

(No Model.)

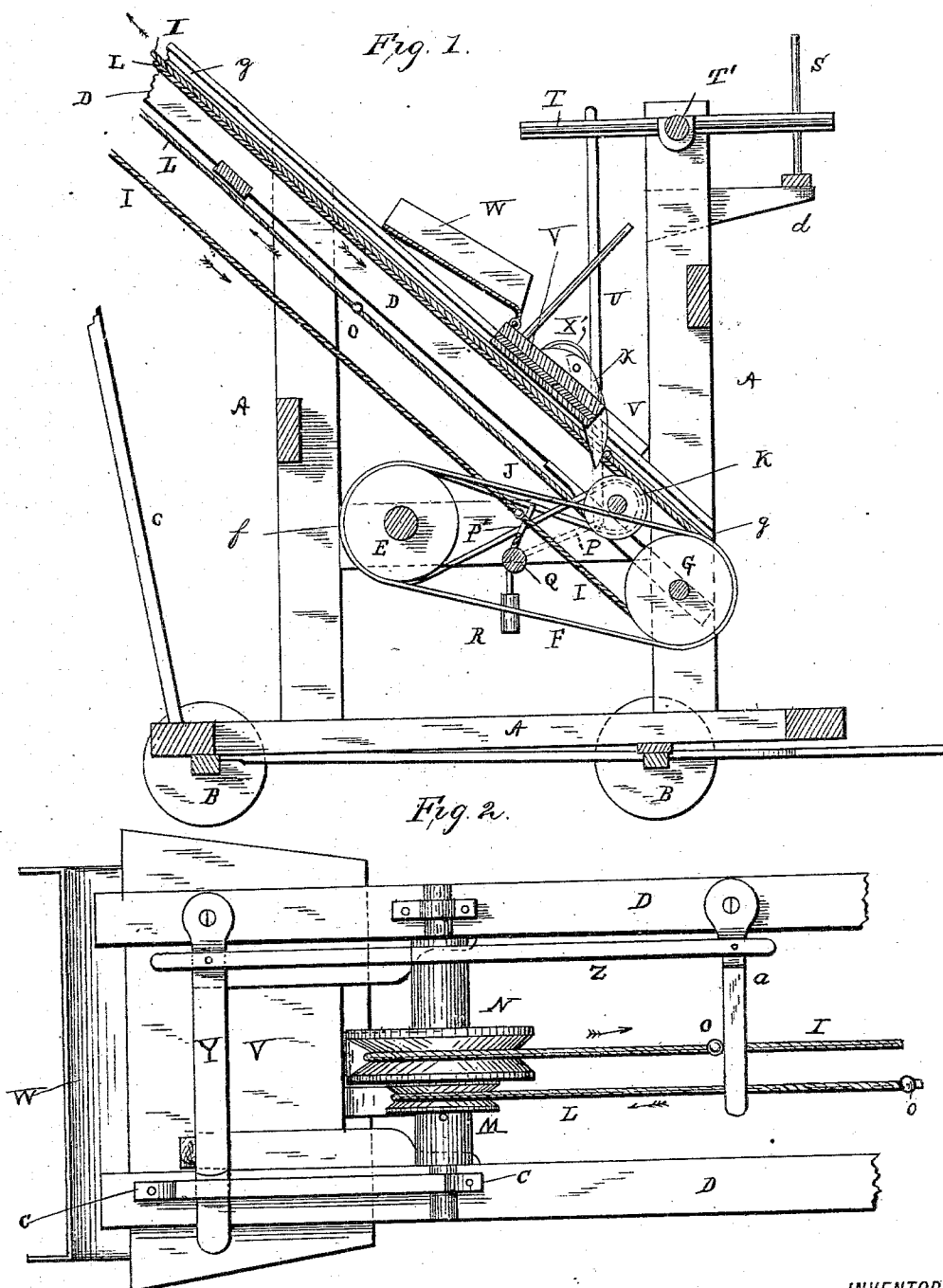
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T. WILLIAMS, A. MAUCK & H. A. WILLIAMS.

ELEVATOR.

No. 295,135.

Patented Mar. 11. 1884.



WITNESSES

Chas. D. Davis
H. A. Coleman

INVENTOR

T. & H. A. Williams
Alfred Mauck
By C. M. Alexander, Attorney

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Fig. 3.

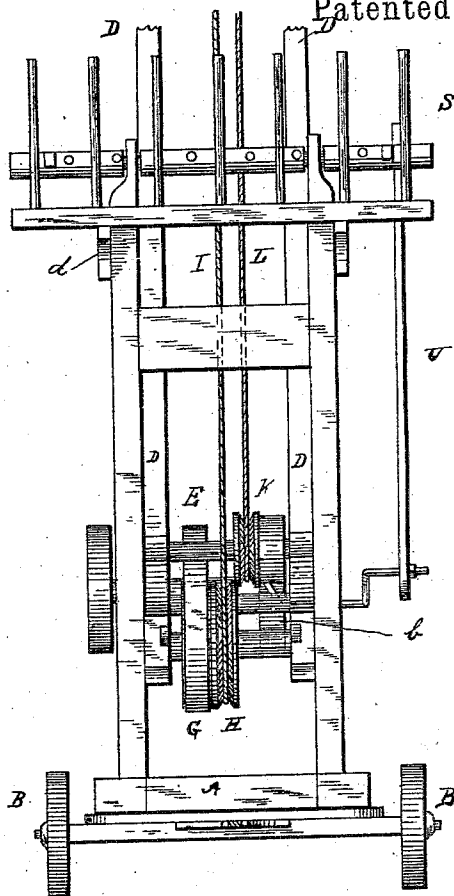


Fig. 4.

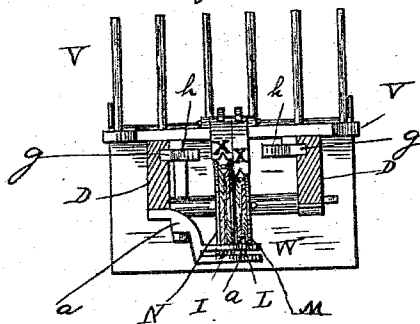
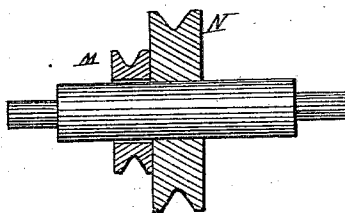


Fig. 5.



WITNESSES

Chas. D. Davis
H. A. Coleman

INVENTOR

T. & H. A. Williams
and Alfred Mauck
By L. M. Alexander Attorney

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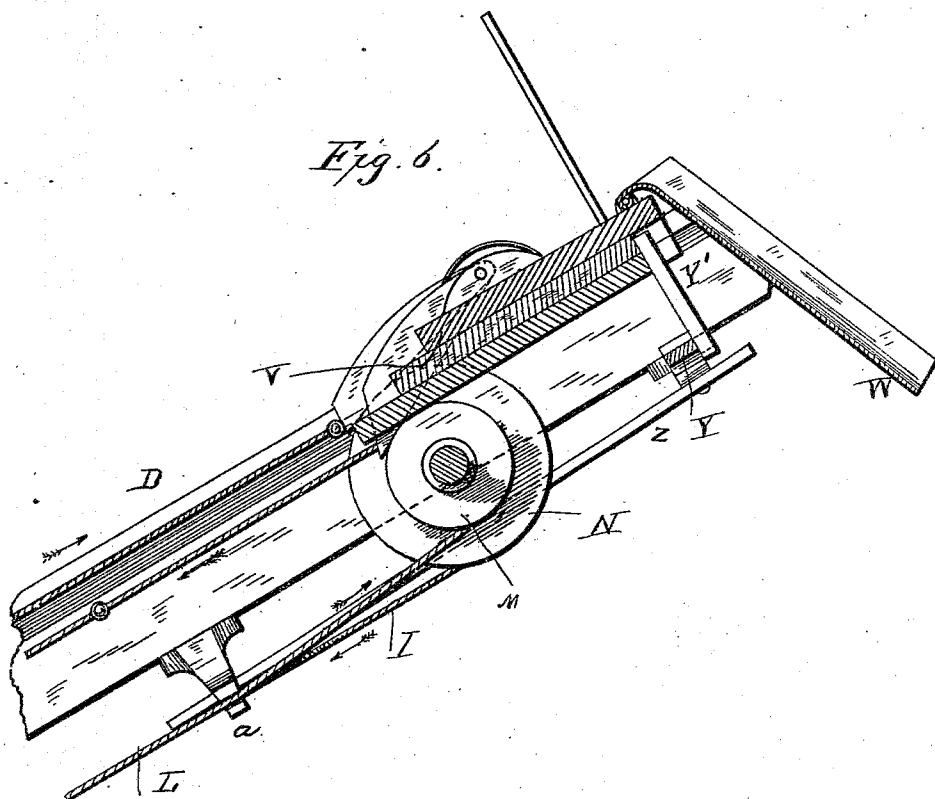
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WITNESSES

Chas. R. Davis
J. J. McCarthy.

INVENTOR

T. & H. A. Williams & Alfred Mauck
By C. M. Alexander
Attorney

UNITED STATES PATENT OFFICE.

THOMAS WILLIAMS, ALFRED MAUCK, AND HENRY A. WILLIAMS, OF
PRINCETON, INDIANA.

ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 295,135, dated March 11, 1884.

Application filed August 9, 1883. (No model.)

To all whom it may concern:

Be it known that we, THOMAS WILLIAMS, ALFRED MAUCK, and HENRY A. WILLIAMS, citizens of the United States, residing at Princeton, in the county of Gibson and State of Indiana, have invented certain new and useful Improvements in Elevators, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of our improvement is to obtain a portable elevator of simple construction for raising and stacking hay and straw especially, but adapted to moving and loading general matter, the machine to be worked by steam or other suitable means. This object we attain by means illustrated in the accompanying drawings, in which—

Figure 1 is a vertical sectional view of our invention, with the upper part of the inclined way and one side of the machine broken off in order to better illustrate the automatic operation of the dumping-racks for handling and for shifting the load. Fig. 2 is a bottom view of the upper part of the inclined way with the ascending dumping-rack in dumping position. Fig. 3 is a front elevation with the upper part of the inclined way broken off. Fig. 4 is a vertical sectional view through the upper part of the inclined way, with the dumping-rack in the same position as shown in Fig. 2. Fig. 5 is a detached sectional view of the pulleys located at the upper part of the inclined way, and Fig. 6 represents a longitudinal sectional view of the upper part of the elevator.

The letter A indicates the frame of the elevator, which, for the purpose of being moved from place to place, is mounted upon suitable truck-wheels, B.

D indicates two beams, which are secured to the elevator-frame at an angle of forty-five degrees, or thereabout, by means of bolts, which beams are designed for and act as an inclined way for supporting and guiding the ascending dumping-rack. These inclined beams have grooves on their inner sides. (Indicated by the letter g.) Between the upper part of the inclined way and the base of the elevator-frame are two stanchions, C, for strengthening the same.

E indicates the driving-pulley, connected by a belt, F, with a plain pulley, G, attached to

which is a grooved pulley, H, as shown in Fig. 3, for receiving and working the knotted or balled wire, rope, or chain I, which connects with a grooved pulley, N, secured on the shaft at the upper part of the inclined way, as seen in Fig. 2. On the same shaft with but opposite the pulley E (seen in Fig. 1) is another driving-pulley, b. (Shown in Fig. 3.) This pulley b connects by a crossed belt, J, with a pulley, K, for operating in an opposite direction to the knotted or balled wire, rope, or chain I, another knotted or balled wire, rope, or chain, L, connecting with a loose grooved pulley, M, on a shaft at the upper part of the inclined way, as especially shown in Figs. 2 and 4. This grooved pulley M is made to work loose on the shaft mentioned, in order that it may move in an opposite direction to the pulley N on the same shaft. O are the knots or balls secured on the ropes or chains I and L, only one being used on the rope or chain I and five or more on the rope L. These knots or balls are for the purpose of catching in slots in pawls at different times, which pawls are pivoted to a dumping-rack, V, as will be more fully hereinafter described.

Operating in connection with the rope or chain I is a slotted arm, P', Fig. 1, projecting from the shaft Q, pendent from which is a weight, R, for throwing the arm P back to its normal position, from which it is periodically moved by the knot on the chain or rope I.

Attached to the frame A are projecting beams d, to which is secured a check-rack, S. The letter T indicates a dumping-rack mounted on a shaft, T', journaled in bearings in the frame A. The check-rack is for the purpose of preventing the hay from falling off the front of the dumping-rack when it is pitched therefrom a wagon or stack, to be elevated to a higher position.

The dumping-rack is connected by means of the rod U with the projecting rod P on the shaft Q, and thus, when the knot or ball on the rope or chain I engages the slot in the arm P' on the same shaft and tilts it forward, it discharges the dumping-rack above mentioned.

Resting and moving upon the inclined way is a dumping-rack, V, with an apron, W, and slotted pawls X, one of which is engaged by the rope I and the other by the rope L, these

pawls fitting over the knotted ropes or chains and being held and returned to their normal position by means of springs X'.

Attached to the inclined way by a pivot at the upper part of and underneath the same is a transverse bar, Y, Fig. 2, carrying an upright projection, Y', Fig. 6, reaching to the dumping-rack V, for starting the latter upon its return course after its load has been discharged, by being operated by the knot on the rope I, engaging the arm *a*, which operates the bar Z, connected to the transverse bar Y, thereby operating the upright Y'. The bar Y is supported in position by and works within an arbor lettered *c*, it also being connected by means of a rod, Z, to a slotted arm, *a*, projecting from the side of the inclined way, which is operated by the knotted or balled rope I, thus operating the transverse bar Y. The ascending dumping-rack V is affixed to and held in position by cross-heads *h h*, working in the grooves *g* of the inclined ways D. (Shown in Fig. 4.)

By putting the machine in motion the knotted or balled ropes or chains will travel in opposite directions by reason of the twisted belt J, thus causing the knot on the rope or chain I to descend and catch the slotted arm P', which will tip, causing the dumping-rack T to discharge its load on the apron W of the sliding and dumping rack V. The ball or knot on the rope I, after passing the arm P', passes around the grooved pulley H and engages a slot in the pawl, under which the rope I passes on the rack V, carrying the rack upward with its load. After having reached the top of the inclined ways, the apron W, on which is the load, drops over the top, as shown plainly in Fig. 6 of the drawings. After this the knot or ball releases itself by pushing the pawl with which it is engaged far enough over the pulley N for it to pass under, and continues downward until it engages the slot in the arm *a*, which then operates the transverse bar Y, causing the up-

right Y', secured thereto, to push or start the rack V downward until it stops on a knot or ball on the rope L, which is moving downward, as indicated by the arrow in Fig. 6, and is then lowered gradually by this rope, which serves only to permit the rack to descend in uniformity with the other rope, I, instead of dropping by its own gravity. The knots or balls on the rope or chain L also engage the slotted arm *a* on the under side, operating it in an opposite direction to the ball or knot on the rope I, thus placing the upright Y' on the transverse bar Y in its normal position.

Having thus explained the construction and operation of our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a portable elevator, the ascending dumping-rack V, provided with an apron, W, and cross-heads *h h*, in combination with the inclined grooved beams D, the knotted or balled wires, ropes, or chains, the pawls X and their springs, the projecting slotted arm *a*, the transverse bar Y, having an upright, Y', arbor *c*, and rod Z, substantially as described.

2. In a portable elevator, the arm P, slotted arm P', and a weighted shaft Q, in combination with the knotted or balled wire, rope, or chain I, the connecting-rod U, and the dumping-rack T, substantially as described.

3. In a portable elevator, the combination of the knotted or balled wires, ropes, or chains, the pulleys, driving mechanism, the projecting slotted arms P' and *a* and their connections, and the dumping-racks operated thereby, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

THOMAS WILLIAMS.
ALFRED MAUCK.
HENRY A. WILLIAMS.

Witnesses:

JOHN W. EWING,
C. O. ERWIN.