

Feb. 9, 1926.

1,572,769

J. B. CLARK

OIL WELL SAND CLEANER

Filed Nov. 19, 1924

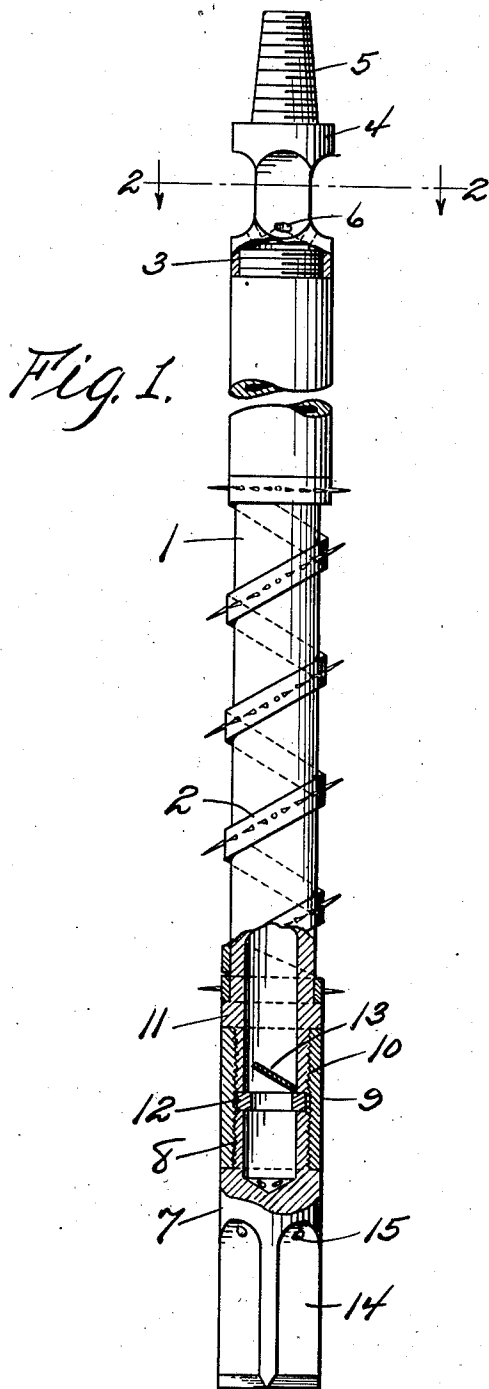


Fig. 2.

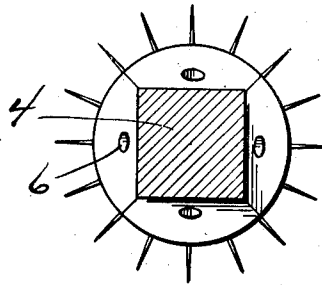
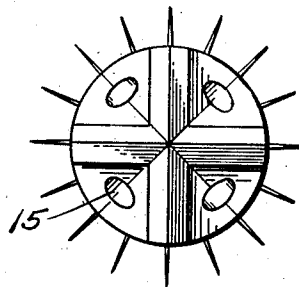


Fig. 3.



WITNESS

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JAMES B. CLARK, OF MIDWEST, WYOMING.

OIL-Well SAND CLEANER.

Application filed November 19, 1924. Serial No. 750,876.

To all whom it may concern:

Be it known that I, JAMES B. CLARK, a citizen of the United States, residing at Midwest, in the county of Hot Springs and State of Wyoming, have invented new and useful Improvements in Oil-Well Sand Cleaners, of which the following is a specification.

The object of my present invention is the provision of a peculiar and advantageous device for cleaning oil wells after they are drilled and are producing oil.

To the attainment of the foregoing, the invention consists in the improvement as hereinafter described and definitely claimed.

In the accompanying drawings, forming part of this specification:—

Figure 1 is a view of my novel device with parts in section.

Figure 2 is an enlarged horizontal section taken in the plane indicated by the line 2—2 of Figure 1.

Figure 3 is an enlarged plan of the lower end of the device on the same scale as Figure 2.

Similar numerals of reference designate corresponding parts in all of the views of the drawings.

Among other elements my novel device comprises a metallic barrel 1 which may be and preferably is in one piece as illustrated. The upper portion of the said barrel is of smaller diameter than an intermediate portion 11 thereof to permit of the slipping on the barrel of a scratcher coil 2. Connected at 3 to the upper end of the barrel 1 is a member 4 having a threaded shank 5 and also having vent apertures 6 at its four sides, the said apertures being in communication with the interior of the barrel 1 and being designed to permit air, water and oil to escape at the upper end of the device as mud or sand is forced in at the lower end of the device by the motion of the tool when cleaning. This will be better understood when it is stated that a bit 7 is connected at 8 to a union 9, and that the said union 9 is connected at 10 to the lower end of the barrel 1 and abuts against the enlargement or circumferential flange 11 on the barrel. It will also be noticed that an annular valve seat 12 is interposed between the upper end of the bit 7 and the lower end of

the barrel 1 for cooperation with a flap valve 13, and that the said bit is provided with blades 14 and with a plurality of apertures 15, the latter being designed for the passage into the barrel of mud or sand. The said flap valve 13 permits the upward passage of mud or sand into the barrel, and holds the mud or sand against downward movement. The bit 14 because of its cruciform blade construction, Figures 1 and 3, is adapted to chop the mud or sand and thoroughly mix the same while facilitating the passage of the mixture to the interior of the barrel 1, and at the same time it contributes toward cleaning of the casing.

The scratcher coil 2 is preferably made up of a body of spring steel, and teeth of piano wire or other appropriate material carried by the said body. The said coil is adapted to scratch the walls of the casing incident to the lowering of the device in the well so that the scratcher will remove paraffine and other foreign substance from the casing. It will also be understood that when the bit is in or on the mud or sand that is to be removed, the scratcher coil will serve to keep the mud thoroughly mixed, and as the device swings it will serve to remove loose substance and keep the sand open.

It will be apparent from the foregoing that when used in the manner described my novel device will obviate the necessity of using a bailer in a well.

Notwithstanding the practical advantages of my novel device it will be apparent that the same is simple and inexpensive in construction and is well adapted to withstand the usage to which oil well devices are ordinarily subjected.

As will be readily understood from Figure 1 the scratcher coil 2 is arranged above the barrel 1 and is interposed and held between an abutment afforded by the enlargement 11 of the barrel and an abutment formed by the lower end of the member 4.

Having described my invention, what I claim and desire to secure by Letters-Patent, is:—

An oil well cleaner comprising a barrel having spaced abutments, a coiled, toothed scratcher surrounding the barrel and interposed between the said abutments, a connecting member carried at the upper end

of the barrel and having a reduced portion interior of the bit and the interior of the barrel, an annular valve seat disposed in the interior of the barrel, a union connection to the lower end of the barrel below the lower union and interposed between the barrel and 10 the bit, and a flap valve for cooperation with the bit, and a flap valve for cooperation with said valve seat.

5 abutment thereof, a bit having cruciform blades and also having apertures between the blades and in communication with the

In testimony whereof I affix my signature.
JAMES B. CLARK.