No. 819,978. PATENTED MAY 8, 1906.

F. CAUDLE.

DRILL.

APPLICATION FILED JAN. 3, 1906.

Fig. 1.

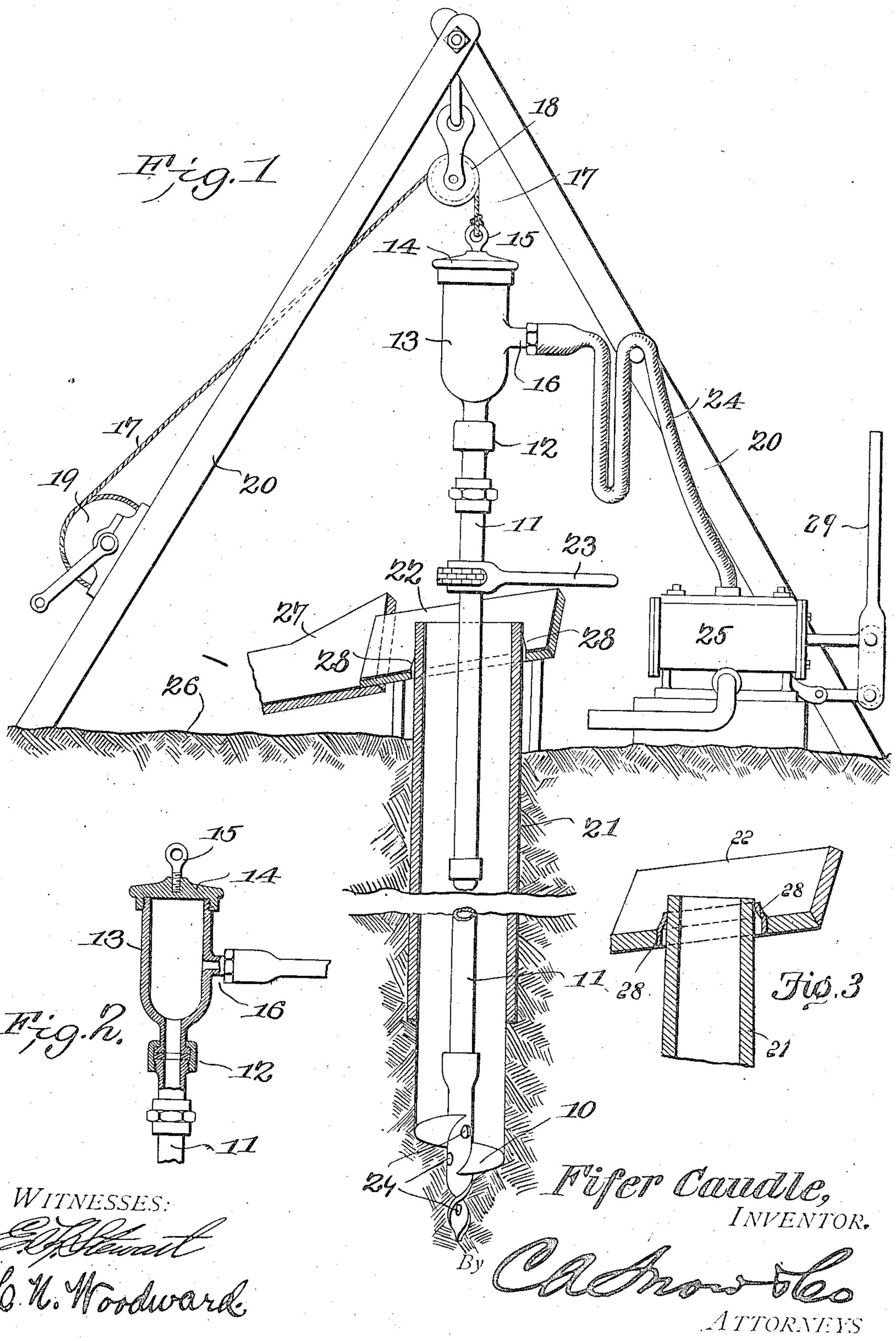

Fig. 2.

Fig. 3.

WITNESSES:

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DRILL.

No. 819,978. Specification of Letters Patent. Patented May 8, 1906.

Application filed January 3, 1906. Serial No. 294,441.

To all whom it may concern:

Be it known that I, FIFER CAUDLE, a citizen of the United States, residing at Shattuck, in the county of Woodward and Territory of Oklahoma, have invented a new and useful Drill, of which the following is a specification.

This invention relates to apparatus for boring wells, and has for its object to improve the construction and increase the efficiency of devices of this character.

With these and other objects in view, which will appear as the nature of the invention is better understood, the invention consists in certain novel features of construction, as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of the embodiment of the invention capable of carrying the same into practical operation, it being understood that various changes in the form, proportions, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention within the scope of the appended claim.

In the drawings, Figure 1 is a sectional elevation of the improved apparatus. Fig. 2 is a sectional detail of the swivel-head portion of the apparatus. Fig. 3 is an enlarged sectional detail of the packing between the casing and the discharge spout or trough.

The improved apparatus comprises a boring implement 10 of any approved form, having a tubular stem 11 extending therefrom, the stem forming the "stock" or rod by which the boring implement is operated and extends to any desired point above the ground, (represented at 26.) The stock 11 is formed in sections suitably coupled, and as the boring proceeds additional sections are added in the usual manner. Connected by a swivel-joint 12 to the upper end of the upper section of the tubular stock 11 is a chamber 13, having a closed top 14, provided with a lifting-eye 15 and a hose connection 16. The eye 15 provides means for the attachment of the lifting-cable 17, leading over a suitable guide-sheave 18 and thence to a winding-drum 19 on a derrick-frame 20.

The curbing 21 of the well is of the usual form and in sections of suitable length, with the upper section extending above the ground. Surrounding the upper section of the curbing above the ground is a trough 22 to carry the water and material discharged from the "bore" to any required distance, a conductor member 27 of suitable form being arranged at the discharge end of the trough. A suitable packing 28 is arranged in the trough to prevent leakage around the curbing where it passes through the same. The curbing is thus separate from the stock and boring implement and can be moved independent thereof. The curbing may thus be forced downward through the trough as fast as the boring implement proceeds and without disturbing the trough or conductor.

A wrench (represented at 23) is attached to the stock 11 to enable the operator to rotate the same together with the boring implement connected thereto. The hose connection 16 is utilized to carry a hose 24, leading from a pump 25, whereby the necessary water under pressure is supplied.

In operating the device the derrick 20 is erected at the point where the well is to be bored, and a section of the stock 11 with the boring implement 10 and swivel-head 12 13 attached is suspended in position by the cable 17. The pump 25 and wrench 23 are then coupled in position and the boring proceeded with. The water flowing through the tubular stem and escaping through apertures 29 in the boring implement mingles with the earth loosened by the implement and carries it with the water out through the upper end of the bore. The first section of the curbing is placed in position as soon as the boring has proceeded far enough to require it and the spout 21 and conductor 27 also placed in position at the ground line, as shown in Fig. 1. Then as the boring proceeds the loosened earth commingling with the water is carried with the water and discharged. The pump 25 may be operated manually, as by a lever 29, or a steam, gasolene, or other motor may be employed, as required.

Having thus described the invention, what is claimed is—

In an apparatus of the class described, a tubular stock having a boring implement at one end and a water-chamber at the other end, a swivel-coupling between the water-chamber and tubular stock, a trough surrounding said stock above the ground, a casing surrounding the stock and independently

thereof and slidable through said trough, means for rotating said stock, means for supplying water to said chamber and stock, and means for adjustably suspending said stock and its attached boring implement and water-chamber.

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

FIFER CAUDLE.

Witnesses:
R. A. MOODY,
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