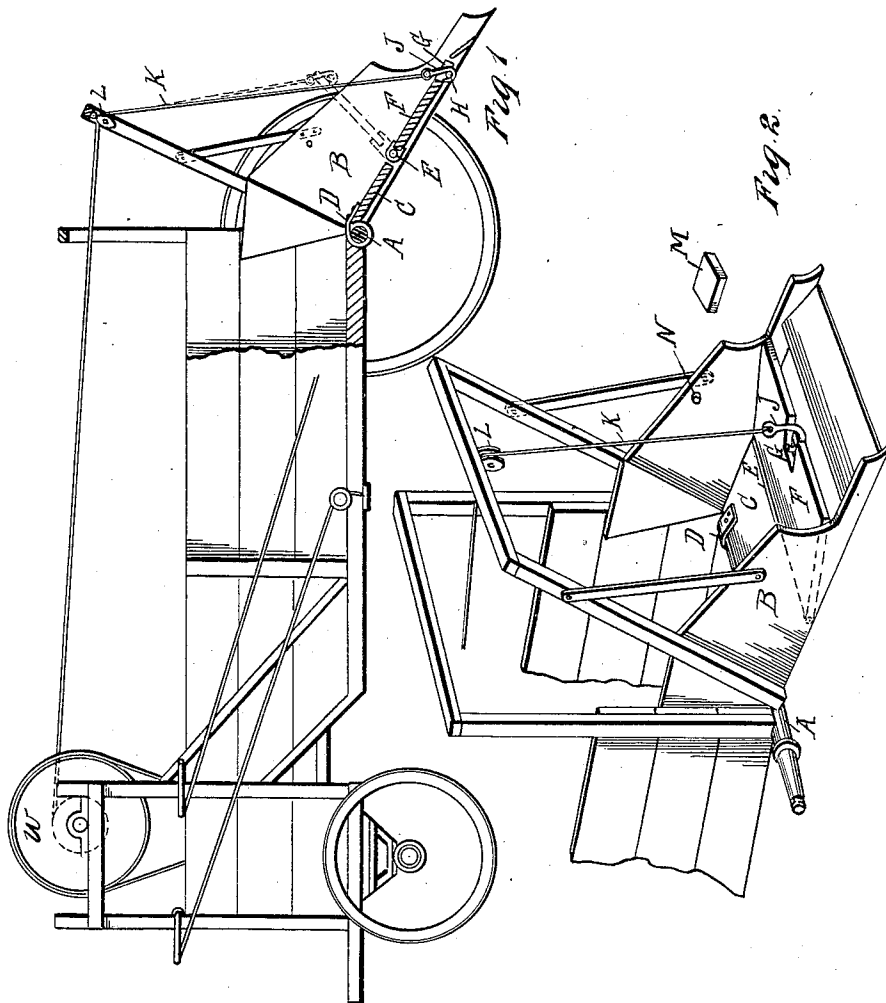


E. HOWLAND.
LOADING AND DUMPING BRIDGE.
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1,050,541.

Patented Jan. 14, 1913.



Witnesses
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UNITED STATES PATENT OFFICE.

EPHRAIM HOWLAND, OF PONTIAC, MICHIGAN.

LOADING AND DUMPING BRIDGE.

1,050,541.

Specification of Letters Patent.

Patented Jan. 14, 1913.

Application filed April 13, 1911. Serial No. 620,751.

To all whom it may concern:

Be it known that I, EPHRAIM HOWLAND, a citizen of the United States, residing at Pontiac, county of Oakland, State of Michigan, have invented a certain new and useful Improvement in Loading and Dumping Bridges, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements upon my former patent for loading, carrying and dumping device, dated February 6, 1906, No. 811,923, and consists in the modification of the "bridge" of the foregoing patent as hereinafter described and claimed.

In the drawings:—Figure 1, is a side elevation of the vehicle with the bridge attached thereto, a portion of the vehicle and bridge being sectioned. Fig. 2, is a detail perspective figure of the same, showing improvements therein.

Similar letters refer to similar parts.

In the device of my said Patent No. 811,923, the bridge was composed of a drop bottom inserted in a frame-work with triangular side pieces pivoted to the rear end of the body of a wheeled carrying and dropping device and adapted to be raised and lowered to form the tail end of the box therefor. In the present device, I have pivoted the dumping body directly upon the axle of the rear traveling wheels, which axle is formed from a round bar or strong tube of iron on which the wheels are mounted at each end thereof. By fitting the bottom of the dumping apparatus and the bridge to this round axle and pivoting the bridge thereon, I obtain a tight joint and in order to form what may be termed an end board when the loading device is loaded, I divide the bottom of the bridge into two parts, one of which is pivoted at its forward end and the outer end is or may be controlled by a lifting apparatus whereby when the bridge is elevated, the lifting apparatus first lifts the end board into a vertical or substantially vertical position, and when in such position, thence lifts the whole bridge so that its bottom except the tail board will be in a horizontal position.

In the drawing, A, represents the modified axle of my former loading, carrying and

dumping device; B, represents the bridge; C, the fixed part of the bottom of the bridge; D, the hinge grasping the axle and enabling the inner surface of the bridge to come closely in contact therewith and when elevated, form a substantially level surface without interference by the axle.

At E there is pivoted the end board F, which when down, as shown in Fig. 1, forms the bottom of the bridge. In the center of the outer edge of the end board F, there is cut a notch G; this is enlarged or exaggerated in Fig. 2 for the purpose of clearly showing the construction. Upon the under side of the board and underneath the notch is a bar H to which a hook J may be attached when it is desired to raise the end board. To this hook is attached a rope K passing over a pulley L at the top of the upright framework of the bridge and thence forward to a windlass W which may be driven by any convenient means of power.

It will be noted that a block M fits into the notch G in the tail board and over the bar H when it is desired to make the surface even for the purpose of facilitating loading.

On removing the block M, the rope K and hook J can be drawn down and locked over the cross bar H and on applying the power the first effect will be to lift the end board F into a substantially upright position, its own position thereof in said lifting being indicated in Fig. 1 by dotted lines. As soon as it is in a position at substantially right angles to the bottom of the bridge, it comes against stops N, only one of which is shown in Fig. 2, the further exertion of force upon the rope K will lift the end board up to a horizontal position and retain it in said position until it is desired to be dumped. On releasing the rope, the bridge will drop so that its outer edge comes in contact with the ground and the tail board will drop back to form the bottom of the bridge, the block M can be inserted into the notch G after the hook J has been withdrawn and the device then is in readiness for loading substantially as described in the former patent to which I have referred.

Having thus described my invention, what I desire to claim is:—

1. The combination with a vehicle of a bridge pivoted to the rear thereof and provided with an aperture in its bottom, an end board pivoted to the bridge at the side

of the aperture toward the front of the vehicle, the said end board being of the same size as the aperture, stops on the bridge substantially in vertical lines to the pivoting of the end board when the bridge is in horizontal position and draft means connected with the free end of the end board and passing to the front of the vehicle, whereby the said board may be drawn up into perpendicular position and engage against said stops and whereby, when the pull is continued, the bridge is drawn up into its uppermost position, substantially as described.

2. The combination with a vehicle of a bridge pivoted to the rear thereof and provided with an aperture in its bottom, an upright frame work attached to said bridge, a sheave on said frame work, an end board pivoted to said bridge at the side of the aperture toward the front of the vehicle and of the same size as the aperture, stops on the bridge located substantially in direct lines above the pivoting of the end board when the bridge is in horizontal position, and a rope attached to the free end of the end board and passing over the said sheave and into the vehicle, substantially as described.

3. The combination with a vehicle of a

bridge pivoted to the rear thereof and provided with an aperture in its bottom, an end board pivoted to the bridge on the side of the aperture toward the front of the vehicle and of the same size as the aperture, the said end board having a notch in its free end, a bar disposed transversely of said notch, stops on said bridge located substantially in direct lines above the pivoting of said end board, a rope and hook, the latter adapted to hook over the bar in said notch, whereby, when the pull is exerted on the rope in the direction of the forward end of the vehicle, the end board is brought to perpendicular position and the continuance of the pull raises the bridge to its uppermost position, and a removable block for slipping into the notch of the end board when the same has been lowered to fill the aperture of the bottom of the bridge so as to secure an uninterrupted surface for the bottom of the bridge, substantially as described.

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

EPHRAIM HOWLAND.

Witnesses:

VIRGINIA C. SPRATT,
R. A. PARKER.