G. A. DICKSON.

HAY-ELEVATING DEVICE.

No. 187,969. Patented March 6, 1877.

Fig. 1

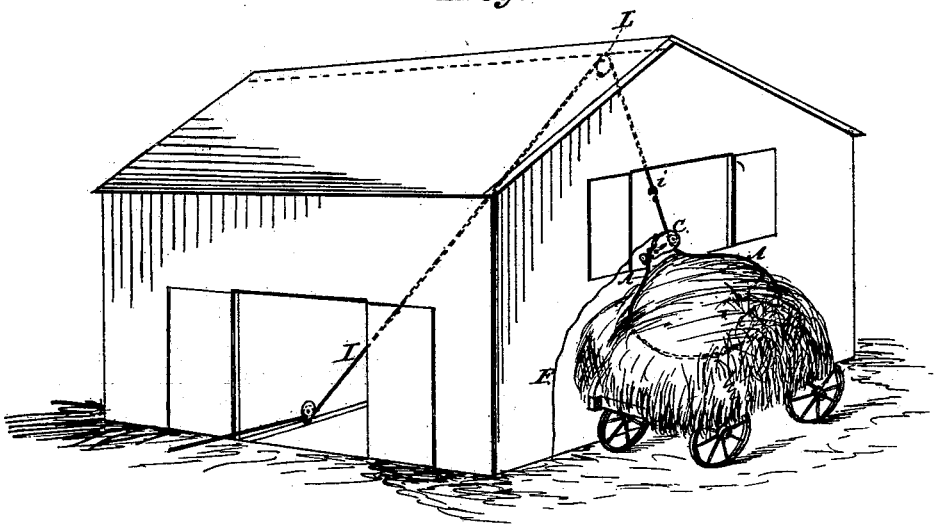


Fig. 2.

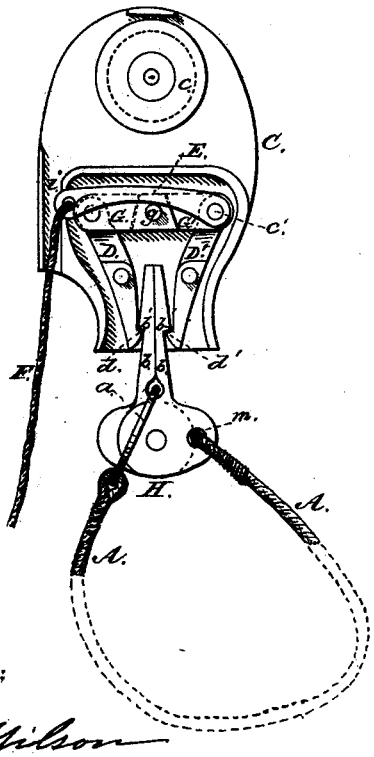
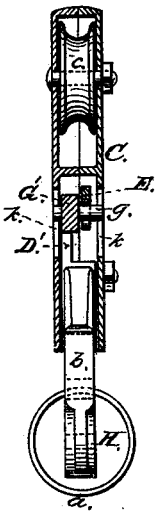


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE A. DICKSON, OF SHORTSVILLE, NEW YORK.

IMPROVEMENT IN HAY-ELEVATING DEVICES.

Specification forming part of Letters Patent No. **187,969**, dated March 6, 1877; application filed November 29, 1876.

To all whom it may concern:

Be it known that I, GEORGE A. DICKSON, of Shortsville, in the county of Ontario and State of New York, have invented certain new and useful Improvements in Hay-Elevating Devices; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in devices for binding the load and elevating the same coincidently, and which consists in the arrangement of the binding rope or chain with the hoisting apparatus in such a manner that the load, when elevated to its proper height, is transported to the desired locality and there discharged, all of which will be hereinafter more fully described and set forth in the claims.

Figure 1 is an elevation of the device in position for hoisting a load. Fig. 2 is a sectional enlarged view of the pulley and hook block. Fig. 3 is a cross-section of the same.

In the drawing, Fig. 1, A represents the binding rope or chain, which is passed around the hay or other material to be elevated. One end of this rope is provided with a ring, *a*, which passes within the arms of a double catch, H, with suitable notches, and the other end is connected to the draft-rope I. The double catch H consists of the pivoted pieces or prongs *b b*, provided with projections *b'*, for engaging with the hooked levers of the pulley-block. The pulley-block C has in its upper end a pulley, *c*, under which the hoisting or elevating rope passes, and is divided by a partition from the lower end. In the lower part are arranged two levers, D D', provided at their lower ends with hooks *d d'*, while their upper projecting ends, which are thinner than the lower ends, are connected to toggle-arms G G'. The central or joint pin *g* of these arms projects to the sides of the pulley-block and slides in slots *k*. To one of the pins *c'*, connecting the lever D' to the toggle-arm G', is attached a horizontally-pivoted lever, E, which bears on the central joint-pin *g*, and projects toward the side of the pulley-block, and has the disengaging-rope F attached to its outer end. A suitable aperture, *i*, is made in the side of the pulley-block for the disengaging-rope to pass through. A double catch, H, consisting of two pivoted levers, *b*, provided with projections *b'*, to engage with the hooks *d d'* of the levers D D', is connected, at its lower end, with the rope or binding-chain A. This catch is inserted into the lower end of the pulley-block C and holds the load. A ring, *a*, is attached to one end of the sling-rope, passed between the prongs of the catch, and clamped between them in notches in the lower part of the prongs, while the other end of the sling or binding-rope is connected to the draft-rope, as shown in Fig. 1 at *i*.

As a modification the sling-rope, with the ring *a* at one end, may be held or clamped between the prongs of the double catch, and the other end of the sling-rope attached to the lower part of one of the levers *b*, as shown at *m*, Fig. 2.

The different parts of the pulley-block may be made of any suitable material, and of different sizes, to suit the various kinds of work for which it is required.

The operation is as follows: The binding-rope, with the ring and double catch, is passed around the hay or other material to be elevated, and the ends of the catch inserted by hand into the lower end of the pulley-block, and the other end of the binding-rope is attached to the hoisting-rope, as shown at *i*, Fig. 1, that passes over a pulley, L, which is attached to a swinging derrick, joist, or other suitable place. The double catch, striking against the toggle-arms, elevates them, and forces them into a straight line, and thus forces the upper ends of the levers outward, while the lower ends are drawn together and grasp the catch with their hooked ends *d'*, and securely hold the load of hay. When the load or bundle to be elevated is smaller than the binding-rope or sling, said sling forms part of the draft or hoisting-rope, and if the load is greater than the binding-rope, then the draft or hoisting-rope becomes a part of the sling or binding apparatus. When the load is placed in the position desired for

deposit the disengaging-rope is drawn upon, which, actuating the lever bearing on the central projecting pin of the toggle-arms, draws them down, bringing the upper ends of the hooked levers together and extending the lower ends, and thereby releasing the double catch with its load, which is deposited in the mow or other suitable place of deposit.

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

1. A pulley-block, provided with pivoted hooked levers connected at their upper ends to toggle-arms, having a projecting central pin, constructed substantially as specified.

2. The pulley-block herein described, provided with the pulley *c*, hooked levers D D′, toggle-arms G G′, and pivoted lever E, bearing upon the pin *g*, arranged substantially as shown, and for the purpose specified.

3. The double catch H, having the hooked ends *b b′*, in combination with the pulley-block C, provided with levers D D′, toggle-arms G G′, and pivoted lever E, constructed substantially as shown and specified.

4. The double catch H with hooked ends *b b′*, and a binding-rope, A, in combination with the pulley-block C, provided with levers D D′, toggle-arms G G′, pin *g*, pivoted lever E, and disengaging-rope F, all arranged substantially as shown and described.

In testimony that I claim the foregoing as my own I hereby affix my signature in presence of two witnesses.

GEORGE A. DICKSON.

Witnesses:
A. A. WILSON,
H. C. BARCLAY.