Sept. 1, 1931. J. D. CHAMPAGNE ET AL 1,820,960

FLASH LIGHT

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Fig. 1

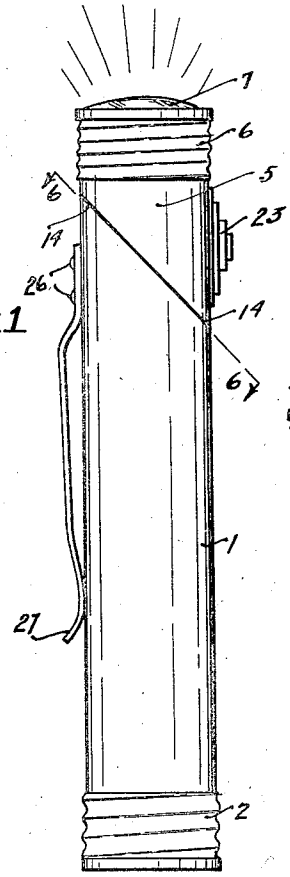


Fig. 2

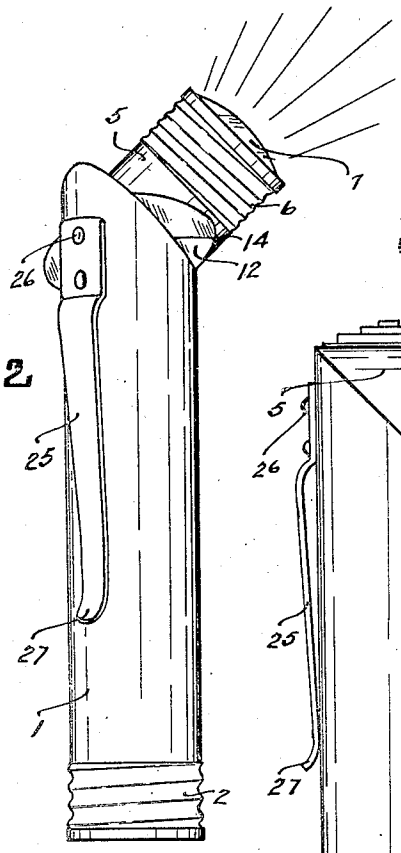


Fig. 3

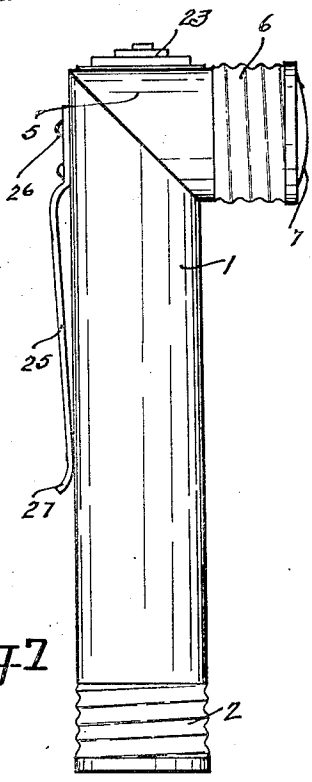


Fig. 6

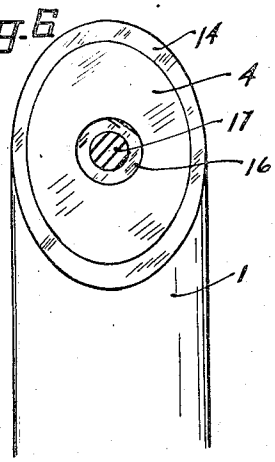
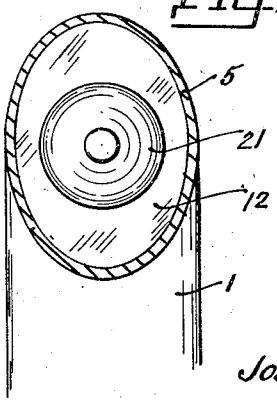


Fig. 7



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Fig. 4

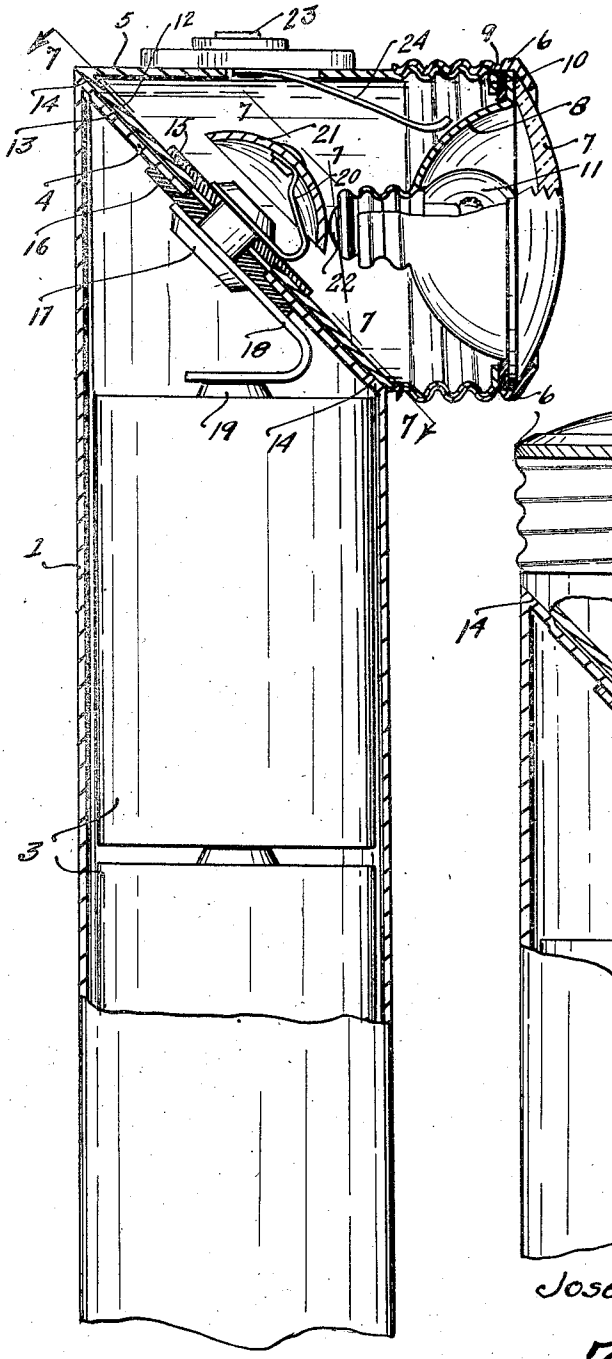


Fig. 8

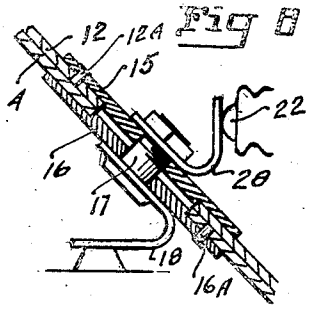
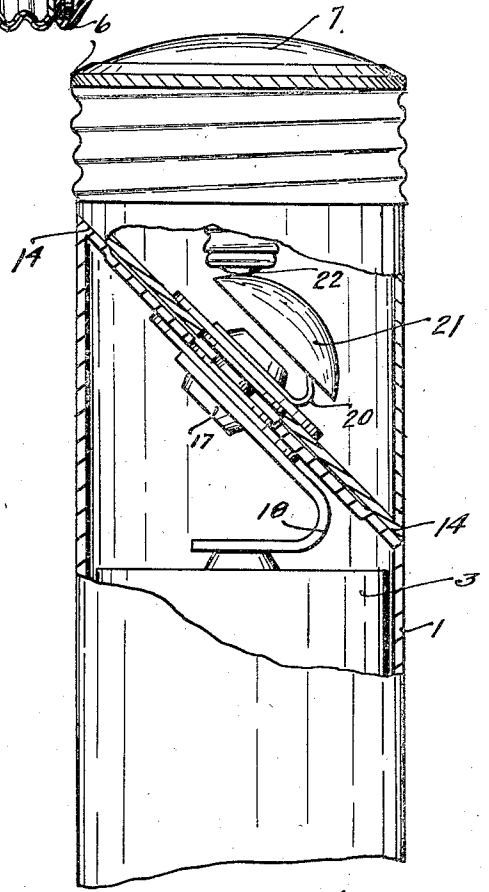


Fig. 5



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UNITED STATES PATENT OFFICE

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FLASH LIGHT

Application filed July 22, 1930. Serial No. 469,676.

The purpose and object of our invention is to provide a flashlight having a swiveling head that is adapted for being turned relative to the body portion of the flashlight in which the batteries are placed, to compromise a flashlight adapted for reflecting the light at any desired angle relative to the body portion of the light, up to and including a full right angle relative to the center line disposed longitudinally of the body element.

The invention in its preferred embodiment consists of a battery holding body element and having a reflecting head journaled relative to the body element, the meeting surfaces of the body element and the reflecting head being inclined at an angle of 45 degrees relative to the center line passing through the body element and the reflecting head. The two are journaled relative to each other about a journal rivet disposed upon the meeting center lines of the respective body elements and reflector heads. Spring switch points outwardly extend from the journal rivet with a dome-shaped terminal segment being disposed and secured to the outer end of the switch against which the electric bulb is adapted for engagement within the reflector head with means associated with the reflector head to conduct electric current into the bulb and through the switches irrespective of the angle to which the reflector head is turned, relative to the body element.

Our invention is primarily intended for use by mechanics, miners and others. A clip is secured to the body element that is adapted for holding the body element within the pocket of the user, or upon the clothing of the user, or upon the head covering, or to support the same upon any suitable supporting means.

The primary object of our invention is to furnish a flashlight that will reflect the light at the desired angle to the body element, the angle to be determined by the user of the device.

A still further object of our invention consists in providing a flashlight that may be used efficiently for the projecting of a light ray in front of and in line with the body element or at any placed angle up to and including a right angle to that of the longitudinal center line of the body element.

A still further object of our invention consists in providing a simply constructed, efficiently operable flash light adapted to reflect light at any placed angle required by the user of the same.

With these and incidental objects in view, the invention consists in certain novel features of construction and combination of parts, the essential elements of which are set forth in the appended claims, and a preferred form of embodiment of which is hereinafter shown with reference to the drawings which accompany and form a part of this specification.

Fig. 1 is a side elevation of one of our new and improved lights illustrating the same for use as a flashlight for the projecting of light rays in line with the axial center of the body element of the device.

Fig. 2 is a side elevation of the assembled device, illustrating the projecting head as being tilted at an angle to reflect the rays at substantially 45 degrees relative to that of the axial center of the body element.

Fig. 3 is a side elevation of the device illustrating the same in position for reflecting light rays at an angle of 90 degrees to that of the axial center of the body element.

Fig. 4 is a longitudinal, sectional, side view of the assembled device illustrating the reflector head as being in position for reflecting light rays at an angle of 90 degree relative to that of the axial center of the body element.

Fig. 5 is a fragmentary, sectional, side view of the assembled device, illustrating the reflector head as being in axial alignment with the axial center of the body element.

Fig. 6 is a cross section view taken on line 6—6 of Fig. 1 looking in the direction indicated.

Fig. 7 is a sectional, end view of the reflector head, the same being taken on line 7—7 of Fig. 4 looking in the direction indicated.

Fig. 8 is a fragmentary, sectional, side view of the meeting faces of the swivel joint and illustrating the electric connection

connecting the light bulb with the battery through the swiveling pin or fastening.

Like reference characters refer to like parts throughout the several views.

The body 1, of the device, is comprised of a barrel having a threaded cap 2, disposed at one end of the same. The barrel is adapted to receive and support therein, one or more dry cells 3. A cap 4 closes one end of the barrel, the cap being placed at an angle of 45 degrees to the axial, or center line of the barrel. A reflecting head 5 is journaled relative to the barrel. A cap 6 is threadably attached to the reflecting head 5. A lens 7 is disposed at the other end of the reflecting head and a reflector 8, is disposed behind the lens 7. A ledge 9 is disposed upon the outer end against which a compressible insulating gasket 10 is disposed. The threading of the cap 6 upon the reflector head 5 compresses the lens and the reflector and the gasket relative to the supporting ledge 9.

An electric bulb 11 is threadably disposed within the reflector head. A cap 12 is disposed upon the inner end of the reflector head which is also inclined at an angle of 45 degrees to the axial center of the reflector head. A recess is disposed upon the major portions of the surfaces of the caps 4 and 12, and the caps are made upon their outer surfaces 14 to cause a recess 12 to be disposed therebetween upon the major portion of the surfaces. Insulating disks 15 and 16 are disposed central of the caps 4 and 12 and are so formed as to remain centrally disposed within the cut out portions of the respective caps. A journal rivet 17 passes entirely through the insulating disks and the center line of the journal rivet is disposed upon the axial center of the barrel 1 and of the reflector head 5.

The fastening pin 12A secures the disk 15 to the cap 12 and pin 16A secures the disk 16 to the cap 4, thereby preventing the insulating material from rotating independently of the metallic elements through which the rivet or fastening 17 passes.

The caps 4 and 12 are preferably made of spring material and the placing of the journal rivet in place causes a tension within the respective caps 4 and 12 to maintain a right frictional working relationship upon the meeting surfaces of the respective caps, to thereby maintain the reflector head in placed position by frictional resistance.

A spring switch 18 is secured upon its one end to the journal rivet and the oppositely disposed end of the same engages the terminal 19 that outwardly extends from the dry cell to thereby complete the circuit between the switch and the dry cell. A second spring switch 20 is secured, upon its one end, about the journal rivet 17 and the oppositely disposed end of the spring switch 20 is secured to the domed segment 21. The inend 22, of the bulb 11 normally contacts with the dome segment 21 and the electric circuit is completed through the hand manipulation of the thumb switch 23 to cause the spring switch 24 to contact with the metal reflecting jacket 8 into which the bulb is threadably attached.

The compressible washer 10 is made of insulating material to prevent the grounding of the circuit, except upon the hand manipulation of the thumb switch 23.

A supporting clip 25 is secured to the barrel 1 by any suitable fastening means, as by rivets 26. The clip 25 should be made sufficiently strong to support the assembled device upon the clothing of the user of the same, or to support the same upon any other suitable supporting means. The free end 27, of the clip, is curved and outwardly extends to facilitate its placement upon the supporting medium.

A flashlight made as described herein, is adapted for having the reflector head turned to the desired angle about the journal rivet 17 to thereby reflect the light at any desired angle from axial alignment with the body element to and including a full right angle to that of the center line passing through the body element.

While the form of mechanism herein shown and described is admirably adapted to fulfill the objects primarily stated, it is to be understood that it is not intended to confine the invention to the one form of embodiment herein shown and described, as it is susceptible of embodiment in various forms, all coming within the scope of the claims which follow.

What we claim is:

1. A device of the class described, comprising a body element for dry cells, a cap closing one end of the body element having a recess disposed in its outer surface, a reflecting head hingedly secured centrally of the cap, insulating disks disposed centrally of the cap of the body element and of the reflecting head, a journal rivet disposed therethrough about which the head is adapted for being swiveled, and means for conducting electricity from the battery disposed within the body element through the journal rivet connecting the head of the body element and the electric light bulb disposed in the outer end of the reflecting head, said means including a spring switch having a domed shaped segment thereon upon which the electric bulb rides and a second spring switch, both springs secured to the insulated rivet.

2. A flash-light of the class described comprising a casing for dry cells, said casing having a beveled bearing face thereon, a bulb casing, said bulb casing having a beveled bearing face adapted for intimate cooperation with the bearing face disposed upon the first

mentioned casing, insulating disks disposed between the two beveled faces, a journal rivet disposed through the insulating disks adapted to hold the two beveled faces in intimate working relationship with each other, and a pair of spring switches secured to and upon each side of the rivet, the switch secured to the side of the rivet disposed within the bulb casing having a domed segment upon which the bulb rides at all times.

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