Nov. 25, 1924. 1,516,602

G. C. HILL

TOOL FOR SEATING AND UNSEATING STUD BOLTS

Filed April 11, 1923

Fig. 1.

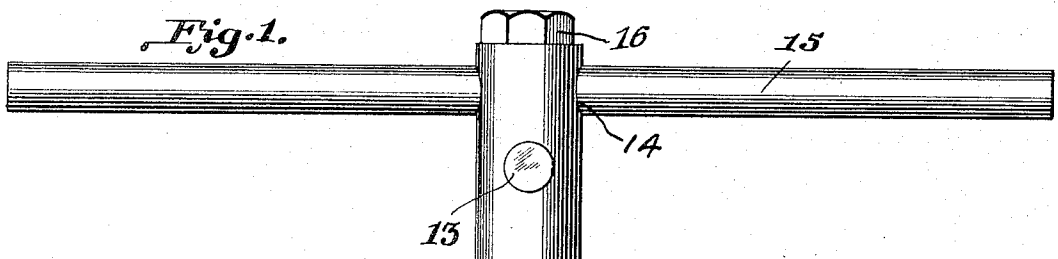


Fig. 2.

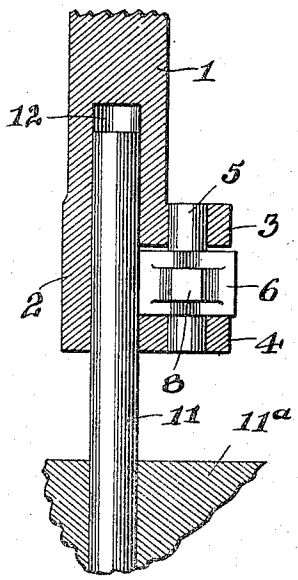


Fig. 3.

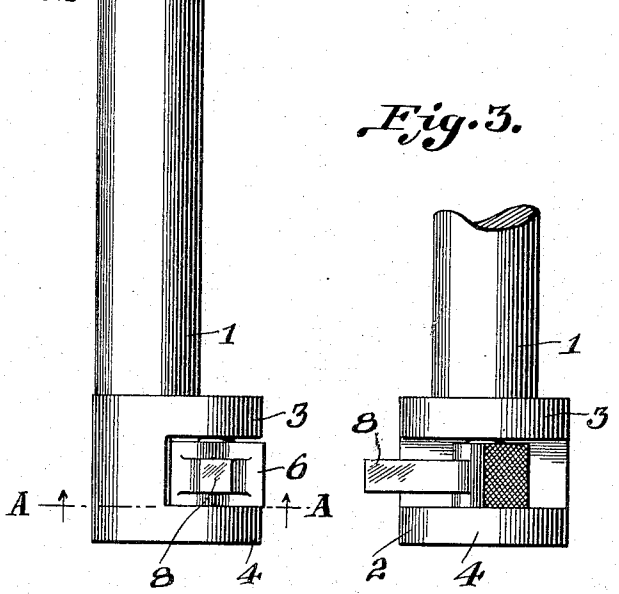


Fig. 4.

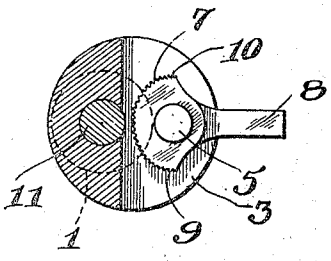


Fig. 5.

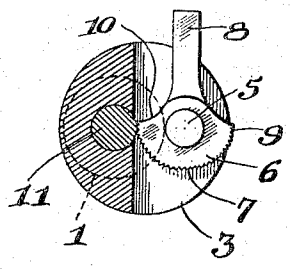
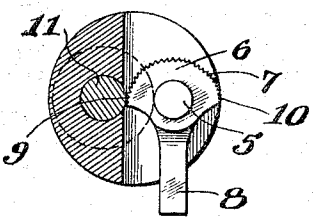


Fig. 6.



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UNITED STATES PATENT OFFICE.

GEORGE CLIFFORD HILL, OF LOS ANGELES, CALIFORNIA.

TOOL FOR SEATING AND UNSEATING STUD BOLTS.

Application filed April 11, 1923. Serial No. 631,454.

To all whom it may concern:

Be it known that I, GEORGE CLIFFORD HILL, a citizen of United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Tools for Seating and Unseating Stud Bolts; 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 appertains, to make and use the same.

This invention relates to tools for seating and unseating stud bolts, and particularly to a tool with a shank tubular at one end for receiving the end of a bolt with a binding pawl adjacent the tube, and the other end of the shank provided with means for turning the shank to seat or unseat a stud bolt.

The object of the invention is to provide a tool that may be carried in a small space and contain in itself all the parts necessary for screwing stud bolts into the heads of cylinders or in other places, and that may be used equally as well for unscrewing the stud bolts from such positions, and without injury to the protruding threaded end of the stud, in either process.

A further object is to provide a tool for seating and unseating stud bolts in places difficult of access with ordinary wrenches.

A still further object is to provide a tool for seating and unseating stud bolts, with a shank of any desired length, having a hole extending longitudinally into one end of the shank, and a pawl mounted to operate at right angles with the bore, said pawl having a lug or handle on one end for releasing it from a tightened position against a stud; the other end of the shank provided with a hole at right angles therethrough for a turning bar and a head for turning the shank if desired, by any suitable wrench.

In my drawings, like numerals on the different figures refer to like parts of the tool.

Figure 1 shows a front elevation of the tool complete;

Fig. 2 shows cross section of the lower part, with a stud bolt;

Fig. 3 shows a side elevation of the lower end of tool, and

Figs. 4, 5 and 6 show cross sectional views taken at A—A of Fig. 1, with the pawl in different positions.

Numeral 1 is the shank or shaft which may be of any desired length, having a longitudinal bore and a boss enlargement at its lower end 2, with two spaced jaws 3 and 4 extending from one side, suitably bored to provide end bearings for pin 5 on which is mounted a pawl 6, one end thereof being in form of an arc with roughened surface 7, and the other end extending for a handle 8 to operate the pawl as desired for binding against a stud bolt 11 as the shank 1 is turned and particularly for loosening the pawl from the stud after it has been seated or removed from its seat, in which process the pawl frequently becomes jammed tightly against the stud. The ends of the pawl arc shown at 9 and 10, with the pivot pin 5 midway between, but nearer the center line of the arc than the ends, whereby the ends of said arc operate eccentrically and with a cam motion as the pawl is turned. The lower end of the shank is bored out as at 12 to slidably fit over any desired size of stud, and as the pawl is turned one of the arc ends 9 or 10 projects into the bore and against the side of the stud within the bore as in Fig. 2.

One or more transverse holes as 13 and 14 are provided through the upper end of shank 1 for receiving a short turning bar 15 for turning the shank and the stud in either direction to right or left, for seating or unseating the stud from its bed block 11^a, the pawl being operative in either direction as shown in Figs. 5 and 6, for binding against the stud, and entirely withdrawable from the bore as to permit entrance of the stud into the bore. The bar 15 may be removed from shank 1 and the entire tool easily packed in small space. The top of shaft 1 is provided with a hexagon or other head 16 for arc extension socket wrench.

I claim:

In a tool for seating and unseating stud bolts, a tubular shaft, a nut formed on one end of said shaft, said shaft being provided with a plurality of holes extending therethrough at right angles to each other and at right angles with the shaft and adjacent said nut, an adjustable rod adapted to slidably engage either of the holes for turning the shaft; the other end of said shaft being provided with spaced jaws extending at right angles thereto, the opening between said jaws extending into the bore of said shaft, an eccentric pawl mounted rotatively

on an axle, held between the jaws, one edge of the pawl when so mounted extending to the bore in the shaft and having a serrated, curved face, the other edge of the pawl provided with a handle for operating the same, the serrated portion of the pawl being eccentrically mounted with respect to the bearing axle and the bore in the shaft, for tightening against said hole when the shaft is turned in either direction after the hole is turned as desired.

In testimony whereof I affix my signature.

GEORGE CLIFFORD HILL.