E. V. R. GARDNER.

Hay-Elevator.

No. 161,114. Patented March 23, 1875.

Fig 1

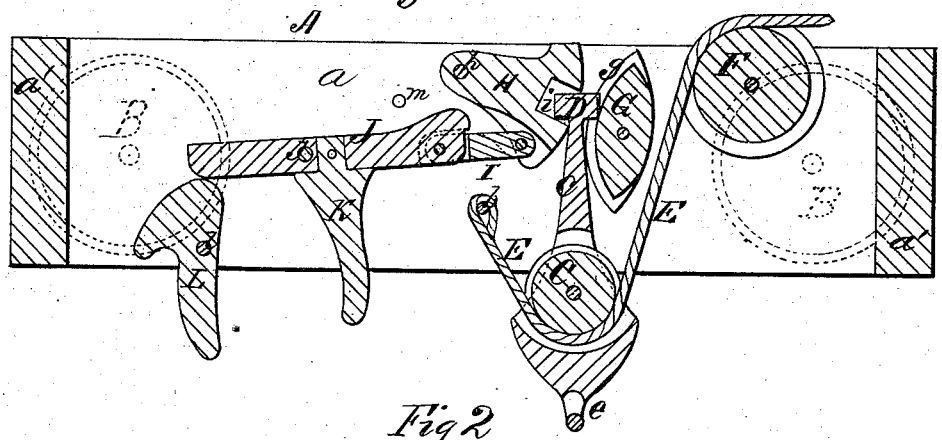
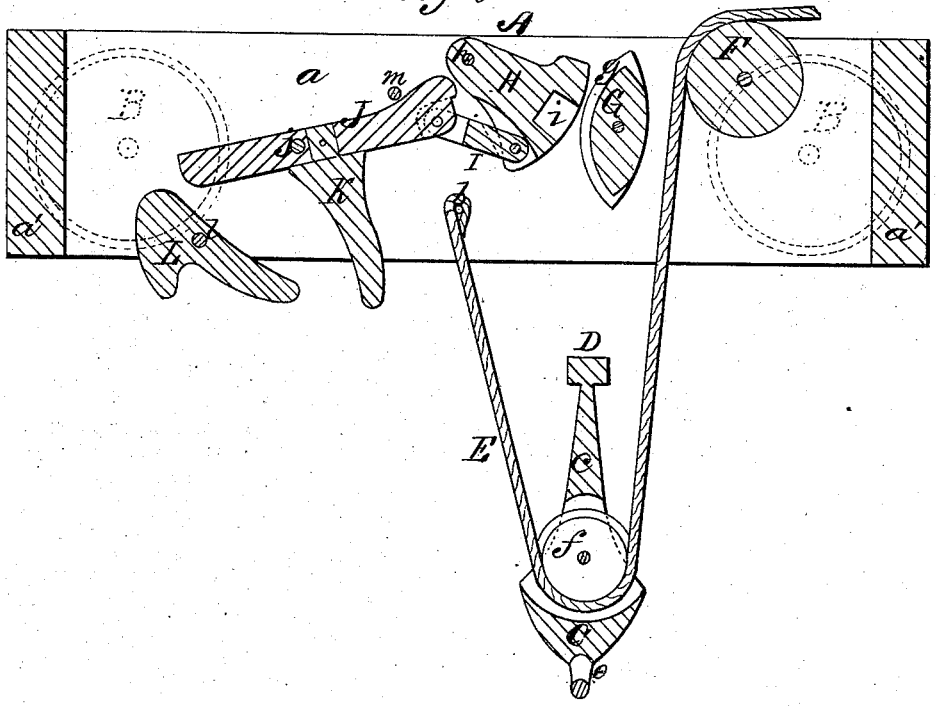


Fig 2



WITNESSES

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UNITED STATES PATENT OFFICE.

EMMET V. R. GARDNER, OF JOHNSON, NEW YORK.

IMPROVEMENT IN HAY-ELEVATORS.

Specification forming part of Letters Patent No. **161,114**, dated March 23, 1875; application filed January 23, 1875.

To all whom it may concern:

Be it known that I, EMMET V. R. GARDNER, of Johnson, in the county of Orange and State of New York, have invented a new and valuable Improvement in Hay-Elevators; 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.

Figures 1 and 2 of the drawings are representations of vertical sections of my hay-elevator.

This invention has relation to improvements in hay-elevator carriages, for which a patent was granted to me July 7, 1874, No. 152,838; and the nature of the invention consists in a pulley-block having an extension upon its upper extremity terminating in a knob, in combination with a segment of a pulley-wheel rigidly secured to the elevator-carrier, and a vertically-vibrating recessed segment pivoted to the same, whereby the knob on the end of the pulley-block is adapted to be received into the recess of the vibrating segment, and to be there held while the carriage is run to any desired position in the mow, all as will be hereinafter more fully explained.

In the annexed drawings, A designates a hay-elevator carriage, consisting of two lateral beams, *a*, and two end beams, *a'*, supported on transporting-wheels B, in connection with which I propose to show the construction, advantages, and mode of operation of my improved pulley-block. This block—designated by the letter C in the drawings—is, as regards its lower part or body, of the usual well-known form, its lower extremity being provided with an eye, *e*, by means of which the hay-fork is attached to it, but its upper extremity terminates in a tapering extension, *c*, having upon its end a right cylindrical or cylindroidal knob, D, and herein lies the gist of my invention.

Pulley-block C is raised up to the carriage by means of a rope, E, rigidly secured to the same at *b*, passing thence under sheave *f* over a pulley-wheel F, having its bearings in the lateral bars *a a* of the carriage. It is evident that by drawing upon this rope the said block will be raised upward, its knob D penetrating between the lateral bars *a a* of the carriage, where it is secured and held in the following manner, and by means of the following catch, to wit:

A segment, G, of a pulley-wheel is rigidly secured between bars *a a* of the carriage, the same having a deep peripheral groove, *g*. A vertically-vibrating angular segment, H, having a recess, *i*, cut in its periphery, is then pivoted at *h*, between the said bars, with its peripheral edges nearly in contact with those of the fixed segment G, so that when the knob on the end of pulley-block C is raised up to the carriage, penetrating between bars *a a*, it will strike against the said fixed segment, when it will be directed into the recess *i* of the vibrating segment H, forcing the latter upward. If the rope be slackened the angular segment will jam the knob against the fixed block, effectually preventing its withdrawal therefrom and allowing the carriage to conduct its load to any desired position. I designates a link pivoted to the lower angle of the vibrating segment H and to the contiguous end of a horizontally-arranged vertically-vibrating lever, J, pivoted at J to bars *a a* of the carriage, as shown in Fig. 1. This lever is provided with an actuating-trigger, K, the lower end of which projects a certain distance beyond the lower horizontal edge of the carriage. The free end of this lever engages with the upper hooked end of a gravitating stop, L, pivoted at *l*, between bars *a a* of the carriage, and when in the position shown in Fig. 1 the said stop will rigidly hold lever J against vibration.

When the carriage is run to the desired position stop L is caused to vibrate, thereby releasing lever J of restraint, when, by thrusting trigger K toward pulley-block C, its free end will be depressed, raising its other end and causing cam H to be vibrated downward through the medium of link I, thereby releasing the knob on the end of the said pulley-block from the gripe of the said cam, and allowing the block and its depending fork to be lowered to any desired position before tripping the same.

With a view to preventing cam H from undue downward vibration, whereby it would fail to be thrust upward by the knob of the

block, I use a stop-bolt, *m*, abutting against which lever J will be checked, thereby preventing the said cam from such undue vibration.

What I claim as new is—

1. In a hay-elevator the combination, with the fixed segment G and the vertically-vibrating clamping-cam H, of the pulley-block C, having extension *c*, with right cylindrical or cylindroidal block D, substantially as specified.

2. The combination, with the fixed segment G and knob D of pulley-block C, of the vertically-vibrating cam H, link I, lever J, and gravitating stop L, substantially as specified.

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

EMMET VAN RANSELAER GARDNER.

Witnesses:

DANL. CORWIN,

DEWITT CONKLING.