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E. ST. JOHN

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BATTERY LIGHT

Filed Feb. 8, 1926

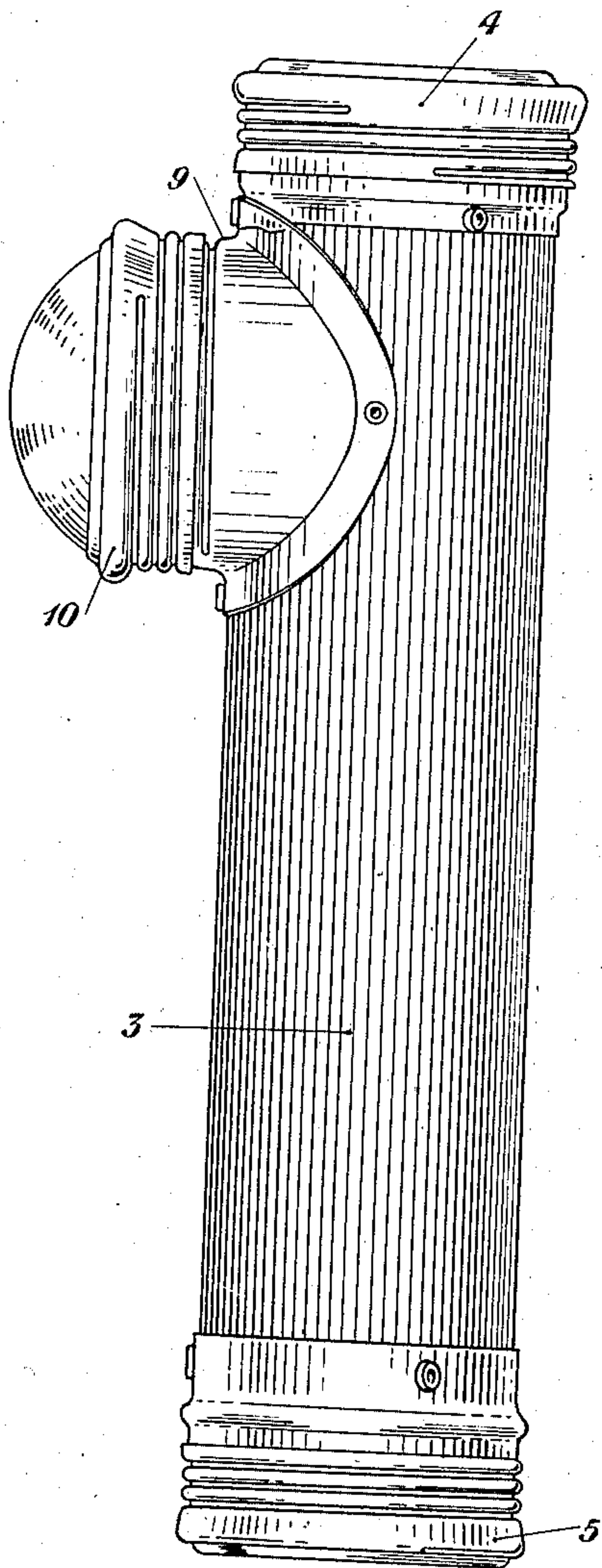


Fig. 1

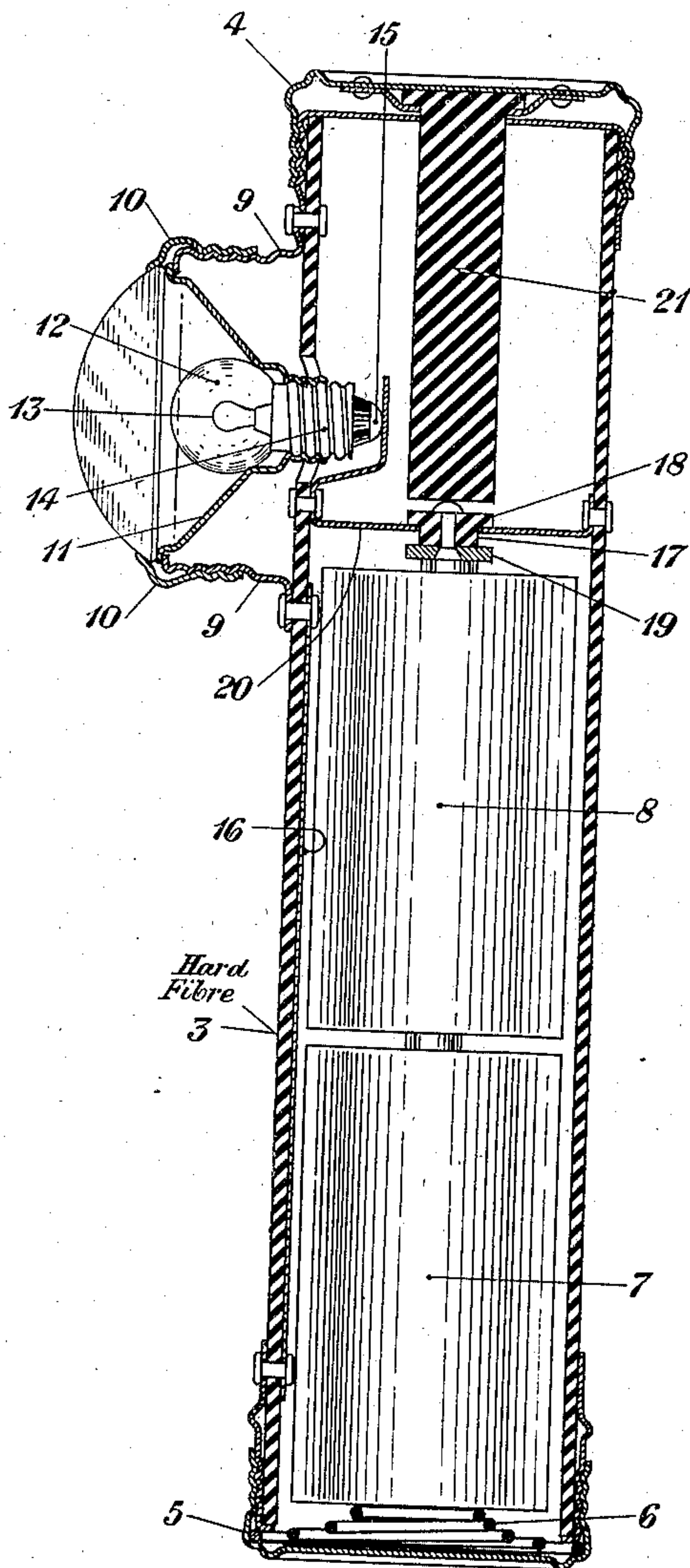


Fig. 2

BY

INVENTOR
E. St. John

g. e. yoke
ATTORNEY

UNITED STATES PATENT OFFICE.

EVERETT ST. JOHN, OF BROOKLYN, NEW YORK, ASSIGNOR TO AMERICAN TELEPHONE AND TELEGRAPH COMPANY, A CORPORATION OF NEW YORK.

BATTERY LIGHT.

Application filed February 8, 1926. Serial No. 86,904.

This invention relates to battery lights, and more particularly to battery lights in which the electric circuit is opened and closed by turning a screw cap in one end of the case.

The ordinary screw case switching arrangement provides for the closing of the electric circuit when the screw cap is screwed into the main battery light member. With certain uses of such a battery light, for instance, by a commercial worker in the field, who may carry his tools in a bag, it is found that, due to play in the threads, accidental pressure on the circuit controlling screw cap is likely to result in the closing of the circuit and the wasting of the batteries.

It is applicant's object in the present invention to provide a circuit closing arrangement which is free from the defect of the ordinary light of this class indicated above.

Applicant's invention will be clearly understood when the following detailed description is read with reference to the accompanying drawing. Figure 1 of the drawing shows a side elevation of applicant's light, and Fig. 2 shows the same view in cross-section.

With reference to the details of the drawing, the main casing 3 is constructed of hard fibre or other suitable insulating material and carries the upper screw cap 4 and the lower screw cap 5. The lower cap contains the spring 6 which tends to force upward the battery cells 7 and 8. There is riveted to the side of the main casing 3 near its upper end a flanged member 9 which is externally threaded to receive the internally threaded lens cap 10. The reflector 11 is mounted in the usual manner over the lamp, which comprises the filament 13, the base member 14 and the contact tip 15. The flanged member 9 is connected to the lower screw cap 5 by the brass contact strip 16, which is connected through the wall of the case by rivets to the flanged member and to the lower screw cap, through the threaded sleeve associated therewith. A movable button having a body portion 17, an upper flange portion 18 formed integrally therewith, and a lower flange portion 19 is mounted in a hole at the center of the spring brass contact strip 20 riveted across the case 3 below the lamp. The body portion 17 and the upper flange portion 18 of this movable but-

ton are constructed of hard fibre, while the lower flange portion 19 is a brass washer riveted to the other portions. The contact strip 20 has an upward extension which makes contact at all times with the tip 15. Furthermore, contact is maintained at all times between the brass washer 19 and the upper battery cell 8 by the upward pressure of the spring 6 in the lower screw cap 5. The upper screw cap 4 carries a fibre rod 21 which bears against the top of the movable button. When the upper screw cap 4 is screwed down, therefore, the movable button is forced downward through the central hole in the strip 20, and, as a result, the strip 20 bears against the upper flange portion 18 of the button, which is of fibre, while the lower flange portion or washer 19 of brass is forced away from the strip 20. Thus the electric circuit is broken between the strip 20 and the upper battery cell 8. If, however, the screw cap 4 is partially unscrewed carrying the fibre rod 21 upward, the movable button moves upward due to the pressure of the spring 6, and contact is made between the strip 20 and the upper cell 8 through the washer 19 which now bears against the strip 20. The following circuit is now closed: lower cell 7, spring 6, lower screw cap 5 and threaded sleeve associated therewith, contact strip 16, flanged member 9, reflector 11, base member 14, filament 13, contact tip 15, contact strip 20, brass washer 19, and upper cell 8.

It is clear from the above description of applicant's battery light that accidental pressure against the circuit controlling upper cap will not close the circuit and waste the battery, but, on the contrary, will tend to open the circuit. In order to close the circuit, it is necessary that the upper cap be partially unscrewed.

While applicant's invention has been described in one particular embodiment which is deemed desirable, it is to be understood that it is capable of embodiment in other and different forms within the scope of the invention as defined in the appended claims.

What is claimed is:

1. A battery light comprising a case of non-conductive material, a lamp, a conductive reflector associated therewith, a battery in said case, a conductive lower screw cap on said case, a spring in said cap bearing

against the lower end of said battery and tending to force it upward, a conductive member making contact between said reflector and said lower screw cap, a contact strip making fixed contact at one end with said lamp, an upper screw cap on said case, and means associated with said cap for holding the circuit open between the upper end of said battery and said contact strip when said cap is screwed into the case and for making contact between the battery and the contact strip when said cap is partially unscrewed.

2. In a battery light, a casing member of non-conductive material, a lamp, a conductive reflector connected therewith, a conductive screw cap at the lower end of said casing member, a conductive strip connecting said reflector and said screw cap, a spring mounted in said screw cap, a battery bearing at its lower end against said spring and forced upward thereby, a contact strip mounted inside the casing member above the battery and making fixed contact at one end with the lamp, a movable button associated with said contact strip and having a non-conductive portion and a conductive portion, said conductive portion making fixed contact with the upper end of the battery, an upper screw cap on the casing member, and a rod of non-conductive material carried by said screw cap and extending downward into the casing member to bear against the contact button, said button being so mounted that when the upper screw cap is screwed down into the casing, the non-conductive portion of the contact button bears against the contact strip and the conductive portion is insulated therefrom, and when said cap is partially unscrewed, the conductive portion of

the button makes contact with said contact strip, completing the circuit.

3. In a battery light, a lamp, a conductive reflector connected thereto, a case of insulating material, an upper screw cap on said case, a conductive lower screw cap on said case, a spring mounted in said lower screw cap, a battery having its lower end bearing against said spring, a longitudinal contact strip serving to connect said reflector and said lower screw cap, a transverse contact strip mounted in said case below said lamp and having one end extending upward to make contact with said lamp, a movable contact button having a body portion and an upper flange portion of insulating material and a lower flange portion of conductive material making contact with the upper end of the battery, said flange portions being designed to bear against said transverse contact strip, one in each position of the contact button, and a longitudinal rod of insulating material carried by and in fixed relation to said upper screw cap, said rod bearing against the upper end of said contact button, so that when the upper screw cap is screwed into the case, the insulating upper flange portion of the contact button is forced against the transverse contact strip, breaking the circuit, and when said screw cap is partially unscrewed from the case, said flange portion is separated from said contact strip and the conductive lower flange portion is forced against said contact strip, completing the circuit.

In testimony whereof, I have signed my name to this specification this 6th day of February, 1926.

EVERETT ST. JOHN.