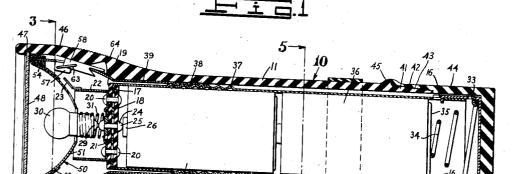
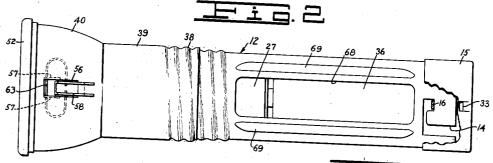
FLASHLIGHT

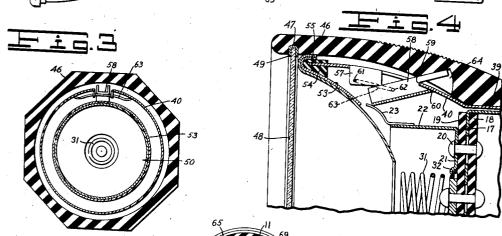
Filed April 13, 1936

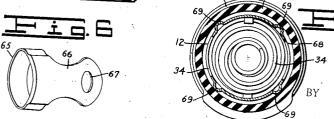
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W. M. LENNAN.





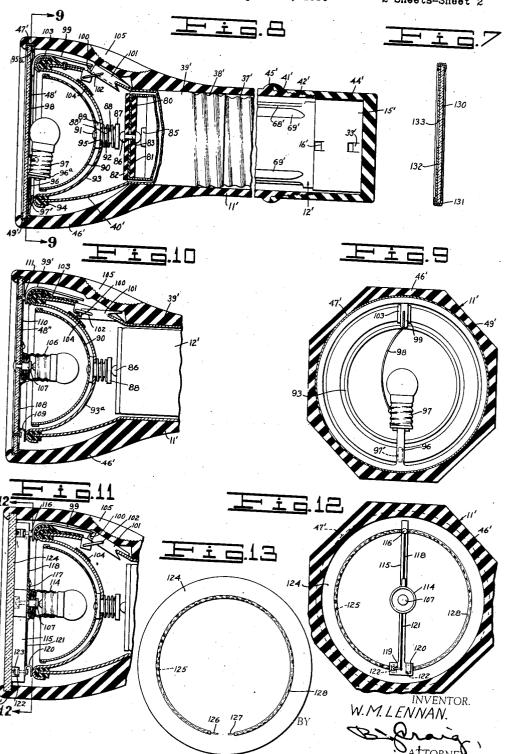




FLASHLIGHT

Filed April 13, 1936

2 Sheets-Sheet 2



## UNITED STATES PATENT OFFICE

## 2,235,714

## FLASHLIGHT

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Application April 13, 1936, Serial No. 74,008

23 Claims. (Cl. 240-10.66)

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

The general object of the invention is to provide an improved flashlight which includes a bulb, socket, battery, and switch, all of which are enclosed in a fluid proof housing.

Another object of the invention is to provide a flashlight including novel means for mounting an electric light bulb socket there-

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

Another object of the invention is to provide a flashlight including novel means for connecting a bulb socket to the battery.

An additional object of the invention is to provide a flashlight including novel focusing

Another object of the invention is to provide a flashlight including novel means for supporting a reflector.

A further object of the invention is to provide

a novel casing for a flashlight.

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

Fig. 1 is a central, sectional view through a flashlight embodying the features of my inven-

tion;

Fig. 2 is a side elevation of the flashlight casing removed from the rubber housing;

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

Fig. 4 is an enlarged, fragmentary, sectional view showing the front portion of the flashlight;

Fig. 5 is a section taken on line 5—5 of Fig. 1; Fig. 6 is a perspective view of the holding clip;

Fig. 7 is a central, sectional view through a modified lens member;

Fig. 8 is a central, sectional view on an en-45 larged scale showing a modification of my invention.

Fig. 9 is a section taken on line 9—9 of Fig. 8; Fig. 10 is a fragmentary, central, sectional view through a modified form of flashlight;

Fig. 11 is a view similar to Fig. 10 showing a further modification;

Fig. 12 is a section taken on line 12—12 of Fig. 11; and

Fig. 13 is a rear view of the lens member shown in Figs. 11 and 12.

Referring to the drawings, I have indicated my improved flashlight generally at 10. As shown the flashlight includes an outer hollow housing 11 made of flexible rubber and an inner or battery casing 12. The casing 12 is made of metal and includes a cylindrical body portion which at its rear end is provided with a pair of bayonet-joint slots 14. The rear end is closed by an inner closure cap 15 preferably of metal which is provided with inwardly struck tongues 16 which fit in the bayonet slots 14 so that when the cap is placed on the sleeve and rotated it will be firmly held in place.

The front end of the inner casing 12 is provided with an internal flange 11 which is engaged on its inner surface by a fiber disk 18 and on its outer surface by a similar fiber disk 19. The disks 18 and 19 are held in place on the flange 17 by suitable rivets 20 as clearly shown in the drawings. The outer heads on the rivets 20 also engage and support an inwardly directed metal flange 21 on a metal collar 22. This collar 22 is provided at one point at its circumference with a contact member 23 the purpose of which will be presently described.

The disks 18 and 19 are engaged by and support a central rivet 24 which has an inner head 25 thereon which is adapted to engage a terminal 26 on the forward end of an inner cell 27 of a battery while the outer end of the rivet 24 engages the center contact 29 of an electric lamp or light bulb member 30. The bulb member is supported by a helical spring 31 the convolutions of which engage the threads on the bulb member to thus provide a resilient socket. The spring 31 has its end secured beneath a curved boss 32 on the flange 21 as shown in Fig. 4.

The cap member 15 is provided with a plurality of inwardly struck tongues 33 which engage one end of a spiral spring 34 and the other end of the spring 34 engages the bottom 35 of a cell 36 of the battery. In the accompanying drawings I have shown my invention as embodied in a two cell light but it will be understood that the number of cells is immaterial so far as the present invention is concerned.

The casing 12 in the forward portion thereof is provided with a threaded portion 37 which is made by providing a corrugation of the wall 50 thereof and this portion 37 engages another threaded portion 38 on the end of a hollow sleeve 39. This sleeve 39 includes a forwardly projecting portion 40. The sleeve 39 preferably has a tight sliding fit within the housing 11.

The housing !! is preferably made of rubber and includes an end portion &! which tapers and is provided with a roughened portion &2 to engage a roughened, similarly tapered portion &3 on a rubber outer closure cap member &4 and the construction is such that when the two tapered portions are forced together the roughened portions will engage so that the cap will not be accidentally displaced. A bead &5 may be provided at the juncture of the cap and housing.

Adjacent the forward end the housing is flared outwardly as at 45 and is provided with an inwardly faced groove 47 which receives a lens or other transparent member 42 which is preferably made of non-breakable composition material and is shown as in the nature of a plane disk having a stiffening flange 43 which is seated in the groove 47.

A reflector member of suitable configuration is indicated at 50 and includes a body portion 51 and a cupped rim 52 which fits over a guard portion 53. This guard portion in turn engages an insulating ring 56 which is mounted on the free end 55 of the forwardly projecting portion 60 of the sleeve 39. This sleeve 39 is provided with a slot 56 and with a pair of downwardly struck arms 57 as clearly shown in Figs. 1 to 4. Mounted in the slot is a circuit closer 58 which includes a notched portion 59 which engages the end of the slot 56 so that it may rock. The circuit closer 58 includes a shoulder 60 which limits movement in one direction.

The arms 57 and the circuit closer 58 are provided with apertures 61 and 62, respectively, in which a spring wire 63 is inserted and bent to form a loop. The outer housing is provided with a recess 64 to receive the end of the circuit closer 58. The apertures 61 and 62 are so arranged that the switch member will be held in the position shown in Fig. 4 with the end of the switch member engaging the contact 23 in one position and will be held with the switch member free from the contact as shown in Fig. 1 in the other position.

The flashlight housing is provided with a circumferential band 65 which may be made of rubber and which includes a projecting arm 66 having an aperture 67 therein by means of which the flashlight may be hung up or may be suspended from a worker's clothing. The arm 66 may have a suitable stiffening member molded therein such as a piece of canvas 66'.

The inner or battery casing is preferably pro-55 vided with a plurality of elongated slots 68 and with outwardly struck ribs 69 which as shown in Fig. 5 engage the inner wall of the housing.

In assembling the flashlight the casing may be assembled as shown in Fig. 2 with the light 60 bulb 30 in place and with cells 27 and 36 in place. The casing is then inserted in the housing so that the sleeve 39 engages the inner wall of the The flashlight is then operated by housing. pressing down on the flexible rubber housing ad-65 jacent one end of the circuit closer 58 to rock the circuit closer so that it assumes the position shown in Fig. 4. Current then passes from the terminal 26 of the battery through the rivet 24 to the center contact of the bulb 30 thence to the socket 31, boss 32, flange 21, and to the collar 22 whence it passes through the contact member 23 to the circuit closer 58 thence to the sleeve 39 to the casing 12 thence to the closer cap 15, the spring 34 and to the end of the battery.

When the housing is again pressed upon the

other end of the circuit closer 58 the switch assumes the position shown in Fig. 1 where the current supply is broken.

To install a new battery the cap member 64 is removed as is the cap 15. The batteries are 5 then replaced and the parts reassembled. To replace the bulb 33 the cap member 64 is removed and the casing 12 is rotated, causing it to withdraw from the threads 33 so that the entire casing is removed. The bulb is then replaced and 10 the casing reinserted. To replace the lens member or transparent closure 68 the front end of the housing is stretched allowing the lens to be removed after which a new lens may be inserted.

In focusing the light after the parts are in the 15 position shown in Fig. 1 the cap member 44 is removed and the housing is rotated. The sleeve 39 engages the inner wall of the housing so that it does not turn but causes the casing to move along due to the threads 37 and 38 thus moving 20 the bulb 38 relative to the light reflector 58.

In Figs. 8 and 9 I show a modification of my invention. In this modification the housing and casing are similar to that previously described and like parts are indicated by primed similar reference numerals.

In the modification the front end of the casing 12' has a flange 80 thereon which is engaged by an inner disk % and an outer disk \$2. The two disks are held in place by a central rivet 83 30 the inner head of which contacts with the contact member 85 of the battery and the outer head 86 of which engages the head 87 of a rivet 38 which has an outer head 89 riveted to a reflector 90 as at 91. The rivet includes a reduced 35 portion 38' between the heads 37 and 39. A reflector guard 93 is mounted on an insulation ring 94 which is arranged on the forward edge of the forwardly projecting portion 40' and this guard is provided with an aperture 95 through 40 which the reduced portion 92 of the rivet 88 is free to pass.

The casing is provided with a groove 47' in which a lens member 48' is mounted. This lens member is provided with a peripheral flange 49' 45 and clamped upon this flange 49' is an annular ring 95° which includes a projecting tongue 96 on which a block of insulation 96° is mounted. On the block 96° an electric light bulb socket 97 is secured. This socket has a center contact 50 electrically engaging the tongue 96 which is electrically connected by a contact 97' with the reflector guard 93. The socket is also connected by a conductor member 98 with a spring member 55 99 which engages an arm 100 on a circuit closer 101 which is similar to the circuit closer 58 previously described and this is operated by a spring 102 to maintain it in either of two positions. The spring member 99 is insulated from the 60guard 93 by insulation 103 and the switch 101 is also insulated from the guard 93 by insulation 104. In the modification just described the housing is provided with a recess 105 which has a roughened bottom. This recess serves to locate 65 the switch.

When the circuit closer 101 is in the position shown in Fig. 8 current flows from the battery terminal 85 through the rivet 88 thence through the reflector guard 93 then through the contact 70 97' through the lamp support 96 thence through the end terminal of the socket 97, through the filament to the socket shell thence through the lead 98 to the spring member 99 to the switch 101, sleeve 39', casing 12', and to the cap 15' and 75

thence to the battery through the battery engaging spring.

In Fig. 10 I show a slight modification of my invention wherein a lamp socket 186 is secured 5 upon the lens member 48" by means of a rivet 187. The outer shell of the light socket is connected by a lead 188 with a resilient contact 189 which engages the guard 332 while the center contact of the light socket is connected through 100 the rivet 187 with a lead 118 which engages a terminal 111 and which terminal 111 in turn engages the spring contact member 39". The switch mechanism and the mounting for the reflector in the modification shown in Fig. 10 is in 15 all respects identical to that described in connection with Fig. 8.

In Fig. 10 the circuit closer 101 is shown as in "off" position and when the housing is pressed, however, to move the circuit closer inwardly it 20 engages the spring member 93' and current then flows from the battery terminal 86 through the rivet 88 thence through the guard 93° through the contact 109, lead 108, and to the shell of the socket whence the current passes through the 25 filament to the center contact of the bulb thence through the rivet 107 to the lead 110 through the terminal 111 to the spring member 99', circuit closer 101, sleeve 39', and thence through the casing back to the battery.

In Figs. 11, 12, and 13 I show a further modification of my invention. In this modification the housing, casing switch, and reflector are identical with those shown in connection with Figs. 8 and 9 just described. In the modification of 35 Figs. 11, 12, and 13 the socket 114, instead of being secured to the lens by the rivet 107 is secured to a fiber bar 115. Adjacent one end the bar 115 has an electrical contact member 116 secured thereto which is electrically connected to  $_{40}$  the plate 117 by a wire 118. Adjacent the opposite end the bar 115 has a pair of electrical contact members 119 and 120 mounted thereon. The contact member 119 is electrically connected to the shell of the socket 114 by a wire 121. Each of  $_{45}$  the contact members 119 and 120 includes a spring contact finger 122 which is positioned in a recess 123 on the side of the bar opposite to the contact members.

When the bar 115 is used a glass lens 124 is positioned in the recess 41' of the housing 11'. On the inner face of the lens 124 a circular electrical conductor member 125 is provided. The conductor member 125 forms substantially a complete circle except for spaced end portions 126 and 127 which are spaced only a slight distance apart. The conductor member 125 is preferably made of a frangible material such as tinfoll and may be secured to the lens by a coating of Celluloid 128 or other suitable material, 60 with the ends 126 and 127 exposed.

The bar 115 is positioned in the housing 111 with the contact member 116 engaging the contact finger 99 and with one portion of the contact member 120 engaging the reflector guard.

65 When the lens 124 is in position the end 127 of the conductor 125 engages the spring finger portion 122 of the contact member 120 and the spring finger portion 122 of the contact member 119 engages the end 126 of the conductor 125.

70 When the switch mechanism is actuated current flows from the contact finger 99 through the contact 116 and the wire 118 to the center contact of the socket 114 and from the shell of the socket the current flows through the wire 121 to 75 the contact and through its associated finger

portion 122 to the end 126 of the conductor 125 thence through the conductor to the end 121 thereof and through the spring finger portion 122 of the contact member 128 to the reflector guard.

From the foregoing it will be seen that for a complete electric circuit to the light socket 114 the current must flow practically completely around the entire lens 124, thus should the lens 124 become cracked or broken at any point the breakable 10 conductor 125 will be severed, thereby breaking the electrical circuit between the battery and the light socket.

In Fig. 7 I show a modified form of lens which is indicated at 130. As shown this lens includes 15 a body which is preferably of colorless, transparent glass and on the face of this body I arrange a colored, such as red, translucent member 132 which has a central aperture 133 therethrough and which is held to the lens 130 by a peripheral 20 band 131. This lens member may be used for signalling, such as by police officers, and for other purposes.

From the foregoing description it will be apparent that I have provided a novel flashlight 25 which can be economically manufactured and which is highly efficient in use.

While I have referred to the use of rubber as a preferred material for the housing, it will be obvious that any other resilient, waterproof ma- 30 terial which is a poor conductor of electricity may be used.

Having thus described my invention I claim:
1. In a flashlight, a housing, a battery casing in said housing, said housing comprising an elon-35 gated hollow flexible rubber member adapted to receive a transparent closure at one end, the other end of said hollow member including a wall portion tapering in one direction, and a cap, said cap including a tapering portion fitting 40 said first mentioned tapering portion, said tapering portion being roughened.

2. In a self-contained electric hand lamp or flashlight, a hollow flexible housing having a transparent member at one end thereof, an elec-45 tric light bulb member in said housing, a light reflector member in said housing, a movable support carrying one of said members for movement relative to the other members, a battery casing wholly disposed within the housing, and 50 means operable on movement of the casing to shift the movable support, the arrangement being such that said other members are held stationary by the engagement therewith of said flexible housing while said casing is moved with-55 in said flexible housing.

3. In a self-contained electric hand lamp or flashlight, a hollow housing having a transparent closure at one end thereof, means to support an electric light bulb socket in the housing, battery 60 casing means wholly disposed within said housing to support a light reflector in said housing, said reflector normally being held by said housing in fixed position within said housing, said casing means being rotatable within and relative to said housing, and means operable on rotation of said casing means to move said socket relative to the reflector.

4. In a self-contained electric hand lamp or flashlight, a flexible housing, a sleeve therein, a 70 reflector secured to said sleeve in said housing, said sleeve including a threaded portion, a battery casing wholly disposed within said housing and including a threaded portion engaging the sleeve threaded portion whereby when the cas-75

ing is rotated it moves longitudinally relative to said sleeve, a socket in said housing, and means to conduct current to said socket, the arrangement being such that said flexible housing normally engages said sleeve with a tight sliding fit and thereby normally prevents movement of said reflector, while said housing normally encloses said casing with a loose fit, so that rotation of said casing within said housing does not 10 affect the position of said reflector, although said sleeve is slidable into and out of said housing upon the application of sufficient force by virtue of the flexible characteristic of said housing.

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5. In a self-contained electric hand lamp or flashlight, a hollow sleeve having an internally threaded inner portion, a reflector in said sleeve fixed against movement relative to the threaded portion, a movable threaded member engaging 20 the internally threaded portion whereby when the member is rotated it moves longitudinally relative to said threaded portion, a lamp socket on said member, and a flexible housing within which said sleeve, reflector and member are dis-25 posed, the arrangement being such that said flexible housing normally grips and holds said sleeve in place therein while said movable member is rotated relative thereto.

6. In a self-contained electric hand lamp or 30 flashlight, a housing, a sleeve within and normally held by said housing against rotation therein, a reflector in said housing, means acting to hold said reflector on said sleeve, said sleeve including a threaded portion, a battery casing 35 wholly disposed within said housing and including a threaded portion engaging the sleeve threaded portion whereby when the casing is rotated within said housing it moves longitudinally relative to said sleeve and said reflector, a lamp socket on said casing, and means to conduct current to said socket.

7. In a self-contained electric hand lamp or flashlight, a hollow flexible rubber housing, a battery casing wholly disposed within said housing, a metal sleeve removably engaging the interior of the housing and normally held thereby against rotation therein, said casing comprising a cylindrical tube member loosely disposed within said housing for rotation therein, said sleeve 50 and said tube member having coacting threads thereon, a disk on one end of said casing, a contact member on said disk, a lamp socket mounted on said disk, a metal collar on said disk about said socket, said disk contact member being 55 adapted to engage a lamp in said socket and a battery in said casing, a resilient contact member on said collar, a snap switch wholly disposed within said housing and adapted to complete a circuit between said resilient contact member 60 when operated by pressure on said housing and the sleeve, and a cap on said casing at the end remote from said lamp socket, said cap including means to engage a battery in said casing.

8. In a flashlight, a hollow flexible rubber 65 housing, a casing wholly disposed within said housing, a metal sleeve disposed within and removably engaging the interior of the housing. said sleeve including a forwardly projecting portion, an insulating ring mounted on the end of 70 the forwardly projecting portion of said sleeve, a reflector guard mounted on said insulating ring, a reflector mounted on said reflector guard. said casing comprising a cylindrical tube member, said sleeve and said tube member having 75 coacting threads thereon, one end of said casing

being disposed adjacent said reflector, a disk on said one end of said casing, a contact member on said disk, a lamp socket mounted on said disk, said reflector having an aperture therein in alignment with said socket, a metal collar on 5 said disk about said socket, said disk contact member being adapted to engage a lamp in said socket and a battery in said casing, a contact member on said collar, a switch wholly disposed within but operable through said housing and 10 adapted to complete a circuit between the contact member on the collar and the sleeve when depressed by pressure applied to said housing. and a cap on said casing at the end remote from said lamp socket, said cap including means to 15 engage a battery.

9. In a flashlight, a hollow flexible rubber housing, a casing mounted in said housing, a sleeve removably engaging the interior of the housing, said sleeve including a forwardly pro- 20 jecting portion, an insulating ring mounted on the end of the forwardly projecting portion of said sleeve, a reflector guard mounted on said insulating ring, a reflector mounted on said reflector guard, said housing having an inwardly 25 facing groove therein in advance of said reflector, a lens in said groove, said casing comprising a cylindrical tube member, said sleeve and said tube member having coacting threads thereon, one end of said casing being disposed 30 adjacent said reflector, an insulating disk on said one end of said casing, a contact member on said disk, a lamp socket mounted on said disk, said reflector having an aperture therein in alignment with said socket, a metal collar on 35 said disk about said socket, said disk contact member being adapted to engage a lamp in said socket and a battery in said casing, a resilient contact member on said collar, a switch on said projecting portion of said sleeve, said switch 40 being pivoted and adapted in one position to engage the contact on the collar, spring means to urge said switch to either of two positions and a cap on said casing at the end remote from said lamp socket, said cap including means to 45 engage a battery.

10. In a flashlight, a hollow flexible housing open at one end and closed at the opposite end, a transparent member, said housing including means adjacent said open end to removably  $\sup_{-} 50$ port said transparent member to close said open end, a ridged casing member in said housing, said casing having a cup-shaped light reflector removably supported thereon, a battery positioned in said casing, said casing being positioned 55 in said housing with the open end of said light reflector towards said transparent member, an electric light bulb socket mounted on said transparent member, and a pair of spaced contact members mounted on said transparent member, 60 one of said contact members being electrically connected to one contact portion of said socket and the other of said contact members being electrically connected to the other contact portion of said socket.

11. In a self-contained electric hand lamp or flashlight, a hollow flexible housing open at both ends and having a flared end, a removable closure for each end of the housing, a casing disposed wholly within said housing and adapted to 70 contain a dry battery and having an electric light bulb socket mounted thereon and having a flared end fitting the flared end of said housing, said casing and bulb socket being removable from the housing as a unit when one of 75

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the housing closures is removed, and the casing providing an internal lateral support for the housing.

12. In a self-contained electric hand lamp or flashlight, an elongated hollow flexible rubber housing, said housing being open at the ends thereof, a closure member at one end, a cap member at the other end, means to removably secure said cap member to said housing, a hollow 10 casing in said housing, said casing having an electric bulb socket mounted thereon to support an electric light bulb, said casing being adapted to contain a dry battery, a sleeve member positioned in said housing adjacent said front end 15 thereof, means to removably connect said sleeve and said casing, a light reflecting member supported by said sleeve, said casing being of a size such that when it is disconnected from said sleeve and when said cap is removed from said housing 20 the casing may be removed from said housing through the end thereof.

13. In a flashlight, a hollow housing open at one end and closed at the opposite end, a transparent member, said housing including means 25 adjacent said open end to removably support said transparent member to close said open end, a casing member in said housing, a reflector guard mounted on said casing, a cup-shaped light reflector removably supported by said guard, a 30 battery positioned in said casing, a contact finger mounted on and insulated from said reflector guard, a second contact finger mounted on said reflector guard, means to direct current from said battery to said first and second contact 35 fingers, said casing being positioned in said housing with the open end of said light reflector towards said transparent member, an electric light bulb socket mounted on said transparent member, a pair of spaced contact members 40 mounted on said transparent member, one of said contact members being electrically connected to one contact portion of said socket and the other contact member being electrically connected to the other contact portion of said socket, 45 one of said contact members engaging said first contact finger and the other of said contact members engaging the other of said contact fingers.

14. In a flashlight, a hollow flexible housing 50 open at one end and closed at the opposite end, a transparent member, said housing including means adjacent said open end to removably support said transparent member to close said open end, a casing member in said housing, said casing 55 including a cup-shaped reflector guard at one end, a cup-shaped light reflector resiliently supported on said guard, a battery positioned in said casing, a contact finger mounted on and insulated from said reflector guard, means to direct current from said battery to said first and second contact fingers, said means including a switch device, a bar member of electrical insulation material, an electric light bulb socket mounted on said bar, a contact member mounted on said bar 65 adjacent one end and a pair of spaced contact members mounted on said bar adjacent the opposite end thereof, electrical conductive means connecting said first contact to one contact portion of said socket and electrical conductive 70 means connecting one of said pairs of contacts and the other contact portion of said socket, a frangible electrical conductor member mounted on said transparent member in substantially circular form and including two spaced end por-75 tions, said bar being positioned in said housing

with said first contact thereon engaging one of said contact fingers and with the second of said contacts thereon engaging said reflector guard, and means whereby when said lens is operatively positioned in said housing one of said ends of said conductor thereon is electrically connected to one of said pair of contacts of said bar and the other of said ends of said conductor is electrically connected to the other of said pairs of contacts, means whereby said switch is actuated to operative and inoperative positions by pressure being applied to predetermined areas of said housing.

15. A self-contained electric hand lamp or flashlight comprising, in combination, a rigid tubular casing having a cap removably coupled 15 to one end thereof; a reflector carried by the other end of said casing; an electric lamp having its filament located in front of said reflector; a battery within said casing and in circuit with said lamp; switch mechanism controlling the 20 flow of current from said battery through said filament, said mechanism having an operating element mounted on said casing; and a normally fluid tight housing wholly enclosing said casing, reflector, lamp, battery and switch mechanism, 25 said housing comprising a tubular body consisting of waterproof and electrically non-conductive material, said tubular body being unitary and open at both ends and having its inner surface engaging the outer surface of said casing, the 30 area of said tubular body overlying said operating element being flexible and depressible inwardly to actuate said operating element to close said circuit, said housing also comprising a cap of waterproof and electrically non-conductive ma- 35 terial closing the bottom end of said tubular body and closely fitting and enclosing the cap of said casing, said caps being removable for the insertion and removal of a battery in said casing, said housing also comprising a transparent and fluid 40 impervious cover removably secured to the other open end of said tubular body and tightly closing the latter in front of said reflector and said lamp, portions adjacent the opposite ends of said tubular body normally forming fluid tight 45 joints with said cover and with the cap of said housing, respectively, to render said housing fluid tight throughout and thereby exclude fluid from said casing, reflector, lamp, battery, and switch mechanism.

16. A hand lamp or flashlight as claimed in claim 15, in which said switch mechanism includes means to retain said operating element in its circuit-closing position, and said tubular body includes a flexible area adapted to be depressed inwardly to restore said operating element to its circuit-opening position.

17. A hand lamp or flashlight as claimed in claim 15, in which said switch mechanism includes resilient means cooperating with said operating element to retain the latter in its circuit-closing position, and said tubular body includes a flexible area adapted to be depressed inwardly to actuate said resilient means and return said operating element to its circuit-opening position.

18. In a self-contained electric hand lamp or flashlight, the combination with an inner casing of metal adapted to receive a battery; and an outer housing of flexible rubber adapted to receive said casing; a lens associated with one end of said housing; a switch, and a lamp unitarily associated with said casing; said casing comprising an inner closure cap; and said housing comprising an outer closure cap; said outer 75

closure cap being removable to expose said inner closure cap; and said inner closure cap being removable to expose the interior of said casing, the arrangement being such that the flashlight normally is fluid tight.

19. In a flashlight, the combination of an inner unit and an outer unit; said inner unit comprising a battery casing consisting of a tube and a sleeve threaded together for relative ro-10 tational movement to longitudinally adjust said tube relative to said sleeve, a reflector on said sleeve, a lamp on said tube, and an end cap on said tube; said outer unit comprising a lens, and a flexible water-proof housing consisting of a 15 tube and an end cap which is removable to expose a portion of said inner unit for focusing adjustment.

20. In a flashlight, the combination of an inner unit and an outer unit; said outer unit compris-20 ing a lens, a flexible tube, and a flexible cap; and said inner unit comprising a metal casing and a metal cap; said casing consisting of a metal sleeve longitudinally movable but rotationally fixed within said flexible tube, and a metal tube rota-25 tionally and longitudinally movable within said flexible tube; a reflector on said sleeve; a lamp on said metal tube; the lamp being focused by shifting said metal tube within said flexible tube while said flexible tube is in frictional engage-30 ment with said sleeve; and a switch on said sleeve underlying said flexible tube.

21. A self-contained electric hand lamp or flashlight comprising: a focusing assembly; and

a flexible normally fluid tight housing completely enclosing the same; said focusing assembly being operable by frictionally engaging the wall of said flexible housing with a part of said focusing assembly while another part is shifted relative 5 thereto within said housing.

22. In a flashlight, a hollow fluid tight housing having a transparent closure at one end thereof, means to support an electric light bulb within and wholly enclosed by said housing and closure, 10 a battery in said housing, means for electrically connecting said bulb and said battery, said last named means including electric conductive means secured to said transparent closure, said last named means being so constructed and arranged 13 on said closure that the electrical connection between the battery and bulb is broken when the

transparent closure is removed.

23. In a flashlight, a hollow fluid tight housing having a removable transparent closure at one 20 end thereof, means to support an electric light bulb socket within and wholly enclosed by said housing and closure, a battery in said housing, means to electrically connect said socket and said battery, said means including a frangible 25 electrical conductor member secured to said transparent closure, said last named means being so constructed and arranged on said transparent closure that the electrical connection between the socket and battery is broken when the trans- 30 parent closure becomes cracked, broken or is removed.

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