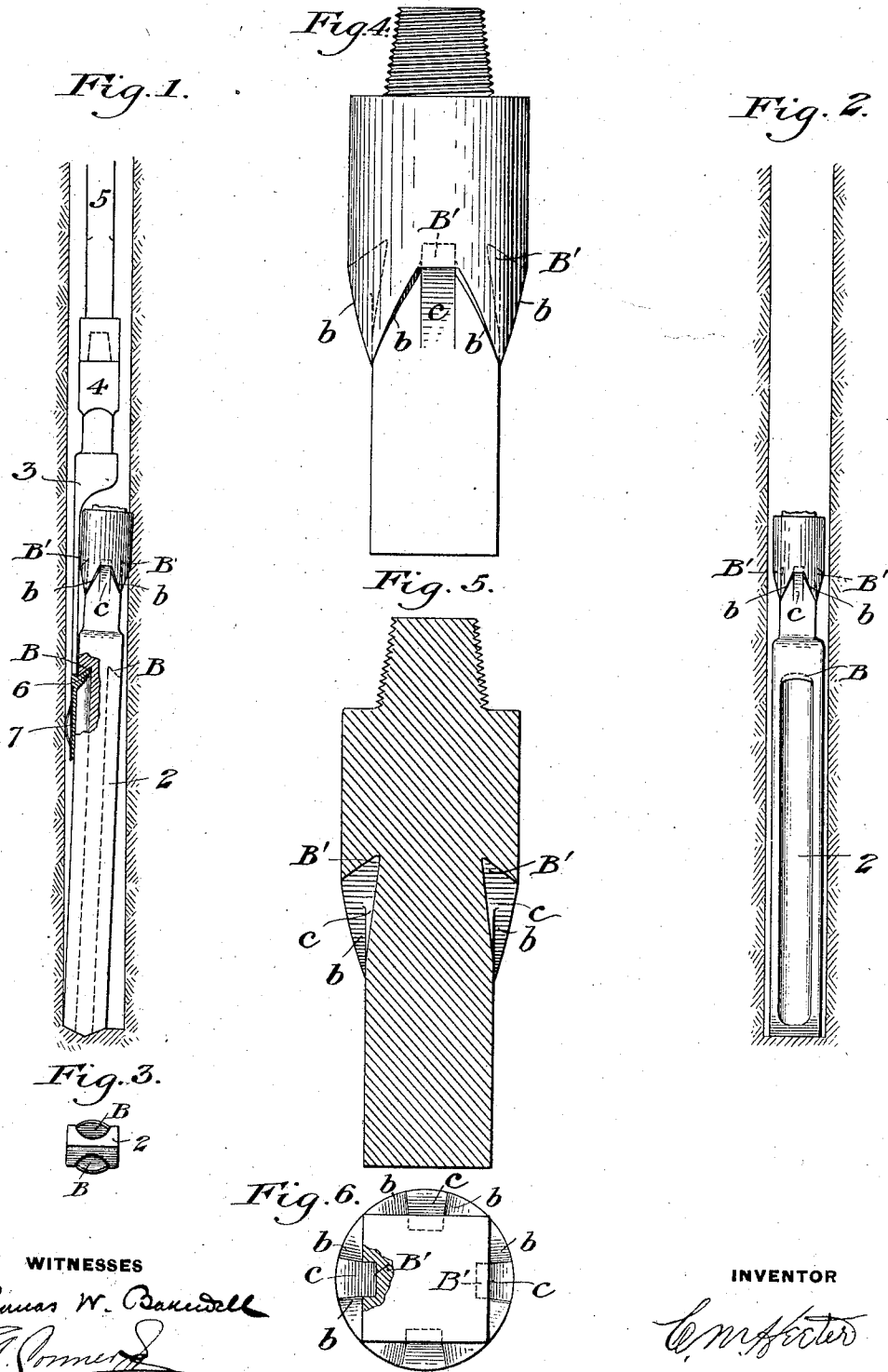


C. M. HEETER.  
TOOL FOR MAKING DEEP WELLS.

APPLICATION FILED JUNE 9, 1904.

NO MODEL.



WITNESSES

Thomas W. Davidell  
L. A. Comer

INVENTOR

C. M. Heeter

# UNITED STATES PATENT OFFICE.

CHARLES M. HEETER, OF BUTLER, PENNSYLVANIA.

## TOOL FOR MAKING DEEP WELLS.

SPECIFICATION forming part of Letters Patent No. 769,080, dated August 30, 1904.

Application filed June 9, 1904. Serial No. 211,793. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES M. HEETER, of Butler, Allegheny county, Pennsylvania, have invented a new and useful Tool for Making 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 shows in elevation my bit or tool when it is being removed from an oil or gas well. Fig. 2 is an elevation of the bit or tool seen at right angles to Fig. 1. Fig. 3 is a bottom end view thereof. Fig. 4 is an elevation of the pin which is welded to drilling-bits and other deep-well tools and constitutes the upper end thereof, providing means for connecting them to the socket. This pin is constructed in accordance with my invention. Fig. 5 is a longitudinal axial section of Fig. 4; and Fig. 6 is a bottom end view, partly broken away.

The difficulties which have heretofore attended the removal of detached tools or bits from oil-wells have been the occasion of great expense and loss to oil-well drillers and operators; and it is the purpose of my invention to provide means for this purpose which shall be reliable in action and which will enable the removal of bits or tools from wells more certainly and quickly than has been possible heretofore. Cases frequently occur when if the tool is not removed quickly from the well it becomes so firmly lodged by settling of the sand and water that it is impossible to remove it. My device is especially adapted to prevent accidents of this kind.

My invention consists in a drilling-tool having its sides recessed and affording shoulders for engagement by a fishing-tool.

In the accompanying drawings, 2 represents a bit or drilling-tool which has been broken off and lodged in an oil-well, having been crowded against and into the soft rock at the side of the well in a manner which prevents its engagement by fishing-tools of the kind ordinarily employed. The bit has on its sides recessed portions, affording shoulders for engagement by the fishing-tool, so that instead

of having to grip the bit on both sides with a fishing instrument, which is often impracticable or extremely difficult when the bit is lodged in the well, it is engaged laterally at the quarter of the hole which affords a passage for the fishing-tool. These recesses may be at one or more places along the bit. Thus in the drawings I show them at B, which is an intermediate point of the bit, and at a higher point B'. The recesses B' have diverging sides *b*, serving as guides for the hook 6, and for the purpose of enabling the hook to get a better hold I form a central slot *c* between the diverging sides in which the body of the hook can fit.

3 is the fishing-tool which I prefer to employ for removing the bit or drilling-tool from the well. This tool forms the subject-matter of an application filed by me on November 30, 1903, Serial 183,099. The pin 4 of the tool is connected to a string of tools 5, and its shank 3 has a hook 6, adapted to engage in the recess B B'. It has a spring-guide 7, which bears against the side of the well and presses the fishing-tool toward the bit.

In Figs. 4, 5, and 6 I show, on a larger scale, the application of my improved device to the pin which in oil-well practice is welded to the end of the drilling-bit or other drilling-tool as a means for attachment to the box or socket by which it is connected with the stem. This pin may be welded to any form of bit or drilling-tool. I form it in accordance with my invention by providing it with lateral recesses B', constructed as above described.

In use the fishing-tool is lowered into the well until it passes between the side of the bit 2 and the wall of the well, and when it comes opposite to the recess B or B' at the side of the tool which is not in contact with the wall it is forced inwardly by the spring 7, and when it is next drawn up the hook 6 will engage the recess, and the bit can be drawn with the fishing-tool to the top of the well.

I form one of the recesses B or B' on each side of the bit or pin, so that the fishing-tool will engage with one of them whatever side of the bit may be lodged against the wall.

I claim—

1. A drilling-tool for deep wells having sides recessed to afford shoulders for engagement with a fishing-tool; substantially as described.
- 5 2. A drilling-tool for deep wells laterally recessed for engagement with a fishing-tool, the recess having converging guiding sides; substantially as described.
- 10 3. A drilling-tool for deep wells laterally recessed for engagement with a fishing-tool,

the recess having a longitudinal groove for reception of the hook of a fishing-tool; substantially as described.

In testimony whereof I have hereunto set my hand.

C. M. HEETER.

Witnesses:

JOHN MILLER,  
H. M. CORWIN.