March 18, 1941. W. M. LENNAN 2,234,972

FLASHLIGHT

Original Filed April 30, 1934

Fig. 1

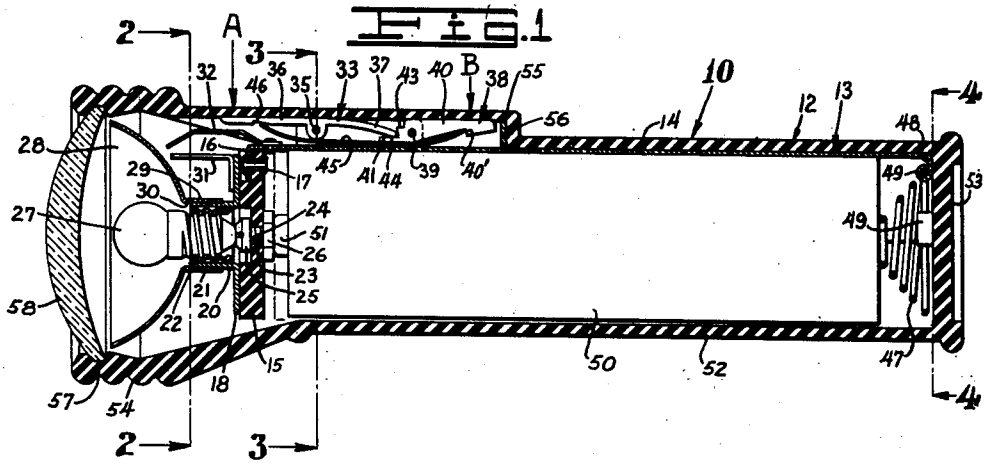


Fig. 2

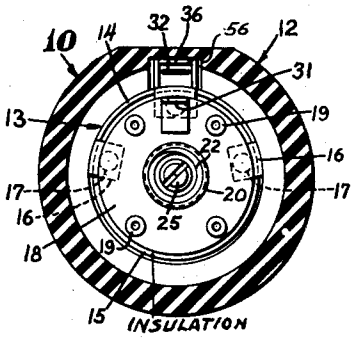


Fig. 3

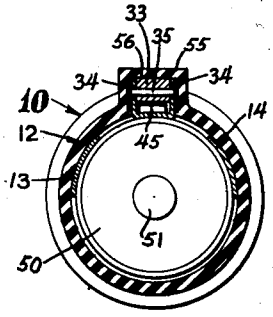


Fig. 4

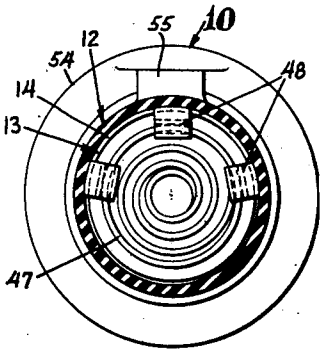


Fig. 5

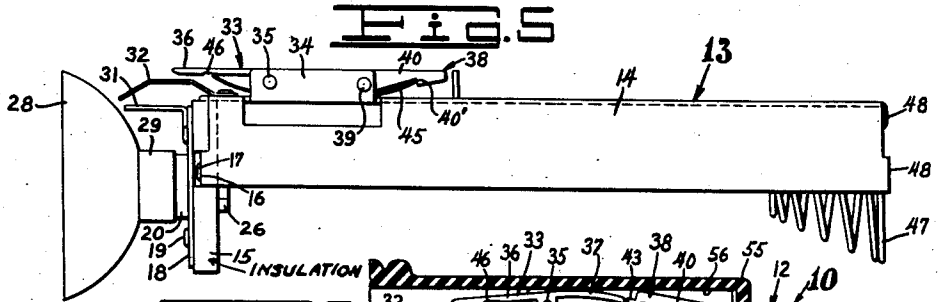


Fig. 6

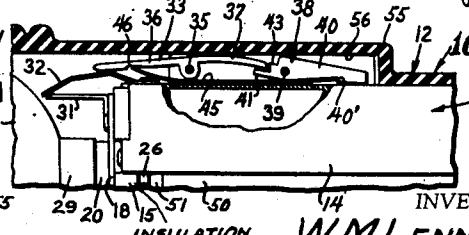
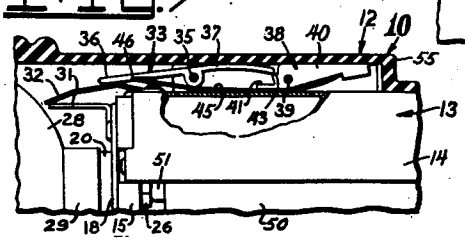


Fig. 7



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2,234,972

FLASHLIGHT

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24 Claims. (Cl. 240—10.6)

This invention relates to improvements in flashlights or portable battery-operated and self-contained electric hand lamps.

The general object of the invention is to provide an improved flashlight including batteries, an electric light, and an electric control switch all of which are enclosed in a flexible rubber housing.

Another object of the invention is to provide a flashlight with a liquid proof housing.

A further object of the invention is to provide a flashlight of the type described including a novel switch mechanism.

Other objects and the advantages of this invention will be apparent from the following description taken in connection with the accompanying drawing wherein:

Fig. 1 is a longitudinal section through my improved flashlight.

Fig. 2 is a section taken on line 2—2 of Fig. 1;

Fig. 3 is a section taken on line 3—3 of Fig. 1;

Fig. 4 is a section taken on line 4—4 of Fig. 1;

Fig. 5 is a side elevation of the flashlight casing removed from the rubber housing;

Fig. 6 is a fragmentary view similar to Fig. 1 showing one operative position of the switch mechanism; and

Fig. 7 is a view similar to Fig. 6 showing another operative position of the switch mechanism.

Referring to the drawing, I have indicated my improved flashlight generally at 10. As shown, the flashlight 10 includes an outer housing 12 and an inner casing 13. The casing 13 includes an elongated semi-cylindrical shell 14 which is open at both ends and is preferably made of rigid and light material such as aluminum. At one end of the shell 14 an annular disk 15 is provided which is made of an electrically insulating material such as fibre or hard rubber.

Adjacent the disk 15 the shell 14 includes a plurality of inturned fingers 16 which are secured to the disk 15 by riveted eyelets 17. Mounted on the face of the disk 15 opposite the shell 14 I provide an electric bulb socket 18 which is secured to the disk 15 by a plurality of riveted eyelets 19 (see Fig. 2). The socket 18 includes a neck portion 20 which is externally threaded as at 21. Positioned in the neck 20 I provide a sleeve 22 which is stamped to form electric bulb threads. The sleeve 22 is secured in the socket neck 20, as by soldering or brazing it thereto.

The disk 15 includes a central aperture 23 in which a bolt 24 is positioned. The head 25 of the bolt 24 is directed towards the socket 18 and forms the center contact for the socket. The bolt 24 is secured to the disk 15 by a nut 26 which forms a battery contact. The socket 20 is adapted to receive a standard electric light bulb or lamp 27 the threaded shell of which engages the threads on the sleeve 22 and the end contact of which engages the head 25 of the screw bolt 24.

Mounted on the socket sleeve 20 I provide a reflector member 28 which includes a reduced neck portion 29 which is internally threaded as at 30 to engage the threads 21 on the socket sleeve. The filament of the electric lamp 27 is disposed in front of the reflector 28. By rotating the reflector relative to the socket to move the reflector towards or away from the socket the light beam from the bulb 27 may be correctly focused.

Mounted on the socket 18 adjacent the top of the shell 14 I provide an electric contact arm 31 and mounted on the top of the shell 14 adjacent the disk 15 I provide a spring contact finger 32. The spring contact finger 32 extends outwardly from the end of the shell 14 and overlays the contact arm 31 but is normally spaced therefrom.

For moving the spring contact finger 32 into engagement with the contact arm 31 I provide a switch operating member 33. As shown the operating member 33 is positioned between a pair of spaced upstruck flanges 34 which are integral with the shell 14. The operating member 33 is pivotally mounted intermediate its length on a rivet 35 which is supported by the flanges 34. At the forward end the operating member includes an arm 36 and on the opposite end it includes an arm 37. The free end of the arm 36 of the operating member overlays the spring contact finger 32 and is normally spaced therefrom as shown in Figs. 1 and 5.

Adjacent the free end of the arm 37 of the operating member I provide a latch member 38. As shown the latch member 38 like the operating member is positioned between the flanges 34 and is pivotally mounted intermediate its length on a rivet 39 which is mounted on the flanges 34. At the side of the rivet 39 opposite the operating member 32 the latch 38 includes an arm portion 40 having an upwardly inclined under face which is notched as at 40' and at the other end the latch 38 includes an arm portion 41. The arm portion 41 is cut to form two step portions, an upper step 43 and a lower step 44.

Positioned between the shell 14 and the operating member 33 and the latch member 38 I provide a flat spring member 45. One end of the spring 45 is curved upwardly and is positioned in the notch 40' of the latch arm 40 and normally retains the arm 40 in a raised position as shown in Fig. 1. The opposite end of the spring 45 is likewise curved upwardly and is positioned in a notch 46 provided in the under face of the arm 36 of the operating member 33 and normally retains the arm 36 in a raised position. When the arm 36 of the operating member is in its normal or raised position the end of the arm portion 37 rests on the lower step 44 of the latch arm portion 41 as shown in Fig. 1.

At the end of the shell 14 opposite the disk 15 I provide a helical spring member 47 the base portion of which engages a plurality of inturned fingers 48 which are integral with the shell 14. The fingers 48 are crimped over the base of the spring 48 as at 49 to secure the spring to the shell.

A standard dry cell battery 50, one pole of which is formed by the bottom of its metal casing and the other pole by a center contact member 51, is adapted to be positioned in the shell 14 between the disk 15 and the spring 47. The battery 50 is positioned in the shell 14 with the bottom thereof engaging the spring 47 and its center contact 51 engaging the nut 26 as shown in Fig. 1.

The housing 12 is made of a good grade of waterproof, electrically non-conductive and somewhat flexible rubber and includes a hollow cylindrical or impervious tubular portion 52 one end of which is closed by an integral wall 53. The opposite end of the housing is flared outwardly to form an enlarged end portion 54 which is open ended. On one side the housing 12 includes a preferably pre-formed and integral outwardly raised portion 55 in which a chamber 56 is provided which communicates with the interior cylindrical portion and the enlarged portion.

The casing 13 is positioned in the housing 12 with the shell 14 positioned in the cylindrical portion 52 of the housing and the reflector 28 positioned in the enlarged portion 54 and the operating arm and latch mechanism positioned in the chamber 56.

In the interior surface of the enlarged portion 54 adjacent the open end thereof I provide an annular recess 57 which is adapted to receive the peripheral edge of a fluid-impervious cover glass or lens member 58. Thus, a liquid-tight joint is provided between the edge of the rigid transparent cover 58 of electrical insulating material and the inner surface of the enlarged portion 54, whereby the rubber housing and the cover together provide a watertight and electrically non-conductive envelope which prevents the entrance of liquid into such envelope, thereby completely sealing and electrically insulating all the flashlight parts within the envelope.

To light the bulb 27 by operating the switch mechanism, inward pressure is applied perpendicularly against the outside of the housing at the point indicated at A. When predetermined pressure is applied at A the arm portion 36 of the operating member 33 moves downward against the action of the spring 45 into engagement with the spring finger 32 and moves it into engagement with the contact arm 31, as shown in Fig. 6. Whereupon current flows from the battery contact 51 through the nut 26 and the bolt 25 to the center contact of the bulb through the bulb filament to the shell thereof and thence to the socket 18 and the contact arm 31. From the contact arm 31 the current flows through the spring contact finger 32 to the shell 14 and through the spring 47 back to the battery 50.

When a slight pressure is applied at A the end of the arm portion 37 does not raise sufficiently to move above the upper step 43 of the latch member 38 as shown in Fig. 6 but when a greater pressure is applied the end of the arm 37 of the operating member raises above the upper step 43 of the latch and then when the pressure is removed the latch step 43 retains the end of the arm 37 raised as shown in Fig. 7. To release the operating member 33 pressure is applied perpendicularly against the outside of the housing at B over the arm portion 40 of the latch member 38.

When pressure is applied at B the step 43 moves out from under the end of the arm portion 37 of the operating member whereupon the spring 45 moves the operating member to its initial position whereupon the arm portion 36 moves out of engagement with the spring contact finger 32 and the contact finger 32 in turn moves out of engagement with the contact arm 31.

From the foregoing description it will be apparent that I have provided a novel flashlight construction which is simple in construction and highly efficient in use. The reflector, lamp, dry cell battery, and switch mechanism, and the shell 14 carrying these parts, are wholly enclosed in the outer waterproof and electrically non-conductive tubular housing 12, the open top end of the latter being tightly closed by the rigid transparent cover 58 removably secured to the housing in front of the reflector and the lamp. The inner surface of the flexible wall of the housing 12 closely fits against the major or semi-cylindrical portion of the exterior surface of the shell 14 and also normally closely fits against the switch operating mechanism and the cylindrical surface of the battery 50. Thus, the shell 14 and the battery 15 internally support the flexible tubular wall of the housing and a compact waterproof flashlight is provided. When the battery needs to be replaced, the shell 14 and the parts carried thereby may be removed as a unit from the housing 12, whereupon the exhausted battery may be removed laterally from the shell 14 and a new battery inserted laterally to replace the exhausted one. The switch mechanism may be actuated conveniently by applying pressure inwardly against appropriate flexible areas of the wall of the raised portion 55, which flexible areas overlie the operating member 33 and the latch 38, respectively.

Having thus described my invention, I claim:

1. A flashlight including an electric bulb socket, a battery and a switch device to control the flow of current from said battery to said socket, said switch device including a latch mechanism adapted to retain said switch in an operated position, a hollow flexible housing, said housing being fluid tight and having a transparent member at one end thereof, said latch mechanism, said socket, said battery and said switch being positioned in said housing, means whereby said switch is actuated to an operative position by pressure applied to said housing at a predetermined location and means whereby said latch is actuated to release said switch by pressure ap-

plied to said housing at a predetermined location.

2. A flashlight device comprising a flexible rubber housing and a casing member, said casing including an elongated metal shell, a disk of electrical insulation material secured to said shell at one end thereof, an electric bulb socket mounted on said disk, a center contact member for said socket mounted on said disk, a spring member in said shell at the end thereof opposite said disk, a battery positioned in said shell, one pole of said battery engaging said center contact and the other pole engaging said spring, a switch device mounted on said casing, said switch being adapted to control the flow of current from said battery to said socket, said housing being closed at one end, a lens, said housing including means to removably secure said lens thereto, said casing being positioned in said housing, and means whereby said switch is actuated to operative and inoperative positions by pressure being applied to predetermined areas of said housing.

3. A flashlight comprising a flexible rubber housing and a casing member, said casing member including an elongated metal shell, a disk of electrical insulation material secured to said shell at one end thereof, an electric bulb socket mounted on said disk, a spring member in said shell at the end thereof opposite said disk, a contact arm associated with said socket, a spring contact finger secured to said shell, said contact finger being normally out of engagement with said contact arm, an operating arm pivotally mounted on said casing adjacent said contact finger, means to retain said operating arm out of engagement with said contact finger, said housing being closed by a wall at one end and being open at the opposite end, a lens closing the open end of said housing, said casing being positioned in said housing between said end wall and said lens.

4. A flashlight comprising a flexible rubber housing and a casing member, said casing member including an elongated metal shell, a disk of electrical insulation material secured to said shell at one end thereof, an electric bulb socket mounted on said disk, a spring member in said shell at the end thereof opposite said disk, said spring being secured to said shell, a contact arm associated with said socket, a spring contact finger secured to said shell, said contact finger being normally out of engagement with said contact arm, an operating arm pivotally mounted on said casing adjacent said contact finger, means to resiliently retain said operating arm out of engagement with said contact finger, said housing being closed at one end by an integral wall and being open at the opposite end, a lens, said housing including means adjacent said open end to removably secure said lens to said housing to close said open end of said housing, said casing being positioned in said housing between said end wall and said lens.

5. In a flashlight device including an elongated metal shell, a disk of electrical insulation material secured to said shell at one end thereof, an electric bulb socket mounted on said disk, a contact arm associated with said socket, a spring contact finger secured to said shell adjacent said contact arm, said contact finger being normally out of engagement with said contact arm, a movable operating member mounted on said shell adjacent said contact finger, resilient means to normally retain said operating member out of engagement with said contact finger, said operating member being movable into engagement with said contact finger to move said contact finger into engagement with said contact arm, a movable latch mounted on said shell adjacent said operating member, a resilient means associated with said latch to normally retain said latch in a predetermined position, said latch being adapted to retain said contact finger in engagement with said contact arm when said contact finger is moved by a predetermined amount of movement of said operating member, and said latch allowing free movement of said operating member when the latter is moved less than such predetermined amount.

6. In a flashlight device comprising an elongated metal shell, a disk of electrical insulation material secured at one end of said shell, an electric bulb socket mounted on said disk, a spring member on said shell at the end thereof opposite said disk, a contact arm associated with said socket, a circuit closing means including an operating arm pivotally mounted on said shell adjacent said contact arm and means whereby movement of said operating arm completes the circuit from said contact arm through said circuit closing means.

7. In a flashlight device, a shell, an electric bulb socket mounted on said shell, a contact arm associated with said socket, a spring contact finger secured to said shell adjacent said contact arm, said contact finger being normally out of engagement with said contact arm, a pivoted operating member mounted on said shell and coacting with said contact finger, means to normally retain said operating member out of engagement with said contact finger, said operating member being adapted to move said contact finger into engagement with said arm, a pivoted latch member mounted on said shell adjacent said operating member and adapted to hold said operating member in a predetermined position.

8. In a flashlight comprising a flexible rubber housing and a casing member in said housing, said casing member comprising a unit independent of said housing and including a shell, a disk of electrical insulation material secured to said shell at one end thereof, an electric bulb socket mounted on said disk, a spring member in said shell at the end thereof opposite said disk, said spring member being secured to said shell, a contact arm associated with said socket, a spring contact finger secured to said shell, said contact finger being normally out of engagement with said contact arm, an operating arm pivotally mounted on said casing adjacent said contact finger, means to retain said operating arm out of engagement with said contact finger, said housing being closed at one end and being open at the opposite end, and a closure removably secured to said housing to close said open end.

9. A flashlight comprising a flexible watertight rubber housing having an open portion and having a transparent closure for said open portion and a casing member in said housing, said casing member comprising a unit independent of said housing and closure and including a support having an electric bulb socket mounted thereon at one end and means to engage a battery and mounted on the support at the end thereof opposite said socket, a circuit closing member associated with said socket and means mounted on said support to operate said circuit closing member.

10. A flashlight including a shell adapted to receive at least one electric cell, a bulb socket adapted to hold an electric bulb in fixed rela-

tionship to said shell, a switch, including switch operating means, for controlling the flow of current to said bulb, a latch for said switch, a latch release means and a housing completely enclosing all other elements of said flashlight, said housing being fluid tight and comprising separable parts, one part of said housing being transparent and disposed in operative relationship to said bulb and another part of said housing being flexible at least in the area overlying said switch operating means and said latch release means.

11. In a flashlight, the combination of a unitary assembly comprising a holder for a battery, a bulb socket secured to one end of said holder, a bulb in said socket, a reflector carried by said socket, and switch mechanism carried by said holder; and a liquid-proof housing for said assembly comprising a liquid-proof and electrically non-conductive casing entirely enclosing said assembly except at the top thereof opposite said reflector, and a transparent cover removably secured to and adapted to tightly close the top of said casing, said casing having a flexible portion overlying a part of said switchmechanism whereby the latter is operable from the exterior of said housing by pressure applied to said flexible portion, said assembly being removable and replaceable as a unit when said cover is removed from said casing.

12. A self-contained electric hand lamp or flashlight comprising, in combination, an outer housing consisting entirely of rubber which is waterproof, electrically non-conductive and flexible, said housing having an impervious tubular portion open at one end; a cylindrical electric dry cell within said tubular portion and having a portion of its cylindrical surface in engagement with the inner surface of the tubular portion to support the latter internally; a reflector; an electric lamp in circuit with said cell and operatively associated with said reflector; both said reflector and said lamp being wholly within said housing adjacent but behind the open end of said tubular portion and in axial alignment with said dry cell; switch mechanism wholly within said housing for controlling the flow of current from said cell through said lamp and including operating means engaging the inner surface of said tubular portion and adapted to be actuated by pressure applied manually against the outer surface of said tubular portion; and a fluid-impervious and electrically non-conductive cover of rigid transparent material closing said open end and removably secured to said housing in front of said reflector and said lamp, a portion of said cover cooperating with said housing and providing a tight joint between said housing and said cover to substantially prevent the entrance of liquid into said housing, said housing and cover together providing an electrically non-conductive and watertight envelope for all flashlight parts therein.

13. A self-contained electric hand lamp or flashlight comprising, in combination, a shell of rigid material; a reflector associated with said shell; an electric lamp operatively associated with said reflector; an electric battery carried by said shell and in circuit with said lamp; switch mechanism controlling the flow of current from said battery through said lamp, said mechanism having operating means carried by said shell and adapted to be actuated by inward pressure to close said circuit; a housing of waterproof and electrically non-conductive material having an inner surface fitting against said operating means and against the major portion of the exterior surface of said shell, said waterproof material being flexible at least in the area thereof which overlies said operating means whereby the latter is adapted to be actuated by inward pressure against and flexure of said area, said housing having an opening in front of and opposite said reflector and said lamp; and a removable cover of transparent, fluid-impervious and electrically non-conductive material closing said opening and secured directly to said housing in front of said reflector and said lamp, a portion of said housing cooperating with the periphery of said cover to prevent the entrance of water into said housing through said opening, whereby said housing as a whole is watertight and electrically non-conductive and protects all metal flashlight parts from contact with water and exterior electrical conductors.

14. A self-contained electric hand lamp or flashlight comprising, in combination, a shell of rigid material; a reflector associated with said shell; an electric lamp operatively associated with said reflector; an electric battery carried by said shell and in circuit with said lamp; switch mechanism controlling the flow of current from said battery through said lamp, said mechanism comprising an element operable to close and open the circuit including said lamp and said battery, and a device for releasably retaining said element in circuit-closing position, both said element and said device being operable by inward pressure; a housing of waterproof and electrically non-conductive material having an inner surface fitting against said element and said device and against the major portion of the exterior surface of said shell, said waterproof material being flexible at least in the areas thereof overlying said element and said device whereby inward pressure against the area overlying said element is adapted to actuate the latter to close said circuit and subsequent inward pressure against the area overlying said device is adapted to release said element to open said circuit, said housing having an integral portion provided with an opening opposite said reflector and said lamp; and a removable cover of transparent and fluid-impervious material secured to said integral portion and closing said housing in front of said reflector and said lamp, said housing and said cover cooperating to provide a watertight envelope for said flashlight as a whole.

15. A self-contained electric hand lamp or flashlight comprising, in combination, a shell of rigid material; a reflector associated with said shell at one end of the latter; an electric lamp having its filament in front of said reflector; an electric battery carried by said shell and in circuit with said lamp; switch mechanism controlling the flow of current from said battery through said lamp, said mechanism having operating means mounted on the outside of said shell; a housing of flexible, waterproof and electrically non-conductive material having an inner surface fitting against the major portion of the exterior surface of said shell and having an integral outwardly raised portion providing an interior chamber to receive said operating means, a wall of said raised portion being adapted to be depressed inwardly by manual pressure applied to the outside thereof to actuate said operating means, said housing having an opening opposite and in front of said reflector and said lamp; and a removable cover of transparent and fluid-impervious material secured to said housing and

closing said opening in front of said reflector and said lamp, said housing and said cover together providing a substantially liquid tight envelope for said flashlight as a whole.

16. A flashlight comprising, in combination, a shell of rigid material; a reflector associated with one end of said shell; an electric lamp having its filament in front of said reflector; an electric battery carried by said shell and in circuit with said lamp; switch mechanism controlling the flow of current from said battery through said lamp, said mechanism having operating means mounted on the outside of said shell; a housing of flexible, waterproof and electrically non-conductive material having an inner surface fitting against the major portion of the exterior surface of said shell and having an integral outwardly raised portion providing an interior chamber to receive said operating means, a wall of said raised portion being adapted to be depressed inwardly by manual pressure applied to the outside thereof to actuate said operating means, said housing having an opening opposite said reflector and said lamp; and a removable cover of transparent material secured to said housing and closing said opening in front of said reflector and said lamp, the operating means of said switch mechanism comprising an element operable to close and open the circuit including said lamp and said battery, and latch means for retaining said element in circuit-closing position; said element and said latch means being disposed, respectively, opposite spaced portions of the inner surface of said wall, the construction and arrangement being such that inward depression of a portion of said wall opposite said element is adapted to latch said circuit in closed condition to light said lamp, and inward depression of a portion of said wall opposite said latch means releases the latter and frees said element to open said circuit and extinguish said lamp.

17. A flashlight comprising, in combination, a shell of rigid material; a reflector associated with one end of said shell; an electric lamp having its filament in front of said reflector; an electric battery carried by said shell and in circuit with said lamp; switch mechanism controlling the flow of current from said battery through said lamp, said mechanism having operating means mounted on the outside of said shell; a housing of flexible, waterproof and electrically non-conductive material having an inner surface fitting against the major portion of the exterior surface of said shell and having an integral outwardly raised portion providing an interior chamber to receive said operating means, a wall of said raised portion being adapted to be depressed inwardly by manual pressure applied to the outside thereof to actuate said operating means, said housing having an opening opposite said reflector and said lamp; and a removable cover of transparent material secured to said housing and closing said opening in front of said reflector and said lamp, said shell being formed of metal; said housing being formed of flexible rubber and having a tubular portion enclosing said shell and said battery and also having an enlarged portion surrounding said reflector; the operating means of said switch mechanism extending lengthwise of said shell; and said raised portion extending along the tubular portion to said enlarged portion, so that the chamber within the raised portion communicates with the interior of said enlarged portion.

18. A flashlight comprising, in combination, a shell of rigid material; a reflector associated with one end of said shell; an electric lamp having its filament in front of said reflector; an electric battery carried by said shell and in circuit with said lamp; switch mechanism controlling the flow of current from said battery through said lamp, said mechanism having operating means mounted on the outside of said shell; a housing of flexible, waterproof and electrically non-conductive material having an inner surface fitting against the major portion of the exterior surface of said shell and having an integral outwardly raised portion providing an interior chamber to receive said operating means, a wall of said raised portion being adapted to be depressed inwardly by manual pressure applied to the outside thereof to actuate said operating means, said housing having an opening opposite said reflector and said lamp; and a removable cover of transparent material secured to said housing and closing said opening in front of said reflector and said lamp, said battery being cylindrical; said shell having a portion substantially semi-cylindrical in shape and open along one side thereof, whereby said battery is insertable and removable laterally through the open side of said shell and, together with said shell, provides a substantially cylindrical body; and said housing having a tubular portion closely fitting and enclosing the cylindrical exterior of said body, whereby such flexible tubular housing portion is internally supported by both said battery and said shell.

19. A self-contained electric hand lamp or flashlight comprising, in combination, a shell of rigid material; a reflector associated with one end of said shell; an electric lamp having its filament in front of said reflector; an electric battery carried by said shell and in circuit with said lamp; switch mechanism controlling the flow of current from said battery through said lamp, said mechanism having operating means mounted on the outside of said shell; a housing of flexible, waterproof and electrically non-conductive material having an inner surface fitting against the major portion of the exterior surface of said shell and having an integral outwardly raised portion providing an interior chamber to receive said operating means, a wall of said raised portion being adapted to be depressed inwardly by manual pressure applied to the outside thereof to actuate said operating means, said housing having an opening opposite said reflector and said lamp; and a removable cover of transparent material secured to said housing and closing said opening in front of said reflector and said lamp, said housing having a bottom portion formed of flexible, waterproof and electrically non-conductive material; the bottom end of said shell bearing against the inner surface of the bottom portion of said housing; and the top end of said housing being expansible and having an internal recess therein to receive and form a water-tight joint with the periphery of said cover, whereby said housing and said cover together provide a waterproof envelope which substantially prevents access of water to said shell and the rest of the aforesaid flashlight parts associated therewith.

20. A self-contained electric hand lamp or flashlight as claimed in claim 22, in which said element is movably mounted on the outside of said shell; said latch is movably mounted on the outside of said shell; and said element and said latch are arranged in end-to-end and interengaging relation.

21. A flashlight comprising, in combination, an

electric lamp; an electric battery in circuit with said lamp; said mechanism controlling the flow of current from said battery through said lamp; and a supporting shell carrying said lamp, battery and switch mechanism, said mechanism comprising an element having a portion thereof normally resiliently disposed in a non-circuit-closing position but manually depressible to close said circuit, a latch cooperating with said element to retain said portion of said element in a depressed and circuit-closing position, said latch having a portion which is manually depressible to release said element to permit said portion of said element to return to its normal non-circuit-closing position, said element being pivotally mounted on the outside of said shell, said latch being pivotally mounted on the outside of said shell, and resilient means normally holding said latch in position to retain said element in circuit-closing position and operative to automatically swing said element to circuit-opening position when said latch is rocked on its pivot.

22. A self-contained electric hand lamp or flashlight comprising, in combination, an electric lamp; an electric battery in circuit with said lamp; switch mechanism controlling the flow of current from said battery through said lamp; and a supporting shell carrying said lamp, battery and switch mechanism, said mechanism comprising an element having a portion thereof normally resiliently disposed in a non-circuit-closing position but manually depressible to close said circuit, a latch cooperating with said element to retain said portion of said element in a depressed and circuit-closing position, said latch having a portion which is manually depressible to release said element to permit said portion of said element to return to its normal non-circuit-closing position.

23. A self-contained electric hand lamp or flashlight comprising, in combination, a supporting shell; an electric lamp carried by said shell; an electric battery carried by said shell and in circuit with said lamp; and switch mechanism carried by said shell for controlling the flow of current from said battery through said lamp, such mechanism comprising a pair of current-conducting contacts adapted to cooperate to close and open said circuit, one of said contacts being resilient and normally urged to an open circuit position, an element cooperating with such resilient contact and having a portion which is manually depressible to move said resilient contact against the other contact to close said circuit, and a releasable latch adapted to cooperate with said element to temporarily retain said element and said contacts in circuit-closing position, said latch having a portion which is manually depressible to release said element and permit said resilient contact to automatically return to its normal open circuit position.

24. A self-contained electric hand lamp or flashlight comprising, in combination, an outer housing consisting of rubber which is liquid proof and electrically non-conductive, said housing having an impervious and yieldable tubular portion open at one end; a rigid casing within said tubular portion and having a cylindrical wall engaging at least part of the inner surface of said yieldable tubular portion to support the latter internally; a dry cell in said casing; an electric lamp carried by one end of said casing and in circuit with said dry cell; switch mechanism wholly within said housing and operable to control the flow of current from said cell through said lamp, such switch mechanism including a depressible element secured to said cylindrical casing wall and normally bearing against the inner surface of said tubular portion, said element being adapted to be actuated to close said circuit by pressure applied manually and radially inwardly against the outer surface of an area of said tubular portion which overlies said element; and a liquid-impervious cover of transparent and electrically non-conductive material closing the open end of said tubular portion and normally liquid-tightly but removably secured to said housing in front of said casing and said lamp whereby said housing and cover cooperate to provide a liquid-tight and electrically non-conductive envelope wholly enclosing said casing, said lamp and said switch mechanism; said casing together with said lamp and switch mechanism being removable as a unitary assembly from the interior of said housing after said cover has first been removed from said housing independently of said unitary assembly.

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