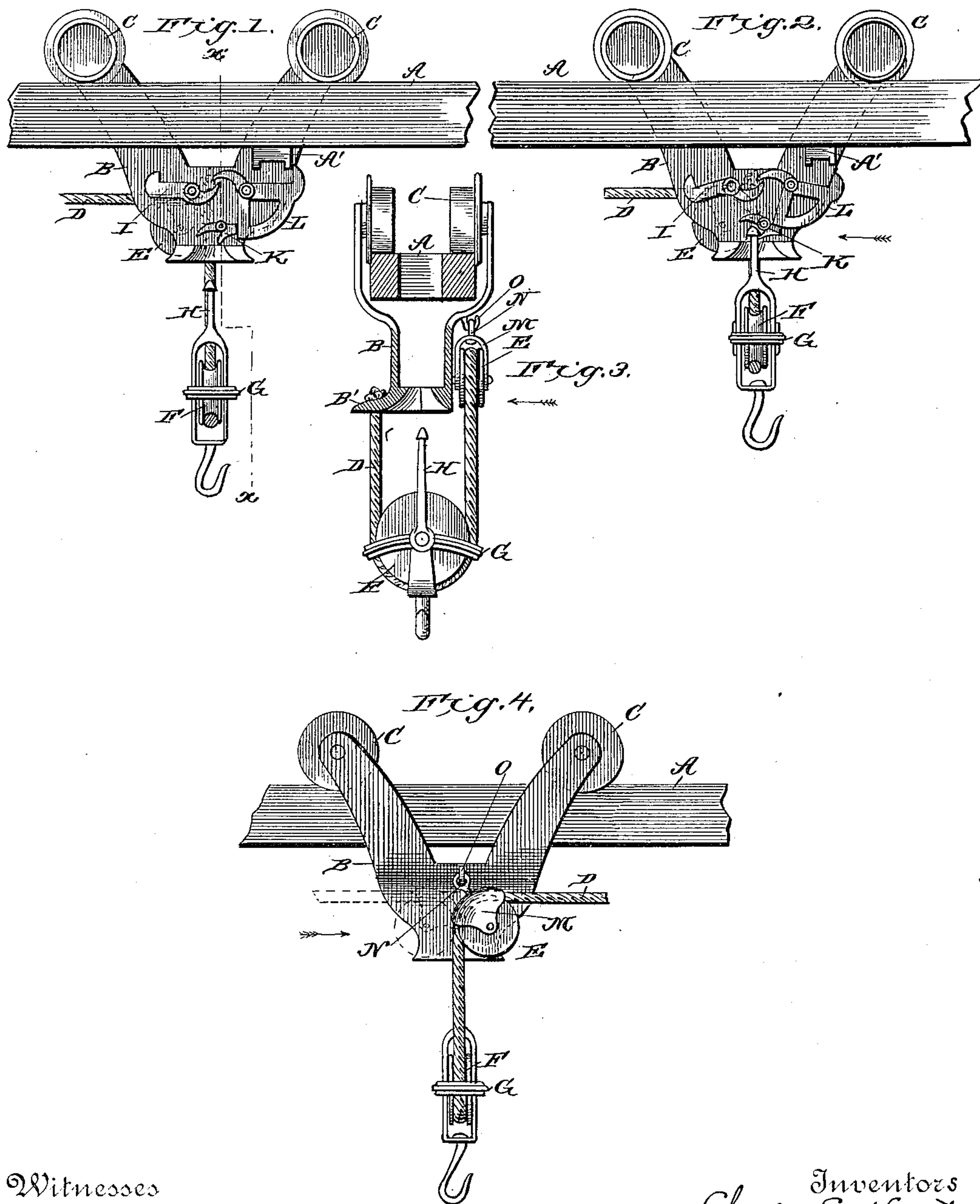


(No Model.)

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

No. 351,444.

Patented Oct. 26, 1886.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## HAY-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 351,444, dated October 26, 1886.

Application filed May 20, 1886. Serial No. 202,815. (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 in position on a suitable track; Fig. 2, a similar view of the same parts shown in Fig. 1, the locking mechanism being in a different position from that shown in Fig. 1; Fig. 3, an end elevation of the carrier, looking in the direction indicated by the arrow in Fig. 2, the locking mechanism being removed; Fig. 4, a side elevation of the carrier, looking in the direction indicated by the arrow in Fig. 3.

In these views, A is an ordinary carrier-track provided with a stop, A'. B is an elevator-frame, and C C are rollers mounted on the frame and resting on the track. An operating-rope, D, has one of its ends fastened to the frame B at a point, B', on the side thereof, and passes from the point B' across the frame and over a pulley, E, whose connection with the frame is hereinafter explained. From the pulley E the rope extends to another pulley at the end of the track, and thence to any point where it is desired to operate it, its arrangement in this regard being common and well known. The portion of the rope between the point of attachment B' and the pulley E is a loop at right angles to the line of the track, and in this loop rests a fork-pulley, F, supported or inclosed by a suitable housing, G, which is provided with a headed pin or rod, H, projecting upward above the pulley.

Between the two parts of the carrier-frame are mounted a series of parts, I K L, which together form a locking mechanism adapted to secure the frame by locking it to the block A',

or to release it from said block and engage the headed pin H, and thereby support the pulley F and the fork connected therewith. As this locking mechanism and its operation are fully described and explained in a former patent, no description thereof is necessary here, nor any further illustration than such as is given in Figs. 1, 2.

The rope-supporting pulley E, already mentioned, is provided with the ordinary housing, M, and swiveled ring N, and the carrier-frame is provided with a hook, O, projecting from the side of the frame and lying, preferably, in a plane at right angles to the frame and passing through the point B'. It is evident that if the rope D be carried from the position shown in full lines in Fig. 4 to that shown in dotted lines, the pulley E and its housing M will be reversed simply by the swiveling of the housing on the ring N. The carrier is thus rendered reversible by the addition to the frame of the hook O and the use of the well-known swiveling-pulley. The cost of the hook is inappreciable, and the swiveling-pulley is no more expensive than any other form of rope-supporting pulley such as has heretofore been fastened to the carrier-frame. We have, in fact, substituted for the complicated and expensive swiveling devices heretofore used a perfectly practicable device, simple in construction, perfect in operation, and involving no additional expense, as compared with a non-swiveling carrier.

We do not intend to limit the use of this invention to its combination with the particular locking mechanism shown, though that is the form with which we have operated it, since it is evident that numerous other forms may be devised, all operative and practical; neither do we limit it to the exact form and construction of the means by which the housing M is connected with the frame B. The positions of the ring N and hook O may be reversed, the ring being on the frame and the hook swiveled to the pulley-housing; or the swiveled ring N may be replaced by a pin cast on the housing, and having its head swiveled in a suitable socket in the frame B. In other words, the link connecting the housing and the frame may be swiveled in either of the parts.

The fastening of the rope at one side of the



carrier-frame, and the hanging of the pulley-supporting loop across the frame, is not broadly new in this application, since that feature of this device is shown and described in our  
5 pending application No. 195,279. We therefore limit our present invention to so much as is covered by the following claims—to wit:

1. The combination, with a carrier-frame, of a rope-supporting pulley and a suitable housing supporting the pulley and connected with the frame by a swiveled link, substantially as  
15 and for the purpose set forth.

2. The combination, with a carrier-frame, of an operating-rope fastened at one side of the frame and passing over a rope-supporting pulley mounted in a suitable housing, said housing being connected by a swiveled link with the carrier-frame at a point opposite the point of connection of the rope with the frame, substan-  
20 tially as and for the purpose set forth.

3. The combination of the carrier-frame, the

operating-rope fastened to the frame at a point, B', on the side thereof, the rope-supporting pulley E and its housing M, and a swiveled link connecting the housing and frame, substan- 25 tially as and for the purpose set forth.

4. The combination of the carrier-frame, the pulley E, housing M, swiveled link N, and hook O, and the rope D, fastened to the carrier-frame at a point opposite the hook O, and passing 30 thence over the pulley E, 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:

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WM. J. McCONKEY.