

W. EIGHMIE.

Improvement in Ice-Elevators.

No. 132,758.

Patented Nov. 5, 1872.

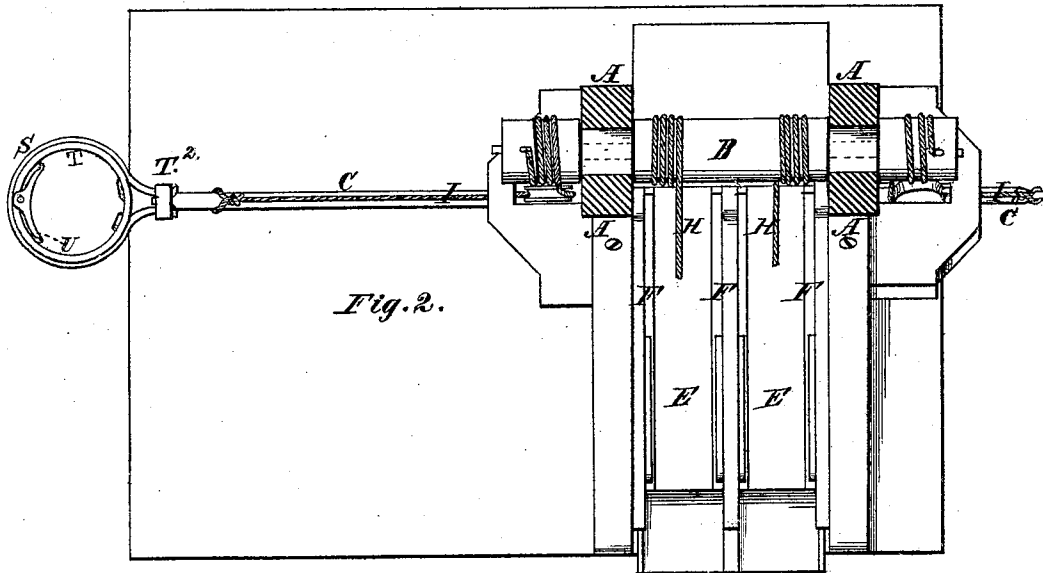
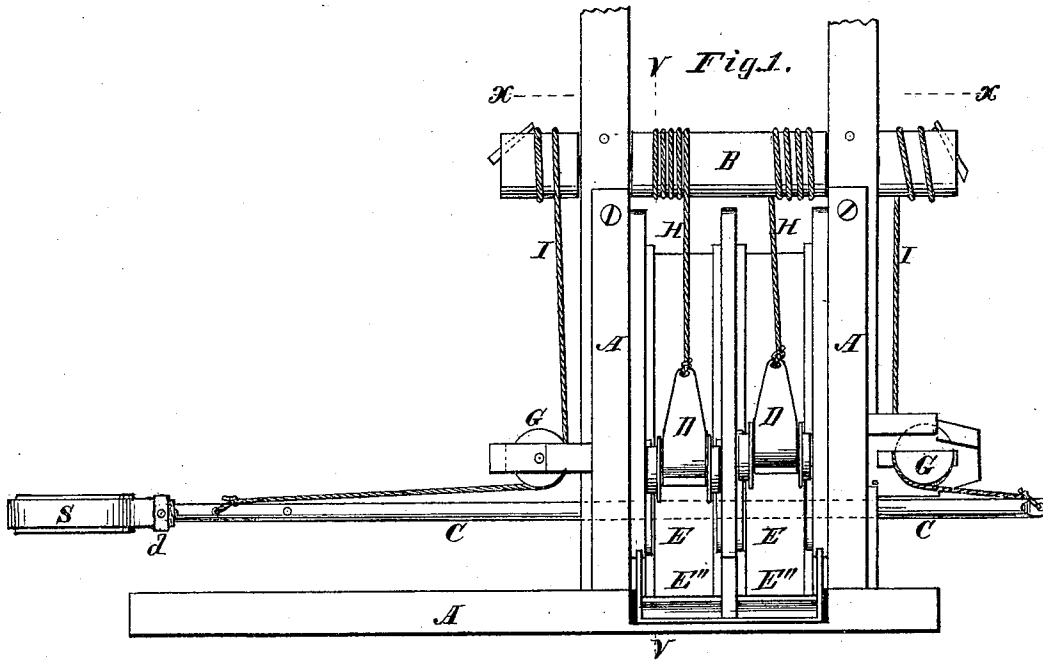


Fig. 5. Fig. 3.

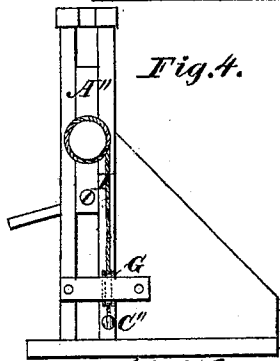
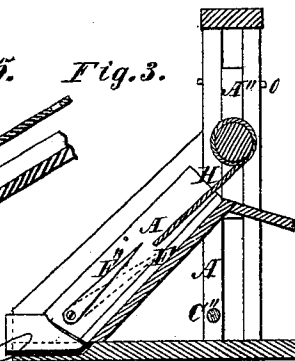
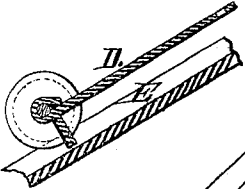


Fig. 4.

Witnesses:

Charles Rich.
J. A. Lossing.

Inventor.

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UNITED STATES PATENT OFFICE.

WILLIAM EIGHMIE, OF BEEKMAN, NEW YORK.

IMPROVEMENT IN ICE-ELEVATORS.

Specification forming part of Letters Patent No. 132,758, dated November 5, 1872.

To all whom it may concern:

Be it known that I, WILLIAM EIGHMIE, of Beekman, in the county of Dutchess and State of New York, have invented Improvements in Hoisting Apparatus, of which the following is a specification:

The first feature of my invention consists in the combination of a horizontal windlass with trucks or carrier-blocks operating on inclined planes for elevating ice, &c., said windlass being provided with two elevating-ropes wound in reverse directions upon the same and connected with the elevator-trucks, so that, by the revolution of the windlass in opposite directions through the medium of a reciprocating power-shaft and connecting-ropes, the trucks are caused to alternately descend and ascend on the inclined planes for receiving or discharging the load. The second feature of my invention consists in the location at the lower or receiving end of the inclined plane of a hinged or pivoted plate or switch, which operates to guide the carrier truck or block in rear of the ice or other substance to be elevated, when, by applying power to the hoisting-windlass, the truck is caused to engage with the ice for drawing it up the inclined plane, the pivoted switch being automatically raised by the truck passing under the same. The third feature of my invention relates to certain devices for connecting a horse or other animal to the reciprocating power-shaft for moving the same in opposite directions; and it consists in the employment of a hinged open rim applied to the end of said shaft for the reception of the horse, which is connected with the same by means of a revolving rim or collar, to which the draft is applied.

In the accompanying drawing, Figure 1 represents a side elevation of an apparatus embodying my invention; Fig. 2 represents a sectional plan view; Fig. 3 is a sectional elevation through the line *v v*, Fig. 1; Fig. 4 is an end elevation; and Fig. 5 represents in detail the carrier-block and inclined plane.

The frame A of my apparatus is of a suitable construction, and is provided with slotted vertical standards, in which are fitted sliding boxes or blocks A'', receiving the end journals or gudgeons of the horizontal windlass B. Said boxes are capable of being vertically adjusted and retained at any desired height by means

of a transverse lock-pin, O, so that the windlass may be correspondingly elevated or adjusted to suit the height to which it is desired to elevate the ice or other material. To the outer ends of the windlass are attached ropes I I wound upon the same in opposite directions, passing downward over guide-pulleys G G, and attached to the opposite ends of a horizontal reciprocating bar or shaft, C, which passes loosely through suitable guide boxes or bearings located near the base of the frame. The ropes I are attached to the windlass B and reciprocating bar C by drawing the latter out to its full extent or stroke in one direction when the rope is attached to the bar; from thence it is passed through the sheave-pulley G, when it is secured to the windlass B and drawn tight. The rod is then drawn in a reverse direction by winding the attached rope closely around the windlass until the same is taut, and the fastening point on the bar C is under the sheave; then the opposite rope is attached in a similar manner, but wound around the windlass in a reverse direction. The hoisting-ropes H are attached to the windlass and wound around the same in opposite directions, and are connected at their lower ends with the trucks or carrier devices D which travel on inclined planes or platforms F extending from the delivery to the discharge points. The carrier-trucks D are guided in their movement on the inclined planes by suitable ways or tracks on which their wheels travel. The ropes H H attached to their respective carrier-trucks D D being wound around the windlass B in opposite directions, and the ropes I I connected with the reciprocating power-shaft C in the same manner, it will be perceived that by moving the latter in opposite directions the carrier-trucks are caused to alternately descend and ascend for receiving and delivering their load. In order that the trucks may be conveyed in rear of the ice or other material to be elevated for automatically engaging with the same, I locate near the base of the inclined planes hinged or pivoted plates F'', which, when the truck is descending, are maintained in contact with the inclined plane by their own weight, thus forming a switch by which the truck is conveyed over in rear of the ice or load to be elevated onto the track. The truck, having been conducted into this position by the switch-

plate, is then caused to travel on the inclined plane, together with its load, by applying the power to the windlass in the manner described; and, as the switch-plate is pivoted at its lower end while its free end rests upon the inclined plane, it will be automatically raised by the ascending truck passing under the same, and be immediately restored by its gravity to its normal position as soon as the truck has passed the same. The loaded truck is conveyed to the upper end of the inclined plane, where the load is delivered into a chute or slide for conveying the same to a storing-place. Simultaneously with the ascent of the loaded truck the opposite empty truck will be descending, thus partially counterbalancing the former, and diminishing the expenditure of power for operating the windlass. The trucks are generally mounted upon wheels, but grooves and tracks may be substituted therefor if desired, and the same are provided, when elevating ice, with prongs or hooks for grasping the same. To the outer end of the reciprocating bar C is connected, by means of a hinge-joint, *d*, an open circular rim, S, of a sufficient size to receive a horse or other animal. The rim is capable of being turned into a vertical or inclined position for enabling the horse to be placed within the same, when it is returned to its horizontal position and locked by means of a sliding collar, T², on the shaft C, and projecting studs on the rim. Within said rim S is fitted

an open collar, T, to which is applied a whiffletree, U, or other device, for connecting it with the animal; and, in order to enable the horse to be turned within said rim for moving the reciprocating bar in opposite directions, I fit said collar T loosely within the rim S, in order that it may be revolved for accomplishing the result specified.

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

1. The windlass B, reciprocating shaft C, and connecting driving-ropes I I, as and for the purpose set forth.

2. The combination of the simultaneously descending and ascending carrier-trucks D D with the elevating-ropes H H, windlass B, drive-ropes I I, and reciprocating bar C, as herein set forth.

3. The pivoted track F'', when used on the inclined plane of an elevator, for the purpose of conveying the truck D over and beyond the load to be elevated, substantially as and for the purpose set forth.

4. The open rim S and revolving collar T applied to the bar C, as and for the purpose set forth.

WILLIAM EIGHMIE.

Witnesses:

CHARLES RICH,
Z. A. LOSSING.