

Sept. 14, 1937.

S. L. WOLFSON

2,093,116

ELECTRIC CIGAR LIGHTER

Original Filed April 10, 1931

Fig. 1.

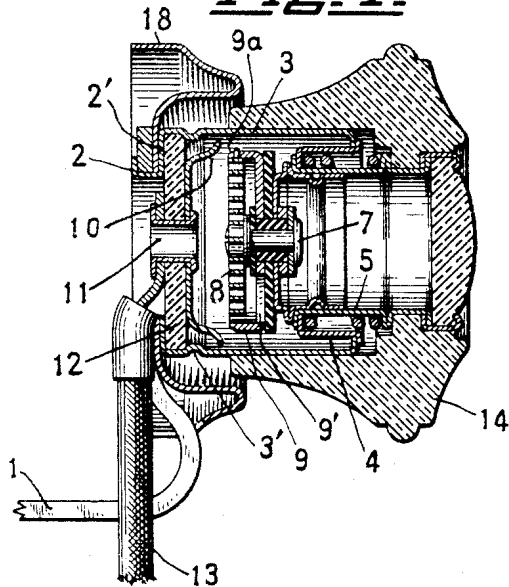


Fig. 2.

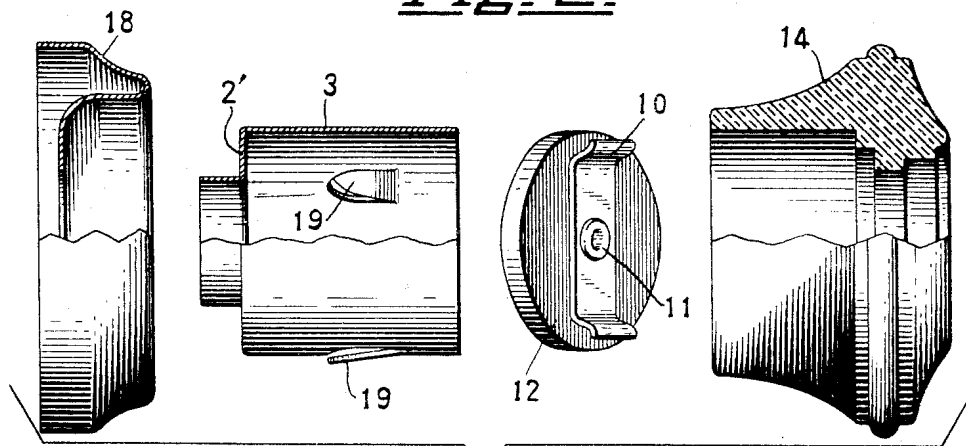
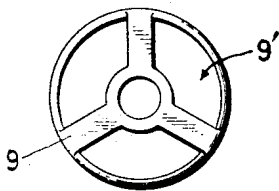


Fig. 3.



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2,093,116

ELECTRIC CIGAR LIGHTER

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Original application April 10, 1931, Serial No.
529,033. Divided and this application Novem-
ber 2, 1934, Serial No. 751,127

6 Claims. (Cl. 219—32)

This invention relates to the stationary or supporting portion for a lighter for cigars, cigarettes, etc., of the type which is adapted to be heated on this support and then withdrawn for use.

Another object is to provide an inexpensive device of this type in which the central contact within the supporting tube is insulated from the tube, is slightly yieldable, and is adapted to engage the rim of a heater element.

Fig. 1 is a cross section of one embodiment of this invention.

Fig. 2 shows some of the parts before assembly.

Fig. 3 is a detail of the heater element support.

Referring to Fig. 1 some customary support such as the usual bracket 1 attached to the dashboard of an automobile carries a supporting plug or tubular outer contact 3, which is secured thereto by the bent flange 2 fitting within and around a perforation in said bracket.

The outer end of the plug 3 is engaged by the wall or cup-shaped contact ring 4 slidable on a metal sleeve 5 in the removable portion which is described and claimed more specifically in my co-pending application Serial Number 529,033 filed April 10, 1931, which has now eventuated into Patent 1,980,157 dated November 6, 1934, and of which patent this application is a division. Carried by the end portion of the removable member is some type of spiral resistance heater element 8 enclosed within the cup-shaped rim 9 illustrated in Fig. 1.

The yieldable interior contact 10 is secured within the supporting plug as illustrated, by means of the eyelet 11 passing through the disc or washer 12 of insulating material such as fibre or a phenolic condensation product or a mixture thereof with asbestos. Disc 12 is held between the end wall 2' of the supporting tube 3 and the bead 3' formed by an inwardly bent portion of said tube which serves to longitudinally hold the washer 12 in position. As illustrated this washer 12 is of a size to fit within the tube 3 for transversely positioning the center contacts 10 and maintaining them insulated from the tube 3 which is grounded. The conducting lead 13 is secured as shown to the headed eyelet 11.

An ornamental dashplate 18 may be secured to the plug in the manner illustrated.

If desirable yieldable retaining portions 19 may be stamped out from the sides of the plug 3 as shown in Fig. 2 to assist in frictionally retaining the socket member 14 in place, although if desired such may be eliminated by giving the socket member a sufficiently tight fit upon the plug so that no such members 19 are needed.

Electric current enters through the conductor 13, thence to the yieldable contact 10 and when the socket member is pressed to the left in Fig. 1 so as to close the circuit between the yieldable contacts 10 and the heater supporting cup or rim 9, the current then flows through the heater 8 and its central connection 7 to the grounded plug or tube 3, through ring 4 in front of heater.

In assembling this lighter the insulating disc 12 carrying the yieldable contacts 10 is inserted into the plug 3 from the right end, as shown in Fig. 2, after which the flanges holding the washer 12 in place may be bent to the shape illustrated in Fig. 1. After securing the washer 12 the outer end portion of the plug 3 may then be bent inwardly as shown in Fig. 1.

As shown in Figs. 1 and 2 the central contacts 10 comprise opposite outwardly inclined portions extending far enough to receive the adjacent edge of the heater rim or cup radially within them.

On moving the socket and heater toward the central contacts the edge of the rim or cup member will be seen to engage the inclined portions of this central contact. From Fig. 1 it will be seen that the place of engagement between the edge of the heater rim and the central contacts is along a portion of the central contacts 10 which is inclined a greater amount to the horizontal than is the inclined portion adjacent thereto.

The opposite contact portions 10 may be of any desired angular extent, but these opposite portions are preferably not connected except around the eyelet 11 in order that they may separately yield slightly under pressure upon the removable part enclosing the circuit, better than would be the case if the center contact formed a peripherally continuous cup.

Another advantage in having the outwardly inclined opposite contacts separated and separately yieldable is that convection currents of air are better able to circulate around and through these contacts on all sides.

Since the opposite contacts 10 are slightly yieldable it will be seen that upon pressure of the heater rim against these contacts they will yield slightly with the result that a slight wiping contact occurs on the edge of the heater rim, and this is true irrespective of whether the removable socket member be rotated or not.

Should the removable member have a loose fit upon the supporting plug 3 the center contacts 10 would tend to center the heater and align the same. Having the contacts 10 outwardly inclined not only spaces these contacts from the supporting

washer 12 to enable them to be better cooled, but these outwardly inclined portions should be long enough in extent to keep the central heater contact out of engagement with the rivet 11, since the contact in the center of the heater is at substantially ground potential.

Another advantage of this invention resides in the elimination of any necessity for closing the circuit by means of a contact engaging the rivet in the center of the heater element. In the prior art it had been customary for a central heater contact to engage a substantially rigid or yieldable abutment in the stationary member. A butt contact even if yieldable is not as satisfactory as the slight wiping contact produced by this invention between the opposite conductor portions 10 and the heater rim. Also the use of the contact in the center of the heater to close the circuit has been found disadvantageous on account of this central heater contact becoming corroded and dirty from hot ashes and the like with which it becomes coated in use.

Under this invention the circuit is not closed through any dirty or corroded contact but instead is made and broken between either or both of the opposite contacts 10 and the adjacent edge of the heater rim.

The heater rim 9 has its rear edge portion which is adapted to engage with the stationary contacts 10, beveled as shown at 9a in the general direction of the inclination of the stationary contacts 10, as will be seen in the drawing. The vertical wall 9 of the heater support is provided with large perforations 9' as shown in Fig. 3. The securing means 7 has the inner end of the heater coil fastened thereto and this central securing means is insulated from the heater support 9 as is shown in the drawing, and serves to transmit current to the contact ring 4 which engages the inturned end of the supporting tube 3.

A wiping contact in rear of the heater where the parts are likely to get hot, has been found desirable and preferable to a butt type contact whether yieldable or not. A slight yield by the central contacts 10 under pressure transmitted by the heater rim edge makes at least a slight wiping contact inherent. The opposite contact between the stationary and removable members is located in front of the heater and may be for example of the butt type, non-wiping contact formed between the end of the tube 3 and the ring 4. In this invention it will be appreciated that the securing means 7 in the center of the heater while serving to transmit current, does not have to function as a make and break contact which would be likely to become seriously corroded by cigar ashes and the like.

I claim:

1. A stationary supporting member for a removable cigar lighter, which member comprises a metal tube along which the removable member is adapted to slide, a central contact within said tube and insulated therefrom, a washer on which said central contact is mounted for transversely positioning the contact within the tube, and means for longitudinally positioning said washer in said tube which comprises an inwardly bent portion of tube material intermediate the ends of said tube and contiguous at least one side of said washer, said inwardly bent portion of tube material clamping the washer against an end wall of said tube and forming a groove around the periphery of said tube.

2. A stationary supporting member for a removable cigar lighter, which member comprises

a metal tube along which the removable member is adapted to slide, a central contact within said tube and insulated therefrom, a washer on which said central contact is mounted for transversely positioning the contact within the tube, and means for longitudinally positioning said washer in said tube, said central contact comprising outwardly inclined slightly yieldable angularly spaced portions adapted to engage the edge of a heater rim and permit a wiping contact therewith upon either relative translation between the heater rim and contact or upon relative rotation between these parts, said angularly spaced portions being widely spaced and shaped to facilitate the circulation of heated air between them.

3. A stationary member for supporting a quickly removable portion of a cigar lighter, which comprises a metal tube adapted to be connected to one side of an electric current source of supply, a contact in said tube insulated therefrom to constitute a terminal or electric contact adapted to be connected to the other side of said source of supply, said insulated contact being substantially coaxial with the tube and including a perforate central portion located transversely of the tube and from which project outwardly inclined portions which are spaced from the metal tube and integrally connected by said central portion, and means for holding said insulated contact in position in said tube, said central portion radially between its perforation and the outwardly inclined portions being substantially touching said holding means for a large part of the diameter of said contact.

4. A stationary member for supporting a quickly removable portion of a cigar lighter, which comprises a metal tube adapted to be connected to one side of an electric current source of supply, a contact in said tube insulated therefrom to constitute a terminal or electric contact adapted to be connected to the other side of said source of supply, said insulated contact being substantially coaxial with the tube and including a perforate central portion transversely of the tube and from which project outwardly inclined angularly spaced portions which are spaced radially inwardly of the metal tube and integrally connected by said central portion, and means for holding said insulated contact in position in said tube, said contact carried by a transverse washer adjacent the base of said metal tube, having a central portion which is held to the washer by a headed securing means and the central portion of the contact radially outside said headed securing means being adjacent and substantially parallel to said supporting washer.

5. A stationary member for supporting a quickly removable portion of a cigar lighter, which comprises a metal tube adapted to be connected to one side of an electric current source of supply, a contact in said tube insulated therefrom to constitute a terminal or electric contact adapted to be connected to the other side of said source of supply, said insulated contact being substantially coaxial with the tube and including a perforate central portion transversely of the tube and from which project outwardly inclined portions which are spaced radially inwardly of the metal tube and integrally connected by said central portion, and means clamping said insulated contact in position in said tube, and a washer in said metal tube supporting said central contact and its clamping means, the metal tube being bent contiguous each side of said washer to hold the same in place longitudinally of the tube, said

washer being circumferentially contiguous the tube in at least some portions thereof.

6. A stationary member for supporting a quickly removable portion of a cigar lighter which comprises a metal tube adapted to be connected to one side of an electric current source of supply, a contact in the base portion of said tube and insulated therefrom to constitute an electric contact terminal adapted to be connected to the other side of said source of supply, a washer supporting said contact in the tube, portions of said tube being bent to hold said washer against longitudinal displacement, at least a part of said portions extending radially inward in back of said washer, said contact being held substan-

tially coaxial in said tube and having a perforate central portion held against said washer by a headed securing means, the portion of said contact radially beyond said headed securing means being parallel to said supporting washer for a substantial distance, and outwardly inclined portions integral with said central portion and adapted to constitute an abutment against which inward pressure may be applied by a removable member of a cigar lighter in closing an electric circuit therethrough, and another contact in front of said center contact and through which current flows when the circuit through the removable member is closed.

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DISCLAIMER

2,093,116.—*Sidney L. Wolfson*, Meriden, Conn. ELECTRIC CIGAR LIGHTER. Patent dated September 14, 1937. Disclaimer filed September 3, 1940, by the assignee, *The Cuno Engineering Corporation*.

Hereby enters this disclaimer to claims 3 and 4 of said Letters Patent.
[*Official Gazette September 24, 1940.*]