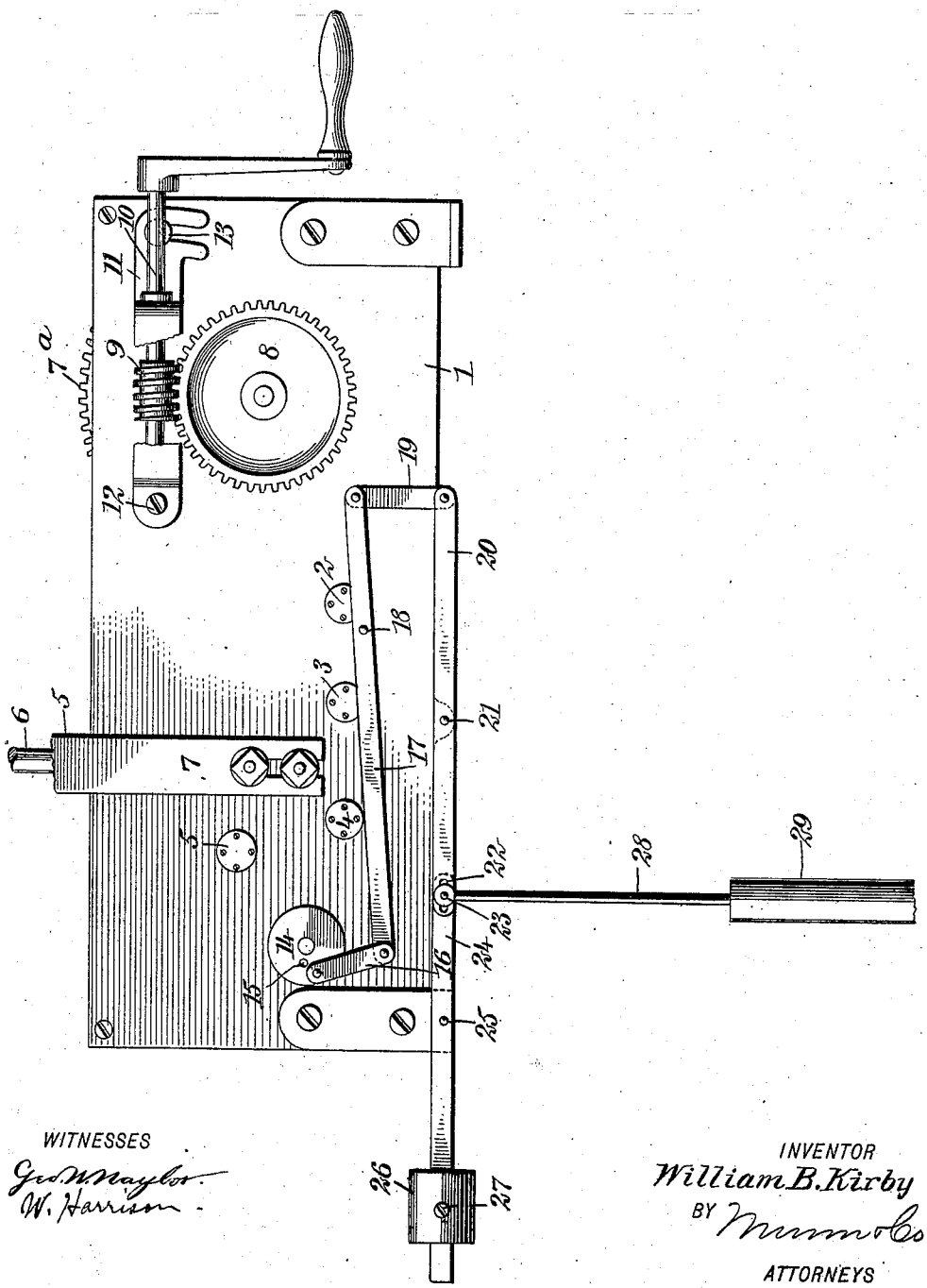
No. 858,873. PATENTED JULY 2, 1907.

W. B. KIRBY.

MECHANICAL MOVEMENT.

APPLICATION FILED JULY 5, 1906.



WITNESSES

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MECHANICAL MOVEMENT.

No. 858,873. Specification of Letters Patent. Patented July 2, 1907.

Application filed July 5, 1906. Serial No. 324,767.

To all whom it may concern:

Be it known that I, WILLIAM BUCKINGHAM KIRBY, a citizen of the United States, and a resident of Wellington, in the county of Collingsworth and State of Texas, have invented a new and Improved Mechanical Movement, of which the following is a full, clear, and exact description.

My invention relates to mechanical movements, my more particular object being to provide a movement for use upon mechanical motors to be employed, for instance, upon well pumps.

My improved mechanical movement increases the power of the motor so that less energy than usual is required in operating the motor.

My improved construction also presents certain advantages of construction hereinafter described.

Reference is to be had to the accompanying drawings forming a part of this specification, in which the figure represents a side elevation of my improved mechanical movement as applied to a mechanical motor.

The motor frame is shown at 1, and at 2, 3, 4, 5 are bearings for supporting the various revoluble shafts. The governor stem is shown at 6, and at 7 is a bracket which assists in supporting this stem and its accompanying parts. One of the gear wheels is shown at 7^a. At 8 is a worm wheel used for winding the motor. For this purpose a worm 9 is mounted upon a winding shaft 10 which may be turned by hand. This worm is revolubly connected with a latch 11, the latter being pivoted at 12. By turning the latch 11 the worm 9 may be thrown out of mesh with the wheel 8 so that there may be no connection between the worm 9 and the wheel 8 except when the operator desires to wind the motor. A pin 13 is adapted to support the latch 11 and serves as a spacing member for preventing the worm 9 from binding upon the gear 8. At 14 is a revoluble disk provided with holes 15 spaced at different distances from its center so as to vary the relations of power and speed within certain limits. A link 16 is pivoted to the disk 14 and to a lever 17, the latter being pivoted at 18 upon the frame or casing 1. The opposite end of the lever 17 is connected by a link 19 with another lever 20. This lever is fulcrumed at 21 and is provided with a slot 22. A pin 23 passes through this slot into the adjacent end of another lever 24. This lever is pivoted at 25 and is provided with a weight 26 slidably adjustable thereon. This weight is provided with a setscrew 27 whereby it may be moved to different distances from the pivot 25 so as to vary the virtual effect of the weight. A pitman 28 is connected with the pivot 25 and forms a part of a pump 29 which may extend downwardly into a well, if desired.

The operation of my device is as follows:—Power being communicated to the revoluble disk 14 the lever 17 is rocked upon its fulcrum or pivot 18 and is thence communicated by the link 19 to the lever 20, and from thence to the lever 24. The pitman 28 and other movable parts connected therewith and serving to pull downward by their weight upon the lever 24 are exactly balanced by the weight 26. The purpose of making the weight 26 adjustable upon the lever 24 is to enable the weight to exactly counter-balance the gravitational effect of the parts depending from this lever, together with the water that is to be lifted by the pump. When the motor is actuated there is a positive movement between the weight 26, the pitman 28 and other movable parts connected therewith, so that when the weight 26 ascends the other parts mentioned descend, and vice versa. By thus balancing the weight 26 against the water and the movable parts immediately concerned in raising it much less power is required to drive the motor than would ordinarily be deemed necessary.

As an independent proposition, the adjustment of the weight 26 upon the lever 24 is a matter of great convenience, for the reason that the water or other load to be raised may vary in weight, owing to the fact that the raising takes place through a greater altitude, and upon this account it is convenient to have the weight 26 adjustable, so that there may be no undue lost motion, and that the distribution of the strains and of the energy may be rendered as uniform as possible.

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

A device of the character described, comprising a reciprocating member, a pin connected therewith, a lever provided with a slot through which said pin extends, a weight connected with said lever and adapted to counterbalance said reciprocating member and the water or the like being raised thereby, a second lever provided with a slot through which said pin extends, said second lever being fulcrumed intermediate its ends, a third lever arranged above the second lever and substantially parallel therewith, said third lever being fulcrumed intermediate its ends, driven mechanism connected with one of the ends of said third lever, and a link connecting the free ends of said second lever and said third lever.

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

WILLIAM BUCKINGHAM KIRBY.

Witnesses:
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O. L. CONCH.