(No Model.) 2 Sheets—Sheet 1.

G. H. FOWLER.

HAY CARRIER.

No. 384,968. Patented June 26, 1888.

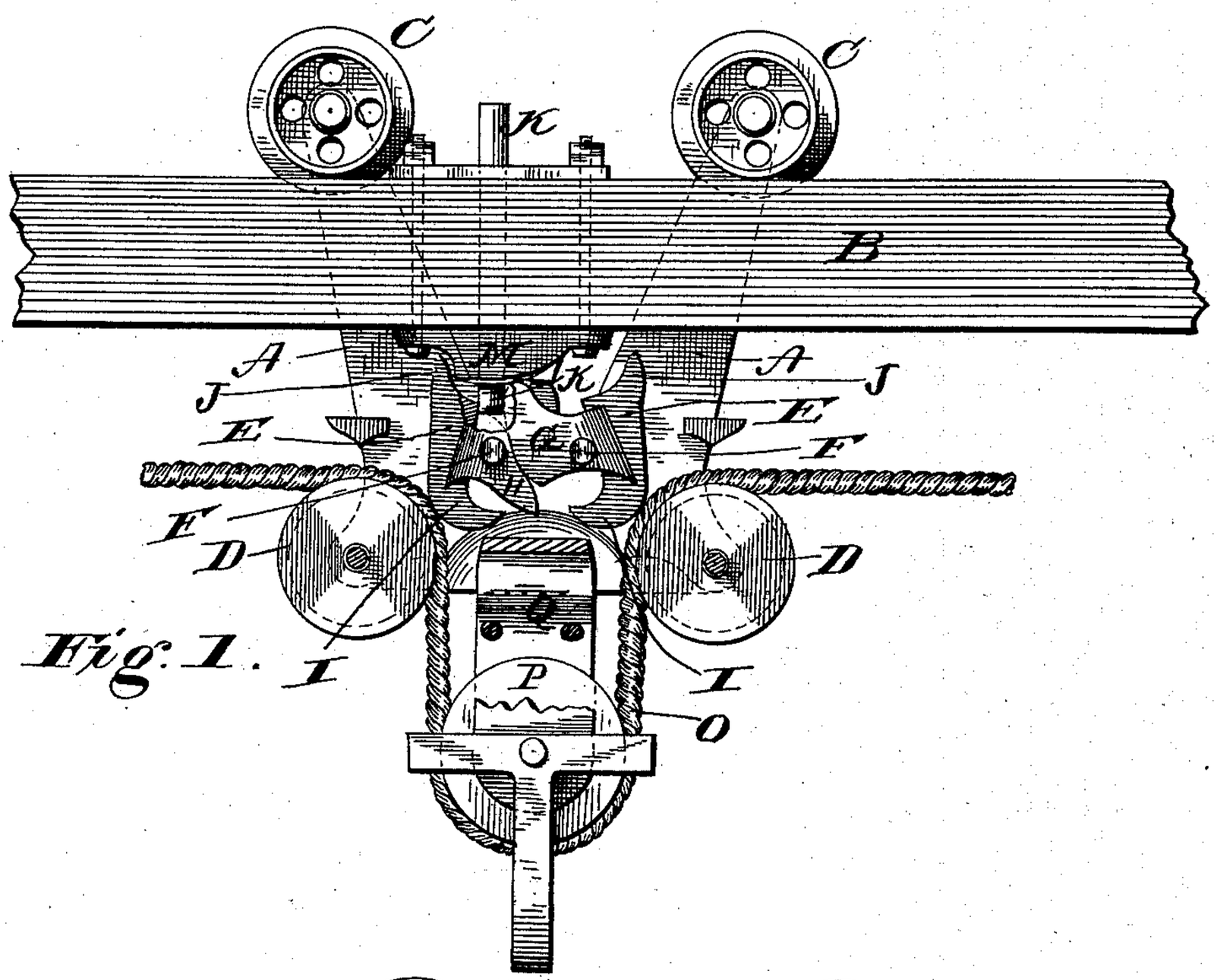

Fig. 1.

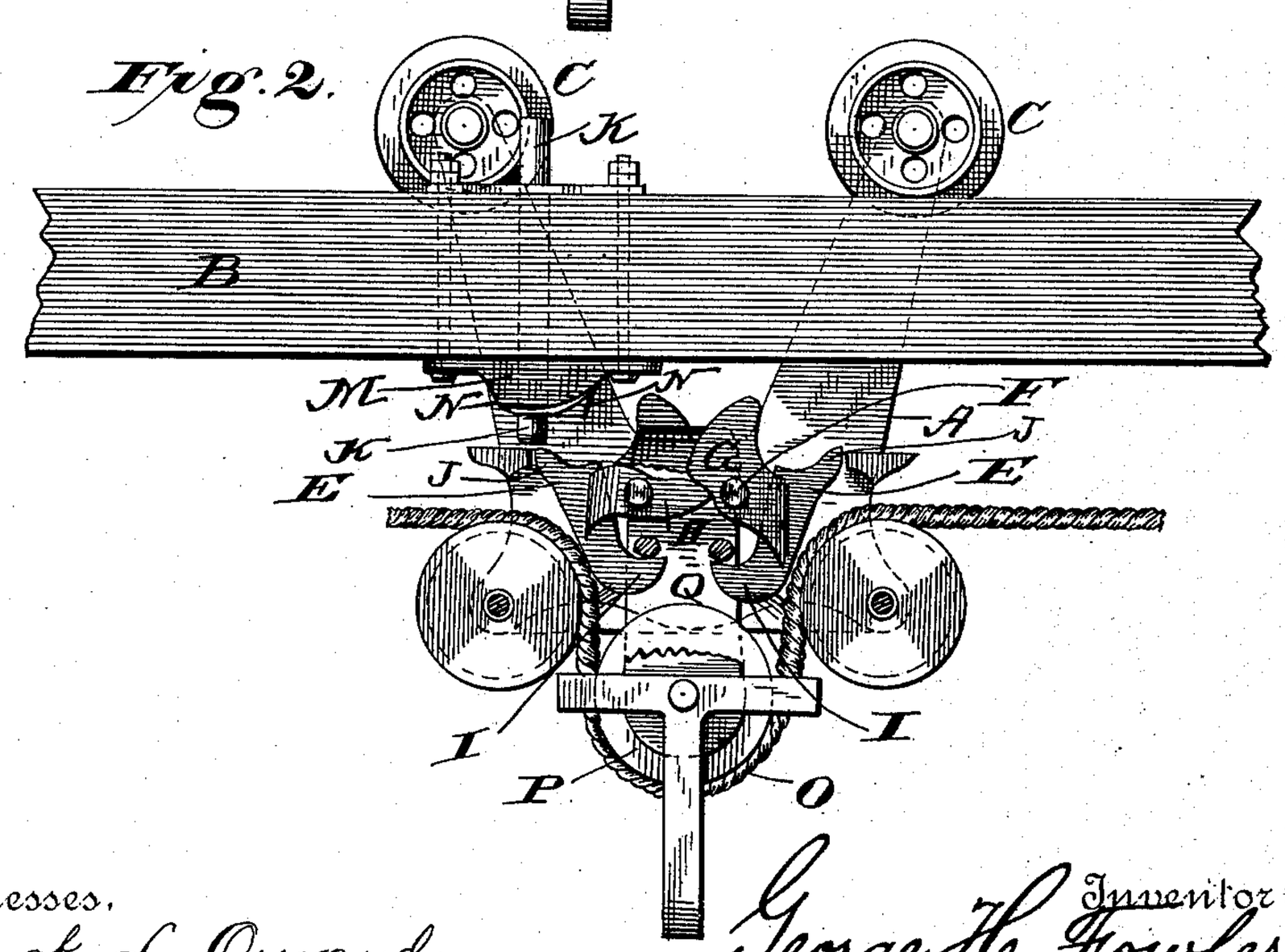

Fig. 2.

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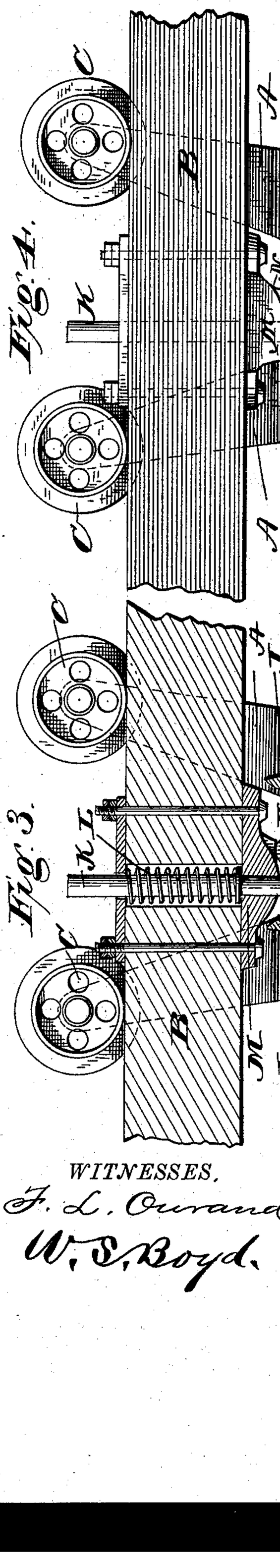

WITNESSES.

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UNITED STATES PATENT OFFICE.

GEORGE H. FOWLER, OF TAUGHANNOCK FALLS, NEW YORK.

HAY-CARRIER.

SPECIFICATION forming part of Letters Patent No. 384,968, dated June 26, 1888.

Application filed September 17, 1887. Serial No. 249,944. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. FOWLER, a citizen of the United States, residing at Taughannock Falls, in the county of Tompkins and State of New York, have invented certain new and useful Improvements in Hay-Carriers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a side view, partly in section and with one hanger removed, of my improved hay-carrier, showing it locked. Fig. 2 is a similar view showing it unlocked. Fig. 3 is a vertical sectional view of the track and carrier. Fig. 4 is a view of a carrier using the tripping-blocks of a different shape from those in the other views. Figs. 5 and 6 are perspective views of the different tripping-blocks, and Fig. 7 is a bottom perspective view of the lock-block.

In using hay-carriers that are suspended from and move upon a stationary track it is often desirable to run the carrier in either direction to deposit its load in either mow without the trouble and delay of changing the carrier or any of its parts.

My invention relates to devices of this class, and has for its object to provide such a carrier as can be run in either direction by having the draft applied to that side; and it consists in the improved construction and combination of parts of such a carrier, as will be hereinafter more fully described, and pointed out in the claims.

Referring to the accompanying drawings, in which the same letters of reference indicate corresponding parts in all the figures, A indicates the hangers of the carrier, which are suspended from the ordinary track, B, and run upon the same by means of the small rollers C. These hangers are secured together by means of bolts, in the usual manner, and can be of any desired size and shape, there being a pulley, D, between them at each lower corner.

The tripping mechanism for releasing the carrier consists of two blocks, E E, pivotally secured in holes in the hangers by means of pivots or lugs F F upon the sides of the blocks, or, rather, to two wings, G H, which project from the sides of each of the blocks. One of these wings, G, is larger than the other one, and has its corners rounded, the upper one of which projects upward, while the smaller wing is more pointed and projects a trifle downward. By placing these blocks—which are exactly alike in every particular, being made from the same pattern—facing each other—that is, with the wings of one of them pointing toward the other one—the wings act upon each other similar to cogs, the small wings being below the large ones, and the edges of the wings being slightly curved to facilitate their movement upon each other. The portions of the blocks between these wings are straight, and when the blocks are in their positions said portions are slightly inclined toward each other at their tops, while the other side of each of the blocks is provided with a hook, I, at its lower end, and with a slight tip or point, J, at its upper end.

The locking mechanism for the carrier consists of a pin, K, which fits in a perforation in the track, and is preferably forced downward by a spring, L, within the perforation, the spring being secured by means of a shoulder on the pin or a perforation through it, in which a pin may be secured; or one end of the spring can be bent and put in the perforation, the other end of the spring bearing against a shoulder or plate on the top of the track. A lock-block, M, is secured upon the lower side of the track, having its edges beveled in opposite directions, as shown at N N—that is, one edge inclined its entire length in one direction and the other edge inclined in the opposite direction—the block having a central perforation through it, through which the lower end of the pin projects. This block is of such a thickness that when secured in place the tops of the wings G G and tips J J will engage with and be operated by it.

In operation the hoisting-rope O is secured at one end in the usual manner and passed between the pulley at one end of the hanger and the tripping-block at that side of the hanger, down around the hoisting-pulley P, to which the fork or other means for holding the hay is secured, up through and between the pulley and tripping-block at the other side of the

hanger, and across the mow where it is desired to put the hay, and from there down to the pulley near the ground, at which point it is attached to the power for elevating the hay. In the meantime the carrier is locked upon the track by means of the pin K, the lower end of which projects just far enough below the top of the tripping-blocks E E to prevent the carrier from moving in either direction. After a load has been secured to the holder, which may be a fork or swing, or any other means, it is elevated by the power until the pulley arrives at the top, when a projection or bail, Q, above it will pass between the sides of the hangers up between the two tripping-blocks until it strikes the lower end of the pin K and forces it upward, by which time the pulley-frame to which the bail is attached strikes the lower portion of the hanger and prevents it going farther. As the lower end of the pin has been raised so high that the top of the tripping-block at that side will pass under it, and as the force of the power is now exerted to draw the carrier, together with its load of hay, lengthwise of the track, it starts to pass out from under the stop-block M, but as it does this the tip J of the tripping-block strikes the end of the lock-block and forces the hook upon the lower end of the block into engagement with the bail of the hoisting-pulley, and thus secures the pulley to the carrier; but as the wings of one tripping-block act upon and operate the other block the hook upon the lower end of the other block has been caused to engage with the bail of the hoisting-pulley simultaneously with the engagement of the first-mentioned hook, and thus the pulley is securely held in place and can be carried to any point along the track, where its load can be dropped by means of the tripping-cord in the usual manner, such device being of the ordinary construction, and consequently not being shown. The carrier is now drawn back to the locking-block by the tripping-cord referred to above, when the tip will pass under the pin without engaging with it; but as, when the carrier started away from the locking-block, the upper ends of the wings were raised by the pressing down of the tip upon the one block, as the carrier passes under the lock-block, the upper end of the tripping-block at that end of the carrier will engage with the side of the lock-block that has the inclined edge facing in that direction, when the inclined edge will gradually force the wing down and the top or tip of the tripping-block up. This will cause the hooks at the lower ends of the tripping-blocks to be disengaged from the bail of the hoisting-pulley, and will also raise the tops of the blocks so high that they will engage with the lower end of the locking-pin in the same manner that it was before the load was taken up, as above described, and as the hooks have been disengaged the hoisting-pulley can be drawn down for another load. To draw the load to the other side of the mow, it is only necessary to have the draft applied to that side, as the same process will unlock the carrier in either direction.

Instead of having the tripping-blocks provided with hooks and the hoisting-pulley frame with a bail, the rear portion of each of the blocks can be provided with a groove, R, as shown in Fig. 6, which is preferably made wider at one end than at the other, and may, if desired, be provided with ribs S, although they may be dispensed with, and the groove can be made in a V shape or have its bottom rounding. In this construction the tips at the tops of the blocks may be dispensed with, as the blocks are caused to engage with the rope passing between them and the pulleys by their own weight, and by the action of the rope itself, which will draw the upper and smaller part of the groove down upon it the greater the strain upon the rope. As was the case with the one tripping-block operating the other one, so it is with this construction, and consequently the rope is securely clamped upon both sides of the hoisting-pulley, and can be drawn in either direction without danger of its hold being released. To lock the carrier in position, it is drawn back, when the same action of the inclined edge of the locking-block will operate upon the top or lever portion of one of the wings in the same manner as described for the other construction. As there are no hooks to engage with the bail upon the hoisting-pulley, the bail is dispensed with, and in its place a block, T, is secured in the lower part of the hanger by means of a bolt which passes through a slot, U, in the block, the upper end of the block projecting up between the tops of the tripping-blocks just below the lower end of the pin K. When the hoisting-pulley now comes up with its load, it strikes the lower end of this slotted block and drives it up against the pin and releases the carrier.

Although I have described my invention in connection with a hay-carrier, it can be used for other things as well, and in place of a spring-actuated pin for locking it upon the track other movable devices can be employed, it only being necessary to have a device that can be raised out of engagement with the carrier by means of the hoisting-pulley. As the parts are made of a size sufficient to bear a great strain, and are all simple in their construction, the device is less liable to get out of order, in addition to its great utility in acting automatically in taking its load in either direction, as required.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a hay-elevator, the combination, with the carrier, of a pair of tripping-blocks pivotally secured therein, said blocks being similar to each other and each provided with wings, one of which is larger than the other and has its upper corner projecting upward, said wings being adapted to engage with each other, a plate adapted to be secured to the under side of the track having inclined faces,

a locking-pin, and a hoisting-pulley, substantially as described.

2. In a hay-elevator, the combination, with the carrier, of a pair of tripping-blocks pivotally secured therein, said blocks being similar to each other and each provided with wings, one of which is larger than the other and projects upward, and the smaller one projects downward, the small wing of each block engaging with the larger wing of the opposite block, a locking-block adapted to be secured to the under side of the track, a locking-pin, and a hoisting-pulley, substantially as described.

3. In a hay-elevator, the combination of the track, a plate secured to the upper side of the track, and a locking-plate secured to the under side of the track, said track, block, and plate being provided with a hole, a spring-actuated pin in the holes, a carrier, a pair of tripping-blocks pivotally secured in the carrier, the upper portions of which are square and adapted to engage with the lower end of the pin, and a hoisting-pulley, substantially as described.

4. In a hoisting device, the combination of the track, the lock-block secured thereto, the locking-pin, the carrier, a pair of tripping-blocks in the carrier, each of which has a hook at its lower end and a tip at its upper end, and two wings projecting from its sides, and a lug or pivot upon each of said wings, the portion of said blocks between the wings being straight and slightly inclined toward each other when in position, and a hoisting-pulley, the frame of which is provided with a bail.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE H. FOWLER.

Witnesses:

CHAS. DUMONT,

WM. C. RIDDLE.