Feb. 21, 1928.

1,659,642

E. E. SOREY

OIL WELL PUMP

Filed March 9, 1927

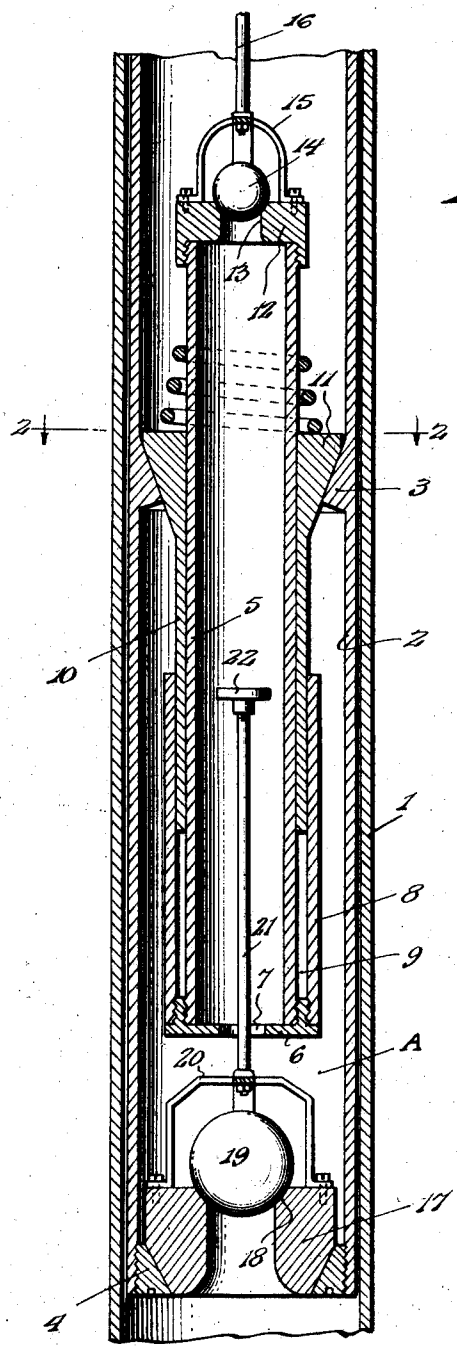
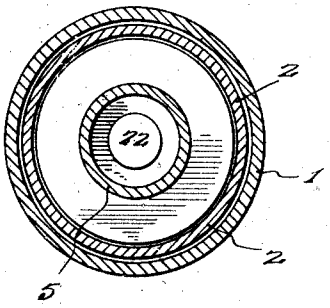


Fig. 1.

Fig. 2.



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UNITED STATES PATENT OFFICE.

EDWARD E. SOREY, OF THOMPSONVILLE, TEXAS.

OIL-WELL PUMP.

Application filed March 9, 1927. Serial No. 173,987.

The present invention is directed to improvements in oil well pumps.

The primary object of the invention is to provide a pump for this purpose so constructed that when in operation a continuous flow of oil will be lifted from the well.

Another object of the invention is to provide a pump so constructed that the standing tube and traveling tube will be interlocked in such manner that when the traveling tube is stripped from the well the standing tube will be stripped therewith.

In the accompanying drawing:

Figure 1 is a vertical central sectional view through the pump.

Figure 2 is a sectional view on line 2—2 of Figure 1.

Referring to the drawing, 1 designates the usual well casing and in which the standing tube 2 is lowered, said tube being provided with interiorly located vertically spaced tapered shoulders 3 and 4, the latter being disposed at the lower end of said tube.

The traveling tube 5 has its lower end threaded to a bottom plate 6 which is provided with a central fluid passage 7. The sleeve 8 has its lower end threaded to the plate 6 and is concentrically disposed with respect to the tube 5 and annularly spaced therefrom, as at 9. Slidable in the space 9 and snugly fitting the tube 5 is a sealing tube 10, the upper end of which is provided with a tapered flange 11 adapted to snugly engage the shoulder 3 to provide a liquid tight joint.

The upper end of the tube 5 is provided with a cap 12 having a seat 13 therein, there being a ball valve 14 engaged with the seat and held against displacement by the cage 15 to which is connected the lower end of the sucker rod 16.

Removably engaged upon the shoulder 4 is a body 17 formed with a valve seat 18 with which coacts the ball valve 19, a cage 20 being mounted upon the body to maintain the valve in place. To this cage is secured the lower end of the grab rod 21 which is provided with a head 22, said rod being movable in the passage 7. This head is greater in diameter than the passage 7, the purpose of which will be later explained. In operation, the tube 5 and its associated sleeve, are reciprocated as is customary in pumps of this type in order that the oil will be pumped or lifted after entering the chamber A. It will be obvious that when the tube 5 is moved upwardly when stripping the well, the lower end of the sealing tube 10 will meet the plate 6, thus lifting the tube 10. After the standing tube has reached a certain elevation the head 22 of the rod 21 will engage the plate 6, thus lifting the body 17 and associated parts. Further lifting of the tube 5 will cause the body 17 to engage the shoulder 3, thus compelling the standing tube to be lifted from the well casing.

Having thus described the invention, I claim:

A pump of the class described comprising a standing tube having upper and lower shoulders therein, a sealing tube supported by the upper shoulder, a traveling tube slidable in the sealing tube, a plate fixed to the lower end of the traveling tube, a sleeve having its lower end fixed to the plate and annularly spaced from the traveling tube, said sealing tube being slidable in said space, a body engaged with the lower shoulder, a valve for the body, means for slidably connecting the body and plate, and a valve carried by the upper end of the traveling tube.

In testimony whereof I affix my signature.

EDWARD E. SOREY. [L. S.]