April 16, 1940. A. V. OLSON 2,197,314

COMBINATION FLASHLIGHT AND BATTERY CASE

Filed Aug. 14, 1939

Fig. 1.

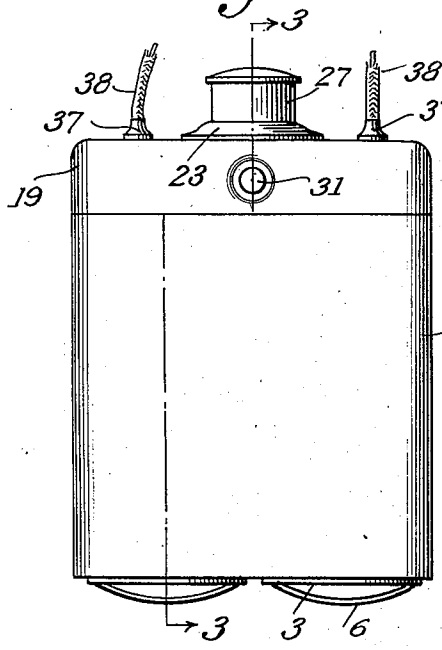


Fig. 2.

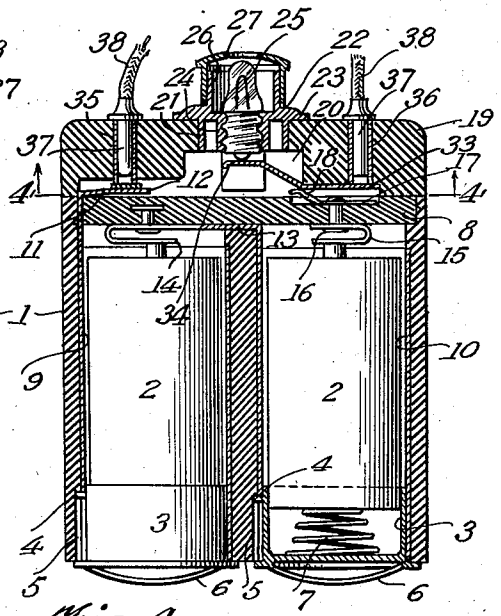


Fig. 3.

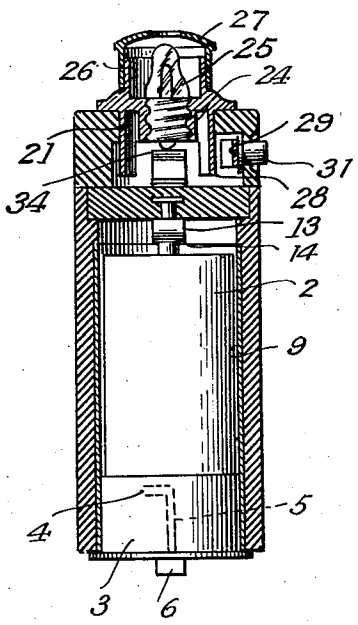
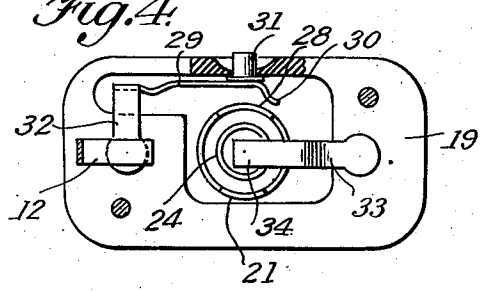


Fig. 4.



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COMBINATION FLASHLIGHT AND BATTERY CASE

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2 Claims. (Cl. 240—10.6)

This invention relates generally to flashlights, and its main object is to provide a device that is in fact a combined flashlight and battery case for use with an electrical hearing aid apparatus for a person having defective hearing, the device being primarily designed to be carried in the pocket of the person to be immediately available for use as a flashlight, but in normal use acts as a housing for batteries to supply current to the hearing aid apparatus and the batteries likewise provide the source of current for illuminating the flashlight bulb which also acts as a testing device to indicate the condition of the batteries.

A further object is to provide a flashlight device that includes sockets for detachably receiving the terminal plugs of the conductors of a hearing aid apparatus, the sockets being in an open circuit with the batteries and the bulb of the device being in a normal open switch controlled circuit with the batteries.

Another object is to provide a device of the character set forth, that is capable of using ordinary flashlight batteries, that can be purchased practically at any store, at less than a third of the cost of the batteries that are especially designed for fitting the cases now in general use for hearing aid apparatus and which can be obtained only in electrical stores that sell the apparatus, thus it will be seen that my device is not only capable of performing the functions above set forth, but materially reduces the cost of the operation of the hearing aid apparatus.

A still further object is to provide a combined flashlight and battery case for a hearing aid apparatus, that is simple in construction, inexpensive to manufacture, and extremely efficient in operation, use and service.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawing and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawing wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is a front view of the device which forms the subject matter of the present invention, with the plugs of the conductors of a hearing aid apparatus mounted in the sockets of the device.

Figure 2 is a longitudinal vertical sectional view taken through the device with parts in elevation.

Figure 3 is a sectional view taken approximately on line 4—4 of Figure 2, looking in the direction of the arrows.

Figure 4 is a sectional view taken approximately on line 4—4 of Figure 2, looking in the direction of the arrows.

Referring to the drawing in detail, it will be noted that the casing of my device includes a body section 1 of substantially rectangular formation and provided with rounded outer corners, as well as with a pair of cylindrical bores opening through the bottom of the body section. The bores are disposed in parallelism to each other and provide chambers for batteries 2 which are of the type now generally employed for use with flashlights.

The lower ends of the bores are closed by cup-shaped closure members 3 which include cylindrical portions loosely fitting within the bores, and the bottom walls of the closure members 3 are of a diameter to extend outwardly beyond the cylindrical portions to provide abutment flanges engageable with the bottom of the body section. Secured to and extending laterally from the cylindrical portions are studs 4 receivable in bayonet slots 5 in the walls of the bores for holding the closure members in closed position, and secured to and bridging the peripheral edges of the bottom walls of the closure members are arcuate strips 6 providing handles to facilitate the application and removal of the closure members, as will be apparent. Fixed to the bottom walls are coil springs 7 of substantially conical formation, with their small convolutions uppermost to engage with the bottoms of the batteries for yieldably urging the same within the bores.

Fixed to the upper end of the body section and countersunk therein for disposal flush with the upper edge thereof is a flat partition 8 that closes the upper ends of the bores, as clearly shown in Figure 2. The partition and body section are both formed from any suitable insulating material, and each bore has fittingly mounted therein a metallic lining, such as copper or other suitable conducting material.

The linings which are indicated by the reference numerals 9 and 10 respectively each have formed on the upper ends thereof a spring tongue and the tongue 11 of the lining 9 extends between one side of the body section and the adjacent end of the partition for disposal in spaced relation to the outer face of the partition to provide a contact member 12 for a purpose which will be later described. The tongue 13 of the lining 10 extends from its bore or chamber,

through the narrow portion of the wall between the chambers for disposal within the chamber having the lining 9 therein, and the tongue 13 which is fixed to the partition within the latter chamber, is looped upon itself to provide a contact member 14 disposed in the path of the central electrode of the battery within that chamber, to engage said electrode, as clearly shown in Figure 2. The other battery has a looped contact member 15 disposed in the path of its central electrode and the member 15 is riveted to the partition by a rivet 16 which likewise secures a contact strip 17 to the upper surface of the partition, the contact strip being seated within a recess and has an upturned end 18.

Detachably secured to the outer surface of the partition 8 by any suitable means such as screws or the like, is a cover section 19 formed from insulating material and provided with a recess 20 in the inner face thereof, and the recess communicates with an opening disposed centrally within the cover section 19 and through its outer face.

Mounted within the opening of the cover section is a skirt 21 of a lamp housing 22 which includes an annular flange 23 seated upon the outer face of the cover section to limit the inward movement of the housing and disposed concentrically with respect to the skirt is a threaded socket 24 for a lamp bulb 25. The housing likewise includes an outer sleeve portion 26 that has its inner surface highly polished or coated to provide a reflector and frictionally mounted on the sleeve 26 for fitting engagement therewith, is a protector cap 27 for the lamp bulb, the cap having an opening centrally of its concavo-convex outer portion for the passage of light rays therethrough, as will be apparent upon inspection of Figure 2.

Formed on and depending from the skirt 21 for disposal within the recess 20 is a pair of ears, and one of the ears which is indicated by the reference numeral 28 provides a contact member for switch means for controlling the circuit to the lamp bulb. The switch means includes a spring tongue 29 having a curved bent free end 30 engageable with the ear 28 for closing the circuit, and engaged with the tongue 29 for movement through an opening in the cover section 19, is a button 31 for moving the curved bent free end against the ear 28, as will be apparent upon inspection of Figure 4. The tongue 29 has its opposite end fixed to a conductor strip 32 that bears against the contact member 12, as best shown in Figure 2, and secured to the underside of the cover section 19 is a conductor strip 33 that has a free contact portion 34 engaged with the central contact member of the lamp bulb, and the strip 33 likewise engages with the contact strip 17, with the result it will be seen that when the switch is closed, the circuit will be completed through the lamp bulb for illuminating the latter.

In order for the batteries to supply current to the hearing aid apparatus, it will be noted as best shown in Figure 2, that the cover section 19 has a pair of sleeves 35 and 36 extending therethrough and the sleeve 35 has its inner end fixed to the conductor strip 32, while the sleeve 36 is fixed to the conductor strip 33. The sleeves 35 and 36 provide sockets for frictionally receiving the plugs 37 of conductors 38 of the hearing aid apparatus, and it will be obvious that when the plugs are inserted within the sleeves, that a circuit will be completed from the batteries to the apparatus, as the switch means controls the circuit to the lamp bulb only, and in order to open the circuit to the hearing aid apparatus, it will be obvious that one of the plugs must be removed from its sleeve or socket.

It will be further obvious that when both of the plugs are removed, that the device can then be used as a flashlight, but the normal use of the device is in the capacity of a battery case for the hearing aid apparatus, it being adapted to be carried in the pocket of the user, and in the event the user wishes to ascertain the condition of the batteries, such is determined by closing the switch and noting the brilliancy of the lamp bulb.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:

1. A combined flashlight and battery carrying case for an electric hearing aid apparatus, comprising a casing including a body section having a pair of parallel bores therein opening through the lower end thereof, substantially cup-shaped members closing the lower ends of the bores, a partition secured to the body section and closing the upper ends of the bores, said bores providing battery receiving chambers, a metallic lining in each bore and having the cup-shaped members in contact therewith, tongues formed on the linings and one of said tongues providing contact means arranged in the path of the central electrode of one battery and the other tongue extending on the upper side of the partition, contact means secured to the partition and engaged with the central electrode of the other battery, springs for urging the electrodes in engagement with the contact means and disposed between the cup-shaped members and the bottoms of the batteries, a cover section secured to the partition, illuminating means mounted on the cover section, contact means for the illuminating means and engageable with said other tongue and the contact means of the partition, contact means in the cover section for detachably receiving the conductors of the hearing aid apparatus and electrically connected to the contact means for the illuminating means one of the contact means for the illuminating means providing switch means for controlling the circuit to the illuminating means, and a button for actuating the switch means and extending through the cover section.

2. A combined flashlight and battery carrying case for a hearing aid apparatus, comprising a casing including a body section having a pair of parallel bores therein opening through the lower end thereof, substantially cup-shaped members closing the lower ends of the bores, a partition secured to the body section and closing the upper ends of the bores, said bores providing battery receiving chambers, a metallic lining in each bore and having the cup-shaped members in contact therewith, tongues formed on the linings and one of said tongues providing contact means arranged in the path of the central electrode of one battery and the other tongue extending on the upper side of the partition, contact means secured to the partition and engaged with the central electrode of the other battery, springs urging the electrodes in engagement with the contact means and disposed between the cup-

shaped members and the bottoms of the batteries, a cover section secured to the partition, sleeves extending through the cover section and electrically connected to said other tongue and the contact means of the partition respectively, said sleeve providing sockets for frictionally receiving the terminal plugs of the conductors of the hearing aid apparatus, and switch controlled illuminating means mounted on the cover section and electrically connected to said other tongue and the contact means of the partition.

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