S. R. KING.
Stock-Pump.

No. 205,800. Patented July 9, 1878.

Fig. 1.

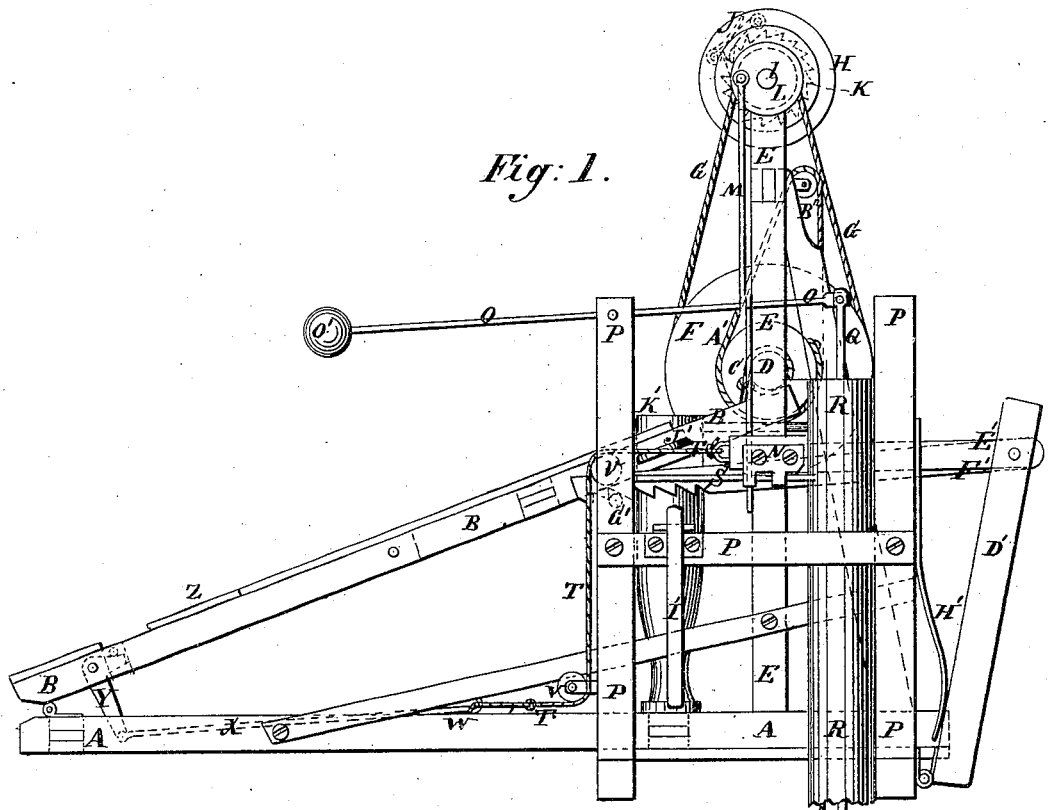
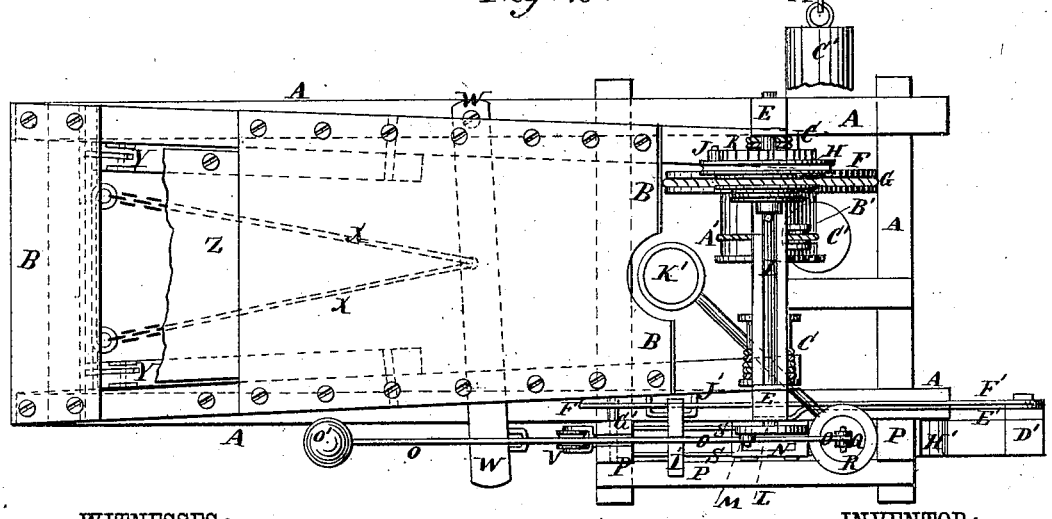


Fig. 2.



WITNESSES:
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UNITED STATES PATENT OFFICE.

SUMMIT R. KING, OF MASON, MICHIGAN.

IMPROVEMENT IN STOCK-PUMPS.

Specification forming part of Letters Patent No. **205,800**, dated July 9, 1878; application filed May 21, 1878.

To all whom it may concern:

Be it known that I, SUMMIT R. KING, of Mason, in the county of Ingham and State of Michigan, have invented a new and useful Improvement in Stock-Pumps, of which the following is a specification:

Figure 1 is a side view of my improved stock-pump. Fig. 2 is a top view of the same, part being broken away to show the construction.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish a mechanism which will enable the stock to pump water for themselves, thus rendering the use of a windmill or an attendant unnecessary, and which at the same time shall be so constructed as to adjust itself to be worked by a light or heavy animal, as may be required.

The invention consists in the combination of the hinged platform, the cords or chains, the shaft, the pulley, the endless chain or band, the loose pulley, the pawl and ratchet, the shaft, the crank or crank-wheel, the connecting-rod, the weighted lever, the cord, and the weight with the frame-work and the piston-rod of the pump; in the combination of the guide-rods, the guide-block, the cord, the lever, the chains, the elbow-levers, and the trap with the hinged platform, the frame-work, and the connecting-rod that operates the pump-lever; and in the combination of the pivoted connecting-bar, the hinged bar, the spring, the pivoted rack-bar, the pin, the weighted lever, and the staple or projection with the sliding guide-block, the hinged platform, and the frame, as hereinafter fully described.

A represents the base-frame of the machine. To the rear end of the base-frame A is hinged the lower end of a platform, B, to the upper corners of which are attached ropes or cords C. The cords C are wound around and their other ends are attached to the shaft D, the journals of which revolve in bearings in the upright frame E attached to the forward part of the base-frame A. To the shaft D is also attached a pulley, F, around which passes a belt or chain, G. The belt or chain G also passes around a pulley, H, which runs loosely upon a shaft, I, the journals of which work in bearings in the upper end of the posts of the frame E. To the pulley H is pivoted a pawl, J, which engages with the ratchet-wheel K attached to the shaft I, so that the said pulley when turned forward may carry the shaft I with it, but may be turned back without turning the said shaft.

I prefer to make the pulleys F H in the form of cone-pulleys, so that the band or chain G may be adjusted in one or the other of the grooves of said pulleys, according as the pump is to be worked in a deeper or shallower well.

To the end of the shaft I is attached a small crank or crank-wheel, L, to the crank-pin of which is pivoted the upper end of the rod M. The rod M passes down through the guide-block N, and has a hole or eye formed in it, through which passes the lever O. The lever O is pivoted to a post of the frame P attached to the forward part of one of the side bars of the base-frame A.

The forward end of the lever O is pivoted to the end of the piston-rod Q of the pump R. The guide-block N slides upon rods S attached to the posts of the frame P, and to its rear end is attached the end of the cord or chain T, which passes around a guide-pulley, U, pivoted to the rear post of the frame P, and around a guide-pulley, V, pivoted to the lower part of said rear post.

The end of the rope or chain F is attached to the end of the lever W, which passes across the base-frame A, and its other end is pivoted to the other side bar of said base-frame.

To the middle part of the lever W is attached the ends of two chains, X, the other ends of which are attached to the lower arms of two elbow-levers, Y, or to a rod connecting said ends. The levers Y are pivoted at their angles to the side bars of the hinged platform B, and upon the upper sides of their short arms rest pins attached to the side bars of the movable portion Z of the platform B.

The upper ends of the side bars of the movable part Z are pivoted to the side bars of the said platform, so that the said movable part serves as a trap in adjusting the mechanism. To the shaft D is attached the end of a cord, A′, which passes over the pulley B′, pivoted to the upper part of the frame E, and to its other end is attached a weight, C′.

To the lower part of the forward post of the frame P is hinged an upright bar, D′, to the upper end of which is pivoted the end of a bar,

E′. The other end of the bar E′ is pivoted to the sliding guide-block N.

To the upper end of the hinged bar D′ is also pivoted the end of the bar F′, which has rack-teeth formed in its lower edge to engage with the pin G′ attached to the inner side of the rear post of the frame P.

To the forward post of the frame P is attached a spring, H′, which rests against the inner side of the hinged bar D′ and forces it outward. To the cross-bar of the frame P is hinged a weighted lever I′, the inner arm of which projects into such a position as to be struck by a staple or projection, J′, attached to the side bar of the platform-frame P, so that the said lever may be raised by the staple or projection J′ as the platform B rises, and pressed against the lower edge of the rack-bar F′ to disengage it from the pin G′ and allow the guide-block N to be forced back by the action of the spring H′ against the hinged bar D′.

K′ represents the trough into which the water is pumped for the cattle to drink.

With this construction, as an animal, desiring a drink, walks up the platform B to reach the trough K′, its weight depresses the said platform, unwinding the cords C from the shaft D, and operating the rod M to work the pump-lever O, and thus raise the water through the pump into the drinking-trough.

As the animal retires from the platform B, the weight C′ again raises the forward end of the platform B into position to receive the next animal, the ratchet-wheel K and the pawl J allowing the platform to be raised without working the pump.

When an animal attempts to walk up the platform B, he steps upon the movable part or trap Z and moves the sliding guide-block N, which carries the end of the rod M with it, so that the position of the said rod M upon the lever O will be adjusted at a greater or less distance from the fulcrum of the said lever, according as a lighter or heavier animal is seeking a drink, so that the mechanism will be adjusted as the weight of the animal may require.

As the animal retires from the platform M and the said platform is again raised by the weight C, the weighted lever I′ is operated to disengage the rack-bar F and allow it and the guide-block N to be forced back by a spring, H′, setting the mechanism in position to be operated by the lightest animal.

To the free end of the pump-lever O is attached a weight, O′, which assists the mechanism when raising the piston-rod, and works against it when the piston-rod is being lowered, so that the said piston-rod may require the same force to move it in either direction.

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

1. The combination of the hinged platform B, the cords or chains C, the shaft D, the pulley F, the endless chain or band G, the loose pulley H, the pawl and ratchet J K, the shaft I, the crank or crank-wheel L, the connecting-rod M, the weighted lever O, the cord A′, and the weight C′ with the frame-work A E and the piston-rod Q of the pump R, substantially as herein shown and described.

2. The combination of the guide-rods S, the guide-block N, the cord T, the lever W, the chains X, the elbow-levers Y, and the trap Z with the hinged platform B, the frame-work A E P, and the connecting-rod M, that operates the pump-lever O, substantially as herein shown and described.

3. The combination of the pivoted connecting-bar E′ with the hinged bar D′, the spring H′, the pivoted rack-bar F′, the pin G′, the weighted lever I′, and the staple or projection J′ with the sliding guide-block N, the hinged platform B, and the frame P, substantially as herein shown and described.

SUMMIT REUBEN KING.

Witnesses:
MILTON RYAN,
ARTHUR REAMER.