

(No Model.)

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W. F. VERNIER & L. F. COSKY.
DUMPING WAGON.

No. 581,445.

Patented Apr. 27, 1897.

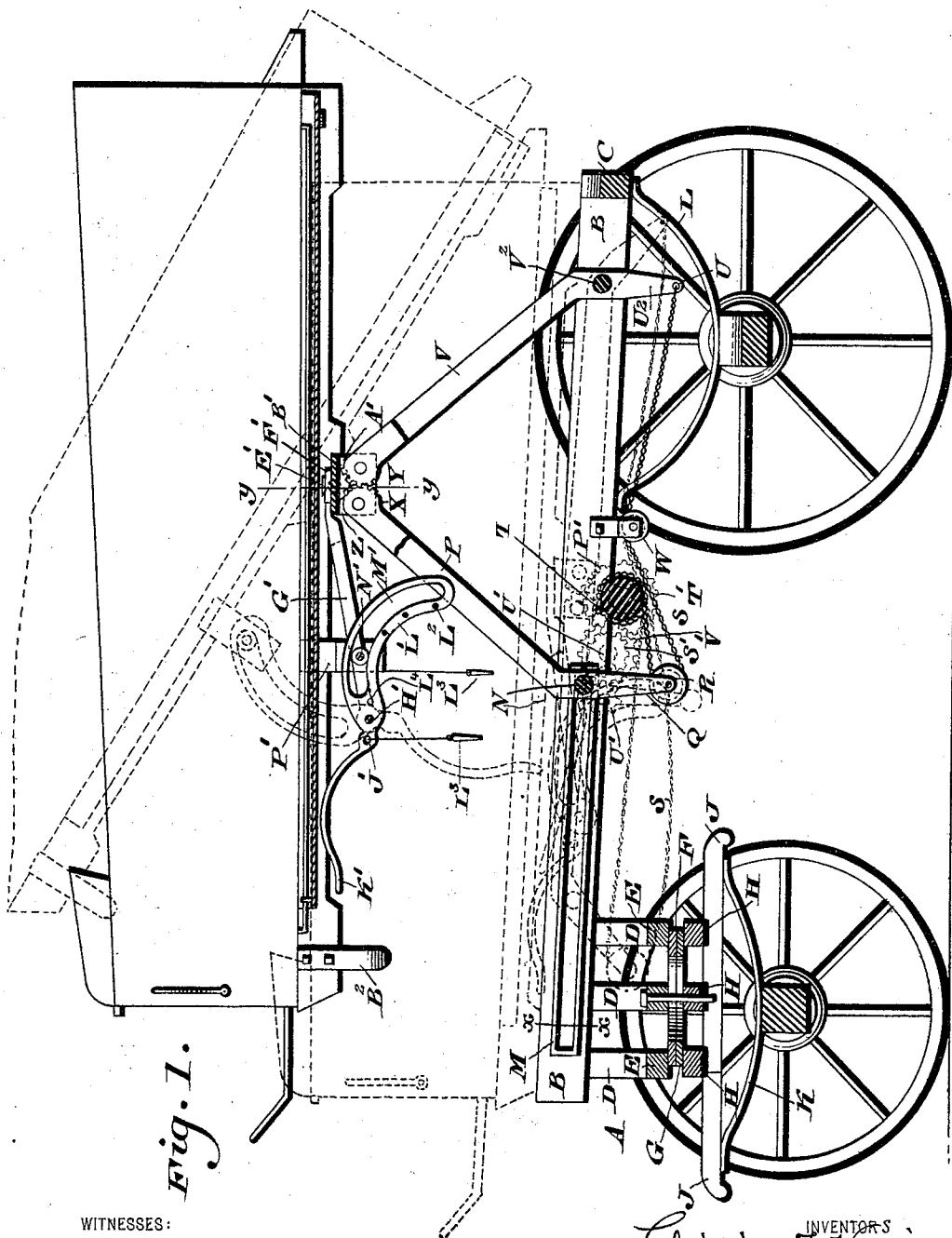


Fig. 1.

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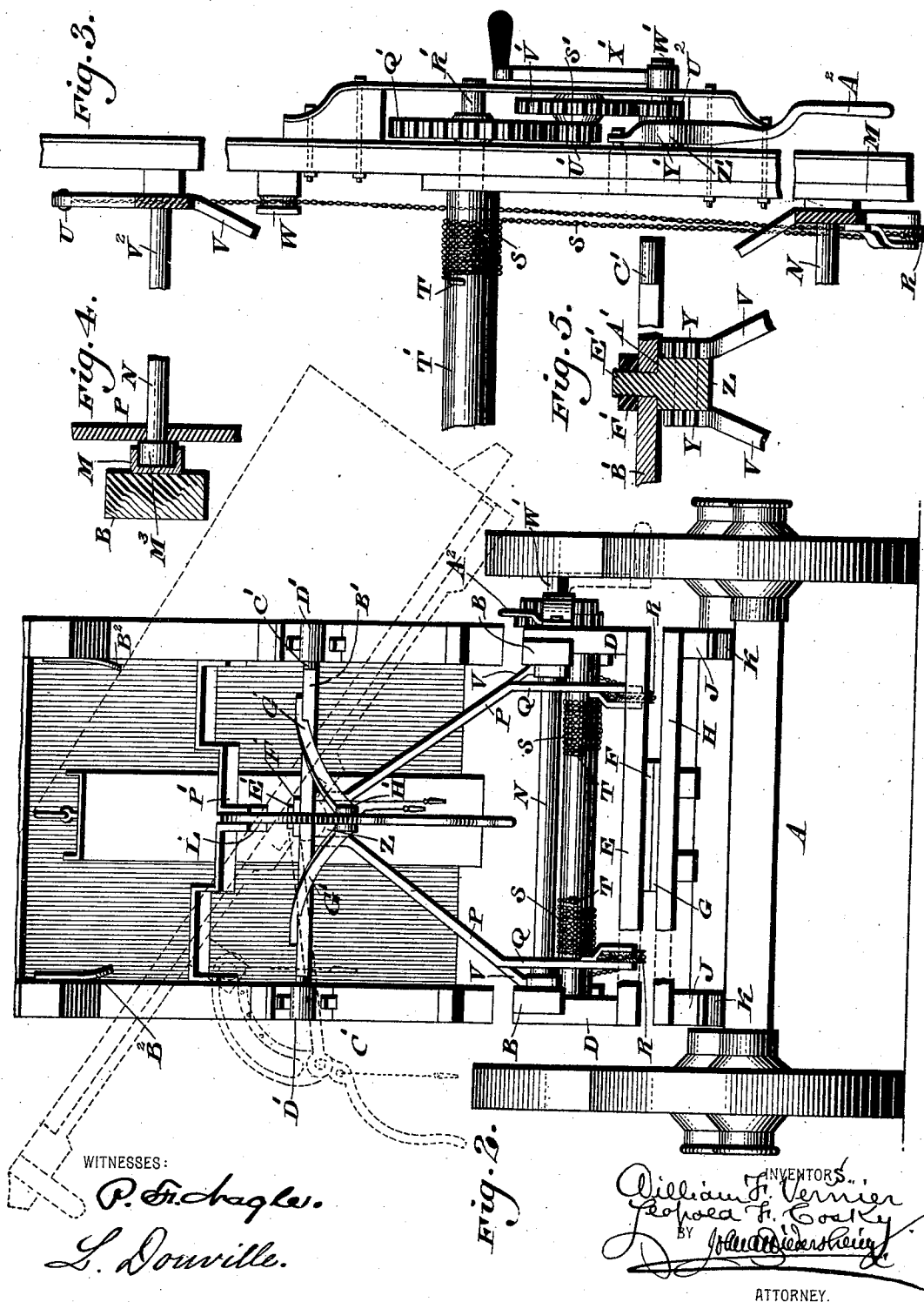
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UNITED STATES PATENT OFFICE.

WILLIAM F. VERNIER, OF HAMMONTON, NEW JERSEY, AND LEOPOLD F. COSKY, OF PHILADELPHIA, PENNSYLVANIA.

DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 581,445, dated April 27, 1897.

Application filed October 14, 1896. Serial No. 608,821. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM F. VERNIER, residing at Hammonton, in the county of Atlantic, State of New Jersey, and LEOPOLD F. COSKY, residing in the city and county of Philadelphia, State of Pennsylvania, citizens of the United States, have invented a new and useful Improvement in Dumping-Wagons, which improvement is fully set forth in the following specification and accompanying drawings.

Our invention consists of an improved construction of dumping-wagon in which provision is made for elevating the body of the same and afterward permitting it to be rotated and tilted in any desired direction, the novel features of which will be hereinafter fully set forth, and specifically pointed out in the claims.

Figure 1 represents a side elevation, partly in section, of a dumping-wagon embodying our invention, the wagon being shown in full lines in elevated horizontal position and in broken lines in normal and in elevated tilted position. Fig. 2 represents a front elevation of the wagon, the same being shown in tilted position. Fig. 3 represents a plan view of one side of the wagon, a portion of the latter being removed in order to show the construction of the hoisting mechanism. Fig. 4 represents a section on line *x x*, Fig. 1. Fig. 5 represents a section on line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates the running-gear of the wagon, the same consisting of the longitudinally-extending sills B, which are connected at their rear portions by the cross-bar C, the front extremity of the sills having the depending-bars D attached thereto, which latter are secured at their lower extremities to the transversely-extending bars E.

F designates a ring supported beneath the central portion of the bars E and adapted to rest upon a similar ring G, which is supported upon the transverse bars H, the extremities of which latter are secured to the beams J, which are supported on the springs K, which latter are mounted on the forward axles.

L designates the rear springs, which are suit-

ably attached to the rear portions of the sills B and are supported upon the rear axle.

M designates tracks which are attached to the inner opposite faces of the sills B, each of which has sliding therein the head M³, which is attached to the rod N, which extends transversely to the wagon and passes through the extensions Q of the supporting-arms P.

R designates pulleys, which are suitably journaled upon the extensions Q, around which pulleys pass the chains S, the latter being adapted to have a portion thereof wound upon the drum P', and each having one extremity fastened to said drum at the point T, while their other end is attached at the point U to the extensions U² of the supporting-arm V, which is fulcrumed upon the transverse rod V², which is suitably secured to the rear portion of the sills B, the chain S being supported upon the rollers W, which depend from said sills B.

The adjacent extremities X and Y of the arms P and V are provided with the intermeshing gear-teeth, and are pivotally attached to the head Z, which latter is provided with a shoulder A', it being evident that by reason of the manner of attaching the extremities to the arms of said head said shoulder or upper surfaces A' thereof will always remain substantially horizontal.

B' designates a cross-bar which is supported upon the shoulder A' of the head Z and is provided at its extremities with the journals C', which have suitable bearings in the boxes D', mounted on either side of the body of the wagon.

E' designates a stem projecting from the head Z and passing through the cross-bar B', said stem being threaded near its extremity and provided with the nut F', whereby it will be evident that said cross-bar B' can be rotated on said stem E' as a journal, and with it the wagon-body, which is mounted on said cross-bar.

G' designates arms, which in the present instance are two in number, as will be understood from Fig. 2, said arms having one of their extremities suitably attached to the bar B' and projecting forwardly and being united at their forward extremity by the pin H', which latter forms a fulcrum for the lever J',

said lever being provided with a handle K' and having the rearward segmental portion L', which is provided with the holes L², either of which may be made to aline with a hole in each of the arms P', so that a suitable pin, as L³, can be inserted in the alined holes for the purpose of locking the wagon-body at any desired inclination.

N' designates a pin which is attached to the arms P' near their junction, on which a roller is mounted which engages the walls of the slot M', which latter is curved in substantially the arc of a circle, as will be understood from Fig. 1.

Referring now to Fig. 3, the means for rotating the drum T' will be described, said drum having the journal R' provided with suitable bearings, said journal having mounted thereon the gear Q', which meshes with the pinion S', which is mounted on the shaft U', which is suitably supported, said shaft U' carrying also the gear V', which latter is in mesh with the pinion U², which is mounted upon a shaft supported in any convenient manner, the outer extremity of said latter shaft having the squared portion W' for the application of a wrench or crank X' thereto, while the inner portion of said shaft is provided with a drum Y', with which the lever Z' is adapted to contact, said lever being suitably fulcrumed and having a handle A², whereby it can be used as a brake and thus retard the rotation of the drum Y', and consequently the descent of the wagon-body, when desired.

B² designates depending arms or guides attached to the wagon-body, which are adapted to guide the same in its descent to its proper position between the sills B, as will be evident.

The operation is as follows: The parts in their normal position appear as seen in the lower dotted lines in Fig. 1, the supporting-arms P and V being substantially horizontal and the gearing on their abutting edges in mesh. When it is desired to raise the wagon-body, the drum T' is caused to rotate by means of the gearing seen in Fig. 3, or other analogous mechanism, whereupon it will be seen that the chain S will be wound thereupon, thereby exerting a pull on the extensions Q, thus causing the cross-rod N to move toward said drum T', said rod being guided in the tracks M. The arms P in the meanwhile also assume an inclined position, since a pull has been simultaneously exerted on the extensions U², and the arms V being therefore raised from a horizontal position to the elevated position simultaneously with the arms P, it being remembered that the gearing on the ends X and Y of said arms is always in mesh, and if the rotation of the drum is continued to a sufficient extent the wagon-body will assume the position seen in full lines in Fig. 1, said body being kept horizontal by the insertion of one of the pins or locking devices L³ in its proper opening, as L⁴,

the cross-bar B' always maintaining the same relative position by reason of its contact with the shoulder A' of the head Z. When the wagon-body is in the position seen in full lines in Fig. 1, it will be evident that it can be rotated in any desired position upon the head Z, and that when the desired position is reached it can be tilted by imparting the proper movement to the lever J', the body being further locked in any desired inclination by means of the pins L³. After the wagon has been dumped and restored to horizontal position it can be readily caused to descend to its inferior horizontal position, (seen in dotted lines,) the rapidity of descent being regulated by means of the braking-lever Z', the parts finally assuming the position seen in the inferior dotted lines in Fig. 1.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a dumping-wagon, side sills with tracks thereon, a wagon-body, a head supporting a bar on the ends of which said wagon-body is mounted, two pairs of arms pivoted to said sills and having their upper intermeshing ends connected with said head, one of said pairs having their pivotal connection with said sill movable in said tracks, and means for operating said pairs so as to raise said body.

2. In a dumping-wagon, a truck with side sills having tracks thereon, two pairs of arms one pair of which is pivotally connected with said sills and the other pair being pivotally mounted having a sliding rod having heads in said tracks and having intermeshing upper ends, a head to which upper ends are pivotally connected, said head having a shoulder thereon with an upwardly-projecting stem, a bar on said stem and resting on said shoulder, and having its ends forming journals, a wagon-body with depending boxes in which said journals have bearings, a drum mounted on said sills, and a chain connected at one end with said drum and passing around a pulley on an extension of one of said arms and connected at its other end with an extension on another arm.

3. In a dumping-wagon, a head, a wagon-body rotatably and pivotally supported thereupon, a plurality of supporting-arms pivoted to said head, and having intermeshing gear-teeth thereupon, a fixed fulcrum for one set of arms, a movable fulcrum for the other set of arms, and means for actuating the latter.

4. In a dumping-wagon, a wagon-body mounted on a shaft or bar, the arms G each having an end secured to said bar, the other ends being connected by the pin H', the lever J' fulcrumed on said pin, and having a handle and a rearwardly-projecting portion L' with the slot M' and the holes L² therein, the arms P' depending from said wagon-body and having holes therein corresponding to said holes L² and a pin N' with a roller therein working in said slot.

5. In a dumping-wagon, a wagon-body with

depending arms, a bar on which said body is journaled, arms connected with said bar and having a connecting-pin, a lever fulcrumed on said pin and having a rearwardly-extended portion with a slot therein, and a roller mounted between said depending arms and working in said slot.

6. In a dumping-wagon, a head, a wagon-body pivotally supported thereupon, a plurality of supporting-arms pivoted to said head and having their adjacent opposite faces provided with gear-teeth, one set of said arms being mounted on a fixed fulcrum, and the other set on a movable fulcrum, said arms being provided with extensions projecting beyond their fulcrums, a chain or other connection having one end attached to one set of

extensions, and the other end passing around rollers journaled in the other extension, and a drum to which the other extremity of said chain is attached.

7. In a dumping-wagon, a wagon-body having bearings thereon, a cross-bar having journals mounted in said bearings, a head on which said cross-bar is rotatably mounted, supporting-arms pivotally attached to said head and provided with intermeshing gear-teeth, and means for raising and lowering said arms.

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