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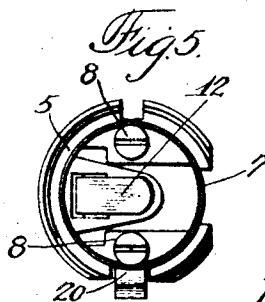
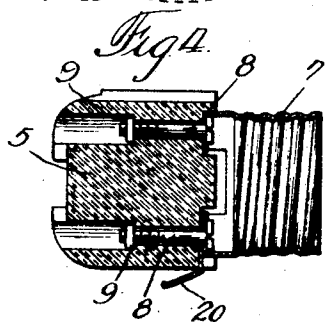
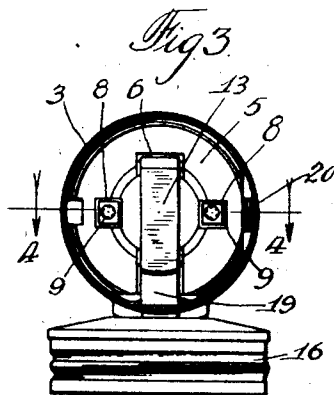
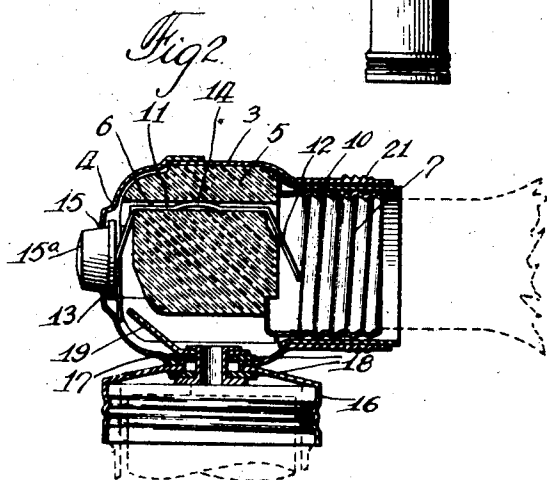
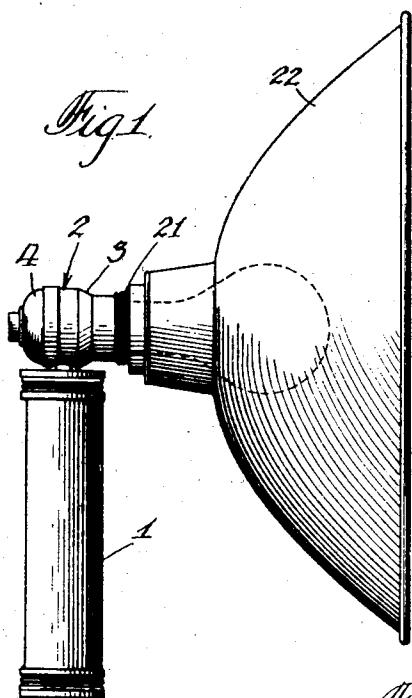
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1,898,756

FLASH LIGHT

Filed May 27, 1931

2 Sheets-Sheet 1



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UNITED STATES PATENT OFFICE

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FLASH LIGHT

Application filed May 27, 1931. Serial No. 540,324.

This invention relates to flashlights and has particular reference to flashlights for use with flashlight bulbs such as magnesium bulbs and the like.

5 An object of this invention is to provide a flashlight in which the bulb, receptacle, contacts and operating button or switch are all in one unit which may be attached to a battery casing or to any other source of electrical energy.

10 Another object is to provide a flashlight having an angle socket member with provision for a bulb at one end and provision for connection to the battery casing at one side so that the flashlight may be easily held and the reflector aligned to direct the light to the best advantage.

15 A further object is to provide a flashlight having a contact unit provided with a new arrangement of contacts.

20 A still further object is to provide a flashlight which may be operated either by a contact button or other switch on the flashlight or by controlling means at a distance therefrom.

25 Still another object is to provide a flashlight which is efficient, easy to assemble and inexpensive to manufacture.

30 Further objects and advantages will appear from the following description when taken together with the accompanying drawings in which latter,

35 Figure 1 is a side elevational view of a flashlight embodying the present invention;

Fig. 2 is a central vertical cross-sectional view partially in elevation of a contact unit embodying the present invention;

Fig. 3 is a rear elevational view of Fig. 2 with the rear cap removed;

40 Fig. 4 is a central horizontal sectional view taken on line 4—4 of Fig. 3 with the casing and cap removed;

Fig. 5 is a front elevational view of the unit shown in Fig. 4;

45 Fig. 6 is a central vertical cross-sectional view partially in elevation of another form of flashlight embodying the present invention;

50 Fig. 7 is a cross-sectional view taken on the line 7—7 of Fig. 6; and

Fig. 8 is a perspective view of the flashlight shown in Fig. 6 with a Bowden wire attachment for operating it from a distance.

Referring more particularly to the drawings, the construction shown comprises a battery casing 1 upon which a contact unit 2 is mounted. This contact unit comprises a casing 3 and a cap 4 within which is situated an insulation base 5 having a longitudinal slot 6 extending therethrough. Attached to the front end of the insulation base 5 within the casing 3, is an ordinary shell contact 7, which is held to the insulation base by screws 8 which latter extend through the base and are secured by nuts 9. An insulating sleeve 10 is positioned about the shell contact 7 between the shell contact and the casing 3. Positioned within the slot 6 of the base 5 is a substantially U-shaped spring contact member comprising a central portion 11 and end portions 12 and 13. The central portion of the contact lies within the slot 6 and is provided with a slightly curved portion 14 which serves to hold it securely in place. The end portion 12 of the contact extends within the shell contact 7 and provides a center contact for electrical engagement with the cooperating center contact of a flashlight or other bulb to be inserted therein. The opposite end 13 extends downwardly at the back of the insulation member 5 in a groove provided therefor. The cap 4 is provided with a central opening 15 in which may be inserted an operating button 15a which latter when pressed serves to move the end 13 of the spring contact member toward the front of the unit.

Attached to the bottom side of the casing 5 is a threaded cap member 16 which may be threaded to the top of the battery casing 1. Openings are provided in the bottom of the casing 2 and the top of the threaded cap 16 through which the eyelet 17, which is made of conducting material, extends. Insulating washers 18 are positioned about the eyelet 17 with the top of the threaded cap 16 and the bottom of the casing 3 therebetween so as to insulate the eyelet from the casing and the threaded cap. The eyelet 17 is so positioned that when the threaded cap 16 is screwed on

the battery casing 1 containing a battery, the eyelet 17 will engage the top contact of the battery. Another contact 19 is secured to the eyelet 17 and extends to within a short distance of the end 13 of the center contact member of the unit so that when the operating button 15a is pressed, the end 13 of the center contact will engage the contact 19. Thus when the button 15a is actuated the center contact is connected to the battery. In order to provide for a complete circuit, a contact 20, as shown in Fig. 4, is secured at one end to the shell contact 7 by the screw 8 with its other end engaging the side of the casing 2. Thus the current after passing through the bulb returns to the battery through the shell contact 7, the contact 20, the casing 3 and the battery casing 1 to the bottom contact of the battery.

The forward end of the casing 3 is preferably threaded as shown at 21 so that reflector member 22 may be threaded thereon, which reflector serves to focus the light on the proper object or location and prevents the blinding of the operator by the glare caused when the flash light bulb is burned.

Another form of flashlight embodying the present invention is shown in Figs. 6, 7 and 8. In this form the contact unit is attached to the battery casing in axial alignment therewith. In this modified form there is a cylindrical casing 22 having a reduced threaded portion 23 for engaging the end of the battery casing 1. A shell contact 24 is secured within the casing 22 by means of an annular flange 25 which is for engagement with the annular groove 26 in the side thereof. An insulation disc member 27 is positioned within the casing 22 and against the shoulder 28 formed by the reduced threaded portion 23. An internal annular bead 29 serves to maintain the insulating member 27 in proper position. Attached to the front side of the insulating member 27 is a center contact member 30 which may be formed substantially U-shaped as shown in Fig. 6 and with laterally winged portions 30a shown in Figure 7. The center contact member is secured to the insulation disc 27 by means of eyelets 30b which secure the winged portions 30a to the insulation member 27. The end portions 32 and 33 of the contact 30 extend away from the insulation member 27 and are spaced from the shell contact 24. The contact member 30 which is preferably formed from rigid material is positioned so that when a bulb is inserted in the shell contact 24, the center contact of the bulb will engage the central portion 31 of the contact member 30. A second contact 34 which is substantially U-shaped is secured to the opposite side of the insulation member 27 by securing means such as eyelet 35, the ends 36 and 37 extending through openings in the insulation sheet so as to lie adjacent the ends 32 and 33 of the contact 30 but spaced there-

from. Bends 38 are provided in the ends 36 and 37 which serve to position the inner contact 34 and at the same time space the ends 36 and 37 from the contact 30. The inner contact 34 engages one of the battery contacts when the unit is secured to the battery casing 1. An operating button 39 is positioned in an opening in the side of the casing 1 adjacent the end 36 of the inner contact. Thus when the button 39 is depressed a connection is formed between the battery contact and the end 32 of the center contact 30 which latter engages the center contact of the bulb.

As it may be desirable to place the flashlights on stands and focus a group on a particular location, a Bowden wire unit 40 may be employed so that all of the flashlights may be operated simultaneously by a single operator at a distance from the flashlights. The Bowden wire unit 40 is connected to the casing 22 adjacent the end 37 of the inner contact 35 which when operated moves the end 37 of the inner contact against the end 33 of the contact 30 to connect the two. With this arrangement there are two parallel circuits either of which may be utilized to operate the bulb in the flashlight.

A reflector 41 may be attached to the outer end of the casing 22 by any desirable means such as crimping as is shown in Fig. 6. Although the reflector of Fig. 6 is arranged to throw the light co-axially with the casing, a reflector may be employed which will throw the light at right angles thereto.

From the foregoing it is evident that I have provided a simple, inexpensive and efficient flashlight in which all the contacts are positioned in a single unit which may be separately assembled and is adapted to be attached to the battery casing either coaxial therewith or at an angle thereto.

While I have shown and described certain embodiments of the present invention, it will be apparent to those skilled in the art that various modifications thereof may be made without departing from the spirit and scope of the invention, and therefore, I wish to be limited only by the scope of the prior art and the appended claims.

I claim:

1. A flashlight construction comprising a socket unit including a receptacle having a contact for engaging a bulb contact, means for detachably securing said receptacle means to a battery casing, a contact for engaging the contact of the battery, and means for closing the circuit between the bulb engaging contact and the battery engaging contact, said securing means comprising a cap to be secured to the end of the battery casing, said receptacle comprising also a casing for the contacts and circuit closing means and said battery engaging contact comprising a member which serves to secure the casing to the cap.

2. A flashlight construction comprising a socket unit including a receptacle having contact for engaging a bulb contact, means for detachably securing said receptacle means to a battery casing, a contact for engaging the contact of the battery, and means for closing the circuit between the bulb engaging contact and the battery engaging contact, said securing means comprising a cap to be secured to the end of the battery casing, said receptacle comprising a casing for the contacts and circuit closing means, said casing being of cylindrical formation, and having its side secured to the cap, said circuit-closing means comprising an axially located, axially movable push button.

3. A flashlight construction comprising a socket unit including a receptacle having a contact for engaging a bulb contact, means for detachably securing said receptacle to a battery casing, contact for engaging the contact of the battery, and means for closing the circuit between the bulb engaging contact and the battery engaging contact, said securing means comprising a cap to be secured to the end of the battery casing, said receptacle comprising a casing for the contacts and circuit closing means and said battery engaging contact comprising a member which serves to secure the casing to the cap, said circuit closing means comprising a contact secured in place by a battery engaging contact member.

4. A flashlight construction comprising a socket unit including a receptacle having a contact for engaging a bulb contact, means for detachably securing said receptacle to a battery casing, a contact for engaging the contact of the battery, and means for closing the circuit between the bulb engaging contact and the battery engaging contact, comprising two parallel switches between the bulb engaging contact and the battery engaging contact, one of said switches being operative by remote control.

5. In a flashlight, an angled socket unit comprising a casing having provision for receiving a bulb in one end and provision at one side for connection with a battery casing, a contact for engaging the center contact of the bulb to be inserted in said unit, a contact member for engaging the center contact of the bulb inserted in said unit, a second contact member for engaging the battery contact and means on said unit for moving one of said contact members against the other.

6. In a flashlight, a socket unit comprising a casing having provision for connection with a battery casing, a receptacle for receiving the base of the bulb therein, a substantially U-shaped contact member in said unit, having one end extending into said receptacle for engaging the center contact of the bulb, a second contact member in said unit for engaging a battery contact, means for electrically connecting said receptacle to said bat-

tery casing and means for moving the other end of said U-shaped contact member against said second contact member.

7. In a flashlight, a socket unit comprising a casing having provision for connection with a battery casing, an insulation member having a slot therein, a receptacle for receiving the base of a bulb attached to said insulating member, a substantially U-shaped contact member positioned in said slot and having one end extending into said receptacle for engaging the center contact of the bulb, a second contact member for engaging a battery contact and means for moving the other end of said U-shaped contact member against said second contact member.

8. In a flashlight, a socket unit comprising a casing having provision for connection with a battery casing, an insulation member having a slot therein, a receptacle for receiving the base of a bulb attached to said insulating member, a substantially U-shaped contact member positioned in said slot and having one end extending into said receptacle for engaging the center contact of the bulb, a second contact member for engaging a battery contact, means for moving the other end of said U-shaped contact member against said second contact member, and a third contact connecting said receptacle to said casing.

9. In a flashlight, a socket unit comprising a casing having provision for connection with a battery casing, an insulation member, a substantially U-shaped contact member secured to one side of said insulation member for engaging the center contact of a bulb, a second substantially U-shaped contact member secured to the other side of said insulation member and having the ends thereof extending through said insulation, means on said unit for moving one of said ends against said first mentioned contact member, and means connected to said unit and operable at a distance therefrom for moving the other of said ends against said first mentioned contact member.

In witness whereof, I have hereunto subscribed my name.

REUBEN B. BENJAMIN.