No. 890,389. PATENTED JUNE 9, 1908.

J. M. WILSON.

COUNTERBALANCING ATTACHMENT FOR PUMPS.

APPLICATION FILED MAY 28, 1907.

Fig. 1.

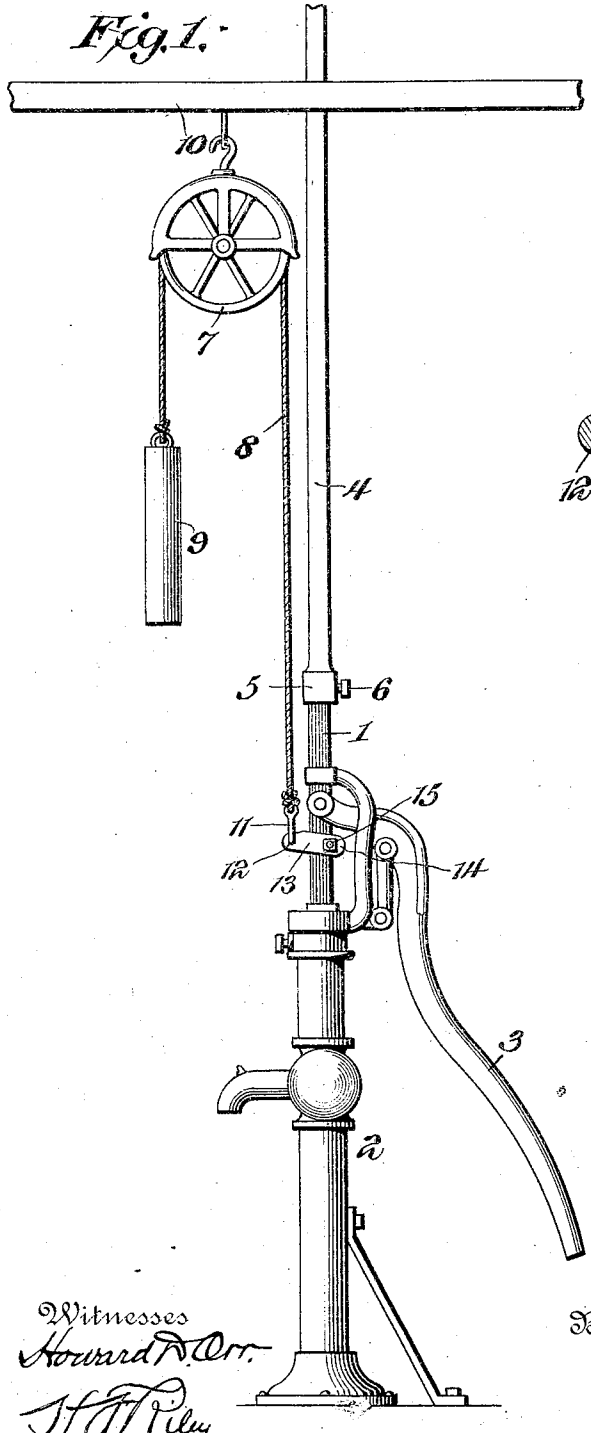


Fig. 2.

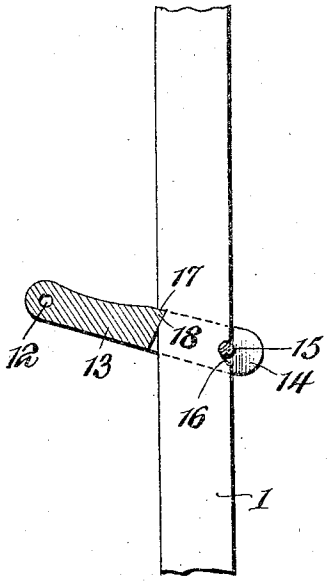
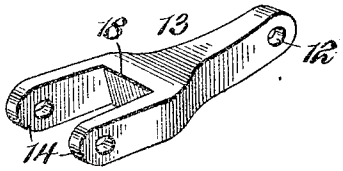


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN MALEY WILSON, OF SENECA, NEBRASKA.

COUNTERBALANCING ATTACHMENT FOR PUMPS.

No. 890,389. Specification of Letters Patent. Patented June 9, 1908.

Application filed May 28, 1907. Serial No. 376,154.

To all whom it may concern:

Be it known that I, JOHN M. WILSON, a citizen of the United States, residing at Seneca, in the county of Thomas and State of Nebraska, have invented a new and useful Counterbalancing Attachment for Pumps, of which the following is a specification.

The invention relates to a device for counter-balancing wind mill operated and other pumps to enable the same to be operated with a minimum amount of power.

The object of the present invention is to improve the construction of that class of counter-balancing devices having a chain or cable and a counter-balancing weight, and to provide means for enabling the chain or cable to be connected with the pump without interfering with the operating mechanism of the same. Also the invention has for its object to enable the counter-balancing device to exert a perpendicular pull on the pump rod to prevent lateral strain and consequent binding and friction.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a side elevation of a counter-balancing attachment, constructed in accordance with this invention and shown applied to a pump. Fig. 2 is an enlarged detail sectional view, illustrating the manner of connecting the cable with the pump. Fig. 3 is a detail perspective view of a bifurcated arm.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

1 designates a shank or rod, which extends upwardly from the pump 2 and which is connected with the piston of the pump. The pump 2, which may be of any preferred construction, is provided with an operating handle or lever 3 of the ordinary construction to enable the pump to be operated by hand when desired. The upper end of the shank or rod 1 is coupled to the pump rod 4 of a wind mill; the pump rod 4 is provided at its lower end with a socket 5, and the shank or rod 1 is secured within the socket by means of a set screw 6, but any other suitable means may be employed for connecting the pump rod 4 of the wind mill with the pump.

The counter-balancing device embodies a pulley 7 and a chain or cable 8, which passes over the pulley and which is provided at one of its ends with a suitable weight 9. The pulley is hung from one of the timbers of the wind mill tower, as shown at 10, but any other suitable support may be employed, as will be readily understood. The other end of the flexible connection 8 is provided with a hook 11, which engages an eye or opening 12 of an arm 13, which is provided with a bifurcated inner portion 14 to straddle the shank or rod 1. The bifurcated portion 14 is provided with two sides, which are arranged at the side faces of the shank or rod 1, and the arm is secured to the latter by means of a bolt 15, which pierces the sides of the bifurcated portion of the arm, and which is arranged in a notch 16 of the rear edge of the shank or rod 1. The front edge of the shank or rod 1 is provided at a point above the notch 16 with a notch 17 to receive the edge 18 of the arm at the inner end of the bifurcation. The notch 16 has a rounded surface and an upper shoulder to engage the bolt, and the notch 17 is substantially V-shaped to fit the edge 18 of the arm, which extends upwardly at an inclination. The particular construction for securing the arm to the shank or rod 1 permits the said arm to have a limited oscillatory movement independent of the shank or rod 1, but the weight maintains the edge 18 of the bifurcated arm in engagement with the notch 17, and the projecting portion of the arm holds the inner side of the flexible connection clear of the pump rod and the operating mechanism of the pump and prevents the said flexible connection from interfering with the operation of the pump. Also the arm enables the counter-balancing device to exert a direct upward pull on the pump rod, so that there will be no lateral strain and consequent frictional or binding action of the pump rod.

The weight 9 counter-balances the weight of the pump rod, the piston of the pump and the water lifted by the piston, and it will enable the pump to be conveniently operated by hand when desired. Also it will reduce to a minimum the power necessary

for operating the pump, and will enable a smaller wind mill to be employed for this purpose.

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

In a counter-balancing attachment for windmill operated pumps, the combination with a pump having a rod extended upward from the pump and provided at a point intermediate of the ends of the extended portion with a rear bearing notch and having an angular notch located at the front edge of the extended portion a short distance above the bearing notch and forming a stop shoulder, a windmill pump rod connected with and extending upward from the said rod, an arm having a bifurcated portion straddling the rod of the pump and engaging the shoulder of the front notch and extending upwardly and outwardly therefrom, a fastening device piercing the sides of the bifurcated portion of the arm and arranged in the said bearing notch and securing the arm to the rod of the pump, a pulley located at one side of the windmill pump rod at a point above the said arm, a flexible connection arranged on the pulley and having inner and outer portions, the inner portion being connected with the said arm and spaced from the said rods and arranged in parallelism therewith to exert a vertical pull on the said arm, and a weight connected with the outer portion of the flexible connection.

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

JOHN MALEY WILSON.

Witnesses:
H. J. Lowe,
C. M. Barnebey