

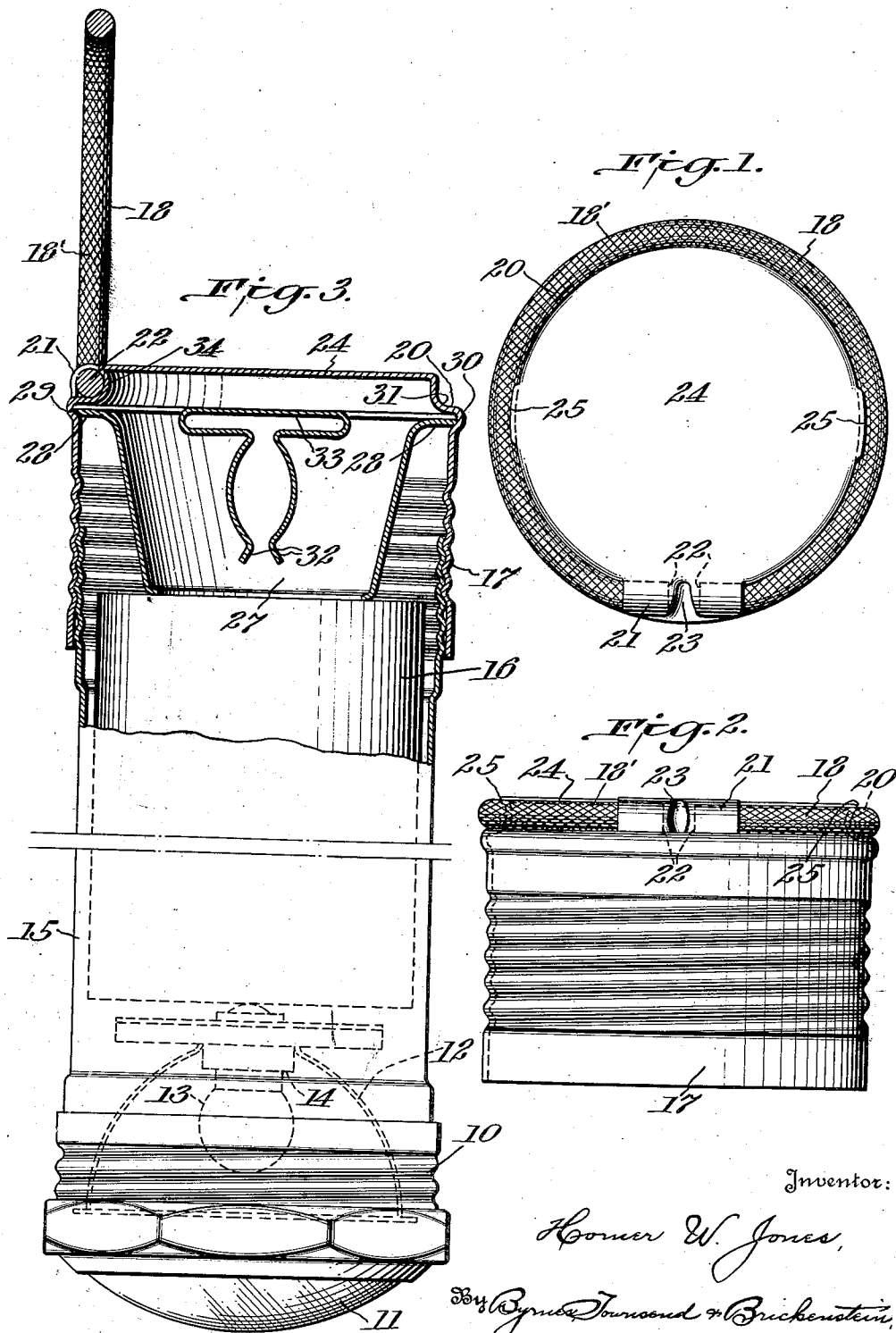
July 13, 1926.

H. W. JONES

1,591,980

FLASH LIGHT

Filed Dec: 1, 1924



Inventor:

Horner W. Jones,

By *Cyrus Townsend & Bruckenstein,*
Attorneys.

UNITED STATES PATENT OFFICE.

THOMER W. JONES, OF JACKSON HEIGHTS, NEW YORK, ASSIGNOR TO NATIONAL CARBON COMPANY, INC., A CORPORATION OF NEW YORK.

FLASH LIGHT.

Application filed December 1, 1924. Serial No. 753,283.

This invention relates to flashlights, and more particularly to an improved hanger and cap especially adapted for flashlights of the tubular type.

It is an object of this invention to provide a hanger, at the bottom end of a tubular flashlight, arranged to be swung either into a position for suspending the flashlight or into a position against the end of the flashlight where the hanger will be completely out of the way and will not interfere with the handling of the flashlight nor with the standing of the flashlight upon said end as a base.

Broadly speaking, the improved hanger comprises a ring hinged along a tangent at its circumference to the outside bottom surface of the end cap of the usual tubular-type flashlight casing, a groove or recess being provided in said bottom surface to receive and retain the ring when the hanger is not in use.

The objects and novel features of the invention will be apparent from the following description taken with the drawings, in which

Fig. 1 is an enlarged bottom plan view of a flashlight bottom cap embodying the present invention, the hanger ring being folded down into the groove;

Fig. 2 is an enlarged side view of the bottom cap with the ring folded down into the groove; and

Fig. 3 is a partial view of a flashlight embodying this invention, illustrating the hanger in position to suspend the flashlight.

The improved hanger and cap is particularly adapted for the usual tubular-type flashlight which comprises a casing head 10 that carries the usual lens 11 and reflector 12 and encloses the latter and a lamp 13 secured in a lamp holder 14. The head 10 is secured to the front end of a tubular casing body 15, which encloses a battery 16 that may be electrically connected with the lamp 13 by a suitable switch (not shown). The battery 16, which may be a number of series-connected tubular dry cells, is usually inserted in the casing body 15 through the rear open end thereof, the battery being held in proper position and said open end being closed by the usual metal bottom cap 17 that is detachably coupled to the body 15, as by

means of interfitting screw threads on the tubular skirt of the cap and on the tubular casing or body. In many cases it is desirable to hang up such a flashlight in a convenient or conspicuous place where it will be readily available; also, it is often desirable to suspend a flashlight in a position to project its light upon a particular spot. My improved hanger is designed for these and other uses.

The improved hanger comprises a metal ring 18 that is hinged to the cap 17 along a line substantially tangent to the circular axis of the ring, so that when the latter is swung into suspending position, as in Fig. 3, the full opening of the ring is available to fit hooks or pegs of widely different sizes. The ring 18 is substantially circular in cross-section so as to seat in the circular groove 20 that extends around the periphery of the bottom of the cap 17. The groove 20 is formed by pressing the bottom corner of the cap inwardly, except for a short distance which is left standing up flush with the bottom surface of the cap to form a bearing sleeve 21 for the hanger ring 18. The ring 18 is split to provide opposed ends 22 which are inserted in the bearing sleeve 21 at opposite sides of an abutment 23 that is pressed centrally into the sleeve, thereby hinging the ring to the cap and fixing it in place against shifting relatively to the cap.

The ring is desirably of such size that, when not in use, it will seat in the groove 20 flush with the bottom face 24 of the cap and, as shown in Fig. 2, may project slightly from the groove to give the appearance of the usual bead at the corner of the cap. The ring may be knurled as at 18' to provide a positive finger grip similar to the one usually provided on the bead just described.

The ring, in its fully open or closed position, does not render the flashlight unstable when the latter is supported on its bottom end, nor does the ring otherwise detract from the utility or appearance of the flashlight; but, on the contrary, a larger base is provided thereby when it is in closed position, and when in open position, the ring may serve as a finger piece for screwing the cap off or on the flashlight body.

The hanger ring is preferably releasably retained in closed position, so that it will not

swing about when not in use. Suitable detent means may be provided on the cap for this purpose. As shown, detent projections 25 are formed at diametrically opposite points on the cap about 90° from and on a line parallel to the hinge of the ring. These detents slightly overlie the groove so that they will securely retain the ring therein. Since the opposed ends 22 of the ring are slightly separable, the ring may be sufficiently expanded by the camming action of the detents 25, to pass the latter as the ring is swung into its closed position in the groove. The ring 18 preferably consists of a relatively stiff spring wire or suitable inherently resilient material which will cause it to contract and return its ends to their normal position as the ring snaps into the groove. Similarly, the ring may be easily swung out of the groove 20 into open position by the pressure of a finger applied outwardly against the inner side of the ring at a point about diametrically opposite its hinge.

Suitable means may be secured inside the cap for holding the battery 16 in position with its center pole in circuit with or against the lamp 13 or lamp holder 14. For example, a conductive tubular shell 27 inside the cap is arranged to engage the bottom or zinc cup of the battery and support the latter and connect it in circuit with the lamp through the cap. This shell is comparatively rigid and is held firmly in place by lugs 28 at its rear edge, which lugs project into a groove 29 corresponding to a bead 30 formed in the tubular wall of the cap. The walls of the bead 30 and the hanger-receiving groove 20 are coextensive and merge at 31. The shell 27 is also adapted to form a holder for spare parts, such as extra bulbs for the flashlight, into which holder a bulb wrapped in paper, cotton or other protective material may be packed. To hold the bulb more securely without packing, clips 32 may be used. These clips may be punched from a plate 33 that has its marginal edge held in the groove 30 and against the inside wall of groove 20 by the shell 27 which bears against it. Other conductive battery-supporting devices may be employed, such as a spiral spring, the base turn of which may frictionally engage either in the groove 29 or against the inside of the wall 34 corresponding to the groove 20, which may form a shallow cavity or seat to retain the rear end of such supporting spring.

The grooves 20 and 29, the bearing sleeve 21, the abutment 23 and the detents 25 may all be formed integrally in the sheet metal of the cap 17, so that the ring and battery support are the only additional parts required. The improved structure is therefore comparatively inexpensive to manufacture and assemble. By hinging the ring 18 upon a line that is substantially tangent to the bot-

tom corner of the cap and making it of a size to encircle the bottom part of the cap at the groove 20, provision is made for the use of the largest hanger ring that can be folded out of the way when not in use. This is advantageous because of the great variety of projections on which a large ring can be hung.

Variations may be resorted to within the scope of the invention, and parts of the improvements may be used without others.

I claim:

1. A flashlight comprising the combination of a tubular body, a lens-carrying and reflector-enclosing head at one end of said body, a cap coupled to and closing the other end of said body and detachable from the latter for insertion and removal of a battery, said cap having a circular groove at the periphery of its bottom, and a hanger ring hinged in said groove and foldable into the same.
2. A flashlight comprising a tubular casing adapted to contain a battery, and a device detachably coupled to one end of said body, said device having an exterior groove in its periphery, and a hanger for said flashlight hinged in said groove and foldable into the same.
3. A flashlight comprising the combination of a tubular body, a lens-carrying and reflector-enclosing head at one end of said body, a cap coupled to and closing the other end of said body and detachable from the latter for insertion and removal of a battery, said cap having a circular groove at the periphery of its bottom, a hanger ring hinged in said groove and foldable into the same to avoid rendering the flashlight unstable when it is supported upright upon the cap as a base, and means adapted to releasably retain the ring in the groove.
4. A bottom cap for tubular flashlights, such cap having an exterior groove and an interior groove, a hanger hinged in said exterior groove and foldable into the same, and a conductive battery-supporting device secured in said cap by a part of such device that projects into said interior groove.
5. A bottom cap for tubular battery-operated flashlights, said cap comprising exterior and interior grooves having a common wall, a hanger hinged in said exterior groove and bearing against said wall when in closed position, and a conductive battery-supporting device having a portion disposed in said interior groove and bearing against said wall.
6. A flashlight comprising the combination of a tubular body, a lens-carrying and reflector-enclosing head at one end of said body, a cap threaded onto and closing the other end of said body and detachable from the latter for insertion and removal of a battery, said cap having a circular groove

at the periphery of its bottom, a substantially circular hanger ring hinged in the groove and foldable therein, and means within the ring adapted to releasably retain the ring in the groove.

7. A flashlight comprising the combination of a tubular body, a lens-carrying and reflector-enclosing head at one end of said body, a cap coupled to and closing the other end of said body and detachable from the latter for insertion and removal of a battery, said cap having a circular groove at the periphery of its bottom, a circular split hanger ring hinged in the groove and foldable therein, and detent means for retaining said ring in said groove.

8. A flashlight comprising the combination of a tubular body, a lens-carrying and reflector-enclosing head at one end of said body, a cap coupled to and closing the other end of said body and detachable from the latter for insertion and removal of a battery, said cap having a circular groove at the periphery of its bottom, a split hanger ring hinged in the groove and foldable therein, an abutment engaging the ends of the ring to maintain the split portion in a substantially fixed location with reference to the groove, and detents located in positions to cause the ends of the ring to be pulled apart as the ring is forced over them, the ring being sufficiently resilient to snap into the groove beneath the detents after it has passed them.

9. A flashlight comprising the combination of a tubular body, a lens-carrying and reflector-enclosing head at one end of said body, a metallic cap coupled to and closing the other end of said body and detachable from the latter for insertion and removal of a battery, said cap having a circular groove pressed inward in the bottom of the cap, a substantially circular hanger ring hinged at its circumference in the groove, a bearing sleeve formed integral with the cap for hingedly holding the ring, and

means also integral with the cap for retaining the ring in the groove.

10. A combined hanger and end cap for a tubular flashlight or battery hand lamp comprising a device having a threaded tubular portion adapted to be detachably coupled to a threaded end of a tubular flashlight casing, said device having a groove pressed into the peripheral portion of its outside surface, and a hanger hinged in said groove, said hanger being adapted to be folded into said groove and retained therein when not in use.

11. A bottom cap for a tubular flashlight having an exterior groove in a wall thereof, a substantially circular hanger hinged in said groove and foldable into the same, and means adapted to releasably retain said hanger in said groove.

12. A bottom cap for a tubular flashlight having an exterior peripheral groove in a wall thereof, a split circular hanger hinged in said groove and foldable into the same flush with the bottom surface of said cap, and means adapted to releasably retain said hanger in said groove.

13. An end cap for a tubular flashlight or battery hand lamp, said cap having a tubular skirt provided with means whereby said cap may be coupled to the casing of such flashlight, means within said cap for engaging the battery within such casing when said cap is coupled to the latter, said cap having a peripheral groove, and a hanger hinged to the outside of said cap and foldable into said groove.

14. An end cap for a tubular flashlight or battery hand lamp according to claim 13, in which said groove constitutes the periphery of the bottom wall of said cap and said hanger comprises a circular ring foldable into said groove.

In testimony whereof, I affix my signature.

HOMER W. JONES.