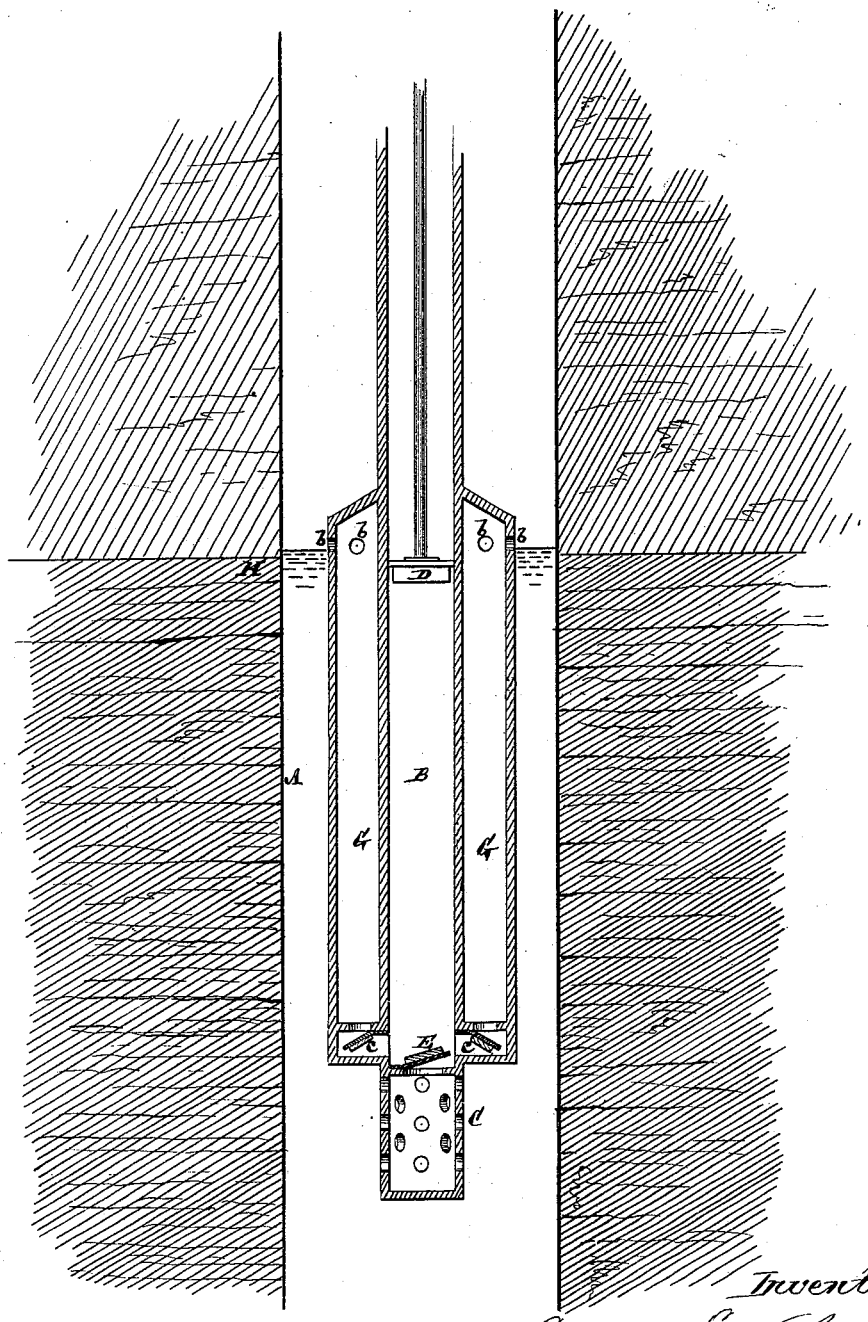
E. E. SWETT.

Working-Barrel for Oil-Well.

No. 200,357. Patented Feb. 12, 1878.



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UNITED STATES PATENT OFFICE.

EDWARD E. SWETT, OF OLEAN, NEW YORK.

IMPROVEMENT IN WORKING-BARRELS FOR OIL-WELLS.

Specification forming part of Letters Patent No. **200,357**, dated February 12, 1878; application filed November 14, 1877.

To all whom it may concern:

Be it known that I, EDWARD E. SWETT, of Olean, in the county of Cattaraugus and State of New York, have invented a new and useful Improvement in Working-Barrels for Oil-Wells, of which the following is a description, reference being had to the accompanying drawing, forming part of this specification.

This invention, which is applicable to oil-wells in which a suction-pump is used to extract the oil, has for its object to provide alike for keeping the oil-bearing rock flooded with oil, and for removing the water which collects in the lower portion of the well. By keeping the rock flooded with oil, paraffine or B. S. oil is prevented from collecting on the sides of the well by the running of the oil down the same.

The invention consists in a novel construction of the pump or working barrel, whereby the desired end, as hereinbefore specified, is attained in a most effective manner, and the pump may be kept continuously working.

In the drawing, which represents a vertical section of an oil-well, in part, with my invention applied, A represents the well; B, the working-barrel of the pump, and C the usual lower perforated pipe attached to the working-barrel. D is the pump-plunger, provided with a delivery-valve, as usual; and E is the foot or suction valve of the pump, opening upward.

Connecting with the lower end of the working-barrel B, and communicating with the latter at its base, but above the suction-valve E of the pump, are two small pipes or ducts, G, running upward within the well, outside of the working-barrel, to a height which is up to or above the level of the oil-bearing stratum or rock H of the well. These "ducts or air-chambers," as they may be termed, are of a close construction, excepting that said ducts have inlets *b* at or near their tops, and are in communication at their bottoms, as hereinbefore described, with the lower end of the pump-barrel above the main suction-valve E, the apertures establishing which communication being closed by valves *c*, opening inward toward the barrel of the pump.

From the foregoing description it will be obvious that, without stopping the operation of the pump, the latter will continue to suck or draw as long as the inlets *b* at the top of the ducts G are covered with oil; but, so soon as said inlets are uncovered with oil, air will enter the ducts G by the inlets B, and the action of the pump, so far as its drawing capacity is concerned, will be speedily stopped, thus providing for the oil-bearing rock H to be flooded again, or, in other words, for its flooding with the oil to be kept up.

I am aware that it has before been proposed to combine with the pump an oil-rock-preserving tube, arranged to incase the pump, for the purpose of causing the water-column below the influence of the suction to maintain the oil, or oil and water, as high as the top of the oil-rock, to protect it from paraffine deposit, and such oil-rock-preserving case or tube having a water-packing combined with it, to prevent the flow of the oil to the pump under or through the lower portion of said case. In my construction and combination of parts, however, I do not employ a case surrounding the working-barrel of the pump, but only two small tubes, G, leading above the oil-bearing rock, and provided with two inverted valves, *c*, which are necessary to the success of the device. Nor am I dependent upon a water-column below the influence of the suction to maintain the oil, or oil and water, as high as the top of the oil-rock, or thereabout—in fact, have no such water-column, nor any water-packing to prevent the oil from flowing into the pump.

I claim—

The combination of the inverted or inwardly-opening foot-valves *c* and the air-pipes G, having openings in the upper ends, and arranged to project above the oil-bearing rock, with the working-barrel B of the pump, its suction-valve E, and lower perforated pipe C, substantially as shown and described.

EDWARD E. SWETT.

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