

No. 748,171.

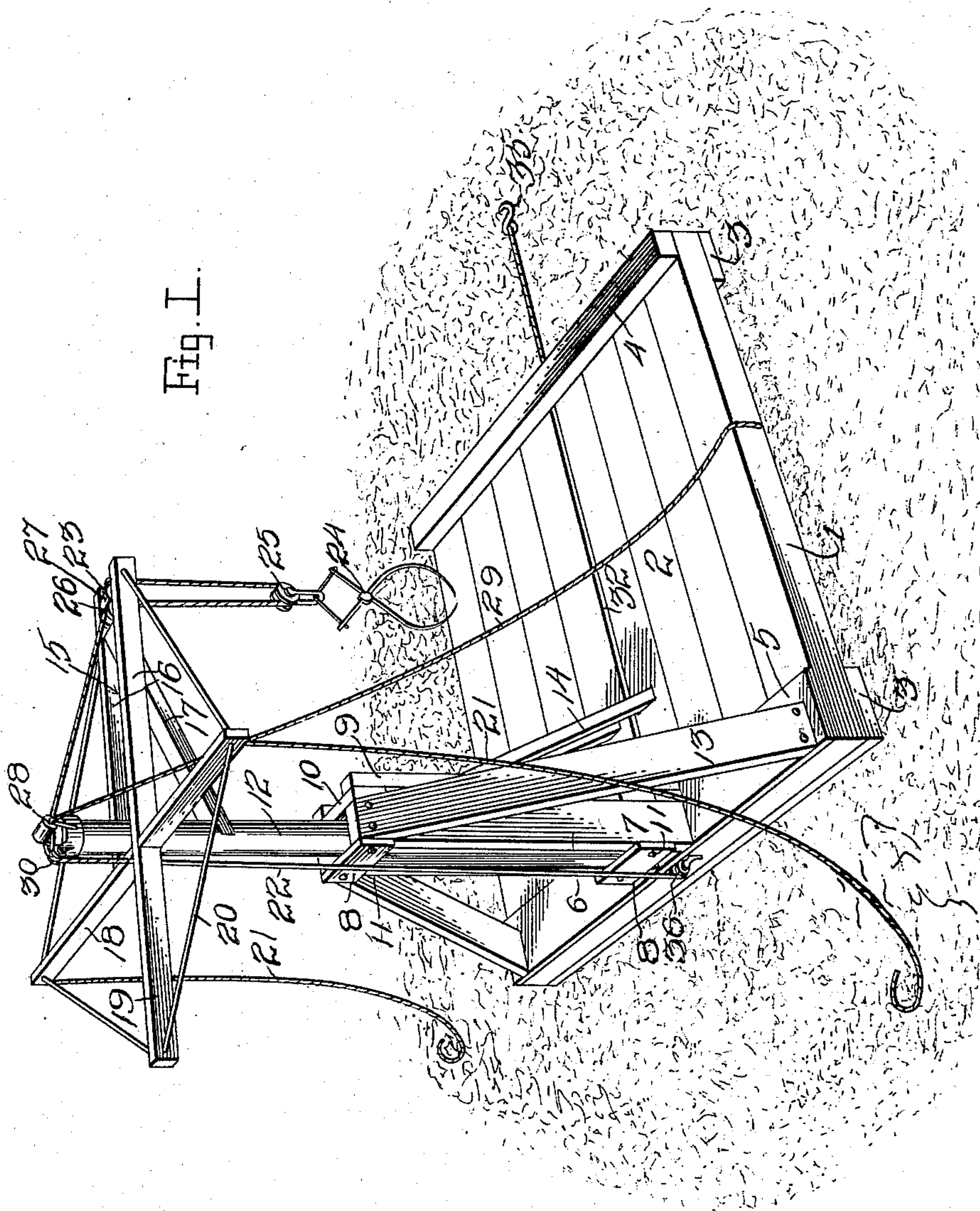
PATENTED DEC. 29, 1903.

F. L. DOTY.
HAY LOADER AND STACKER.

APPLICATION FILED APR. 16, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



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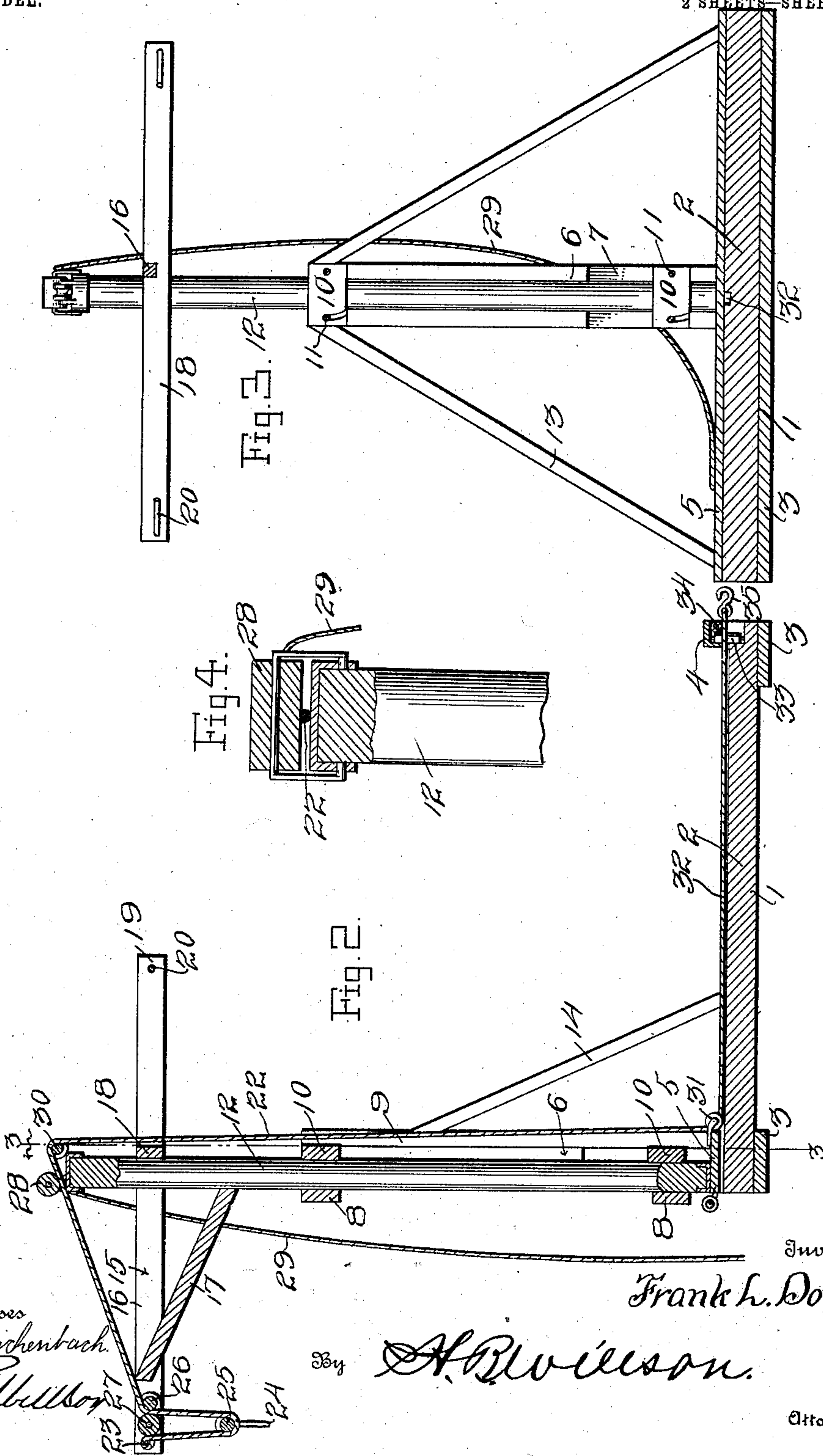
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

FRANK LORENZO DOTY, OF CALLIOPE, IOWA.

HAY LOADER AND STACKER.

SPECIFICATION forming part of Letters Patent No. 748,171, dated December 29, 1903.

Application filed April 16, 1903. Serial No. 152,870. (No model.)

To all whom it may concern:

Be it known that I, FRANK LORENZO DOTY, a citizen of the United States, residing at Calliope, in the county of Sioux and State of Iowa, have invented certain new and useful Improvements in Hay Loaders and Stackers; and I do 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 appertains to make and use the same.

My invention relates to certain new and useful improvements in hay loaders and stackers; and it consists in the peculiar construction and combination of devices hereinafter fully described and claimed.

The object of the invention is to provide a device of this character which is simple in construction, durable in use, and efficient in operation.

In the accompanying drawings, Figure 1 is a perspective view of my invention, showing the same adapted for use in unloading hay from a wagon. Fig. 2 is a longitudinal sectional view through the same, showing it adapted for use in loading a wagon with hay from a stack. Fig. 3 is a vertical transverse sectional view taken on the plane indicated by the line 3 3 of Fig. 2. Fig. 4 is a fragmentary sectional view of the upper end of the revolving post, illustrating the manner of pivoting the friction device thereto.

Referring to the drawings, the numeral 1 denotes the base, comprising the platform 2, of planks or boards, secured upon the timbers or runners 3 and braced upon the upper side at one end by the cleat or strap 4 and at the other end by the timber or cleat 5, upon which the derrick-frame 6 is mounted. Said frame 6 consists of the two vertical uprights 7, spaced apart and braced by the horizontal cross-bars 8 at one side and provided with the vertical spaced cleats 9 at their opposite sides. Between these cleats and the uprights or standards 7 are pivoted the latches or cross-braces 10, the notches in the free ends of which engage the bolts or pins 11, as seen in Fig. 3.

The uprights 7, with their spacing-braces 8 and 10, form a casing or guide-frame in which the lower portion of the revolving derrick-post 12 is mounted and from which the post may be easily removed by means of the

latch-braces 10. The derrick-frame 6 may be strengthened by the braces 13 and 14.

The lower end of the revolving post 12 is seated and revolves in a socket formed in the timber 5. The upper end of the post is provided with a fixed beam 15, extending at right angles to the post and consisting of the side bars 16, the inner ends of which are secured upon opposite sides of the post, and their outer ends are spaced apart by one end of the brace 17, the other end of which engages the post. 18 denotes a cross bar or arm secured to the post and the inner ends of the side bars 16 of the beam 15 and extending at right angles to the latter. 19 denotes a bar or arm which forms a continuation of one of the side bars 16. The ends of the bars 16 18 19 are connected by the cables or stay-ropes 20, which brace these bars. Each of said bars or arms are provided with the hanging operating ropes or cables 21, by means of which the post and beam may be turned. The hoisting rope or cable 22 has one end secured to an eye formed in a cross-rod 23 upon the ends of the side bars 16 of the beam.

24 denotes the hay fork or grapple, which may be of any desired construction and is provided with a pulley or sheave 25, about which the cable 22 passes and by means of which the fork is suspended. From the pulley the cable passes upwardly over a pulley or sheave 26, mounted between the side bars 16 of the beam at the outer end thereof. A guide-roller 27 holds said cable upon the pulley. From the pulley 26 the cable passes through a friction-clutch 28, mounted upon the top of the post 12. The friction-clutch may be of any desired construction and is shown as consisting of a roller mounted on a bail pivoted to the upper end of the post and is provided with the operating rope or cable 29. The cable 22 passes from said clutch over a pulley or sheave 30, secured upon the upper end of the post 12, and when the device is used for loading the wagon from the stack the cable passes downwardly to the base or platform 2 and then over a pulley or sheave 31, secured thereto. From the pulley 31 it passes over the platform through a groove 32 in the same and then between the two vertical guide-rollers 33 and under the

horizontal guide-roller 34. Said guide-rollers 33 and 34 are journaled in the platform 2, below the cleat 4. To the end of the cable 22 the draft appliance 35 is secured when horse-
5 power is used.

When the invention is used for unloading the wagon upon the stack, the pulley 31 is not employed, the cable being passed from the pulley 30 downwardly over the pulley or
10 sheave 36, secured to the platform, and from this pulley through the groove in the platform, as previously described.

In the operation of the invention the base is moved either by a truck or by dragging
15 upon the runners and placed alongside the stack or where the stack is to be formed. The wagon is then driven upon the platform, and the horse or team is attached to the end of the hoisting-cable 22. When the wagon
20 is being loaded from the stack, the fork or grapple engages a quantity of hay. The horse is then driven forward to elevate the same and the friction-clutch operated to bind the cable and hold the hay and fork in an ele-
25 vated position. The operator upon the wagon may swing the beam 15 and revolving post 12 around and over the wagon by pulling upon the hanging ropes or cables 21, and the hay may then be dropped upon the wagon by trip-
30 ping the fork or grapple in the well-known manner. When the device is used for unloading the wagon, the cable is changed from the pulley 31 to the pulley 36, as seen in Fig. 1, so that the draft may be in a more direct
35 line. The operation of the device is otherwise the same.

While I have shown and described my invention as particularly adapted for loading

and unloading hay, it will be understood that with slight changes the device may be used 40 for various other purposes.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the inven- 45 tion will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the prin- 50 ciple or sacrificing any of the advantages of this invention.

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

A device of the character described com- 55 prising, a base, a vertical frame mounted upon said base, a revolving post removably mounted in said frame or casing, a horizontal beam upon said post, a horizontal arm attached to said post and provided with operating-ropes 60 for revolving said post and beam, a hoisting-cable attached to said beam, and adapted to be passed over suitable guide-pulleys and rollers upon the beam and base, a grapple or fork suspended from said cable, and a fric- 65 tion-clutch upon said post for engaging said cable and holding said grapple or fork elevated, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing wit- 70 nesses.

FRANK LORENZO DOTY.

Witnesses:

MATH SCHON,
J. B. COUTES.