

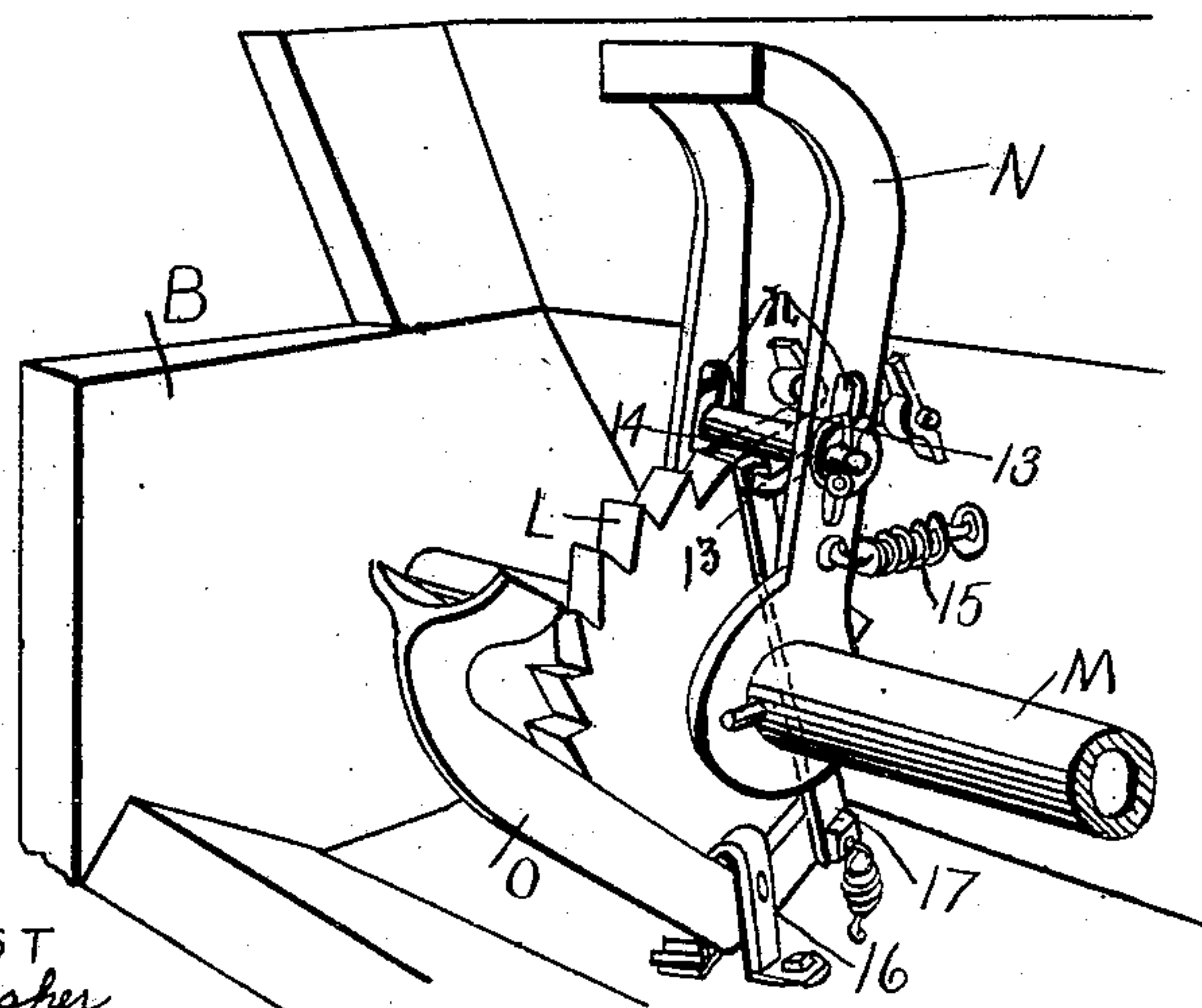
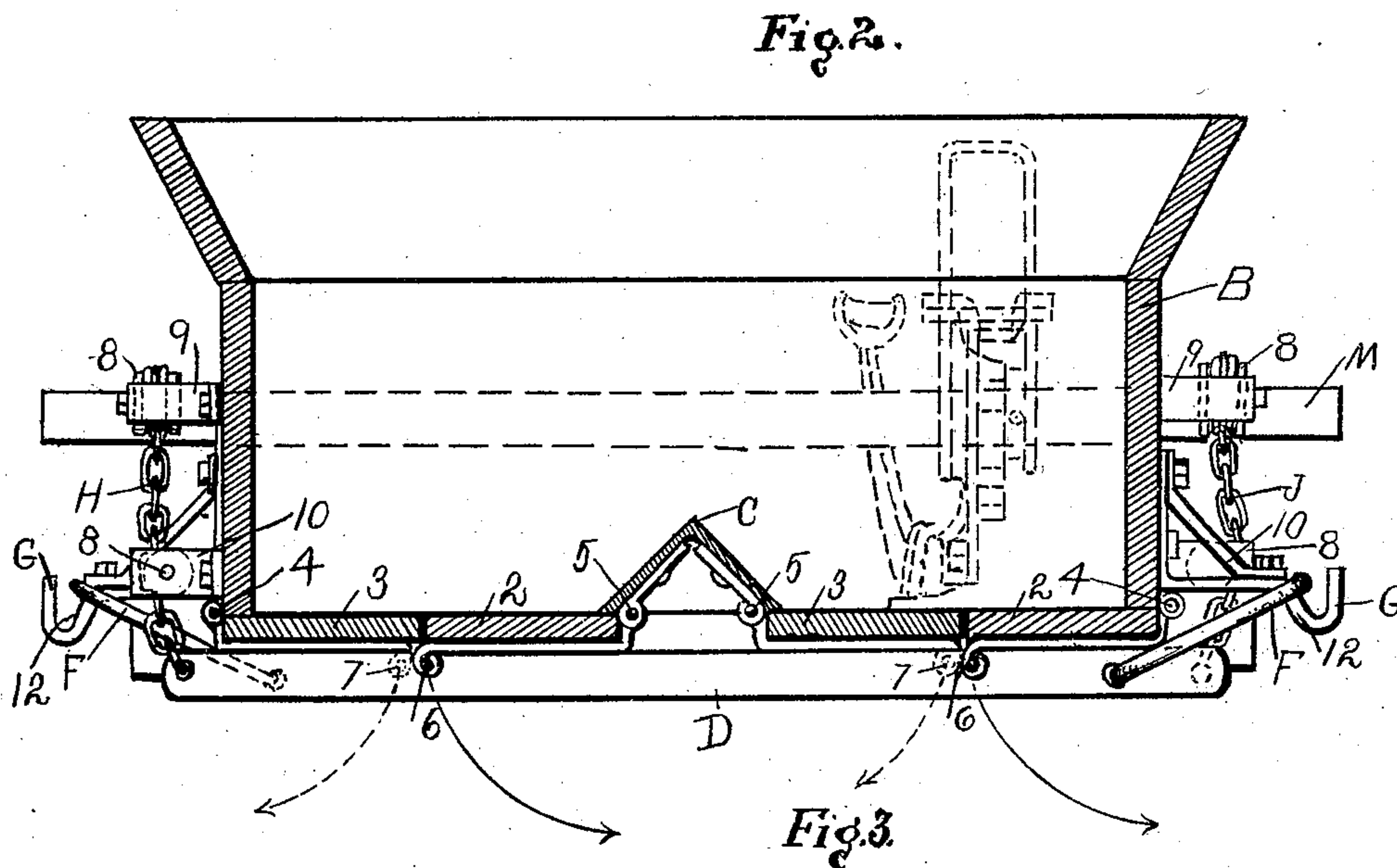
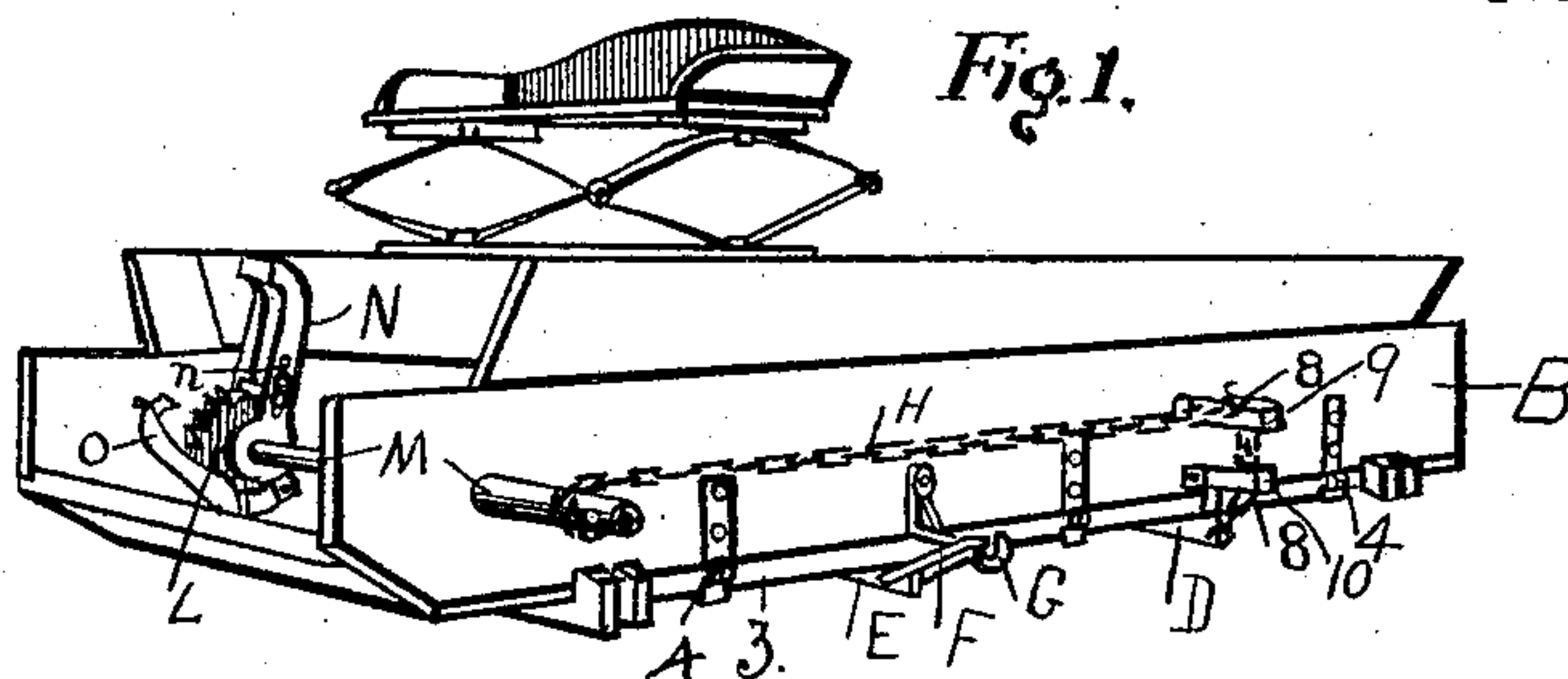
No. 841,143.

PATENTED JAN. 15, 1907.

D. E. GRAVES.  
DUMPING BED FOR WAGONS.

APPLICATION FILED SEPT. 21, 1906.

2 SHEETS—SHEET 1.



ATTEST  
E. M. Fisher  
R. A. Kitcham.

INVENTOR.  
David E. Graves.  
BY Fisher & Moore ATTYS.

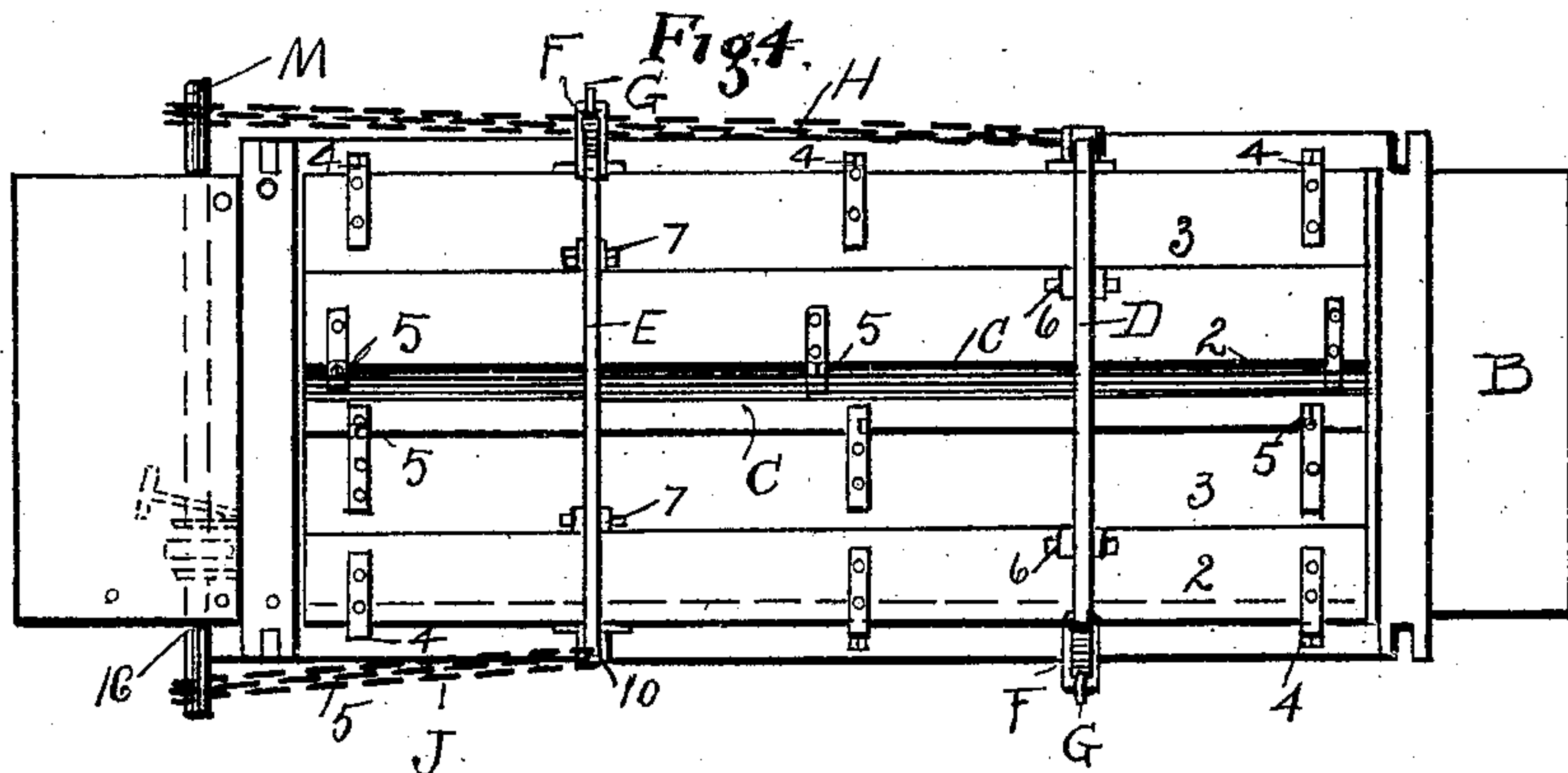
No. 841,143.

PATENTED JAN. 15, 1907.

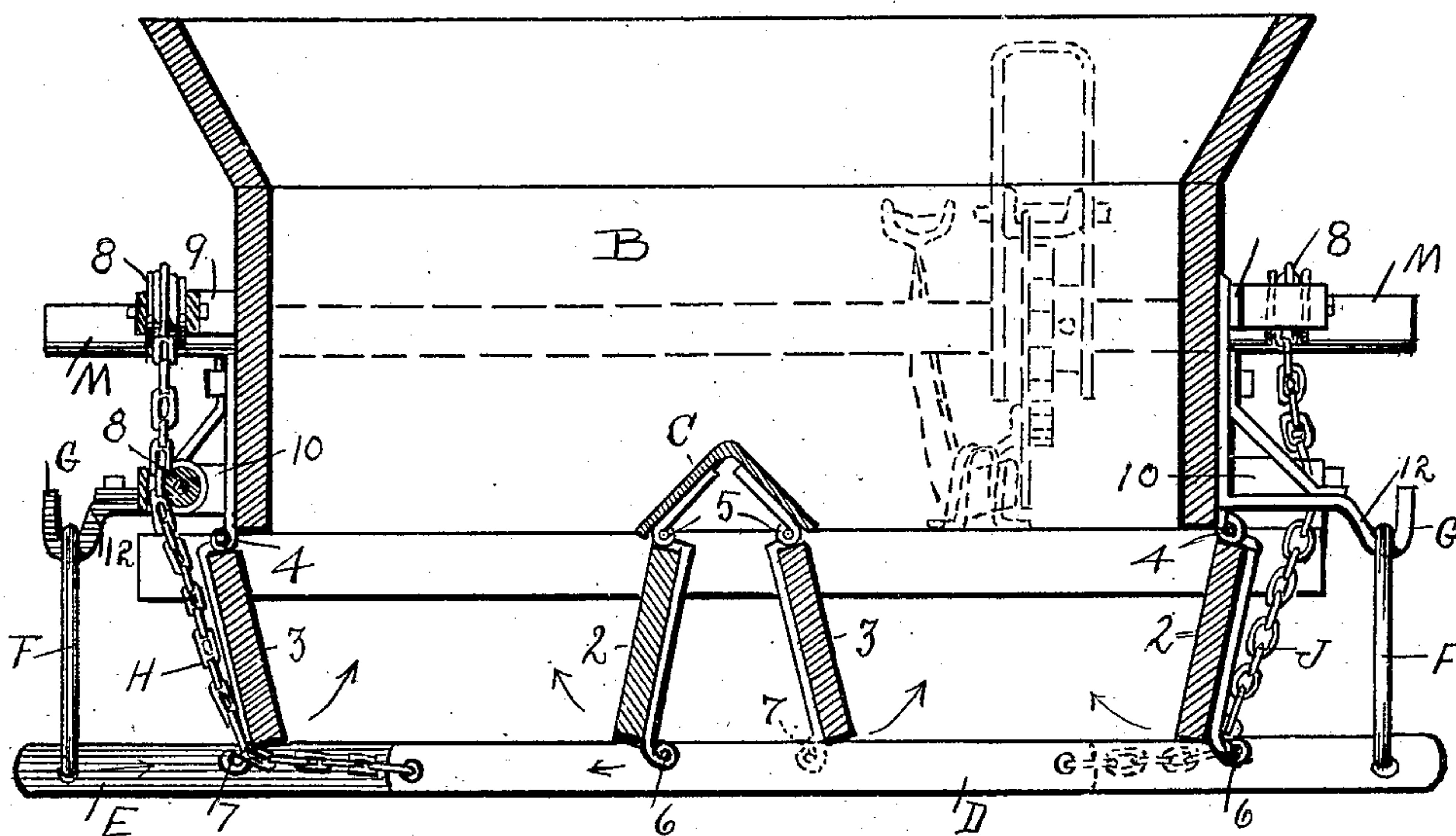
D. E. GRAVES.  
DUMPING BED FOR WAGONS.

APPLICATION FILED SEPT. 21, 1906.

2 SHEETS—SHEET 2.



*Fig. 5.*



ATTEST  
C. M. Fisher.  
A. A. Ketcham.

INVENTOR,  
David E. Graves  
BY Fisher & Mow AT.TYS.



# UNITED STATES PATENT OFFICE.

DAVID E. GRAVES, OF OBERLIN, OHIO.

## DUMPING-BED FOR WAGONS.

No. 841,143.

Specification of Letters Patent.

Patented Jan. 15, 1907.

Application filed September 21, 1906. Serial No. 335,596.

*To all whom it may concern:*

Be it known that I, DAVID E. GRAVES, a citizen of the United States, residing at Oberlin, in the county of Lorain and State of Ohio, have invented certain new and useful Improvements in Dumping-Beds for Wagons; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to dumping-beds for wagons; and the invention consists in a wagon bed or body provided with a sectional bottom adapted to open downward for dumping a load, all substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a wagon-body embodying my invention. Fig. 2 is an enlarged cross-section of the said body with the bottom closed. Fig. 3 is a perspective detail of a portion of the actuating mechanism for lowering and raising the bottom, as herein- after more fully described. Fig. 4 is a bottom view of the bed or body, and Fig. 5 is a cross-section thereof enlarged and shown with the bottom down or open.

As thus shown in the drawings, B represents the wagon bed or body as a whole, and as such it may have any suitable size or proportions, and 2 and 3 represent the bottom boards or sections of said body and constituting a part thereof. Said bottom boards or sections are each provided with two lines of pivot connection, one at each edge, and both are essential to their operation. Thus the outer boards at both sides are pivoted or hinged at intervals at 4 to the sides of the body, and the inner boards are hinged at 5 beneath the edges of the central longitudinal arch or shed C. This part C is preferably of metal and of substantially A shape in cross-section and supported at its ends in or by body B in any suitable way. In addition to this each board or section of the bottom has a pivoted or hinge connection 6 and 7, respectively, with transverse connecting-bars D and E, respectively. These bars serve as means for operatively connecting the sections of the bottom hinged thereto and both as supports for said sections when the bottom is raised and closed and as means of connecting said sections in such position and relation that they may be easily closed when open.

To these ends said bars are essentially of a horizontal character, being supported at one end by links F from bracket-hooks G and connected at their other ends by chains H and J, respectively, and by which mechanism they always drop and rise in a horizontal plane and in length are at least equal to the width of the wagon-bed. Two of said bars are shown in this instance, the bar D toward the rear of the body and bar E toward the front thereof, and their hook or link and chain engagements are reversed as to the sides of the body. Thus rear bar D has its link at the right looking toward the front, and bar E has its link on the left, and chains H and J are at the opposite ends of said bars, respectively, and are each of a length to engage over the front transverse windlass or roller M and to run thence back over sheaves or rollers 8 here and there to and including such rollers in brackets 9 and 10, respectively, at a point vertically opposite the otherwise free ends of said bars, with which said chains connect, so that as to said bars the pull by chain will always be directly upward, as it is also by links F. Furthermore, each hook G has an inner upwardly-inclined portion 12, with a stop at the top of the incline, over which link F is adapted to slide to the top thereof to afford suitable play for the link at this point and to raise it at its outer end to the best supporting position for closing the bottom of the body.

At the opposite end the pull of the chain is upward from first to last, but with the lateral swing of the sections or boards of the bottom of the body from their open positions, Fig. 5, to their closed position, Fig. 2. In these movements the bottom-sections connected with bars D and E swing in opposite directions, the two outer sections, pivoted at 4, swinging inward, and the two inner sections, pivoted at 5, swinging outward. Both actions are positive through the connecting-bars, and both sets of sections swing on the same arc. Hence they go together, and both bars serve as cross-supports beneath for all the bottom-sections.

At the front of the wagon any suitable means may be employed for controlling the windlass or roller M; but in this instance I mount a double-sided pedal or foot-lever N loosely on said roller and which has slots in its sides. Between these sides I fix a ratchet wheel or disk L on the said roller, which is en-



gaged by a drop or gravity pawl 13 at its rear, fixed in the wagon-body and normally in engagement with said ratchet-wheel and by which the bottom-sections are held in closed position. A cross-pin 14 plays loosely up and down in said slots *n* and is the engaging member for foot-lever N to forcibly rotate ratchet L and raise the bottom through chains H and J, wound on roller M. A spring or springs 15 serve to pull lever M back to starting position. Then, having a load to be dumped, pawl 13 and pin or rod 14, resting over it, are raised out of engaging position by foot-actuated crank-arm O, which is pivoted at 16 in its angle and connects by link 17 with pawl 13. It follows when a load is to be discharged that the driver need simply push by his foot on arm O and ratchet L will be instantly released, and the weight of the load will assert itself and all the parts will drop to unloading position, Fig. 2. This of course is the work of a moment and occurs automatically. Then as the load is discharged the driver raises the bottom again by forward movements, one or more, upon lever M and which are taken up by pawl 13 until the bottom is raised again to closed position, as in Fig. 2.

Chains H and J are shown and claimed; but obviously any suitable substitute, such as rope or wire cable, could be used and be the equivalent of the chains.

The central shed C is a fixed part of the wagon-body, and in operation the two inner sections of the bottom practically swing beneath the edges thereof when wide open, while the outer sections swing beneath the edges of the body, thus housing the upper edges of all the sections for the time and preventing lodgment of earth thereon while shed C clears itself.

What I claim is—

1. In dumping-wagons, a wagon-body having a bottom formed in sections longitudinally, and cross connecting-bars at intervals pivotally connected with alternate sections beneath the same and means at the ends of said connecting-bars to raise and lower the same horizontally.

2. A wagon-body having a bottom in sections longitudinally, said sections having fixed hinges at one edge and a plurality of connecting-bars transversely beneath said sections and hinged to said sections at their edges opposite their fixed hinges, and means to raise and lower said bars.

3. The wagon-body having a bottom formed in sections, the outer of said sections hinged at the sides of said body and the inner sections hinged in the middle of said body, and cross connecting-bars having each one inner and one outer bottom-section in hinge engagement therewith, and means to raise and lower said bars simultaneously.

4. A wagon-body having a bottom in sections adapted to swing downward to dumping position, hinges connecting one edge of each section directly with said body and a plurality of cross connecting-bars with which the other edges of said sections have hinge connection, the sections being alternately hinged to different bars, suspensory devices connecting one end of said bars with the body and cables connected with the other ends thereof and adapted to be let out and drawn up in operation.

5. A wagon-body having a bottom in sections, cross connecting-bars uniting said sections, a suspensory link supporting one end of each bar and a cable connected with the other end, and means to uniformly take up and let out said cables according as said sections are to be opened and closed.

6. A wagon-body having a sectional bottom, cross connecting-bars united with alternate sections beneath the same, hooks on said body and links thereon supporting one end of each bar and a cable supporting each other end of said bars, a roller with which said cables are engaged and a lever and pawl-and-ratchet mechanism connected with said roller.

7. A dumping-wagon body having a sectional bottom and means to open and close said bottom comprising a cable at each side of the body, a roller on which said cables are adapted to be wound, a lever and a ratchet mounted on said roller, a pawl to engage said ratchet, means to engage the lever with the ratchet, and means to disengage lever and pawl and release the ratchet, thereby liberating the cables and allowing the bottom to open and dump the load.

8. A wagon-body having a sectional bottom, cross-bars pivotally connected with one edge of said sections alternately, hooks on said body having inner inclined portions, suspensory links engaged in said hooks and one end of said cross-bars, chains connected with the other end of said bars, and sleeves on said body in the same vertical plane as said bars and carrying said chains.

9. A dumping-wagon body having a shed of substantially  $\Lambda$  shape lengthwise in its center, longitudinal bottom-sections hinged beneath the edges of said shed and beneath the edges of the sides of the said body respectively, cross-bars connecting alternate sections, link and hook supports for one end of each bar and chain supports for the other ends, and means to tighten and release said chains simultaneously.

In testimony whereof I sign this specification in the presence of two witnesses.

DAVID E. GRAVES.

Witnesses:

WILLIS A. HART,  
C. H. DUDLEY.