

(No Model.)

A. W. SHIDLER & W. P. HENDRICKSON.
PUMP.

No. 529,966.

Patented Nov. 27, 1894.

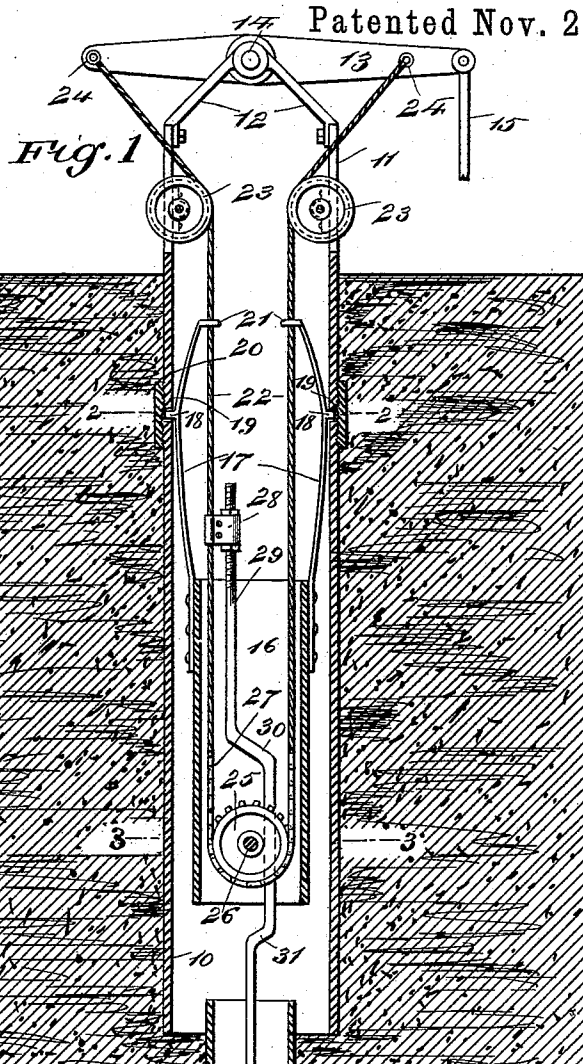


Fig. 2

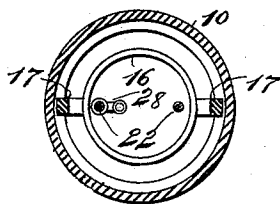
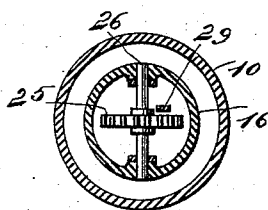


Fig. 3



WITNESSES:

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UNITED STATES PATENT OFFICE.

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TERRITORY OF NEW MEXICO.

PUMP.

SPECIFICATION forming part of Letters Patent No. 529,966, dated November 27, 1894.

Application filed February 14, 1894. Serial No. 500,119. (No model.)

To all whom it may concern:

Be it known that we, ARTIMUS W. SHIDLER and WILLIAM P. HENDRICKSON, both of Farmington, in the county of San Juan and Territory of New Mexico, have invented a new and Improved Pump, of which the following is a full, clear, and exact description.

Our invention relates to improvements in pumps and particularly to such as are adapted for use in deep wells. The object of our invention is to produce a very simple and easily operated pump, which may be conveniently applied to a well, especially a driven well, and which obviates the use of heavy pump rods and much other mechanism used in connection with pumps of the usual construction.

To these ends our invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a broken vertical section of a pump, showing our improvements. Fig. 2 is a sectional plan on the line 2—2 of Fig. 1. Fig. 3 is a sectional plan on the line 3—3 of Fig. 1.

The well is lined with the usual pipe 10 which may be of any necessary length and which projects above ground, as shown at 11, so as to form a convenient support for the brackets 12 in which the pump lever or handle 13 is held, the lever being fulcrumed near the center, as shown at 14, so that it may oscillate vertically, and the lever may be operated by hand or may be provided with a pitman 15, so as to be moved by power.

In the well pipe 10 is held a hanger 16, the body of which is preferably tubular, and this hanger may be arranged at any necessary depth. The hanger is supported by spring arms 17 which normally spring outward against the wall of the well pipe and which are attached to the upper portion of the hanger body, these arms having, on their outer sides, lugs 18 which are adapted to enter recesses or notches 19 in the sides of the well pipe so as to support the hanger. As illustrated the recesses are at the junction of two

sections of the pipe, which are united by a coupling 20, but the notches may be made in any convenient way.

The arms 17 curve inward, near their upper ends, and terminate in eyes 21 which serve as guides for the operating cable 22 which extends downward into the hanger to operate the sucker rod, as hereinafter described, and the members of which extend upward over guide pulleys 23 and are attached, as shown at 24, to the handle lever 13 at opposite sides of the fulcrum of the lever. The lower portion of the cable runs on a sprocket wheel 25, journaled on a shaft 26, which is supported transversely in the lower portion of the hanger 16, as shown best in Fig. 3, and the cable at this point is formed of a chain 27 to prevent it from wearing excessively and also to enable it to be used without slipping.

To one member of the cable 22 is secured, by means of the clamp 28, a sucker rod 29 which extends downward through the hanger 16 and is bent laterally, as shown at 30 and 31 in Fig. 1, to enable it to pass the shaft 26. The sucker rod 29 has its lower end secured to a pump valve 32, which may be of any usual construction, this valve, as illustrated, working in a pipe 33 of less diameter than the pipe 10, but it will be understood that so far as the principle of our invention is concerned, it makes no difference whether or not the well is of uniform diameter.

The pump is operated by oscillating the handle lever 13 which pulls the cable 22 first in one direction and then in the other, the cable being held taut on the wheel 25 and, as it moves backward and forward it causes the sucker rod 29 to be reciprocated vertically, thus working the pump valve 32 and pumping water in the usual way. It will be seen that the whole mechanism of the pump is very simple and light, that it can be packed into a small compass and conveniently transported, and that it may be easily applied to or removed from a well.

To apply the pump to a well, the sucker rod is clamped to the cable 22 in the right place, the spring arms 17 are held together by means of a gas pipe slipped over their upper ends, and the whole mechanism is lowered downward into the well pipe until the

lugs 18 come near the recesses in which they are to rest, when the gas pipe is pulled off and the lugs 18 are permitted to spring into their recesses and the pump is then ready
5 for use.

When the pump is to be removed, the arms are simply forced together by means of the gas pipe being let down by a cord, from the top, and collapsing the levers 17 and bringing out the lugs 18 from their recesses and
10 the whole affair may be pulled out.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

15 1. A pump, comprising a hanger, means for suspending the hanger in a well, a pulley journaled in the hanger, a tilting lever adapted to be arranged above the well, a cable carried by the lever and extending around the
20 pulley in the hanger, and a sucker rod carried by the cable and provided with the usual pump piston, substantially as described.

2. The combination, with the well pipe, of a hanger therein, a detachable fastening device to support the hanger in the pipe, a tilting lever mounted above the well pipe, a pulley in the hanger, a cable extending around
25 the pulley and having its ends secured to the lever on opposite sides of the fulcrum of the

lever, and a sucker rod carried by the cable 30 and provided with the usual pump piston, substantially as described.

3. The combination, with the well pipe having recesses therein, of the hanger, the spring arms attached to the hanger and provided 35 with lugs to enter the recesses in the well pipe, a tilting lever above the well pipe, a pulley in the hanger, a cable extending around the pulley and secured to the lever on opposite sides of its fulcrum, and a sucker rod clamped 40 to the cable and provided with the usual pump piston, substantially as described.

4. The combination, with the well pipe and the hanger therein, of the suspending arms of the hanger fastened to the well pipe and 45 provided with guide eyes, the pulley in the hanger, the tilting lever above the well pipe, the cable running around the pulley and attached to the lever on opposite sides of its fulcrum, and the sucker rod clamped to the 50 cable and provided with the usual pump piston, substantially as described.

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