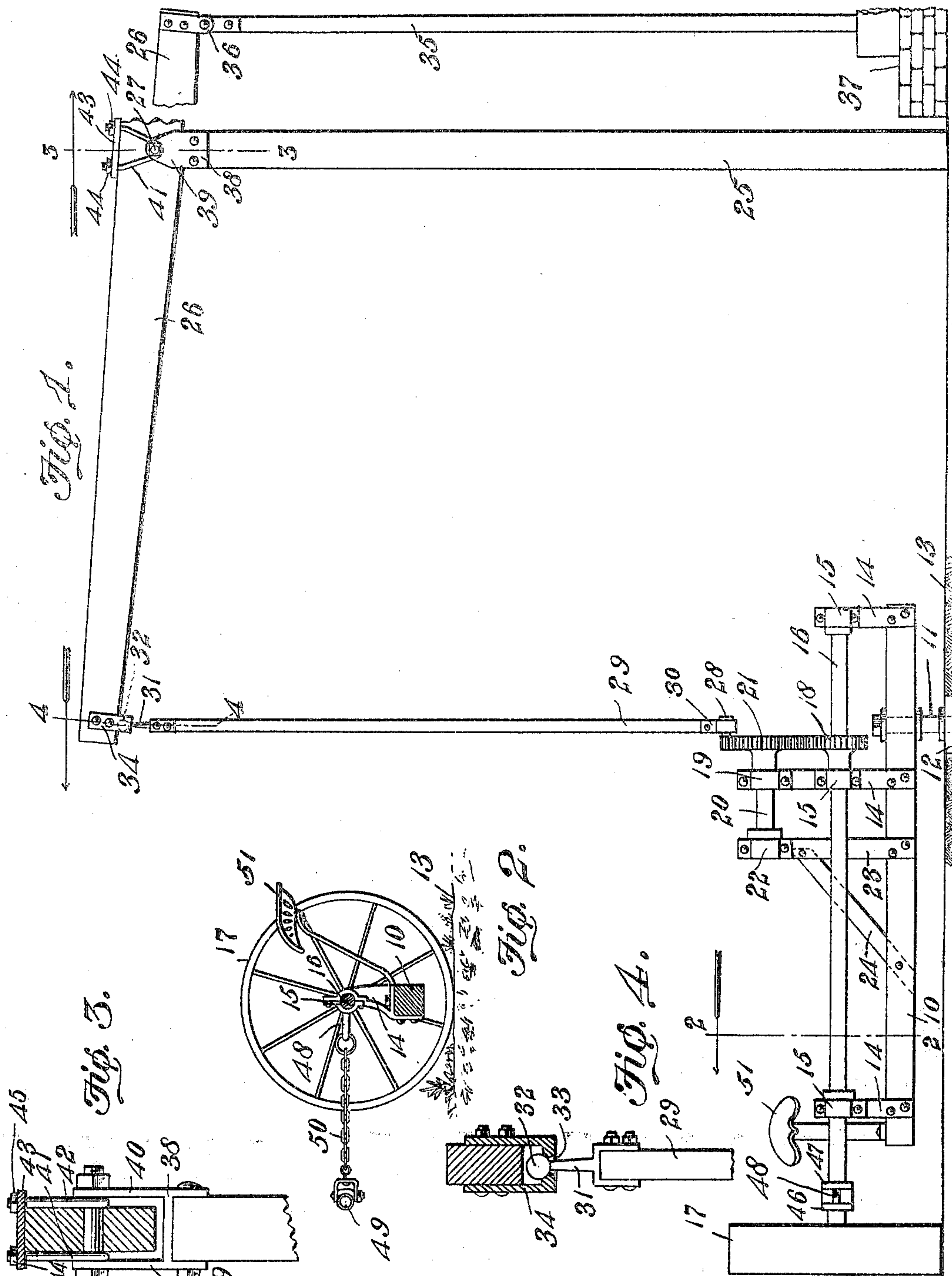


No. 811,114.

PATENTED JAN. 30, 1906.

F. M. YORK.  
PUMP JACK.

APPLICATION FILED DEC. 2, 1905.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

FRANCIS M. YORK, OF SAN ANGELO, TEXAS.

## PUMP-JACK.

No. 811,114.

Specification of Letters Patent.

Patented Jan. 30, 1906.

Application filed December 2, 1905. Serial No. 290,033.

*To all whom it may concern:*

Be it known that I, FRANCIS M. YORK, a citizen of the United States, residing at San Angelo, in the county of Tom Green and State of Texas, have invented a new and useful Pump-Jack, of which the following is a specification.

This invention relates to devices for operating pumps and similar apparatus and commonly known as "pump-jacks," and has for its object to improve the construction and increase the efficiency of devices of this character.

With these and other objects in view, which will appear as the nature of the invention is better understood, the invention consists in certain novel features of construction, as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of the embodiment of the invention capable of carrying the same into practical operation, it being understood that various changes in the form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention within the scope of the appended claims.

Figure 1 is a side elevation of the improved apparatus. Fig. 2 is a sectional view on the line 2 2 of Fig. 1. Fig. 3 is a sectional view, enlarged, on the line 3 3 of Fig. 1. Fig. 4 is a sectional view, enlarged, on the line 4 4 of Fig. 1.

The improved device comprises a main base member or beam 10, mounted for horizontal rotation upon a relatively short stud 11, rising from a post or other suitable support 12 in the ground, (represented at 13.) The beam 10 thus operates near the ground and renders it possible to employ a strong and rigid stud without the necessity for supporting the same with braces or other means. The stud 11 is located near one end of the beam 10, and rising from the beam are a plurality of standards 14, having bearings 15 for supporting a longitudinal shaft 16. The shaft 16 is provided with a combined carrier and traction wheel 17, at the outer end rigidly attached to the shaft, and rigidly connected to the inner end of the shaft, adjacent to the stud 11, is a relatively small gear 18. One of the standards 14 is extended upwardly and provided with a bearing 19 for supporting

a counter-shaft 20, the latter carrying a relatively large gear 21, engaging the smaller gear 18. The inner end of the counter-shaft 20 is supported in a bearing 22 upon a standard 23, rising from the beam 10 and supported by a diagonal brace 24.

Attached to the shaft 16, near the wheel 17, are spaced collars 46 47, between which a clevis 48 is mounted, the shaft rotating freely within the clevis and the swingle-tree or other draft appliance (indicated at 49) connected by a chain 50 to the clevis. A driver's seat 51 is also connected to the beam member 10 near the clevis 48, as shown, and extends rearwardly of the same.

By disposing the beam 10 near the ground, as above stated, provides for using a relatively short stud, which may be strongly constructed and supported at small expense, and locating the drive-shaft at considerable distance above the beam a relatively large wheel 17 may be employed, with increased advantages in point of leverage.

The elevation of the drive-shaft also provides a relatively elevated point for the attachment of the draft appliances 49 50, with increased advantages to the draft-animals. The draft appliances being thus located at a considerable distance above the beam 10, a torsional strain is imparted to the beam 10, which is counteracted by the weight of the driver upon the seat 51, disposed rearwardly of the beam. Rising from the ground 13 is a post 25, upon the upper end of which a walking-beam 26 is pivoted at 27. The larger gear 21 is provided with a crank-pin 28, to which a rod 29 is coupled by a strap 30 at one end, while the other end of the rod is provided with a stud 31, terminating in a ball 32, engaging a socket 33 in a hanger 34, connected to the walking-beam 26.

A sucker-rod 35 is coupled by a strap 36 to the other end of the walking-beam and arranged to operate in a pump within the well, (indicated at 37;) but the pump structure is not shown, as it forms no part of the present invention.

The upper end of the post 25 is provided with a cap 38, having spaced ears 39 40, in which the pivot 27 of the walking-beam 26 is supported.

Engaging the pivot 27 between the member 26 and the walking-beam 26 are substantially V-shaped rods 41 42, with the terminals of their arms passing through apertures in a clamp-plate 43, bearing upon the upper



face of the member 26, and held in place by clamp-nuts 44 45 upon the threaded ends of the rods. By this means the walking-beam 26 is firmly supported at the point where the greatest strains occur, while at the same time the friction is limited to the metal rods 41 42 and the metal ears 39 40. By this arrangement it is obvious that a very strong and compact device is produced, efficient in action, easily assembled and operated, and which may be readily applied to any size or form of pump.

Having thus described the invention, what is claimed is—

1. In a device of the class described, a vertically-supported stud, a beam mounted for horizontal rotation upon said stud near the ground or other base upon which the device operates, spaced vertical standards carried by said beam and provided with shaft-bearings, a shaft mounted for rotation in said bearings and spaced above said beam, a combined traction and carrier wheel connected to the outer end of said shaft and bearing upon said base, means connected to the inner end of said shaft for transmitting motion therefrom, means for connecting a draft appliance to said shaft and extending forwardly therefrom, and a driver's seat connected to said beam and extending rearwardly thereof, whereby the weight of the operator is utilized to prevent torsional strains being imparted to the beam.

2. In a device of the class described, a vertically-supported stud, a beam mounted for horizontal rotation upon said stud near the

ground or other base upon which the device operates, spaced vertical standards carried by said beam and provided with shaft-bearings, a shaft mounted for rotation in said bearings and spaced above said beam, a combined traction and carrier wheel connected to the outer end of said shaft and bearing upon said base, means for connecting a draft appliance to said shaft and extending forwardly therefrom, a driver's seat connected to said beam and extending rearwardly therefrom, a supporting-post spaced from said stud, a cap member carried by said post and having spaced ears, a pivot-pin disposed transversely through said ears, a walking-beam mounted for vertical movement upon said pin, a clamp-plate bearing upon said walking-beam above said pivot-pin, V-shaped clamp-bolts engaging said pivot-pin between said ears and walking-beam and passing through perforations in said clamp-plate, nuts engaging said bolts and bearing upon said clamp-plate, connecting means between one end of said walking-beam and said shaft whereby the rotation of the shaft is caused to reciprocate the walking-beam, and means for coupling a pump-rod to the other end of the walking-beam.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRANCIS M. YORK.

Witnesses:

B. H. JOHNSON,  
S. E. LANFORD.