

(No Model.)

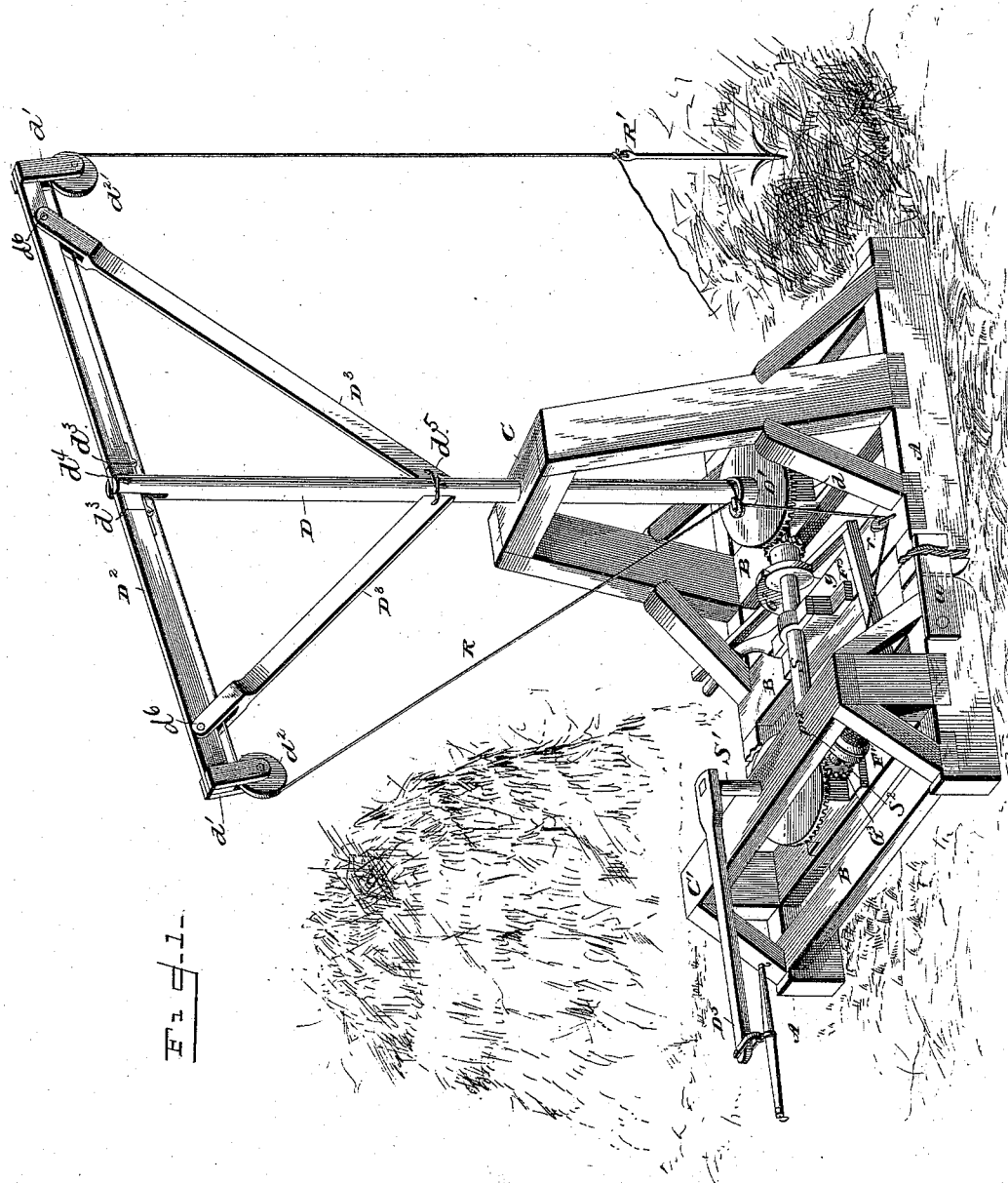
2 Sheets—Sheet 1.

D. M. CAMPBELL.

HAY STACKER.

No. 382,213.

Patented May 1, 1888.



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WITNESSES

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M. Johnson

David M. Campbell

INVENTOR

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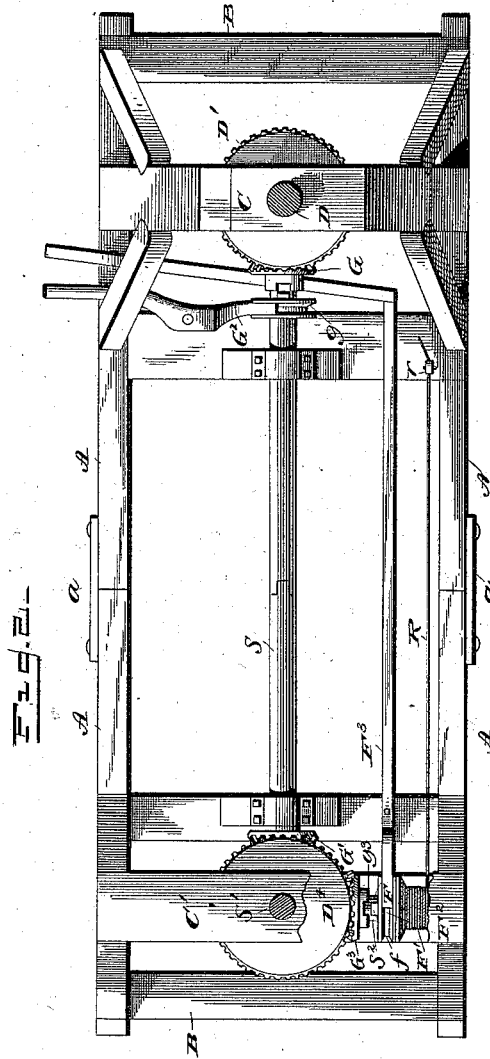
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UNITED STATES PATENT OFFICE.

DAVID M. CAMPBELL, OF DANVILLE, ILLINOIS.

HAY-STACKER.

SPECIFICATION forming part of Letters Patent No. 382,213, dated May 1, 1888.

Application filed January 10, 1887. Serial No. 223,948. (No model.)

To all whom it may concern:

Be it known that I, DAVID M. CAMPBELL, a citizen of the United States of America, residing at Danville, in the county of Vermilion and State of Illinois, have invented certain new and useful Improvements in Hay-Pitchers; 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 appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in a hay loading and pitching derrick in which a small power attached to the mechanism is used for the purposes, first, of raising the hay; second, of turning the derrick to bring the hay when raised over the stack or rick; third, the power when detached to be used at the mow to raise hay with ropes and fork when properly adjusted.

To this end my invention consists in the novel construction and arrangement of the parts of my improvement for service, which will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, wherein like letters of reference indicate similar parts in the several views, Figure 1 is a perspective view of my improvement. Fig. 2 is a top plan view thereof, showing a portion of the parts broken away.

A A indicate the base strips or runners, having suitable upper tie-beams, B, the said runners being of sectional construction, having coupling-plates *a*, joining the same, and which are secured thereto by bolts, which may be removed when desired. At each end of the frame two upright supports, C and C', are secured and suitably braced, being mounted adjacent to each end of the runners. A pole, D, is vertically mounted in and supported by the frame C, and has a face-gear, D', keyed to the lower end thereof. The lower end of the pole D is stepped, and has bearing in a block, *d*, mounted on one of the cross-beams B. The pole D extends some distance above the frame or support C, and is slotted at its upper end to receive an arm, D², which passes therethrough, said cross-head having depending hangers *d'* secured to each end thereof, which carry

sheaves *d'*. Two brace-arms, D³, having upper slotted ends, are secured to the pole D, the upper slotted ends thereof being attached to the arm. The normal position of the said arm is angular, being higher at one end than at the other, whereby a fixed elevation is thereby secured to allow the fork to be raised a sufficient height to deposit its load on an elevated stack or rick. The arm D² is hinged at the points *d'*, so that the same may be folded down against the pole D when the brace-arms are disconnected and removed. The said arm D² is mounted in the upper bifurcated or slotted end of the pole D. The lower ends of the brace-arms D³ are detachably secured to the pole D by a wire, *d'*, as shown, and the upper slotted ends of said braces are secured to the arms D² by pivots *d'*.

A shaft, S, is centrally mounted on the lower frame in suitable bearings and longitudinally arranged. The said shaft is provided with a central splice to adapt the same to be disjoined, and has bevel-gears G G' arranged on the ends thereof, which engage with the gear D' and a gear, D⁴, respectively, mounted in the frame C', and said gear D⁴ is provided with an upwardly-extending shaft, S'. The gear G is formed with a collar having a grooved disk, *g*, which is mounted on the shaft S, and the said disk is engaged by a bifurcated lever, G², whereby the gear G may be unshipped from or forced in connection with the gear D'. On the upper end of the projecting vertical shaft S' of the gear D⁴ a sweep, D⁵, is secured, to the other end of which draft-power may be attached, whereby motion may be imparted to the mechanism in connection. A counter-shaft, S², is mounted within the frame C', which has a gear, G³, on its inner end, which engages with the gear D⁴ at right angles to the gear G'. The collar of the said gear G³ has a slot, *g'*, formed therein, which is engaged by projections *f*, operating with a collar, F, mounted on the counter-shaft S². The said collar F has a windlass, F', keyed thereto, and a movable grooved disk, F², thereon, with which the said projections *f* are formed. The said grooved disk F² is engaged by the bifurcated end of a shifting-lever, F³, and has an angular bend formed therein, so as to allow the end thereof to project out from one side of the machine adjacent to the projecting end of the shifting-lever G². By

this construction and arrangement the several parts may be connected for movement or disconnected to cause a cessation of movement, as will be readily understood, whereby the parts

5 may be operated unitedly or separately.

The drum or windlass F' is adapted to have the one end of a rope, R , wound thereon, the said rope extending along the bottom frame through a block, r , secured thereto, thence
10 through a block secured to the pole D above the gear D' , up through the inner sheave, d^2 , through the upper slotted ends of the pole D and the brace-arms D^3 , which act as guides therefor, and thence through the outer sheave
15 d^2 , and has a suitable harpoon or other fork, R' , secured to the free end thereof.

When the parts of the machine are all connected, the pole D is given a revolving movement, and the rope R is wound upon the windlass F' when the draft is applied in one direction, and the mechanism given a reverse movement when the line of draft is in the reverse direction and the rope R slackened, as will be readily understood. By means of the shifting-
20 levers the parts may be operated independently, as will be readily seen.

Having thus described my invention, what I claim as new is—

1. The combination of the supporting frame-
30 work, the vertically-arranged pole having an arm carrying sheaves at each end thereof, the brace-arms D^3 , the longitudinally-arranged sectional shaft having gears at each end thereof, the gear on the lower end of the pole adapted
35 to engage with the gear on one end of the longitudinal shaft, and the power-transmitting gear engaging with the gear on the opposite end thereof, the counter shaft carrying a wind-

lass, the sweep, the rope R , and the shifting-
levers for connecting and disconnecting the
40 several parts of the mechanism, whereby the same may be used together or independently, substantially as described.

2. The combination of the supporting frame-
work, the vertically-arranged pole having an
45 upper bifurcated end, the hinged sectional arm D^2 , mounted in the upper end of the pole and carrying depending sheaves at its ends, the brace-arms, the longitudinal shaft connecting the gear at the base of the pole with the power-
50 transmitting gear, as set forth, and the sweep, in connection with the extended end of the shaft of the power-transmitting gear, to which the power is attached for actuating the mechanism, as set forth, substantially as described.
55

3. The combination of the supporting frame-
work, the pole, the hinged sectional arm D^2 , pivotally mounted in the upper slotted end of the pole and carrying sheaves at its outer ends, the brace-arms D^3 , secured at their upper bi-
60 furcated ends to the arm D^2 and at their lower ends to the pole by a wire, d^3 , the longitudinal shaft adapted to be disconnected from the gear on the lower end of the said pole, the counter-shaft carrying a windlass and adapted
65 to be unshipped from the power-gear, and the rope R , passing through the blocks on the frame and pole and over sheaves carried by the arm D^2 , and through the upper slotted ends of the pole and its braces, substantially as de-
70 scribed.

DAVID M. CAMPBELL.

Witnesses:

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