M. WANNER & J. YOUKERS.

ANCHOR AND HYDRAULIC SUPPORT FOR WELL TUBING.

No. 189,288. Patented April 3, 1877.

fig. 1.

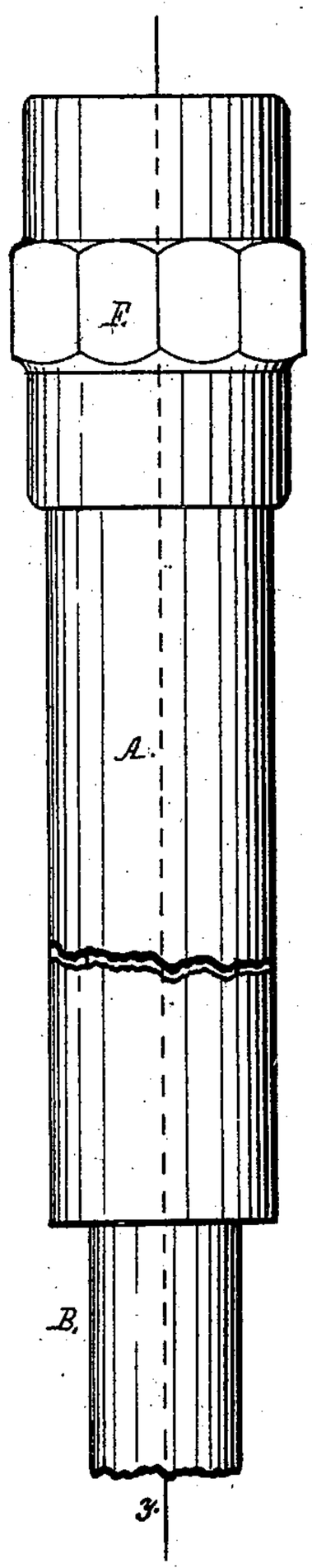
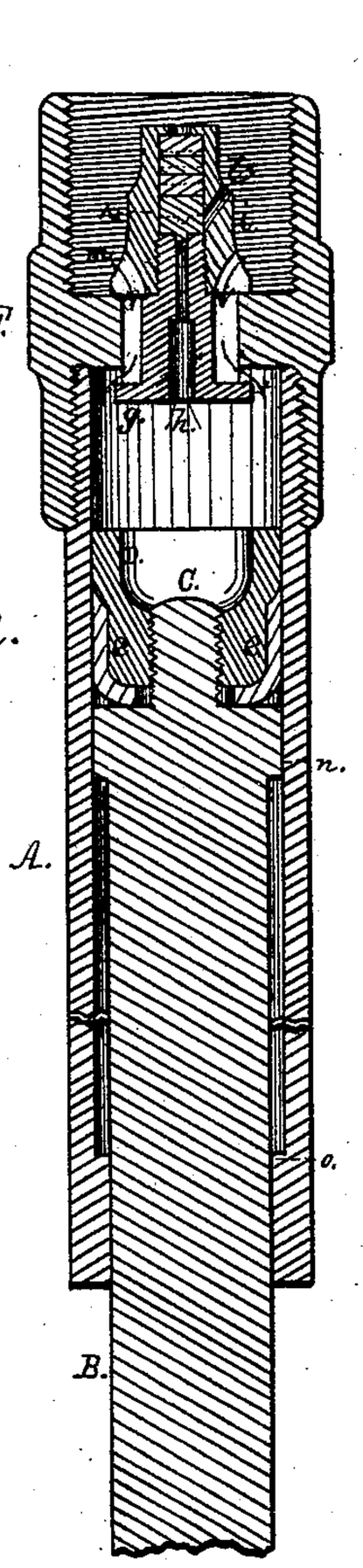


fig. 2.



Witnesses

A. E. Johnston

Wesley. Johnston

Inventor

Martin Wanner.

Jacob Youkers

By Johnston & Dowd

their attorney

UNITED STATES PATENT OFFICE.

MARTIN WANNER AND JACOB YOUKERS, OF KARNS CITY, PENNSYLVANIA.

IMPROVEMENT IN ANCHOR AND HYDRAULIC SUPPORTS FOR WELL-TUBING.

Specification forming part of Letters Patent No. **189,288**, dated April 3, 1877; application filed May 31, 1876.

To all whom it may concern:

Be it known that we, MARTIN WANNER and JACOB YOUKERS, both of Karns City, in the county of Butler and State of Pennsylvania, have invented a certain new and useful Improvement in Anchor and Hydraulic Supporter for Well-Tubing; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Our invention relates to an improvement in anchors for tubing of wells; and consists of a fluid-chamber, valves, and piston, so arranged with relation to each other that the length of the anchor can be increased or diminished at will of the operator, whereby he is enabled to bring the pumping-chamber connected to the pump-tubing, with ease and facility, to the proper position in the well for efficient pumping of the liquid from the well.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

In the accompanying drawings, which form part of our specification, Figure 1 is a side elevation of our improvement in anchor and supporter for tubing of wells. Fig. 2 is a vertical and longitudinal section of the same at line *y* of Fig. 1.

In the accompanying drawings, A represents the fluid-chamber, which is furnished with a piston, B, the upper end of which is provided with a packing, *e*, of leather or other suitable packing material. The packing *e* is held in position on the piston B by a packing-nut, D, screwed on the pintle C of the piston.

To the upper end of the chamber A is secured a coupling, F, within which is placed a puppet-valve, which plays through a hole in the diaphragm H. This valve consists of two parts, *g* and *i*, screwed together, as shown at *m*, the latter of which is furnished with projections which rest on the upper side of the diaphragm. The part *i* is likewise furnished with a chamber for the valve *k*, which is confined therein by the upper end of the part *g*. An opening, *h*, in the part *g* is closed by the valve *k*, but when the valve is forced up it communicates with an opening, *l*, placed in the side of the part *i*.

The coupling F is used for connecting the well-tubing and anchor together. The well-tubing is held in position and supported at the top of the well in the usual manner, and by the ordinary means.

The operation of our improvement is as follows: Having the anchor constructed as hereinbefore described and as represented in the accompanying drawings; the anchor is connected to the pump-chamber of the well-tubing by means of the coupling F. The anchor, pump-chamber, and tubing are then lowered into the well in the usual manner. The piston B is drawn out of the chamber A until the shoulders *n* and *o* come together. When the anchor, pump-chamber, and tubing are lowered into the well, and the pump-chamber sinks into the fluid, the chamber is filled, the fluid entering it through the puppet-valve, and when the lower end of the piston reaches the bottom of the well, the pressure of the piston on the fluid in the chamber A will close the puppet-valve and prevent the further descent of the tubing. The sensation of resistance produced by this will be transmitted to the operator, and will indicate to him the position in which the tubing should be secured.

If it be necessary to lower the pump-chamber deeper in the well, the tubing is allowed to sink down lower. Its weight will cause the piston to force the fluid in the chamber A out through the passages *h* and *l* in the valve, the valve *k* being forced aside by the pressure. On the other hand, if it be necessary to raise the tubing, the fluid will flow through the puppet-valve, as before described.

Having thus described our improvement, what we claim as of our invention is—

1. The anchor consisting of a fluid-chamber, valve, and plunger, in combination with the tubing of oil, salt, and other wells, substantially as herein described, and for the purpose set forth.

2. The anchor consisting of a fluid-cham-

ber, compound valve, and plunger, in combination with the tubing of oil, salt, and other wells, substantially as herein described, and for the purpopse set forth.

3. The anchor consisting of a fluid-chamber, valve or valves for holding the working-chamber or barrel of well-tubing at the desired pumping-line in the well, substantially as herein described.

MARTIN WANNER.
JACOB YOUKERS.

Witnesses:
JAMES J. JOHNSTON,
A. C. JOHNSTON.