

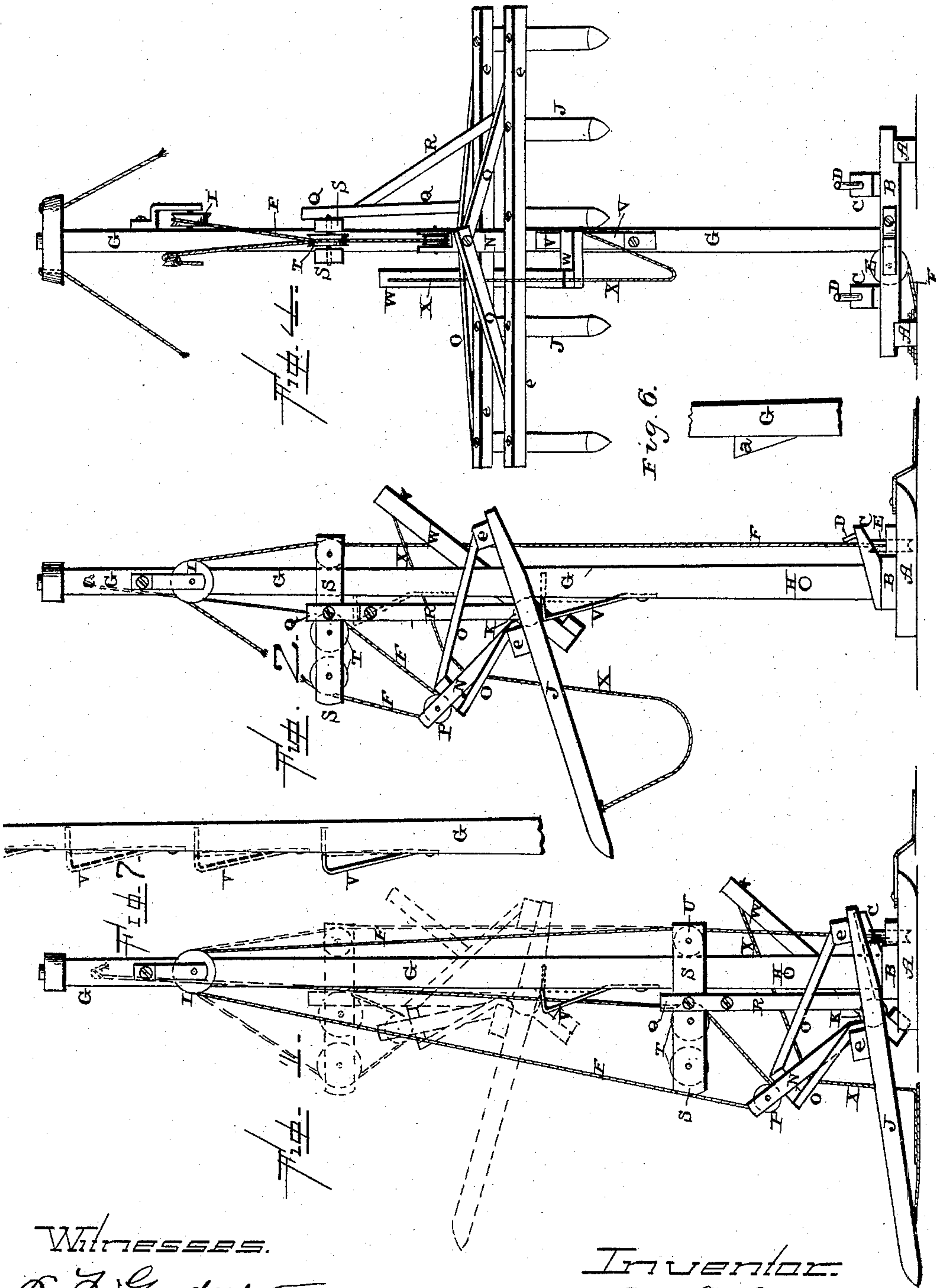
(No Model.)

2 Sheets—Sheet 1.

O. H. KING.
HAY STACKER.

No. 397,431.

Patented Feb. 5, 1889.



WITNESSES.

A. T. Gardner.
P. T. Dodge.

INVENTOR.

O. H. King
per
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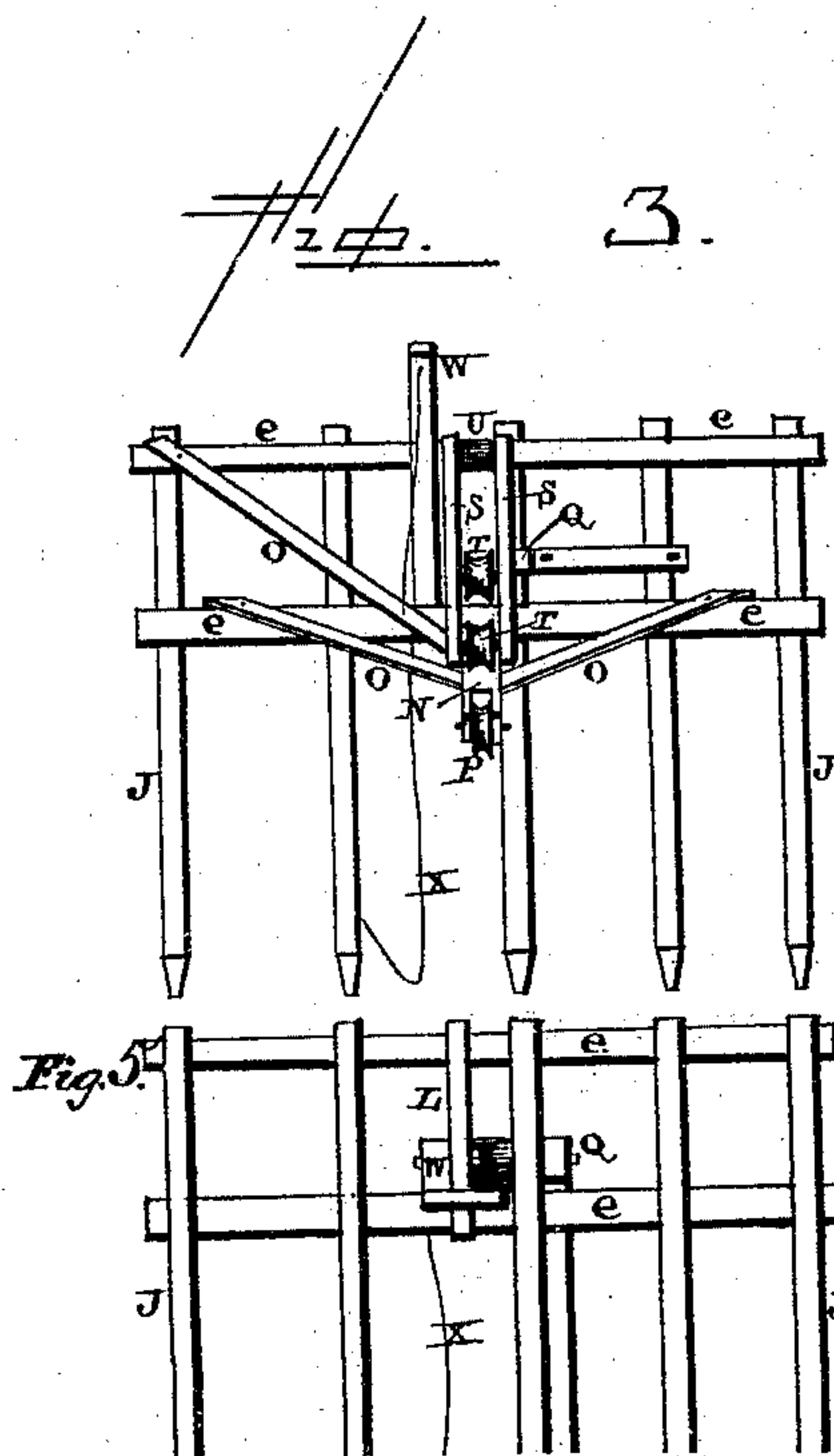
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Witnesses.

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UNITED STATES PATENT OFFICE.

OBED H. KING, OF HOUGHTON, IOWA.

HAY-STACKER.

SPECIFICATION forming part of Letters Patent No. 397,431, dated February 5, 1889.

Application filed March 13, 1888. Serial No. 267,103. (No model.)

To all whom it may concern:

Be it known that I, OBED H. KING, of Houghton, in the county of Lee and State of Iowa, have invented certain new and useful
5 Improvements in Hay-Stackers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference
10 being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in hay-stackers; and the objects of my invention are to provide a hay-stacker in which but a
15 single vertical or inclined standard is used, and which is adapted to be turned in its bearings so as to discharge the hay from the fork in any desired direction; to place upon the standard a spring or support which will
20 support the fork at any desired height until its load has been dumped; to so construct the fork that its teeth will be inclined upward, so as to retain its load while the load is being raised, and which can be tilted when
25 the load is to be discharged, and, lastly, to construct a very cheap and simple hay-stacker in which but a single elevating-rope is secured.

Figure 1 is a side elevation of a stacker
30 complete, showing the fork in one position in solid lines and in another position in dotted lines. Fig. 2 is a side elevation showing the fork in a raised position in the act of dumping its load. Fig. 3 is a plan view of the fork
35 alone. Fig. 4 is a side elevation of a stacker complete, taken at right angles to Figs. 1 and 2. Fig. 5 is an inverted view of the fork. Fig. 6 is a detached view of a slight modification. Fig. 7 is a detail view showing how the
40 supporting-spring is adjusted.

A represents two runners upon which the base B is rigidly secured. These runners and base B form a sled to which animals can be
45 attached for the purpose of drawing the stacker from one place to another.

Secured to the top of the base B are the two blocks C, which are made triangular in shape, and which have the projections D extending at a suitable angle from their upper
50 sides. These blocks C and projections D serve to keep the fork in position while it is being loaded from the hay-rake, and thus pre-

vent it from turning around or getting out of line; also, secured to the base B is the guiding-roller E, around which the elevating-rope
55 F passes. The standard G will be made of any desired length, and is provided with a tenon upon its lower end to fit in a socket made in the top of the base B, and is provided with a tenon at its upper end to pass
60 through the perforated plate to which the guy ropes or wires are attached, for the purpose of holding the standard in a vertical or inclined position. This standard is intended to
65 revolve between the base B and the plate at its top, so that the fork can be turned in any direction after it has been loaded, and raised upward to discharge its load at whatever
70 point it may be desired. In order to swing this standard freely around, a hole, H, is made through it at any desired point, and into this hole a lever is passed after the
75 fork has been raised, and by means of which lever the standard can be turned around. To one side of the standard, near its upper
80 end, is secured the pulley I, over which the elevating-rope F passes. To the opposite side of the standard from the pulley I the rope F has its end fastened, and from this
85 point to which the end is fastened the rope passes down under the pulleys upon the fork, up over the pulley I, then down under the pulley E to the draft-animal. The fork J
90 moves freely up and down upon the standard G, and is provided with a roller, K, which both serves to assist in guiding the fork in its upward movement and to act as a support
95 for the fork after it has been raised to the desired elevation. This roller K is journaled between one of the teeth and the piece L, which is secured between the two cross-pieces
100 of the fork, and which cross-piece L and tooth bear against opposite sides of the standard. The roller K bears against the front edge of the standard and the piece L, and the
tooth bears against one of its sides, so that while the fork is being raised it is held in position by the pressure of these parts against the standard.

Rising at a suitable angle from the front
cross-piece of the fork is the post N, which
is rigidly braced in position by the three
braces O, which are secured to the cross-pieces
at their outer ends and to the post at their

inner ends. Journaled in the upper end of this post N is the pulley P, under which the elevating-rope F passes, and by means of which post N the teeth of the fork are inclined upward while the fork is being raised, so as to retain its load of hay or straw. The pull of the rope upon the upper end of this inclined post N tilts the points of the fork-teeth upward until the pulleys come almost into a line with each other, when the pull upon the elevating-rope ceases to effect the tilting of the fork.

Pivoted at its lower end to the tooth which bears against the side of the standard is the supporting-staff Q. This staff is braced by means of the brace R, which is pivoted at its lower end to one of the teeth of the fork, but rigidly secured at its upper end to the supporting-piece Q. The upper end of the supporting-piece Q is pivoted to one of two guides, S, which are bolted together so as to bear against opposite sides of the standards G, and between which are placed the pulleys T and the frictional roller U. The frictional roller U simply bears against the rear edge of the standard, while the two pulleys T serve as guides for the elevating-rope F. The supporting-piece Q and brace R are pivoted to the fork at their lower ends, so as to allow it to have a free tilting motion for the purpose of having the points of its teeth turned upward while the load is being raised, and to have them turned downward when the load is to be discharged. The guides S move vertically upon the standards G, and serve not only to guide the elevating-rope, but to assist in holding the fork in a suitable position while it is moved upon the standard. The elevating-rope passes down under the inner one of the two pulleys T, under the pulley P on the post N, up over the outer pulley T, and then around the pulleys E I, as before described. When the fork is loaded and the draft-animal exerts a pull upon the elevating-rope, the rope first raises the points of the teeth by means of the inner guiding-pulley T and the post N, so as to retain the load, and then the power of the animal is exerted in raising the fork to that point at which the load is to be dumped.

Fastened to the front edge of the standard G, at any desired point, is the supporting-spring V, upon which the roller K catches and supports the fork. This supporting-spring V is intended to be adjusted from time to time upon the standard, according to the height at which the hay or straw is to be stacked. When the stack is first begun, the supporting-spring need be raised but a short distance above the ground; but as the stack becomes higher it will be necessary to raise the supporting-spring correspondingly, as shown in dotted lines in Fig. 2. As the fork passes by the supporting-spring, the roller K forces the supporting-spring up against the side of the standard, and after the fork has passed the supporting-spring snaps out into

position and forms a support for the elevator until the load has been dumped.

Pivoted to the outer side of the piece L is a lever, W, by means of which the supporting-spring V is forced inward against the edge of the standard when it is desired to have the fork descend. Fastened to the upper end of this lever W is the cord X, which passes through an opening in one of the braces O, and which has its outer end secured to one of the teeth of the fork. After the fork has been raised so as to rest upon the supporting-spring V, the slackening of the rope when the horse backs allows the fork to tilt downward, so that the load will slide freely off. After the load has been dumped, a pull is exerted upon the cord, which operates the lever W, and which causes the lower end of the lever to bear against the supporting-spring and forces it inward from under the roller K. The fork then descends from its own weight, and is again ready to be loaded either directly from the hay-rake or to have its load thrown upon it.

A supporting-spring is here shown upon the standard for the fork; but a spring is not absolutely necessary, for a wedge-shaped block, a, may be used and answer the same purpose, as shown in Fig. 6. The fork will move slightly farther in a lateral direction to pass over the block than the spring; but the block will answer the same purpose.

Having thus described my invention, I claim—

1. The combination of a single standard, G, the vertically-moving fork, a single elevating-rope for operating the fork, a support fastened to the side of the standard, a lever pivoted upon the fork for operating in connection with the support, and a cord, X, for operating the lever, substantially as shown.

2. The combination of the standard, a vertically-moving fork placed thereon, the elevating-rope F; a spring-support, V, secured to the side of the standard, the lever W, pivoted upon the fork, and the cord X, fastened at one end of the lever and at the other to one of the teeth of the fork, substantially as described.

3. The combination of the standard G, the elevating-rope F, pulleys I, over which the rope passes, the fork J, placed upon and adapted to move vertically upon the standard, the post N, provided with guiding-pulleys P, the guide S, supported above the fork by the support Q, and pulleys T in the guide, the fork being pivoted to the support R, so that it can be freely tilted without interfering with the guide, substantially as set forth.

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

OBED H. KING.

Witnesses:

H. R. LOGAN,
RODNEY DOANE.