C. MEANS.

PUMPS TO REMOVE WATER AND PREVENT DEPOSITS IN OIL-WELLS.

No. 194,704. Patented Aug. 28, 1877.

Fig. 1.

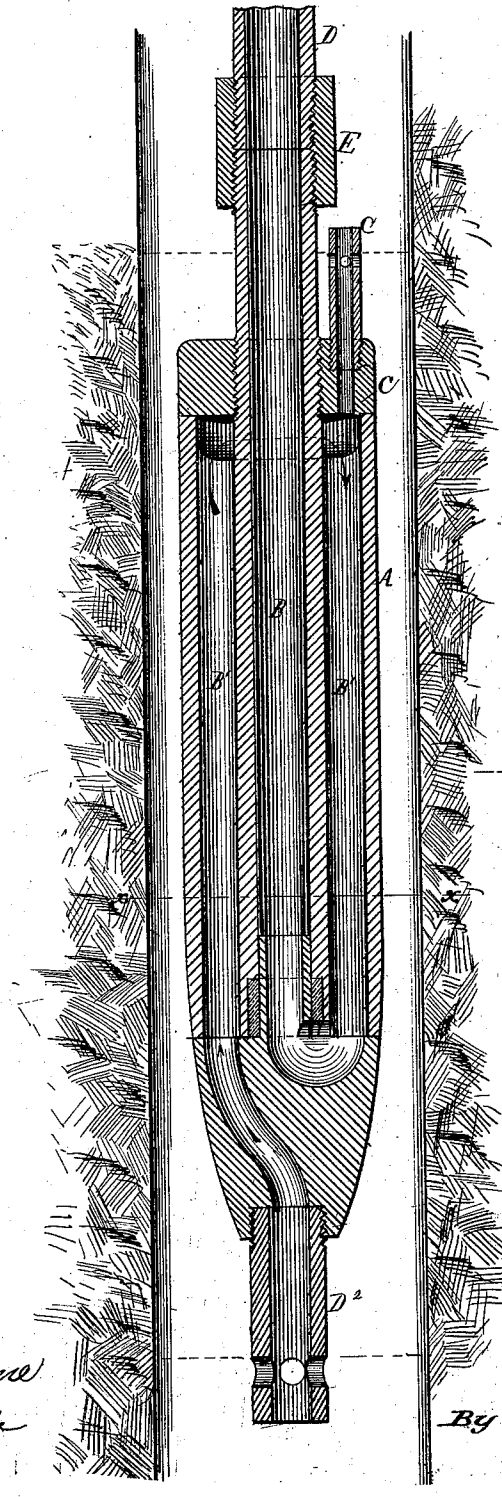
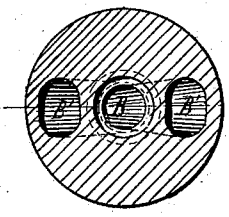


Fig. 2.



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UNITED STATES PATENT OFFICE.

CHARLES MEANS, OF MODOC CITY, PENNSYLVANIA.

IMPROVEMENT IN PUMPS TO REMOVE WATER AND PREVENT DEPOSITS IN OIL-WELLS.

Specification forming part of Letters Patent No. **194,704**, dated August 28, 1877; application filed April 24, 1877.

To all whom it may concern:

Be it known that I, CHARLES MEANS, of Modoc City, in the county of Butler and State of Pennsylvania, have invented a new and useful Improvement in Oil-Wells, of which the following is a true and exact description:

Experience has shown that in oil-wells where water is allowed to remain it will soon cause a gum or "paraffine," as it is technically termed, to form on the oil-bearing rock or sand, and thus obstruct the free outflow of oil therefrom.

The object of this invention is to remove water from and keep oil on the rock or sand, thereby preventing the formation of paraffine, and rendering unnecessary the use of torpedoes or scrapers for the purpose of clearing it out. This I accomplish by means of a return working-barrel, the construction and operation of which will hereinafter be more fully explained.

In the accompanying drawing, which shows a vertical section of my improvement, A is the return working-barrel, its greatest exterior diameter being less than the bore of the well, having a main chamber, B, which is connected directly with the lift-pipe D by any suitable means, as shown at E. The barrel has a return-channel, B′, around the main chamber B, opening at one end into the bottom of said main chamber. To the other end the suction-pipe D^2 is connected. C is a vent-pipe opening into return-channel B′ at *c*, and extending upward to the top of the oil-bearing stratum.

My return working-barrel is sunk until the end of the suction-pipe has passed the bottom line of oil-bearing rock or sand, the vent-pipe reaching to the upper level thereof. The pump, being put in operation, will suck air only until the oil rises above and seals the vent-pipe C, when the pump will begin to lift the liquids from the well—first the contents of the return working-barrel, then the water from the bottom of the well, then the oil.

It will be readily seen that, the water being once reduced to a level with the bottom of the oil-bearing rock, it will be impossible for it to again rise above that level while the pump is kept in operation, and that said rock will be continually covered with oil from top to bottom, excluding air as well as water, for the vent-pipe will not permit the oil to fall below the top of the oil-bearing stratum.

What I claim as my invention, and desire to secure by Letters Patent, is—

In an oil-well, the combination, substantially as specified, of the return working-barrel, the suction-pipe, and the vent-pipe.

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

CHARLES MEANS.

Witnesses:

ALBERT B. TERRELL,

CHARLES COCHRAN.