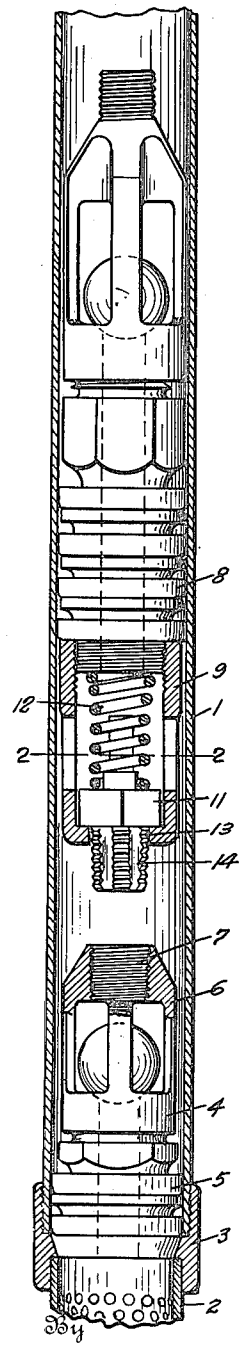
D. E. NORRIS.

STAND VALVE EXTRACTING MEANS FOR OIL WELL PUMPS.

APPLICATION FILED AUG. 8, 1916.

1,282,921. Patented Oct. 29, 1918.

Fig-1



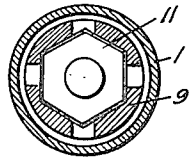


Fig-2

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STAND-VALVE-EXTRACTING MEANS FOR OIL-WELL PUMPS.

1,282,921. Specification of Letters Patent. Patented Oct. 29, 1918.

Application filed August 8, 1916. Serial No. 113,814.

To all whom it may concern:

Be it known that I, DANIEL E. NORRIS, a citizen of the United States, residing at Robinson, in the county of Crawford and State of Illinois, have invented new and useful Improvements in Stand-Valve-Extracting Means for Oil-Well Pumps, of which the following is a specification.

This invention relates to stand valve extracting means for oil well pumps and consists in certain improvements in the construction thereof as will be hereinafter fully described and pointed out in the claim.

More particularly the invention is designed for use with deep well pumps and has for its object convenient means for securing the standing valve and plunger together so that the standing valve may be pulled out with the plunger.

This has heretofore been accomplished by providing one of these parts with a threaded perforation and the other part with a screw adapted to engage the screw-threaded perforation by turning the plunger. The difficulty with this method comes from the jamming or injuring of the threads of one of the parts. Where this occurs the parts cannot be united so that the device becomes useless. The object of the present invention is to obviate this difficulty.

The invention is illustrated in the accompanying drawings as follows:—

Figure 1 shows a central vertical section of a pump.

Fig. 2 a cross section on the line 2—2 in Fig. 1.

1 marks the working barrel, 2 the strainer, 3 the standing valve fitting, 4 the standing valve, 5 the packing on the standing valve forming a joint with the bottom of the working barrel and fitting, 6 a cage on the standing valve, and 7 a screw-threaded perforation in the top of the cage.

A plunger 8 is provided with an extension 9 having openings within its walls leading to the interior of the plunger and the usual passage through the plunger.

The extension has its interior walls forming a hexagonally shaped pocket in which a head 11 is slidingly mounted. A spring 12 forces the head to the lower end of the pocket. The lower end of the pocket is provided with a perforation 13 and a tap 14 is secured to the head 11 and extends through the perforation 13.

The tap 14 is designed to enter the perforation 7 and cut a thread therein when the plunger is turned, thus securing the plunger and standing valve together. By forming a yielding support for the tap the great weight to which the plunger is subjected will not interfere with the proper running forward of the tap in forming the threads. Ordinarily I prefer to form the threads initially in the opening 7 and the work of the tap will then simply be to re-cut the threads where they are jammed or injured.

In operating the device, the plunger is lowered so that the lower end of the plunger rests on the top of the opening 7. The tap will be forced back into the perforation 13 compressing the spring 12. As the plunger is rotated the tap will feed forward into the thread in the opening 7 or will form a screw in such opening, thus assuring the attachment of the standing valve to the plunger.

What I claim as new is:—

In a stand valve extracting means for oil well pumps, the combination of a standing valve having a valve cage thereon with a perforation in the top; a plunger with an extension thereon; a tap having a head mounted in the extension and locked against turning therein; and a spring yieldingly holding the tap in its lower position, said tap being adapted to enter the perforation in the cage, thread the same and secure the cage and plunger together, the spring exerting pressure to start the tap.

In testimony whereof I have hereunto set my hand.

DANIEL E. NORRIS.