No. 615,589. Patented Dec. 6, 1898.

B. D. THOMPSON.

OIL WELL FISHING TOOL.

(Application filed Nov. 30, 1897.)

(No Model.)

Fig. 1.

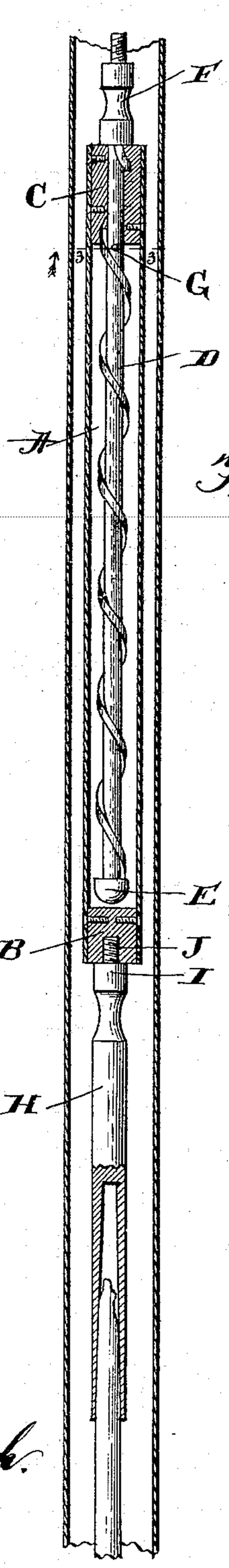


Fig. 2.

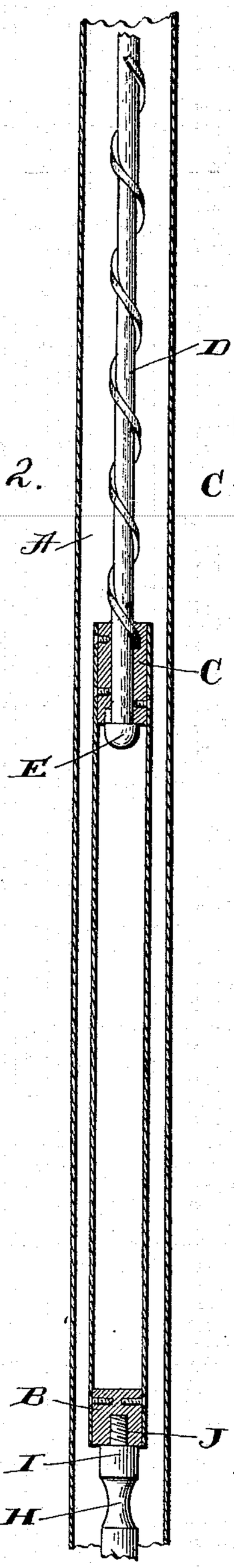
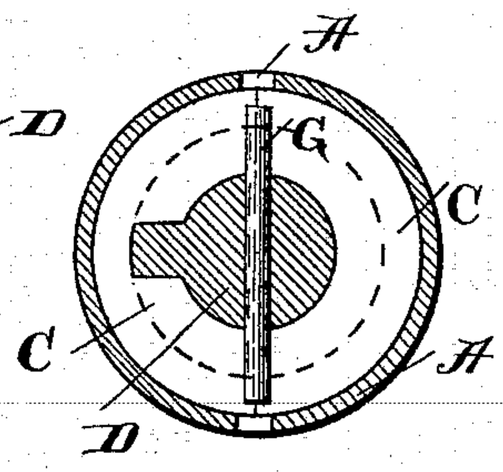


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

BURCHARD D. THOMPSON, OF CYCLONE, PENNSYLVANIA.

OIL-WELL FISHING-TOOL.

SPECIFICATION forming part of Letters Patent No. 615,589, dated December 6, 1898.

Application filed November 30, 1897. Serial No. 660,246. (No model.)

To all whom it may concern:

Be it known that I, BURCHARD D. THOMPSON, of Cyclone, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Oil-Well Fishing-Tools; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

This invention relates to oil-well fishing-tools; and the object of the same is to provide a simple and effective device for removing broken sections of sucker-rods and for automatically unscrewing the sections at one of the joints beneath the break, thus rendering it unnecessary to remove the whole of the rod remaining beneath the break in order to make the necessary repairs.

The invention consists in the novel features of construction hereinafter fully described and claimed, and illustrated by the accompanying drawings, in which—

Figure 1 is a vertical sectional view of the tool. Fig. 2 is a similar view of a portion of the stay when extended, as in elevating a broken rod. Fig. 3 is a cross-sectional view on line 3 3 of Fig. 1.

The cylindrical casing A is closed at its lower end by block B and at its upper end by the longitudinally-bored internally-threaded head C.

D is a spirally-threaded rod working in head C, the same being provided at its lower end with knob E to engage the lower end of head C to prevent its complete withdrawal, as shown in Fig. 2, and at the upper end of rod D is connection F of common form for uniting with a sucker-rod section. Rod D is apertured transversely to receive pin G just beneath head C, so as to hold the parts together when moving to operative position, the pins being inserted through opening A′ in casing A.

Horn-socket H is provided at its upper end with the left-hand screw connection I, which takes in a properly-threaded socket J, formed in block B, and by this means the said socket is firmly secured to the main portion of the fishing-tool.

When a break occurs in the sucker-rod, the portion of the rod above the break is removed from the well-tubing and the shattered rod-section is disconnected from the remaining section. My improved fishing-tool is then put in place upon the lower end of the rod, with the horn-socket in proper position, and the whole inserted in the tubing. The sucker-rod is lowered until the horn-socket finds the shattered end of the lower portion of the severed sucker-rod and may be firmly united thereto by a few blows from a hammer upon the upper end of the rod in the operator's hands. During this operation the pin serves to hold rod D lowered in casing A; but as soon as an upward pull is exerted upon the sucker-rod and communicated through it to the fishing-tool said pin breaks and rod D ascends through head C. The threaded connection between the rod and head causes the head and casing A to turn to the left, as the threads of said connection are right hand. The whole weight of the lower portion of the sucker-rod remaining in the well is exerted when drawn upward upon to cause it to revolve, as will be understood, with the effect that said remaining portion will disconnect at one of its joints and most usually at the first joint below the fishing-tool, or, in other words, at that joint uniting the shattered section and the section next below it.

The spiral of rod D is formed of a greater number of convolutions than are necessary to sufficiently rotate the casing and horn-socket to disconnect the rod-section, so that the latter will be sure to disconnect at one of its joints. After the shattered rod-section has been removed the withdrawn sections may be reinserted and united with those remaining in the tube, such union being usually a comparatively easy matter. If, however, difficulty should be encountered in uniting the sections, the fishing-tool may be used for withdrawing the lowermost part, so that the sections may be coupled above ground, as will be understood.

The left-hand-thread connection between the horn-socket and the tool proper is simply made tighter by the rotation of the tool, as when being raised, so that the whole tendency of the rotating tool is to unscrew the rod-section beneath it and tighten the joints above it.

I am aware that a device has been constructed with a spiral rod carrying at its lower end a threaded cap adapted to be operated under the weight of the tools above for forcing a screw-tap into an oil-well valve and after being forced therein to withdraw the valve from the well. My invention differs from this in that I have a left-hand spiral-threaded rod, whereby when a threaded nut is drawn up over the rod the rod is rotated to the left for unscrewing a broken section of a sucker-rod or similar parts of an Artesian well for removing the broken part and leaving the remaining portion in the well, and in that the screw-threaded rod is provided with a horn-socket to embrace the broken portion to be removed and adapted to be forced thereon by blows from above and then by an upward pull to revolve the horn-socket to the left to unscrew the broken section, and which at the same time tends to tighten all of the sections of the pipe or connection above my device.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An oil-well fishing-tool comprising a tube carrying at its lower end a tube-embracing member, a screw-threaded block at its upper end, a longitudinally-movable rod within the socket, the rod and block having a left-handed spiral thread, and a connection between the upper end of the rod for drawing the rod upward and thus rotating the two embracing members and the part embraced thereby to the left for unscrewing it from the parts therebelow, substantially as described.

2. An oil-well fishing-tool comprising a tube having at its lower end a block with an upwardly-extending opening having a left-handed thread, a horn-socket having a corresponding thread and fitting therein, the upper end of the tube having a block provided with an opening, a rod passing through the said block, the rod and block having a spiral left-handed thread, the rod projecting through the block, and having a right-hand-threaded projection, for receiving the lifting section or sections, whereby an upward pull upon the rod will rotate the tube and the horn-section to the left for unscrewing the broken section and at the same time tighten the sections above, substantially as described.

3. An oil-well fishing-tool comprising a tube having at its lower end a tube-embracing member, its upper end having a threaded block, a rod having a corresponding thread passing through the block within the tube and projecting beyond its upper end to receive a lifting connection, the rod having an opening just below the block when it is in its inward position, and a pin passing through the said opening adapted to hold the parts in a closed position when being inserted, the pin adapted to break under an upward pull to permit the rod to move through the block, substantially as described.

4. An oil-well fishing-tool comprising a tube having at its lower end a tube-embracing member constructed to tightly embrace the tube by an endwise pressure or blow, the upper end of the tube having a block with a threaded opening, a rod passing through the opening and having a corresponding thread, the upper end of the rod projecting through the block and having a shoulder thereabove for engaging the block whereby a downward pressure may be exerted upon the tube for forcing the tube-embracing member thereon, said extending end of the rod constructed to receive a lifting section or sections, whereby a downward pressure will cause the tube-embracing member to tightly embrace the broken section of the tube and an upward pull will rotate the tube-embracing member for unscrewing the broken section to be removed, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

BURCHARD D. THOMPSON.

Witnesses:

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