May 16, 1950 F. J. MAZZEO 2,507,919

UMBRELLA

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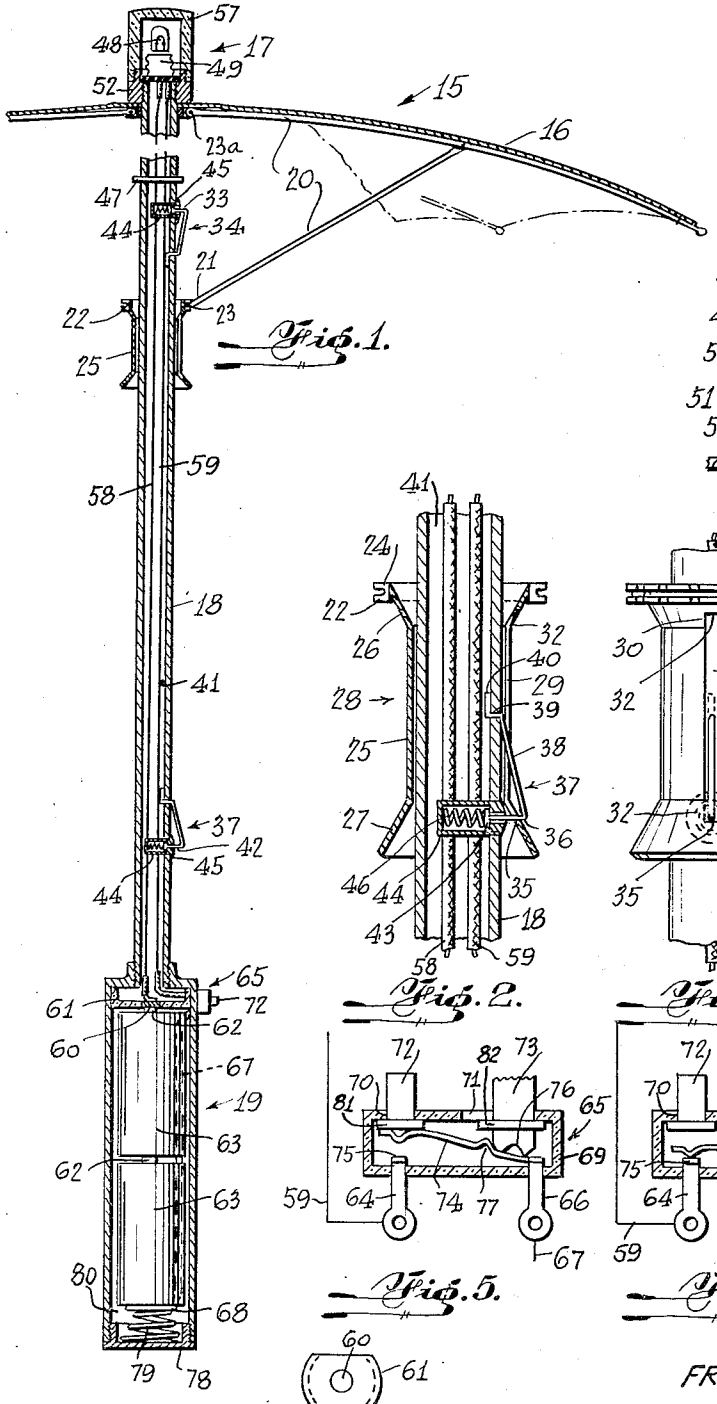


Fig. 1.

Fig. 2.

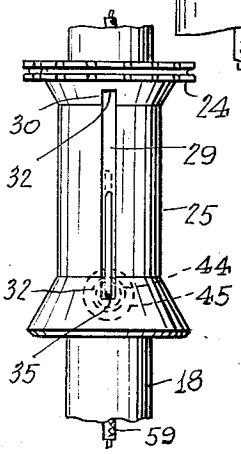


Fig. 3.

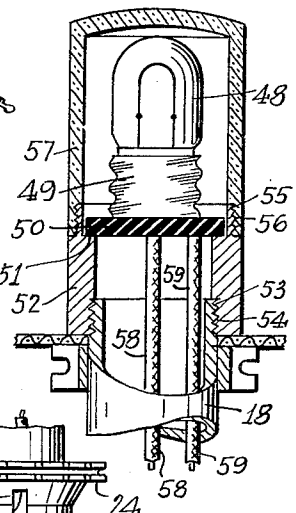


Fig. 4.

Fig. 5.

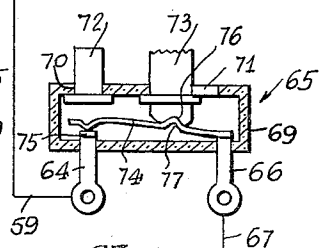


Fig. 6.

Fig. 7.

INVENTOR.
FRANK J. MAZZEO.

BY

ATTORNEY.

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UMBRELLA

Frank J. Mazzeo, Brooklyn, N. Y.

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1 Claim. (Cl. 135—41)

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This invention relates to improvements in the construction of umbrellas, and more particularly, to umbrellas carrying an electric light at the extreme top end of the shaft.

Everyone is familiar with the difficulties of walking on a dark night in a blinding storm, while using an umbrella, and the danger of colliding with other persons or vehicles. Such collisions may cause serious damage and/or bodily harm to those concerned without any fault of their own, which may sometimes be prevented by employing signalling means. The thought, however, of using signalling means, such as a light attached to the umbrella, is not new. But structural difficulties have made its general use impractical. It has also been found difficult to open or close the umbrella when using the latter on a stormy rainy night, since the sleeve and lock spring provided on present day umbrellas are not designed to permit a ready gripping of the umbrella when about to be used.

It is a purpose of this invention to provide an umbrella with efficient and practical signalling means at the top of the shaft which signalling means may be either flashed or used as a continuous light.

It is another object of this invention to provide an umbrella with a signalling means, such as a light bulb at the end of a hollow shaft, in which shaft conductors for the activation of the light are carried.

It is still a further object of this invention to provide an umbrella with signalling means located at a conspicuous part of the umbrella, certain parts of the umbrella being designed in a manner that will prevent corrosion of essential parts or short circuits.

A still further object of this invention resides in providing facile means for opening and closing the umbrella.

Another object of this invention is to provide a switch at a convenient part of the umbrella handle, whereby the user can either cause a flashing or a steady glow of the light to warn any oncoming persons or vehicles.

These and many other objects are accomplished by the novel and practical construction, combination and arrangement of parts hereinafter disclosed and illustrated in the accompanying drawing, constituting an essential part of the disclosure, and in which:

Fig. 1 is a longitudinal sectional view through an umbrella incorporating the invention, with parts broken away and part of the cloth covering shown in dash-dotted lines.

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Fig. 2 is an enlarged sectional view of the sleeve in its lower locked position.

Fig. 3 is a right-hand view of Fig. 2.

Fig. 4 is a partial sectional view of the lamp tip of the umbrella shaft.

Fig. 5 is a diagrammatic view of the switch in inoperative position.

Fig. 6 is a similar view to Fig. 5, with the switch shown in steady glow position.

Fig. 7 is a top plan view of the insulating thimble used in the handle of the umbrella.

The umbrella 15 consists of the canopy portion 16, the light tip 17, the hollow shaft 18 and the handle 19. Ribs 20 are conventional with this as with any other umbrella. The lower ends 21 of the ribs 20 fit into the conventional cutouts 22 in which they are held in conventional manner by a wire 23. The cutouts 22 are formed in a ring 24, which is a part of the sleeve 25. The novelty in this sleeve resides in the upper and lower flared portions 26 and 27. The channel like portion 28 thus formed will readily adapt itself to the positioning of the fingers of a hand used when opening the umbrella. A slot 29 extends into flared portions 26, 27 from a point 30 (close to the top) down to point 31 close to the bottom. The upper edge 32 of the slot 29 will contact the surface 33 of the upper lock spring 34, when in open position, while the lower edge 35 of the slot 29 will contact the surface 36 of the lower lock spring 37 when in closed position. Referring to Figs. 2 and 3, the lower lock spring 37 consists of a spring wire 38, one end of which enters the shaft 18 through the opening 39. This end of the wire 38 may be bent as at 40 or otherwise secured. It is understood that the wire 38 enters the opening 39 as a press fit, thus avoiding moisture or water from entering the hollow portion 41 of the shaft 18. The lower portion 42 of the wire 38 ends in an enlarged knob 43, which is contained within a housing 44. This housing 44 is press-fitted into the shaft 18 with preferably a small head and shoulder 45 on the outside. A spring 46 pressing against knob 43 will keep the spring lock 37 in its extended position. The upper spring lock 34 is similar in construction and operation, only being reversed in its location in regard to the lower spring lock 37. A stop pin 47 is provided to prevent the canopy from opening further than desired or from moving up high enough to turn inside out.

Referring to Fig. 4, a lamp 48 is secured in a socket 49. An insulating disc 50 retains the socket 49. The disc 50 preferably rests on a shoulder 51 formed in the sleeve 52. At 53 the

sleeve 52 is threaded to engage the thread 54 of the shaft 18. The threads 55 engage the threads 56 of the lamp housing 57. Two electrical conductors 58 and 59 lead to and from the lamp 48. The electrical conductor 58 may be secured to the upper side of the contact point 60 of the insulating thimble 61. The lower side of the contact point 60 contacts in conventional manner the contact pole 62 of the upper dry cell battery 63. The conductor 59 is secured to post 64 of the switch 65 and the circuit continues from the switch 65 through the post 66 down through conductor 67 to a contact 68 which electrically contacts the outer surface of the lower dry cell 63. The switch 65 comprises a housing 69, having one round opening 70 and a slotted opening 71. The round opening 70 contains the flash switch 72, while a knob 73 slides in the opening 71. A spring contact member 74 is shown as secured to the post 66. This spring contact member 74 is normally in the position shown in Fig. 5. Should the knob 72 be pressed down against the contact point 75 a flash of light will result as long as the knob 72 is held down by the finger of the user. However, if a permanent lighting of the lamp 48 is desired, and with complete freedom of the hand, the knob 73 is pushed into the position shown in Fig. 6. A recess 76 will thus be made to engage a projection 77 in the contact member 74 and thus hold the latter in this position until released by pushing back the member 74 into the original position shown in Fig. 5. The flanges 81 and 82 act as stops for the respective buttons 72, 73 to limit their outward movement. A screw 78 with a spring 79 holds the dry cells 63 in their contacting position within the hollow space of the handle 19. The handle 19 may be made of metal or plastic material. If made of metal as well as shaft 18 then one of the conductors 58, 59 may be shortened, using the shaft and handle as conducting means for the electrical circuit.

The lighting of the umbrella tip will thus be accomplished very readily, either in the form of flashes or as permanent light. It is understood, that the bulb will work, either with the umbrella in its open or closed position. On a dark country road, for example, the closed umbrella, pointing downward, can be used to illuminate the path a person is travelling.

Having thus fully explained the invention in its preferred form, and with the possibility of modifications within the scope of this invention, what is claimed to be new and useful, and desired to be secured by Letters Patent is:

In combination with a hollow tubular umbrella shaft, a sleeve member slidable on said shaft including a cylindrical center portion and outwardly flared opposite end portions facilitating gripping the member therebetween, the ribs of the conventional canopy of the umbrella being pivotally connected to said sleeve member whereby reciprocal sliding movement of the latter on the shaft will cause opening and closing of the canopy, a longitudinal slot formed in the cylindrical center portion of said sleeve member and terminating within said flared end portions, spring operable means projecting from said shaft at its upper and lower portions and adapted to respectively project through said slot when said sleeve member is moved to predetermined positions on said shaft, said means including a resilient, angularly bent wire having a linear portion extending at an acute angle to said shaft, the innermost end of said wire being anchored to said shaft, an opening formed in said shaft, an inwardly bent portion on the other end of said wire extending slidably into said opening, and spring means in said shaft abutting against said inwardly bent portion for constantly urging said linear portion outwardly.

FRANK J. MAZZEO.

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