

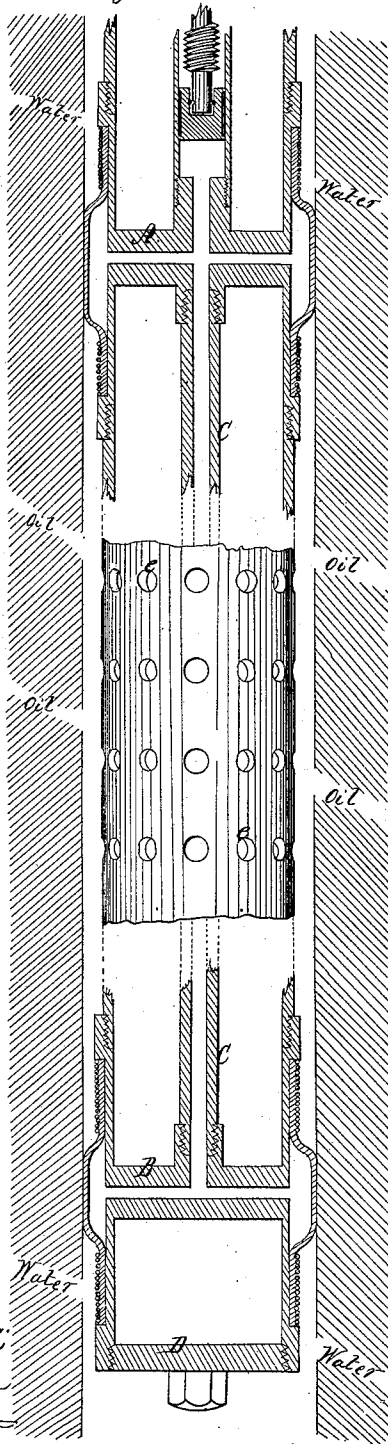
H. W. Spooner,

Well Packing,

N^o 31,567.

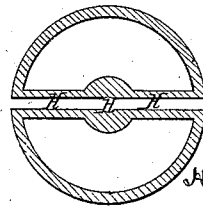
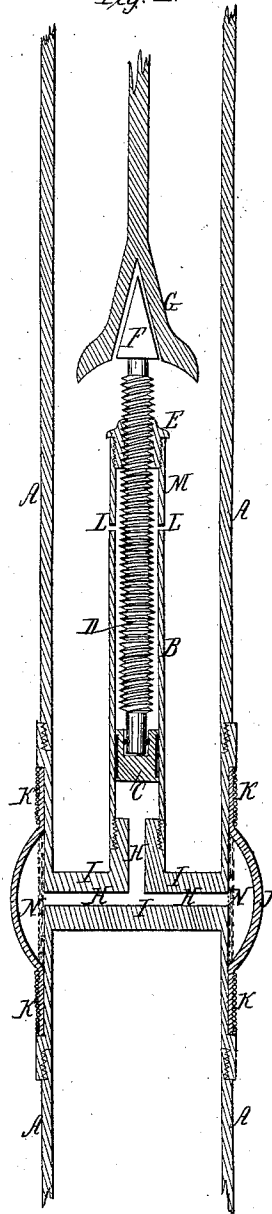
Patented Feb. 26, 1861.

Fig. 2.



Witnesses;
R. D. Thompson
R. J. Brown

Fig. 1.



Inventor;
H. W. Spooner
by Amy Thos J. Everett

UNITED STATES PATENT OFFICE.

H. W. SPOONER, OF ERIE, PENNSYLVANIA.

TUBE OF ARTESIAN WELLS.

Specification of Letters Patent No. 31,567, dated February 26, 1861.

To all whom it may concern:

Be it known that I, H. W. SPOONER, of the city and county of Erie, in the State of Pennsylvania, have invented a certain new and useful Improvement Designed to be Used in Well-Tubes; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters and marks thereon.

In passing through the different and various strata of earth and rock in boring for water, pure or salt, for oil, or other fluids, veins or courses of various substances, necessarily, are struck. The contents of these veins will thus flow into the space made by the borer or earth-auger and mix with and render impure the fluid sought to be obtained, or that fluid intended to be utilized and for which the boring is undertaken. If the object of the boring is to produce an Artesian-well or to procure pure water, the veins tapped by the borer may give out impure water or obnoxious gases; if designed to obtain salt-water or brine, then the pure water would be detrimental; if the boring be for oil, then any kind of water or gas would be in the way; and, hence, for whatever fluid the earth may be bored, whether it be intended to obtain the fluid by the natural flow or by mechanical means for raising it, unless some devices be resorted to for shutting off all the veins or courses tapped except such as yield the fluid required, that fluid would be brought up to the surface in an impure condition.

My invention, then, has for its object the isolating of the fluid desired from such other fluids or substances as might be broken into or reached in the progress of boring, and the delivering of such fluid unalloyed or unimpregnated by any other fluids derived from the veins or courses struck or opened in boring.

The drawings forming part of this specification illustrate my invention applied to boring for veins of oil, water being the fluid desired to be shut off or out.

Figure 1 of these drawings represents, by vertical section, a tube or barrel (A. A) in the center of which is placed a cylinder (B), bored with accuracy. Into this cylinder (B) is fitted a piston (C), controlled and operated by the screw-rod (D) passing through screw-nut (E) and terminating in a pyramidal head (F) for the fitting on of the wrench

(G). By this wrench (G) the screw (D) may readily be moved either upward or downward; the head of the wrench, as is shown, being of peculiar shape so as the more easily to reach and cover the head of the screw-rod. (H. H.) indicate passages through the stand (I. I.), which is firmly screwed to the cylinder (B), for conducting such fluid from the cylinder (B) to the exterior of the barrel (A) as may be used for pressure upon the packing or cushioning bands. (J. J.) indicate such bands or tubes encompassing the barrel (A. A) and securely fastened to the exterior thereof by wire (K. K.) or other suitable means. These bands or tubes can be made of india rubber or such other elastic material as may be preferred to answer for the oil or other fluid being obtained. (L. L.) mark the holes to admit of the pressure fluid entering the cylinder (B) when the piston (C) is elevated to the point (M) or above the holes (L). The end of the screw (D), where it is attached to the piston (C) has, as is shown, a swivel connection so that when the screw rod is turned the piston is not rotated with it.

By Fig. 2 of the drawings is shown a section of an oil-well with water and oil veins or courses. As shown the water fissures are both above and below the oil veins, and the water is shown shut off from the oil both above and below. This is effected by using a second packing and parts therewith connected at (B), the fluid passages of the two (A and B) being in communication by a pipe (C). In such case the bottom of the barrel should be closed, as is shown, by a plug (D), and the oil finds its way into the interior of the barrel through perforations (e. e.). In some instances where two or more cushions or packings are used it may be preferable to connect them by pipes exterior to, instead of within the barrel: and where the oil or other fluid is to be pumped out the exterior pipe connection has the advantage of allowing the plunger or piston working near or close to the lower cushion or packing.

If in connection with this invention a pump be used to deliver the oil or other fluid the operation may be thus:—By means of the wrench (G) elevate the screw-rod (D) until the piston (C) has arrived to the point (M) or above the holes (L. L.), then place the barrel (A. A) at the required distance down the oil-well, the cylinder (B) will then

fill with water, also the passages (H. H.) leading through the stand (I) to the rubber pipe or tube (J. J.). The barrel being at its proper position in the well, apply the wrench (G) and depress the screw-rod, which will force the water below the piston, through the passages (H. H.) into the rubber pipe or tube and force the tube against the sides of the well thereby shutting off the water. Then remove the wrench from the barrel, put in the pump valves and the invention is ready for operating. Should it be desirable to change the position of the barrel, remove the pump valves, apply the wrench (G) and elevate the screw-rod; the water which was in the passages and expanded the rubber-pipe will follow the piston, the rubber contracting will hug the barrel closely, as represented by the dotted lines (N. N.) Fig. 1, and the barrel be left free to be moved up or down as may be desired.

Whenever the invention is used where the oil or other fluid will find its way to the

surface of the earth, by natural flow, the operation of the invention will readily be perceived.

The illustration by the drawings and the above description for carrying out my invention refer only to the use of cylindrical barrels or cases for the delivery of the oil or other fluid, but it is evident that my invention may be applied to conduits or cases of any shape or form other than cylindrical which may be deemed the best for any particular fluid or locality.

What I claim as new and desire to secure by Letters Patent in the use of tubes or cases for oil-well or other borings is—

The arrangement of the means herein recited substantially as and for the purpose set forth.

This specification signed this 11th day of January 1861.

H. W. SPOONER.

Witnesses:

I. V. McCOLLUM,

CHARLES TRACY.