

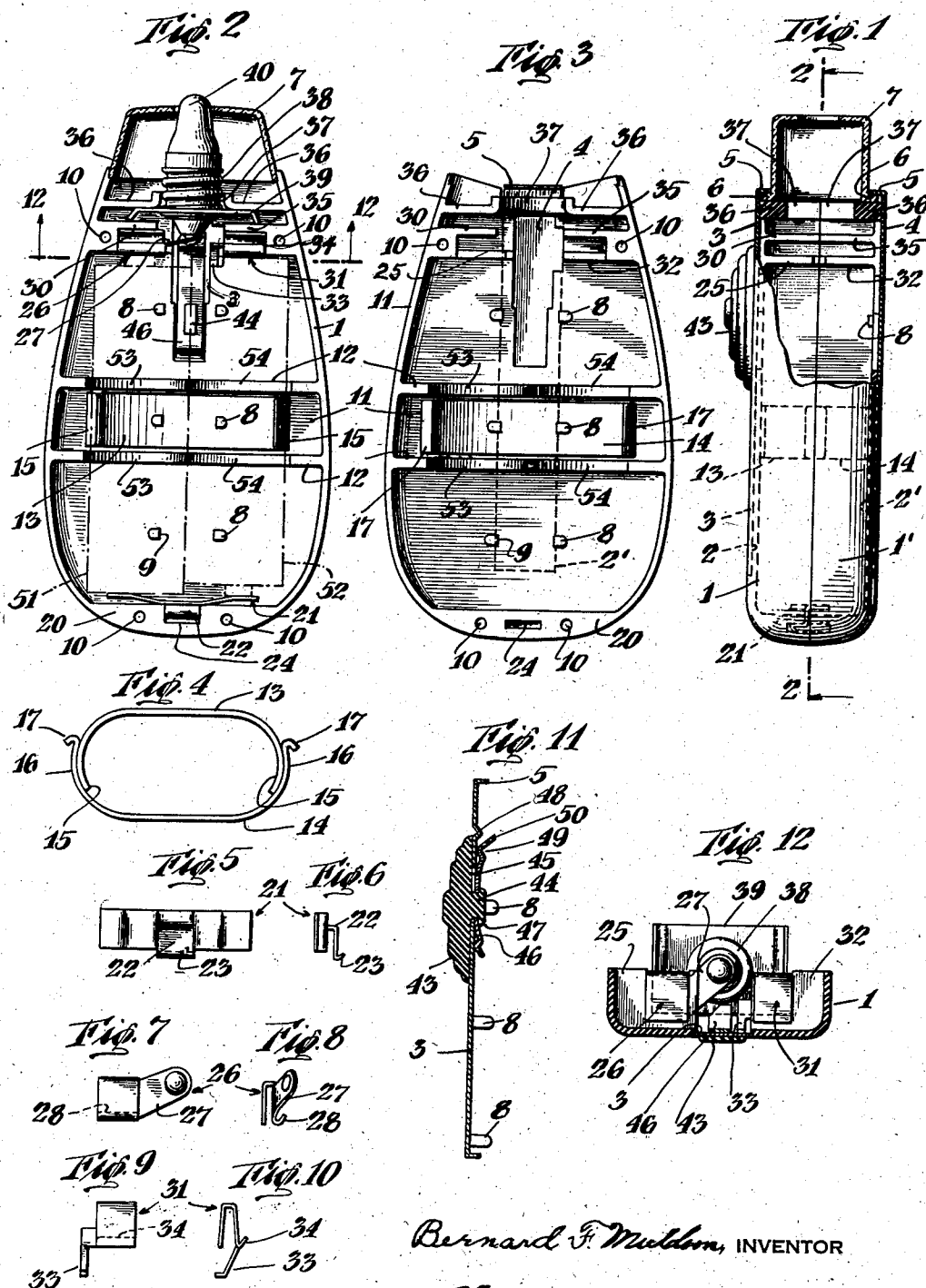
Feb. 3, 1942.

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2,272,040

FLASHLIGHT

Filed May 24, 1939



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UNITED STATES PATENT OFFICE

2,272,040

FLASHLIGHT

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Application May 24, 1939, Serial No. 275,364

3 Claims. (Cl. 240—10.65)

This invention relates to a flashlight, the casing of which may be made in two mating duplicate halves which are retained in assembled relation by means of clips or springs so that the flashlight can be assembled and lamp bulb, battery cells, and other parts, can be replaced without the use of any tools.

In carrying out the invention the flashlight can be made very compact so that it may be carried in the palm of the hand or in a vest pocket, the battery cells being assembled side by side and removably held in position by spring means while the lamp socket and contacts are insertable and removable by hand. Also, longitudinal metal strips are applied to the outside of the casing and not only serve to ornament the same but are also for functional purposes.

The invention will be understood from the description in connection with the accompanying drawing, in which Fig. 1 is an edge view of the device partly in section; Fig. 2 is a section along the line 2—2 of Fig. 1, showing some of the assembled parts; Fig. 3 is a similar view in the other direction with parts omitted; Fig. 4 is an end view of holding clips; Figs. 5 and 6 are side and end views, respectively, of a battery-holding spring and contact; Figs. 7 and 8 are side and end views, respectively, of the lamp bulb contact; Figs. 9 and 10 are side and end views, respectively, of another battery and strip contact; Fig. 11 is a section through the switch mechanism; and Fig. 12 is a section along the line 12—12 of Fig. 2.

In the drawing, reference characters 1 and 1' represent duplicate halves of the battery casing which is made of insulating material. Grooves 2, 2' extend longitudinally along the outside of the casing members 1 and 1' from the front ends thereof to short distances from the other ends. Metal strips 3 and 4 are located in the grooves 2 and 2'. The upper ends 5 of these strips are bent inwardly to form grips or catches for the flanges 6 of a cap or cover 7 that is made of transparent or translucent insulating material. Cleats 8 are provided at intervals along the edges of the metal strips 3 and 4. These cleats extend through holes 9 in the casing halves 1 and 1', and the ends thereof are bent over in contact with the inside walls of these casing halves to retain the metal strips 3 and 4 in position. Holes 10 may be provided at intervals along the facing edges of the halves 1 and 1' to receive dowel pins to prevent these halves from shifting laterally with respect to each other.

Transverse grooves 11 are provided between

walls 12 in each casing half or section and a spring clip 13 (Fig. 4) is fastened in one of the grooves 11, and a similar but slightly longer spring clip 14 is fastened in the other groove 11. These clips 13 and 14 are held in place by some of the cleats 8 passing through holes therein and being bent over. The clip 13 is provided with curved ends 15 bent inwardly. The ends 16 of the clip 14 are also bent inwardly, and these ends are longer than the ends 15 and terminate in outwardly curved portions as indicated at 17. In this way, when the section 1 carrying the clip 14 is brought face to face with the section 1 carrying the clip 13 and the two pressed together, the ends 16 snap over the curved ends 15, thereby retaining the two halves of the casing in assembled relation, so that they can be sprung or pulled apart with the fingers.

The walls of the casing halves 1 and 1' are thickened as shown at 20, and a spring contact 21 (Figs. 2, 5 and 6) for battery cells, having attached thereto or struck out therefrom a holding member 22 with an upturned end 23, is pushed in and becomes wedged in a rectangular hole 24 in one of the members 1 or 1'.

A short transverse wall or support 25 (Fig. 1) is integral with the casing half 1. A spring contact clip 26 (Figs. 2, 7 and 8) is held upon the wall 25 with the end of its contact arm 27 in line with the lamp bulb and with its lip 28, which is curved at the bottom, fitting between this wall and a short wall 30 parallel to the wall 25.

A spring clip contact 31 is spring pressed on the short wall 32 which is in line with the wall 25. A contact spring arm 33 extends from the lower portion of the clip 31 and is curved and rests against the inner surface of one of the metal strips 3 or 4. The curved clip 34 on the contact 31 enters the space between the wall 32 and a parallel wall 35 to keep the clip 31 removably in place.

A transverse wall 36 extends across each casing half near the lamp bulb end thereof, and each one of these walls is provided at its middle with a semicircular recess 37 to accommodate a lamp socket 38. This socket is provided with a spring plate 39 to spring into the space between the walls 30, 35 and 36 to retain the socket 38 removably in place. A lamp bulb 40 screws into the socket 38.

The top or cover 7, preferably of translucent material, is held in place by having its flanges 6 caught under the bent ends 5 of the metal strips 3 and 4.

A thumb piece or slide 43 (Fig. 11) of insulating material has a projection 44 attached thereto which extends through an elongated slot 45 in the metal strip 3 and through a hole in a sliding contact or switch 46. The projection 44 is preferably made of an insulating material such as a synthetic resin, whose end 47 can be upset to attach the same to the switch 46. A transverse rib 48 is provided along the inner side of the strip 3, and a corresponding transverse rib 49 is provided on the bottom side of the contact 46 to snap over the rib 48 as this contact or switch is moved back and forth to the on and off positions. A contact finger 50 is provided on the switch 46 to contact with the plate 39 on the socket 38 so as to close the circuit.

A pair of dry cells 51 and 52 (indicated in dot-dash lines) is located in the semicircular seats 53 and 54 in the walls 12 of the members 1 and 1'.

The metal strips 2 and 2' and the spring clips 13 and 14 are fastened to the casing halves 1 and 1' by the cleats 8, and the button 44 and switch 46 are attached to the strip 3. The other parts are manually removable.

In assembling the parts the spring contact 21, the center contact clip 26, the contact clip 31 carrying the contact spring arm 33 which rests against the strip 3, and the spring plate 39 carrying the lamp socket 38, are pressed into position and frictionally retained in place. The lamp bulb 40 is screwed into place, the cover 7 placed in position for its flanges 6 to fit under the ends 5 of the strips 3 and 4, the battery cells 51 and 52 are pushed into place, and the halves are then

assembled and are kept removably in place by the springs 13 and 14.

When the switch 46 is closed, the electric circuit can be traced as follows: from the center contact of the lamp 40 through the contact arm 21, clip 26, cell 51, spring contact 21, cell 52, spring clip 31, contact spring arm 33, metal strip 3, switch 46, contact finger 50, spring plate 39 of the socket 38, socket 38, and through the filament of the lamp bulb 40.

What is claimed is:

1. In a flashlight, a casing of insulating material, comprising two similar sections having transverse walls with recesses therein to accommodate a pair of dry cells, a spring contact at one end of said casing for said cells, means at the other end to make and break connection to a lamp bulb, and spring means surrounding the spaces for said cells for holding said sections in assembled relation.

2. In a flashlight having a casing in two parts, a spring attached to each part respectively, said springs being adapted to hold battery cells side by side and hold said parts of the casing in assembled relation.

3. In a flashlight, a casing in two parts, means including a spring attached to one of said parts for holding battery cells side by side, and a second spring attached to the other part and slidably contacting with said first named spring for holding the two parts of said casing of said flashlight in assembled relation.

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