Apr. 3, 1923. 1,450,203

P. DE BROWN

SCREW DRIVER

Filed Nov. 25, 1921 2 sheets-sheet 1

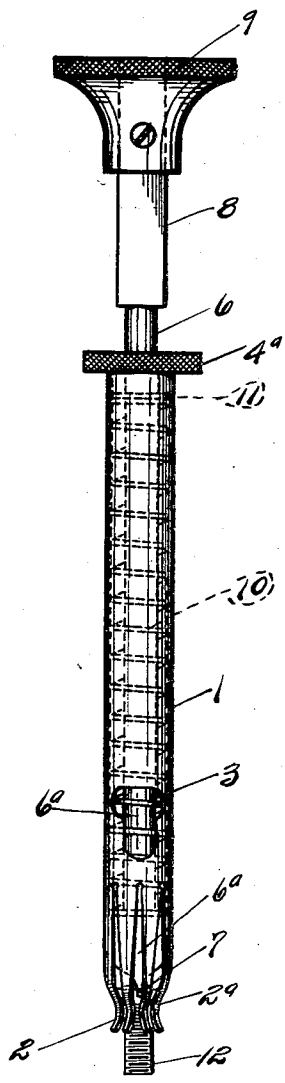


Fig-1-

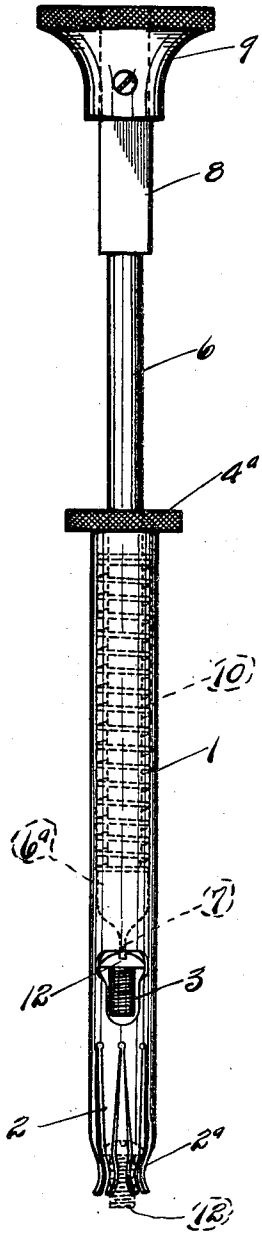


Fig-2-

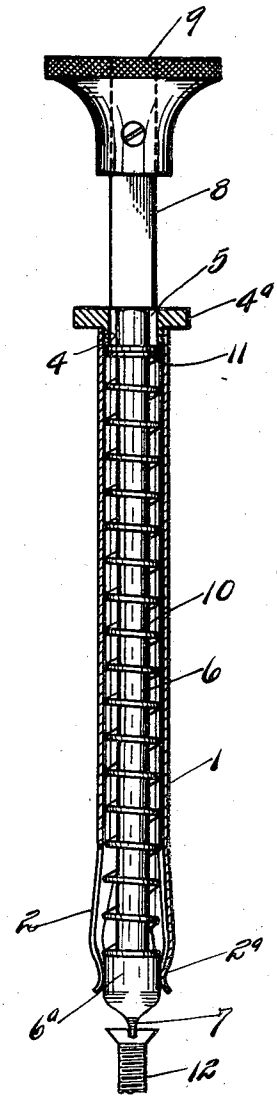


Fig-3-

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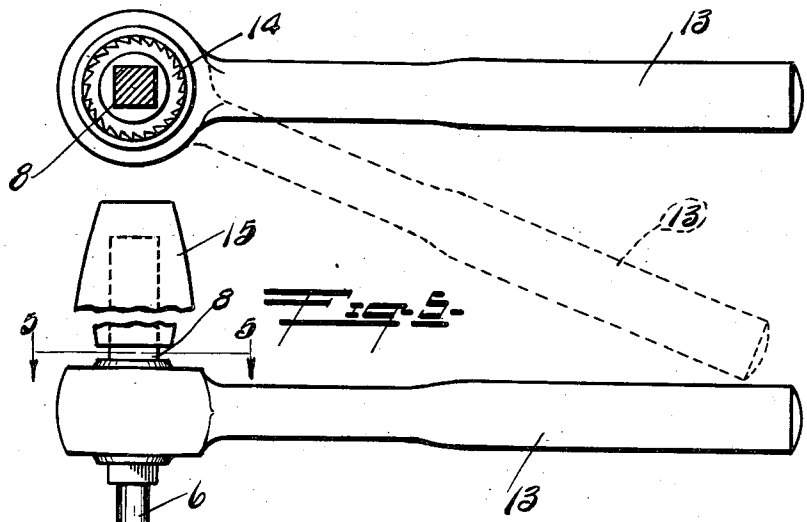


Fig. 5.

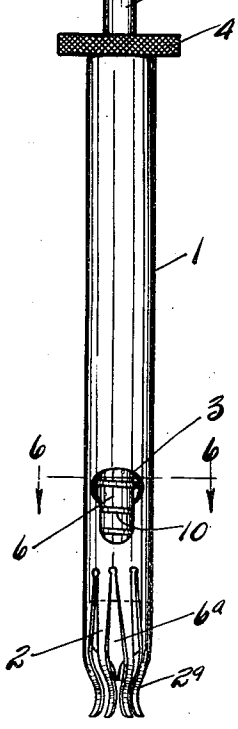


Fig. 4.

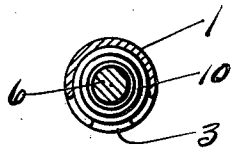


Fig. 6.

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UNITED STATES PATENT OFFICE.

PETER DE BROWN, OF BAY CITY, MICHIGAN.

SCREW DRIVER.

Application filed November 25, 1921. Serial No. 517,517.

To all whom it may concern:

Be it known that I, PETER DE BROWN, a citizen of the United States of America, and a resident of Bay City, in the county of Bay and State of Michigan, have invented certain new and useful Improvements in Screw Drivers, of which the following is a specification.

This invention relates to screw drivers and the like.

One object of the invention is to design a tool of this character having a barrel or casing into which the screws are inserted, and in which they are automatically centered and held until forced into the work by the screw driver blade.

Another object is to provide a simple and inexpensive tool having its lower end formed with a plurality of curved resilient figures between which the screw is adapted to be forced as it is being removed from its seat, thereby preventing its falling to the floor.

A still further object is to provide a tool in which the screw driver blade can be rotated independently of the barrel or casing, and also to provide means whereby the said blade may be retracted to allow the screw to be inserted in the barrel.

With the above and other objects in view the present invention consists in the combination and arrangement of parts, hereinafter more fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes may be made in the form, size, proportion and minor details of construction, without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—

Fig. 1 is a front view of my improved tool illustrating a screw in position in the barrel.

Fig. 2 is a view similar to Fig. 1, the screw driver blade being shown retracted, and a screw being placed in the barrel, the dotted lines illustrating the screw held and centered by the resilient fingers.

Fig. 3 is a vertical sectional view, the end of the screw driver blade being shown extended out of the barrel or casing.

Fig. 4 is a view similar to Fig. 1, the top knob being removed and a laterally extending ratcheting mechanism and a different handle being attached for heavy work.

Fig. 5 is a top plan view of Fig. 4, taken on the line 5—5 of Fig. 4.

Fig. 6 is a transverse sectional view taken on the line 6—6 of Fig. 4.

Referring now particularly to the drawings, in which I have shown the preferred embodiment of my invention, the numeral 1 designates a barrel or casing of tubular form, the lower end of this casing is formed with a series of curved resilient fingers 2 being bent intermediate their length as shown at 2^a to form a restricted opening, the ends being flared outwardly. An opening 3 is provided in the side of the barrel for introducing the screw. The top of the barrel or casing is open, and is interiorly threaded to receive the exteriorly threaded member 4, which is formed with a squared flange portion 4^a adapted to form a closure for this end of the barrel, a central opening 5 is provided in this member 4 and is adapted to receive the reduced shank portion 6 of a screw driver blade 7, the top portion of this shank is squared as shown at 8 and is adapted to receive a handle or knob 9 which is detachably secured thereto, a coiled compression spring 10 is carried on the shank 6 inside of the barrel, one end resting against the shoulder 6^a formed on the lower end of the screw driver, and a washer 11 is interposed between the top of the spring and the member 4, as the opening 5 is sufficiently large to allow the squared portion 8 to be inserted when assembling.

As previously stated the screw driver blade can be rotated independently of the barrel or casing, and when inserting a screw, the handle or knob 9 is forced to position as shown in Fig. 2, compressing the spring in the barrel, the lower end or blade of the screw driver will then be above the opening 3, the screw 12 is then inserted in the barrel and falls to position as shown in dotted lines in the same figure, the handle is then released, the point of the screw driver blade being forced against the head of the screw by the spring 10, and when the knob is rotated the point will enter the slot in the screw, the screw driver blade is of course centered in the barrel by reason of the shoulder 6^a, and the screw is centered by the inwardly curved resilient fingers 2, the

small end of the screw projects beyond the ends of the fingers, and can be readily inserted in the opening and continuously rotating and forcing inwardly of the knob 9, will quickly turn the screw to its seat. I wish to direct particular attention to the fact that the shape of the fingers supports the entire screw, the head expanding the fingers as it is forced through them. This is a decided advantage, and much time is saved when it is necessary to insert small screws into openings in a recess where it is almost impossible to get two fingers, which is necessary to start the screw when using an ordinary screw driver, this is especially difficult when the workman is forced to lie on his back and insert the screws by hand, as for instance in automobile assembling and repairing. It is also distinctively advantageous in removing screws and the like. When using the ordinary screw driver, the screws fall on the floor in dirt and débris, with my improved tool, the blade is forced beyond the ends of the fingers as shown in Fig. 3 of the drawings, and as the screws are backed out of the opening, the shouldered portion 6^a of the screw driver together with the screw is forced inwardly between the fingers and into the barrel of the tool so that the removed screw will be contained therein.

When it is desired to use screws longer than can be inserted in the opening 3, the member 4^a together with the screw driver proper is removed from the barrel, the screw is then inserted from the top and the members 4 and 7 placed in position the spring 10 compensating for the difference in the length of the screw. In the event that wood screws are being screwed into hard wood, or should it be hard to turn the screw driver by means of the knob member 9, this knob may be detached, and a handle 13 having a ratcheting attachment 14 placed over the squared portion of the screw driver shank, another handle 15 can then be secured on the end of the squared portion 8, and the screw driver can be readily turned, the operator can feed the tool into the work by forcing inwardly on the handle 15 and the blade can be readily rotated by the handle 13.

The tool may be used for other purposes such as countersinking, drilling and the like if desired, it is merely necessary to provide a shoulder near the lower end of the shank against which the spring may be abutted.

From the foregoing description it will therefore be obvious that I have perfected a very simple and inexpensive tool by means of which screws are automatically held and centered and can be threaded into an opening without the operator holding it with his fingers, and which will also expand and allow the screw to enter the barrel of the tool and prevent its falling in the dirt and débris.

What I claim is:—

1. In a tool of the class described including a barrel having a plurality of yieldable fingers formed integral therewith, said fingers being bent inwardly intermediate their length, the ends being flared outwardly, a screw driver slidably and rotatably mounted in the casing, a shoulder on the lower end of the screw driver, a spring interposed between the said shoulder and the top end of the casing for forcing said screw driver outwardly, and a handle detachably secured to the opposite end of the screw driver.

2. In a tool of the class described including a barrel provided with a screw receiving opening, and a plurality of yieldable fingers formed integral with the lower end thereof, said fingers being curved inwardly to form a restricted opening intermediate their length, the ends being flared, a screw driver slidably mounted in the barrel and provided with a shoulder formed on the lower end thereof, a closure for the upper end of the barrel, a coiled spring interposed between the said shoulder and the top of the casing, and a handle detachably secured to the upper end of the screw driver.

In testimony whereof, I affix my signature.

PETER DE BROWN.