

H. C. STOFFER.  
ELEVATOR.

No. 101,407.

Patented Mar. 29, 1870.

Fig 1

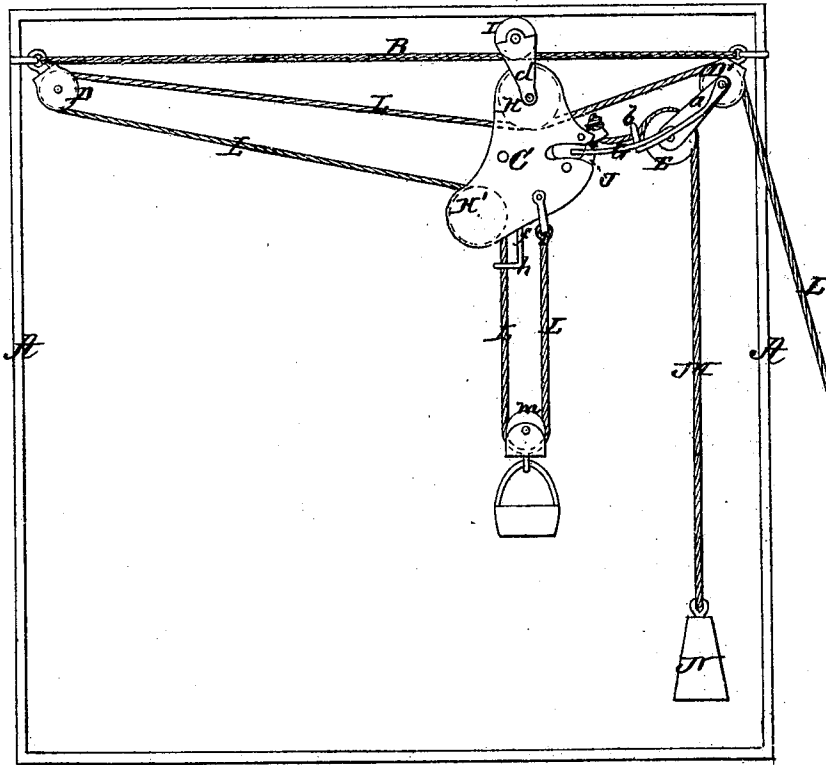
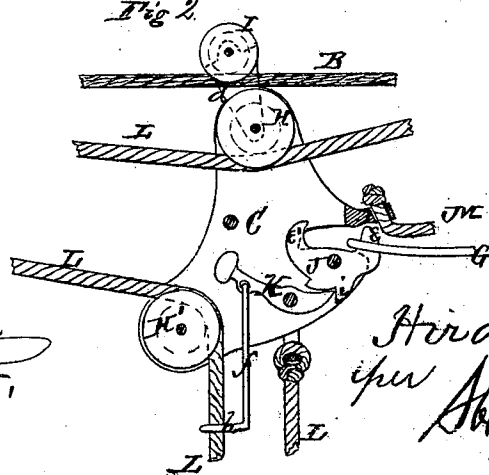


Fig 2



Witnesses.

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Inventor.

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# United States Patent Office.

HIRAM C. STOFFER, OF SALEM, OHIO.

Letters Patent No. 101,407, dated March 29, 1870.

## IMPROVED ELEVATOR.

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, HIRAM C. STOFFER, of Salem, in the county of Columbiana and in the State of Ohio, have invented certain new and useful Improvements in Elevators; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of an elevator for hay, grain, and other similar articles, with an improved latching-device attached to the same.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a side view of the entire elevator, and

Figure 2 is an enlarged longitudinal vertical section of the latching-device.

A represents the frame-work of a barn or hay-mow of any desired dimensions and construction.

In the upper portion of this frame is stretched a wire rope, B, from which the carriage C is suspended and moved back and forth. This wire rope is used for heavy loads; for light loads it may be entirely dispensed with.

At one end of the wire rope B is suspended a pulley, D, and at the other end another pulley, D', this latter pulley being provided with an auxiliary pulley, E, swinging in arms, *a a*, from the axis of the pulley D'.

It is also provided with a bail, G, as shown in fig. 1, said bail also swinging from the axis of the pulley D', and having a loop, *b*, immediately in front of the pulley E.

The carriage C is provided with a pulley, H, at its upper end, and a similar pulley, H', at its lower end; and at the upper end of the carriage are two arms, *d d*, between which a pulley, I, is pivoted, the wire rope B passing between said arms under the pulley I, the pulley resting and moving on the wire rope, by which means the carriage is suspended from the same.

The side or rather edge of the carriage nearest the bail G is slotted for a suitable distance for the insertion of the bail, and under said slot within the carriage is pivoted a latch, J, constructed in the peculiar shape shown in fig. 2, having teeth or projections *e e'* on its upper front, and rear corners, and a tooth or projection, *i*, on its under side.

Under the latch J is pivoted a lever or pawl, K, the front end of which catches on the tooth *i* to lock the latch, while the other or rear end is weighted so as to hold the pawl in proper position.

From this rear end a rod, *f*, passes downward, and

is, at its lower end, below the carriage, provided with a loop, *h*.

The hoisting-rope L is attached at a suitable point on the under side of the carriage C, and passes under a pulley, *m*, in the top of the hay-fork, and up through the loop *h* around or over the pulley H', then around the pulley D and under the pulley H, over the pulley D', and down to the horse-power.

On the front edge of the carriage just above the slot therein is attached another rope, M, which passes through the loop *b* on the bail G, over the pulley E, and downward, being, at its lower end, provided with a weight, N.

The operation of this elevator is very simple. The fork being loaded and the horse-power put in motion, the fork with the load is raised perpendicularly until the pulley *m* on the fork strikes the loop *h* at the lower end of the rod *f*, which raises the weighted end of the lever K, removing its front end from the projection *i* on the latch. The front or outer end of the latch J being the heaviest, it falls down as soon as the lever or pawl K is removed from the tooth *i*, releasing the bail G, causing the carriage to move on the wire rope B to any point desired to unload the hay. When unloaded and the hoisting-rope is slacked up, the weight N draws the carriage toward the bail G. The manner of attaching the rope M to the carriage and passing it through the loop *b* causes it to guide the bail G, so that it will enter the slot in the carriage, striking the rear projection, *e*, on the latch J, causing its front end to rise so that the pawl K will catch on the tooth *i*, holding the upper front projection, *e*, within the bail, and thus locking the carriage, when the fork descends by its own weight, to be again loaded and hoisted up.

Having thus fully described my invention,

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

1. The latch J, constructed as shown, and provided with teeth or projections *e e'* and *i*, substantially as and for the purposes herein set forth.

2. In combination with the latch J, constructed as shown and described, the weighted lever K, rod *f*, and loop *h*, all substantially as and for the purposes herein set forth.

3. The combination of the bail G, slotted carriage C, latch J, lever or pawl K, with rod *f* and loop *h*, all constructed and arranged to operate substantially in the manner and for the purposes herein set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 15th day of March, 1870.

HIRAM C. STOFFER.

Witnesses:

C. M. ALEXANDER,  
J. M. MASON.