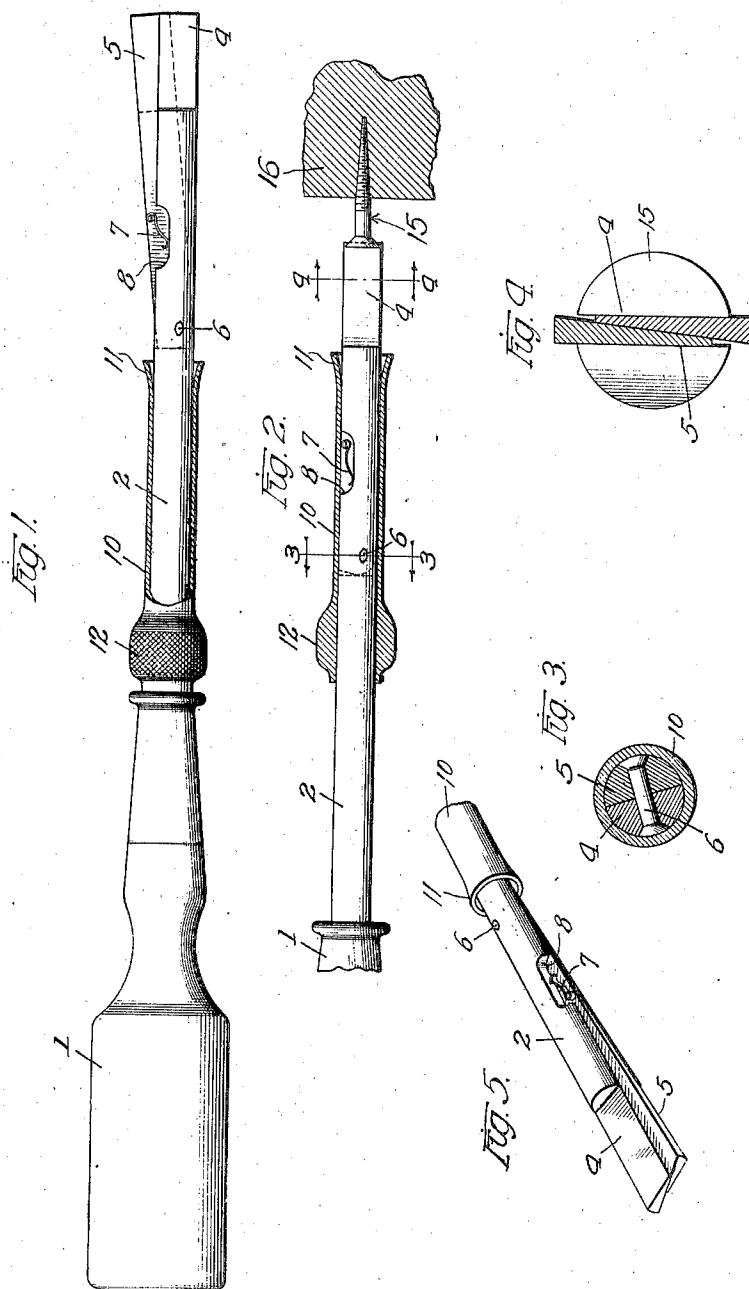


1,275,810.

F. H. WHITE.
SCREW DRIVER.
APPLICATION FILED AUG. 30, 1917.

Patented Aug. 13, 1918.



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UNITED STATES PATENT OFFICE.

FREDERICK H. WHITE, OF NEW YORK, N. Y.

SCREW-DRIVER.

1,275,810.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDERICK H. WHITE, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented a certain new and useful Improvement in Screw-Drivers, of which the following is a specification.

My invention relates to screw drivers adapted to engage the screw and thus hold it in place while it is being positioned. The object of the invention is to produce a device of this character which shall be simple in construction and efficient in action. In carrying out the invention in its present form, I have made the blade in two parts one of which is movable relatively to the other and have beveled them in such manner that when separated they will readily enter the kerf or slot in the head of the screw and when subsequently brought together will produce a wedging action upon the inner walls of the slot and thus firmly hold the screw at the end of the screw driver.

I accomplish my object by the mechanism illustrated in the accompanying drawings, in which:

Figure 1 is a side view chiefly in full elevation showing the complete device.

Fig. 2 is a side view illustrating the tool in action, the controlling sleeve being shown in axial section.

Fig. 3 is a cross section on the line 3—3, Fig. 2.

Fig. 4 is a cross section on the line 4—4, Fig. 2.

Fig. 5 is a perspective of the chief coöperating parts.

Similar numerals refer to similar parts throughout the several views.

In the form selected to illustrate the invention, the tool has a handle 1 of any suitable shape. Rigidly fastened to it is a shank 2 consisting preferably of a round steel rod, as in ordinary screw drivers. At the point or acting end of the tool there are two blades, 4, 5, the blade 5 being pivoted to blade 4 by a pin 6 or equivalent device. In the usual form the pin 6 is riveted over at the ends to hold the parts in position, as illustrated in detail in Fig. 3. The blade 4 is an integral part of the shank 2 and is cut away to accommodate blade 4 in such manner that the two blades form complements of each other and together compose the acting point of the tool. These blades are flat-

tened at the outer ends so that when in acting position, as shown in Fig. 4, the outer surfaces will be parallel and will enter the slot of the screw and engage the inner walls thereof, while the plane of separation of the two parts will lie oblique to the planes of the sides, thus producing a wedging action when the movable or pivoted blade 5 is swung into alinement with the stationary blade 4.

A spring 7 is fastened to one of the blades and acts upon the other one to normally hold the blades spread, as shown in Figs. 1 and 5. In the present case the said spring is fastened to the inner surface of the pivoted blade 5 and engages the bottom of a notch or countersink 8 formed in the edge of blade 4. This enables the sleeve 10 to clear the spring when slid to acting position as illustrated in Fig. 2.

Sleeve 10, just mentioned, is slidable upon shank 2 and flares at the outer end 11 to render it smooth in its action upon blade 5. It has a knurled boss 12 at its inner end to facilitate manipulation by the fingers of the user.

Let it be assumed that the user desires to insert the screw 15 into the wood or other piece of work 16. He first slips the sleeve 10 inwardly toward the handle, which permits the spring 7 to spread the blade, whereupon the parts appear as in Fig. 1. The user then places the spread blades into the screw slot, which freely receives the blades when in this condition. He then slides the sleeve 10 outwardly along shank 2, thus bringing the pivoted blade 5 into alinement with the fixed blade, which has the effect of moving the outer surfaces of the blade toward and into engagement with the inner walls of the screw-slot. On account of the wedging action due to the obliquity of the plane of partition between the two blades, a wedging action is produced which is quite powerful and is nevertheless easily produced through the agency of the sliding sleeve. It will be noted that the travel of the sleeve in bringing the blades to juxtaposition, or closed position, is much greater than the movement of the blades in moving from spread to closed position, and hence the holding power is multiplied, that is to say, the pressure of the blades upon the sides of the slot is greater than the pressure exerted by the user upon the sleeve. Of course the sleeve travels farther than the pivoted blade, but the intensity of pressure required on the part of

the user is less than the intensity of pressure finally created by the blades upon the sides of the screw-slot. The result is that the operator readily creates a frictional engagement between the blades and the screw which is abundantly sufficient to hold the screw in alinement while it is being positioned or started in the work.

This tool is of great advantage in places where there is no room for the operator to hold his hand upon the screw when the screw is entering the work. But the tool is advantageous in a wide variety of situations, for the hand which usually must be devoted to holding the screw, is free to be put to other purposes. When the blades have come into alinement with each other or have approximately reached this position, the friction between the blades and the sleeve will be sufficient to prevent the action of the blades from themselves sliding the sleeve backward, hence the sleeve will maintain its position and the blade may be said to be locked in acting position. Furthermore, the sleeve forms a housing for the blades or for the major portion of them when in acting position as shown in Fig. 2, and hence there is no danger that contact with external objects will cause the parts to become accidentally moved to a position where the screw will be released. In other words, the tool is self-locking and is well protected against accidental unlocking.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A screw driver having relatively movable blades adapted to enter the screw slot, one blade being slidable upon the other upon a plane oblique to the external acting surfaces of the blades.

2. A screw driver having two complementary blades each of substantially the full width of the tool at its acting end, one blade being movable in the plane of the width relatively to the other, and so arranged that said movement in one direction causes movement in the direction of its thickness, and means for holding said blades relatively non-movable.

3. A screw driver having a stationary blade and a complementary blade pivoted thereto, the pivoted blade being slidable upon the stationary blade upon a plane oblique to the external acting surfaces of the tool, and means for sliding one of said blades upon the other upon said oblique plane.

4. A screw driver having two acting

blades, one pivoted upon the other, said blades parting upon a plane oblique to the external acting surfaces of the tool, means for normally holding said blades spread and means for locking said blades in alinement with each other.

5. A screw driver having two acting blades forming complements of each other, one blade being movable relatively to the other upon a plane oblique to the external acting surfaces of the tool, a spring fastened to one blade and pressing upon the other to normally hold them spread, and a sleeve slidable lengthwise of the blades, one of the blades being countersunk to receive the spring, whereby the sleeve may slip over the spring without engaging it.

6. A screw driver having a shank rigidly fastened to the handle, the outer end of the shank being flattened to form a blade, a movable blade pivoted to the shank and forming a complement to the stationary blade, means for normally holding the blades spread, and a sleeve slidable upon said shank and over the major portion of said blades for bringing them into alinement.

7. A screw driver having a shank rigidly fastened to the handle, the outer end of the shank being flattened to form a blade, a movable blade pivoted to the shank and movable in the plane of its width and forming a complement to the stationary blade, whereby movement in the plane of its width causes movement in the direction of its thickness, means for normally holding the blades spread, and a sleeve slidable upon said shank and over the major portion of said blades for bringing them into alinement, said sleeve having a flaring outer end to facilitate its action.

8. A screw driver having a shank rigidly fastened to the handle, the outer end of the shank being flattened to form a blade, a movable blade pivoted to the shank and movable in the plane of its width and forming a complement to the stationary blade, whereby movement in the plane of its width causes movement in the direction of its thickness, means for normally holding the blades spread, and a sleeve slidable upon said shank and over the major portion of said blades for bringing them into alinement, said sleeve having a knurled boss at its inner end whereby it may be more readily grasped by the fingers of the user.

In witness whereof, I have hereunto subscribed my name.

FREDERICK H. WHITE.