(No Model.)

# N. V. BIGELOW & A. WHITBECK.

## HAY ELEVATOR AND CONVEYER.

No. 328,453. Patented Oct. 20, 1885.

*Fig. 1.*

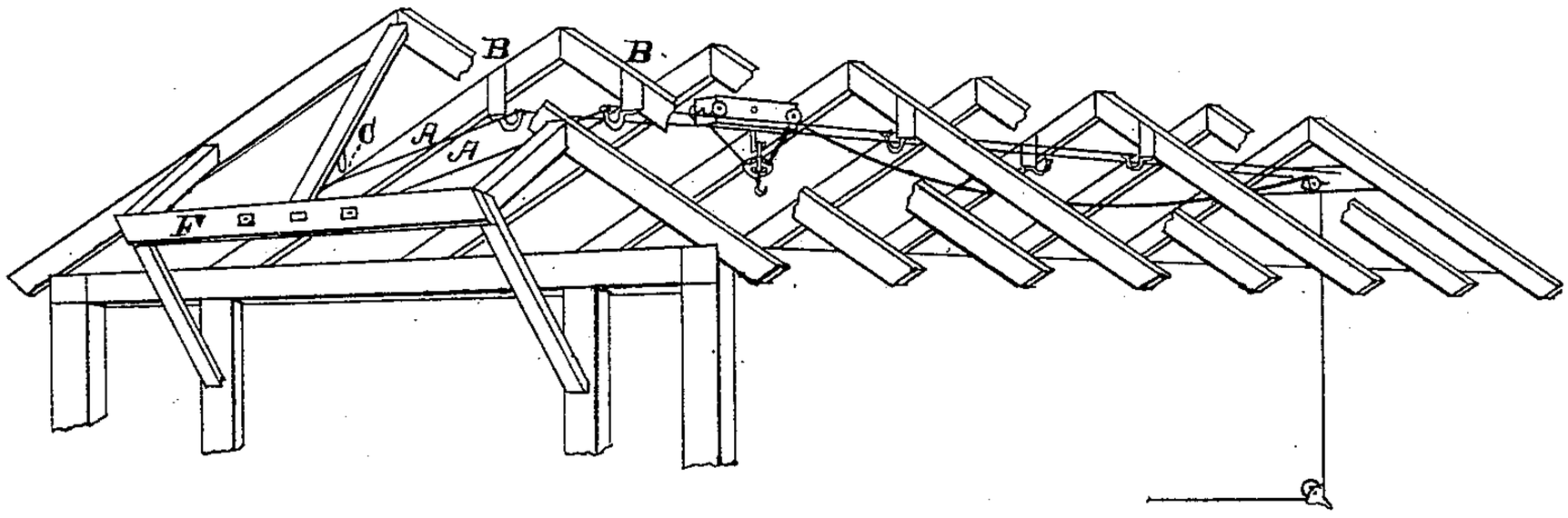



*Fig. 2*

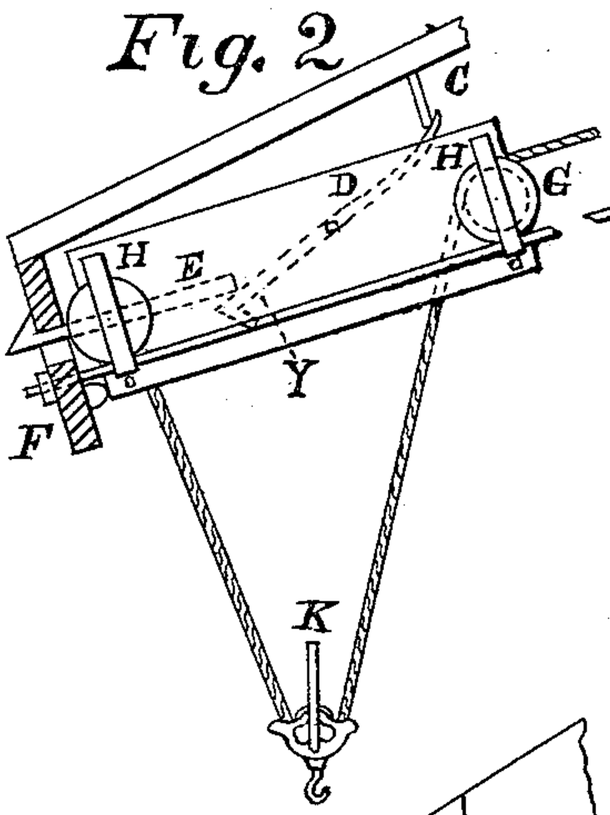
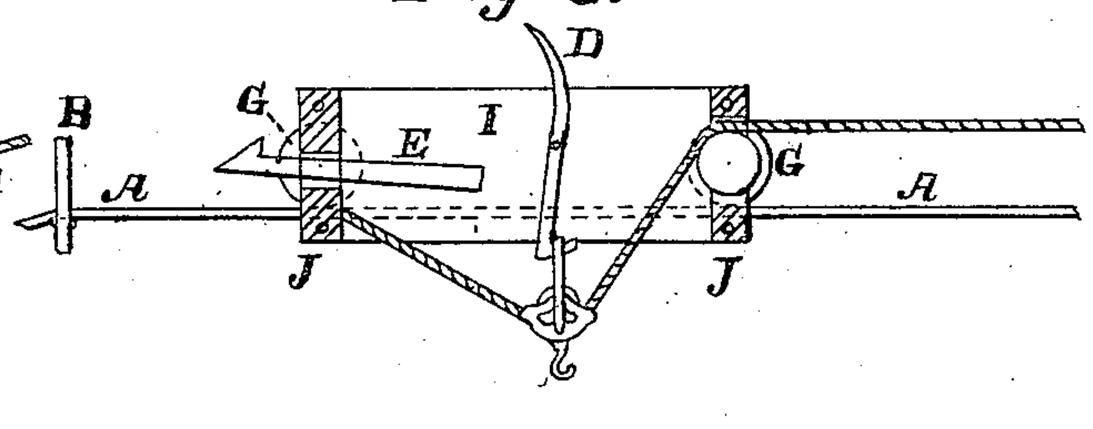



*Fig. 3.*



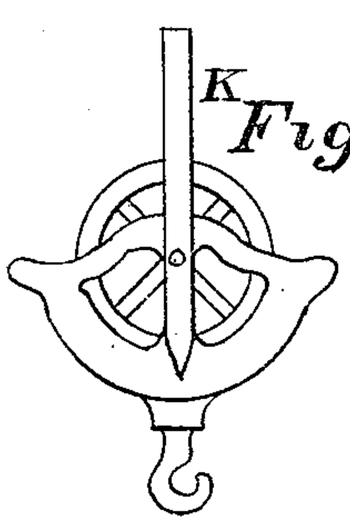
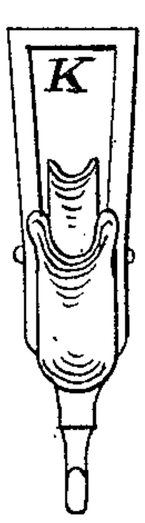




*Fig. 4.*



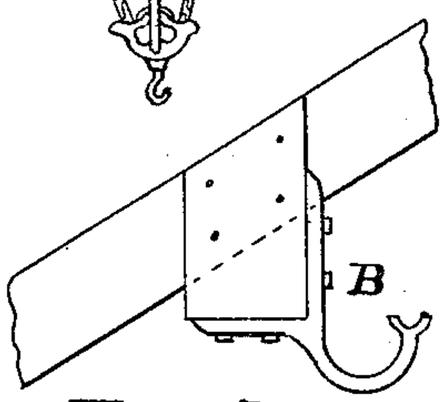




*Fig. 5.*

*Witnesses:*

C. F. Van Valkenburg

L. V. Merrill.

*Inventors:*

Nicholas V. Bigelow

Andrew Whitbeck

# UNITED STATES PATENT OFFICE.

NICHOLAS V. BIGELOW AND ANDREW WHITBECK, OF WOLCOTT, NEW YORK.

## HAY ELEVATOR AND CONVEYER.

SPECIFICATION forming part of Letters Patent No. 328,453, dated October 20, 1885.

Application filed October 28, 1884. Serial No. 146,713. (No model.)

*To all whom it may concern:*

Be it known that we, NICHOLAS V. BIGELOW and ANDREW WHITBECK, citizens of the United States, residing in the town of Wolcott, county of Wayne, State of New York, have invented a new and useful Apparatus for Raising and Conveying Hay or other Material, of which the following is a specification.

Our invention relates to that class of apparatus in which a traveler or car runs on an elevated track, thus conveying the material to any required distance and depositing it where desired.

The objects of our improvements are, first, to provide a double round-iron track, on which the car runs on an incline for the first eight or ten feet or more from the starting-point, thus enabling the car to be more easily drawn back than on a level track, as gravitation brings the car to the starting-point as soon as it reaches the incline, and also obviates the jerking motion so common with the horizontal track, which frequently dumps the load before the proper place is reached; second, to provide suitable supports or bridging for the tracks, which may be attached to the rafters in the barn as close together as necessary, though ordinarily but one pair will be required at the top of the incline, and does not interfere with the passage of the car; third, to provide a pulley which will always draw upright and which cannot turn over and catch on the rope; fourth, to provide a simple apparatus for locking the car in position at the end of the incline until the pulley and load are raised to the proper height, when the bail of the pulley unlocks the car and at the same time is caught on a pivoted hook and suspended till the load is drawn to the proper place and dumped, and the car returned to the starting-point, when the pulley is automatically detached and descends to the load again.

Similar letters refer to similar parts throughout the several views.

Figure 1 is a view of the apparatus placed in position in the roof of a barn, with the incline extending some distance from the building, there taking the material from a load outside. Fig. 2 is a side view of the car at the bottom of incline, locked in position, and the pulley, to which is attached the fork or bucket, lowered to receive its load. Fig. 3 is a longitudinal section of car while on the horizontal part of track, showing pulley supported on the pivoted hook D. Fig. 4 represents a side and front view of pulley, which is cased, as shown, to prevent turning over and catching on the rope. It also has a bail, widened at the top, as shown at K, to facilitate its being caught by the hook D. Fig. 5 shows the iron bridging B, which is attached to a block nailed to a rafter on the outside of each of the round iron rods forming the track.

The operation of the apparatus is as follows: The car being locked in position at the bottom of incline, the fork or bucket attached to pulley K is filled, and the horse or other motive power attached to the other end of rope (which has its first end fastened in the latch end of car, passes through pulley K, then over a sheave in the other end of car and through a block at the far end of track and another at the ground) is started, the pulley and load are drawn up until the bail strikes the latch D at the point Y, which in turn raises the latch E sufficiently to unlock the car, and at the same time the latch or hook D drops into the bail of pulley and supports it till again unlatched by the set-screw C. The motive power continuing to move, the car is drawn up the incline and along the level track as far as desired, when the load is dumped by a cord attached to the bucket or fork, and which also serves to draw the car back to its first position, the draft-rope being slackened for that purpose. Upon reaching the bottom of the incline the top of hook D comes in contact with the set-screw C, throwing it into the position shown by the dotted lines in Fig. 2 and dropping the pulley and fork. At the same time the latch E enters the mortise in the bumper F and firmly locks it as before. No springs are required, as all latches and levers act by gravity alone.

G G represent four grooved wheels, which run on the round-iron track, and H H show straps of iron placed over the wheels as shields and to hold them in place. Five bolts are required to hold the car together, one of which in each end serves for axles for the wheels and for the center sheave and latch, E.

We claim—

1. In a hay-elevator, the combination, with the track or way having the incline at its end,

of the carrier having at one end the latch for engaging a projection at the end of the way for locking the carrier, a pulley at the other end of the carrier, and independent gravitating latch or catch pivoted between the pulley and first-mentioned latch for supporting the load, adapted to engage with a projection at the end of the way to release the load, a rope attached to the carrier at one end and extending over the pulley, and a pulley, to which the load is secured, mounted upon the rope between the pulley and the end secured to the carrier, whereby when the pulley supporting the load is raised it will trip the latch and release the carrier, and will also trip the second latch and transfer the load from the rope directly to the carrier, and whereby, also, when the carrier is returned to the starting-point the latch carrying the load will come in contact with the projection at the end of the way and release the load, substantially as described.

2. In a hay-elevator, the combination, with the track or way, of the carrier having at one end the latch for engaging a projection at the end of the way, a pulley at the other end of the carrier, an independent gravitating latch or catch pivoted between the pulley and first-mentioned latch, and a rope attached to the carrier at one end and extending over the pulley, and a pulley, to which the load to be carried is secured, mounted upon the rope between the pulley and end secured to the carrier, whereby when the pulley supporting the load is raised it will trip the latch and release the carrier and also trip the second latch and transfer the pulley to which the load is connected directly to the car, substantially as described.

3. The combination, with the carrier, of the pulley K, weighted as described, and having the upwardly-projecting bail widened at its upper end, substantially as described.

4. The combination, with the way having the incline, of the carrier provided with the pulley at one end, the latches D and E, and the projections at the end of the way with which the latches D and E engage, the former to release the load and the latter to permit the carrier to be moved along the way, substantially as described.

5. The combination, with the way, of the carrier bearing the latches D and E, the rope attached to the carrier at one end and passing over the pulley at the other end, and the pulley K, mounted upon the rope between said end and pulley, substantially as described.

6. The carrier consisting of the two side and end pieces connected at their ends by the bolts, which also form the axles for the rollers or wheels of the carrier, substantially as described.

7. In a carrier, the combination, with the two side and end pieces connected at their ends by the bolts, of the wheels mounted on said bolts, and the latch, also having its pivot on one of the bolts, substantially as described.

8. The carrier composed of the two end and two side pieces united by two bolts, one of said bolts connecting the front end, and having the latch and the wheels mounted thereon, and the other connecting the rear ends, and having the corresponding wheels and the pulley mounted thereon, substantially as described.

NICHOLAS V. BIGELOW.
ANDREW WHITBECK.

Witnesses:
J. MADISON HENSLEE,
J. NEWELL ROBERTSON.