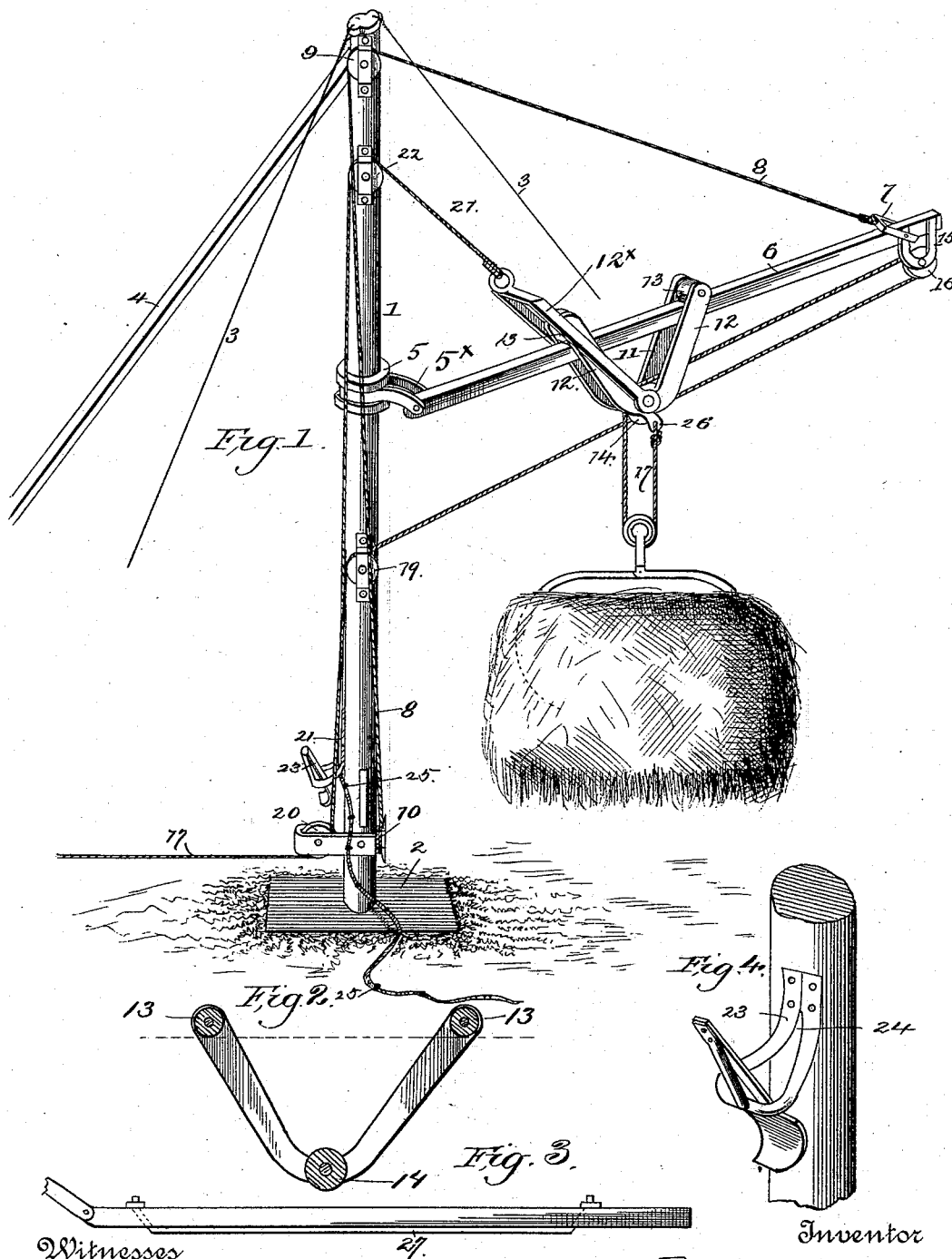


(No Model.)

D. OGILVIE.
HAY ELEVATING DERRICK.

No. 524,862.

Patented Aug. 21, 1894.



Witnesses
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UNITED STATES PATENT OFFICE.

DAVID OGILVIE, OF ELKO, NEVADA.

HAY-ELEVATING DERRICK.

SPECIFICATION forming part of Letters Patent No. 524,862, dated August 21, 1894.

Application filed November 7, 1893. Serial No. 490,232. (No model.)

To all whom it may concern:

Be it known that I, DAVID OGILVIE, a citizen of the United States, residing at Elko, in the county of Elko and State of Nevada, have
5 invented certain new and useful Improvements in Hay-Elevating Derricks; 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
10 it appertains to make and use the same.

This invention relates to hay elevating derricks, and the object of the same is to improve this class of devices in such manner as to render them freely adjustable and movable
5 to produce a convenient operation of the several parts, and also to insure strength and durability.

With these and other objects in view, the invention consists of the construction and arrangement of the parts, as will be more fully hereinafter described and claimed.

In the drawings:—Figure 1 is a perspective view of the derrick embodying the invention. Fig. 2 is a detail sectional view of the carriage or traveler. Fig. 3 is an edge elevation of the boom, showing a modification thereof. Fig. 4 is a detail perspective view of a portion of the mast and keeper.

Similar numerals of reference are employed
10 to indicate corresponding parts in the several views.

Referring to the drawings, the numeral 1 designates a mast, which has its lower end resting on a bed piece 2. The said mast 1
5 is held in position by two or more stay ropes 3, and by a brace 4. To the upper part of the mast is secured a grooved collar 5 engaged by a yoke 5*, pivoted to the inner end of a boom 6. To the outer end of the boom is attached
10 a clevis 7, which has secured thereto the outer end of a cord, or cable 8, which passes over a sheave 9, on one side of the uppermost part of the mast, and is then extended down vertically to engage a cleat 10, adjacent to the
15 lower end of said mast, and by means of the said cord, rope or cable, the boom may be raised or lowered, as will be readily seen. On the said boom is mounted a carriage or traveler 11, which is composed of two substantial
20 U-shaped arms 12, whose ends are disposed above the boom, and confined between the

same are rollers 13, which rest and move upon the upper edge of said boom. The bends of the said arms 12, are located below the boom, and between the same is mounted a pulley 14.
25 At the outer underside of the boom is secured a bracket 15, having a sheave or pulley 16 therein, and a rope or cable or analogous device 17 extending from a suitable hay fork or other grapple upwardly over the pulley 14,
30 thence over the pulley 16, and backwardly to the mast over pulley 19, mounted on the latter, and from thence said rope or cable 17 extends downwardly to and engages a lower sheave or pulley 20 and from thence passes outward for
35 attachment to a suitable elevating or draft power.

Secured to the lower part of the arms 12 of the carriage or traveler, is a yoke 12* to the upper part of which is connected a rope, cable,
40 chain or analogous device 21, which passes over a pulley 22, on the mast 1 and then extends downwardly and is passed through a keeper 23, which has a slot 24 therein, and an outer enlarged portion which gradually
45 reduces toward the fastening point of the said keeper. The lower end of the rope, cable or chain where it passes through the said keeper is knotted as at 25, whereby an adjustment of the same may be had and sustained by en-
50 gagement with said keeper as will be readily understood.

In operation, the hay fork or grapple is loaded, and the rope, cable or chain 17, is operated by the draft or elevating power to draw
55 the said loaded fork or grapple upwardly, and the effect of this operation is not only to raise the hay or load, but at the same time draw the carriage toward the outer end of the boom. This tendency of the carriage or grapple is checked by the rope, cable or chain 21,
60 passing over the pulley 22, and by this means a proper elevation of the load to the point desired is attained. By adjusting the rope, cable or chain 21, the position of the carriage
65 or traveler is regulated and the load may be elevated at any point desired at a distance from or close to the mast. The power is doubled by passing the rope, cable or chain 17, through a pulley on the hay fork and fastening
70 the end thereof to a clevis, 26, secured to the arms 12 of the carriage or traveler.

As shown in Fig. 3, the boom may be reinforced by a metallic rod which passes throughout the length thereof as at 27, to make said boom more rigid and resist the strain brought to bear thereupon, it being understood that the said boom is made of wood.

Other suitable changes may be made and substituted for the arrangement shown, without in the least departing from the nature or spirit of the invention.

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

In a hay lifting derrick, the combination of a mast 1, a bed piece upon which the said mast is revolvably mounted, stay ropes holding said mast in position, a grooved collar secured to the mast, a boom having a yoke at the inner end thereof engaging the said grooved collar, a clevis attached to the outer end of the boom, a sheave on the boom, a carriage or traveler 11 mounted on the boom, composed of two substantially U-shaped arms whose ends are disposed above the boom and have rollers

confined between the same, a pulley in the lower portion of the carriage or traveler, a yoke attached to the lower part of the carriage or traveler, a rope or cable attached to the latter yoke and passing over a pulley on the mast, a keeper at the lower part of the mast with which said latter rope or cable engages, and having a slot therein with an outer enlarged portion which gradually reduces toward the fastening upon the said keeper, the lower end of said latter rope or cable being knotted, a hay fork or grapple attached to and operated by the carriage on the boom and a reinforcing metallic rod on the boom, substantially as and for the purposes specified.

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

DAVID OGILVIE.

Witnesses:

J. EGGERS,
S. M. HENLEY.