

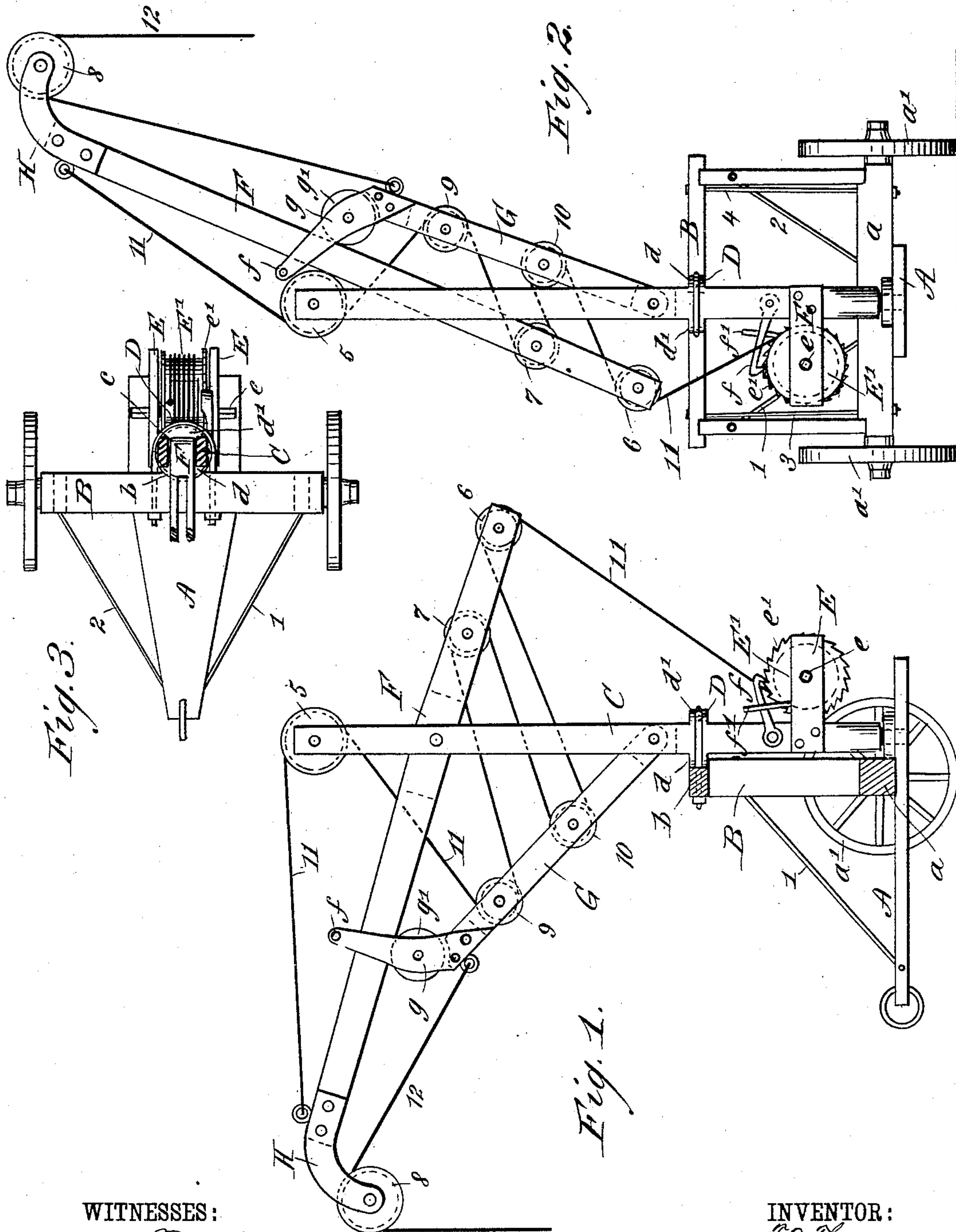
(No Model.)

T. O. THORSON & P. S. & M. W. PETERSON.

DERRICK FOR LOADING AND STACKING HAY.

No. 353,096.

Patented Nov. 23, 1886.



WITNESSES:

Donn Twitchell
G. Sedgwick

INVENTOR:

T. O. Thorson
P. S. Peterson
M. W. Peterson

BY

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

THOR O. THORSON, PETER S. PETERSON, AND MICHAEL W. PETERSON, OF
ELLIOTT, ILLINOIS.

DERRICK FOR LOADING AND STACKING HAY.

SPECIFICATION forming part of Letters Patent No. 353,096, dated November 23, 1886.

Application filed September 9, 1886. Serial No. 213,118. (No model.)

To all whom it may concern:

Be it known that we, THOR O. THORSON, PETER S. PETERSON, and MICHAEL W. PETERSON, of Elliott, in the county of Ford and State of Illinois, have invented a new and Improved Derrick for Loading and Stacking Hay, of which the following is a full, clear, and exact description.

Our invention relates to a combined loader, stacker, and derrick, adapted for use, in connection with a hay-wagon, as a loader and stacker, and also for general use as a derrick, and has for its object to simplify and improve the construction of that class of mechanism.

The invention consists in the construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation, partly sectioned, with the lifting-beam slightly elevated and facing to the front. Fig. 2 is an end view thereof, illustrating the lifting-beam elevated to its greatest height and turned to face the side, and Fig. 3 is a horizontal section of the machine as shown in Fig. 1.

We provide a low platform, A, with a suitable axle, *a*, and wheels *a'*, and attach to said axles *a* an upwardly-extending rectangular frame, B, having formed in its upper horizontal bar a concave central recess, *b*.

Upon the rear portion of the platform A, behind the axle *a*, is pivoted to turn loosely thereon a standard, C, having a slot, *c*, formed therein, usually from a point slightly above the upper horizontal portion of the frame B to the top of said standard, which is also provided with front and rear semicircular grooved projections *d d'*, the front projection, *d*, being adapted to engage the concave recess *b* in the upper horizontal bar of the frame B, while the rear projection, *d'*, engages a guide-rod, D, whose ends are bolted through the said upper horizontal bar of the frame B, upon each side of the slotted standard C. When the standard is turned upon its pivot-pin from a front to a side position, the groove in the front

semicircular projection, *d*, also engages the guide-rod D, as shown in Fig. 2.

At a convenient height above the platform A horizontal rearwardly-projecting arms E are attached to each side of the slotted standard C, adapted to receive the shaft *e* of a drum, E'. The said drum is provided upon one end with a fixed circular ratcheted guide-plate, *e'*, and upon the other with usual projecting side flange or plain end plate, and the projecting ends of the shaft *e* are squared to receive the ordinary form of crank. A pawl, *f*, pivoted to the side of the standard C, purposed to engage the ratchet *e'* of the drum E', is usually guided to said engagement by a vertical pin, *f'*, attached to the horizontal projecting arm E beneath said pawl *f*.

The frame B and platform A are mutually strengthened by means of the front inclined braces, 1 and 2, which extend from the forward end of said platform upward to a point near the top of the vertical bars of said frame B, which is also braced vertically by means of the perpendicular brace-rods 3 and 4, one set extending downward upon each side from the top horizontal bar of said frame through the axle *a*, each provided with suitable bolts.

Within the slot *c* of the standard C, at the top thereof, a grooved pulley, 5, is pivoted, and a short distance below said pulley, in the same slot, a slotted beam, F, is also pivoted, with about one-third the length of said beam extending to the rear. The rear slotted end of the pivoted beam F is provided with two grooved pulleys, 6 and 7, pivoted therein—the pulley 6 situated at the extreme rear end and the pulley 7 about midway the standard C—while a large grooved pulley, 8, is provided for the extreme front end of the beam F and adapted to be pivoted in downwardly-projecting metal arms H, attached thereto. A second and shorter beam, G, is pivoted at its inner end beneath the upper long beam, F, in the slotted standard C, slightly above the platform B, and its outer end is provided with upwardly-extending metal arms *g*, carrying a friction-wheel, *g'*, pivoted therein, which arms are united over the said long upper beam, F, by a pin or bolt, *f*, whereby the two beams G and F are held in engagement with each other.

The lower pivoted beam, G, is also slotted and provided with two grooved pulleys, 9 and 10, pivoted therein equidistant apart and from the ends of said beam G.

5 In rigging our combined loader, stacker, and derrick the rope 11 is passed from the drum E', to which it is attached, over the rear end pulley, 6, of the beam F, thence around the inner pulley, 9, of the short beam G, upward
10 over pulley 7 of beam F, and down again over the outer pulley, 8, of beam G. The rope 11 is now carried upward through the slotted standard C and over the large pulley 5, pivoted at the top thereof, and finally carried forward
15 and made fast to an eye secured in the outer or front end of the large slotted beam F. The cord 11, thus carried over the various pulleys from the drum E' to a connection with the beam F, is adapted, through the revolution of
20 the said drum, to elevate the said beam F.

A second rope, 12, is attached to the under side of the lower beam, G, at the outer end thereof, and carried over the pendent pulley 8, to receive the object to be lifted.

25 In operation the hay or other object is embraced by or made fast to the rope 12 and the drum E' revolved, whereupon as the rope 11 is coiled around the drum the large beam F is elevated thereby, while the short under beam,
30 G, as it rises, gradually assumes a parallel position to the upper beam, F. The interposed friction-wheel *g'*, as the two beams ascend, keep them properly spaced and ease their upward movement. When the hay or
35 other article carried has been sufficiently elevated, the pivoted standard carrying the lifting beams may be turned to either side and the load deposited by releasing the drum. The rope 11 may be operated by hand or horse
40 power, instead of through the drum, if desired. Our invention is equally applicable as a derrick as for a loader and stacker for use with a wagon.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is— 45

1. The combination, with the platform A, supported upon wheels provided with a rectangular frame, B, and a slotted standard, C, pivoted to turn on said platform, provided with an upper grooved pulley, 5, of the long upper
50 beam, F, slotted to receive grooved pulleys 6 and 7 in the end thereof, and the short slotted under beam, G, having grooved pulleys 9 and 10 pivoted therein, together with the rope 55 11, adapted to pass over said pulleys, substantially as herein shown and described.

2. The combination, with the platform A, supported upon wheels provided with a rectangular frame, B, and a slotted standard, C, pivoted to turn on said platform, provided
60 with an upper grooved pulley, 5, and a drum, E', fitted with a ratchet and pawl, of the upper pivoted slotted beam, F, having grooved pulleys 6 and 7, pivoted in its rear end, and
65 provided with a lifting-pulley, 8, at its forward end, the lower pivoted slotted beam, G, having pulleys 9 and 10 pivoted therein, and provided with upwardly-extending arms *g*, carrying a
70 friction-wheel, *g'*, and a rope, 11, adapted to pass over the pulleys 5, 6, 7, 9, and 10, attached at one end to the drum E, at the other to the beam F, together with the rope 12, attached
75 to the beam G, and adapted to pass over the projecting pulley 8 of the said upper beam, F, all arranged to operate substantially as herein shown and described.

THOR O. THORSON.
PETER S. PETERSON.
MICHAEL W. PETERSON.

Witnesses:

W. A. CAMERON,
JNO. C. NEW.