(No Model.)

R. W. ILIFF.

HAY ELEVATOR OR CARRIER.

No. 565,990. Patented Aug. 18, 1896.

Fig. 1.

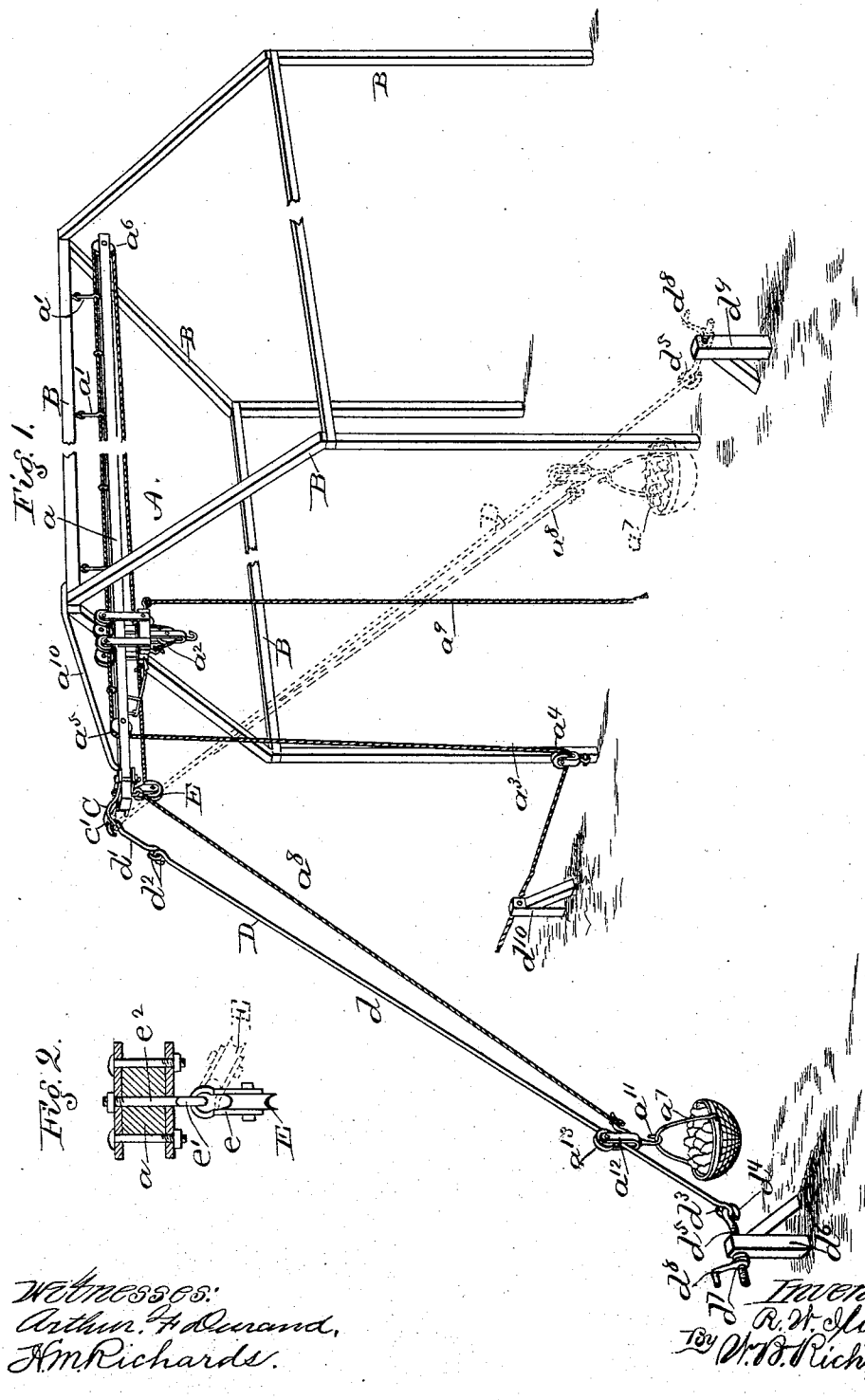

Fig. 2.

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UNITED STATES PATENT OFFICE.

ROBERT W. ILIFF, OF WASHBURN, ILLINOIS.

HAY ELEVATOR OR CARRIER.

SPECIFICATION forming part of Letters Patent No. 565,990, dated August 18, 1896.

Application filed August 27, 1895. Serial No. 560,639. (No model.)

To all whom it may concern:

Be it known that I, ROBERT W. ILIFF, a citizen of the United States, residing at Washburn, in the county of Woodford and State of Illinois, have invented certain new and useful Improvements in Hay Elevators and Carriers, of which the following is a specification.

While this invention relates generally to improvements in hay elevators and carriers of that type in which a counterweight is used to return the carrier after its load has been delivered in the mow, the improvement pertains particularly to the means for connecting the counterweight with the carrier-track and to adjustments of the track for the counterweight and of the counterweight-rope.

In many cases hay elevators and carriers of the class above referred to and as heretofore constructed, with no provision for lateral adjustment of the counterweight rope and track, cannot be used where the building in which the hay is to be stored is located in close proximity to some other building or buildings, or for other reasons there is not room or place for the unadjustable counterweight-track at right angles to the barn; and a vertically-operating track cannot be used, as it has not sufficient length of run to move the carrier across the long or wide haymows.

The object of my invention is to provide a counterweight-rope and a track therefor, both of which can be adjusted at right angles to the barn or mow and in line with the carrier-track, or extending in either direction from and at right angles to the carrier-track.

To the end and object stated my improvement consists in its main feature in a counterweight carrying-rope and a counterweight inclined track, both adjustably connected with the hay-carrier track, whereby the counterweight and its rope, together with the counterweight-track, can be adjusted to extend outwardly at right angles to the barn in the ordinary position over and beyond the load of hay, and can also, when necessary or desired, be adjusted to extend along the side of the barn and at right angles to or approximately right angles to the track.

Mechanism embodying the preferred constructive forms and combinations of parts forming the subject-matter of my improvements, embodied in the best form now known to me, is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective showing part of the framework of a barn and hay-elevating mechanism embodying my improvements; Fig. 2, a sectional elevation in the outer end of the hay-carrier track and side elevation of the swinging pulley-frame and pulley for the counterweight-rope suspended below said track.

For the purpose of illustrating my improvement and its mode of operation I have shown it as applied to an ordinary hay elevator and carrier A, consisting of a track a, supported by hangers a', and carrier a^2, mounted to run thereon and operated for carrying hay across the mow or barn by a hoisting-rope a^3, to the lower end of which a draft-animal or other force is applied, and the lower or extended end of which passes under a pulley a^4 and over pulleys a^5 a^6, and thence back to the carrier a^2. A counterweight a^7 and rope a^8 are attached to the carrier, as hereinafter described, and give to the carrier its ordinary return movement. A pendent starting-rope a^9 is also shown.

The foregoing-described parts are parts of an ordinary hay elevator and carrier, which may be made as shown, or in any other ordinary or desired manner, and being both in their construction and operation well known need not be further described herein. Any ordinary or desired hay-fork may be used.

The drawings also show part of the framework B of a barn in which the contrivance is mounted, and which barn is assumed to be of such length that a vertically-operating counterweight could not move the carrier nearly across the barn or haymow.

For the purposes of my improvement the outer end of the track a is extended considerably outward beyond the barn, and is stayed by a brace a^{10}. A bracket C is fixed to the upper side and outer end of the track a, and extends beyond the end of said track. The outer end part of the bracket C has a slot c', which receives the hook-shaped upper end of the track D for the counterweight a^7. The track D is preferably made in two parts, a main part d and a short upper end part d', connected with each other by interengaged eyes d^2. The short part d' has the hook on

its upper end which engages with the slotted bracket C. The lower end of the track D has an eye d^3 thereon, which interengages with an eye d^4 on a bolt d^5, that passes loosely through a post or anchor d^6, Fig. 1, and is screw-threaded for a nut d^7, which carries a crank-arm d^8, by means of which the bolt d^5 may be adjusted to tighten or loosen the track D, or the nut be removed from the bolt, and the bolt then removed from the post or anchor.

Three posts or anchors are shown,—one, d^6, substantially on a line paralleling the track a; one, d^9, substantially at right angles to said line, and at the near side of the barn, and one, d^{10}, substantially at right angles to said line and at the distant side of the barn or its side opposite the post d^9. The track D may be secured at its lower end to the post or anchor d^6, as shown by full lines at Fig. 1, when desired, and when no obstacles prevent, or secured to the post or anchor d^9, as shown by dotted lines at same figure, when buildings or other obstacles render it necessary, or secured to the post d^{10}, when desired or necessary, the hook at the upper end of the track D turning freely in the slot c' to permit of such adjustments. It will be evident also that the post to which the lower end of the track D is secured may be fixed at different points for adjusting the track D at different angles to the barn.

The counterweight-rope a^8 passes over a pulley E, which is journaled in a pulley-frame e, that is suspended from or hinged to an eye e' at the lower end of a bolt e^2, so as to permit of the pulley-frame and pulley swinging laterally, as shown by dot lines at Fig. 2. The bolt e^2 is loosely journaled or swiveled in the outer end of the track-bar a, so that it may oscillate on its axis to permit of the pulley oscillating therewith when hanging vertically or at an inclination to the bolt. The counterweight a^7 is suspended on a hook a^{11}, carried by a pulley-frame a^{12}, the pulley a^{13} of which runs upon or traverses the track d in an ordinary manner in the operations of the carrier, which need not be further described herein, as also need not be described the operations of the carrier and ropes a^3, a^4, and a^9, which are in an ordinary manner.

It will be observed that the position of the swiveled and hinged pulley E, below the connection of the track d to the bracket C, will permit of the adjustment of the counterweight-rope a^9 with all adjustments of the counterweight-track d, and that the swiveled connection of said pulley to the track-bar a and its hinged connection to the bolt e^2 will permit the pulley to swing into positions favorable for the operation thereover of the rope a^8 in all adjustments of said rope with adjustments of the counterweight-track D.

I desire it understood that I do not limit myself to the details of construction shown, but regard myself as entitled to such variations therefrom as fall within the scope of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a hay elevator and carrier, in combination substantially as described, a carrier-track, a carrier, and a counterweight-track hinged at its upper end to the carrier-track, whereby it may be adjusted laterally at different angles to the barn, an anchor, and a shaft screw-threaded in said anchor and provided with a crank whereby it may be used to tighten or slacken said counterweight-track, substantially as described.

2. In a hay elevator and carrier, in combination substantially as described, a carrier-track, a carrier, a counterweight-track hinged at its upper end to the projecting outer end of the carrier-track, an adjustable anchor for said track, a counterweight slidably mounted on the counterweight-track, a line connecting the counterweight and carrier, an eye-bolt pivotally connected or swiveled to the outer end of the carrier-track, and a pulley and pulley-frame, said frame hinged in the eye of the eyebolt, whereby the pulley is both hinged and swiveled to the carrier-track, substantially as described.

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

ROBERT W. ILIFF.

Witnesses:
M. L. HARPER,
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