

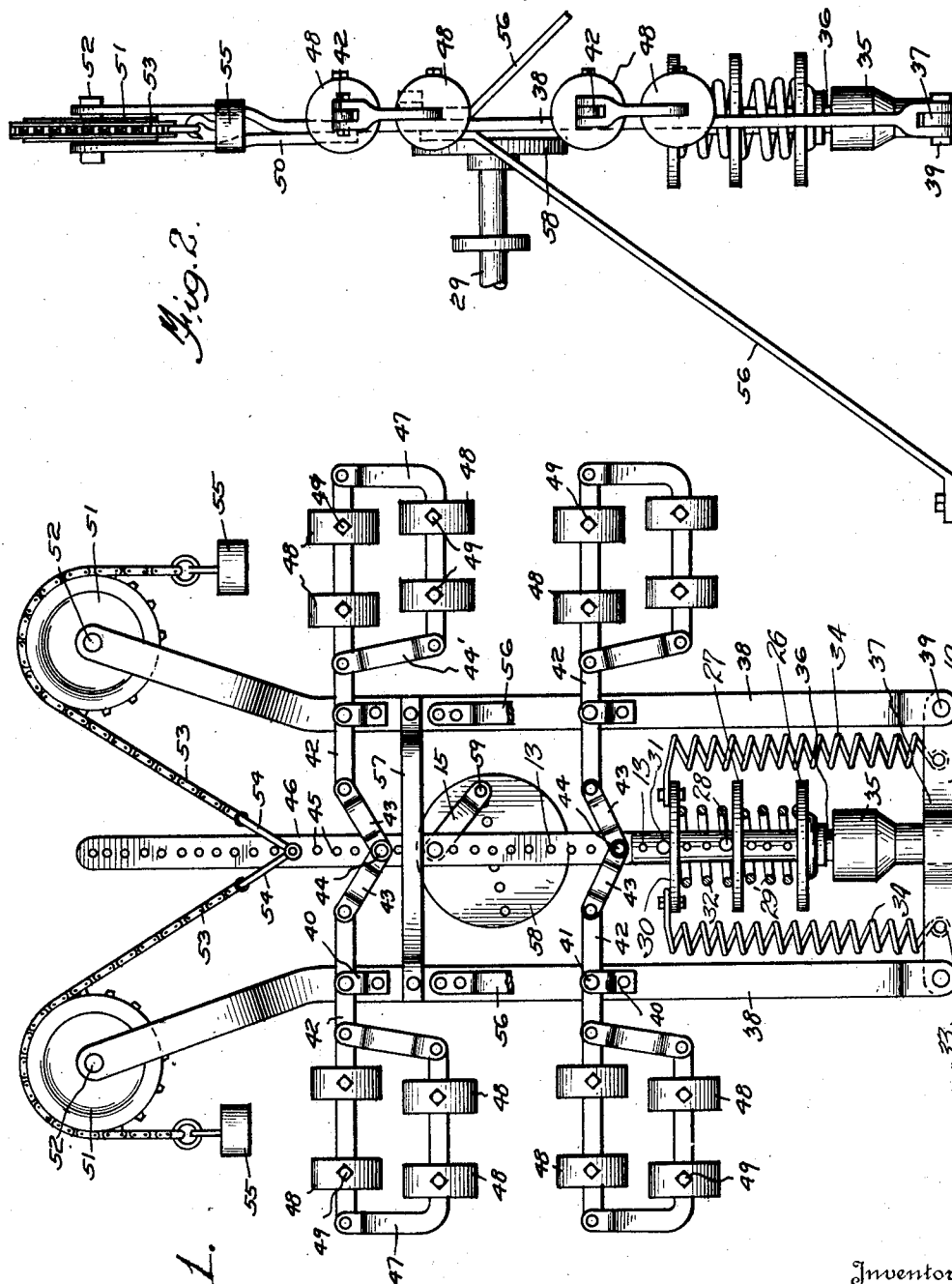
April 2, 1929.

L. S. STRIPLING

1,707,583

PUMP JACK

Filed Jan. 3, 1927



Inventor

Luke S. Stripling,

By

[Signature]

Attorney

UNITED STATES PATENT OFFICE.

LUKE S. STRIPLING, OF BURKBURNETT, TEXAS.

PUMP JACK.

Application filed January 3, 1927. Serial No. 158,672.

This invention relates to pump jacks and constitutes a continuation in part of my prior application for windmill and pump jack, filed June 3, 1926, Ser. No. 113,486, which issued on June 14, 1927, as Patent Number 1,632,322.

The principal and most important object of the present invention is to provide an improved and novel form of pump jack especially adapted for use in connection with such a windmill as is shown and described in my aforesaid prior patent.

With the above and other objects in view as will be hereinafter apparent, the invention consists in general of certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings and specifically claimed.

In the accompanying drawings like characters of reference indicate like parts in the several views, and:

Figure 1 is a front elevation of this pump jack.

Figure 2 is a side elevation thereof.

In the form of the invention shown in the accompanying drawings the head of the well casing 35 receives the sucker rod 36 and to this casing is clamped the base 37 of a U-shaped frame, the sides 38 of the frame being connected to the ends of the base 37 by bolts 39. Brackets 40 are secured in vertically spaced relation to each of the sides 38 and through these brackets and said sides pass pivot pins 41 on which are mounted levers 42 having short arms extending inwardly of the frames and connected by pivot links 43 to pivot bolts 44 passing through selected openings 45 in an extension 46 constituting the top end of the sucker rod 36 and normally aligned therewith. The longer arms of these levers project outwardly from the side members 38 and to the extremity of each longer arm is connected an L-shaped member 47, one leg of which is parallel to the respective lever 42 and has its extremity connected to this lever by a link 44'. Sliding weights 48 are mounted on the long arms of the levers 42 and the horizontal legs of the members 47 and are held in adjusted position by set screws 49. The sides 38 are inclined away from each other at their upper ends and secured to these upper ends are struts 50 which run parallel to the members 38 and in spaced relation thereto so that sprocket wheels 51 may be mounted on short shafts 52 extending through the upper ex-

tremities of the sides 38 and struts 50. Sprocket chains 53 pass over these sprocket wheels and are connected by clevis links 54 to a selected opening 45 in the extension 46. The other ends of these chains depend vertically and carry weights 55 which are preferably in the form of buckets or the like adapted to be filled with scrap metal to adjust the balance of the device in relation to the weight of the sucker rod. On top of the casing 35 rests a plate 26 and above this is a second plate 27 which is held from sliding up on the sucker rod by a pin 28 which may be inserted through any desired opening 13 to properly tension the coiled springs 29 surrounding the sucker rod between these plates. A third plate 30 is similarly positioned by a pin 31 and between the second and third plates is a coiled spring 32. The base 10 is provided with clamp bolts 33 and these bolts carry the lower ends of springs 34 which have their upper ends firmly secured to the plate 30. This pump jack is used where the weight of the sucker rod is heavy and economy in space is desirable since it is possible by the use of the multiple weights on the levers and the sprocket chains to produce a counterbalance for extremely heavy sucker rods and thus enable them to be moved with little power. Braces 56 are preferably used in this pump jack to maintain the sides 38 in vertical position and a tie 57 is also used to connect the upper ends of these sides 38.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

It is obvious that minor changes may be made in the form and construction of the invention without departing from the material spirit thereof. It is not, therefore, desired to confine the invention to the exact form herein shown and described, but it is desired to include all such as properly come within the scope claimed.

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

1. A pump jack for windmills of the class described including a U-shaped frame having a base and two upright arms, the base being adapted to be secured to a casing head, a sucker rod extending vertically through said casing head and having a series of openings therein, a crank disk, a crank pin on said disc, a link having pin connection with one of the openings in the sucker rod and pivoted on the crank pin, counterbalance levers pivoted on

the arms and having link connection with the sucker rod, sliding weights mounted on said levers, means for securing the weights in adjusted positions on the levers, weight supporting members suspended beneath said levers, and other weights carried by the weight supporting members and adjustable longitudinally thereof.

2. A pump jack for windmills of the class described including a U-shaped frame having a base and two upright arms, the base being adapted to be secured to a casing head, a sucker rod extending vertically through said casing head and having a series of openings therein, a crank disk, a crank pin on said disc, a link having pin connection with one of the openings in the sucker rod and pivoted on the crank pin, counterbalance levers pivoted on the arms and having link connection with the sucker rod, sliding weights mounted on said levers, means for securing the weights in adjusted positions on the levers, counterbalance springs surrounding the sucker rod, means on the sucker rod for engagement by said springs, means to adjust the tension of said springs, weight supporting members suspended beneath said levers, and other weights carried by the weight supporting members and adjustable longitudinally thereof.

3. A pump jack for windmills of the class

described including a U-shaped frame having a base and two upright arms, the base being adapted to be secured to a casing head, a sucker rod extending vertically through said casing head and having a series of openings therein, a crank disk, a crank pin on said disc, a link having pin connection with one of the openings in the sucker rod and pivoted on the crank pin, counterbalance levers pivoted on the arms and having link connection with the sucker rod, sliding weights mounted on said levers, means for securing the weights in adjusted positions on the levers, counterbalance springs surrounding the sucker rod, means on the sucker rod for engagement by said springs, means to adjust the tension of said springs, weight supporting members suspended beneath said levers, other weights carried by the weight supporting members and adjustable longitudinally thereof, idler wheels mounted on the upper ends of said arms, flexible tension elements extending over said idler wheels, means for connecting corresponding ends of said tension elements to a selected opening in the sucker rod, and weights carried by the remaining ends of the tension elements.

In testimony whereof I affix my signature.

LUKE S. STRIPLING.