2 Sheets—Sheet 1.

E. D. HARRISON.

Dump for Elevating and Unloading Wagons.

No. 213,285. Patented Mar. 18, 1879.

Fig. 1.

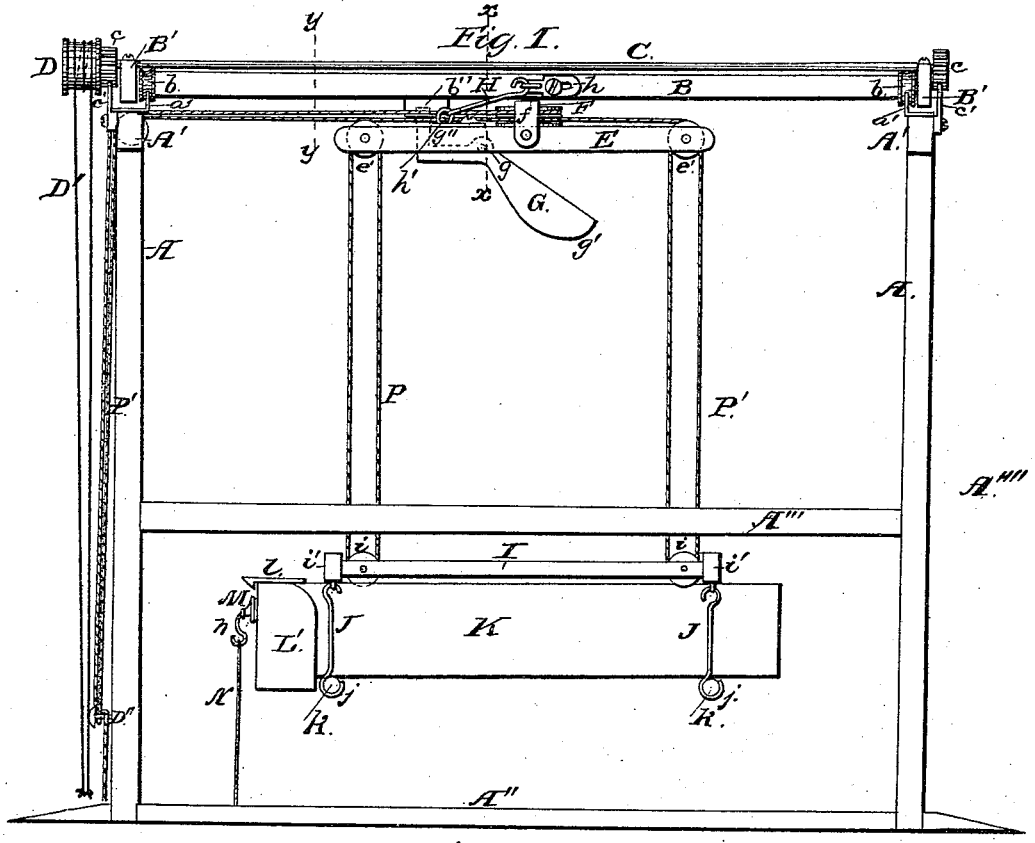
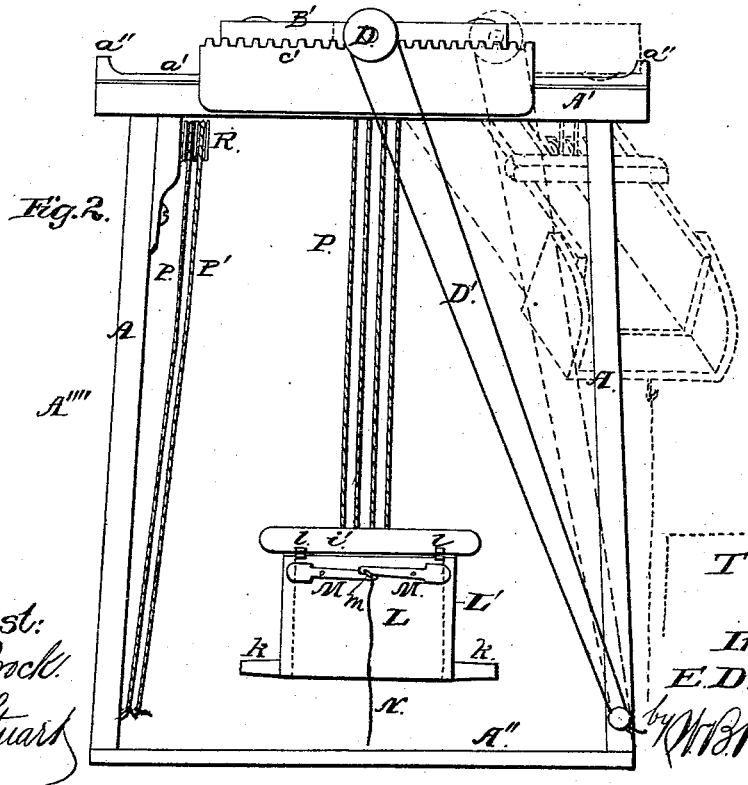


Fig. 2.



Attest:
F. P. Brock.
D. G. Stuart

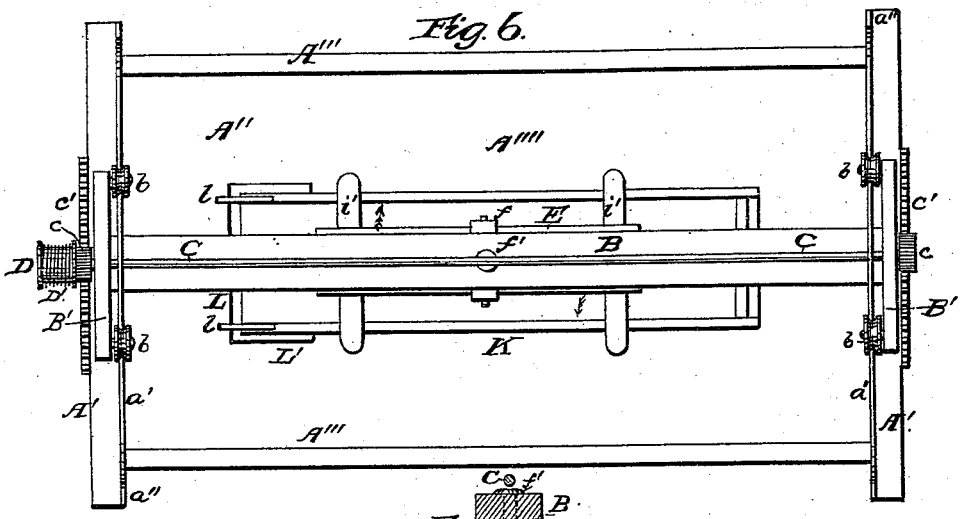
Inventor:
E. D. Harrison,
by W. B. Richards,
Atty.

E. D. HARRISON.

Dump for Elevating and Unloading Wagons.

No. 213,285. Patented Mar. 18, 1879.

Fig. 6.



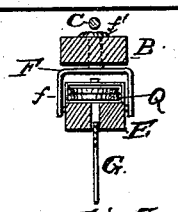


Fig. 3.

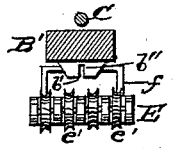


Fig. 4.

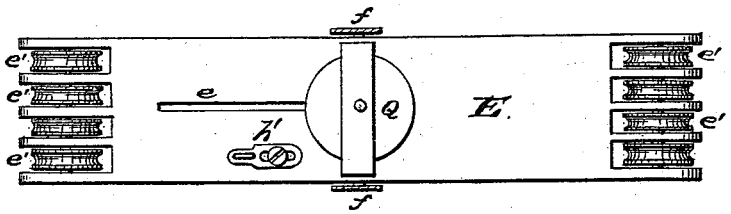


Fig. 5

Attest:
F. B. Brock
D. G. Stuart

Inventor:
E. D. Harrison,
by W. B. Richards,
Atty.

UNITED STATES PATENT OFFICE.

EDWARD D. HARRISON, OF GALVA, ILLINOIS.

IMPROVEMENT IN DUMPS FOR ELEVATING AND UNLOADING WAGONS.

Specification forming part of Letters Patent No. **213,285**, dated March 18, 1879; application filed January 9, 1879.

To all whom it may concern:

Be it known that I, EDWARD D. HARRISON, of Galva, in the county of Henry and State of Illinois, have invented certain new and useful Improvements in Dumps for Elevating and Unloading Wagons; and I do hereby 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a side elevation of a construction embodying my invention. Fig. 2 is an end view. Fig. 3 is an elevation in the plane of the line *x x* in Fig. 1. Fig. 4 is an elevation in the plane of the line *y y* in Fig. 1. Fig. 5 is a detail view, hereinafter referred to, a top plan of the block E. Fig. 6 is a top-plan view.

This invention relates to apparatus for raising and tilting wagon-bodies, to unload them, and lowering them into place; and consists, first, in a suspending-block pivoted to the upper part of the supporting-frame in such manner that it may be turned in a horizontal plane to bring the elevated wagon-body into desired position, and in a vertical plane to discharge its contents; second, in a pivoted suspending-block provided with a gravitating-catch to hold it in position, and which is released by the wagon-body striking it when elevated; third, in a suspending-bar, which can be moved over laterally to carry the elevated wagon-body to one side, as desired.

The invention further consists in the construction and combination of parts hereinafter fully described, and set forth in the claims hereto annexed.

Referring to the drawings by letters, letters A represent four posts, supporting two parallel bars, A′. The posts A may be attached to a base, A″, and connected by bars A‴, to form a portable frame, A⁗. B is a bar extending from one bar A′ to the other, and has a head, B′, on each end, each head provided with grooved wheels *b*, which rest on tracks *a*′, which tracks are fixed to the bars A′. C is a shaft journaled in suitable bearings in the heads B′, with its ends projecting beyond said heads, and each provided with a pinion, *c*, which gears with a rack-bar, *c*′, fixed one to each bar A′. D is a pulley on one end of the shaft C, and it has a cord, D′, coiled thereon, with both ends extending downward to near the lower end of a post, A, where they are looped over a button, D″.

It will be evident that by drawing one end of the cord D′ its coil-friction on the pulley D will rotate it, and cause the pinions *c* to act on the rack-bars *c*′, and thus carry the bar B over to one side of the frame A⁗; and by drawing the other end of the cord D′ it may be carried back and to the other side of the frame A⁗. Stops *a*″ on the tracks *a*′ will stop the bar B at the desired place.

E is a tilting head-block, pivoted centrally in the arms *f* of a yoke, F, so that it can be tilted or either end raised and lowered, and the yoke F has a central standard, *f*′, journaled vertically in the bar B, so as to permit oscillating or swinging the head-block E in a horizontal plane. G is a gravitating latch or catch, pivoted at *g* in a slot, *e*, in the head-block E, so that its heavier end *g*′ will project its lighter end *g*″ upward through the block E, where it may engage with a slot, *b*′, in a block, *b*″, which projects downward from the bar B, and has its sides tapered or beveled, so that the latch G will slide over either of them to pass to its position in the slot *b*′, when the block E is swung around to bring it parallel with the bar B. H is a link, engaged at one end with a slotted plate, *h*, on the bar B, and at its other end with a slotted plate, *h*′, on the head-block E. The slotted plates *h h*′ can be adjusted longitudinally and held by the screw-bolts shown in the drawings.

The link H will prevent swinging the head-block E, except in the direction shown by the arrow at Fig. 6 of the drawings; and when the head-block is tilted, as shown by dotted lines at Fig. 2, the link H will limit its inclination, and may be adjusted by the slotted plate *h*′ to allow it to incline more or less to a horizontal line, and may be also adjusted by the slotted plate *h*, to permit it to swing around more or less on the pivot *f*′.

The block E is also provided with a series of pulleys, *e*′, in each end.

I is a block similar in shape to the block E,

and it has a similar series of pulleys, *i*, near each end, and also a bar, *i'*, at each end, from the outer ends of which hang pendent rods J, the lower ends of which are formed into eyes *j*.

K is a wagon bed or body, with transverse bars *k*, projecting slightly beyond its sides, and with its end-gate L, having side plates, L', and hinged so that it can be turned down, as shown by dotted lines at Fig. 2.

l l are spring-catches, which extend over and engage with the end-gate L when it is turned up, (closed,) and hold it in place.

M M are levers, pivoted to the rear side of the end-gate L, and their adjacent ends connected by a link, *m*, so that when drawn downward their outer ends will strike and raise the catches *l*, and thereby release the end-gate. N is a cord, with a hook, *n*, on one end.

P P' are cords passed over the pulleys on the blocks E and I, as shown in the drawings, and so as to obtain differential motion in raising the block I. The free ends of the cords P P' are passed around a pulley, Q, mounted centrally above the block E, and thence over a pulley, R, on one of the posts A, and downward to a pin near the ground.

In operation, the frame A'''' is seated near the place T, into the top of which it is desired to discharge the loaded wagon. The wagon may be then driven to bring its body beneath the block I, when the eyes *j* on the rods J may be engaged with the projecting bars *k*. By drawing on the cords P P' the wagon-body may be elevated until the block I strikes the end *g'* of the latch G, and thus releases its other end from the block *b''*, and allows the wagon-body to be swung around on the pivot *f'* until the end-gate is toward the bin T, when the bar B may be moved laterally, as hereinbefore described, to bring the wagon-body so that its end-gate is over the bin T. The wagon-body may be then tilted and the end-gate released, to allow the load to discharge, by drawing on the cord N, which was engaged with the link *m* before the wagon-body was elevated.

When the load is discharged and the cord N released the wagon-body will right itself, and may be then swung around, so that the latch G will be again engaged with the block *b''*, and the wagon-body may then be lowered by the cords P P' again to its place on the wagon, and the rods J released to allow it to be removed.

The device may be used for unloading ear-corn into corn-cribs or for other purposes.

What I claim as new is—

1. In combination with elevating apparatus, the head-block E, suspended so as to be turned in a horizontal plane and tilted in a vertical plane, substantially as and for the purpose specified.

2. The gravitating-latch G, arranged to operate with the elevating-cords, and with the block I, tilting-block E, and block *b''*, substantially as described, and for the purpose set forth.

3. In combination with the blocks E I and elevating-cords P P', the bar B, adjustable laterally on the frame A'''', substantially as and for the purpose specified.

4. The link H and slotted plates *h h'*, arranged to operate with the tilting-block E, block I, and the elevating devices, substantially as described, and for the purpose set forth.

5. The shaft C, pinion *c*, pulley D, and cord D', in combination with the bars A', rack-bars *c'*, bar B, wheels *b*, and with elevating devices, as and for the purpose specified.

6. The block I, having pendent rods J, with eyes *j* on their lower ends, in combination with the elevating devices, and with the wagon-body having projecting bars *k*, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

EDWARD D. HARRISON.

Witnesses:
H. A. ALLEN,
P. R. RICHARDS.