered into an excavation, filled, and replaced, and in part to certain features of construction, which will be hereinafter fully described.

In the accompanying drawings, which serve to illustrate an embodiment of the invention, Figure 1 is a side elevation of the wagon. Fig. 2 is a longitudinal vertical section thereof. Fig. 3 is a side elevation of the rear portion of the wagon, showing the body partly dumped. Fig. 4 is a transverse vertical section of the wagon, showing the body suspended and about to be set on the frame. Fig. 5 is an under side view of the frame and body. Fig. 6 is a detail view of the hook-latch 29.

1 represents the frame; 2, the rear axle; 3, the front axle; 4, springs between the rear axle and the frame; 5, the rear wheels; 6, the front wheels, (indicated only in dotted lines in Fig. 1,) and 7 is the body.

It will suffice to say that the front wheels will be mounted under the frame in the usual manner with a king-bolt, hounds, fifth-wheel, &c.

The frame 1 is made at its front end about the same width as the body 7, the front end of which rests thereon; but at its rear part it is framed wider, so that the body may pass down between the sides of the frame in dumping. In Fig. 5 these side pieces of the frame at the rear part are clearly shown as overlapping the front part of the frame, the springs 4 being under and secured thereto. The frame is open at its rear end, so that the body may

dump; but there is a tie-piece 1^a between its side pieces in front of the rear axle.

The body 7 has a bar 8 extending across it below its bottom, the ends of which rest on the side members of the frame 1 and form trunnions 8^a, about which the body turns in dumping.

On the inside faces of the respective side members of the frame 1 are mounted in keepers 9 two like sliding racks 10 10, each of which has at its rear end a fork 10^a, which engages the bar 8 on the body. Mounted in bearings on the frame is a shaft 11, on which are fixed pinions 12 12, which gear with the respective racks 10 10, and on the shaft 11, exterior to the frame, is a gear-wheel 13, with which gears a pinion 14 on a shaft 15 on the frame. This shaft is adapted to receive a socket-crank 16. (Seen in Fig. 5.) By means of this crank and the gears the body is moved back on the frame until the trunnions 8^a engage and are stopped by keepers 17 on the frame, when the body dumps or may be dumped, as indicated in Fig. 3 and by dotted lines in Fig. 1.

Normally the body is supported at its rear end on the frame by the projecting ends 7^a of a cross-bar on the body which rest on the frame, and when these pass off from the side members of the frame the body dumps.

On the rear end of the body 7 is a tail-board 18, which closes it. This tail-board is hinged at its upper edge to the body by means of eyes 19, which engage open hooks 20 on the body. At its lower edge the tail-board is secured to the body by hinged or pivoted latches 21, which engage eyes 22 on the body. The latch 21 is prolonged at its free end, and when the body is dumped this prolonged extremity or arm encounters the beveled extremity of the side members of the frame, as seen in Fig. 3, which serves to automatically lift and disengage the latch, and thus free the tail-board.

The seat 23 for the driver is hinged to a seat-post 24, which is on and rises from the frame 1, and said seat may be turned forward, as indicated in Fig. 2.

On the frame 1 are upright flared retainers 25, which embrace the body at its base.

It will be seen that the body 7 is left free to be lifted off, and it is provided at its upper edge with eyes 26 to form an attachment for suitable lifting-tackle 27. When the wagon 5 drives up to an excavation to receive its load, the tackle 27 is hooked on, the body lifted off, and lowered into the excavation, filled, lifted out, and replaced, Fig. 4, on the running-gears. The seat 23 may be turned over to the front, as indicated in Fig. 2, to permit the body to be thus lifted off.

In some cases it is desirable that the body 7 shall not dump as soon as the laterally-projecting parts 7^a on the body pass off the beveled or inclined rear ends of the frame, and to obviate this the device now to be described may be employed.

On the respective sides of the body are secured horizontally-arranged strips or ledges 28, and on the frame, at the respective sides thereof, are hinged or pivoted spring hook-latches 29, which engage the respective strips 28. These latter are of such length, as herein shown, that the latches will take over and engage the strips 28 and hold the body against dumping until the trunnions 8^a shall have got home in the keepers 17, when they will free themselves from the hook-latches and allow the body to dump automatically. Without this precaution the body, which is a little the heaviest at its rear end, might dump prematurely. If the strips or ledges 28 be extended a little farther toward the front end of the body, the latches will not clear them automatically, and the driver will then have to free the latches by hand to permit the body to dump. Fig. 6 shows in detail a suitable form of spring-latch 29, which will remain so when disengaged. This latch has a spring 40 29^a, a flat face 29^b to bear on the spring and hold it disengaged, and an operating handle or arm 29^c.

I have shown a latch 29 on each side of the frame, but it would suffice to have but one at one side thereof. The ledge or strip 28 may be any means suitable for engagement by the latch.

The construction illustrated shows the pivotal point of the body when dumping somewhat in front of the rear axle; but the axle might be set forward, so as to be practically under the dumping-point. The full springs 4 serve to distribute the load more evenly over the axles than the ordinary construction, as the part of the load back of the axle rests on the rearwardly-projecting arm of the spring.

The keeper 17 is in the form of an inverted L, the upright branch thereof serving as a stop to limit the rearward movement of the trunnions 8^a and the horizontal forwardly-extending arm thereof serving to draw the dumped body down on the frame when the body is drawn forward by the racks after dumping.

Having thus described my invention, I claim—

1. A dumping-wagon having rack mechan-

ism for moving the body rearwardly on the frame for dumping, said mechanism having slidable racks in keepers on the frame and provided with open forks engaging a transverse bar on the body, whereby the latter is left free to be lifted off from the frame, substantially as and for the purposes set forth.

2. In a dumping-wagon, the combination with the frame open at its rear end, the racks 10, 10, mounted slidably in keepers on the frame and having open forks 10^a, 10^a, respectively at their rear ends, gearing on the frame for operating said racks, the body 7, mounted on the frame, said body having trunnions 8^a, which rest on the frame, lateral projections 7^a, to bear on the frame normally, and a bar which engages the forks 10^a, substantially as set forth.

3. In a dumping-wagon, the combination with the frame, the body slidably mounted thereon for dumping and provided with laterally-projecting pivoting trunnions, the racks mounted slidably in keepers on the frame and coupled at their rear ends to the body and at points alined with said trunnions, means for operating said racks and keepers on the frame to receive the respective trunnions and limit their rearward movement, substantially as set forth.

4. In a dumping-wagon, the combination with the frame, open at its rear end, and the body, having trunnions, and slidably mounted on the frame, of the keepers 17, on the frame to engage and arrest the trunnions in dumping, the slidable racks 10 on the frame and having the forks 10^a, the bar on the body engaging said forks, and the gears for driving said racks, substantially as set forth.

5. In a dumping-wagon, the combination with the frame, the body having trunnions mounted slidably thereon, the keepers on the frame, and the racks and gearing on the frame for moving the body rearward in dumping, of the strips or ledges 28 on the body, and the spring-latches on the frame which engage the said strips, substantially as set forth.

6. In a dumping-wagon, the combination with the frame having retainers to prevent sidewise sliding of the body, and the body mounted slidably from front to rear on said frame, racks mounted slidably in keepers on the frame and adapted to move rearwardly with the body, said racks having an open coupling with the body whereby the latter is free to be lifted off, means for operating said racks, dumping-trunnions on the body alined with said open couplings, and keepers on the frame to engage said trunnions during the dumping operation, substantially as set forth.

7. In a dumping-wagon, the combination with the rear axle and wheels, the frame extending rearwardly beyond said axle, and the full springs 4 between said axle and frame, the rear arms of said springs supporting the rear portion of the frame, of the body 7 pivotally and slidably supported on said frame and having laterally-projecting parts 7^a at its

rear part which rest on the rear part of the frame, and means for sliding the body rearwardly on the frame for dumping, substantially as set forth.

5 8. A dumping-wagon having a frame, a removable body mounted slidably on said frame, a rack mounted slidably on said frame and having an open fork at its rear end which engages a bar on the body, trunnions on the
10 body alined with said bar, a pinion on the frame for driving said rack, and keepers on the frame to engage said trunnions, substantially as set forth.

15 9. A dumping-wagon having a frame, a removable body mounted slidably on said frame, a bar or rod mounted slidably on said frame and having an open fork at its rear end which engages some part of the body, trunnions on the body alined with said fork,
20 means for operating said forked bar or rod,

and keepers on the frame to engage said trunnions, substantially as set forth.

10. A dumping-wagon having a frame, a removable body mounted slidably on said frame and having a tail-gate, a bar or rod mounted
25 slidably on said frame and having an open fork at its rear end which engages some part of the body, trunnions on the body alined with said fork, means for operating said forked
30 bar or rod, keepers on the frame to engage said trunnions, and means for automatically freeing the tail-gate of the body during the dumping operation, substantially as set forth.

In witness whereof I have hereunto signed my name, this 12th day of September, 1899, in
35 the presence of two subscribing witnesses.

JOHN O'CONNOR.

Witnesses:

HENRY CONNETT,
PETER A. ROSS.