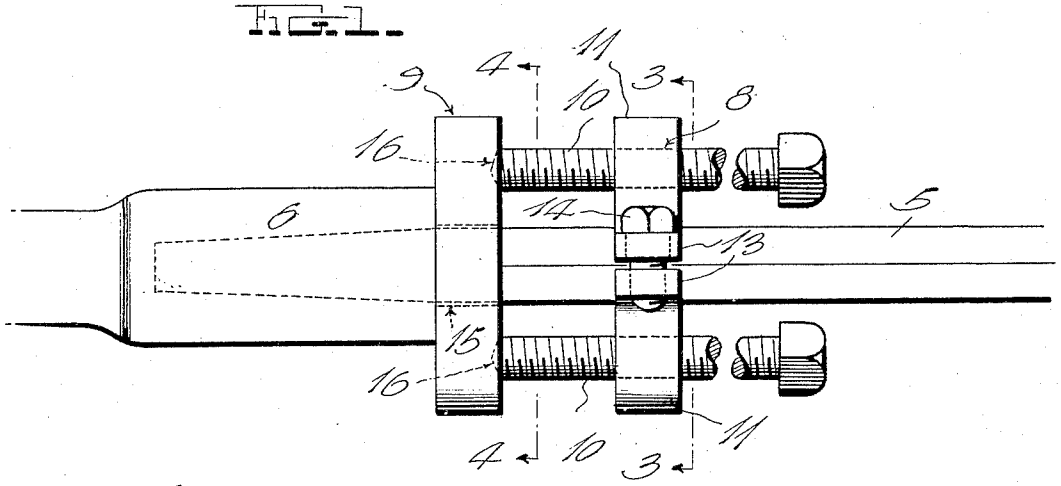
M. C. SHEA.

DRILL PULLER.

APPLICATION FILED MAR. 21, 1919.

1,326,426. Patented Dec. 30, 1919.

FIG. 1.



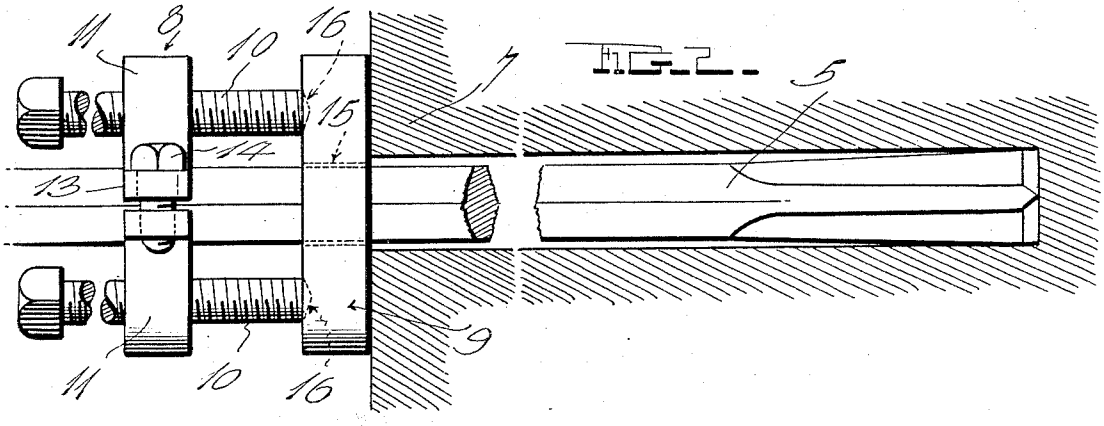


FIG. 2.

FIG. 4.

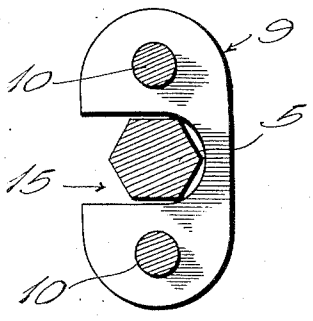
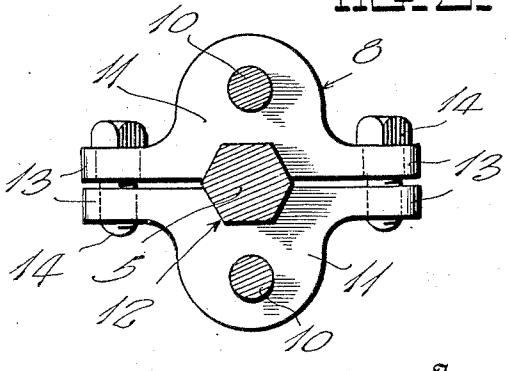


FIG. 3.



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DRILL-PULLER.

1,326,426. Specification of Letters Patent. **Patented Dec. 30, 1919.**

Application filed March 21, 1919. Serial No. 284,130.

To all whom it may concern:

Be it known that I, MICHAEL C. SHEA, a citizen of the United States, residing at Hancock, in the county of Houghton and State of Michigan, have invented certain new and useful Improvements in Drill-Pullers; and I do 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 appertains to make and use the same.

This invention relates to drill pullers.

One object of the invention is to provide an improved device for pulling "stuck" drills or bits from the chucks or sockets that hold them, and for pulling drills, bits, bolts or other fastened rods from a body in which one or more of such rods are fastened.

A further object is to provide a device of this character which is applicable to clamp a drill or rod having both ends "stuck" or fastened, the device being adapted to engage with the drill or rod without passing over either end of the rod.

Other objects and advantages may become apparent to persons who read the following details of description in connection with the accompanying drawings, in which:—

Figure 1 is an elevation showing my improved puller in position for pulling a drill from the drill socket.

Fig. 2 is an elevation of my improved puller in position for pulling the drill from a hole which it has drilled and in which it is stuck.

Fig. 3 is a sectional view taken along the line 3—3 of Fig. 1.

Fig. 4 is a sectional view taken along the line 4—4 of Fig. 1.

Referring to these drawings in detail, in which similar reference characters correspond with similar parts throughout the several views, the reference character 5 indicates a drill, 6 indicates a drill chuck, and 7 indicates a rock or other body into which a hole has been drilled, these elements being shown merely to illustrate the application of this invention. My invention comprises broadly a clamp 8, a foundation plate 9 and screws 10, each of the latter being operatively engaged with one of the two counterpart clamping members of jaws 11, these jaws being provided with screw-threaded apertures through which the screws 10 extend. Each of the jaws 11 is notched at 12, and these complemental notches 12 are of such shape that they fit snugly against the surface of the drill or rod intended to be clamped thereby, as shown in Fig. 3. On each of the jaws or plates 11 is formed apertured ears 13 extending in opposite directions from its notch 12. Screws 14 are engaged with threads in the apertured ears 13 of one of the jaws 11, and extend through the apertured ears 13 of the other jaw 11, these screws 14 being operatable to draw the clamping members or jaws 11 toward one another and thereby tightly clamp the drill or rod which is disposed in the notches 12. It will be seen that the jaws 11 may be separated by removing the screws 14, and may be passed laterally of the drill or rod into clamping position thereon, so that even though one end of a drill be stuck in a drill socket, and its other end is stuck in a body being drilled, the clamp may be secured on the drill between the chuck and body being drilled.

The foundation plate 9 is formed with a notch 15 which opens through one of the lateral edges of the plate, so that the plate may be passed laterally onto a drill or rod even though both ends thereof be stuck. At opposite sides of the notch 15, the foundation plate 9 is formed with circular depressions 16 which preferably conform to the ends of the screws 10, so that the latter may be turned in these depressions when the plate is in the operative position shown in Figs. 1 and 2. The advantages of this foundation plate are, first, it provides a seat for the screws 10 when the chuck or socket member 6 is too narrow to provide such a seat, as shown in Fig. 1; second, it provides the depressions 16 which may receive oil or other lubricating material which makes the friction of the screws far less than if their ends were operating against an unlubricated surface; and third, it avoids damage to a surface being drilled, by imposing a smooth and solid surface against the body being drilled, instead of causing the screws 10 to bear directly against the body being drilled.

In operating this device, the foundation plate 9 is positioned against the chuck 6 or the body 7, according to which member the drill is stuck in, and the jaws 11 are placed on opposite sides of the drill in such position that the drill is disposed in the notches 12, while the screws 10 are disposed

in the depressions 16, whereupon, the screws 14 are placed in the ears 13 and tightened until the drill is tightly clamped by this clamp 8; and now, the screws 10 are alternatively or simultaneously rotated in the direction for causing the clamp 8 to move away from the foundation plate 9, and it will be seen that this operation withdraws or starts the drill or rod from the member in which it is stuck.

Although I have described this embodiment of my invention very specificially, it is not intended to limit this invention to these exact details of construction and arrangement of parts, but I am entitled to make changes within the scope of the inventive idea disclosed in the foregoing description and following claims.

What I claim as my invention is:—

1. In a pulling device, a pair of clamping members each formed with apertures through its ends and with a widened middle portion having a notch in one edge, means extending through the apertured ends of said clamping members to cause their notched portions to clamp an object to be pulled, a pair of pushing screws, and a foundation plate against which the ends of the pushing screws push, said widened middle portions of the clamping members being formed with screw-threaded apertures in which said pushing screws operate.

2. In a pulling device, a pair of clamping members each formed with apertures through its ends and with a widened middle portion having a notch in one edge, screws extending through the apertured ends of said clamping members to cause their notched portions to clamp an object to be pulled, a pair of pushing screws, and a foundation plate against which the ends of the pushing screws push, said widened middle portions of the clamping members being formed with screw-threaded apertures in which said pushing screws operate, said foundation plate being formed with depressed seats to receive the pushing ends of said pushing screws and to retain lubrication for the screws, said foundation plate being formed with a laterally opening notch between said depressions and adapted to receive a rod or the like to be pulled.

In testimony whereof I have hereunto set my hand.

MICHAEL C. SHEA.