M. L. KAPLAN.

FLASH LIGHT.

APPLICATION FILED SEPT. 18, 1914. RENEWED DEC. 14, 1918.

1,311,899. Patented Aug. 5, 1919.

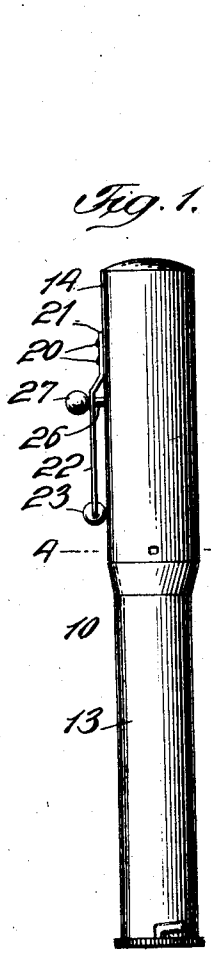


Fig. 1.

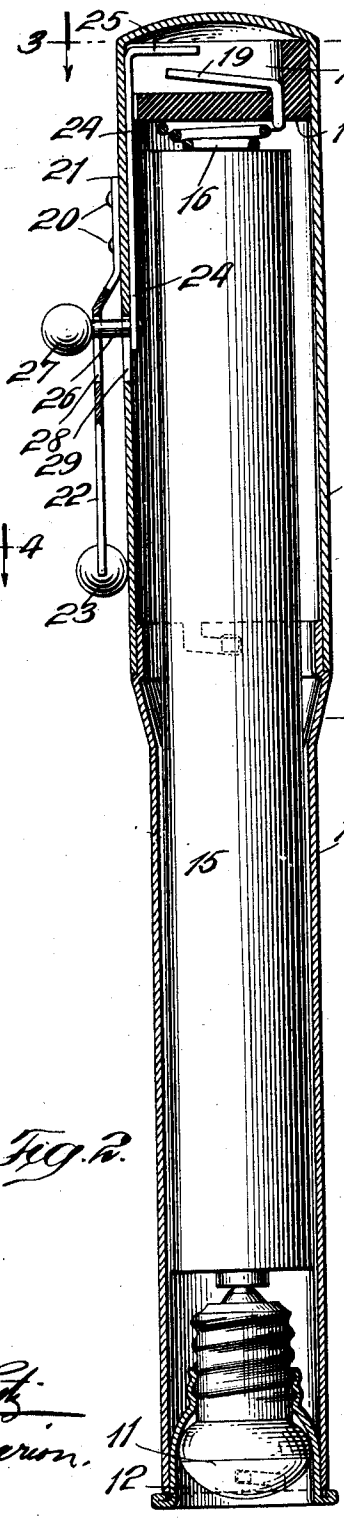


Fig. 2.

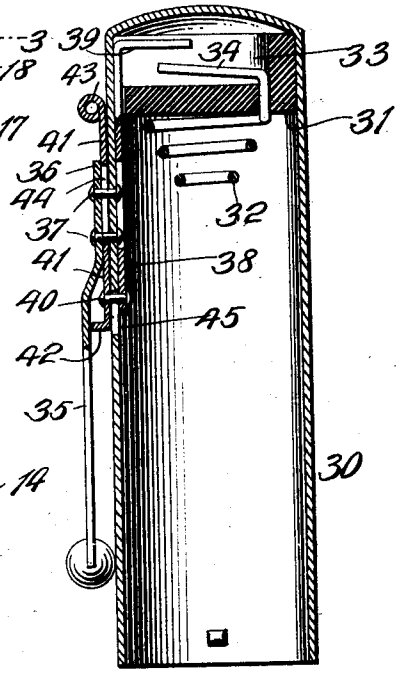


Fig. 5.

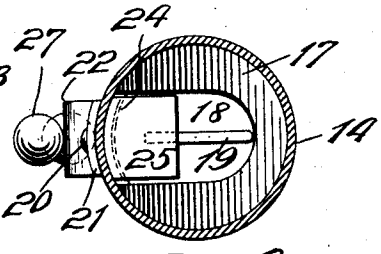


Fig. 3.

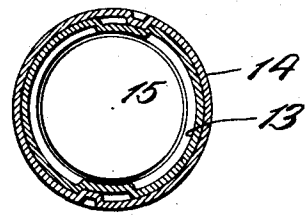


Fig. 4.

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UNITED STATES PATENT OFFICE.

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FLASH-LIGHT.

1,311,899. Specification of Letters Patent. Patented Aug. 5, 1919.

Application filed September 18, 1914, Serial No. 862,259. Renewed December 14, 1918. Serial No. 266,841.

To all whom it may concern:

Be it known that I, MORDUCH L. KAPLAN, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Flash-Lights, of which the following is a specification.

The invention pertains more particularly to flash lights adapted to be carried in the upper vest pocket without inconvenience and in the same manner that a fountain pen is carried therein.

The flash light of my invention is provided with a spring clip or member adapted, when the flash light is placed in the upper vest pocket, to embrace between itself and the side of the casing of the article, the thickness of the material of the vest at the outer side of said pocket, the flash light being thereby held securely; and I associate with the spring clip or member a switch device or mechanism adapted for manual operation for making or breaking the circuit through the lamp.

One very desirable feature of my invention resides in the fact that a portion of the switch mechanism is located below the spring clip or member in position to engage the upper edge of the vest pocket when the flash light is in such pocket, the edge of the pocket serving as a means for resisting the movement of the switch to make the circuit while the light is being carried in the pocket. The switch mechanism includes a slide or button to be engaged by the finger or thumb in making or breaking the circuit, and a portion of this slide or button is below the spring clip to engage the upper edge of the material of the vest pocket when the flash light is placed therein.

In carrying out my invention I preferably construct the barrel or exterior casing of the flash light to resemble in appearance a fountain pen, and upon the exterior of this outer shell or casing I secure a spring clip preferably imitating as far as possible the spring clip on the side of the barrel of a fountain pen, and I associate the circuit closing means with this spring clip.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which:

Figure 1 is a side elevation of a flash light embodying my invention;

Fig. 2 is a central vertical section on an enlarged scale through the same;

Fig. 3 is a transverse section through one end of the same on the dotted line 3—3 of Fig. 2;

Fig. 4 is a similar section taken on the dotted line 4—4 of Fig. 1, and

Fig. 5 is a central vertical section through the upper section of a modified construction of the flash light, the modification residing in the formation of the slide utilized for making or breaking the circuit through the lamp.

In the drawings, referring more particularly to Figs. 1, 2, 3 and 4, 10 designates the exterior shell or casing of the flash light, and this shell or casing is of elongated form and meant to imitate as far as convenient the appearance of a fountain pen. The casing 10 will preferably be of metal and at one end carries a lamp 11 and reflector 12 therefor. The casing 10 is shown as made in two sections 13, 14 connected together at their meeting portions by a bayonet joint. The reflector 12 carrying the lamp 11 is secured within the outer end of the casing 10 by means of a bayonet joint. The details of the two bayonet joints will be understood on reference to the drawings and need not be specifically described since the same are not claimed herein. The casing section 14 is of greater diameter than the casing section 13, and the latter is of proper diameter to snugly receive the battery 15, one end of which engages a terminal of the lamp and the other end of which is engaged by a coiled spring 16 which is a conductor and at the same time maintains the engagement of the battery with the lamp terminal in a customary manner. Within the outer end of the casing section 14 is provided a disk or frame 17 of insulating material, and this disk is formed with a recess 18. One end of the rod or wire forming the spring 16 is inserted through the disk 17 and bent laterally within the recess 18, as shown in Fig. 2. The disk 17 insulates the spring 18 and its bent end 19 from the exterior shell or casing 10.

Upon the exterior surface of the handle or shank end of the shell or casing 10 is secured by rivets 20 or other suitable means

a plate 21 which is integral with and has projected therefrom in line with the length of said shell or casing, a clip 22 which is of metal and normally separated, except at its outer end, from the side of the shell or casing 10 and has on its outer end a ball or enlargement 23, this ball or enlargement constituting the outer end of the clip.

Within the casing section 14 is arranged a slide 24 having a laterally bent outer end 25 and being connected at its other end with the shank 26 of a slide or button 27 by means of which the slide 24 may be moved longitudinally of the shell or casing section 14 to make or break the circuit through the lamp. The end 25 of the slide 24 extends inwardly to lap upon the end 19 of the spring 16, but said end 25 is normally separated from the end 19 of the spring, as shown in Fig. 2. When it is desired to complete the circuit through the lamp the button or slide 27 is manually moved to cause the bent end 25 of the slide 24 to pass into electrical connection with the end 19 of the spring 16, thus closing the circuit through the lamp and causing the latter to light. When it is desired to break the circuit, the slide or button 27 is moved toward the outer end of the casing section 14 a sufficient distance to separate the bent end 25 of the slide 24 from the end 19 of the spring 16. The clip 22 is formed near its shank end with a longitudinal slot 28 through which the shank 26 of the button 27 extends and the ends of which slot limit the movement of the button 27 and slide 24. The edges of the slot 28 by their engagement with the sides of the shank 26 serve to guide the button 27 in its movements to actuate the slide 24 and also to maintain the shank 26 and button or slide 27 in correct position. The button or slide 27 is shown in Figs. 1 and 2 as spherical in form, but the special formation of the slide or button is unimportant. The shank 26 is concealed behind the clip 22 and its inner end extends through a slot 29 in the casing section 14 to receive the inner end of the slide 24, said slot 29 serving to aid in guiding the shank 26 in its movements. The slide 24 is moved in a direction toward the outer end of the clip 22 when it is desired to complete the circuit and light the lamp and in a direction toward the shank end of said clip when it is desired to break the circuit and extinguish the lamp. The flash light shown is meant to be carried in the upper vest pocket or in some pocket of the clothing of the user and it is of considerable importance that the switch or circuit closer be guarded against accidental movement whereby the circuit may be closed, and in accordance with my invention this result is very desirably and conveniently obtained by the association of the slide or button 27 with the clip 22. When the flash light is carried in the upper vest pocket or other pocket of the user, the fabric at the front of the pocket is caused to pass between the clip 22 and casing section 14 and the upper edge of the said fabric presses against the shank 26 of the slide, with the result that the cloth of the garment at the front of the pocket will keep the slide 24 in its inoperative or circuit breaking position and resist any tendency of said slide to move to its circuit closing position. The clip 22 serves to retain the flash light in the pocket and receive behind it a portion of the switch or circuit closing mechanism in position to engage the upper edge of the pocket when the flash light is placed therein with the clip embracing the fabric at the front of such pocket. In the construction shown in Figs. 1 and 2, the clip 22 also serves as a guide for the exterior portion of the switch mechanism.

My invention resides more particularly in the association of the switch or circuit closing mechanism with the clip 22 in such manner that the clip may coöperate therewith and also receive behind it a portion of such mechanism in position to engage the upper edge of the pocket receiving the flash light.

In Fig. 5 I show a modification. 30 represents the handle or shank section of the exterior casing, and within the outer end of the casing section 30 is provided a disk 31 of insulating material and spring 32, said disk 31 having a recess 33 and said spring 32 having a laterally bent outer end 34 within said recess, the disk 31 and spring 32 corresponding exactly with the disk and spring shown at the outer end of the casing section 14 in Fig. 2. Upon the exterior of the casing section 30 is provided a spring clip 35, the shank end or plate portion 36 of which is secured to the casing section 30 by means of rivets 37. Within the case section 30 in the plane of the plate or shank portion 36 of the clip is provided a slide 38 of conducting material, this slide having at its outer end a laterally bent portion 39 overlapping the bent end 34 of the spring 32 and normally separated therefrom. The slide 38 is connected by a rivet 40 with an exterior slide 41 which is partly concealed behind the plate 36 and clip member 35 and has behind said clip member 35 a laterally extending flange 42 to engage the fabric at the front of a pocket when the flash light is inserted therein. The outer end of the slide 41 is formed with a head 43 for convenience in the manual operation of the slide by means of the thumb or finger. The slide 41 is formed with a longitudinal slot 44 through which the rivets 37 pass and which rivets in coöperation with said slot serve to guide the slide 41 in its movements to make and break the circuit and also to maintain said slide in correct

position on the casing section 30. The rivet 40 by means of which the slide 41 is connected with the inner slide or switch 38 passes through a slot 45 in the casing section 30. When the end 39 of the inner slide or switch 38 is separated from the bent end 34 of the spring 32, there will be no circuit through the lamp, and when it is desired that the lamp shall light, the slide 41 will be moved in a direction toward the outer end of the clip 35 so as to carry the bent end 39 of the inner slide 38 into engagement with the bent end 34 of the spring 32, thereby completing the circuit. When it is desired that the light shall be extinguished, the slide 41 will be moved outwardly or toward its normal position, shown in Fig. 5, to separate the parts 39, 34 and break the circuit.

In the construction shown in Fig. 5 I attain the result of preventing the accidental lighting of the lamp while being carried in the pocket in the same manner that that result is secured in the construction shown in Fig. 2. The flange 42 on the slide 41 will engage the fabric at the front of the pocket and said fabric will prevent the downward movement of the slide 41 to circuit closing position. In the construction shown in Fig. 1 the spring clip acts as a guide for the shank of the exterior slide, and in Fig. 5 the rivets securing the clip serve as a guide for the exterior slide 41, the clip or its parts in each instance coöperating with the exterior slide and said clip also receiving behind it a portion of the switch mechanism adapted to engage the upper edge of the pocket in which the flash light may be carried for preventing the accidental lighting of the lamp; in each instance also I avoid the use of the spring clip itself as a means for making and breaking the circuit and allow the clip to perform its customary functions in addition to coöperating with the exterior or slide portion of the switch or circuit closing mechanism.

In both forms of the invention illustrated in the drawings, I have associated the switch mechanism for making and breaking the circuit with the clip for securing the flash light within a pocket, but I do not wish to limit the invention in every instance to such association of the circuit making and breaking mechanism with the spring clip, since regardless of the spring clip the switch mechanism for the circuit possesses, as I believe, novelty and is highly desirable in view of its efficiency.

What I claim as my invention and desire to secure by Letters Patent, is:

1. In a flash-light comprising an exterior casing having a lamp at one end and the other end constituting a handle, said casing containing a battery for the lamp and a spring at the handle-end of the casing engaging the battery, a disk of insulating material within the casing at the outer end of said spring and through which a terminal of said spring passes and thence extends laterally, and circuit closing mechanism comprising a slide within said casing having a laterally extending end overlapping the laterally extending terminal of said spring, and an exterior sliding member for manual operation connected with said inner slide and in electrical engagement with said casing, the casing being a conductor and in electrical connection with a terminal of the lamp.

2. In a flash-light comprising an exterior casing having a lamp at one end and the other end constituting a handle, said casing containing a battery for the lamp and a spring at the handle-end of the casing engaging the battery, a disk of insulating material within the casing at the outer end of said spring and through which a terminal of said spring passes and thence extends laterally, and circuit closing mechanism comprising a slide within said casing having a laterally extending end overlapping the laterally extending terminal of said spring, and an exterior sliding member for manual operation connected with said inner slide and in electrical engagement with said casing, the casing being a conductor and in electrical connection with a terminal of the lamp, said disk having a recess in its outer end within which the said terminal of the spring is confined.

3. In a flash light comprising an exterior casing having a lamp at one end and the other end constituting a handle, said casing containing a battery for the lamp and having means for releasably connecting the flash light with the garment of the owner comprising a clip connected at one end with the casing adapted to receive between itself and the casing the material of said garment, independently operable mechanism associated with said clip for making and breaking the circuit through the lamp comprising a manually operative member having at said clip a part to engage the edge of said garment material and be thereby held in its inoperative position.

4. In a flash light comprising an exterior casing having a lamp at one end and the other end constituting a handle, said casing containing a battery for the lamp and having means for releasably connecting the flash light with the garment of the owner comprising a clip connected with the side of said casing adapted to receive between itself and the casing the material of said garment, independently operable mechanism associated with said clip for making and breaking the circuit through the lamp comprising a manually operative member partly concealed behind said clip and having an exposed head, the concealed part of said member being positioned to engage the edge of said gar-

ment material and be thereby held in its inoperative position.

5. In a flash light comprising an exterior casing having a lamp at one end and the other end constituting a handle, said casing containing a battery for the lamp and having means for releasably connecting the flash light with the garment of the owner comprising a clip connected with the side of said casing adapted to receive between itself and the casing the material of said garment, independently operable mechanism associated with said clip for making and breaking the circuit through the lamp comprising a manually operative member slidable along said clip and having an exposed head and a part guided by a portion of said clip.

6. In a flash light comprising an exterior casing having a lamp at one end and the other end constituting a handle, said casing containing a battery for the lamp and having means for releasably connecting the flash light with the garment of the owner comprising a clip connected with the side of said casing adapted to receive between itself and the casing the material of said garment, independently operable mechanism associated with said clip for making and breaking the circuit through the lamp comprising a manually operative member slidable along said clip and having an exposed head and a shank extending through said clip and connected with the circuit controlling mechanism, said clip having therein a slot through which said shank extends and which serves as a guide therefor.

7. In a flash light comprising an exterior casing having at one end a lamp and containing a battery for the lamp and a spring at the other end of the casing engaging the battery, a body of insulating material within the casing through which said spring extends, and circuit closing mechanism comprising a slide within said casing having a laterally extending end overlapping the said end portion of the spring, and an exterior sliding member for manual operation connected with said inner slide.

8. A device of the kind described, comprising a casing, a battery within the casing, an incandescent lamp secured in the casing, and electrical connections between the lamp and the battery including a circuit controller, said circuit controller extending at the outside of the casing, and a clip attached to the casing for securing it in the pocket, said clip being slotted and said circuit controller extending through the slot in the clip.

9. A device of the kind described comprising a casing, a battery within the casing, an incandescent lamp secured to the casing, electrical connections between the battery and the lamp, said connections including a spring contact having a sliding portion and a button secured to the sliding portion, and a clip attached to the casing for securing it in the pocket, said clip providing a guard for the button.

10. A device of the kind described comprising a casing, a battery within the casing, an incandescent lamp secured to the casing, electrical connections between the battery and the lamp, said connections including a spring contact having a sliding portion and a button secured to the sliding portion, and a clip attached to the casing for securing it in the pocket, said clip being slotted and said button extending through the slot in the clip.

11. In a flash light comprising an exterior casing having a lamp at one end and the other end constituting a handle, said casing containing a battery for the lamp and a spring at the handle-end of the casing engaging the battery, a disk of insulating material within the casing at the outer end of said spring and through which an electrically conductive extension of said spring passes to form an electrical terminal, and circuit closing mechanism comprising a slide within said casing having a laterally extending end overlapping the said terminal, and an exterior sliding member for manual operation connected with said inner slide and in electrical engagement with said casing, the casing being a conductor and in electrical connection with a terminal of the lamp.

12. In a flash light comprising an exterior casing having at one end a lamp and containing a battery for the lamp and a spring at the other end of the casing engaging the battery, a body of insulating material within the casing through which an electrically conductive extension of said spring extends, and circuit closing mechanism comprising a slide within said casing having a laterally extending end overlapping the said extension, and an exterior sliding member for manual operation connected with said inner slide.

13. In a flash light comprising an exterior casing having a lamp at one end and the other end constituting a handle, said casing containing a battery for the lamp and having means for releasably connecting the flash light with the garment of the owner comprising a non-circuit-controlling clip connected at one end with the casing adapted to receive between itself and the casing the material of said garment, and independently operable mechanism associated with said clip for making and breaking the circuit through the lamp.

14. In a flash light comprising an exterior casing having a lamp at one end and the other end constituting a handle, said casing containing a battery for the lamp and having means for releasably connect-

ing the flash light with the garment of the owner comprising a non-circuit-controlling clip connected with the side of said casing adapted to receive between itself and the casing the material of said garment, and independently operable mechanism associated with said clip for making and breaking the circuit through the lamp comprising a manually operative member partly concealed behind said clip and having an exposed head.

15. In a flash light comprising an exterior casing having a lamp at one end and the other end constituting a handle, said casing containing a battery for the lamp, and having means for releasably connecting the flash light with the garment of the owner comprising a non-circuit-controlling clip connected with the side of said casing adapted to receive between itself and the casing the material of said garment, and independently operable mechanism associated with said clip for making and breaking the circuit through the lamp comprising a manually operative member having an exposed head, said clip having provided therein a free space through which said head projects for manual actuation.

16. A device of the kind described comprising a casing, a battery within the casing, an incandescent lamp secured in the casing, and electrical connections between the lamp and the battery including a circuit controller, said circuit controller extending at the outside of the casing, and a clip attached to the casing for securing it in the pocket, said clip having an opening therein and said circuit controller being supported by the casing and extending out from the casing loosely through the opening in the clip.

Signed at New York city, in the county of New York and State of New York, this 17th day of September, A. D. 1914.

MORDUCH L. KAPLAN.

Witnesses:
ARTHUR MARION,
CHAS. C. GILL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."