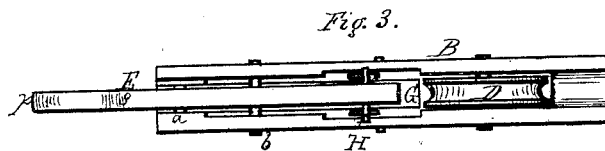
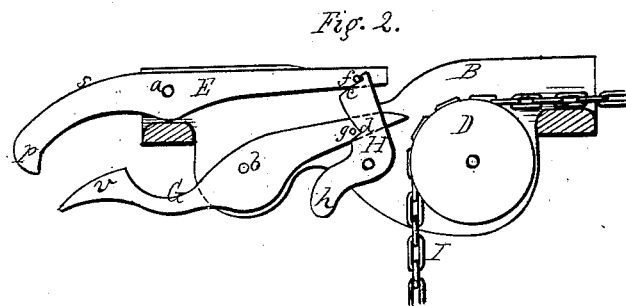
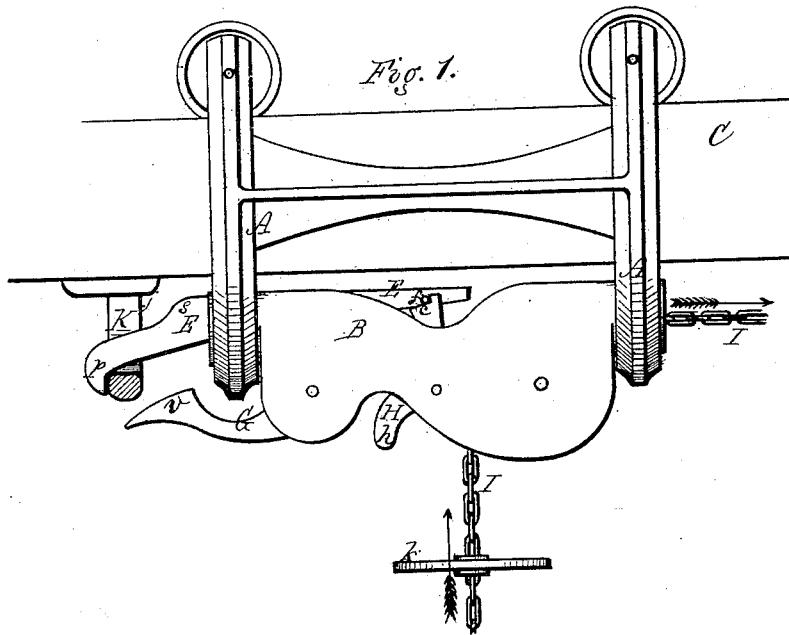


T. J. POWELL.
ELEVATOR AND CONVEYER.

No. 111,869.

Patented Feb. 14, 1871.



Witnesses.

Fred. A. Hatch
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United States Patent Office.

THOMAS J. POWELL, OF NAPLES, NEW YORK

Letters Patent No. 111,869, dated February 14, 1871.

IMPROVEMENT IN 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.

This invention is similar in general principle to my patent on the same subject dated May 24, 1870. It consists in an improved arrangement of the working parts, as hereinafter described.

General Description.

In the drawing—

Figure 1 is a side elevation.

Figure 2, a sectional elevation of the carrying-block and the operating parts connected therewith.

Figure 3, a plan of the same.

A represents the carriage;

B, the swiveled carrying-block resting therein; and

C, the way or track on which the carriage moves.

These parts are the same as in my aforesaid patent, and do not require special mention here.

D is the pulley in the block, over which runs the hoisting-chain or rope;

E is the hook-lever; and

G, the pawl, pivoted respectively at *a* and *b*.

H is the elbow, by which the hook-lever and pawl are held and released.

The construction of these parts is as follows:

The elbow is provided with two shoulders, *c d*, one below the other, which act in conjunction with two pins or stops, *f g*, in the front ends of the hook-lever and pawl, which rest in the crotch or forks of the elbow. When the elbow is thrown backward these shoulders rest under the pins or stops, and when thrown forward they release them.

The elbow also has a projection, *h*, at the bottom, against which strikes the ring, disk, or stop *k*, or equivalent, on the hoisting-chain I, to throw forward the elbow and disengage it from the lever and pawl.

The rear end of the lever has a hoop, *p*, and an inclined plane, *s*.

The rear end of the pawl also has a wedge-head, *r*.

These parts act in conjunction with the eye or catch K, to lock and unlock the carriage from said eye.

The action is as follows:

When the carriage slides up to the eye or catch the hook *p* passes through and beyond the eye.

The incline *s* of the lever then strikes the upper side *j* of the eye, thereby depressing the hook so as to engage in the back movement; it also elevates the

forward end of the lever so that shoulder *c* may fall under pin *f*, thereby locking the hook in place. At the same time, wedge-head *r* of the pawl strikes on the under side of the eye, thereby elevating the forward end of the pawl so as to release the hoisting-chain, which it has held against the pulley D, and also allowing shoulder *d* to strike under pin *g*.

When the ring, disk, or equivalent, *k*, again strikes the lower end of the elbow, as before described, it releases both the lever and pawl, and the latter falls and secures the chain. The slight incline of the hook also allows it to draw out of and through the eye, and the carriage is again at liberty.

In my patent of May 24, 1870, a lever or pawl was employed, having a hook at its rear end to engage with the eye or catch. My present device differs from this in the use of the two parts E and H, though the operation might be made effective with but the lever E and elbow, the forward part of lever formed and used for a pawl.

A special novelty consists in the combination of the elbow H with these two parts in such a manner that they are engaged and released by the elbow at one operation, and either simultaneously or in succession, as may be desired. By this means the locking of the carriage to the eye or catch and the holding of the hoisting-chain in an elevated position while the carriage is moving are performed by two distinct and independent devices, and not by one, as in my former patents, which renders the operation very safe and reliable. At the same time the single elbow H performs the one action of holding and releasing both automatically.

Another novelty lies in the construction of the lever and pawl with the hook *p*, inclined plane *s*, and wedge-head *r*. These parts combined insure the proper action of the lever and pawl.

Various modifications or changes in the arrangement may be made without departing from the principle of the invention; for instance, the hook-lever may be turned bottom upward, and the eye or catch be made to correspond, and the elbow be made to act over instead of under the lever; or the under pawl might be connected with the upper lever, so as to be raised by it by means of a rod or chain, or other device, dispensing with the wedge end, being still retained or fastened by the elbow below described; or the eye or catch may be made with a brace from its lower part, fastened to the track or to itself, and may be made with an incline to raise the rear end of the pawl, instead of having the wedge-head before described. The position of the elbow may also be reversed, and it may be operated by the rod and ring described in my former patent.

The hoisting-chain may be attached directly to the load, or pass through pulleys, as may be desired, and may be used with or without the swinging piece, and in connection with other forms of car.

Claims.

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

1. The combination and arrangement of the elbow *H* with the hook-lever *E* and pawl *G*, as herein described, whereby both are locked or released by one action of the elbow.

2. The arrangement of the double shoulders *c d* of

the elbow and the pins or stops *f g* of the lever and pawl, operating conjointly, in the manner and for the purpose specified.

3. The arrangement of the hook-head *p*, the incline *s*, and the wedge-head *v* of the lever and pawl, operating in connection with the eye or catch *K*, in the manner and for the purpose specified.

In witness whereof I have hereunto set my hand this 26th day of October, 1870.

THOMAS J. POWELL.

Witnesses:

S. J. WILBUR,
JOHN JORDAN.