No. 822,653. PATENTED JUNE 5, 1906.

# W. O. CRAWFORD.

## MACHINE FOR LOADING SHOCKS.

APPLICATION FILED SEPT. 21, 1905.

FIG. 1.

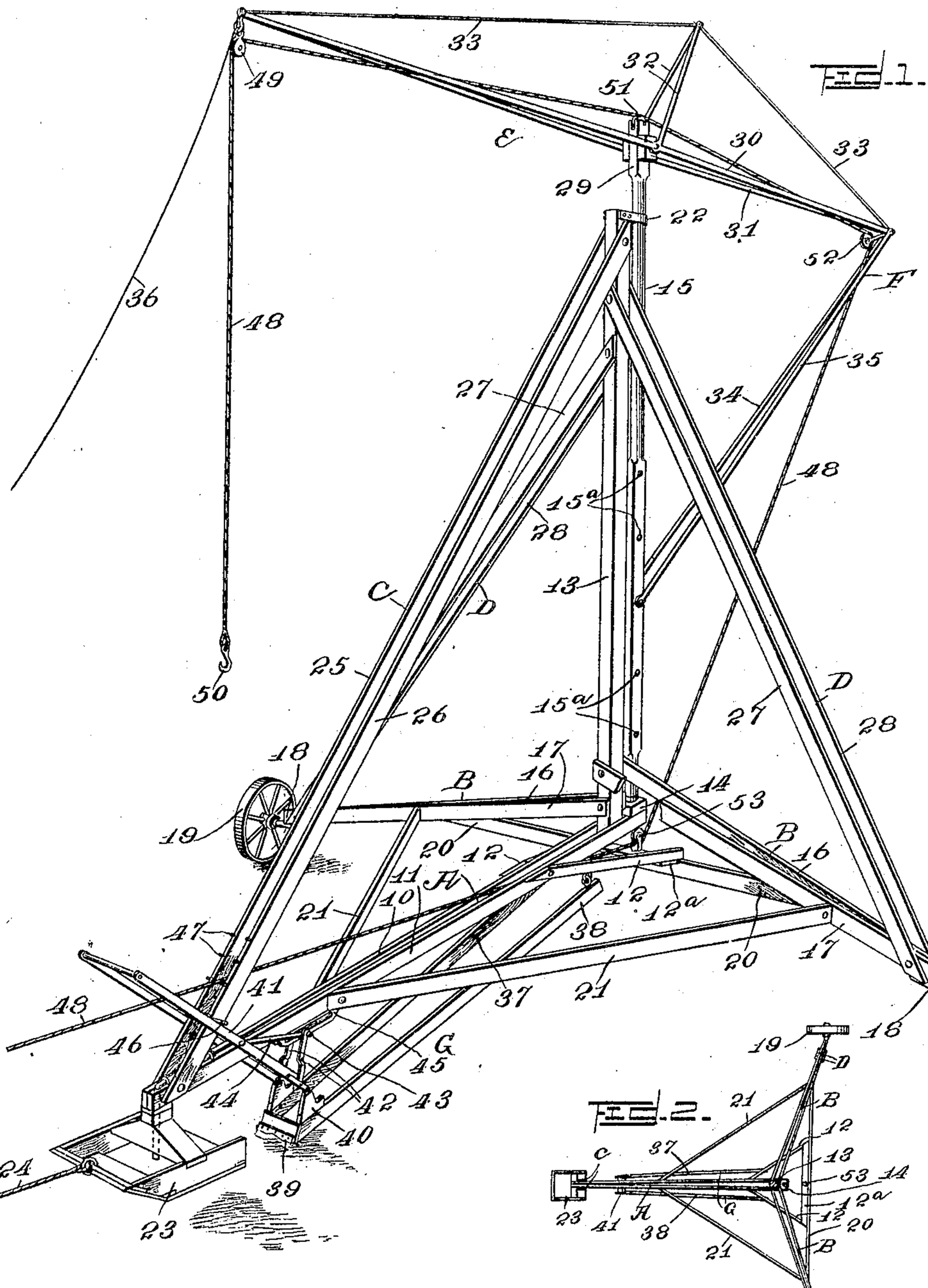


FIG. 2.




WITNESSES:

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## MACHINE FOR LOADING SHOCKS.

No. 822,653. Specification of Letters Patent. Patented June 5, 1906.

Application filed September 21, 1905. Serial No. 279,458.

*To all whom it may concern:*

Be it known that I, WILLIAM OLIVER CRAWFORD, a citizen of the United States, and a resident of Beaver Creek, in the county of Rock and State of Minnesota, have invented a new and Improved Machine for Loading Shocks, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a simple, portable, and readily-operated machine for loading shocks of corn or corn-fodder onto wagons or for stacking the shocks or for moving them from the stack to a wagon, which machine may be used with equally good results for loading and stacking manure, hay, straw, and all kinds of fodder.

Another purpose of the invention is to provide a machine with an adjustable and revolubly-mounted derrick-arm and means almost direct-acting for raising and lowering a load.

A further purpose of the invention is to provide the machine with a forward supporting-shoe, rear supporting-wheels, an anchoring device between said supports, and means for raising and lowering the anchoring device.

The invention consists in the novel 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 characters of reference indicate corresponding parts in both figures.

Figure 1 is a perspective view of the improved machine; and Fig. 2 is a plan view of the base of the machine and a horizontal section through the uprights, the view being drawn upon a smaller scale.

A represents the main beam of the machine, which runs in direction of the front and rear nearly the full length of the framing of the machine, and the said center beam A is preferably made in two parallel members 10 and 11, and to the end rear portions of the said members a transverse beam $12^a$ is attached, while brace-beams 12 extend from the transverse beams $12^a$ to the outer side faces of the members 10 and 11 of the main center beam A. An upright 13 is secured at its lower end upon the transverse beams $12^a$, and the members 10 and 11 of the main beam A are secured to the sides of the upright 13 and are carried well to the rear thereof.

Upon the rear end portion of the center of the main beam A a block 14 is secured in any approved manner, and the lower end of a mast 15 is mounted to turn in the block 14, which mast 15 extends up parallel with the upright 13, but is carried above the upper end of the said upright. The lower portion of the mast 15 is rendered polygonal in cross-section and is provided with a series of apertures $15^a$ in the side sections of the said flattened portion of the mast.

Axles B are secured to the upright 13, adjacent to its lower end, the axles extending to opposite sides of the frame in a rearward direction, and each axle B preferably consists of two parallel members 16 and 17, secured at their inner ends to the front and rear portions of the upright 13, while the said members 16 and 17 of the axis B are brought together at their outer ends and are secured to spindles 18, on which spindles supporting-wheels 19 are mounted to turn.

The axles and the main center beam A are strengthened by triangularly-arranged braces, which braces comprise a rear transverse beam 20, secured to the rear sides of the axles B, and side beams 21, which are attached to the forward faces of the axles B and to the side faces of the main beam A between its center and its forward end. The rear beam 20 of the said triangular arrangement of braces also serves to add support to the transverse beam $12^a$ and the side beams 12, attached thereto.

The mast 15 is guided near its upper end by a strap 22, secured to the upright 13, and at the forward end of the main or central beam A a supporting-shoe 23 is pivoted, to which shoe the draft-rope 24 is attached, so that ordinarily or in transportation the machine is supported by the wheels 19 and the shoe 23.

The upright 13 is connected at its upper end with the forward end of the main or central beam A by means of a brace C, comprising two parallel members 25 and 26, and the said upright 13 is connected with the axles B by braces D, each consisting of two parallel members 27 and 28. The upper end of the mast 15 is flattened, as is shown at 29 in the drawings, and a derrrick-arm E is pivoted to the upper flattened portion of the mast. This derrick-arm consists of two bars 30 and 31, arranged side by side, the bars being brought together at their forward and rear ends, and the said bars at their pivot-points are strengthened by an upwardly-extending A-brace 32, and truss-rods 33 are attached to

the upper end of the brace 32 and to the end portions of the derrick-arm. The derrick-arm may be raised and lowered at its forward end through the medium of adjusting-arms 34 and 35, which are pivoted to the rear end portions of the derrick-arm E and are adjustably connected with the mast 15 by passing pins or their equivalents through eyes at the lower ends of the adjusting-rods and through any one of the openings or apertures 15[a] at the lower portion of the mast 15. A guy-rope 36 is attached to the forward end of the derrick-arm, whereby the said arm and mast may be turned to the right or to the left by an operator on the ground.

An anchor device G is located practically beneath the central or main beam A, and this anchoring device consists of two longitudinal members 37 and 38, pivoted at their rear ends to the rear portions of the beam A or the brace-beams 12, and the said members 37 and 38 at their forward ends are attached to a blade 39, which is given more or less of a downward inclination, and from the forward portion of the said members 37 and 38 lugs 40 are upwardly carried. The side members of a skeleton handle 41 are pivoted to the said lugs, the said side members of the handle 41 extending upwardly and forwardly one at each side of the forward brace C.

Arms 42 are pivoted to the lower ends of the handle 41, and links 44 are pivotally connected to the side members of the handle 41 between their centers and lower ends, the said links 44 being pivotally attached to the upwardly-extending arms 42 by a pin 43, which pin is passed through a slot in a guide-yoke 45, secured to the bottom portion of the main or central beam A. The handle 41 is provided with a transverse bar 46 on its upper face, and the said bar is adapted when the blade 39 is in the ground to hold the blade in such position by bringing the pin 46 in engagement with any pair of a series of projections 47, formed on the upper edge of the members of the front brace C; but any other means may be employed for locking the anchoring device in anchoring position, and when the device is in such position as is illustrated in the drawings the structure is prevented from moving, being held firmly planted on the ground.

A hoist-rope 48 is passed over a pulley 49, suspended from the forward end of the derrick-arm E, the said hoist-rope 48 at the end adjacent to the pulley 49 being provided with a hook 50, a grapple, or the like, and the said hoist-rope 48 is passed over the pulley 49, over a pulley 51 at the upper portion of the mast 15, and thence down and over a pulley 52 at the rear end of the derrick-arm, thence over a pulley 53 at the rear central portion of the base-frame of the machine, and then forward to a draft-animal, for example, the said draft-rope in its forward passage being carried between the members of the main beam A and the members of the front brace C.

When the handle 41 is carried upwardly and rearwardly, the anchoring device is carried from engagement with the ground and is held in its upper position by the pin 46 engaging with the upper sides of the projections 47. When the anchor is forced downward into the ground, the pin 46 engages with the lower faces of the projections 47, and according to the extent that the anchor is forced down will the shoe 23 be raised from the ground, so that the anchor will sustain all of the weight in the operation of the machine exerted downwardly or in a forward direction.

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

1. In a machine for loading shocks, a base structure, axles extending therefrom, supporting-wheels at the ends of the axles, and a supporting-shoe at the forward portion of the frame, an upright secured to the rear portion of the base, a mast mounted to revolve on the base, being guided by the upright, and a derrick-arm mounted for rocking movement on the mast, the derrick-arm being provided with means to support a hoist-rope.

2. A machine for loading shocks, consisting of a base-frame, wheel-supported at its rear and having a forward central supporting-shoe, a mast mounted to turn on the said frame, a guide-support for the mast, a derrick-arm pivoted on the said mast, means for vertically adjusting the said derrick-arm, and an anchoring device supported below the frame.

3. A machine for loading shocks, consisting of a base-frame, wheel-supported at its rear and having a forward central supporting-shoe, a mast mounted to turn on the said frame, a guide-support for the mast, a derrick-arm pivoted on the said mast, adjusting-bars pivoted to the rear of the derrick-arm, being adjustably connected with the said mast, pulleys located at the ends of the derrick-arm, a guide-pulley located at the upper portion of the mast, a pulley located on the base, and a hoist-rope passed over said pulleys, for the purpose described.

4. In a machine for loading shocks, a base structure, wheel-supported at its rear, a forward supporting-shoe connected to the base structure and located centrally with respect to the supporting-wheels, a mast mounted to turn on said base structure, a guide for the mast, a derrick-arm pivoted to the mast, an anchoring device located below the base structure of the machine and connected therewith, and means for raising and lowering the said anchoring device.

5. In a machine for loading shocks, a base

structure, a mast mounted on the said structure, supporting-wheels located at each side of the base structure at the rear, a supporting-shoe located at the central front portion of the base structure, supports for the said mast, a derrick-arm pivotally mounted on the mast, adjusting devices for the said derrick-arm, an anchoring device located below the base structure, comprising side members hinged to the base structure, a blade extending down from the lower portion of the side members, a handle pivoted to the blade-carrying portion of the said device, adapted to raise and lower the blade of the device, links extending up from the pivotal portion of the handle, links extending from the handle above its lower portion, a pin connecting the said links, and a slotted yoke carried by the frame, in which the said pin has movement.

6. In a machine for loading shocks, a base structure, a mast mounted on said structure, supporting-wheels located at each side of the base structure at the rear, a supporting-shoe located at the front central portion of the base structure, supports for said mast, a derrick-arm pivotally mounted on the mast, adjusting devices for said derrick-arm, comprising side members hinged to the base structure, a blade extending down from the forward portion of the side members, a handle pivoted to the blade-carrying portion of said device, adapted to raise and lower the blade of the device, links extending up from the pivotal portion of the handle, links extending from the handle above its lower portion, a pin connecting said links, a slotted yoke carried by the frame, in which said pin has movement, a locking device for the handle of the anchoring device, pulleys carried by the derrick-arm and the frame, a hoist-rope carried over said pulleys to the forward portion of the frame, and a truss-brace for said derrick-arm, all combined for operation in the manner described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM OLIVER CRAWFORD.

Witnesses:
F. E. HENTON,
E. C. BROOKS.