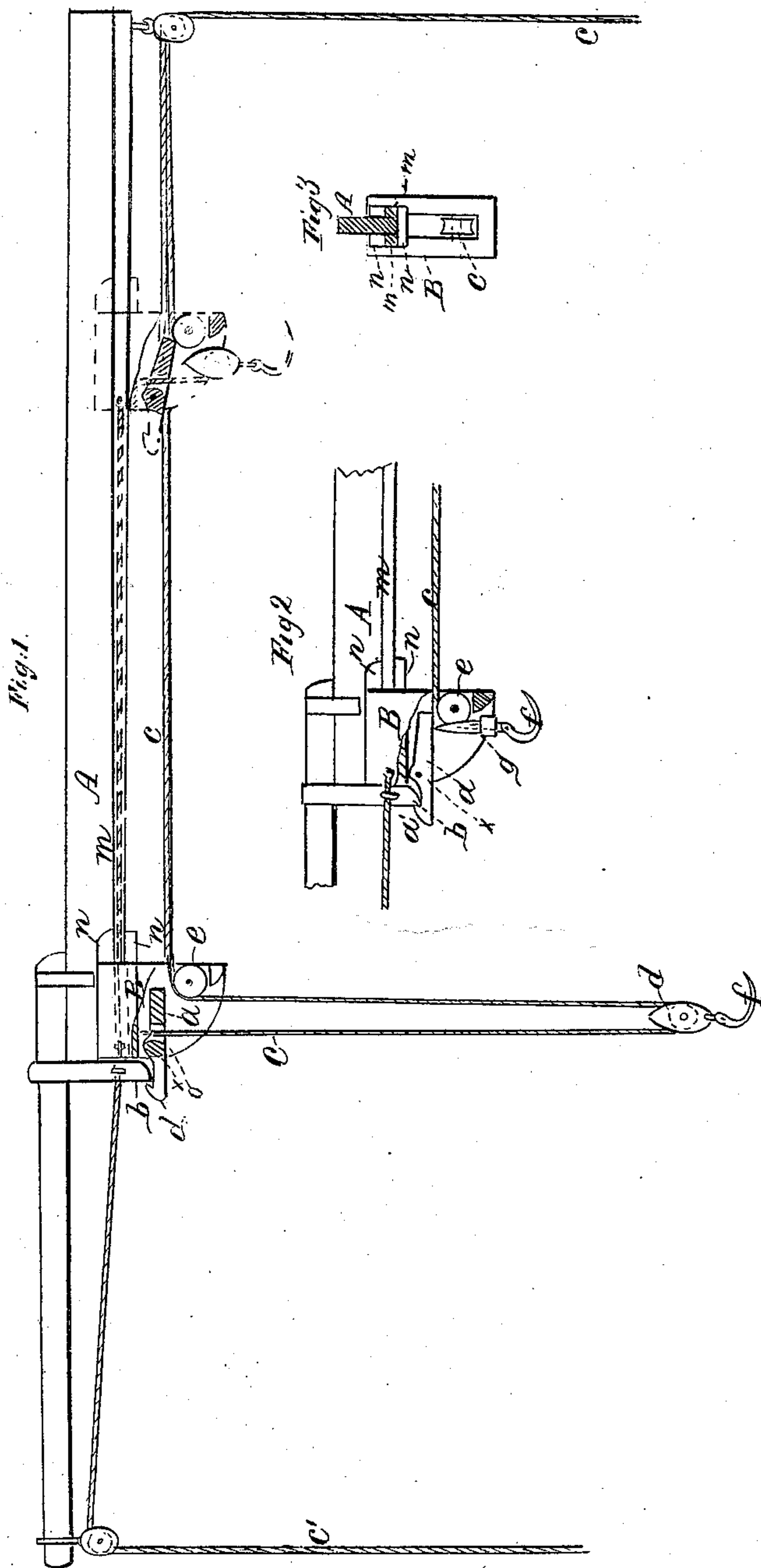


*T. H. Arnold,*  
*Hay Elevator.*

*No. 93,579.*

*Patented Aug. 10. 1869.*



*Witnesses:*

*McCombs*  
*J. H. Haynes*

*T. H. Arnold*  
*per Brown & Combs*  
*Attys*



# United States Patent Office.

T. H. ARNOLD, OF TROY, PENNSYLVANIA.

Letters Patent No. 93,579, dated August 10, 1869.

## IMPROVED HAY-ELEVATOR.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, T. H. ARNOLD, of Troy, in the county of Bradford, and State of Pennsylvania, have invented a new and useful Improvement in Hay-Pitchers, for storing hay, straw, or other material; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification.

This invention relates to that class of hay-pitchers in which their horizontal beams are provided with sliding carriers, operated by means of ropes and pulleys, whereby the forks, when elevated to a given height, are carried in a horizontal direction to any point under the beams, by the sliding of said carriers along the beams, and after removal of their loads are again returned by the sliding back of the same.

The inconveniences heretofore attending the use of this machine have been, first, the liability of the carrier to slide along the beam during the hoisting of the fork with its load, and secondly, the liability of the fork to run downward during the backward sliding of the carrier.

My invention consists in the providing of the carrier of a hay-pitcher, of this description, with a combined locking-hook and dog, whereby the carrier is locked to the beam during the raising of the fork, and whereby the weight of the fork is sustained during the backward sliding of the carrier.

Referring to the accompanying drawing—

Figure 1 represents a longitudinal view of a hay-pitcher constructed according to my improvement, with its carrier and locking-hook represented in section;

Figure 2 represents a similar view of a portion of the same, showing the manner of applying the improvement to a single rope and pulley; and

Figure 3 represents a transverse section of the pitcher taken through the carrier.

Similar letters of reference indicate corresponding parts in both figures.

A is the horizontal beam of a hay-pitcher, having arranged to slide thereon a carrier, B, to which is suspended and operated, by means of a block and tackle, a hay-fork, f.

Elevation of the fork, and sliding of the carrier B are effected by the application of power to the rope c, while the backward sliding of the said carrier is effected by the transferring of the power to the rope c', substantially as in other hay-pitchers of this kind.

But in addition to this, I provide the carrier B, on the under side thereof, with a combined locking-hook and dog, a.

Said device is constructed of iron, hard wood, or other suitable material, and is pivoted within the car-

rier at a point, x, near the upper part of the outer edge thereof.

The outer extremity of this locking-hook and dog a is provided with an upwardly-projecting catch, a', for engaging with a downward projection or locking-piece, b, provided at the outer end of the main body of the beam A, while its opposite or inner extremity is of sufficient weight to overbalance the said hooked end or catch a', thereby to insure a ready engagement of the catch a' with the projection or locking-piece b, so that by said engagement the carrier B is locked to the beam, and its sliding prevented during the raising of the fork.

When the fork is raised to a sufficient elevation, the upper end of the pulley-block d strikes against the under side of the inner extremity of the locking-hook and dog a, and unlocks the said catch a' from the locking-piece b, thereby releasing the carrier B, whereupon a continued draught upon the rope c will cause the sliding of the carrier along the beam A, carrying with it the loaded fork f.

After the unloading of the fork, the rope c is relaxed, and is immediately caught between the periphery of the pulley e and the inner extremity of the combined hook and dog a, by the dropping of the latter, in such manner, that the downward force exerted upon the weight of the fork will tend to jam the rope the tighter between the said parts, thereby effectually preventing the descent of the fork, as illustrated by those parts in fig. 1, represented in red outline.

Upon the transferring of the power to the cord c', the carrier B is made to slide back to its former position, at which point the catch a' is pressed downward by contact of its bevelled surface with the bevelled surface of the locking-piece b, thereby releasing the rope c, whereupon the fork is allowed to descend to the point from whence it first started, while the locking of the carrier B is again effected by the engagement of the catch a' and locking-piece b.

The said locking-hook and dog a is provided with an opening, o, near its central portion, for the passage of the extremity of the cord c, in the attaching thereof to the under side of the carrier.

For raising light weights, or under other circumstances, where the pulley d is not necessary, a tripping-button, g, is attached to the cord c, above the fork, for tripping the hook a, and unlocking the carrier, as illustrated in fig. 2.

Horizontal guide-ways, m m, composed of strips of wood, or other material, are attached to the sides of the beams A, lengthwise thereof, and sliders, n n, composed of shorter strips, of the same material as the carrier B, are secured in a horizontal manner through the upper part of the said carrier.

Said sliders n n are fitted to slide along the upper



side of the said guide-ways *m m*, for the purpose of supporting the carrier upon the beam, and facilitating its sliding movement thereon.

What I claim as my invention, and desire to have secured by Letters Patent, is—

1. The locking-dog *a*, so constructed and connected with the carrier *B*, as to perform the double purpose of retaining the carrier in position while elevating the load, and of preventing the descent of the fork during the return-motion of said carrier, substantially as specified.

2. In combination with the carrier, having its locking-hook and dog operating as above, the stationary piece *b*, whereby the carrier is retained and the rope liberated simultaneously, in the manner substantially as shown and described.

T. H. ARNOLD.

Witnesses:

DANIEL RIDER,  
M. A. GATES.