W. W. JAMIESON.

Water-Packer for Oil-Wells.

No. 207,281. Patented Aug. 20, 1878.

Fig. 1.

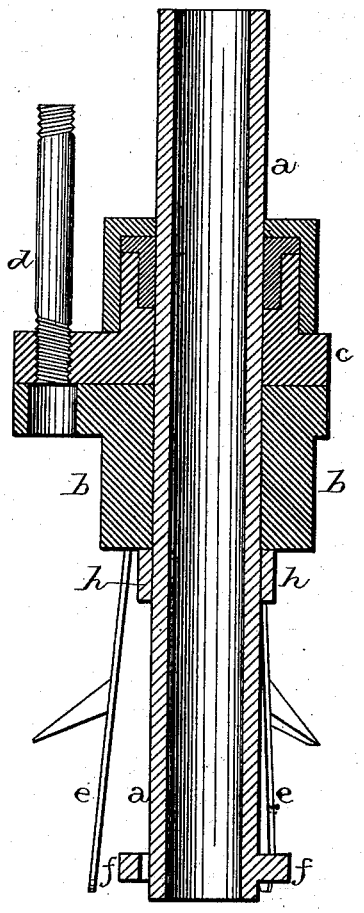


Fig. 2.

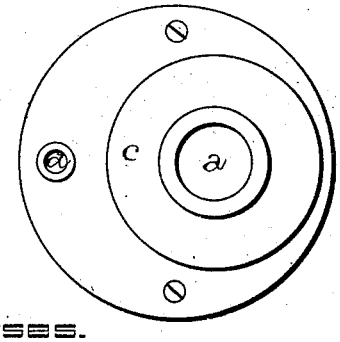
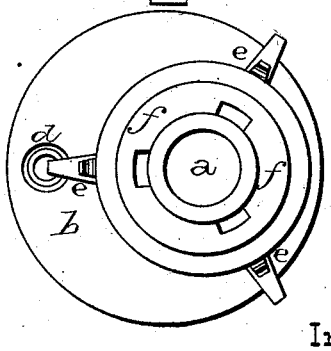


Fig. 3.



Witnesses.

J. B. Garner.

W. S. D. Haines.

Inventor:

W. W. Jamieson.

per

J. A. Lehmann.

Atty.

UNITED STATES PATENT OFFICE.

WILLBURN W. JAMIESON, OF FOXBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO J. A. SCHELL, OF SAME PLACE.

IMPROVEMENT IN WATER-PACKERS FOR OIL-WELLS.

Specification forming part of Letters Patent No. **207,281**, dated August 20, 1878; application filed June 8, 1878.

To all whom it may concern:

Be it known that I, WILLBURN W. JAMIESON, of Foxburg, in the county of Clarion and State of Pennsylvania, have invented certain new and useful Improvements in Water-Packers for 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in water-packers for oil-wells; and it consists in the introduction of a tube through the water-packer for the escape of gas from below and for the passage of water that may have accumulated above.

It consists, also, in the introduction of a packing-box for the pumping-tube in connection with the water-packer, to allow an expansion of the tube when heated by the introduction of steam without becoming fastened within the packer, so that it may be moved up or down at all times. We have also adopted means by which the water-packer can be firmly held at any height within the well and again loosened, all of which will be fully described hereinafter.

The accompanying drawings represent my invention.

Figure 1 is a vertical section of my invention. Fig. 2 is a plan, and Fig. 3 an inverted view, of the same.

a represents a pumping-tube, passing through the packing-box *c*, placed on or within the water-packer *b*. The water-packer is of the usual construction, but the hole through which the tube *a* passes is out of its center to give space for the pipe *d*, which has its opening downward under the water-packer and reaches up above the mouth of the well. This pipe *d*, when in position, serves for the passage of gas from below; but when it is desired to let water from above down into the well it becomes necessary to remove the pipe, and to avoid loosening any of the joints of the pipe the thread of the screw which holds the pipe in the water-packer is left-handed, so that in turning all the joints are rather tightened, while the pipe itself is unscrewed to give vent to water through the hole from which it has been removed.

In or on the water-packer, surrounding the tube *a*, is the packing-box *c*. This box is intended to preserve the movability of the pumping-tube by yielding to its expansion when heated and following its contraction when cooling, so as to maintain the control of raising or lowering it under all circumstances without causing leakage. It is of frequent occurrence to find the water-packer wedged in the well, so that all attempts to lift it from its position prove futile. It therefore is important to find means which will assist in freeing it, so that it may be withdrawn. To this end we surround the joint of the tube *a*, below the water-packer, by a ring or band, *h*, so that by suddenly raising the tube this ring is made to strike violently against the under side of the water-packer, producing a concussion or jarring, which will materially assist in loosening the same, or facilitate its being lifted up by means of the tools generally employed for that purpose.

From the lower edge of the water-packer project rods *e*, made of spring-steel or other suitable material, each provided at its outside with a downward-slanting point or hook. These spring-bars are bent or set so as to project the hooks beyond the periphery of the water-packer that they catch in the side of the well and prevent its descent, but do not interfere when the same is drawn upward, on account of their downward-slanting form and the yielding of the springy material of which the bars are made.

In order to introduce the water-packer into a well, the lower ends of the bars *e* are pressed inward toward the tube *a* and inserted into the holes in the ring *f*, made and placed there for that purpose. When in this position the points of the hooks are within the periphery of the water-packer; hence offer no obstacle to its sliding down into the well. At any point within the well where it is desired to secure the water-packer the tube *a* is pushed down, when the springs, thereby liberated

from their confinement in the holes of the ring *f*, reassume their former position and drive the hooks in or against the wall of the well, and prevent any farther descent.

Having thus described my invention, I claim—

1. The ring or band *h*, surrounding the tube *a*, as a means to produce a jar or concussion against the under side of the water-packer, substantially as described.

2. The spring-bars *e*, provided with hooks, in combination with the ring *f*, substantially as and for the purpose described and set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 1st day of June, 1878.

WILLBURN W. JAMIESON.

Witnesses:

JAMES A. SCHELL,

M. C. CARRINGER.