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C. S. WEBER
 MULTIPLE BIT TOOL
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2,609,019

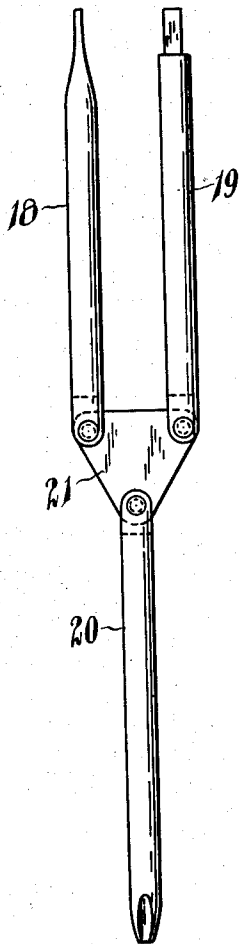


FIG. 4.



FIG. 3.

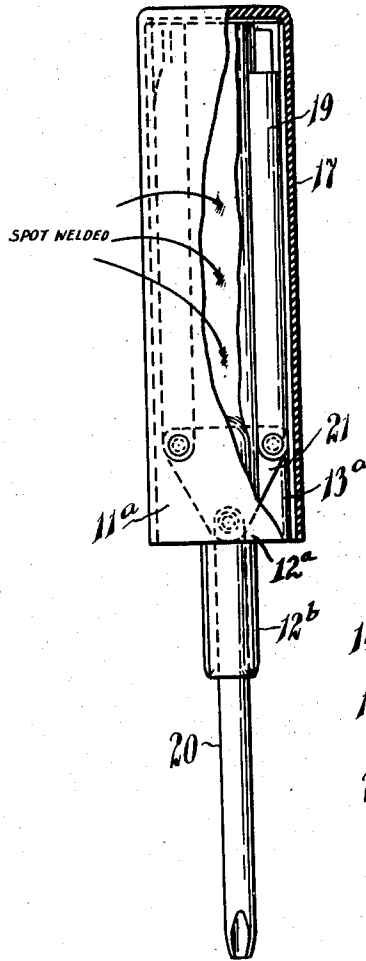


FIG. 2.

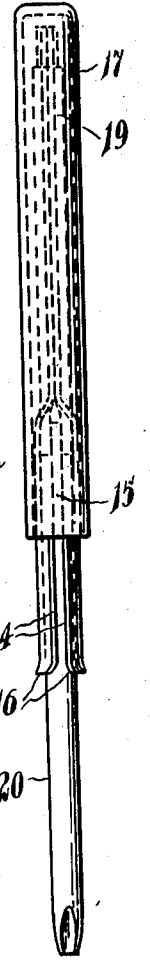


FIG. 1.

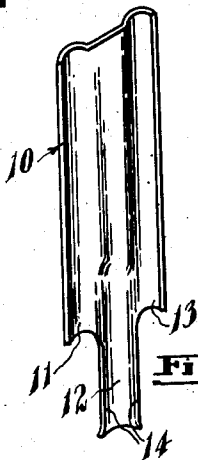


FIG. 6.

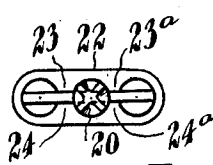


FIG. 7.

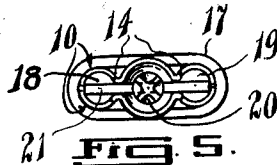


FIG. 5.

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UNITED STATES PATENT OFFICE

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MULTIPLE BIT TOOL

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5 Claims. (Cl. 145-62)

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This invention relates to a multiple bit tool, and more particularly to a tool in the nature of a screw driver which has three interchangeable tool elements having a bit at one end, any one of which tool elements can be brought into operative position while the remaining two are arranged in the handle or magazine portion. It is an object of this invention to provide a tool of this character which is very simple in construction, inexpensive to manufacture, serviceable, convenient and effective in use, and marketable at a reasonable cost.

Because of the ease in manufacture it is customary at the present time to supply screw drivers having but a single bit permanently secured to a handle, rendering it necessary for the workman to have in his kit a large number of screw drivers when the variety of his work necessitates the driving of screws of different types or sizes. The bulk and weight of the number of tools required is inconvenient and the cost is considerable. These disadvantages are overcome by the present invention by providing a single magazine type handle from which protrudes one of three tool elements and inside which is received the other two tool elements.

The foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in conjunction with the accompanying drawings, wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Fig. 1 is a side elevation of a screw driver constructed in accordance with this invention;

Fig. 2 is a front elevation thereof, a part of the magazine being broken away to show its internal construction;

Fig. 3 is a side elevation of the tool elements;

Fig. 4 is a front elevation thereof;

Fig. 5 is an end view of the screw driver;

Fig. 6 is a perspective view of one of the two oppositely disposed plates from which the magazine is made; and

Fig. 7 is an end view of a modified form of magazine.

Referring particularly to the drawings, the preferred form of magazine which provides a handle comprises two oppositely disposed plates 10 each having three channels 11, 12 and 13, the registering channels of oppositely facing plates providing a chamber having three sections when the plates are secured to each other by spot welding along their midsections.

It will be noted in the drawings that the middle channel 12 is not co-extensive with the other two channels but it is considerably shorter and it protrudes forward of the other two channels. The central portion of the plates 10 behind the channel 12 is flattened and these two flattened

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portions are spot welded together as previously mentioned. Registering channels 11 provide a chamber section 11^a, registering channels 13 provide a chamber section 13^a, and registering channels 12 provide a chamber section 12^a with a protruding neck 12^b.

Referring particularly to Figs. 1 and 5 it will be noted that the edges of channels 12 do not meet but there is a space therebetween and they are flared outwardly as indicated at 14. Moreover there are constricted openings 15 joining the middle chamber section 12^a to the other two chamber sections 11^a and 13^a. The tip of the protruding neck 12^b is flared as indicated at 16. The magazine may be sheathed by a suitable plastic covering 17.

Any two of the three tool elements 18, 19 and 20 which are pivotally mounted to a flat swivel plate 21 at points arranged at the apices of a hypothetical plane regular polygonal figure (actually a triangle in the construction illustrated) to swing in the plane of the swivel plate, may be received free end first into chamber sections 11^a and 13^a of the magazine, whereas the other tool element will be received pivoted end first into the protruding neck 12^b and the middle chamber section 12^a of the magazine as particularly indicated in Fig. 2. At the free ends of the tool elements are provided three different types and/or sizes of tool bits; in the drawings there is illustrated at the end of tool element 18 a bit for an ordinary slotted head screw whereas at the ends of tool elements 19 and 20 are provided square-headed bits and Phillips-headed bits respectively.

It should be pointed out that when two of the tool elements are inserted in chamber sections 11^a and 13^a, the swivel plate 21 will pass into the constricted aperture 15 provided between the three chamber sections, and the tool element which is received in the protruding neck 12^a will be engaged and gripped thereby and will be unable to pivot. Thus the two tool elements which are not being used will be removed out of the way and enclosed within the magazine whereas the tool element which it is intended to use at the moment is securely held in place. The manner of interchanging the tool element which it is desired to use is obvious from the drawings and need not be explained further.

Another embodiment of a magazine constructed in accordance with this invention is illustrated in Fig. 7. This magazine comprises a hollow shell 22 which need not necessarily have a protruding neck 12^a as illustrated in Fig. 2. It is merely necessary to provide spaced lugs 23 and 23^a on one side and similar spaced lugs 24 and 24^a on the opposite side. When two of the three elements are inserted in the magazine 22 the swivel plate 21 will pass in the space be-

tween opposite lugs 23 and 24, and 23^a and 24^a, and these lugs will also engage the sides of the other tool element and prevent any pivotal movement thereof.

It is thought that the construction and use of the invention will be apparent from the above description of the various parts and their purpose. It is to be understood that the form of the invention herewith shown and described, is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of the invention or the scope of the subjoined claims.

What I claim as my invention is:

1. A multiple bit tool comprising a substantially flat swivel plate, a plurality of elements one of which has a free end provided with a tool bit, pivots on the swivel plate for each of the elements, each element being coupled at its other end to the swivel plate by a pivot to swing substantially in the plane of the said plate, the pivots being located on the swivel plate at the apices of a hypothetical plane regular polygonal figure so that each of the elements may selectively be swung to a position in which one element extends in one direction while the other elements extend in the same direction but in opposite sense, a magazine which provides a handle and having a chamber open at one end and divided into a plurality of sections, the said sections being disposed side by side and being substantially co-planar, one section selectively receiving one of the elements pivoted end first and free end protruding whereby said element forms a tool element and the free end provides a tool bit, and the other sections receiving the other elements free ends first and enclosing the said other elements substantially in their entirety, the section which receives the pivoted end of an element being provided with constricted openings or slots in opposite sides which provide a passage for the swivel plate.

2. A multiple bit tool comprising a substantially flat swivel plate, a plurality of elements one of which has a free end provided with a tool bit, pivots on the swivel plate for each of the elements, each element being coupled at its other end to the swivel plate by a pivot to swing substantially in the plane of the said plate, a magazine which provides a handle and having a chamber open at one end and divided into a plurality of sections, the said sections being disposed side by side and being substantially co-planar, one of the sections selectively receiving one of the elements pivoted end first with free end protruding whereby said element forms a tool element and the free end provides a tool bit, the pivots being located on the swivel plate at the apices of a hypothetical plane regular polygonal figure, the axes of the said pivots being spaced from each other by a distance not less than the width of the elements measured in a plane parallel to the plane of the swivel plate when the said distance is measured normal to an imaginary axis of symmetry in the swivel plate passing through at least one of the pivots, said arrangement of pivots on the swivel plate enabling all the elements to be aligned parallel to each other with the element received in one of the sections pivoted end first having its free end pointing in one sense and the free ends of the other elements pointing in the opposite sense, the other sections receiving the other elements free ends first and enclosing the said other ele-

ments substantially in their entirety, the section which receives an element pivoted end first being provided with constricted openings in opposite sides which provide a passage for the swivel plate.

3. A multiple bit tool comprising a substantially flat swivel plate, pivots on the swivel plate at the apices of a hypothetical triangle, three elements each having one end coupled to the swivel plate by a pivot to swing in the plane of the swivel plate and one having a tool bit at its free end, a handle enclosing a magazine divided into three sections disposed side by side in the same plane and open at one end, the middle section selectively receiving one of the elements pivoted end first with its free end protruding whereby said element forms a tool element and the free end provides a tool bit, and the other two sections selectively receiving the other elements free ends first and enclosing the said other elements substantially in their entirety, the walls of the middle section engaging the element received therein to prevent it from swinging, there being restricted openings in the wall between adjacent sections to provide a passage for the swivel plate.

4. A multiple bit tool comprising a substantially flat swivel plate, pivots on the swivel plate at the apices of a hypothetical triangle, three elements each having one end coupled to the swivel plate by a pivot to swing in the plane of the swivel plate and one having a tool bit at its free end, a handle enclosing a magazine divided into three sections disposed side by side in the same plane and open at one end, said magazine including two oppositely disposed plates secured to each other and there being provided in each plate three channels which register with the channels of the other plate to provide the said sections, the middle section selectively receiving one of the elements pivoted end first with its free end protruding whereby said element forms a tool element and the free end provides a tool bit, and the other two sections selectively receiving the other elements free ends first and enclosing the said other elements substantially in their entirety, the walls of the middle section engaging the element received therein to prevent it from swinging, there being restricted openings in the wall between adjacent sections to provide a passage for the swivel plate.

5. A multiple bit tool as claimed in claim 1 in which a protruding neck extends from the magazine to provide a continuation of the chamber section which receives one of the elements pivoted end first and free end protruding, said neck engaging the tool element received therein to prevent it from swinging.

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