

2 Sheets—Sheet 1.

Patented Dec. 3, 1895.

No. 550,840.



WITNESSES:

WITNESSES:
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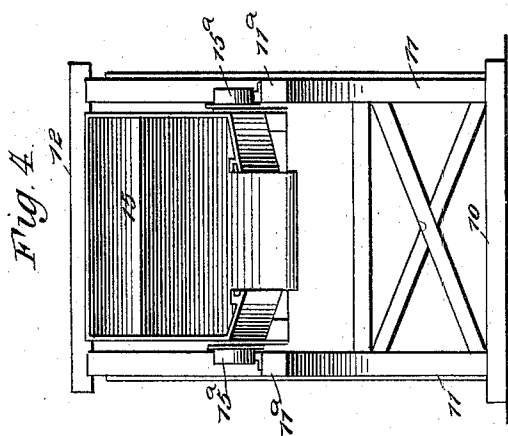
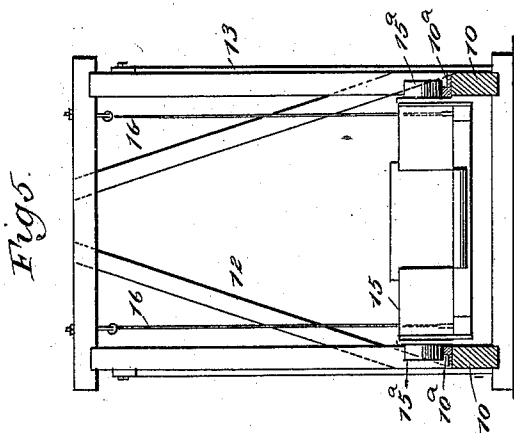
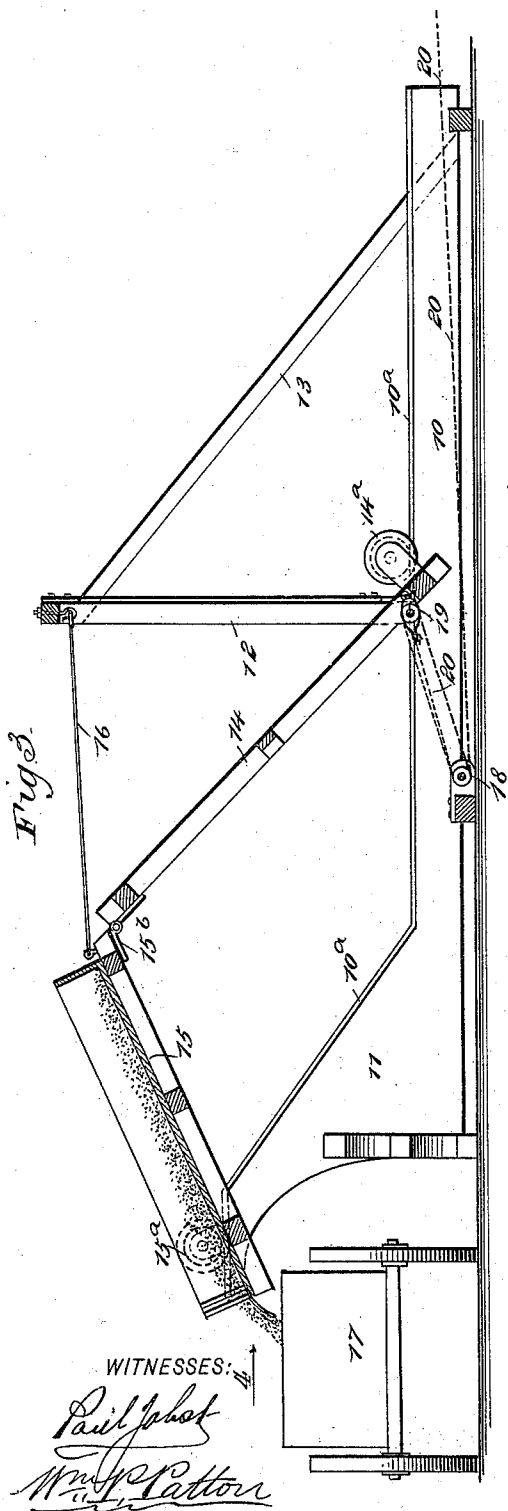
(No Model.)

2 Sheets—Sheet 2.

F. J. NOWLIN.
ELEVATOR AND DUMPING DEVICE.

No. 550,840.

Patented Dec. 3, 1895.



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UNITED STATES PATENT OFFICE.

FERRIS J. NOWLIN, OF GUILFORD, INDIANA.

ELEVATOR AND DUMPING DEVICE.

SPECIFICATION forming part of Letters Patent No. 550,840, dated December 3, 1895.

Application filed March 4, 1895. Serial No. 540,445. (No model.)

To all whom it may concern:

Be it known that I, FERRIS J. NOWLIN, of Guilford, in the county of Dearborn and State of Indiana, have invented a new and Improved Elevator and Dumping Device, of which the following is a full, clear, and exact description.

The invention relates to an improved device for elevating a wheeled or other movable loaded vehicle to a proper height and then dumping the contents into a car or other receptacle; and the object of the invention is to provide a novel, simple, inexpensive, portable device of the indicated type, which will be easy to place in position for use at a desired spot, and that will afford means for the ready and reliable application of horse or other draft power for the elevation and subsequent dumping of the loaded vehicle and the return by gravity of said vehicle to normal position for reception of another load.

The invention consists in the construction and combination of parts, as hereinafter described, and indicated in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a sectional side view of the improved elevator device, with parts adjusted to receive a load for subsequent elevation, the line of section being indicated at 1 1 in Fig. 2. Fig. 2 is a plan view. Fig. 3 is a sectional side view showing parts adjusted to dump the loaded vehicle that has been elevated. Fig. 4 is an end view in the direction of arrow 4 in Fig. 3, and Fig. 5 is a transverse sectional view on the line 5 5 in Fig. 1.

In carrying the invention into effect a substantial frame 10 is provided, which in service forms the sills for support of other parts of the device, and the said frame, which is preferably given a rectangular form, may be made of metal or of wood. As shown, wooden timbers are employed in the construction of the frame 10. A sufficient length is afforded the frame 10 for efficient service, and at what may be termed the "front end," two similar upwardly and forwardly extending inclines 11 are located that respectively align with the side beams of the sill-frame 10, and, in fact, are prolongations of said side beams. A

proper elevation is afforded the upper extremities of the inclines 11, and these ends are merged in level stretches 11^a, which extend for a suitable length forwardly. Preferably the upper surfaces of the side beams on the frame 10 and the aligning inclines 11 are shod with track-rails, as plainly shown at 10^a in Figs. 2 and 5.

At a suitable point on the frame 10, intermediate of its ends, an upright frame 12 is erected, which frame comprises two side posts, a cross-beam that joins the upper ends of the posts, and braces to stiffen the connection of the posts and cross-beam.

The frame 12 may be, and preferably is, hinged to the side beams of the sill-frame 10 at the lower ends of its upright posts, and the upright frame, if hinged as mentioned, is sustained in a vertical position by the diagonal braces 13, which are removably secured by their ends to the side posts of the upright frame and the side beams of the sill-frame, as shown.

A traveling frame is furnished, which is adapted to rest on the track-rails of the sill-frame 10, and said traveling frame is composed of two sections 14 15, hinged together at their meeting ends at 15^b, as clearly represented in Figs. 1 and 3. A suitable length is provided for the traveling frame, and as it is intended to receive a longitudinal movement on the sill-frame 10 it is of advantage to furnish each section of the traveling frame with a pair of wheels 14^a and 15^a, these being loosely secured near the outer extremities of the frame-sections 14 15 at the sides of the same, so as to permit the wheels to roll on the tracks 10^a. The wheels on the rear frame-section 14 are adapted to traverse the tracks rearwardly of the upright frame 12 and the wheels on the front end of the forward section 15 to similarly engage the tracks on the inclines 11.

At or near the points of hinged connection between the traveling frame-sections 14 and 15 the lower ends of two link-bars 16 are loosely secured to the rear end of the front section 15, the upper ends of the link-bars being in a like manner jointed to the upper part of the frame 12, the length of the said bars adapting them to sustain the adjacent hinged ends of the frame-sections 14 15 and hold

them level when the traveling frame is seated entirely on the level side beams of the sill-frame 10. The forward frame-section 15 is designed to serve as a receptacle for material that is to be elevated and transferred into another receptacle, which may be a railroad-car, wagon, or cart, such as is shown at 17 in Figs. 1, 2, and 3. The section 15 is floored over its entire area, and to enable it to receive a considerable load and carry the latter up the inclines 11 side-boards and end-boards of ordinary style may be furnished, and at the forward end a discharge-chute below a removable gate can be advantageously utilized. These attachments for the said section 15 may be provided or be dispensed with, if not considered necessary in the elevation of a particular material.

On a cross-timber of the sill-frame 10, preferably intermediate of the upright frame 12 and inclines 11, a pulley-block 18 is secured, and this block may have two sheaves, as indicated by dotted lines in Fig. 2.

At the rear end of the traveling frame-section 14 a preferably single-sheaved block 19 is affixed thereto, as also shown in Fig. 2, and on the end of the block 19, or, if preferred, on the cross-bar of the frame-section 14, the end of a draft-rope or other flexible connection 20 is attached. The rope 20 is rove in the usual manner on the sheaves of the blocks 18 and 19, so as to locate the double rope on said sheaves and permit the free end of the rope to trend rearwardly from one of the sheaves on the double-sheave block 18 and be coupled with any source of power and motion that is adapted to pull rearwardly on the end of the rope and move the frame-section 14 forwardly.

Usually it will be more convenient to employ one or more draft-animals to pull on the rope 20, and it will be seen that when draft force is applied thereto, so as to move the frame-sections 14 15 toward the inclines 11, the forward end of the section 15 will ascend the inclines, the said section being maintained the while in a horizontal position.

A continuation of forward movement applied to the traveling frame will dispose the sections 14 15 in the relative positions indicated in Fig. 3, and it will be observed that regarding the platform-section 15, which has been loaded when in a level position, the pull on the rope 20 will ultimately locate the wheels of the platform-section on the level stretches 11^a and upwardly incline said section.

The relative length of the sections 14 15 and link-bars 16 is such that when the wheels of the platform-section 15 are fairly located on the level parts 11^a of the frame 10 the platform-section will be held by the links from further forward movement and the rear section 14 of the traveling frame will rise at its front end, thereby elevating the rear end of the platform-section.

When the parts of the device have been

caused to assume the relative positions just described, it will be seen that the loaded platform-section 15 will be adapted to discharge the entire load therefrom, and if it is provided with sides, ends, and a chute, the elevation of the gate controlling the escape of material from the platform will allow the load to pass from the chute into a lower receptacle, such as the cart shown, or any other vehicle for the transfer of the material to another point, and it is evident that the improved elevator and dumping device may be utilized to load boats as well as vehicles.

After the platform-section 15 has been relieved of its load, if the rope 20 is slackened both sections 14 15 will assume the horizontal position shown in Figs. 1 and 2, and the platform 15 may then be again loaded for a continuation of the elevating and dumping operations.

While it is preferred to use wheels in connection with the traveling frame-sections, as described, it is feasible, also, to use short runners, which may engage the track-rails 10^a, and if the latter are lubricated with grease or oil the sections 14 15 may be easily moved, as specified, for the elevation and dumping of a load that has been placed on the platform-section.

It will be apparent that when it is desired to move the elevator device for its location at a point where material is to be transferred by use of the improvement the upright frame 12 can be lowered, so that it will rest on the sill-frame 10, and the entire device may be compactly loaded on one or more heavy wagons for its transportation to the location where it is to be used, or the apparatus may be stored in compact condition under cover until it is wanted.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a sill frame, an upright frame thereon intermediate of its ends, and upwardly pitched inclines at one end of the sill frame, level stretches extending from the upper terminals of the inclines, of a two-part traveling frame comprising a platform section and a rear frame section, said sections being hinged together at their meeting ends, wheels at the ends of the said frame sections engaging the sill frame when the traveling frame is level, link bars jointed to the upright frame and also to the rear end of the platform section, and a rope and pulley device arranged for the longitudinal movement of the traveling frame on the sill frame and toward the inclines on the sill frame, substantially as described.

2. In an elevating and dumping device, the combination of a sill frame having an inclined portion, an upright frame above the sill frame, a traveling frame section adapted for longitudinal movement along the sill frame and also along the inclined portion thereof, means for imparting movement to said traveling

frame section and link bars pivoted at their upper ends to the upright frame and at their lower ends to the rear end of the traveling frame section, substantially as set forth.

5 3. In an elevating and dumping device, the combination of a sill frame having one end raised and inclined to its body portion, a traveling frame comprising two sections having a hinge connection, said frame being movable
10 along the lower portion of the sill frame and its forward section being movable up the inclined raised end thereof, and means for sustaining the forward section of the traveling frame in a horizontal position while on the
15 lower portion of the sill frame and also while moving up the inclined raised portion thereof, substantially as set forth.

4. In an elevating and dumping device, the combination of a sill frame having an inclined
20 portion, a traveling frame section adapted for longitudinal movement along the inclined portion of the sill frame, means for imparting movement to the traveling frame section, and pivoted link bars connected to the traveling

frame section and adapted to hold the same 25 in a horizontal position while moving up the inclined portion of the sill frame, substantially as set forth.

5. In an elevating and dumping device, the combination of a sill frame having an inclined 30 portion, an upright frame extending above the sill frame, a traveling frame section adapted for longitudinal movement along the inclined portion of the sill frame, means for imparting longitudinal movement to the travel- 35 ing frame section, and a connection between the traveling frame section and said upright frame, said connection being independent of the means for imparting longitudinal movement to the traveling frame section and being adapted to hold said frame section in a 40 horizontal position when the same is moved up the inclined portion of the sill frame, substantially as set forth.

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Witnesses:

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THOMAS WATTS.