T. J. Powell,

Hay Elevator.

No. 108,183. Patented Oct. 11. 1870.

Fig. 1.

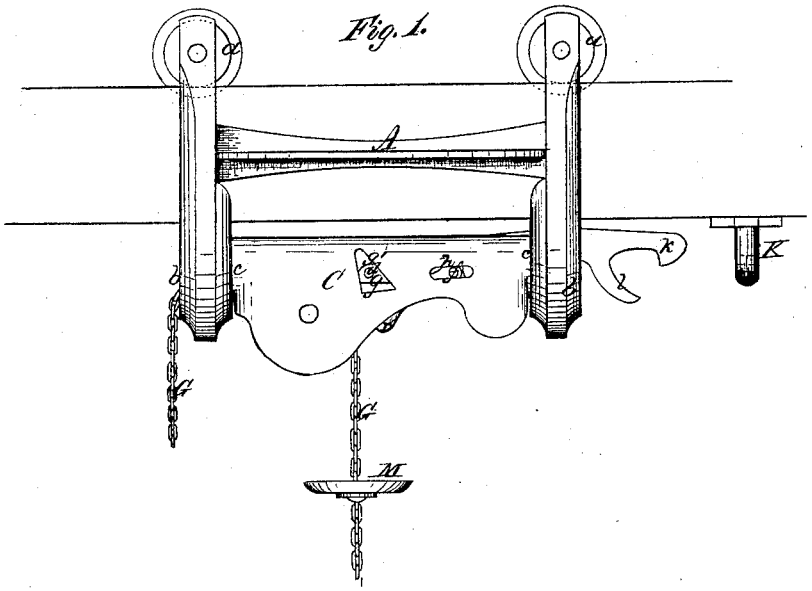


Fig. 2.

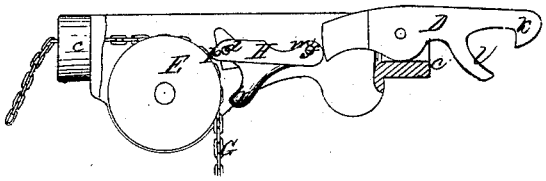
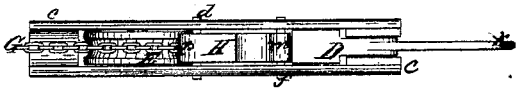


Fig. 3.



Witnesses.
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THOMAS J. POWELL, OF NAPLES, NEW YORK.

Letters Patent No. 108,183, dated October 11, 1870.

IMPROVEMENT IN COMBINED ELEVATORS AND CONVEYERS.

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, THOMAS J. POWELL, of Naples, in the county of Ontario and State of New York, have invented a certain new and useful Improvement in Combined Elevators and Conveyers, of which the following is a specification.

Nature of the Invention.

In general construction, this device is similar to that patented to me May 24, 1870.

The invention consists in the arrangement of the sliding pawl, as combined with the other operating parts.

General Description.

In the drawing—

Figure 1 is a side elevation.

Figure 2, a section, showing the operating parts.

Figure 3, a plan of the operating parts.

A is the car, running on the wooden way B.

It has carrying-rollers *a a* at the top, and sockets *b b* at the bottom.

In the latter rests a block, C, which holds the operating parts.

The ends of this block have journals or bearings *c c*, which allow a free turning action in the sockets, and the sockets are made open at the top, so that the position of the block therein may be changed at pleasure, to adapt the device to run in either direction.

In one end of the block is situated a pulley, E, over which passes the hoisting-rope or chain G, which then extends outward to the proper position for attaching the power.

In the opposite end of the block is situated a hook-lever, D, pivoted in the journal or bearing *c*, or other part of the block.

At the outer end, it is provided with a reverse hook, *k*, and arm *l*, which act in conjunction with the stop or eye K, the arm striking the stop in advance, and the hook catching it in the rear, to retain the car in position while the load is being drawn up.

Thus far, the construction is the same as in my patent before alluded to.

Intermediate with the pulley and the lever, above described, is situated a pawl, H, whose arrangement constitutes the essential feature of my present invention.

It has lateral bearings or studs *d d f f*, which rest in corresponding slots or ways *g g h h* in the sides of the carrying-block.

The slots *g* are of the form shown, being of such extent as to allow the necessary forward and backward, as well as up and down, motions of the pawl, and the slide *g'* being inclined, so that, as the stud strikes it, it draws and directs the pawl properly forward to engage with the chain.

The rear slots *h* are simply made of sufficient extent to allow the forward and back motion.

The forward end of the pawl has an edge, *p*, which engages with the chain, and retains it against the pulley, to hold the load up.

It also has a projection, *r*, against which the stop-disk M on the chain strikes to elevate the pawl.

The rear end is formed, as shown at *m*, to strike under the end of the lever D, and hold the hook in engagement with the eye K, the said forward end of the lever being concentric, either in whole or in part, with its pivot, in order to preserve the same position with the pawl under all circumstances.

The action will be readily understood. As the load rises, the pawl is elevated by the stop-disk M, or other suitable means, thereby drawing it forward, by reason of its studs *d d* striking upon the inclines *g' g'* of the slots.

This action draws the rear end of the pawl from under the front end of the lever D, thereby allowing the same to fall behind the pawl, and releasing the hook *k*, so that the car can move forward.

The same action that locks the pawl in its forward position causes its edge *p* to engage with the chain, so that any back action of the chain will be taken up and held by the pawl.

In my patent before alluded to, and also in other patents, there are pawls, or equivalent devices, intended for the same purpose as the above described, but differently arranged, and operating in a different manner.

I claim a novelty in a pawl which simply slides forward and back, the front end elevating at the same time, in contradiction to a pivoted or turning one, and, in connection with the hook-lever D, it is of special advantage, as it can never fall, to fasten said lever in place, till the hook has absolutely engaged, for the reason that it cannot go under the end of the lever till that action has taken place. In the old form there was a liability to a difficulty in this respect. Also, in releasing the chain, to allow it to fall, the pawl slides back without reaction, whereas, in other forms of the pawl, the strain has to be first lifted before the pawl can be freed.

It is manifest that this improvement can be applied to other forms of the car, or the carrying-block, as well as that covered by my patent alluded to.

The hoisting-chain, instead of having the load attached directly to its end, as shown, may be attached to the block or frame, and the load connected with it by a pulley-block resting on top the chain, and, if de-

sired, a swivel may be connected either to the block or frame, or interposed in the chain, to prevent twisting. Also, the hoisting-pulley E may be cogged, if desired, to engage with the end of the pawl; and furthermore, the hook *k* may be made to stand up, instead of down, in which case the rear end of the pawl will strike over instead of under it. Also, a spring may be employed, to assist in throwing the pawl back from its forward position. The principle, however, will remain the same in any case. If desired, also, the projection on the under side of the pawl may be made crotched to be more out of the way of the rope.

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

The pawl H, resting loosely in its seat, and having a free movement forward and back and up and down, as described, when combined with the pulley E, chain G, and lever D, or their equivalents, in the manner and for the purpose specified.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

THOMAS J. POWELL.

R. F. OSGOOD,
C. H. POWELL.