L. WALICKI AND C. BOBER.

UMBRELLA HANDLE LIGHTING DEVICE.

APPLICATION FILED NOV. 16, 1921.

1,427,138. Patented Aug. 29, 1922.

Fig. 1

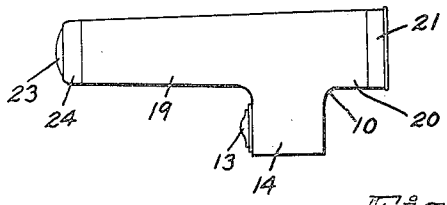


Fig. 2

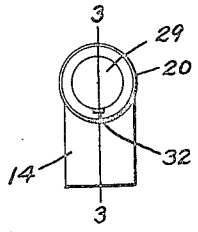


Fig. 3

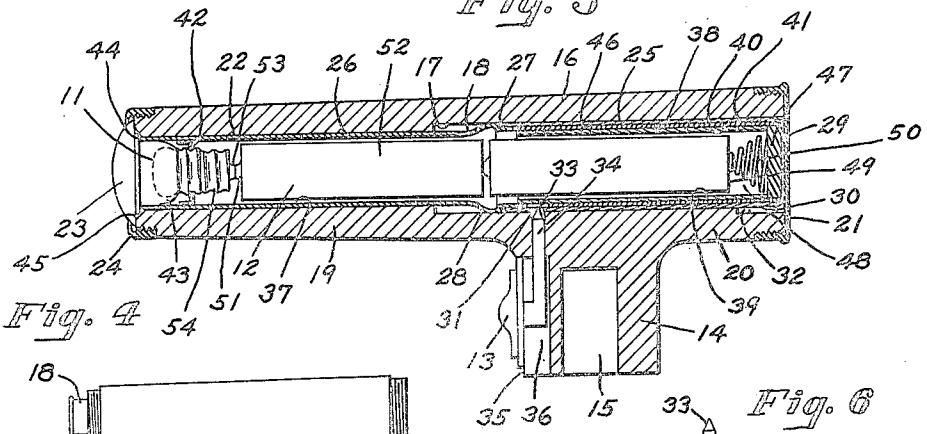


Fig. 4

Fig. 5

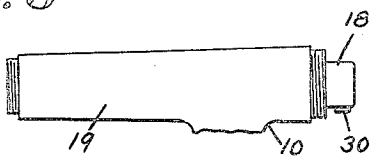


Fig. 6

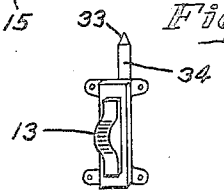


Fig. 7

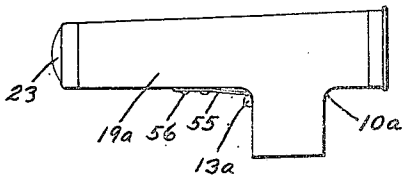
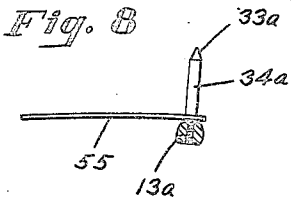


Fig. 8



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UMBRELLA-HANDLE LIGHTING DEVICE.

1,427,138. Specification of Letters Patent. Patented Aug. 29, 1922.

Application filed November 16, 1921. Serial No. 515,660.

To all whom it may concern:

Be it known that we, LUDWIG WALICKI and CHARLES BOBER, citizens of Poland, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Umbrella-Handle Lighting Devices, of which the following is a specification.

Our invention relates to improvements in umbrella-handle lighting devices of the form in which an electric lighting device is incorporated in the structure of the handle of an umbrella and the object of our improvement is to provide a structure of the form mentioned comprising as a fixed part a battery combined with a lighting device or bulb and a moving part in the form of a switch or circuit closing member and a housing structure therefor that is provided in the handle structure and in which the fixed part is manipulated as a unit and is readily removed for changing the battery.

In the accompanying drawing:—

Figure 1 is a side elevation of our improved umbrella-handle lighting device.

Figure 2 is a rear elevation of the same, with the rear cap removed.

Figure 3 is a sectional view on an enlarged scale on the line 3—3 of Fig. 2.

Figure 4 is a side elevation on the same scale as Fig. 1 showing the parts in position for removing the lamp bulb.

Figure 5 is a similar view of the parts in position for removing the battery housing sleeve and connected parts.

Figure 6 is a perspective view of the switch.

Figure 7 is a side elevation, showing a modified form of switch.

Figure 8 is an enlarged view of the switch parts shown in Fig. 7, with parts thereof in section.

Our improved umbrella-handle lighting device comprises an umbrella-handle 10 that is provided with an incandescent lamp or bulb 11, a battery 12 for lighting the same, and a suitable circuit closing device or switch that is operated by a trigger 13 or other equivalent means for closing and opening the circuit at will, the parts being constructed and arranged in a special manner, as will be described.

The handle 10 comprises a neck or stem 14 that is provided at one end with an opening 15 for the shaft of an umbrella and that is crossed at the other end by the body 16 that constitutes the main structure of the handle and has a bore 17 in which is housed a unit 18 which may be designated as the fixed member, as distinguished from the moving member that is operated by means of the trigger 13.

The said body 16 comprises the grasping or grip portion 19 that overhangs the stem 14 on one side and is adapted to be grasped by the hand and serve as the handle proper as is common in handles for umbrellas and canes, and overhanging the opposite side of the stem 14 is the heel portion 20 that is adapted to support a cap 21 that serves as the closure for the heel end of the bore 17. The opposite, front end part 22 of the bore 17 is closed by a lens 23 that is held in place by means of a bevel structure 24.

The housing for the unit 18 is in the form of a metallic tubular structure that is composed of a rear part 25 and a front part 26 of substantially equal length that have the opposed ends 27 connected by any suitable form of joint. Said tubular structure has a substantially uniform diameter for the length of the rear part 25 and the portion of the front part 26 adjacent the junction 27 and for the front and major portion of the front part 26 the diameter is reduced, there being a shoulder 28 immediately in front of the junction 27.

The rear part 25 has the rear end 29 closed and has on the side towards the stem 14 a lug 30 and an opening 31 in the side wall. Said lug 30 is positioned adjacent the rear end and serves as a key or guide in cooperation with a keyway 32 in the side wall of the bore 17 for positioning the unit 18.

The opening 31 cooperates with the contact tip 33 at the end of a rod or pin 34 that is carried by the trigger 13 and that constitutes the operative element of the moving member.

The trigger 13 is slidably mounted for longitudinal movement along the outer face 35 of the stem 14 and is preferably located adjacent what may be designated as the throat of the handle structure, at the corner formed by the stem 14 and the grasping portion 19. A suitable chamber 36 is provided in the stem 14 and the adjacent part of the handle structure for permitting the necessary movement of the trigger 13 and rod 34.

The tubular housing formed by the parts 26 and 25 has a bore 37 at the front end portion that is a substantial fit for the battery 12 and is open at the front end and has a bore 38 at the rear end portion that is relatively enlarged and is closed at the rear end 29.

The battery 12 extends from the front bore 37 into the rear and enlarged bore 38, and between said battery 12 and the wall of said enlarged bore 38 is a metallic sleeve 39 made of thin sheet material that is opposed to the battery 12 and a separating and insulating sleeve 40 intermediate said metallic sleeve 39 and the wall 41 for the enlarged bore 38, said wall 41 being the side wall of the rear part 25.

Near the front end of the front bore 37 is an inwardly directed rim or ledge 42 of thin sheet metal that serves as an abbreviated screw thread in cooperation with the reflector-housing or bulb holder 43 that carries the lamp 11.

Said lamp or bulb holder 43 is limited in its inward movement along the bore 37 by means of an outwardly projecting rim 44 that abuts against the end face of the front tubular part 26. Said rim 44 serves as a handle for screwing the bulb in and out and projects slightly beyond the side wall of the front tubular part 26 to facilitate manipulating the same.

The front end part 22 of the bore 17 fits the front tubular part 26 and is provided with an enlargement 45 at the front end for admitting the rim 44, and also for limiting the inward movement of the unit 18 when in the assembled position.

The rear, enlarged part 46 of the bore 17 fits the wall 41 of the rear part 25 of the tubular structure.

The battery 12 is spaced from the rear end wall 29 and in abutment with the end wall 29 mentioned is an insulating washer 47 that cooperates with the insulating sleeve 40 to insulate the metallic sleeve 39 from the enclosing tubular structure. Said metallic sleeve 39 extends rearwardly beyond the battery 12 and encloses the space 48 between the insulating washer 47 and the opposed end wall 49 of the battery 12.

Said end wall 49 of the battery 12 is in the form of a metal plate or disk that serves as one of the terminals of the battery 12.

A metal spring 50 is housed in the space 48, serves to make electrical connection between the disc 49 and the sleeve 39, and also serves to tend to thrust the battery 12 forwardly.

The front end of the battery 12 terminates in a tip 51 that makes contact with the bulb 11.

The battery 12 is composed of two individual cells 52 that are connected in series.

As described, the tip portion 53 of the lamp 11 is electrically connected with the sleeve 39 through the medium of the battery 12 and the spring 50, which sleeve may be designated as the inner sleeve, the wall 41 being designated as the outer sleeve. Said outer sleeve 41 is electrically connected to the shell portion 54 of the lamp 11 through the medium of the lamp holder 43 and the wall structure of the tubular parts 26 and 25.

Thus the electrical circuit for lighting the lamp 11 may be completed by interconnecting the sleves 39 and 41. This result is effected by means of the opening 31 in the outer sleeve 41.

The insulating tube 40 is cut away in registration with the opening 31 and the inner sleeve 39 bridges said opening 31, so that the contacting tip 33 is adapted to electrically interconnect the two sleeves 39 and 41.

The moving member, composed of the trigger 13 and the rod 34, has a limited to and fro movement sufficient to have the tip 33 engage with the opening 31 and disengage therefrom.

In the modified switch structure shown in Figs. 7 and 8 the rod 34^a is supported by a flat spring 55, at one end thereof, the other end being secured by means of nails 56 to the under face of the grasping part 19^a of the handle structure 10^a, and in lieu of the trigger 13 there is a knob 13^a on the downwardly or outwardly projecting end of the rod 34^a. The contacting end 33^a of the rod 34^a operates substantially like the end or tip 33 described.

The spring 55 normally holds the rod 34^a away from the contacting position.

To remove the unit 18 the cap 21 is removed and also the lens 23. The unit 18 is then pushed forwardly to give access to the lamp holder 43, which is then removed. This permits the unit 18 to be moved rearwardly and removed from the handle structure 10.

We claim as our invention:—

1. An umbrella-handle lighting device comprising a handle body having a bore that extends therethrough from end to end, a unit housed in said bore and comprising a tubular housing structure, a battery extending along the interior of said structure, a lamp bulb at one end of the said structure, and an inner sleeve opposed to said structure, an insulating sleeve intermediate said inner sleeve and structure, means connecting said structure and one of the terminals of said bulb, means connecting said inner sleeve with the other terminal of said bulb, and a circuit closing device operative to interconnect said inner sleeve and tubular housing structure.

2. An umbrella-handle lighting device as described in claim 1, said tubular housing structure having an opening in the side wall that is bridged by said inner sleeve, and said

circuit closing device comprising a contact rod for being projected into said opening.

3. An umbrella-handle lighting device as described in claim 1, a lamp holder serving to support said bulb at said end of the tubular housing structure and having an outwardly projecting rim, said bore having an enlargement at the end adjacent said bulb, and said rim being extended across the end face of said tubular housing structure and into said enlargement.

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