

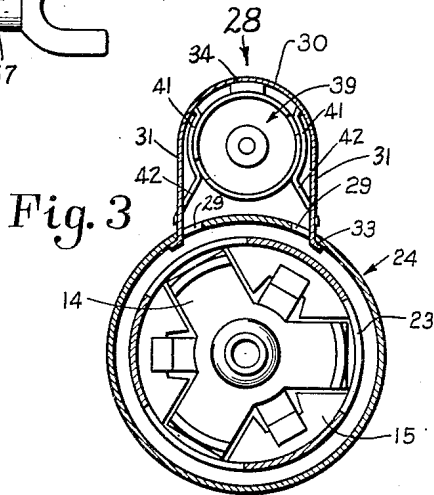
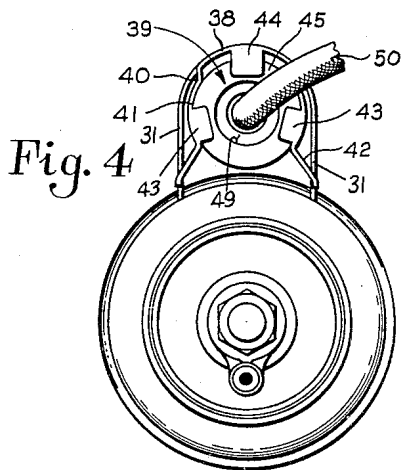
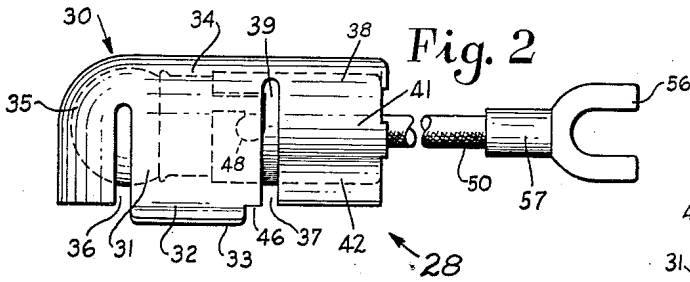
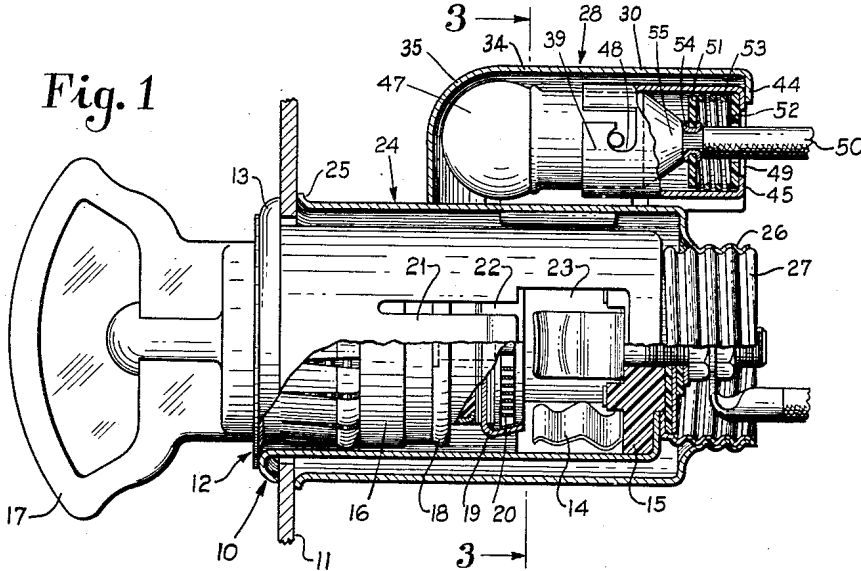
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ILLUMINATED CIGAR LIGHTER

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ILLUMINATED CIGAR LIGHTER

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2 Claims. (Cl. 219—32)

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This invention relates to illuminating devices for cigar lighters of the removable igniting unit type, wherein the removable unit is carried or stored in a socket-shaped holding device.

The invention is shown as applied to a cigar lighter wherein the holding device is clamped or held in place by a sleeve which encircles and is threaded on the said device. While a specific embodiment of the invention is illustrated herein, it should be understood that changes may be made in the construction and arrangement of the parts without departing from the spirit and purpose of the invention, the scope of which is to be properly taken in connection with the appended claims.

An object of the invention is to provide an extremely simple and economical-to-manufacture means for illuminating the interior of the holding device of a cigar lighter, so that the device is visible in the dark to facilitate replacement of the igniting unit therein.

Another object of the invention is to provide an illuminating means as above, in the form of an attachment which may be readily applied to existing cigar lighter structures without requiring any extensive changes being made therein.

A still further object of the invention is to provide a bulb-containing illuminating attachment for a cigar lighter holding device, which attachment is quickly and easily removable for replacement of the bulb.

In accomplishing these objects a novel organization is provided comprising an open-sided shell releasably mounting a bulb socket and incandescent bulb, the said shell having tangs entering a pair of apertures of the clamping sleeve of the lighter and releasably securing the shell thereto for quick and easy removal without the use of tools. The holding device of the lighter has circumferentially spaced openings in its side walls incidental to the forming of certain parts concerned with the operation of the lighter itself, and these openings, together with the apertures of the clamping sleeve, enable light from the bulb within the shell to pass into and illuminate the interior of the holding device regardless of the final rotative position assumed by the sleeve when it is tightly clamping the said device.

According to this organization, but a single change is required in the cigar lighter, in order to mount the said illuminating means, this change being the provision of a pair of circumferentially spaced apertures in the clamping sleeve to receive the tangs of the bulb-carrying shell.

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The parts constituting the illuminating means or attachment are few in number and simple and economical-to-manufacture, and consist merely of the open-sided shell and the bulb socket with attached single-conductor connecting wire. The shell is a simple metal stamping, and the bulb socket is a cup having bayonet slots, and having spring separated insulating washers one of which carries a central conductor to which the connecting wire is secured.

The arrangement is such that the socket and bulb carried thereby may be slipped into the shell and frictionally retained therein under slight tension exerted by yieldable side walls of the shell. Other yieldable walls of the shell carry the tangs which secure or mount the shell on the clamping sleeve.

When the open-sided shell is in place on the sleeve, the latter covers over the open side, and locks the bulb and socket securely in the shell against accidental removal therefrom. However, when the shell is released from the clamping sleeve, the bulb and socket may be quickly and conveniently removed from the shell without tools, for replacement of the bulb.

Other features and advantages will hereinafter appear.

In the accompanying drawings:

Figure 1 is an axial section of a cigar lighter embodying the invention.

Fig. 2 is a side elevation of the illuminating attachment of the invention.

Fig. 3 is a transverse section taken on the line 3—3 of Fig. 1, the igniting unit being removed from the lighter and the bulb being removed from the illuminating attachment, and

Fig. 4 is a rear end view of the cigar lighter and illuminating attachment.

Referring to Fig. 1, the illuminated cigar lighter of the present invention comprises a holding device 10, shown secured to an instrument panel 11, the holding device carrying a removable igniting unit 12. The holding device 10 is in the form of a deep drawn socket or cup having an outturned peripheral flange 13 engaging the exterior of the panel 11, and having thermostatically controlled contact means 14 insulatedly mounted on the inside of the bottom 15.

The igniting unit 12 comprises a body 16 adapted to slidably fit in the holding device 10, the exterior end of the body having a knob 17 and the interior end mounting a pair of circular contact members 18 and 19 which are insulated from each other, the latter member being in the form

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of a shallow cup and carrying the spiral heating element 20 of the unit.

The thermostatic contact means 14 of the holding device is adapted to engage and embrace the contact cup 19 of the igniting unit when the latter is moved deeper into the holding device from the position shown in Fig. 1.

For cooperation with the contact member 18 of the igniting unit, the holding device 10 has a plurality of fingers 21 formed in the side walls thereof by cutting U-shaped openings 22 in the said walls. Also, to provide clearance for the contact means 14 when the latter spreads apart in response to heating of the element 20, openings 23 are provided in the walls of the holding device 10, the said openings merging with the U-shaped openings 22.

The holding device 10 is secured in place on the panel 11 by a tubular clamping sleeve 24 one end 25 of which engages the rear surface of the panel 11, the other end 26 of the sleeve being of reduced diameter and having threads rolled therein for engagement with a threaded member 27 at the rear end of the holding device.

According to the present invention a novel, simple and economical-to-manufacture illuminating means 28 is provided, to be mounted on the exterior of the clamping sleeve 24 so that light from the said means will pass through the sleeve and through the holding device 10 to illuminate the interior of the latter, such illumination being visible from the front of the panel 11 when the igniting unit 12 is removed from the holding device. The illumination afforded by the illuminating means 28 thus enables a user to readily locate the mouth of the holding device 10 in the dark, so as to facilitate replacement of the igniting unit 12 in the said device.

Accordingly, the clamping sleeve 24 is provided with a pair of parallel slots 29, Fig. 3, located broadside to each other and circumferentially spaced on the sleeve. An open-sided shell 30 is provided, having resilient side walls 31 terminating in tangs 32 which are adapted to extend into the slots 29 of the clamping sleeve, the said tangs having outwardly bent edge portions 33 which engage the inner surface of the clamping sleeve 24 and function as retainers to retain the shell 30 on the sleeve.

The shell 30 is preferably formed of drawn sheet metal, having a semi-cylindrical top portion 34 and a closed semi-cylindrical end portion 35. The side walls 31 of the shell are separated from the end portion 35 by slots 36, and are separated by slots 37 from resilient side walls 38 which latter extend to the end of the shell. The side walls 38, Fig. 4, are shaped to form a clip for receiving and frictionally holding a tubular socket 39, each wall 38 being offset inwardly at 40, having a semi-cylindrical portion 41 and an edge portion 42 extended angularly outwardly with respect to the cylindrical portion 41, and the said edge portions constituting the mouth of the clip. The side walls 38 also have tabs 43 bent inwardly as shown, and the semi-cylindrical portion 34 of the shell has a tab 44 also bent inwardly, the said tabs being located for engagement with the bottom 45 of the socket to locate the latter.

When the shell 30 is in place on the clamping sleeve 24 the open side of the shell will be closed over by a portion of the side wall of the sleeve. The end portion 35 of the shell will engage the outer surface of the sleeve 24 thereby positioning the shell and preventing the tangs 32 from extending too deeply into the clamping sleeve. For

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this purpose also, the side walls 31 of the shell 30 have shoulders 46 for engagement with the outer surface of the clamping sleeve 24, the said shoulders cooperating with the end portion 35 of the shell to accurately position the latter.

The shell 30 being of thin drawn sheet metal, the side walls 31 thereof are resilient, and normally these side walls are biased outwardly or away from each other, so that they have to be pressed together to enable the tangs 32 to align with the slots 29 for insertion into the latter. When the pressure is removed from the side walls 31 they again spring apart, thereby causing the edge portions 33 of the walls to engage the inner surface of the clamping sleeve under continuous pressure.

It will be noted that the shell 30 may be quickly and conveniently removed from the clamping sleeve 24 without the use of tools by the mere operation of pressing together the side walls 31 of the shell while at the same time pulling on the shell to separate it from the sleeve.

Also, as provided by the invention, the socket 39 for carrying the incandescent lamp 47 of the illuminating device is frictionally held in the portion of the shell 30 arranged to constitute a clip, thereby enabling the socket to be quickly and conveniently removed from the shell without tools when the shell is removed from the clamping sleeve 24. When however, the shell 30 is mounted on the clamping sleeve, the socket 39 will be locked in place by the walls of the sleeve, so that it is prevented from becoming accidentally dislodged from the shell.

The socket 39 is in the form of a drawn sheet metal cup having bayonet slots 48 in its side walls adjacent the mouth, the bottom 45 of the cup having a large central aperture 49 to permit entrance of a single insulated conductor wire 50 into the socket with substantial clearance.

Within the socket 39 insulating washers 51 and 52 are carried, axially separated by a helical coil spring 53. The washer 51 has a metal eyelet 54 secured in its opening, and the insulated conducting wire 50 passes through the washer 52 and is soldered to the eyelet 54 of the washer 51.

The compression spring 53 normally yieldably holds the washers 51 and 52 widely separated. However, when the bulb 47 is inserted in the socket 39 the tip 55 of the bulb engages the eyelet 54 and moves the insulating washer 51 axially toward the washer 52, compressing the spring 53. When the bulb 47 is locked in the bayonet slots 48, the compression spring 53 maintains a constant pressure on the tip 55 of the bulb, securely holding the latter in locked position.

The end of the conductor wire 50 is provided with a spade terminal 56 and a rubber insulating sleeve 57, to enable the wire to be conveniently safely connected to a source of current.

When the cigar lighter of the present invention is mounted, for instance, on the instrument panel 11 of an automobile, the spade terminal 56 may be advantageously connected with the lighting system of the automobile so that the wire 50 will be energized during the time that the lights of the car are turned on. This will cause the bulb 47 to light, since a return ground circuit is provided for the bulb through the socket 39, shell 30, clamping sleeve 24, and instrument panel 11.

The bulb 47 is so located with respect to the slots 29 in the clamping sleeve 24, that a substantial amount of light will pass from the bulb

through the slots to the interior of the clamping sleeve. This light will find its way through the openings 22 and 23 of the holding device 10, and provide sufficient illumination at the interior of the holding device so that the mouth thereof will be readily visible in the dark when the igniting unit 12 is not being carried or stored by the holder.

It will thus be seen that there has been provided, according to the present invention, an extremely simple and economical illuminating means for use with an existing cigar lighter structure without requiring any substantial alteration to the existing structure. The only alternation required to accommodate the illuminating means 28 to the cigar lighter is the provision of the slots 29 in the clamping shell 24. The illuminating means 28 is in the form of an attachment, therefore, which may be readily secured to the cigar lighter, the said attachment being quickly removable from the lighter without the use of tools by merely pressing the side walls 31 of the shell 30 and pulling the shell away from the clamping sleeve 24.

The bulb 47 and socket 39 may be quickly and conveniently removed from the shell 30, also without the use of tools, since the socket is frictionally held by a portion of the shell shaped to form a resilient clip. Thus, replacement of a burned-out bulb may be easily effected.

When the illuminating attachment 28 is mounted in place on the clamping sleeve 24 it is secured in such a manner that it cannot be inadvertently dislodged, since the outturned edge portions 33 of the tangs 32 securely hook to and engage the inner surface of the clamping sleeve 24, the shell 30 being accurately positioned by engagement of the shoulders 46 and end portion 35 of the shell with the exterior of the clamping sleeve. Not only is the shell thus securely maintained in place, but the socket 39 and bulb 47 are locked in place against inadvertent removal due to a portion of the wall of the clamping sleeve 24 closing over the open side of the shell 30, and due to the tabs 43 and 44 preventing removal of the socket 39 endwise from the shell.

Variations and modifications may be made within the scope of this invention and portions of the improvements may be used without others.

I claim:

1. In a cigar lighter, a socket-shaped tubular holding device having a plurality of circumferentially spaced openings in the side walls thereof; a tubular-shaped clamping member threaded on and surrounding the holding device, said member being rotatable for clamping purposes, having light-reflecting inner surfaces and having an aperture so located axially with respect to the openings of the holding device that light passing through said aperture into the member will pass either directly or indirectly through at least one of said holding device openings and into the holding device regardless of the rotative position of the member on the holding device; an elongate shell having a light-admitting opening in its side and having means including a pair of

opposite resilient side walls adjacent said light-admitting opening and tangs on said walls for releasably mounting the shell on the clamping member with said light admitting opening in communication with said aperture, said side walls being movable towards each other manually to place said shell on and remove the same from said clamping member without requiring the use of tools; a socket for an electric light bulb; and a second pair of opposite resilient side walls on said shell shaped to form a clip for releasably mounting the socket within the said shell, said second pair of side walls being spaced axially from and being independently movable with respect to the first pair of side walls.

2. In a cigar lighter, a socket-shaped tubular holding device having a plurality of circumferentially spaced openings in the side walls thereof; a tubular-shaped clamping member threaded on and surrounding the holding device, said member being rotatable for clamping purposes, having light-reflecting inner surfaces and having an aperture so located axially with respect to the openings of the holding device that light passing through said aperture into the member will pass either directly or indirectly through at least one of said holding device openings and into the holding device regardless of the rotative position of the member on the holding device; an elongate shell having a light-admitting opening in its side and having means including a pair of opposite resilient side walls adjacent said light-admitting opening and tangs on said walls for releasably mounting the shell on the clamping member with said light admitting opening in communication with said aperture, said side walls being movable towards each other manually to place said shell on and remove the same from said clamping member without requiring the use of tools; a socket for an electric light bulb; a second pair of opposite resilient side walls on said shell shaped to form a clip for releasably mounting the socket within the said shell, said second pair of side walls being spaced axially from and being independently movable with respect to the first pair of side walls; and means at each end of said shell for preventing axial entry or removal of said socket from said shell, said clip opening in the direction of the clamping member when the shell is in place thereon, whereby the socket is trapped in said shell and removable from said shell only in response to removal of said shell from said clamping member.

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