P. M. BEARD.

FLASH LIGHT.

APPLICATION FILED FEB. 27, 1917.

1,287,186.

Patented Dec. 10, 1918.

2 SHEETS—SHEET 1.

Fig. 1

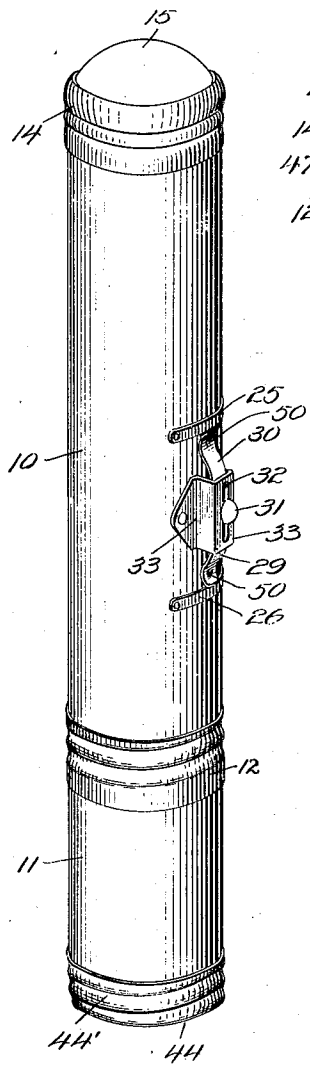


Fig. 8.

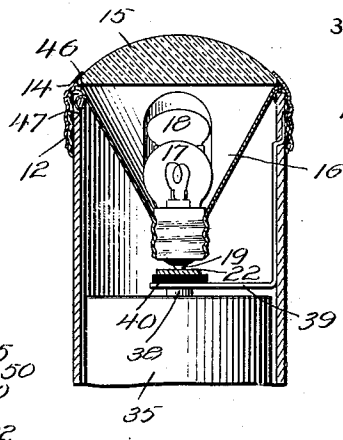


Fig. 9.

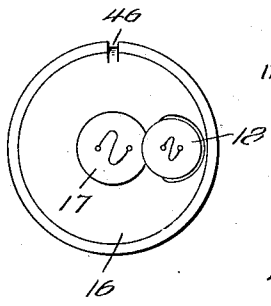
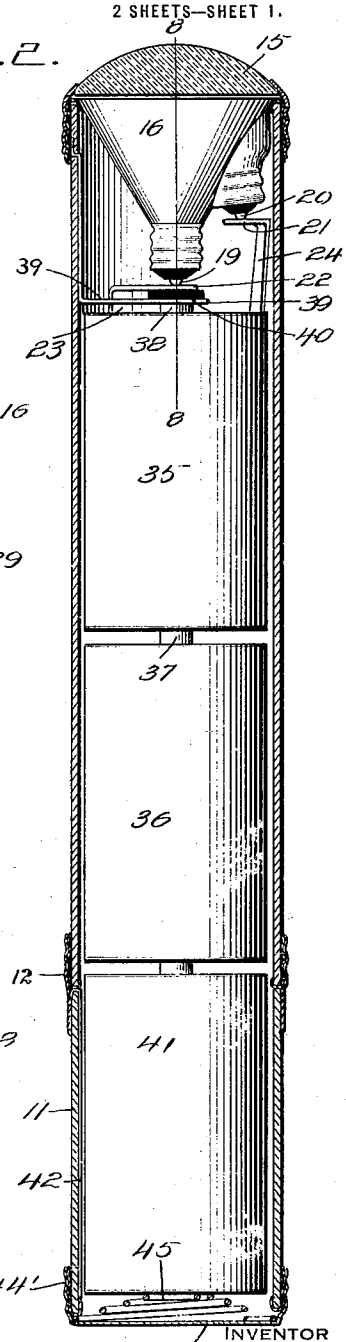


Fig. 2.



INVENTOR

P. M. Beard.

WITNESSES

F. C. Gilson.

BY Victor J. Evans

ATTORNEY

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2 SHEETS—SHEET 2.

Fig. 3.

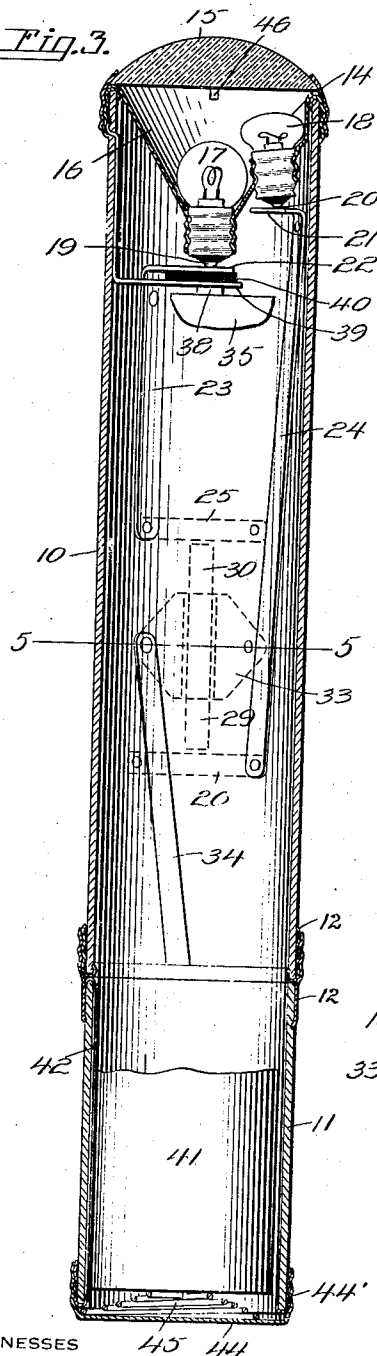


Fig. 4.

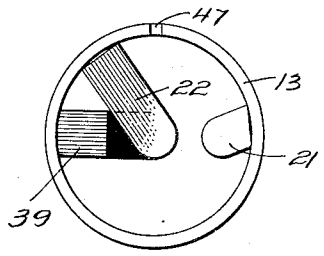


Fig. 5.

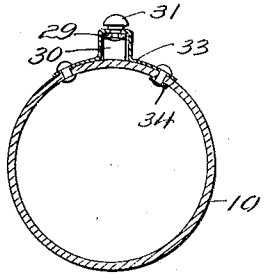


Fig. 6.

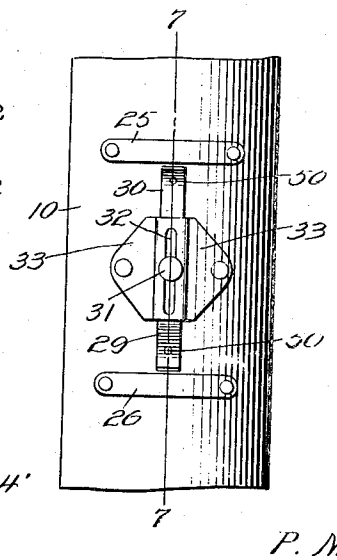
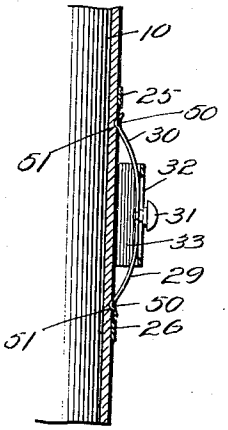


Fig. 7.



WITNESSES

F. A. Gilson.

INVENTOR

P. M. Beard.

BY Victor J. Evans

ATTORNEY

UNITED STATES PATENT OFFICE.

PERCY M. BEARD, OF HARDINSBURG, KENTUCKY.

FLASH-LIGHT.

1,287,186. Specification of Letters Patent. Patented Dec. 10, 1918.

Application filed February 27, 1917. Serial No. 151,329.

To all whom it may concern:

Be it known that I, PERCY M. BEARD, a citizen of the United States, residing at Hardinsburg, in the county of Breckinridge and State of Kentucky, have invented new and useful Improvements in Flash-Lights, of which the following is a specification.

This invention relates to portable electric lights commonly known as flashlights.

The primary object of the invention is to produce a flashlight having means whereby any desired number of batteries may be arranged in the casing thereon, the device being provided with bulbs or lamps of different candle powers and being further provided with means whereby the current from the batteries may be directed to either of the bulbs, so that in case of emergency the strong light may be employed, while in other instances a steady light may be obtained from the smaller lamp and in which the arrangement of parts is such as to prolong the life of the battery to a very great degree without lessening the efficiency of the device.

It is a further object of the invention to produce a flashlight that shall be compact and reliable, small, inexpensive to make so that the same may be sold at a comparatively low cost, thoroughly practicable and durable, and easy and convenient to operate.

It is a still further object of the invention to produce a flashlight wherein one or a multiplicity of batteries may be employed so that the same may be readily connected in multiple by the adding or taking away of parts comprising the casing, and whereby the current from the single battery or the multiplicity of batteries may be readily directed to either of the lamps employed in the flashlight.

With the above and other objects in view the improvement resides in the construction, combination and arrangement of parts set forth in the following specification and falling within the scope of the appended claims.

In the drawings:

Figure 1 is a perspective view of a flashlight constructed in accordance with the present invention,

Fig. 2 is a central vertical longitudinal sectional view through the same,

Fig. 3 is a similar section with a portion of the upper inner battery arranged therein and the remaining batteries removed,

Fig. 4 is an end elevation of the tubular casing, the lamps and reflector being removed,

Fig. 5 is a sectional view approximately on the line 5—5 of Fig. 3,

Fig. 6 is a detail enlarged elevation looking toward the circuit closer,

Fig. 7 is a sectional view on the line 7—7 of Fig. 6,

Fig. 8 is an enlarged sectional view approximately on the line 8—8 of Fig. 2, and

Fig. 9 is a plan view of the reflector, the lens being removed therefrom.

As it is one of the primary objects of this invention to produce a flashlight which shall be of a simple and cheap construction. The casing therefor is preferably formed of some suitable cheap material, such as cardboard, the casing being of a tubiform. In the present instance the casing is illustrated as comprising two parts, indicated by the numerals 10 and 11 respectively, the part 11 being supplemental to the part 10. Each of the tubular members 10 and 11, at the ends thereof, are provided with metallic bands 12, which are provided with rolled threads, and whereby one end of the tubular member 11 may be connected to one end of the tubular member 10, the metallic threaded band on the end of one of the members interengaging with the threads of the metallic band of the other member. The metallic band, upon the outer end of the casing 10, or the end thereof opposite that to which the casing 11 threadedly attached, has the band 12 engaged by a flanged metallic band 14, the flange of the said band engaging with the convexed outer face of the lens 15, while arranged between the lens and the said band 14 is the outer flanged edge of the substantially frusto-conical reflector 16. The reflector 16 has arranged thereon lamps 17 and 18 respectively, each provided with the usual contact point 19 and 20 respectively. The lamp 17 is of a greater strength or candle power than the lamp 18 and the contact points 19 and 20 of the respective lamps, of course, projecting through the reflector 16, and each of the same being engaged by the offset ends 21 and 22 of contact plates 23 and 24 respectively. The plates 23 and 24 are arranged within the casing 10, and the same may be, if desired, enveloped in a wrapping of some insulating material. The conducting plate 23 is of a materially less

length than the conducting plate 24, and arranged upon the exterior of the casing 10 and connected with the plate 23 is a contact strip 25, while also arranged upon the exterior of the said member 10 is a second contact strip 26 which is connected with the plate 24.

The circuit closer is indicated by the numeral 29, and comprises a switch member 30 which is constructed of a single piece of spring material having a centrally arranged operating button 31 that has its shank disposed in a slot 32 in the casing 33. By operating the button 31 the switch member 30 may be brought to engage with either of the contact strips 25 or 26, while the circuit closer is normally retained out of engagement with either of the said contact strips.

The housing 33 is of metal, and is connected with a contact strip 34 arranged interiorly of the casing 10, and connected with the metallic threaded band upon the end of the said casing, as illustrated in Fig. 3 of the drawings. The case 10 is of a size to receive two batteries which are indicated by the numerals 35 and 36 respectively, the carbon 37 of the battery 36 contact with the zinc upon the outer end of the battery 35, while the carbon 38 of the battery 35 engages with the conducting member 39 that is connected with the metallic band 14 at the outer end of the casing 10. The conducting member 39 is disposed below the contact member 22 which is formed upon the end of the conducting plate 23 and is insulated therefrom, as indicated by the numeral 40. When the tubular member 11 is employed a third battery 41 may be arranged therein, and as any desired number of members, similar to the member 11, may be connected one with each other and the outer member to the case 10, it is to be understood that each of the said additional members has arranged therein a battery, and within each of the members 11 is arranged a contact strip 42 which is disposed to engage with the metallic threaded bands upon the open ends of the said members 11.

The numeral 44 designates a metallic cup-shaped closure for the outer member 11, the same having its flange provided with threads 44′ engaging with the threads upon the outer band of the said member 11, while disposed within the member 44 is a helical spring 45 providing a conductor member between the lower battery and the contact plate 42 in the case 11.

In order to properly arrange the contacts of the bulbs 17 and 18 with the offset ends 21 and 22 of the conducting plates 23 and 24 respectively, I notch the reflector 16, as indicated by the numeral 46, and likewise I notch the outer end of the case 10 as indicated by the numeral 47. When these notches are brought to aline the contact points of the bulbs 17 and 18 will properly engage with the contact members 21 and 22 of the conducting strips 23 and 24.

The operation is the same as with other lamps of this class, the circuit to the lamp 17 is closed by operating the circuit closer to bring the same into engagement with the contact strip 25, which will cause the current to flow from the battery through the member 39, from thence through the metallic ring on the outer end of the case 10, through the reflector and lamp to the contact 19, returning through the conducting strips 22, 23, and 25, switch or circuit closer 30, housing 33, conducting strip 34, through metallic bands on ends of cases 10 and 11, from thence through strip 42, through conducting spring 45 to zinc upon the outer end of the outermost battery, and, of course, from zinc to carbon and from carbon to zinc through the remaining batteries. The lamp 17 is lighted only in cases of emergency when a strong light is required, the lamp 18 being generally lighted when less brilliant light is required, and to light the said lamp 18 the circuit closer or switch member is operated to bring the spring conducting element 30 to engage with the contact strip 26 which causes the current to flow from the battery 35, through the strip 39, through the metallic ring on the outer end of the case 10, through lamp 18 and metallic reflector 16, through point 20, through offset end 21 of conducting plate 24, through strip 26, spring member 30, housing 33, plate 34, metallic rings in the ends of cases 10 and 11, through conducting plate 42, contact spring 45, to the batteries. When the batteries are exhausted the parts of the case are separated, the batteries thrown away and new ones are placed in the case, and no adjustment of the contacts or any of the remaining parts is required.

In order to retain the circuit closer in a neutral position the spring switch member 30 adjacent the ends thereof is indented to provide outturned spur members 50 which are adapted to be received in depressions 51—51 in the casing, as clearly illustrated by the drawings.

Having thus described the invention, what I claim is:

1. A flash light comprising a casing of nonconducting material, metallic bands at the open ends of said casing, a lens supported by one of said metallic bands and one end of the casing, a metallic reflector having its edges located between said lens and the casing, a pair of electric lamps supported by said reflector, a battery in said casing, a strip connecting one end of said battery with the band at the front end of the casing, a pair of spaced strips exteriorly arranged on the casing, a strip connecting one of said strips with the contact point of one of the lamps,

strip connecting the other lamp with the her spaced strip, a movable contact mem- r located between the spaced strips and apted to engage with one or the other of e spaced strips, a housing inclosing said ember, a strip connecting said housing ith the metal band at the bottom of the cas- g and a metallic bottom for said casing in ectric connection with the battery.

2. A flash light comprising a casing of onconducting material and comprising a lurality of parts, metallic bands arranged pon the ends of said parts and detachably ngaging with each other, a metallic bottom on the outermost casing engaging with the outermost band, a plurality of batteries in said casing in contact with each other, a metallic reflector in the front end of the casing in electric contact with the metallic band at said end, a lamp carried by said reflector, means for connecting one battery to said reflector and means for connecting the contact point of the lamp with the lowermost battery, said means including a series of strips connecting the metallic bands of the different parts of the casing together.

In testimony whereof I affix my signature.

PERCY M. BEARD.

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