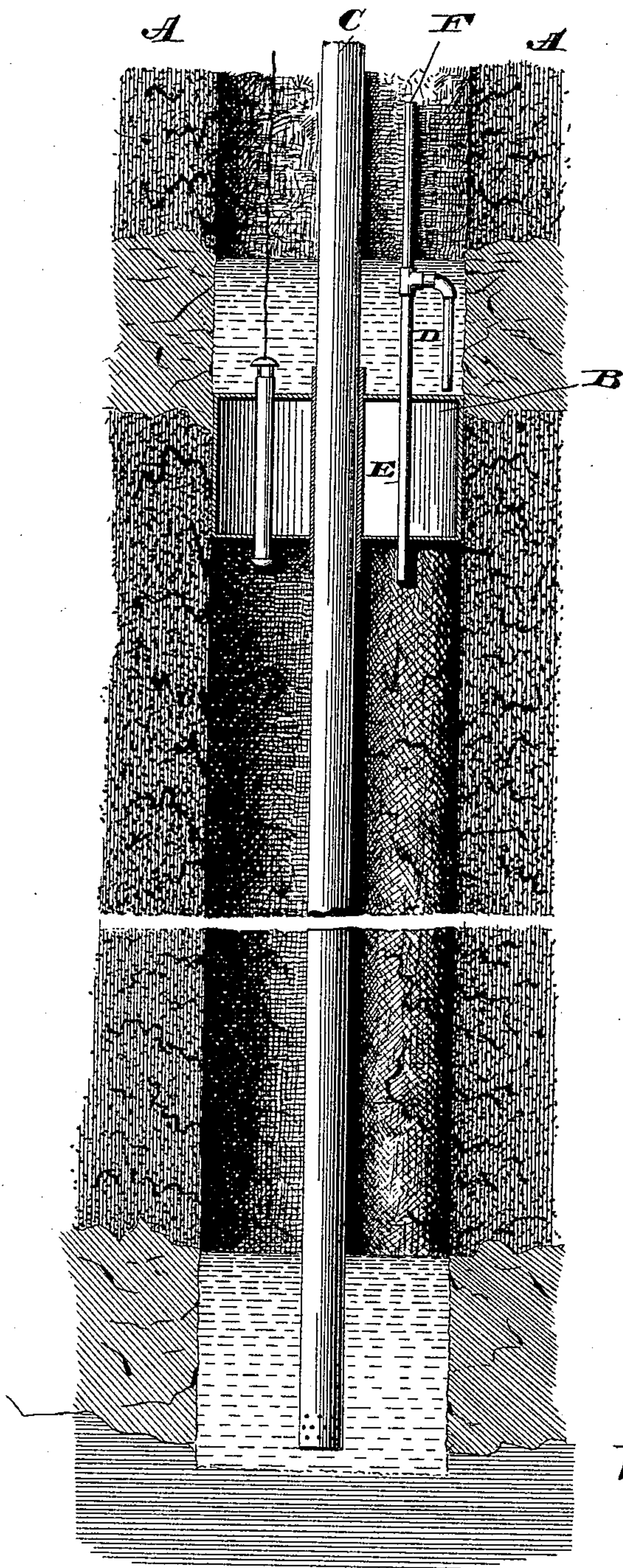


(No Model.)

W. M. COPELAND.
DEVICE FOR OPERATING OIL WELLS.

No. 436,216.

Patented Sept. 9, 1890.



Witnesses
L. S. Elliott,
W. M. Johnson

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UNITED STATES PATENT OFFICE.

WILLIAM M. COPELAND, OF STEWART'S RUN, PENNSYLVANIA.

DEVICE FOR OPERATING OIL-WELLS.

SPECIFICATION forming part of Letters Patent No. 436,216, dated September 9, 1890.

Application filed July 24, 1890. Serial No. 359,800. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. COPELAND, a citizen of the United States of America, residing at Stewart's Run, in the county of Forest and State of Pennsylvania, have invented certain new and useful Improvements in Devices for Operating Oil-Wells; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in devices for operating oil-wells, and is used in connection with the packing, so that the oil from both the second and third sands can be pumped from the well at the same time; and it consists in providing an ordinary packing with a pipe which extends through the same, and is provided with connections comprising pipes which extend in opposite directions, so that the well above the packing will be kept flooded, and the oil therefrom will descend below the packing to the third sand or end of the discharge-pipe, thus providing a means whereby the second sand can be kept flooded and paraffine prevented from being deposited upon the walls of the well above the packing.

It is found in practice that in order to make the second sand in oil-wells productive said sand must be kept flooded with oil. My arrangement does this in allowing the escape of oil from the second sand to the lower or third sand only when the oil fills up to the top of the second sand, and keeps the portion of the well above the packing at all times flooded.

In the accompanying drawing the figure is a sectional view showing an oil-well with my improvements applied thereto, said improvements being shown in connection with an ordinary packing.

A refers to the walls of the well, and B to a packing of ordinary construction.

C refers to the discharge-pipe of the well, which extends to the bottom thereof and passes centrally through the packing B. Through the packing passes a pipe E, to the upper end of which is secured a T-connection, in which is secured a short connection having an elbow-joint, to the lower portion of which is secured a pipe D, which extends downwardly toward the packing. A pipe F is also secured to the T-connection, through which the gas which may accumulate in the upper portion of the well below the packing can escape.

In practice the oil will flow into the well above the packing B and below the same, keeping the second sand flooded. When in pumping the oil is exhausted from the lower sand or below the packing B, the oil from the second sand or that above the packing will flow through the pipe D and its connections downwardly through the tube E into the lower compartment of the well. The gas in the lower compartment will force itself through the tubes E and F and can be discharged into the atmosphere.

The hereinbefore-described device is extremely simple, and provides a means for allowing the oil from the second sand to escape and be pumped to the surface of the ground, together with the oil from the third sand, at the same time keeping the second sand flooded.

Though this device is shown in connection with an ordinary packing, it is obvious that any style of packing may be used without departing from the spirit of my invention.

It will be noticed that the pipe F extends only far enough above the packing to allow the gas to escape and sufficiently far up to prevent the oil from entering the pipe E except through the downturned end or connection D, and that when gas passes through the pipe E it will pass upwardly and not escape through the pipe D, as the seal will prevent such escape. It is obvious that as the pipe F is open-ended the pipes D and E, with their connections, will not act as a siphon.

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

1. The combination, with the packing of an
5 oil-well, for the purpose set forth, of a tube E, extending through said packing and provided with a downwardly-bent pipe D, communicating therewith above the packing, substantially as set forth.
- 10 2. The combination, with a packing for oil-wells, of a pipe or tube extending through the same, a downwardly-bent pipe communi-

cating with the same above the packing, and a gas-discharge pipe F, substantially as set forth.

In testimony whereof I affix my signature in
presence of two witnesses. 15

WILLIAM M. ^{his} × COPELAND.
mark

Witnesses:

F. E. METCALF,
JAS. T. BRENNAN.