

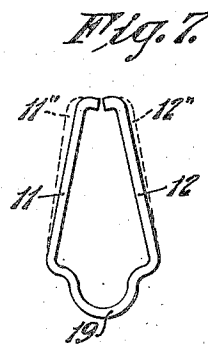
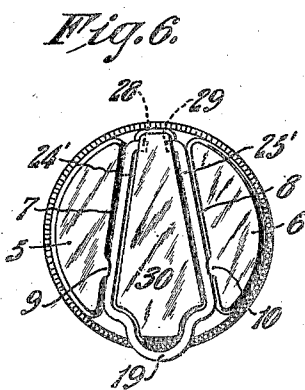
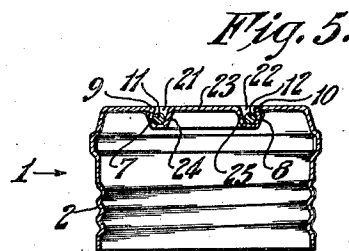
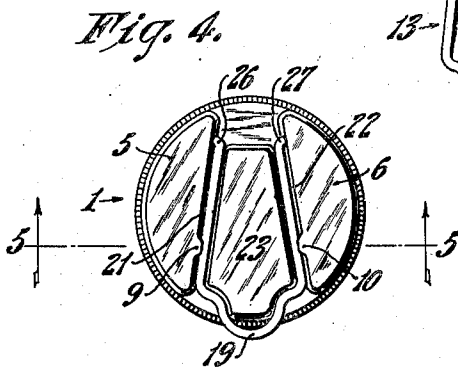
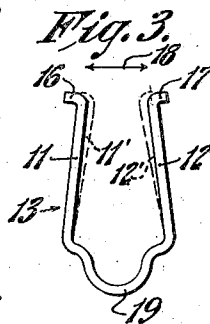
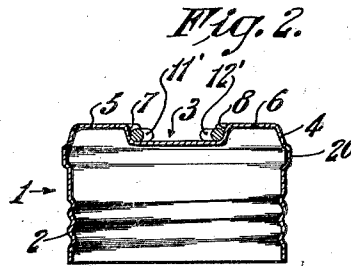
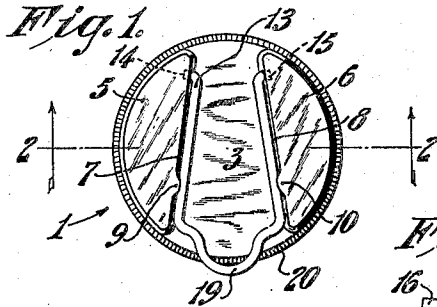
Feb. 14, 1939.

D. W. TYRRELL ET AL

2,147,471

END CAP AND HANGER FOR FLASHLIGHTS

Filed Nov. 6, 1934



BY

INVENTORS,
Donald W. Tyrrell,
Wesley J. Officer, and
Blake Allen Seaver,

Harry W. Bowen,
ATTORNEY.

UNITED STATES PATENT OFFICE

2,147,471

END CAP AND HANGER FOR FLASHLIGHTS

Donald W. Tyrrell, Clinton, Wesley J. Officer, Hampden, and Blake Allen Seaver, Springfield, Mass., assignors to Blake Manufacturing Corporation, Clinton, Mass., a corporation of Massachusetts

Application November 6, 1934, Serial No. 751,712

4 Claims. (Cl. 240—10.6)

This invention relates to improvements in end caps and hangers for flash lights.

An object of our invention is to provide an end cap and hanger for flash lights that will be neat in appearance and one that will readily permit the hanger member to be moved into its operative or inoperative position on the bottom, or lower, surface of the cap.

Our invention includes, among other features, a pivoted hanger member, that is formed with an extension, or finger end portion, that normally projects beyond the external, or side edge flange, of the cap, in order to provide a convenient and efficient construction for the user to quickly move the hanger member, either into its operative or into its inoperative position.

Broadly stated, one construction of the cap member is formed with a wedge-shaped groove, or channel portion, in its bottom surface, which portion extends completely across the bottom of the cap. The opposite side edges of this wedge-shaped channel, or groove, are formed with inclined surfaces that extend from the outer, or bottom, surface of the cap to the bottom surface of the wedge-shaped groove, or channel.

Pivotaly located in this channel, is the hanger member which is formed with bent end portions for providing a pivotal construction for attaching the hanger to the cap, and, at the same time, to permit its free movement into its operative, or inoperative positions. The oppositely located inclined surfaces, or edges, of the wedge-shaped channel serve, as will be stated, to co-operate with the hanger member, in order to cause the hanger to be quickly snapped out of the channel, when the operator, with his finger, exerts a slight upward pressure on the projecting end portion. These inclined edges are provided with inwardly projecting overhanging lugs, which serve to normally retain the hanger in the channel, when it is not in use, and, at the same time, allows the side portions of the hanger to snap by these lugs, when a slight upward pull is imparted to the hanger, for moving it into its operative position. In the reverse operations, the lugs permit the hanger to be again nested in the channel, when not in use.

As a modification, instead of having the open, wedge-shaped, channel in the bottom of the cap, we form two grooves therein, in which the two spring arms of the hanger are nested. The grooves are also formed with inclined surfaces, for assisting, or accelerating, the movement of the hanger, when it is to be moved into its operative, or lamp-hanging position.

The present application forms a part of the subject matter, shown and described, but not claimed, in the Letters Patent of the United States of America, dated August 7, 1934, numbered 1,969,320, granted to Wesley J. Officer and Blake A. Seaver, for their improvements in Flashlights, and joint applicants in this application.

Further objects and nature of our invention will appear in the body of the specification, with reference to the accompanying drawing, and appended claims.

Referring to the drawing:—

Fig. 1 is a bottom plan view of the end cap and hanger, showing the hanger nested in the wedge-shaped recess, or channel, which extends completely across the end cap.

Fig. 2 is a sectional view on the line 2—2 of Fig. 1.

Fig. 3 is a detail view of the spring wire hanger, removed from the cap.

Fig. 4 is a bottom plan view of a modification, showing the two inclined grooves, with the hanger in place therein.

Fig. 5 is a sectional view on the line 5—5 of Fig. 4.

Fig. 6 is a further modification, showing the hanger member with inturned pivot end portions, and

Fig. 7 is a detail view of the hanger, shown in Fig. 6, removed from the cap.

Referring to the drawing in detail:—

1 designates the cap member, as a whole, having the usual attaching threads 2. 3 indicates a wedge-shaped channel in the bottom 4 of the cap, which extends completely across the bottom from one side edge to the other. The sides of this channel lie between the two segmental-shaped portions 5 and 6. Their inner edges, 7 and 8, are formed with an inclined, or shelving surface, as shown, whereby, the bottom of the channel is of less width than the top portion. These edges are also formed with the inwardly extending integral lugs, or projections 9 and 10, under which the spring arms 11 and 12 of the hanger 13 are confined, when the hanger, shown in detail in Fig. 3, is nested in the wedge-shaped channel 3, as shown in Figs. 1 and 2. These inclined edges, 7 and 8, are formed with the recesses, or openings 14 and 15, into which the outwardly turned pivot ends 16 and 17 extend, when the hanger is assembled, by moving the spring arms 11 and 12 into the dotted line positions 11' and 12', in order to lessen the space therebetween, as shown by the line 18 in Fig. 3. 55

The hanger 13 is formed with the curved and projecting end 19, which, as shown, projects beyond the side edge 20 of the cap, when it is in a closed, or inoperative position. This projecting end serves as a finger portion for opening and closing the hanger. In operation, a slight upward pressure on the end 19 of the hanger will cause the spring arms 11 and 12 to be moved inwardly by the retaining lugs 9 and 10, and, the inclined surfaces 7 and 8 will co-operate with the spring arms, with the result that the hanger is forcibly and quickly snapped, or moved, into its open position, ready for supporting the flash light on a nail, or other support. In the closing operation, the spring arms will readily yield inwardly, when they engage the lugs 9 and 10, for confining the hanger in the channel 3, as shown. The inclined surfaces 7 and 8 will also assist to retain the arms 11 and 12 under these lugs. The curved end 19 serves a further purpose of automatically positioning the flash light in a vertical plane, when supported on a nail.

Referring to Figs. 4 and 5, the cap 1, instead of having the wedge-shaped continuous channel 3, shown in Figs. 1 and 2, it is formed with two inclined grooves 21 and 22, located between the side portions 5 and 6 and the center portion 23. These grooves are also formed with inclined edges 7 and 8, and, in addition, there are inclined edges 24 and 25 on the opposite edges of the center portion 23. The pivot ends 26 and 27 of the hanger, shown in Fig. 4, enter openings, in the opposite inner edges of the portions 5 and 6. They are retained therein by the normal outward spring of the arms.

When an upward pressure is applied to the projecting finger portion 19, the inclined surfaces 7 and 8 will co-operate with the spring arms 11 and 12, to forcibly open the hanger member 13, and, also, assist in retaining these arms under the lugs 9 and 10,—when in a closed position. The normal tendency of the arms 11 and 12 is to spring outwardly, as stated.

In Figs. 6 and 7, the normal tendency of the spring arms 11 and 12 is to move inwardly and must be moved into the dotted line positions 11' and 12', for assembling them in the openings 28 and 29 of the center part 30, which is of the same elevation as the portions 5 and 6. The spring arms 11 and 12 of the hanger are located in grooves with inclined walls, or surfaces, 24' and 25', as already described in connection with Figs. 4 and 5, whereby the hanger is forcibly and quickly opened, when pressure is applied to the extended finger end 19. This extended end is, so far as we are aware, entirely new with us. It materially assists in both opening and closing the hanger, thus overcoming the necessity of requiring a special tool of any kind for operating the hanger.

What we claim is:—

1. An end cap construction for flashlights comprising, a cup-shaped member formed with a pair of straight converging grooves, the sides of each of said grooves converging from top to bottom, a hanger member having straight converging spring arms pivotally connected to the end cap in said grooves and engaging the said converging sides of the grooves, lug means extending over the grooves for removably retaining the said spring arms in the grooves, said hanger member having a loop portion connecting said arms and projecting beyond the side of said cup-shaped member for manually operating the hanger, all portions of said hanger being in the same plane,

engagement of the arms of said hanger on the converging sides of said grooves providing a normal tension in said hanger when the hanger is engaged in the grooves, whereby said hanger will be projected out of said grooves when the hanger is released from said lugs.

2. A bottom cap for flashlights comprising, in combination, a recessed bottom surface having substantially straight inset walls extending across said end cap, said walls being inclined with respect to the plane of the bottom of the cap, said inclined walls, near their point of greatest proximity, being provided, respectively, with oppositely disposed apertures, a generally U-shaped hanger of material having inherent resiliency and formed with straight converging end portions, the extremities of which are bent for reception in said apertures, respectively, in the inclined walls of the recessed bottom surface, the distance between corresponding points on the straight converging end portions of the hanger adjacent the bent extremities being normally greater than the distance between points on the inclined walls at the apertures therein, whereby when said ring hanger is moved into substantially the plane of the bottom surface, said corresponding points adjacent the bent extremities are respectively cammed against said inclined surfaces and the hanger thus placed under compression, and projections on said inclined walls extending in substantially the plane of the bottom surface of said bottom cap for retaining the hanger in its closed position and under compression, the coacting surfaces of the ends of the compressed hanger and the inclined walls tending to move said hanger angularly out of said recessed bottom surface.

3. A bottom cap for flashlights comprising, in combination, a recessed bottom surface having substantially straight inset walls extending across said end cap, said walls being inclined with respect to the plane of the bottom of the cap, said inclined walls, near their point of greatest proximity, being provided, respectively, with oppositely disposed apertures, a generally U-shaped hanger of material having inherent resiliency and formed with straight converging end portions, the extremities of which are bent for reception in said apertures, respectively, in the inclined walls of the recessed bottom surface, the distance between corresponding points on the straight converging end portions of the hanger adjacent the bent extremities being normally greater than the distance between points on the inclined walls at the apertures therein, said U-shaped hanger having a portion projecting beyond the edge of the cap, whereby when said ring hanger is moved into substantially the plane of the bottom surface, said corresponding points adjacent the bent extremities are respectively cammed against said inclined surfaces and the hanger thus placed under compression, and said projecting portion is in a position for ready engagement with the finger or against a projection for quick release, and projections on said inclined walls extending in substantially the plane of the bottom surface of said bottom cap for retaining the hanger in its closed position and under compression, the coacting surfaces of the ends of the compressed hanger and the inclined walls tending to move said hanger angularly out of said recessed bottom surface.

4. An end cap construction for flashlights comprising in combination, a normal bottom surface and a recessed surface, inclined side walls ex-

5 tending outwardly from the recessed surface, toward the normal bottom surface, said inclined walls having converging portions, perforations in
10 oppositely disposed converging portions of said inclined side walls to receive the ends of a hanger member, a resilient hanger member with arms of substantially the same contour as the inclined side walls and adapted to be positioned on the recessed surface, lugs to hold said resilient hanger
15 on said recessed surface, pivot points on said hanger member to enter the said perforations, the resilient hanger member being under compression

when the pivot points are in the perforations tending to hold such pivot points firmly against the inclined side walls at their converging portions adjacent the perforations, the coating arms of the resilient hanger under compression and the inclined side walls adjacent the perforations
5 tending to move the hanger angularly away from the recessed surface.

DONALD W. TYRRELL.
WESLEY J. OFFICER.
BLAKE ALLEN SEAVER.

10