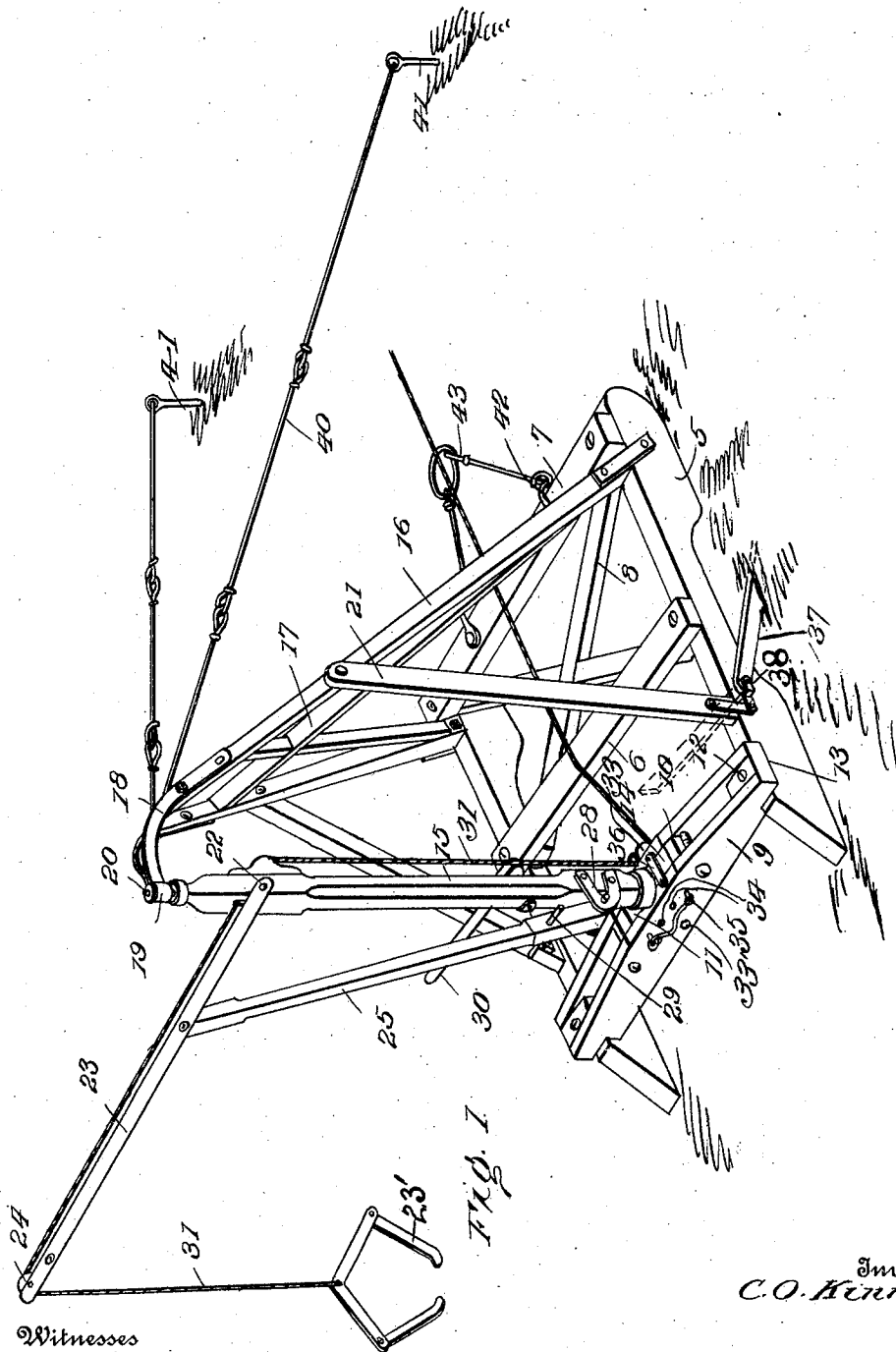


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 APPLICATION FILED NOV. 28, 1910.

987,305.

Patented Mar. 21, 1911.

3 SHEETS—SHEET 1.



Witnesses
W. H. Woodson
James M. Fallon

Inventor
C. O. Kinney

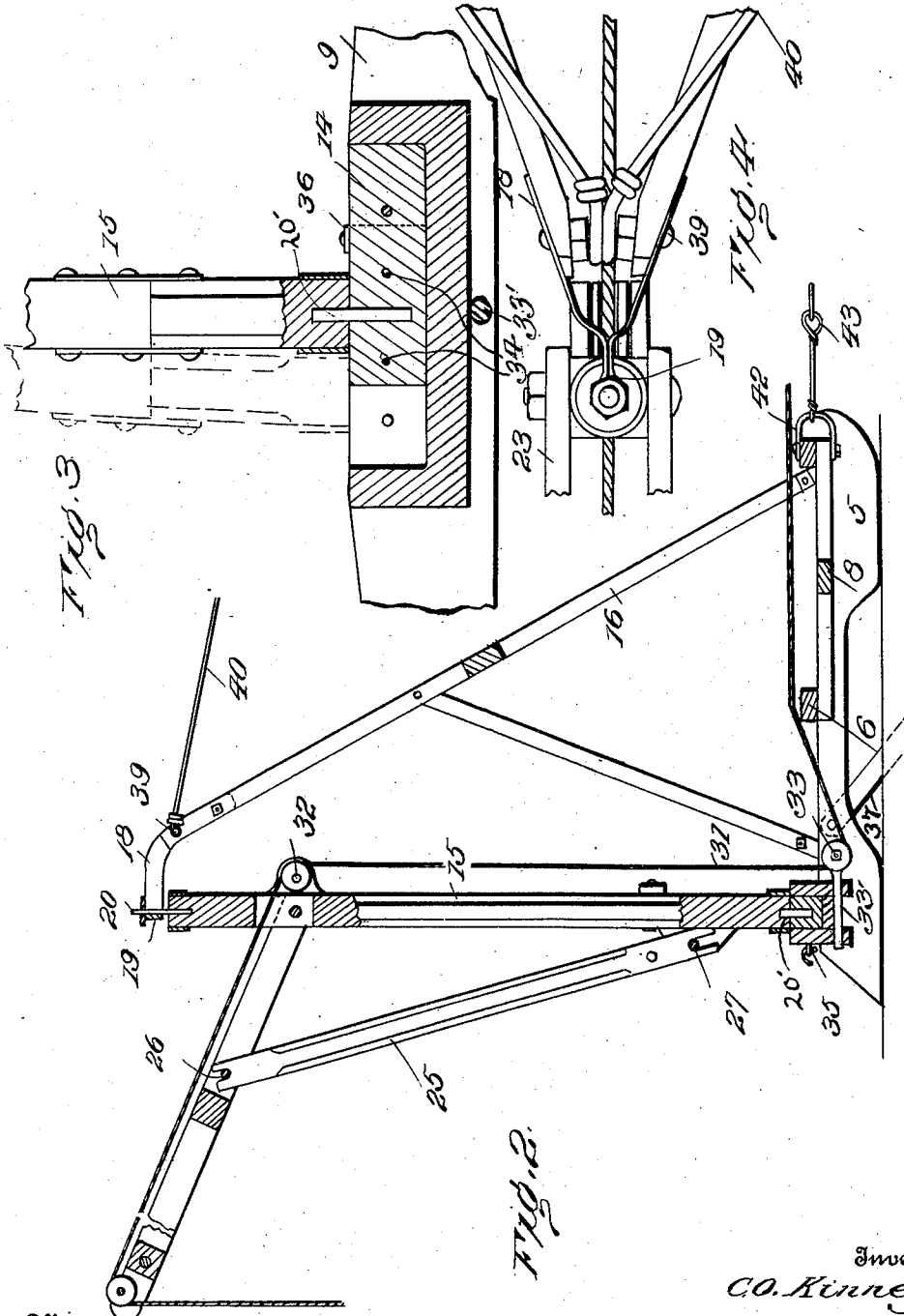
By *W. H. Stacey*, Attorneys.

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2 SHEETS—SHEET 2.



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By

W. H. Stacey, Attorneys.

UNITED STATES PATENT OFFICE.

CLINGMON O. KINNEY, OF HUMBOLDT, KANSAS.

DERRICK FOR STACKING HAY AND THE LIKE.

987,305.

Specification of Letters Patent.

Patented Mar. 21, 1911.

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To all whom it may concern:

Be it known that I, CLINGMON O. KINNEY, citizen of the United States, residing at Humboldt, in the county of Allen and State of Kansas, have invented certain new and useful Improvements in Derricks for Stacking Hay and the Like, of which the following is a specification.

This invention relates to derricks and more particularly to a derrick especially designed for stacking hay and other grain.

The object of the invention is to provide a derrick of simple and durable construction, capable of being readily moved from one portion of a field to another and by means of which hay may be readily elevated to form a stack.

A further object is to provide a hay derrick, the base of the mast of which may be shifted laterally so as to cause the boom to swing on either side of the supporting frame.

A further object is to provide means for anchoring the supporting frame when the derrick is in use, and means mounted on one end of the supporting frame for attachment to a draft animal so that the derrick may be hauled to a different position on a field when the anchoring members are released.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

For a full understanding of the invention and the merits thereof, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of a hay derrick constructed in accordance with my invention; Fig. 2 is a vertical sectional view of the same; Fig. 3 is a front elevation partly in section, showing the construction of the sliding bearing block and manner of supporting the lower end of the mast therein; Fig. 4 is a top plan view, showing the construction of the overhanging bracket.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The derrick comprises a main supporting frame including spaced runners 5 connected by transverse bars 6 and 7 and provided with diagonally disposed braces 8 secured to the lower faces of the bars 6 and 7 and the inner faces of the runners 5, as shown. Disposed at the front of the frame is a transverse beam 9 preferably formed of parallel bars having their opposite ends secured to the upper longitudinal edges of the runners and their intermediate portions spaced apart by blocks 10 to form a seating recess 11, the bottom of which is closed, as shown. The beam 9 is secured in position on the runners 5 by bolts or similar fastening devices 12 which extend through the connecting webs 13 and engage the side bars or runners.

Slidably mounted in the seating recess 11 is a bearing block 14 having an opening formed therein, in which is journaled the lower end of a mast 15.

Disposed at the rear of the supporting frame, is an inclined brace including spaced bars 16 connected by diagonal bars 17 and having their upper ends converging and secured to an overhanging bracket 18, the intermediate portion of which is bent to form a loop constituting a bearing 19 for the reception of a pin or trunnion 20 mounted on the upper end of the mast 15, there being a similar pin or trunnion 20' secured to the lower end of the mast and journaled in the bearing block 14. Side braces 21 form a connection between the bars 16 of the inclined brace and the runners 5 in order to reinforce the brace and form a strong, rigid connection between said brace and the main supporting frame.

Pivotally mounted at 22, is a boom 23 preferably formed of spaced bars between the outer ends of which is journaled a pulley or roller 24. The boom 23 is supported in elevated or operative position by means of a removable brace 25, the upper end of which is bifurcated and engages a transverse bolt 26 connecting the side bars comprising the boom, while its lower end is formed with a slot adapted to receive a transverse pin 27 carried by spaced substantially U-shaped brackets 28 secured to the opposite sides of the mast at the lower end thereof. A pin 29 is extended transversely through the lower end of the brace 25 with its opposite ends projected laterally beyond said brace so as

to form finger pieces and thus assist in removing the brace from the brackets 28 when it is desired to lower the boom.

A handle 30 is also preferably secured to the lower portion of the mast for the purpose of rotating the mast so as to swing the boom either to the right or left of the supporting frame. Suspended from the boom 23 is a hay fork or grapple 23' of any suitable description, to the upper end of which is secured one end of a cord or cable 31, the opposite end of which extends over the pulley 24 and over a similar pulley 32 mounted on the rear of the mast and thence over a swivel pulley 33 mounted on a bolt 33' extending through the beam 9 beneath the bearing block for attachment to a draft animal.

Formed in one of the bars constituting the beam 9, are a series of spaced openings 34, there being similar openings formed in the bearing block 14 and adapted to register with the openings 34 to permit the insertion of a pin or similar fastening device 35, so that by adjusting the bearing block within the seating recess and inserting the pin in any one of the openings 34, the lower end of the mast may be adjusted laterally with respect to the supporting frame so as to cause the boom to swing automatically either to the right or left of the supporting frame and thus deposit the load in any desired position. A bar or keeper 36 extends transversely across the seating recess 11 to assist in preventing accidental displacement of the bearing block.

In order to prevent movement of the supporting frame when the hay stacker is in operation, there are provided anchoring members 37, preferably in the form of bars and having their upper ends pivotally mounted at 38 in suitable brackets secured to the runners 5, the pointed ends of said anchoring members being adapted to be driven or otherwise embedded in the ground, as best shown in Fig. 1 of the drawings.

Secured to one of the connecting bolts 39 of the overhanging bracket 18, are brace rods or chains 40 having their lower ends provided with pins 41 adapted to be embedded in the ground at the rear of each runner, thus to assist in preventing accidental displacement of the stacker during the operation thereof.

Pivotally mounted on the transverse bar 7, are spaced substantially U-shaped clips 42 to which is attached in any suitable manner a draft device 43 so that after the pins 41 have been withdrawn from the ground and the anchoring members 37 swung upwardly to a position parallel with the outer face of the runners, a draft animal may be readily attached to the member 43 and the hay derrick transferred from one portion of a field to another.

From the foregoing description it is thought that the construction and operation of the device will be readily understood by those skilled in the art, and further description thereof is deemed unnecessary.

Having thus described the invention, what is claimed as new is:

1. A derrick including a supporting frame, a transverse beam forming a part of the frame and provided with a longitudinal seating recess, a bearing block slidably mounted in said recess, a brace secured to the frame and provided with an overhanging bracket, a mast journaled in the sliding block and bracket, respectively, a boom carried by the mast, and means for securing the block in different positions of longitudinal adjustment.

2. A derrick including a supporting frame, a transverse beam forming a part of the frame and having a longitudinal seating recess formed therein, a bearing block slidably mounted in said recess and provided with spaced transverse openings, a brace having an overhanging bracket secured to the upper end thereof, a mast having one end thereof journaled in the bearing block and its other end journaled in the overhanging bracket, a boom carried by the mast, and a pin adapted to enter any one of the openings in the sliding block for holding the latter in different positions of adjustment.

3. A derrick including a supporting frame, a transverse beam forming a part of the frame, a brace having its upper end provided with an overhanging bracket disposed above the beam, a mast journaled in the bracket and having its lower end adjustable longitudinally of the beam, a boom carried by the mast, an elevating cable mounted on the boom and having its rear end extended beyond the frame for attachment to a draft animal, and anchoring members pivotally mounted on the frame and adapted to be embedded in the ground for preventing accidental displacement of said frame.

4. A derrick including a supporting frame, a transverse beam forming a part of the frame, a bearing block slidably mounted on the beam, a brace, an overhanging bracket secured to the upper end of the brace, transverse bolts forming a connection between the bracket and brace, a mast having its upper end journaled in the overhanging bracket and its lower end journaled in said sliding block, a boom carried by the mast, means for holding the block in different positions of adjustment, and flexible stay members secured to one of the transverse bolts and having their lower ends provided with pins adapted to be embedded in the ground.

5. A derrick including a supporting frame, a transverse beam forming a part of the frame and including mating bars spaced

apart by intermediate blocks to form a seating recess, a bearing block slidably mounted in said recess and provided with spaced transverse openings, there being similar openings formed in one of the bars constituting the beam, a keeper extending across the bars of the beam and bearing against the sliding block, a pin adapted to enter said openings for holding the block in different positions of adjustment, a brace secured to the opposite end of the frame, an overhanging bracket secured to the upper end of the brace, a mast journaled in the bracket and sliding block, respectively, and provided with a boom, elevating mechanism mounted on the boom, and bars forming a connection between the brace and supporting frame.

6. A derrick including spaced runners connected by transverse bars and provided with intersecting diagonally disposed braces, a transverse beam connecting the runners at the rear ends thereof and including mating bars having their intermediate portions spaced apart by blocks to form a seating recess, the bottom wall of which is closed, the opposite ends of the bars constituting the transverse beam being connected by webs, fastening devices extending through said webs and engaging the upper longitudinal edges of the runners, a bearing block slidably mounted in the recess and having spaced transverse openings formed therein, a brace, an overhanging bracket secured to the upper end of the brace, a mast having its upper end journaled in the bracket and its lower end journaled in the bearing block, a boom carried by the mast, elevating mechanism mounted on the boom, and means carried by one of the bars constituting the transverse beam and adapted to enter the openings in the bearing block for holding the latter in different positions of adjustment.

7. A derrick including a supporting frame, a transverse beam forming a part of the frame and having a longitudinal seating recess formed therein, a bearing block slid-

ably mounted in said recess, a brace, an overhanging bracket secured to the upper end of the inclined brace, a transverse bolt for connecting the bracket to the inclined brace, a mast having one end thereof journaled in the overhanging bracket and its other end journaled in the bearing block, a boom carried by the mast, anchoring members pivotally mounted on opposite sides of the supporting frame and adapted to be embedded in the ground, and stay members secured to said bolt and having their lower ends provided with depending pins adapted to enter the ground at the rear of the anchoring members.

8. A derrick including a supporting frame, a mast mounted for rotation on the supporting frame, a boom pivotally mounted on the mast and including spaced bars, a transverse bolt piercing said bars, a pulley mounted for rotation between the bars at the outer end of the boom, spaced brackets extending laterally from the lower end of the mast and connected by a transverse pin, a brace having its upper end bifurcated for the reception of the transverse bolt and its lower end formed with a slot adapted to receive said pin, finger pieces extending laterally from the opposite longitudinal edges of the brace at the lower end thereof, a pulley mounted for rotation on the mast at the rear of the boom, there being a slot formed in the mast at said pulley, a draft cable having one end thereof provided with a grapple and its other end extending over the pulley in the end of the beam and thence through the slot and over the adjacent pulley for attachment to a draft animal, and a handle mounted on the mast for swinging the free end of the boom laterally on either side of the supporting frame.

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

CLINGMON O. KINNEY. [L. s.]

Witnesses:

HARRY BRAGG,
McCLELLAN DILDINE.