Jan. 30, 1923. 1,443,853

T. A. STEPHENS.
LUG SOCKET FISHING TOOL.
FILED JUNE 22, 1921.

Fig. 1.

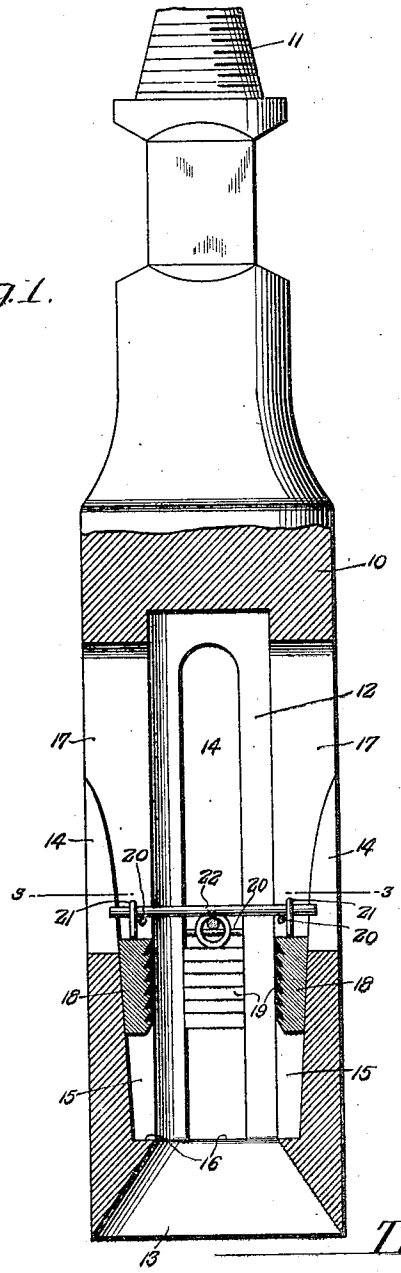


Fig. 2.

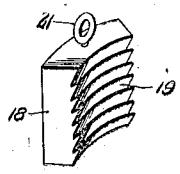
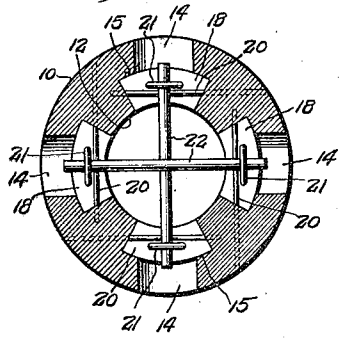


Fig. 3.



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UNITED STATES PATENT OFFICE.

THOMAS A. STEPHENS, OF PARKERSBURG, WEST VIRGINIA.

LUG-SOCKET FISHING TOOL.

Application filed June 22, 1921. Serial No. 479,633.

To all whom it may concern:

Be it known that I, THOMAS A. STEPHENS, a citizen of the United States, residing at Parkersburg, in the county of Wood and State of West Virginia, have invented certain new and useful Improvements in a Lug-Socket Fishing Tool, of which the following is a specification.

This invention relates to fishing implements for removing broken drill rods, pump rods and the like from deep wells, such as oil wells, artesian wells, gas wells, and has for one of its objects to improve the construction and produce a device of this character of increased utility and simplicity.

With this and other objects in view the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claims, and in the drawings illustrative of the preferred embodiment of the invention;—

Figure 1 is a side elevation, partly in secion of the improved implement.

Fig. 2 is a detached perspective view of one of the gripping elements.

Fig. 3 is a transverse section on the line 3—3 of Fig. 1.

The improved implement comprises a stock or body represented as a whole at 10, and having means such as a tapered threaded stud 11 at one end, to enable the stock to be coupled in the ordinary manner to a pull element, not shown.

The stock 10 is formed with a downwardly opening longitudinally directed bore or socket 12 flaring at its open end as shown at 13, to enable the broken end of the rod to be "fished" to readily pass into the socket. Formed through the stock are one or more elongated lateral openings 14.

Formed in the walls of the openings and extending into the body of the stock below the openings, are tapered guideways 15, each guideway having a stop shoulder 16 at its lower end, and opening outwardly at their upper ends in the upper ends of the openings as shown at 17.

Slidably disposed in each guide way is a correspondingly tapered gripping element 18 each formed with saw tooth shaped transverse members 19, the latter directed toward the interior of the socket.

By this arrangement, it will be obvious that the gripping elements may be readily inserted into the guideways through the portions 17 of the openings 14, will firmly grip an object within the socket, for instance the broken end of a drill or pump rod, and enables the latter to be drawn upwardly and removed from the well, the stronger the pull the more rigid the grip.

Extending transversely of each of the guideways 15, is a supporting rod 20, and attached to each of the gripping members is an eye 21,

The eyes will be so located relative to the rods 20, that when the members 18 are in their upper or inoperative position, the eyes will be disposed alongside of the rods to enable breakable elements, such as wooden rods 22, to be passed through the eyes above the supporting rods 20, as shown in Figs. 1 and 3, to temporarily support the gripping members. By this arrangement when the stock 10 is lowered into the well to engage over the broken end of a drill or pump rod, the gripping members will not interfere with the entrance of the broken end into the socket, but when the broken end of the rod engages the suspending members 22, the latter will be broken and release the gripping members 18 which at once move downwardly by gravity and engage the rod. Thereafter an upward movement of the pulling element will cause the gripping members to firmly engage the broken rod and enable the latter to be withdrawn.

The improved device is simple in construction, and can be inexpensively manufactured, of any suitable material and operates effectually for the purposes described.

The preferred embodiment of the invention is disclosed in the drawings and set forth in the specification, but it will be understood that any modifications within the scope of the claimed invention may be made in the construction without departing from the principle of the invention or sacrificing any of its advantages.

What is claimed is:—

1. An implement of the class described comprising a stock adapted to be attached to a pull member and having a longitudinally directed socket with transverse openings communicating with the sockets and tapered guideways communicating with the openings and with the socket, and tapered gripping

members slidable in the guideways and insertable into the guide-ways through the openings.

2. An implement of the class described comprising a stock adapted to be attached to a pull member and having a longitudinally directed socket with tapered guideways communicating with the socket, tapered gripping members slidable in the guideways, supporting rods transversely of the socket, and breakable elements coupled to said gripping members and supported by said rods.

In testimony whereof, I affix my signature hereto,

THOMAS A. STEPHENS.