

(No Model.)

J. B. & A. R. COURNYER.
WAGON DUMP.

No. 572,630.

Patented Dec. 8, 1896.

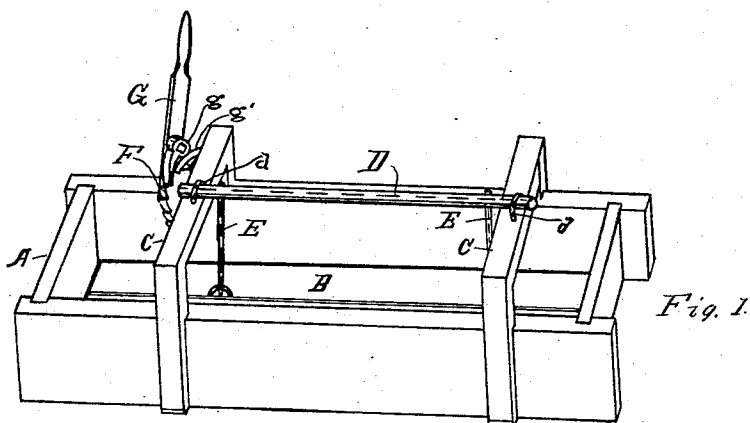


Fig. 1.

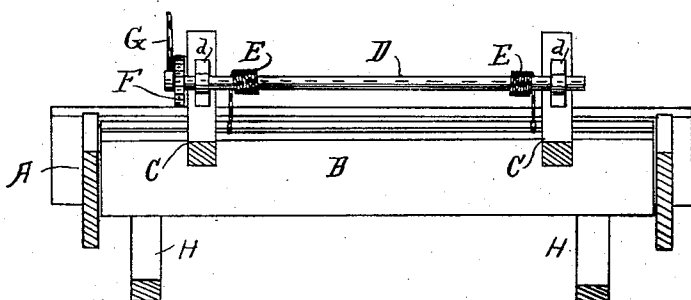


Fig. 2.

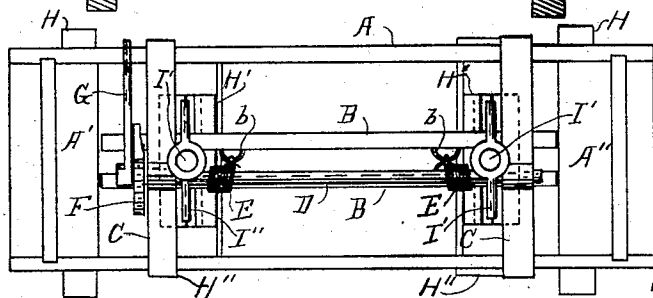


Fig. 3.

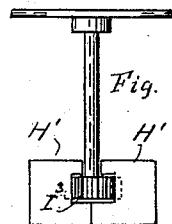


Fig. 5.

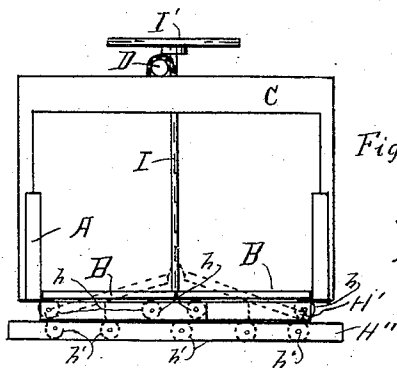


Fig. 4.

Witnesses.

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UNITED STATES PATENT OFFICE.

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WAGON-DUMP.

SPECIFICATION forming part of Letters Patent No. 572,630, dated December 8, 1896.

Application filed February 27, 1896. Serial No. 581,032. (No model.)

To all whom it may concern:

Be it known that we, JOHN B. COURNYER, residing at Coopersville, in the county of Ot-tawa, and ALBERT R. COURNYER, residing at Fruitport, in the county of Muskegon, State of Michigan, citizens of the United States, have invented certain new and useful Improve-ments in Wagon-Dumps, of which the follow-
ing is a specification.

Our invention relates to improvements in appliances for emptying loads of sand, gravel, iron ore, &c., from wagons and cars; and its objects are, first, to provide a means of readily removing the entire bottom of a wagon or car box from under the load at a single operation, and, second, to provide for so balancing the bottom of a car containing heavy loads that it will require but little power to remove the bottom and allow the load to fall out. We attain these objects by the mechanism illus-trated in the accompanying drawings, in which—

Figure 1 is a perspective of a wagon or car box. Fig. 2 is a longitudinal section of the same, partly in section, showing the bottom removed, so that the load will pass through out of the box. Fig. 3 is a plan of a car-box with the bottom elevated or removed, show-ing an auxiliary set of bunks drawn from under the outer edges of the bottom, so that the load in the box will assist in elevating the bottoms for dumping the load. Fig. 4 is an end view of the same, showing by the solid lines the box-bottom and bunks in their nor-mal position and by the dotted lines the bunk drawn together and the bottom partially ele-vated to illustrate the contracting of the length of the auxiliary bunks; and Fig. 5 is an end view of the auxiliary bunk with its adjusting wheel and shaft in position.

Similar letters refer to similar parts throughout the several views.

In constructing our wagon-dump we make the bottom B of the box A in two longitudi-nal sections detached from the box, so that they may be readily removed and replaced. These sections, when in their normal positions, rest upon the bunks H in the usual manner.

Our dumping device consists of a shaft D, supported upon bearings C, that project up-ward from the box, as shown in the several

figures, which shaft is connected to the con-tiguous edges of the bottom sections by cords or chains E, so that the turning of the shaft in one direction will raise the center edges of these sections until the sections will stand vertically on edge and allow anything that may be in the box to drop out. At one end of the shaft we place a ratchet-wheel F, a lever G, and pawls g and g' with which to revolve the shaft for the purpose hereinbefore men-tioned.

Upon ore-cars where very heavy loads are carried we find it necessary to make use of some auxiliary to the shaft-and-chain device above described for operating the dump, and for this purpose we construct sliding auxil-iary bunks H' and place a pair of them at each end of and under each section of mov-able car-bottom, (it being sometimes neces-sary to construct the car-bottoms with two or more short sections to facilitate handling them when supporting very heavy loads.) These bunks are made in pairs, as indicated in Figs. 3, 4, and 5, and are made to slide longitudinally in opposite directions, so that (being shorter than the width of the box) in the drawing of them together, as in Fig. 3, the outer ends will extend but a trifle more than half-way from the center to the sides of the box, so that the bottom sections will hang over nearly one-half their width, thus utilizing a large proportion of the load so that it will be brought to bear upon the overlap-ping edges, so that the labor of the shaft D and the chains is greatly reduced by the breaking of the edge of the bottom sections over the ends of the auxiliary bunks, as in-dicated by the dotted lines in Fig. 4. We provide for the longitudinal adjustment of these bunks by means of a shaft I, having any available handle, as I', for turning the same, and attached to its lower end is a gear-wheel I² with teeth fitted to mesh in corre-sponding teeth in the bunks, as indicated in Fig. 5. Said bunks are provided with grooves for the reception of said gear-wheels, and a series of gear-teeth are placed in the bottoms of said grooves. These auxiliary bunks are somewhat shorter than the width of the re-movable bottom, so that the turning of the gear-wheel in one direction will extend them

to support the full width of the bottom, and turning it in the opposite direction will draw them together or contract their length, so that they will be but a trifle more than half the width of the removable bottom and directly under the lateral center thereof. To facilitate the adjustment of these bunks, we place a series of small wheels or rollers (indicated by the dotted lines *h*) in the upper surface of the bunks *H'* in position to receive the weight of the bottom *B*, the outer rollers being set to work directly at the outer corners of the bunks, as shown, so that the action of the bottom will be as free as possible, and a second set or series of wheels *h'* in the bunk *H''* in position to receive and freely carry the bunks *H'*.

d represents capes or staples for holding the shaft *D* in place, and *b* shows one means of attaching the cords *E* to the edges of the bottom *B*.

When using our dump upon cars, we find it better to leave a portion of the car-bottom at each end, as at *A''*, solid for resting upon the bunk *H*.

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

1. In combination, with a wagon or car box, a loose bottom in longitudinal sections resting on the bunks that support the box, and a shaft and cords for raising the center edges

of said sections to dump the load, a ratchet-wheel secured near the end of said shaft and a lever pivoted upon the shaft and provided with a pawl with which to turn the shaft, substantially as set forth.

2. The combination with a wagon or car box, of a detached bottom made in longitudinal sections, a shaft and cords for dumping said bottoms, and a lever and ratchet for operating said shaft, with bunks arranged to be adjusted in opposite directions across the box to bring the bearing of the bottom sections in position to facilitate the dumping thereof, and a gear-wheel and levers for adjusting the same, substantially as specified.

3. The combination with a wagon or car box of a detached bottom made in longitudinal sections hinged together in the center, and a shaft and lever for operating the same, with adjustable bunks arranged to lengthen and shorten, rollers for supporting the bottom on the bunks, and the adjustable bunks on the stationary bunks, substantially as set forth.

Signed at Fruitport, Michigan, February 17, 1896.

JOHN B. COURNYER.
ALBERT R. COURNYER.

In presence of—

FRANK TUBBS,
JOSEPH MARTINDALE.