No. 613,198. Patented Oct. 25, 1898.

J. S. HALL.

DUMPING WAGON.

(Application filed May 11, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

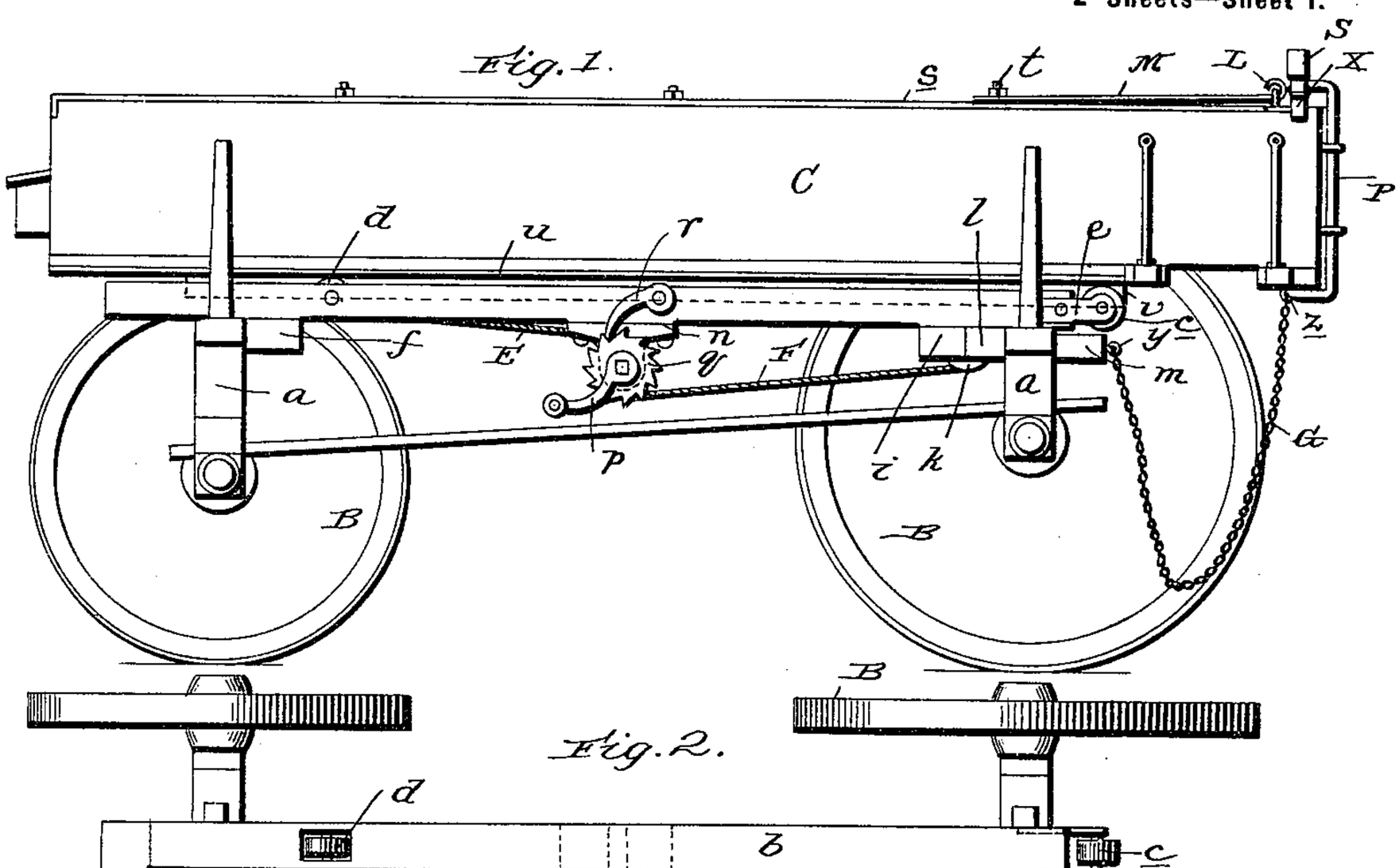


Fig. 2.

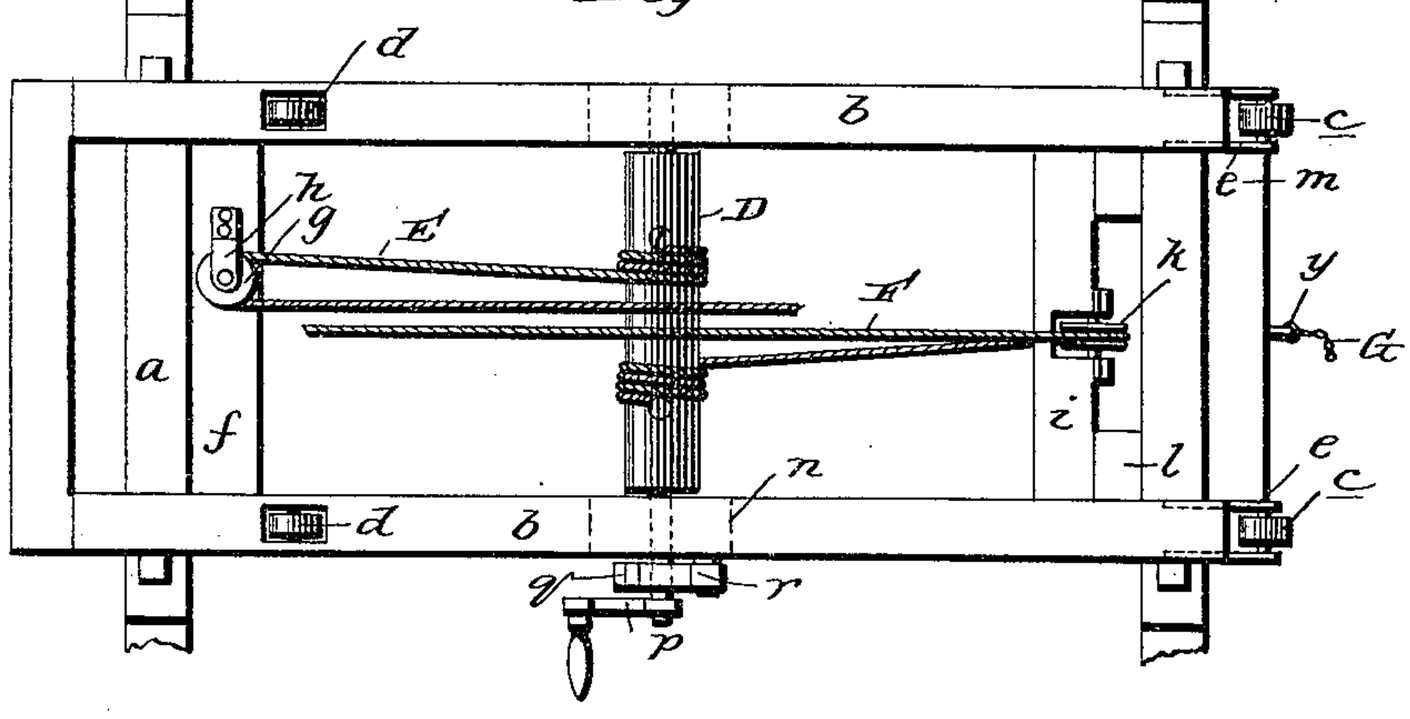
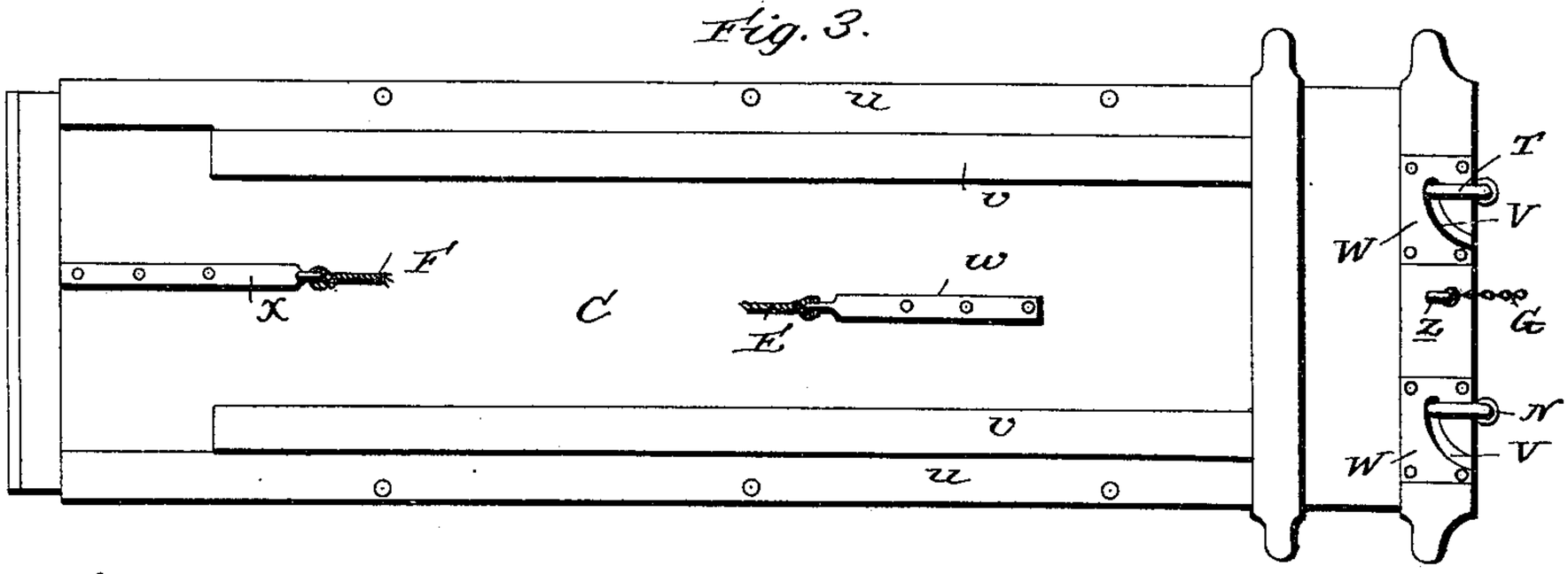


Fig. 3.



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(No Model.) 2 Sheets—Sheet 2.

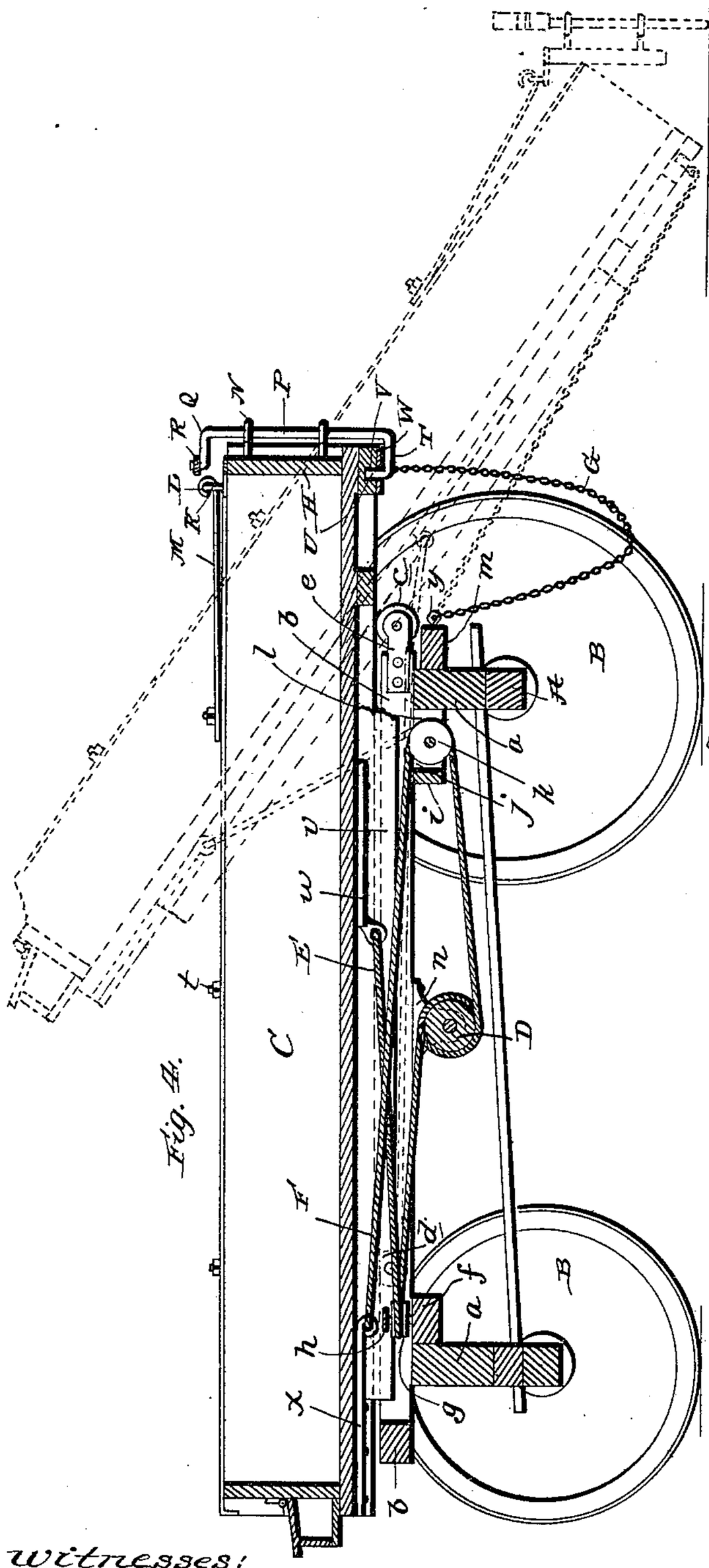

Fig. 4.

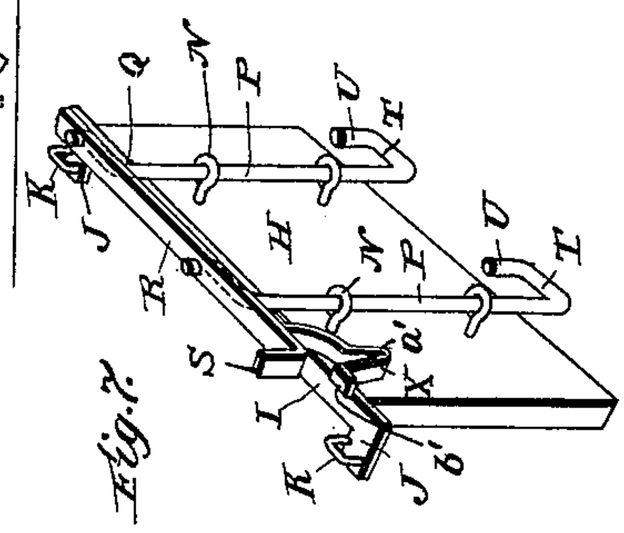

Fig. 2.

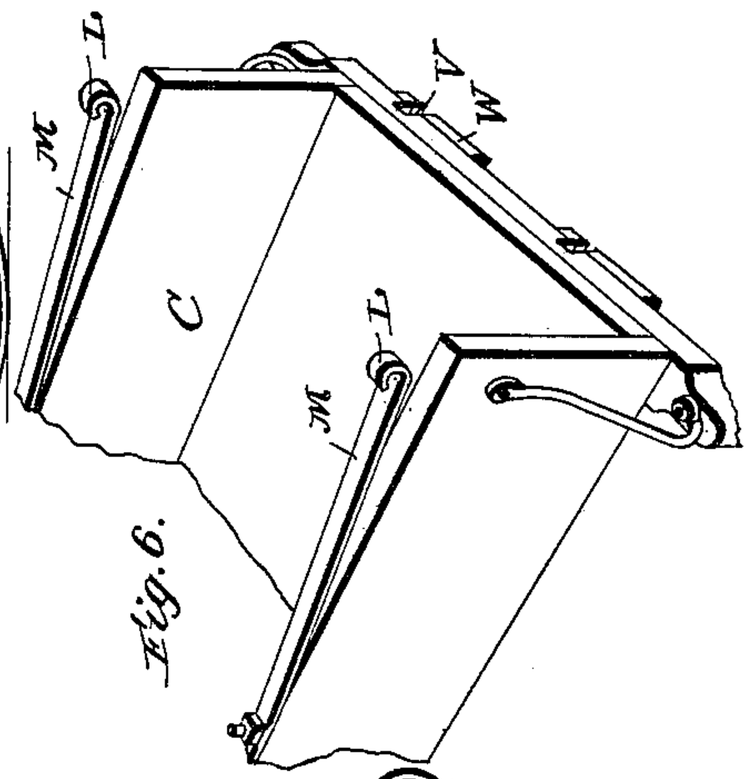

Fig. 6.

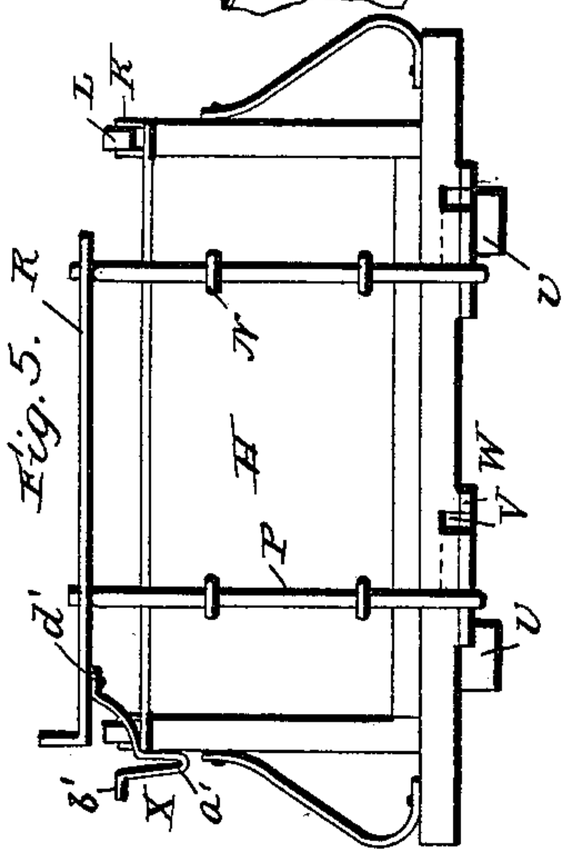

Fig. 5.

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UNITED STATES PATENT OFFICE.

JOHN STEWARD HALL, OF WINNIPEG, CANADA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF FIVE-SIXTHS TO ROBERT HALL AND CHARLES W. CLARK, OF SAME PLACE.

DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 613,198, dated October 25, 1898.

Application filed May 11, 1898. Serial No. 680,386. (No model.)

To all whom it may concern:

Be it known that I, JOHN STEWARD HALL, a citizen of the Dominion of Canada, residing at Winnipeg, in the Province of Manitoba and Dominion of Canada, have invented new and useful Improvements in Dumping-Wagons, of which the following is a specification.

This invention relates to improvements in dumping-wagons; and it consists in the construction, novel arrangement, and adaptation of parts, as will be hereinafter more fully set forth, and particularly pointed out in the claims appended.

In the accompanying drawings, on which similar letters of reference are made indicating corresponding parts in the several views, Figure 1 is a side elevation of a wagon equipped with my improvements. Fig. 2 is a plan view of the supporting-frame with two of the supporting-wheels broken away. Fig. 3 is an inverted plan view of the body. Fig. 4 is a longitudinal sectional view showing in full lines the body operatively supported on the frame and in dotted lines the position which the body assumes when tilted or dumped. Fig. 5 is an end view of the body, showing the means for securing the end-gate. Fig. 6 is a perspective detail view of the body with the gate removed, and Fig. 7 is a perspective view of the end-gate.

Referring by letter to said drawings, A indicates the front and rear axles, and B supporting-wheels, which may be of the construction usually employed. Upon the axles are supported the bolsters *a*, and on these bolsters are suitably secured two lateral parallel beams *b*, which are disposed longitudinally, and each beam is provided at its rear end with a vertically-disposed friction-roller *c*, and at a suitable point near the opposite ends of said beams are similarly-disposed friction-rollers *d*. The rollers *c* may be secured to the ends of the beams *b* by bracket-plates *e* or otherwise suitably journaled thereto, while the rollers *d* may be let into slots or recesses in the timbers, as shown, both sets of rollers projecting slightly above the upper surfaces of said timbers, so as to receive the body C and form a roller-support therefor. The timbers *b*, which may be suitably tied by cross-bars, also have secured to them a cross-bar *f*, carrying a horizontally-disposed pulley *g*, secured in position by a bracket or sheave *h*. Connecting said timbers near their rear ends is a bar *i*, which is recessed centrally on one side, as shown at *j*, to receive a vertically-disposed pulley *k*, which is secured to said bar by suitable bearings receiving the ends of the pulley-shaft, and in order to afford working room for this pulley blocks *l* are secured to the outer side of the bar *i*. In order to give additional strength to the frame, I provide another cross-bar *m*, which connects the extreme rear ends of the beams *b*.

D indicates a drum. This drum has its journal ends supported in suitable bearings *n* on the under sides of the beams *b* and about the centers thereof and is provided at one end with a crank *p*, whereby said drum may be turned or rotated. The cranked end of this drum-shaft has fixed to it a vertically-disposed ratchet-wheel *q*, so as to turn therewith, and pivoted to the outer side of the adjacent beam *b* is a pawl *r*, which is designed to engage the ratchet-wheel and prevent backward movement of the drum, as will be hereinafter more fully described.

While I have described very specifically the construction of frame carrying the supporting-wheels, yet I am aware that many modifications might be made in the construction of this frame without departing from the spirit of my invention, and I am also aware that any ordinary running-gear might be employed.

The body C is mainly of the ordinary construction, having the upper edges of its side walls preferably protected by a metallic binding *s*, and the bolts *t*, which take through this binding-strip and down through the walls of the body, may also extend through and serve to secure to the under side of the body and at the longitudinal edges thereof metallic plates or strips *u*, which may serve as wear-plates for the rollers on which they bear. As the body has a longitudinal movement on the supporting-frame, in order to properly guide such body I provide the same on its under side and on the inner sides of the strips *u* with longitudinally-disposed guide-strips *v*. These strips *v* depend sufficiently below the plates or strips *u* to engage the inner sides of the

beams *b* should there be any undue lateral movement given to the body, and thereby prevent said body from leaving the supporting-frame sidewise.

E and F indicate ropes or chains, and each is secured at one end to the drum D, as shown. The chain or rope E, after being secured to the drum as described and wound a few times upon the same, is carried around the horizontal pulley *g* and thence back to the rear portion of the wagon-body, where it is secured. The attachment here may be by any suitable means. In the illustration I have shown a plate or strap *w*, having an eye at one end to receive said rope, and the plate is screwed to the under side of the body. The rope F, after being secured at one end to the drum and turned around the same in a direction opposite to that of the rope E, is carried over the vertical pulley *k*, after which it is secured at its opposite end to a plate *x*, similar to that of the plate *w*, secured to the under side of the wagon-body and near the forward end thereof. By this means it will be seen that when the crank *p* has been turned in one direction the wagon-body will be moved rearwardly on its roller-bearings and dumped of its contents, while by moving or turning the crank in an opposite direction the body will be drawn down upon and moved forwardly on its roller-bearings, the dog or pawl of course being lifted out of the teeth of the ratchet while drawing the body forwardly on its supporting-frame. After the body has been properly adjusted on the frame by throwing the pawl into the ratchet it will hold the body from accidental or casual displacement on its roller-supports.

In order to prevent the body from entirely leaving the supporting-frame while in a dumped or tilted position, I provide a stay-chain G, one end of which I secure to the cross-bar *m*, as shown at *y*, and the other end to the rear under side of the body, as shown at *z*.

H indicates the end-gate. This gate is provided on its upper edge with a metallic strip I, which is provided with forwardly-directed branches J at its ends and on these branches vertically-disposed loops or staples K, which are designed to be engaged by hooks L on the rear ends of flat spring-strips M, secured to the upper longitudinal edges of the side walls of the body and at a sufficient distance from the rear ends thereof. These strips M have a tendency to remain elevated at their hooked ends, so that when the fastening devices of the gate, as will be presently described, have been detached the gate will be lifted from its seat by the action of the spring and into a position better shown by the dotted lines in Fig. 4 of the drawings. The means of connecting the gate to the springs will permit of many changes in the construction.

Journaled in suitable eyes or bearings N on the outer side of the gate are vertically-disposed bolts P. These bolts have their upper ends cranked, as shown at Q, and these cranked ends are connected by a locking-slide R. This slide may comprise a strip of metal having holes to receive the cranked ends of the rods or bolts P, and one end turned upwardly, as at S, to form a hand-grasp. The lower ends of these rods or bolts are turned transversely, as shown at T, and thence upwardly, as shown at U, to enter curvilinear slots or grooves V on the under side of the wagon-body. These grooves comprise about a quarter of a circle and may be cut into plates W, secured by screws or otherwise to the under side of the body, and both grooves are similarly disposed, being opened at one end to the rear of the body and thence directed forwardly and laterally in the same direction. By this construction it will be seen that as the cranks Q are turned in the same direction as the angular portions T and U at the opposite ends of the rods when the slide R has been moved in one direction it will withdraw the rods from the curvilinear grooves, so as to unlock the gate, while when the slide has been moved in an opposite direction it will turn the angular portions into the curvilinear grooves and secure the gate to the body. When the gate has been unfastened from the body, as described, the springs M, being free to act, will lift the gate, so as to allow the contents of the body to be discharged. If desired, the gate can be entirely removed by disconnecting it from the springs, and in some cases the springs themselves might be dispensed with.

In order to prevent the slide R from moving at improper times, I provide it with a spring-catch X, which may comprise a strip of spring metal bent so as to form a shoulder *a'* and a finger-piece *b'* and secure the inner end to the under side of the bolt at a point *d'*. This catch, when the locking bolts or rods have been turned into the curvilinear slots so as to secure the gate to the body, will have its shoulder *a'* bearing against one end of the strip I or the side of the wagon-body. Before the slide can be operated it is necessary to first disengage the spring-catch, as better shown in Fig. 7 of the drawings, when the slide can be moved to draw the lower angular ends of the bolts or rods out of the slots.

Having thus described my invention, what I claim is—

1. The herein-described dumping-wagon consisting essentially of the frame supported on wheels and having the longitudinal beams *b* and antifriction-rollers thereon, the drum journaled in bearings connected to said beams, the vertically-disposed pulley *k* journaled in the frame adjacent to the rear end thereof, the horizontally-disposed pulley *g* arranged on the frame near the opposite end thereof, the body having the longitudinal guide-strips *v* on its under side arranged to engage the inner sides of the frame-beams *b* and prevent lateral displacement of the body, the cable E connected at one end to the drum and moved

in one direction thereon and taking around the pulley *g* and connected at its opposite end to the body adjacent to the rear end thereof, the rope F connected at one end to the drum and wound in an opposite direction thereon with respect to rope E and taking around the pulley *k* and connected at its opposite end to the body adjacent to the forward end thereof, a suitable stay for the body in a dumped position, and a suitable means for turning the drum, substantially as specified.

2. The body having the springs provided with hooks; in combination with the end-gate flexibly connected to said springs, a slide on said end-gate, and vertically-disposed, rock bolts or rods having their upper ends cranked and connected to the slide, and their lower ends bent angularly to enter curvilinear slots in the under side of the body, substantially as specified.

3. The combination with the body having curvilinear slots in its under side; of the end-gate, the rock rods or bolts bearing in said gate and having their lower ends bent angularly to enter said slots, and a slide eccentrically connecting the upper ends of said rods so as to move the lower ends into and out of said slots, substantially as specified.

4. A body having curvilinear slots in its under side; in combination with the gate having the eyes on its outer side, the rods arranged in said eyes and having their upper ends cranked and their lower ends cranked or bent angularly in the same vertical plane as the upper cranks, the slide connecting the upper ends of the rods, and the catch secured to the slide to operate substantially as specified.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN STEWARD HALL.

Witnesses:
HUGH MCCOOK,
WILLIAM H. HALL.