

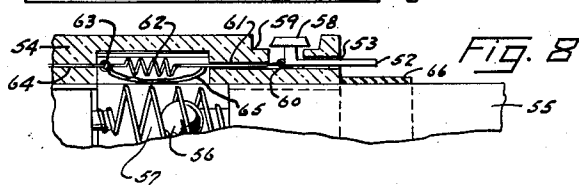
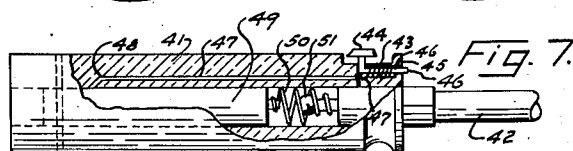
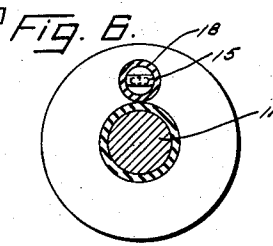
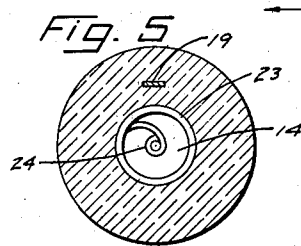
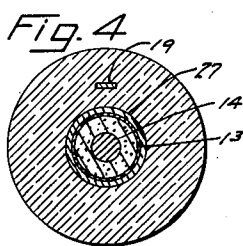
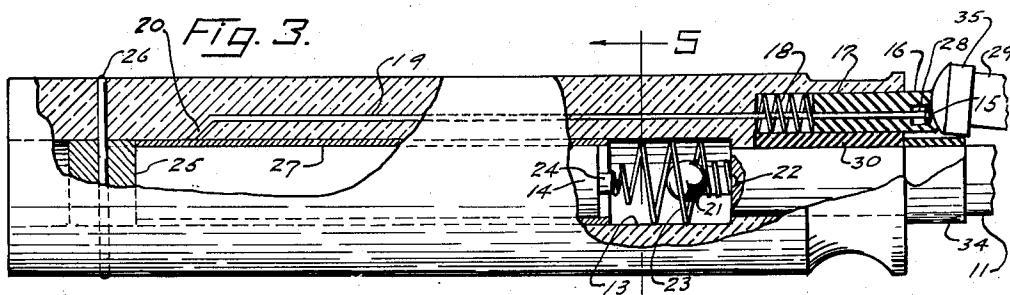
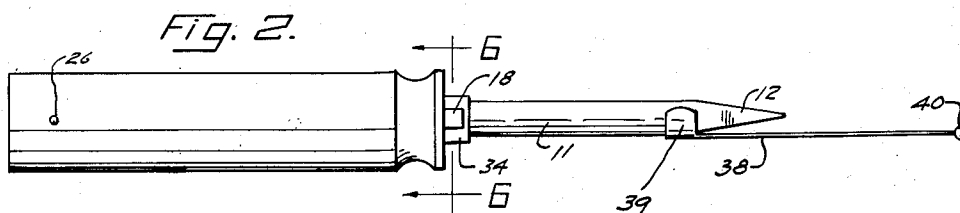
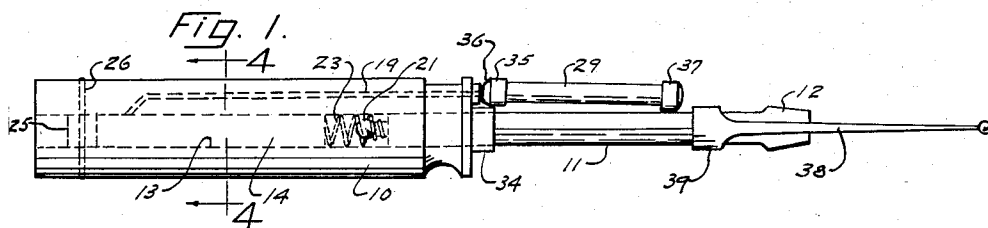
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2,901,694

SCREW DRIVER FUSE TESTER

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SCREW DRIVER FUSE TESTER

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1 Claim. (Cl. 324—53)

This invention relates to electrical testing devices of the battery actuated type, and in particular, a battery positioned in a bore of a handle of a tool with an end of a shank of the tool extended from the handle connected to one side of the battery and with a contact point extended from the other side of the battery and extended from the end of the handle whereby with one end of a fuse in contact with the contact point extended from the end of the handle and the opposite end in engagement with the shank of the tool a circuit is completed through the fuse which completes a circuit to a light incorporated in the handle.

The purpose of this invention is to incorporate a fuse tester in the handle of a tool whereby by holding a fuse tester in the handle of a tool whereby by holding a fuse against parts of a tool and actuating a switch by a button a circuit is completed through the fuse to determine whether or not the fuse is good.

Various types of testing devices have been provided for fuses, light bulbs, and other electrical devices, however, it is difficult to hold a fuse with collars or caps on ends thereof in contact with terminals of batteries, and with this thought in mind, this invention contemplates a fuse tester incorporated in a handle of a tool, such as a screw driver, wherein a metal shank extended from the handle provides a contact for engaging fuses of different lengths so that with one end of a fuse held in engagement with the shank or bit of the screw driver and the other in engagement with a contact extended from a handle of the screw driver a circuit may be completed through a battery in the handle for lighting a light to test the fuse.

The object of this invention is, therefore, to provide means for incorporating a fuse tester in a screw driver whereby a fuse may be tested by holding one end against the shank of the screw driver and the other against a contact on the handle to complete a circuit from a battery in the handle through the fuse.

Another object of the invention is to provide means for incorporating a fuse tester in the handle of a screw driver whereby the screw driver is adapted to be used in the conventional manner.

A further object of the invention is to provide a screw driver fuse tester in which the device is of a simple and economical construction.

With these and other objects and advantages in view, the invention embodies a handle having a bore therethrough and a shank of a screw driver secured in one end of the bore with a flashlight battery, light and spring contact assembly removably mounted in the bore and with a contact extended from the battery casing to a point extended from an end of the handle of the screw driver whereby with one end of a fuse in contact with the point and the other with the shank of the screw driver a circuit is completed through the fuse.

Other features and advantages of the invention will appear from the following description, taken in connection with the drawing, wherein:

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Figure 1 is a side elevational view illustrating the screw driver fuse tester.

Figure 2 is a plan view of the screw driver fuse tester.

Figure 3 is a side elevational view of the handle of the screw driver fuse tester with parts broken away, illustrating the relative positions of the elements in the handle and showing the parts on an enlarged scale.

Figure 4 is a cross section through the handle of the screw driver with the parts shown on an enlarged scale taken on line 4—4 of Figure 1 showing the battery and contact bar at one side of the battery.

Figure 5 is a cross section through the handle taken on line 5—5 of Figure 3 showing the end of the battery and also showing a spring for drawing a contact point at the end of the handle into the handle.

Figure 6 is a cross section taken on line 6—6 of Figure 2 with the shank shown in section and the end of the handle in elevation.

Figure 7 is a view somewhat similar to that shown in Figure 3 with the parts shown on a reduced scale, illustrating a modification wherein a spring for returning the contact point is positioned between a button for actuating the point and the end of the handle.

Figure 8 is a longitudinal section through a portion of the upper side of the tester illustrating a further modification and showing a resiliently held contact positioned to provide a contact extended from one end of the handle.

Referring now to the drawing, wherein like reference characters denote corresponding parts, the improved screw driver fuse tester of this invention includes a handle 10, a shank 11 having a screw driver bit 12 on an extended end secured in one end of a bore 13 extended through the handle, a battery 14 positioned in the bore 13 of the handle, a contact 15 slidably mounted in an insulating sleeve 16 in an offset counterbore 17 in the end of the handle, and the sleeve is urged outwardly to cover the contact 15 by a spring 18, a bar 19 extended from the contact 15 through the handle and positioned to engage the outer surface of the battery casing at the point 20, a light bulb 21 positioned with a center terminal 22 thereof in engagement with the inner end of the shank 11 and secured in position with a spring 23, one end of which is wrapped around the base of the light bulb, and the other positioned to engage a center terminal 24 of the battery 14.

The battery 14 is retained in the bore 13 of the handle 10 by a plug 25 that is held in position with a pin 26 and to replace the battery or light bulb assembly it is only necessary to withdraw the pin 26 and remove the plug 25. The battery casing may be encased in a sleeve 27, the outer surface of which is in engagement with the bar 19, as shown at the point 20.

The inner end of the shank 11 is provided with an insulating sleeve 34 to prevent contact of a collar 35 on one end 36 of the fuse 29 with the shank as the collar 37 on the opposite end of the fuse is held against the shank.

In some instances, the fuse testing screw driver may be provided with a pocket retaining clip 38 which is slidably mounted on the shank 11 with a spring clip 39 and the extended end of the clip may be provided with a ball 40 similar to that of a conventional pencil clip. The clip 38 is used only for testing purposes when it is desired to test a relatively long fuse, the length of which is greater than that of the shank 11.

In the design illustrated in Figure 7, a fuse testing screw driver having a handle 41 with a shank 42 extended from one end is shown and in this design a spring 43 is positioned between a button 44, and an annular flange 45 at the end of the handle whereby the spring

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is positioned to retract a contact 46, similar to the contact 15.

The contact 46 is positioned to engage a bar 47 that contacts the casing 48 of a battery 49. The battery is provided with a spring 50 and a light bulb 51, similar to the spring-23 and light bulb 21 in the design shown in Figure 3.

With the parts formed and assembled as shown and described and with the handle formed of an insulating plastic material, the contact 15 is retained in the counter-bore 17 by the spring 18 which urges the sleeve 16 outwardly and when it is desired to test a fuse one end of the fuse is held against the contact 15 and the other against the shank of the screw driver whereby a circuit is adapted to be completed through the battery and light bulb so that the light will indicate whether or not the fuse is capable of carrying current to complete the circuit.

The insulating sleeve 16 is urged outwardly by the spring 18 with the head of the contact 15 in a counter-bore 28 in the end of the sleeve 16 and in testing a fuse, such as the fuse 29 the end of the fuse on which one collar, such as the collar 35 is positioned is pressed against the sleeve 16 compressing the spring 18 whereby the end of the fuse comes in contact with the contact 15 and the collar 37 on the opposite end of the fuse contacts the shank 11 of the screw driver.

In the design shown in Fig. 8 a contact 52 extending through an opening 53 in the end of a handle 54 is positioned to be engaged by an end of a fuse, or the like and with the opposite end of the fuse in engagement with a shank 55 of a screw driver a circuit may be completed to light a light bulb 56 in a bore 57 of the housing or handle. The point 52 is actuated by a button 58 in a recess 59 in the handle and the button is adapted to be moved inwardly to retract the point 52 or outwardly to extend it to provide a contact. The contact 52 is provided with an eye 60 in which an end 61 of a spring 62 is secured and the opposite end of the spring is connected to an eye 63 on the end of a rod 64, similar to the rod 19, shown in Figs. 1 and 3. A flexible connector 65 is connected to the eye 63, at one end, and also to the end 61 of the bar, connecting the contact 52 to the bar 64. The device is also provided with a light bulb, as indicated by the numeral 56 and similar to the bulb 21 shown in Fig. 3. In this design a fuse is held with one end in engagement with the shank 55 of the screw driver and with the opposite end resting upon an insulated ring or band 66 where it is positioned

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to engage the contact 52 with the contact moved outwardly by pressing the button 58.

It will be understood that modifications, within the scope of the appended claim, may be made in the design and arrangement of the parts without departing from the spirit of the invention.

What is claimed is:

In a screw driver fuse tester, the combination which comprises an elongated cylindrical handle of light transmitting material having a bore extended longitudinally therethrough, a metallic shank fixedly mounted in the bore at one end of the handle and extended from the handle, a spring in the bore of the handle and having a light bulb retaining coil in one end, the light bulb retaining coil being positioned to support a base of a light bulb with a center contact of the base of the light bulb in contact with the shank, the opposite end of the spring being positioned to engage a center terminal of a battery positioned in the bore of the handle, a plug retained in the bore of the handle by a pin for preventing accidental displacement of the battery from the handle, a contact bar extended through the material of the handle and mounted with one end positioned to contact the casing of a battery in the bore and with the opposite end extended from the end of the handle from which the shank extends, a counterbore extended inwardly from the end of the handle from which the shank extends and offset in relation to the bore extended through the handle, a sleeve of insulating material slidably mounted in the offset counterbore and also slidably positioned on the contact bar, a spring in the counterbore and positioned to urge the sleeve of insulating material outwardly of the counterbore, the contact bar having a head on the extended end, and the outer end of the sleeve having a counterbore therein and the counterbore of the sleeve being positioned to receive the head of the contact bar with the parts released whereby the head is covered in the released position, and a sleeve of insulating material extended around a portion of the shank and positioned against the end of the handle.

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