No. 816,284. PATENTED MAR. 27, 1906.

W. A. WILLIAMSON.

OIL SAVER.

APPLICATION FILED DEC. 30, 1905.

Fig. 1.

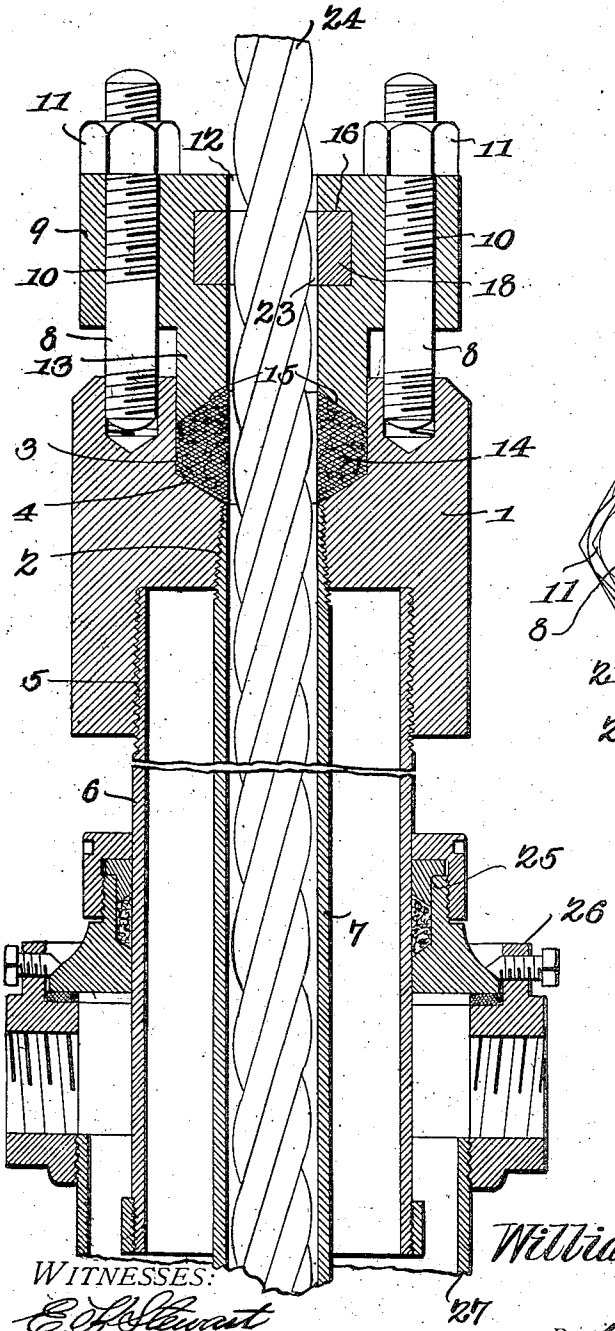
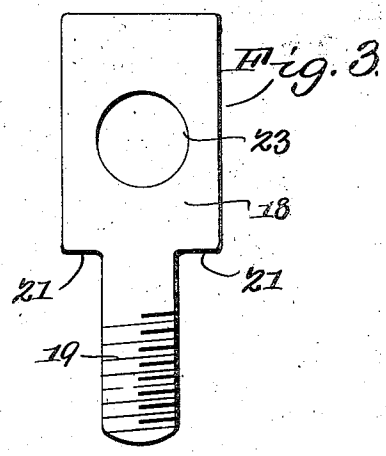


Fig. 3.



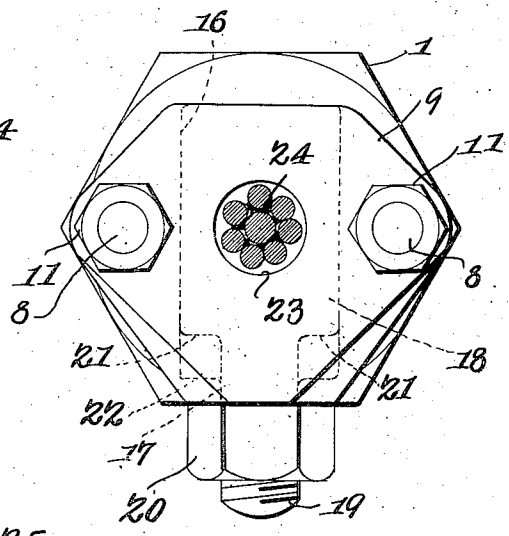


Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM AUSTIN WILLIAMSON, OF FRIENDLY, WEST VIRGINIA.

OIL-SAVER.

No. 816,284. Specification of Letters Patent. Patented March 27, 1906.

Application filed December 30, 1905. Serial No. 293,946.

To all whom it may concern:

Be it known that I, WILLIAM AUSTIN WILLIAMSON, a citizen of the United States, residing at Friendly, in the county of Tyler and State of West Virginia, have invented a new and useful Oil-Saver, of which the following is a specification.

This invention relates to the art of well-drilling, and is designed to prevent loss of oil when it begins to flow before the drilling has been completed.

It is proposed to embody the invention in the nature of an attachment which is normally inactive and capable of being quickly adjusted or set to close the opening around the drill-rope, and thus prevent escape of the oil without interfering with the operation of the drilling apparatus.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claim, it being understood that changes in form, proportion, size, and minor details may be made within the scope of the claim without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a longitudinal sectional view of a device of the present invention. Fig. 2 is a plan view thereof. Fig. 3 is a detail view of the clamp member.

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

The present device includes a head member 1, which is pierced by a longitudinal bore that is threaded at one end, as at 2, and has its other end enlarged, as at 3, to form a socket in the top of the head, the bottom of the socket being inclined or converged downwardly and centrally, as at 4. The bottom of the head is provided with a concentric socket 5 of considerably greater width than the bore through the head, and this socket is threaded for the reception of the upper end of a pipe 6. Within the pipe 6 is a much smaller tube 7, which is threaded into the bore portion 2. A pair of threaded pins 8 rise from the top of the head at opposite sides of the center thereof.

Upon the top of the head is a gland 9, which is provided with a pair of vertical openings 10 to loosely receive the pins 8, there being nuts 11 upon the upper ends of the pins to bear against the gland and hold the same in place. A longitudinal bore 12 pierces the gland in alinement with the bore of the head, and the under side of the gland is provided with a reduced tubular extension 13, through which the bore extends. The portion 13 is proportioned to fit snugly within the socket 3 in the top of the head, and this socket is designed to contain a suitable packing 14, which can be compressed between the inclined bottom 4 of the socket and the inclined or substantially conical lower end 15 of the gland. The gland 9 is pierced through one side by a horizontal opening 16, which is rectangular in cross-section and is reduced at one end to a cylindrical portion 17, which pierces the adjacent side of the gland. Within the opening 16 is a clamp member 18, having a slidable fit within the opening and provided at one end with a threaded stem to pass through the opening 17 and receive a nut 20 upon the outer end of the stem. The shoulders 21 at opposite sides of the stem 19 are designed to engage the shoulders 22 within the gland to limit endwise movement of the clamp member in one direction. At the center of the clamp member there is an opening 23 of a size to loosely receive the drill-rope 4, which passes through the bores of the gland and the head and through the guide-tube 7.

When the present device is assembled in position for use, the pipe 6 passes through the stuffing-box 25 of the casing-head 26, which is mounted upon the top of the well-casing 27 in the usual manner.

In practice the gland 9 is set so as not to exert pressure upon the packing 14, and the packing 14 is not in engagement with the drill-rope 24, whereby the latter may freely reciprocate without frictional contact with any portion of the present device. When oil begins to flow, the drilling operation is discontinued and the nuts 11 are set down so as to force the gland 9 into the socket in the top of the head 1, whereby the packing 14 will be forced into snug engagement with the drill-rope, so as to close the opening around the latter and prevent upward escape of oil. The clamp 18 is then adjusted by means of the nut 20 to clamp the drill-rope between one edge of the opening 23 and the opposite wall of the bore 12 through the gland, whereupon the drilling apparatus is set into operation, whereby the device will be rigidly clamped to the drill-rope and will of

course reciprocate with the latter, the pipe 6 and the tube 7 working through the stuffing-box 23 upon the top of the casing-head so as to form a slip-joint therewith without interfering with the operation of the drilling apparatus.

Having thus described the invention, what is claimed is—

A device of the class described comprising a head having a bore for the reception of a drill-rope, a tube depending from the head and forming a continuation of the bore, a pipe depending from the head concentric with and of greater diameter than the tube, the top of the head having a packing-socket in communication with the bore, a gland adjustable upon the head and fitting in the packing-socket, and a drill-rope clamp carried by the gland.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM AUSTIN WILLIAMSON.

Witnesses:
E. B. GUTHRIE,
BLANCHE M. SIMMONS.