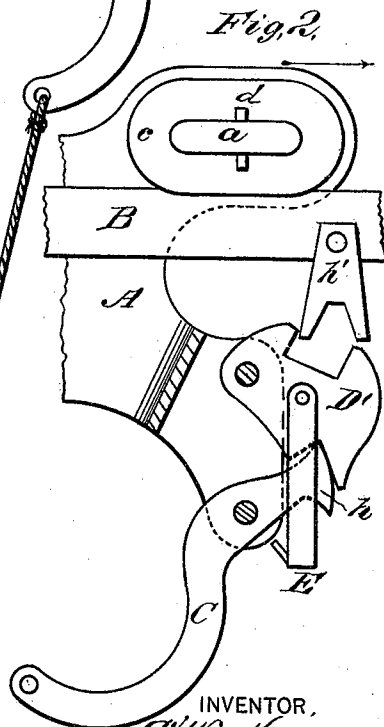


HAY-CARRIER.

Patented April 4, 1876.



WITNESSES

WITNESSES
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN HAY-CARRIERS.

Specification forming part of Letters Patent No. **175,736**, dated April 4, 1876; application filed January 29, 1876.

To all whom it may concern:

Be it known that I, LA VERNE W. NOYES, of Batavia, in the county of Kane and State of Illinois, have invented a new and valuable Improvement in Hay-Carriers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side elevation, part sectional, of my hay-carrier, and Fig. 2 is a detail view of the same.

This invention has relation to improvements in hay-carriers; and the nature of the invention consists in means, substantially as hereinafter described, for holding the carriage in position during the loading of the fork and the raising of the same to the top of the mow, and for automatically releasing the said carrier when the loaded fork has reached the desired height, so that it may be run into the barn.

In the annexed drawings, the letter A designates a strong X-shaped metallic carrier-frame, and B is a track of suitable dimensions, consisting of a single rail, and arranged in the peak of a barn, in the usual manner. The upper ends of this frame are provided with oblong rounded lugs *a* at right angles to the plane of the frame, around which are grouped a sufficient number of anti-friction rollers, *b*, which are held in position by means of a metallic cap, *c*, passed over them, and confined in position by means of a pin, *d*. These pins extend through the lugs *a*, where they project through the said caps, thus confining the latter in position. The under sides of caps *c* are cut away, as shown at *e*, so as to expose or uncover the peripheries of the anti-friction wheels or rollers *b*, so that when the carrier is placed upon the rail the said rollers will rest upon the same, and will consequently allow the carrier to run thereon with the least possible friction. As shown in Fig. 1, the shape of projection *a* is oblong, and its upper and under sides are flat, and parallel to each other, consequently the friction-rollers resting upon the track will be several in

number, as they conform to the shape of the lugs or projections around which they are grouped. The effect of this construction is that the friction caused by the passage back and forth over the rail of the carrier will be reduced to a minimum. The lower arms of the X-shaped carrier-frame are provided, the one with a grooved pulley-wheel, *f*, and the other with a vertically-vibrating arm or grapple, C, to the free end of which the hoisting-rope D is secured. This rope passes over pulley-wheel *f*, and sustains a pulley, *g*, carrying a hook, to which the fork is secured. The short arm of this lever C is provided with a hook, *h*, the object of which will hereafter appear, and the said lever when not under strain will gravitate into the position shown in Fig. 1, when it will hold a two-pronged metallic catch, D', in a horizontal position in engagement with a U-shaped metallic stop, *h'*, secured to the under side of the rail. Catch D', when engaged, will hold the prongs *j j'* of the stop between those *i i'* of the catch, as shown in Fig. 1; but when the fork is loaded, and is raised by drawing up the hoisting-rope, lever C will be raised, causing its hooked end *h* to engage with a gravitating hooked loop, E, pivoted to the catch D', when the free end of the latter will be jerked off the stop *h'*, and the carrier will be free to run into the barn. In this position the prong *i* on the free end of the catch will be lower than the one on its pivoted end, the former being free from the stop, and the latter very nearly on the same level, as in the position first described.

The fork being unloaded, the carrier will be run out, and the inner prong *i'* of the catch D' will strike against the stop *h*, causing the angular upper end *h* of the hook C to be released from a correspondingly-shaped notch, *n*, on the under side of the catch, raising the latter to a horizontal position, and causing the re-engagement of the catch and stop, and again holding the said carrier in position.

The disengagement of the carrier is produced by the engagement of lever C with the pendent loop, and by the drawing upward of the power end of the said lever, and the consequent downward retraction of the said catch.

In practice, catch D' will be provided inside of notch *n* with a curved surface, *p*, adapted

to receive the angular upper end of the said lever, when the latter is in a vertical position, and by this means the said catch will be held held to its engagement with the stop until the raising of the power end of the lever jerks the catch free from the stop.

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

1. In a hay-carrier, the combination of the rounded oblong projections *a*, the anti-friction rollers *b*, grouped around the same, and the confining-caps *c*, substantially as specified.

2. In combination with the double-pronged stop *h'* on the rail B, the vertically-vibrating double-pronged catch D' on the carrier-frame,

the hooked loop E, and the hooked vertically-vibrating lever C, substantially as specified.

3. In combination, the vertically-vibratory catch D', pendent loop E, and the vertically-vibrating hooked lever C, operated by the raising of the said lever to disengage the catch from a stop on the rail, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

LA VERNE W. NOYES.

Witnesses:

JOHN CRAWFORD,
DARIUS HULL, Jr.