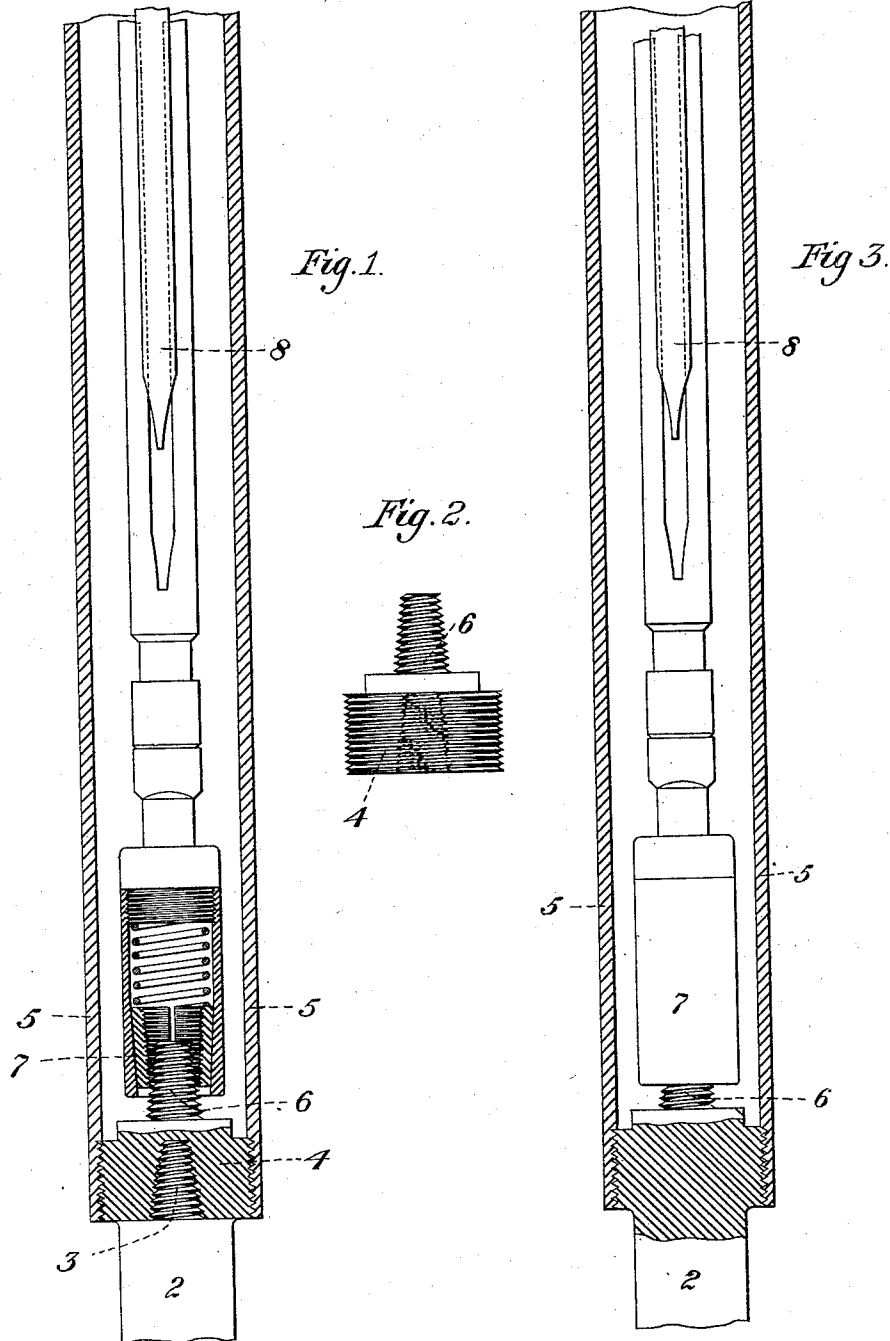


(No Model.)

W. F. BOYD.
FISHING TOOL FOR DEEP WELLS.

No. 468,738.

Patented Feb. 9, 1892.



WITNESSES.
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UNITED STATES PATENT OFFICE.

WILLIAM F. BOYD, OF ALUM ROCK, ASSIGNOR TO CHARLES M. HEETER, OF BUTLER, PENNSYLVANIA.

FISHING-TOOL FOR DEEP WELLS.

SPECIFICATION forming part of Letters Patent No. 468,738, dated February 9, 1892.

Application filed September 23, 1891. Serial No. 406,584. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. BOYD, of Alum Rock, in the county of Clarion and State of Pennsylvania, have invented a new and useful Improvement in Fishing-Tools for Deep Wells, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical sectional view of my improved fishing-tool. Fig. 2 is a side elevation of a part; and Fig. 3 is a view similar to Fig. 2, illustrating a modified construction of my improved apparatus.

The object of my invention is to provide an improved fishing-tool designed to seize and to afford means for drawing from deep wells tools which have become stuck or fastened therein. The removal of such lodged tools constitutes the work of considerable difficulty and trouble, which in ordinary practice must be anticipated to occur frequently in drilling deep wells. Sometimes the tools stick in the well so firmly that they cannot be removed by the apparatus heretofore used, and in such case the well must be abandoned. A considerable impediment to the operation of the ordinary fishing-tool is occasioned by the water with which the well becomes filled, and which deadens the effect of the jarring employed to dislodge the tool. It is to the removal of such impediment that my present invention is especially directed.

In Fig. 1 of the drawings, 2 represents the stem of an ordinary fishing-tool, the lower portion being broken away. This stem is provided at its upper end with a screw-threaded lug 3, which is screwed into the screw-threaded socket of a screw-plug 4. This screw-plug is screwed into the end of the lower section 5 of the ordinary casing employed in oil-wells, and is provided at its upper end with an externally screw-threaded lug or stem 6. Engaging this stem 6 is a fishing-tool 7 of the ordinary type—such, for example, as that known as a “combination-socket.” Attached to the upper end of the fishing-tool is a set of jars

8, to the stem of which the rope or cable is attached.

The action is as follows: The fishing-tool 2 and screw-plug 4 being secured to the casing, the casing is lowered into the well until the fishing-tool engages the tool which is stuck in the well. The cable, having attached thereto the set of jars 8 and fishing-tool 7, is then let down into the well inside of the casing until the tool engages the stem of the screw-plug 4. The casing then being lifted by jacks or other means at the mouth of the well, the set of jars are operated to loosen the tool in the ordinary manner, after which the whole device is withdrawn with the tool attached. The presence of the casing by excluding water from the jarring-tool improves the action and renders it much more efficient than fishing-tools of any other construction known to me. It is the use of such casing which constitutes the essential feature of my invention, and it may be employed even though the other parts of the fishing-tool be varied in construction and arrangement. For example, in the modification of Fig. 3 the screw-plug is dispensed with, the upper end of the fishing-tool being externally screw-threaded and closing the lower end of the casing, and the upper part of the tool being provided with a screw-threaded stem 6, which is engaged by the second fishing-tool 7.

My improvement may be used for removing any variety of lodged articles from wells, not only for removing tools, but for removing casing, &c., as well.

Many changes may be made in the form and arrangement of my invention without departure from the essential features thereof.

I claim—

1. In fishing-tools for deep wells, the combination of a casing having a closed lower end, a fishing-tool secured thereto, and means within the casing for jarring said tool, substantially as described.

2. The combination, with a casing having attached at its bottom a fishing-tool, of a set of jars and a second fishing-tool arranged to

be let down inside the casing and engage the first-named tool, substantially as and for the purposes described.

- 5 3. In fishing-tools for deep wells, the combination, with a casing having a closed end and a fishing-tool secured thereto, of a second fishing-tool arranged to be let down inside the casing and engage the first-named tool, substantially as described.

In testimony whereof I have hereunto set my hand this 18th day of September, A. D. 1891.

WILLIAM F. BOYD.

Witnesses:

W. D. BRANDON,

A. M. CORNELIUS.