

W. Louden,
Hay Elevator.

N^o 69,107.

Patented Sep. 24, 1867.

Fig. 1.

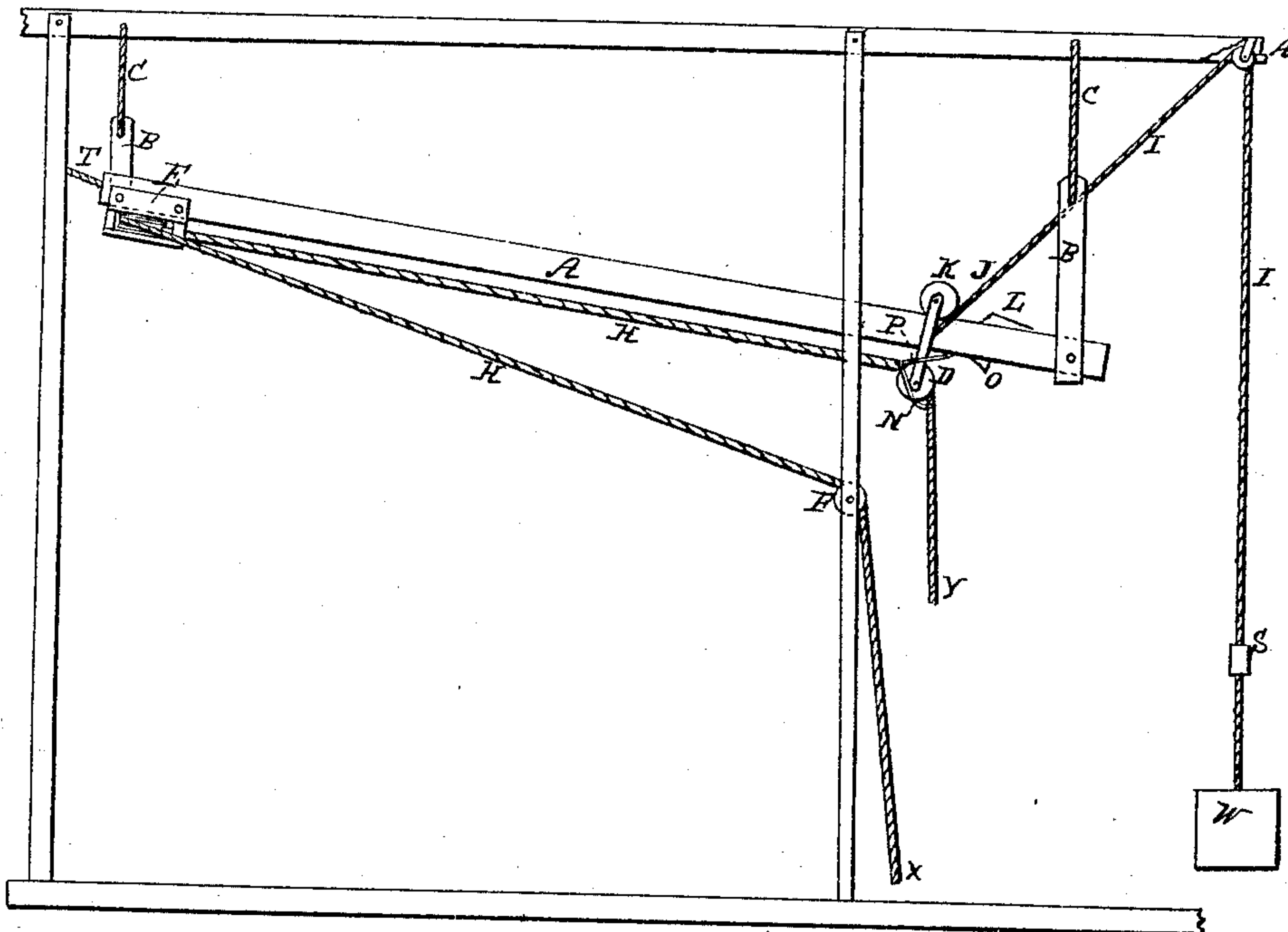
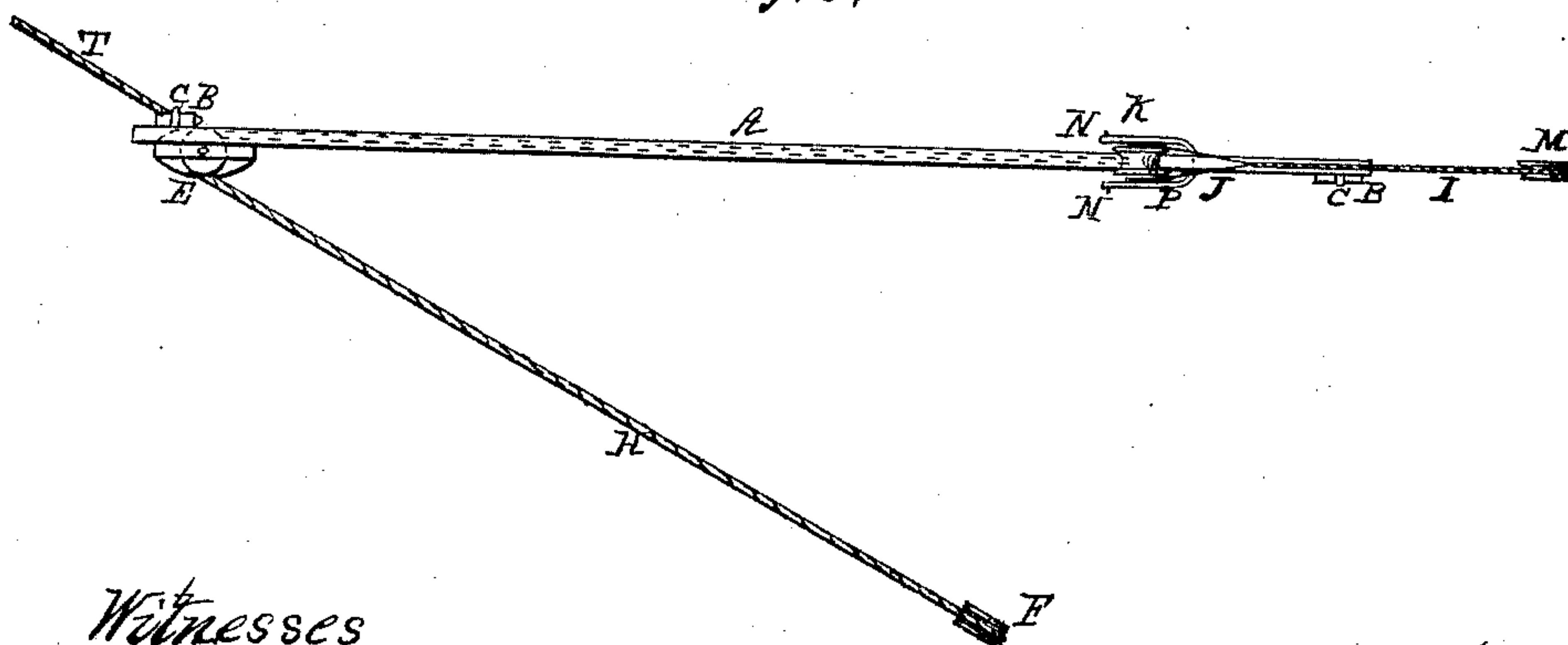


Fig. 2.



Witnesses
Robert H. Moore
A. R. Tritton

Inventor
Wm Louden

United States Patent Office.

WILLIAM LOUDEN, OF FAIRFIELD, IOWA.

Letters Patent No. 69,107, dated September 24, 1867.

IMPROVEMENT IN ELEVATING AND CONVEYING DEVICES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM LOUDEN, of Fairfield, in the county of Jefferson, in the State of Iowa, have invented a new and improved Elevating and Conveying Device; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an elevation.

Figure 2 is a plan or top view.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved device for elevating and conveying products, such as hay into barns, goods into warehouses, &c.; and it consists in suspending a bar upon which a travelling-pulley works in such a manner that its height or inclination can be regulated or varied at pleasure, and the whole device easily and quickly put up or taken down, or removed from one place to another. It also consists in attaching to the frame of the travelling-pulley a weighted cord or rope in such a manner that while the weight regulates the operation of the travelling-pulley, and insures its return without regard to the inclination of the bar or track upon which it works, it also serves as a support to the bar by counteracting and easing off a portion of the load which it would otherwise have to sustain; and further, in applying an adjustable stop or block to the weighted rope or cord, for the purpose of regulating the distance to which the article is to be conveyed.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is a horizontal or slightly inclined bar, which serves as a track or railway for the traveller-pulley D. On opposite sides the uprights B B are bolted, one close to each end. In the upper ends of the uprights B B holes are bored, into which the ropes or chains C C are fastened. The ropes or chains C C are then secured to the ridge-pole of the barn, or to any suitable sustaining point. D is a traveller-pulley, arranged in a suitable frame, provided with a wheel or roller, K, latch P, and trip-rod N. On the upper edge of the bar A is a stop or bumping-block, L, having its upper end concaved, for the purpose of arresting the return-motion of the "traveller" D with the least injury to the roller K. On the under side of the bar A, quite or nearly opposite the block L, is a catch or notch, O, into which the latch P fits. In the drawings the traveller-pulley D is represented a short distance along the bar A, so as to give a clearer view of the block L and catch O. The hoisting-tackle H passes over the "traveller" D, thence around the pulley E, thence over the pulley F, and thence to a pulley (not shown) located close to the ground, or in any suitable position. The pulley-block E is secured to the side of the bar A in such a manner that while the pulley-wheel is held in a horizontal position, a portion of its periphery is directly under the bar A. By this arrangement the groove of the traveller pulley-wheel is preserved in a direct line with that of the pulley-wheel E, and the rope or tackle H prevented from being abraded or worn in consequence of the shifting or moving of the bar A. One end of a guy, T, is attached to the end of the bar A, and the other end is fastened to a brace or beam in such a position as to counteract any lateral or side-draught of the rope or tackle H. A short strap, cord, or chain, J, is attached to the frame of the traveller-pulley D. A rope or cord, I, having a weight, W, attached, passes over the pulley M, and is fastened into the loop of the strap or chain J. S is an adjustable block or stop placed upon the rope I.

The operation is as follows: The weight to be elevated is attached to the end of the rope y, and the power to raise it is applied at x. The traveller-pulley D is back on the bar A far enough to allow the latch P, which is in the form of the letter U, to engage the catch or notch O. By this means the "traveller" D is kept in position while the weight is being elevated. When the weight is sufficiently elevated, a stop on the rope H, (not shown,) or the bail of the vessel containing the weight, or the weight itself, engages the trip-rod N, which raises the latch P out of the catch or notch O, when the traveller-pulley D is allowed to move along the length of the bar or railway A, and the weight thus elevated and conveyed to the desired point. As soon as the weight is released or discharged, and the power disconnected with or withdrawn from the hoisting-tackle, the rope I, having the weight W attached, draws the traveller-pulley back until the wheel or roller K strikes the stop L and the latch P engages the catch O, when the operation may be repeated. When it is desired to convey the

weight to some particular distance, the stop S on the rope I is adjusted to correspond, and by its coming in contact with the pulley M, will arrest the traveller-pulley at the desired point.

The pulley M, over which the rope or cord I passes, is located in a position about forty-five degrees above the line of the track or railway A, and a sufficient distance from its lower end to prevent any interference between the weight W and the articles to be elevated. By this arrangement the weight W, instead of being an additional burden to the track or bar A, is rendered a support to it, by easing off and sustaining a portion of the load which would otherwise have to be borne and sustained by the bar or railway A, thus enabling me to use a structure of great lightness and sufficient strength.

The manner of attaching and sustaining the bar or railway A possesses many advantages over that of rigidly securing it to beams, purlins, &c. First, it is more readily and easily put up or taken down or moved from place to place; second, its height or inclination can be adjusted, regulated, or varied at pleasure; third, while the bar A is kept from tilting or overturning by means of the upright pieces B B, it is also free to accommodate itself to any lateral or side pressure arising from elevating articles from different points.

Thus, by this simple arrangement articles may be elevated perpendicularly to any desired height, and then conveyed horizontally to any required point, and the fork or other grappling or lifting device, together with the tackle, automatically returned without any effort or labor on the part of the operator or attendant, and the device readily adjusted to suit any position in which it may be used.

What I claim as new, and desire to secure by Letters Patent, is—

1. An elevated track or railway, A, when suspended by means of ropes, chains, or other similar fastenings, in combination with the travelling-pulley D and hoisting-tackle H, all arranged to operate substantially in the manner shown and described.
2. The arrangement of the uprights B B, in combination with the bar A and ropes or chains C C, substantially in the manner as and for the purpose set forth.
3. Locating the pulley M independently of the track or railway A in a position elevated to such an extent that the counterpoise weight W will act as a support to the track, substantially as set forth and described.
4. The stop S on the rope I, substantially for the purpose set forth.
5. Attaching the pulley-block E to the bar A, in the manner shown and described, and for the purpose set forth.
6. The stop or block L, having its inner end concaved, placed upon the bar A, and used for the purpose specified.

WILLIAM LOUDEN.

Witnesses:

ROBERT H. MOORE,
A. R. FULTON.