

(No Model.)

O. A. KNOX.
OIL WELL PUMPING MECHANISM.

No. 482,011.

Patented Sept. 6, 1892.

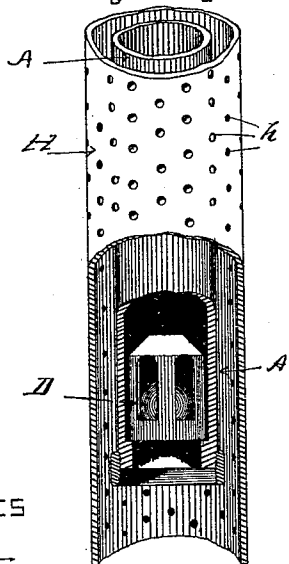
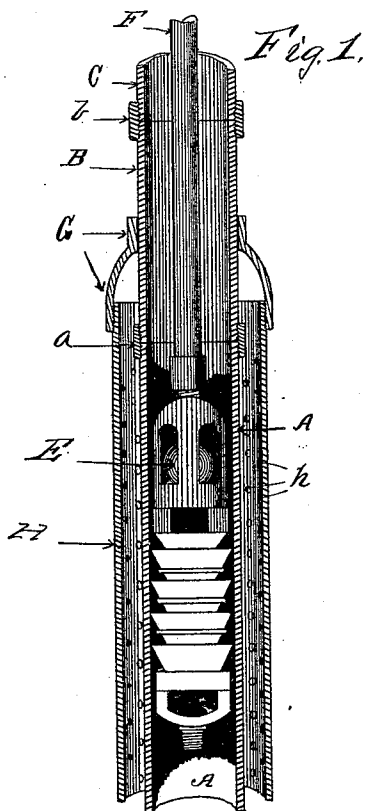
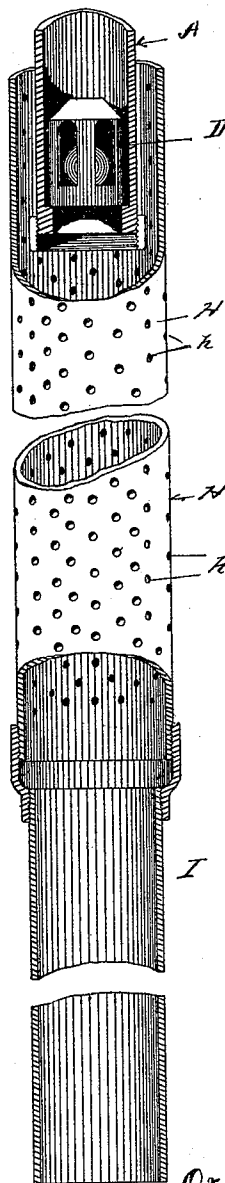


Fig. 2.



WITNESSES

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ORRIN A. KNOX, OF BRADFORD, PENNSYLVANIA.

OIL-WELL PUMPING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 482,011, dated September 6, 1892.

Application filed May 21, 1891. Renewed August 2, 1892. Serial No. 441,970. (No model.)

To all whom it may concern:

Be it known that I, ORRIN A. KNOX, a citizen of the United States, residing at Bradford, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Oil-Well Pumping Mechanism; 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 drawings, and to the letters of reference marked thereon, forming part of this specification.

My invention consists in the improvements in oil-well pumping mechanism hereinafter set forth and explained, and illustrated in the accompanying drawings, in which—

Figure 1 is a sectional view of an oil-well pump embodying my invention. Fig. 2 shows a sectional view of a modification of the same.

The objects of my invention are, first, to provide an oil-well pump with a perforated outside casings surrounding the working barrel, through which the oil will drain to the pump; second, to so connect said perforated shell with the tubing above the working barrel of the pump that it can be lowered to the bottom of the well and lifted out of the well by means of the tubing, yet when in place will rest upon the bottom of the well instead of being suspended from the tubing. Other features of my invention appear hereinafter in the specification and claim.

In the construction of my invention shown in the drawings, A is the working barrel of the pump; B, a short section of tubing secured to the upper end thereof by means of a thimble *a*, and C the upper section or sections of the tubing coupled to the upper end of the section B by a thimble *b* and reaching thence to the top of the well, from which tubing the working barrel A is suspended when in place in the well.

D is the standing valve in the lower end of the working barrel A, E the suction or lifting valve of the pump, and F the sucker-rod secured to the lifting-valve E and extending to the top of the well, and by means whereof the valve E is operated in the working barrel A, all of these parts being of usual and ordi-

nary construction. Upon the short section B of the tubing secured to the upper end of the working barrel I place a collar G, adapted to slide up and down between the thimbles *a* and *b* on the ends of said section of tubing, but not pass over them. The lower end *g* of the collar G, I enlarge sufficiently to receive the upper end of a perforated pipe H, which pipe is large enough to pass freely down over the outside of the working barrel A. I secure the pipe H in the collar G, preferably by screwing it therein; but the collar G can be made integral with the pipe H, if desired. The pipe H, I perforate with small holes *h*, preferably throughout its entire length to the bottom of the well, as illustrated in Fig. 1. I can, however, if desired, extend the perforated pipe H some distance downward and then couple thereto a pipe I, which extends down to and rests upon the bottom of the well, as illustrated in Fig. 2. In either case the loose sand in the well is kept away from and out of contact with the working barrel A by means of the perforated pipe H, the oil, however, passing through the perforations *h* to the pump.

In operation, the perforated pipe H is secured in place around the working barrel A by means of the collar G passing over the section B of tubing, and is lowered into the well until the lower end of the perforated pipe H or of a tube-section I on the lower end thereof rests upon the bottom of the well. The tubing B and working barrel A on the lower end thereof are then lowered down until the collar G is preferably about midway between the thimbles *a* and *b*, so that the weight of the perforated pipe H rests entirely upon the bottom of the well. When, however, it is necessary at any time to draw the tubing from the well, the thimble *a* at the upper end of the working barrel engages with the collar G as the tubing is raised and draws the perforated pipe H out of the well therewith.

Having thus fully described my invention, so as to enable others to construct and use the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

The combination, in an oil-well pumping mechanism, of a working barrel A and tube-

sections B C, secured thereto and extending
upward out of the well, with a perforated tube
H, surrounding the working barrel A, and a
collar G on the upper end of the perforated
5 pipe H, surrounding the tube-section between
thimbles or collars *a* and *b* thereon, substan-
tially as and for the purpose set forth.

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

ORRIN A. KNOX.

Witnesses:

GEO. A. STURGEON,
LESTER H. SIMONS.