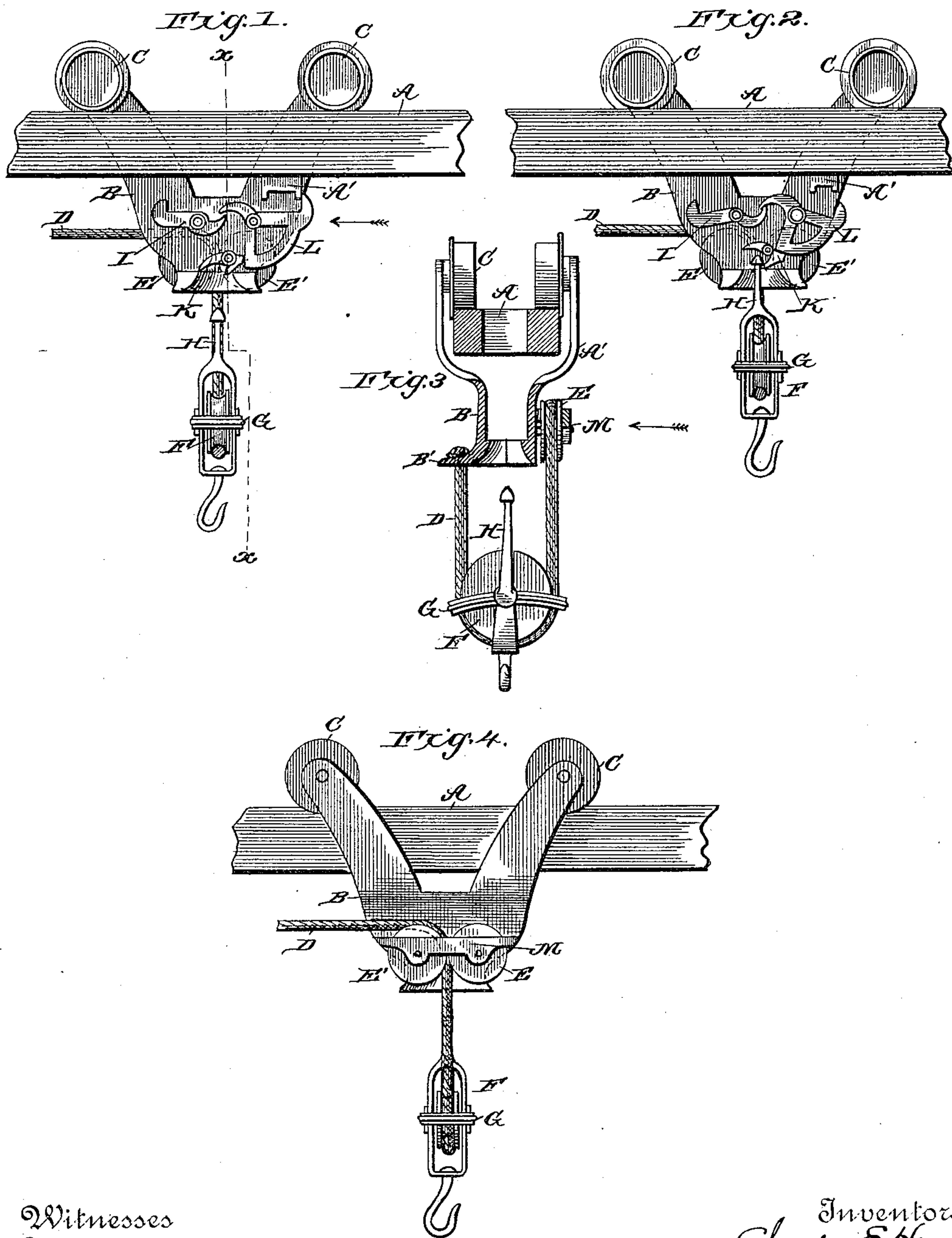


(No Model.)

C. E. HUNT, N. B. HELM & H. L. FERRIS.
HAY ELEVATOR.

No. 351,443.

Patented Oct. 26, 1886.



Witnesses
Jos. A. Ryan
Wm. F. Buntmann

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UNITED STATES PATENT OFFICE.

CHARLES E. HUNT, NATHAN B. HELM, AND HENRY L. FERRIS, OF HARVARD,
ILLINOIS.

HAY-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 351,443, dated October 26, 1886.

Application filed May 20, 1886. Serial No. 202,814. (No model.)

To all whom it may concern:

Be it known that we, CHARLES E. HUNT, NATHAN B. HELM, and HENRY L. FERRIS, residents of Harvard, in the county of McHenry and State of Illinois, have invented certain new and useful Improvements in Hay-Elevators; and we do hereby 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 pertains to make and use the same.

Our invention relates to improvements in hay-elevators, and is fully described and explained in the following specification, and shown in the accompanying drawings, in which—

Figure 1 is an elevation showing the inner face of one-half of our elevator and the locking mechanism attached thereto. Fig. 2 is a similar view of same parts, the position of the locking parts being changed. Fig. 3 is a vertical section through the line *x x*, Fig. 1, the locking mechanism being removed and the view being in the direction indicated by the arrow in Fig. 1; Fig. 4, a side elevation looking in the direction indicated by the arrow in Fig. 3.

In these views, A is an elevator-track of any desired form. A' is a stop fastened thereto. B is an elevator-frame, and C C are the rollers, that rest on the track and support the frame. A rope, D, has one end fastened to the frame B, at a point, B', on one side thereof, and is carried from said point of attachment across and approximately at right angles to the frame, and passes upward between two grooved pulleys, E E', mounted on the opposite side of the frame from the point B'. The portion of the rope between the point B' and the pulleys E E' forms a loop which hangs in a vertical plane at right angles to the line of the track, and the pulleys E E' are on opposite sides of and equally distant from the plane of the loop. Each of the pulleys E E' is mounted on a horizontal pivot, and the two pivots are supported at their inner ends by the body of the frame, and at their outer ends by a guard, M, lying outside the pulleys and fastened to the frame.

It is evident that the rope D, after being carried upward between the pulleys E E', may

be carried horizontally over either of them, and may thus pass to a pulley at either end of the track A. In fact, Fig. 1 shows the rope resting on the pulley E, while Fig. 4 shows it resting on the pulley E'. The rope may in fact be transferred from one position to the other by simply swinging it around, the construction of the parts being such that it cannot become misplaced during the operation of changing.

The loop between the point B' and the pulleys E E' supports a fork-pulley, F, mounted in a suitable housing, G, which is provided with an upward-projecting headed pin, H. A locking mechanism, I K L, is mounted between the two parts of the elevator-frame, and serves to lock the frame to the stop A', or to support the pin H, housing G, and pulley F. These parts are shown, described, and explained in a former patent issued to us, and need not be explained here.

It is evident that by hanging the fork-supporting loop across the elevator-frame, and mounting the two pulleys E E' on opposite sides of the plane of the loop, the elevator is rendered reversible without the use of any swiveling device whatever. The hanging of the loop across the carrier is not broadly new in this application, since it is illustrated in our pending application No. 195,279; but the combination of the transverse loop with the two pulleys is new and a valuable improvement.

We do not limit our invention to the exact forms shown, since these may evidently be varied without affecting the operation of the mechanism. The locking mechanism shown is only intended as an illustration of the operation of our invention; but any other form operated by a central pin may be substituted, and will be equally suited to the use of our invention.

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

1. The combination, with an elevator-frame adapted to move on a suitable track, of an operating-rope fastened to the frame at one side thereof and carried across beneath the frame in a plane at right angles to the line of the track, and two rope-supporting pulleys journaled to the frame on the side opposite the

point of connection of the rope, said rope being carried upward between said pulleys, and said pulleys being symmetrical with reference to the plane of the rope, substantially as and for the purpose set forth.

2. The combination of the elevator-frame, the pulleys E E', journaled on one side thereof, the rope D, lying between said pulleys and carried thence across beneath the frame and fastened to the frame at a point opposite the space between the pulleys, and the fork-pulley F, suspended on the rope between the pulleys E E' and the end of the rope attached to the frame, substantially as and for the purpose set forth.

3. The combination of the track A and stop A', the frame B, having rollers C, the latching mechanism I K L, the pulleys E E', journaled

on one side of the frame and lying in the same vertical plane, the rope D, passing between said pulleys and having one of its ends fastened to the frame on the side opposite the pulleys, the fork-pulley F, and housing G, having headed pin H, adapted to operate the latching mechanism, substantially as and for the purpose set forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

CHARLES E. HUNT.
NATHAN B. HELM.
HENRY L. FERRIS.

Witnesses:

W. H. MILLER,
WM. J. McCONKEY.