No. 885,221. PATENTED APR. 21, 1908.

F. C. BOHM.

RATCHET DRILL.

APPLICATION FILED MAY 8, 1907.

Fig. 1.

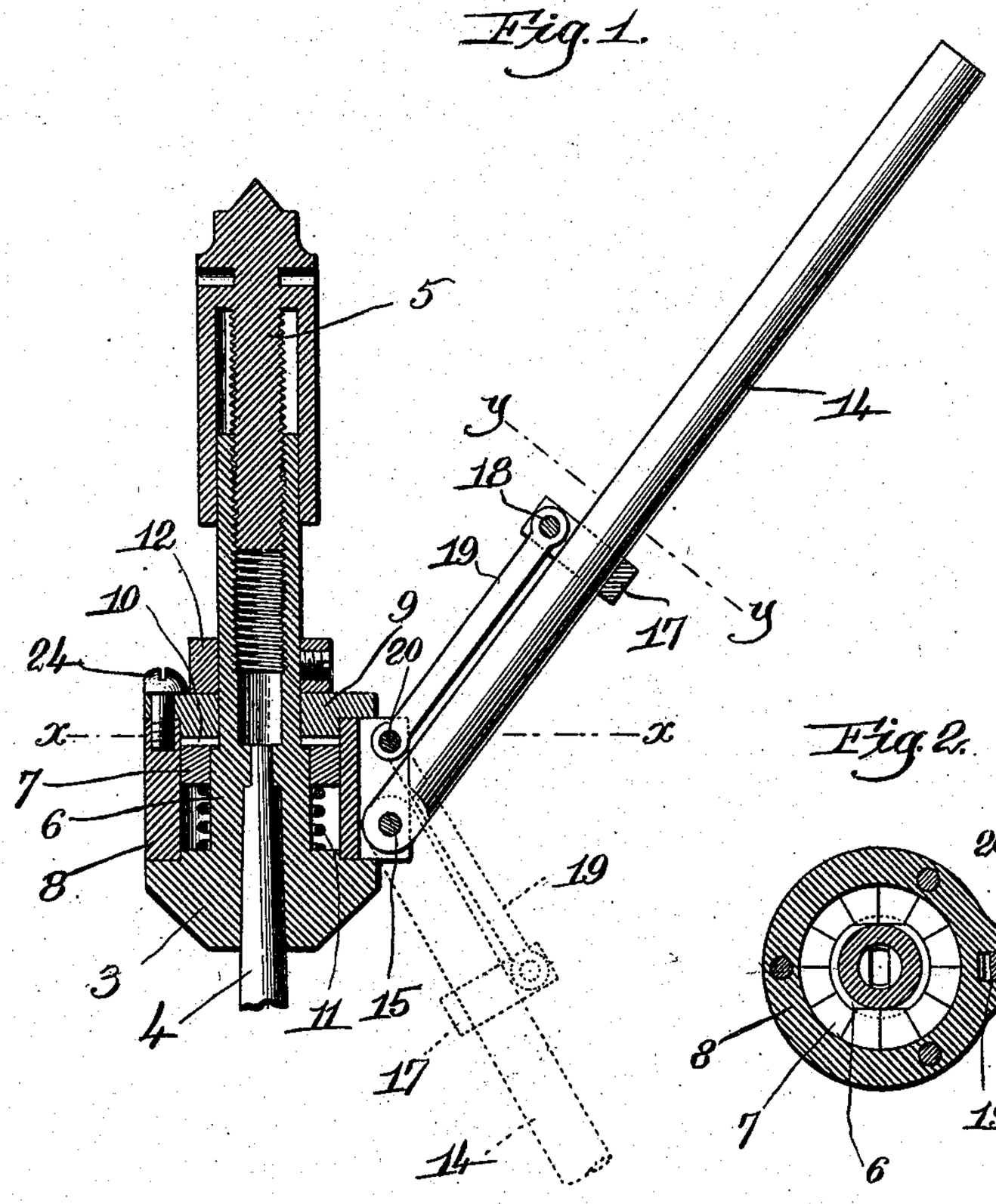
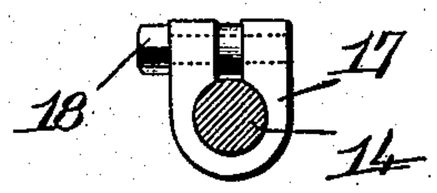


Fig. 2.

Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

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RATCHET-DRILL.

No. 885,221. Specification of Letters Patent. Patented April 21, 1908.

Application filed May 8, 1907. Serial No. 372,587.

To all whom it may concern:

Be it known that I, FREDERICK C. BOHM, a citizen of the United States, residing in Boston, county of Suffolk, and State of Massachusetts, have invented an Improvement in Ratchet-Drills, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

This invention relates to ratchet drills and has for its object to provide a novel arrangement of handle whereby the handle may be swung into different angular positions relative to the axis about which the drill turns.

In most ratchet drills the handle is rigid with the socket piece and extends at right angles to the axis about which the drill is turned. With such a drill it is difficult if not impossible to get into corners for the purpose of operating the drill but with my improved arrangement whereby the handle may be adjusted into any desired angular position with relation to the drill it is possible to use the drill in cramped places where an ordinary drill could not be used.

Other objects of my invention are to improve generally this type of drill all as will be more fully hereinafter described and then pointed out in the claims.

In the drawings wherein I have illustrated one embodiment of my invention Figure 1 is a vertical section through a drill socket showing one construction embodying my invention; Fig. 2 is a section on the line *x*—*x*, Fig. 1; Fig. 3 is a section on the line *y*—*y*, Fig. 1.

3 is the head or socket-piece which is provided with the usual aperture to receive the shank 4 of the drill. This socket-piece is shown as having screw-threaded thereto the usual rest 5 which is adapted to bear against the resistance member for the purpose of keeping the drill to the work as usual.

The socket-member or head 3 is provided with a shank 6 surrounding which is a ratchet member 7 in the form of a ring. The shank 6 is non-circular and the ring-like ratchet member 7 has a non-circular aperture to fit the shank 6 so that the two parts must rotate together. Said ratchet member 7 however can move longitudinally of the shank.

The ratchet member 7 is inclosed within a casing 8 which surrounds the stem and which has a cap 9 provided on its under surface with ratchet teeth 10 adapted to engage those on the ratchet member 7.

The ratchet member 7 is held against the ratchet teeth 9 by means of a spring 11 confined within the casing and resting at one end against the head 3 and at the other end against the ratchet member 7.

12 is a collar adjustably secured to the shank or stem 6 above the cap 9, said collar being for the purpose of holding the head 3 and shell 8 in operative relation with each other.

The drill is operated by the handle 14, and instead of making said handle rigid with the casing 8 I have pivoted it thereto so that it may swing about an axis perpendicular to the axis of rotation of the drill, or in other words in a plane either parallel to or including the axis of rotation of the drill, and may be set in different angular positions in said plane. Said handle is shown as pivoted at 15 between two ears 16 formed on the casing, but this particular way of pivoting it to the casing is not essential to the invention.

For clamping the handle in its adjusted position I have in this embodiment shown a clamping collar 17 slidably mounted on the stem and adapted to be clamped thereto by a clamping nut 18. This collar has connected thereto a link 19 which is pivoted to the casing 8 at 20 at a point above the pivotal point 15 for the handle.

When the handle is swung into different positions the collar 17 will slide up and down the handle, as will be obvious, and said handle may be fixedly held in the desired position by merely tightening the clamping screw 18 thereby to clamp tne collar firmly to the handle.

In the drawings the handle is shown in full lines as in one extreme position and in dotted lines in another extreme position and it may be adjusted into any position intermediate of these two positions.

The cap 9 is preferably made detachable from the casing 8 to afford access to the ratchet-member 7 and spring 11, and said cap is held to the casing by suitable screws 24.

By this arrangement it is possible to swing the handle into various positions so as to permit the device to be used for drilling holes in corners and other places where it is not possible to use the ordinary ratchet drill.

I have not attempted herein to illustrate all forms of my invention, but I have shown the preferred embodiment only.

Having described my invention what I

claim as new and desire ot secure by Letters Patent is:—

1. In a ratchet drill, the combination with a drill-receiving member, of a shell or casing having a ratchet engagement therewith, a handle pivoted to said shell, a link also pivoted to the shell, and a clamping collar adjustably mounted on the handle and having pivotal connection with the link.

2. In a ratchet drill, the combination with a drill-receiving member, of a shell or casing having a ratchet engagement therewith, a handle pivoted to said shell, a link also pivoted to the shell and extending parallel to the handle, and a clamping collar adjustably mounted on the handle and pivoted to the link.

3. In a ratchet drill, the combination with a drill-receiving member 3 having a head and a stem with a non-circular portion 6, of a casing 8 surrounding said stem and having rigid therewith a cap 9 through which the stem projects, said cap having ratchet-teeth on its under surface, a ratchet-ring 7 confined on the non-circular portion of the stem, and a spring confined between the head and the ratchet ring to maintain the latter in operative engagement with the ratchet teeth on the cap.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

FREDERICK C. BOHM.

Witnesses:

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JOHN C. EDWARDS.