

1,365,857.

FIG. 1

FIG. 1.

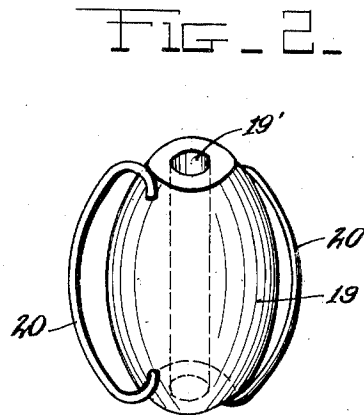


FIG. 2.

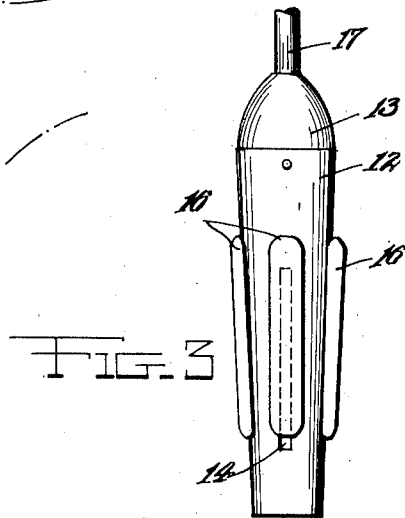


FIG. 3

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Patented Jan. 18, 1921.
 2 SHEETS—SHEET 2.

FIG. 4.

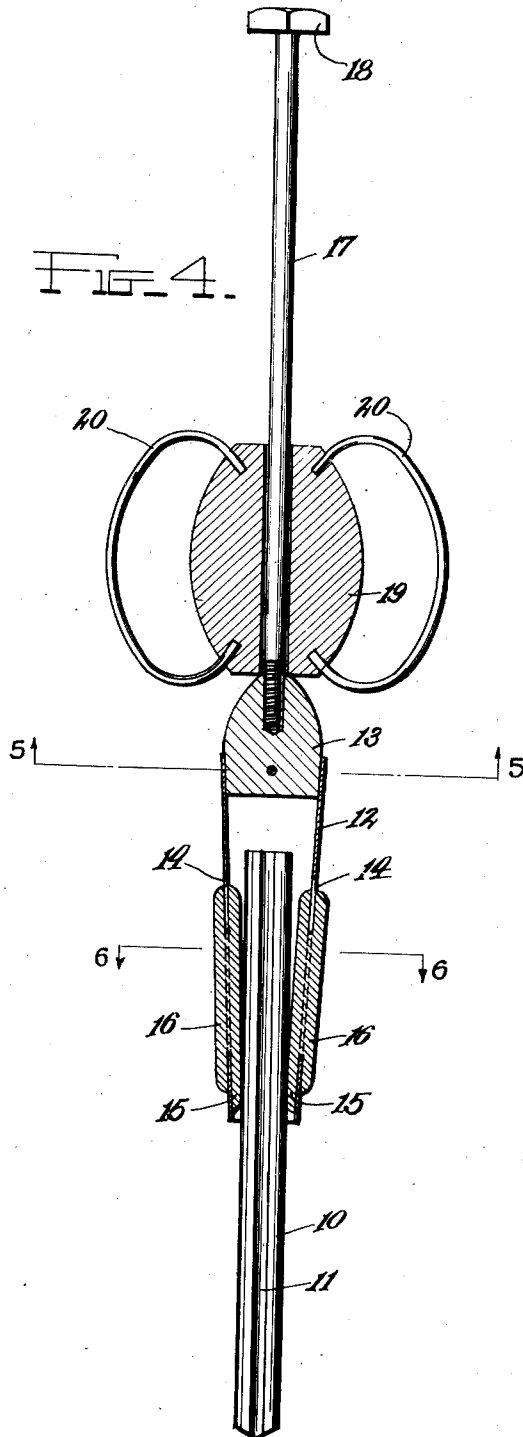


FIG. 5.

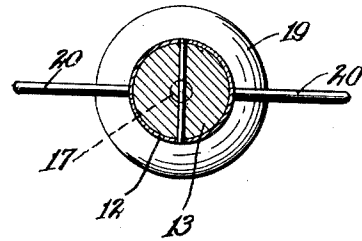
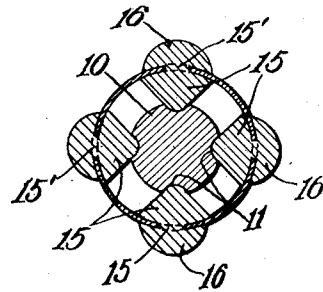


FIG. 6.



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DRILL-PULLER.

1,365,857.

Specification of Letters Patent.

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Application filed March 27, 1920. Serial No. 369,205.

To all whom it may concern:

Be it known that I, FRANK SEDER, a citizen of Lithuania, residing at Winehaven, county of Contra Costa, and State of California, have invented certain new and useful Improvements in Drill-Pullers, of which the following is a specification.

This invention relates to a drill pulling device for use in connection with drills such as are used in drilling rock in mines or otherwise.

The invention has for an object to provide a simple and inexpensive device which may be readily attached to the projecting end of a drill which has been driven into any desired material, whereby the drill may be dislodged even though very tightly embedded in such material.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

Figure 1 of the drawings is a side elevation of my improved drill pulling device, showing it applied to a drill embedded in a body of material.

Fig. 2 is a perspective view of the sliding hammer.

Fig. 3 is a detail side view of the drill-gripping chuck.

Fig. 4 is an axial sectional view of the device.

Fig. 5 is a horizontal section on the line 5-5 of Fig. 4.

Fig. 6 is a horizontal section on the line 6-6 of Fig. 4.

In the drawings 10 indicates a drill of the type used in boring rock or like material and which is provided with longitudinal grooves 11 in the sides thereof. My improved drill puller comprises a chuck adapted to grip the drill and consisting of a conical casing 12 having a solid head 13 at its upper end rigidly secured thereto in any suitable manner. The side wall of this casing is formed with a series of longitudinal slots 14 spaced similarly to the grooves 11 in the drill 10 so as to register therewith when the casing is placed over the end of the drill as in Fig. 4.

Slidably mounted within the casing 12 are a series of elongated jaw bars 15 which

are guided in the slots 14 in the wall of the casing and have inwardly converging sides terminating in rounded edges which are adapted to engage in the grooves 11 in the drill, as indicated most clearly in Fig. 6. These jaw bars 15 have narrow projecting ribs 15' which extend through the slots 14 and are enlarged as at 16 to overlap the same on the outside. These enlargements 16, in addition to holding the jaws in place, form the medium through which the jaws are moved to grip, or disengage from the drill.

Projecting rigidly upwardly from the head 13 is a rod 17 having a solid head 18 on its upper end, this rod having slidably mounted thereon a heavy hammer member 19, the rod passing freely through an axial opening 19' in the hammer member which is preferably of approximately barrel shape as shown. Fixed to this hammer member 19 on opposite sides thereof are a pair of handles 20 which preferably comprise curved rods extending in a vertical plane along, and suitably spaced from, the sides of the hammer and embedded at their ends therein.

It is believed that the manner of use of my improved drill pulling device will be readily understood by those skilled in the art from the above description. When the drill is to be removed from the material in which it is embedded the casing 12 is placed over the end of the drill and the jaw bars 15 moved outwardly, the conical shape of the casing causing the bars to move into engagement with the drill against which they may be suitably wedged.

The hammer 19 is then grasped by the handles 20 and moved quickly along the rod 17 until it strikes the head 18 of the latter, the blows of the hammer on the head being repeated until the drill is released, it being apparent that the pull on the drill under the impact of the blows causes the jaws 15 to grip the drill more tightly so that the chuck does not tend to disengage from the drill. When the drill has been removed from the material the jaws are released from the drill in any suitable manner as by hitting the projections 16 with a hammer, thus releasing the drill from the drill pulling device.

Having thus described my invention what I claim as new and desire to protect by Let-

ters Patent of the United States is as follows—

1. A drill pulling device, comprising a chuck adapted to grip a drill, and a hammer movably carried by said chuck and adapted to impact against a shoulder element on said chuck.
2. A drill pulling device, comprising a chuck adapted to grip a drill, a rod extending rigidly from said chuck, and presenting a shoulder, and a hammer slidable on said rod adapted to impact against said shoulder.
3. A drill pulling device comprising a chuck adapted to grip a drill, a rod extending axially from the rear end of said chuck and having a solid head, and a hammer slidable on said rod adapted to impact against the said head.
4. A drill pulling device comprising a

chuck adapted to grip a drill, a rod extending axially from the rear end of said chuck and having a solid head, and a hammer slidable on said rod adapted to impact against the said head, said hammer comprising a substantially barrel shaped member through which said rod passes axially.

5. A drill pulling device comprising a chuck adapted to grip a drill, a rod extending axially from the rear end of said chuck and having a solid head, and a hammer slidable on said rod adapted to impact against the said head, said hammer comprising a substantially barrel shaped member through which said rod passes axially, said member having a pair of handles extending laterally on opposite sides thereof.

In testimony whereof I have affixed my signature.

FRANK SEDER.