

J. A. MILLER & H. BINGAMAN.
HAY FORK.

APPLICATION FILED FEB. 10, 1910.

Patented Sept. 20, 1910.

2 SHEETS—SHEET 1.

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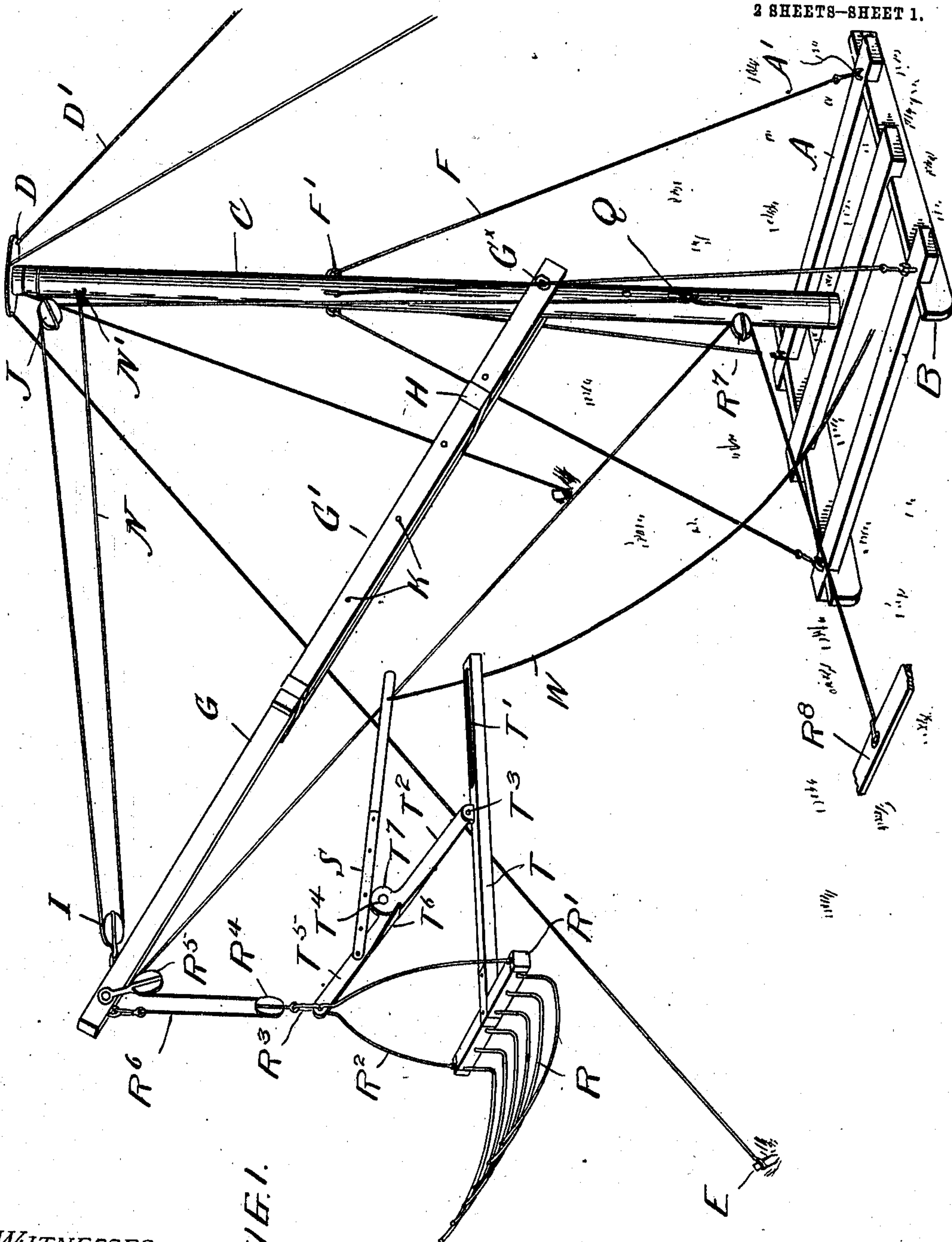


FIG. 1.

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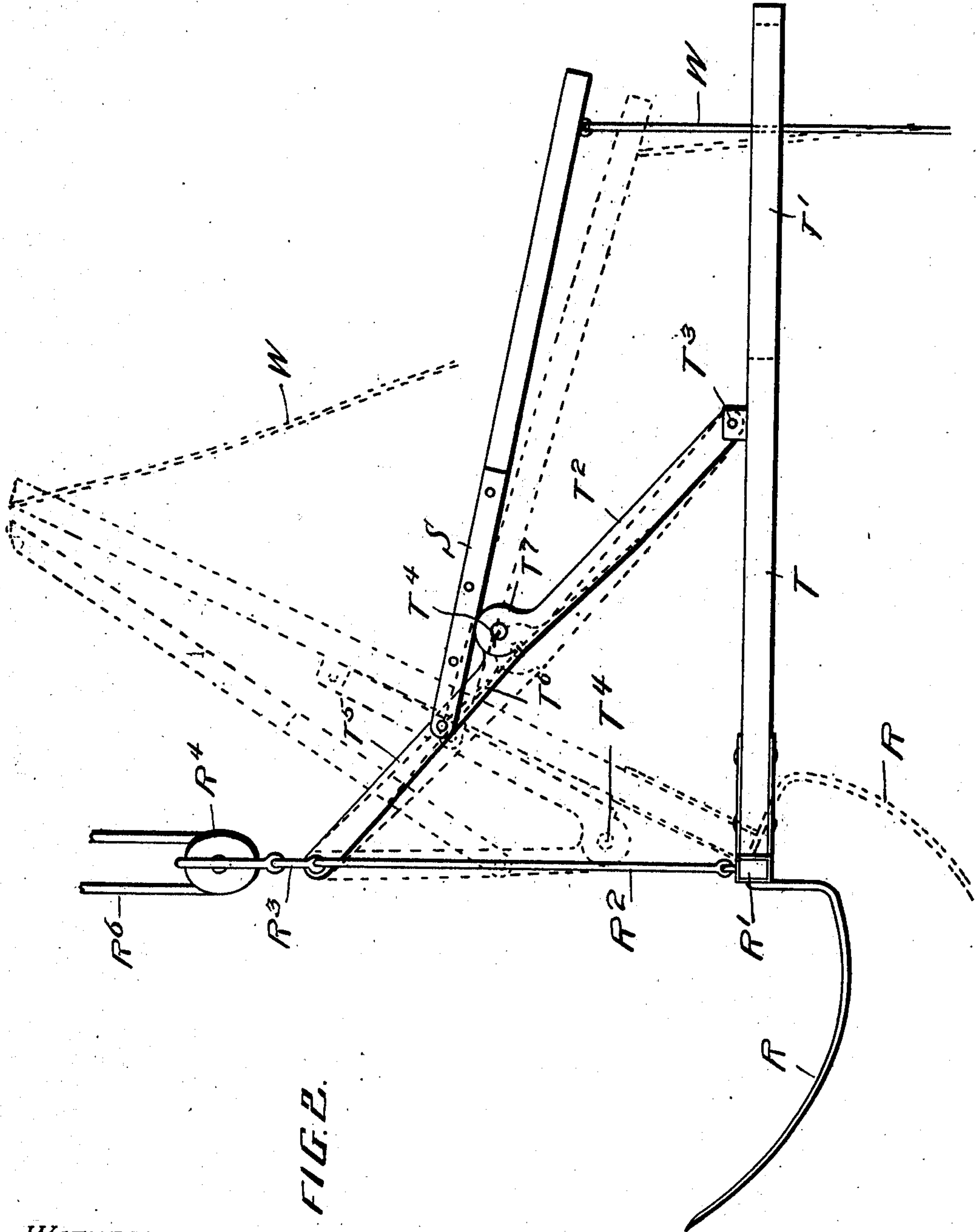


FIG. 2.

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UNITED STATES PATENT OFFICE.

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HAY-FORK.

970,940.

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To all whom it may concern:

Be it known that we, JOHN A. MILLER and HARVEY BINGAMAN, citizens of the United States, residing at Harding, in the county of Butte and State of South Dakota, have invented certain new and useful Improvements in Hay-Forks; and we 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in hay forks adapted to be mounted upon swinging derrick booms and comprises various details of construction and combinations and arrangements of parts which will be hereinafter fully described and then specifically defined in the appended claim.

We illustrate our invention in the accompanying drawings, in which:—

Figure 1 is a perspective view of our improved fork shown in connection with a derrick. Fig. 2 is a side elevation of the fork shown in solid lines in operative position and in dotted lines in its tilted position.

Reference now being had to the details of the drawings by letter, A designates a platform having the runners B whereby the apparatus may be conveniently moved from one place to another and swivelly mounted upon said base is a derrick mast C having a disk D at its upper end in which it is swiveled and which disk has connected thereto the guy ropes or wires D' connected to suitable anchorage posts E in the manner shown clearly in Fig. 1 of the drawings. As additional bracing means, the guy ropes or rods F are fastened at F' to the mast and their lower ends to the eyes A' upon said base or platform.

An extensible derrick boom G has a longitudinal movement between the beams G' which are pivoted at G^x upon the mast and held together by means of the straps H. Registering apertures K are formed in said derrick boom G and beam G' adapted to receive a pin to hold the boom G in an adjusted position. A pulley I is fastened to the beam and another pulley J fastened to the mast at any suitable location. A hoisting

cable N is fastened at N' to the mast and passes about the pulleys I and J and is adapted to be fastened to a button Q upon said mast.

R designates a hay fork having a cross-piece R' from which the tines project, and R² designates a bail connected to the ends of said cross-piece R' and is pivotally connected to a link T⁵ which has fastened thereto a link R³ depending from the pulley R⁴. R⁵ designates a pulley which is fastened to the end of the derrick frame G and a rope R⁶ passes underneath the pulley R⁴ and over the pulley R⁵, thence about the pulley R⁷ fastened to the mast and extends forward and is connected to an evener R⁸ to which a team of horses may be connected or any other suitable power whereby the fork may be raised with its load.

A beam T projects from the bar R' of the fork and has an elongated slot T' therein. A link T² is pivotally connected at T³ to the bar T and has pivotal connection by means of a pin T⁴ with a link T⁵ which in turn is pivotally connected to the bail R². In order to reinforce the links T² and T⁵, wings T⁶ project therefrom, the wing upon the link T⁵ being adapted to extend underneath the adjacent end of the link T², while a similar wing T⁶ upon the link T² extends underneath the edge of the adjacent end of the link T⁵. Said wings T⁶, besides serving as reinforcing means, serve also to limit the pivotal movement of the links in one direction, and S designates a perforated trip lever pivotally connected at S' to the link T⁵, and W designates a cord or rope fastened to the lever S and extending through the slot T', which latter is adapted to guide the rope W so that it will have a direct pull toward the bar T, no matter where the operator stands and pulls upon the rope. By the provision of the lever S having the perforations therein, the lever may be varied by pivotally connecting the lever and the part T⁵ in one or another of the perforations, thus varying the power necessary to break the joint between the links T² and T⁵ by the lever S being fulcrumed against the pivotal portions.

It will be noted that at the adjacent pivotal ends of the links T² and T⁵ there are laterally extended rounded portions T' over which the trip lever S is adapted to be fulcrumed and so arranged that, when the trip

lever S is tilted, it will cause the joint intermediate the links T^2 and T^5 to break for the purpose of allowing the load upon the fork to dump.

- 5 The operation of our apparatus is as follows:—By the adjustable derrick means, it will be noted that the fork may be adjusted to swing in the radius of circles of different diameters and the height at which it might
10 be desired to elevate the fork determined by raising or lowering the derrick beam G. When the fork is adjusted to take its load, the parts will assume the position shown in Fig. 1 of the drawings and, after having
15 adjusted the fork to its load, the fork may be raised by a forward pull upon the rope R^6 . When its load has been elevated, the derrick may be swung laterally to deposit the load where desired and the operator, by
20 pulling upon the rope W, may cause the joint intermediate the links T^2 and T^5 to break and allow the weight of the load to dump by the fork, assuming the position

shown in dotted lines in Fig. 2 of the drawings. 25

What we claim to be new is:—

In combination with a fork having a slotted handle having a cross-piece at one end thereof, a bail fastened to the opposite ends of the cross-piece of the fork, links 30 pivoted together, one of said links being pivoted to the handle and the other connected to said bail, wings projecting from said link, a lever adjustably and pivotally connected to one of said links and adapted 35 to fulcrum over the pivotal ends of the links, and a rope secured to the lever and passing through the slot of said handle.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses. 40

JOHN A. MILLER.

HARVEY BINGAMAN.

Witnesses:

H. G. McCoid,

O. O. Stokes.