

No. 668,933.

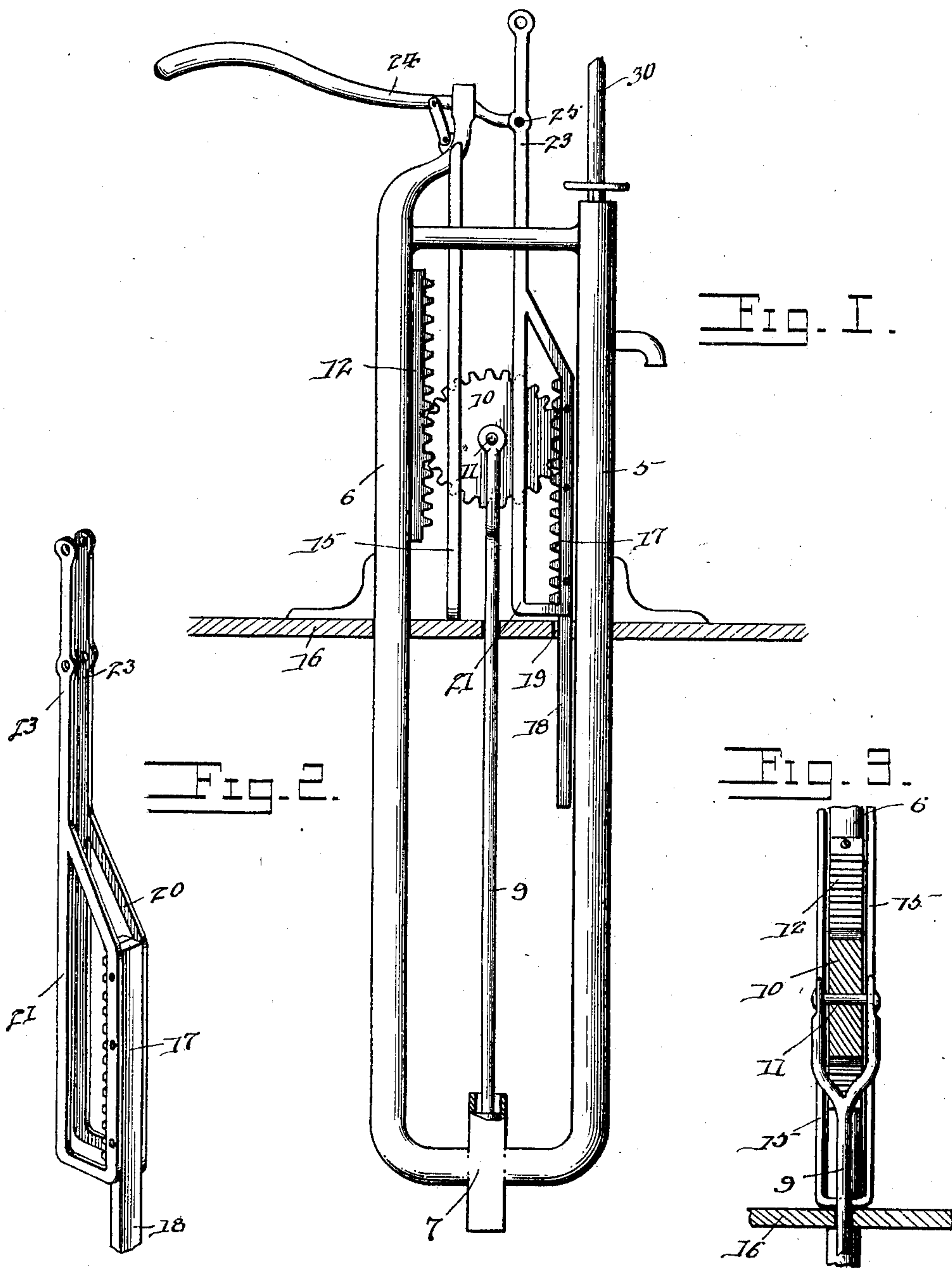
Patented Feb. 26, 1901.

W. L. ROSE.

PUMP.

(Application filed Apr. 5, 1900.)

(No Model.)



Witnesses:

F. E. Alden

Geo. H. Chandler

By T. H. S. Attorneys.

W. L. Rose Inventor

Chas. H. Co.

UNITED STATES PATENT OFFICE.

WILLIAM L. ROSE, OF LOUISVILLE, KANSAS.

PUMP.

SPECIFICATION forming part of Letters Patent No. 668,933, dated February 26, 1901.

Application filed April 5, 1900. Serial No. 11,716. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. ROSE, a citizen of the United States, residing at Louisville, in the county of Pottawatomie and State of Kansas, have invented a new and useful Pump, of which the following is a specification.

This invention relates to pumps in general, and more particularly to the plunger-operating mechanism thereof, the object of the invention being to provide a construction in which there will be an economy of power in the operation of the plunger and in which, moreover, the parts of the mechanism will be retained in their operative positions.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is an elevation showing a pump embodying the present invention. Fig. 2 is a perspective view showing the reciprocating rack with which the pump sweep or handle is engaged. Fig. 3 is a sectional view taken vertically through the gear-wheel in Fig. 1 and showing the piston-rod in elevation.

Referring now to the drawings, the pump of the present invention comprises a pump barrel or cylinder 5, the lower end of which is turned laterally and is connected to or formed integral with the similarly-turned end of a preferably tubular upright, the cylinder and upright lying parallel and being separated above their lower ends by an interspace in which is confined the operating mechanism. The pump-cylinder 5 and the upright 6 thus with their connected lower ends form a substantially U-shaped frame, the valve mechanism of the pump being contained in a short vertical cylinder 7, formed at right angles to the connected ends of the barrel and upright, this valve mechanism being of common form and requiring no specific illustration. In this cylinder 7 is disposed a piston having a rod 9, which extends upwardly between the barrel and upright, and the upper end of the rod is bifurcated, as shown in Fig. 3, and between the resultant ends is journaled a gear-wheel 10, said wheel being carried by a pin or axle 11, as shown.

Upon the face of the upright 6 adjacent to the pump-barrel there is secured a rack 12 adjacent to the upper end of the upright and in such position that it will lie above the surface of the ground, so as to be readily accessible, and with this rack is engaged the gear-wheel 10. The gear-wheel 10 is held from lateral displacement from the rack 12 by a frame 15, which is substantially U-shaped, the web thereof being secured to the well-cover 16, while the legs are extended upwardly at opposite sides of the gear-wheel and are connected to the inwardly-bent end of the upright 6 and on opposite sides of the latter. Engaged also with the gear-wheel 10 is a second rack 17, which is disposed diametrically opposite to the rack 12 and which rack has a downwardly-extending toothless portion 18, which operates in a guide-slot 19 in the well-cover. Attached to opposite side faces of this rack 17 are guide-frames 20 and 21, each of which is generally rectangular in outline, and one side of each frame is extended beyond one end thereof, as shown at 23, these portions 23 having the end of the sweep or pump-handle 24 pivoted between them through the medium of a pin 25. The frames proper lie close to the opposite side faces of the gear-wheel 10, and in this manner the rack 17 is held in engagement with said gear-wheel. With this construction it will be seen that as the sweep or handle 27 is operated the rack 17 will be reciprocated, with the result that the gear will be caused to roll upwardly and raise the piston-rod of the pump. With the arrangement shown the lifting power applied to the piston will be double the power applied to the rack 17, making the pump particularly valuable in lifting water from deep wells.

As shown in the drawings, the connecting-rod from a windmill may be connected between the ends of the frame-pieces 23, the water from the barrel 5 being delivered to the tank upon the mill-scaffold through a pipe 30, leading from the barrel and governor by the usual three-way valve.

It will of course be understood that in practice the specific construction shown may be varied and any suitable materials and pro-

portions may be used for the various parts without departing from the spirit of the invention.

What is claimed is—

5 In a pump, the combination of a base, a pump-barrel passed through the base, an upright disposed parallel with the barrel and passed through the base, said barrel and upright being connected below the base, a cylinder at the point of connection of the barrel and base, a piston-rod extending from the cylinder upwardly and through the base and having its upper end bifurcated, a pinion jour-
10 naled in the upper end of the rod between the bifurcations thereof, a rack fixed to the upright and with which the pinion is engaged, a second rack slidably mounted against the pump-barrel and with which the pinion is en-
15 gaged, the second rack having slidable bearing in the base, a guide-frame attached to

the upright and to the base and inclosing the pinion at one side of its center, a second guide-frame attached to the second rack and inclosing the pinion at the opposite side of its center from the first guide-frame, said 25 frame having an upwardly-extending portion projecting above the barrel and upright and adapted for attachment of an operating-pitman, and a handle having link connection with the upright and pivoted to the upwardly- 30 extending portion of the second guide-frame, whereby an increased leverage is secured.

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

WILLIAM L. ROSE.

Witnesses:

ED SULLIVAN,
ALF SWITZER.