April 14, 1936. C. S. GATES 2,037,681

TOOL HOLDER

Filed Feb. 4, 1935

Fig. 1.

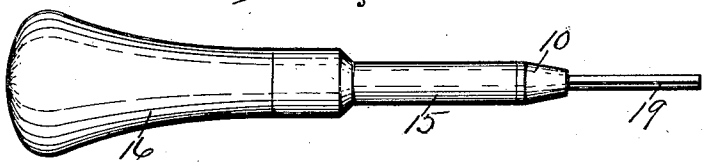


Fig. 2.

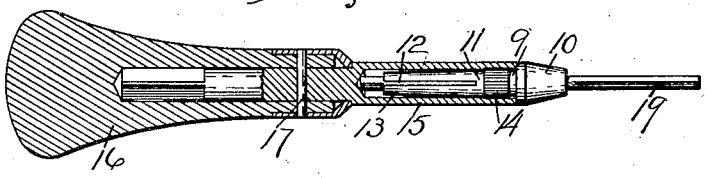


Fig. 4.

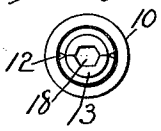


Fig. 3.

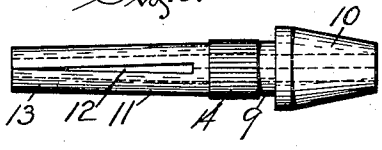


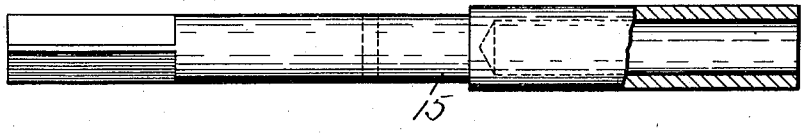
Fig. 5.



Fig. 6.



Fig. 7.



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TOOL HOLDER

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Application February 4, 1935, Serial No. 4,757

2 Claims. (Cl. 279—41)

My invention relates to the class of devices above mentioned, and an object of my invention, among others, is the production of a device of this type that shall be simple in construction and particularly efficient in operation.

One form of a tool holder embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained is illustrated in the accompanying drawing in which

Figure 1 is a side view of my improved tool holder showing its application in use.

Figure 2 is a view in central longitudinal section.

Figure 3 is a side view of the retainer.

Figure 4 is an end view of the same.

Figure 5 is a view looking at the opposite end from that shown in Fig. 4.

Figure 6 is a side view of the driver, on enlarged scale.

Figure 7 is a detail side view, on enlarged scale, of the retainer holder with parts broken away to show construction.

My improved tool holder illustrated and described herein is more particularly adapted for use in operations for securing socket screws in place, such screws embodying a recess of angular shape in cross section in one end of the screw, my improved holder having means to permit removal of the driver for renewal thereof or otherwise when required. One form of the device is illustrated and described herein for use with a tool of hexagonal shape which is adapted to fit a recess of similar shape in the end of a screw. Owing to the obtuseness of the angles on such tools they soon become deformed so that they will not accurately fit the socket in the end of the screw, and my improved holder provides means whereby such tool may be readily renewed when it becomes so deformed.

In the accompanying drawing the numeral 9 denotes a retainer member comprising a head 10 and a shank 11, the latter having slits 12 extending lengthwise thereof to create gripping fingers 13. That part 14 of the shank back of the head 10 is knurled or ribbed to closely fit a similarly knurled or ribbed surface on the interior of a socket piece 15 within which the retainer is projected and which is held in place by a sufficiently tight fit to prevent accidental displacement but to require comparatively little force to remove it when desired.

The socket piece is extended into a hole in a handle 16 its inner end being preferably squared to fit the squared inner end of said hole, and a retaining pin 17 may be employed if desired to secure the socket piece in place.

A hole 18 of angular shape in cross section, a hexagonal shape being shown herein, extends axially through the retainer or gripping member and a driver 19 of a size to fit the hole 18 is located in said hole. The fingers 13 are spring acting to exert a frictional grip on the driver, this grip being sufficient to hold the tool for ordinary use but permitting such tool to be readily moved lengthwise in the hole by the application of a little force.

In use the driver projecting from the headed end of the retainer may be placed in the socket in the head of a screw and by a turning action of the handle 16 the screw may be screwed into a hole threaded for its reception for the purpose of securing parts together, as will be well understood, and by a reverse turning movement of the handle the screw may be removed or unscrewed from such hole.

When the end of the driver 19 becomes worn, as hereinabove referred to, it may be pulled out of the retainer and reversed end for end to provide a new driver. In other cases when the driver is long enough and the end becomes worn and unfit for use this end may be cut off, leaving a part projecting beyond the retainer long enough for use for driving purposes.

I claim:

1. A tool holder comprising a handle with a hole therein, a socket piece extending into said hole and projecting beyond the end of the handle, a retainer extending into a socket in the socket piece and having gripping fingers located in said socket, said retainer having an axially extending hole of angular shape in cross section, and a driver fitting said hole and frictionally held therein by said fingers.

2. A tool holder comprising a handle with a hole therein, a socket piece extending into said hole, means to prevent rotating movement of the socket piece within the handle, a retainer extending into a socket in said socket piece and including a head seated against the end of the socket piece and spring fingers at the opposite end of said retainer, said retainer also having a hole of angular shape in cross section extending therethrough and a driver of angular shape in cross section fitting the hole in the retainer and seated against the bottom of the socket in the socket piece.

CLARENCE S. GATES.