May 9, 1933. S. L. WOLFSON 1,908,502

ELECTRIC CIGAR LIGHTER

Filed June 21, 1930

Fig. 1.

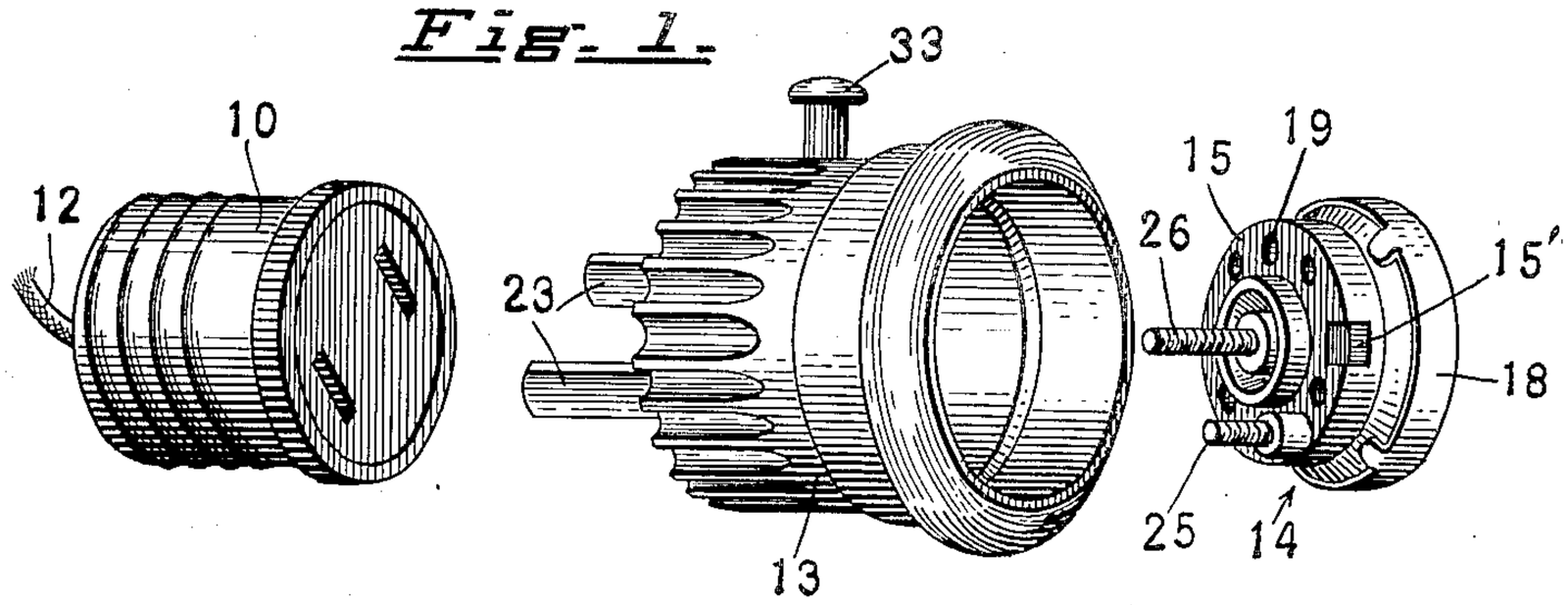


Fig. 3.

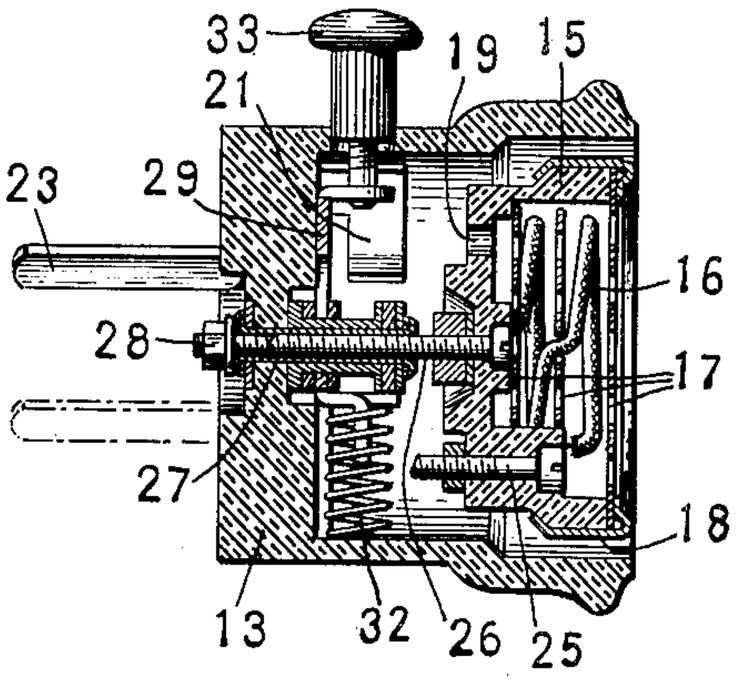


Fig. 2.

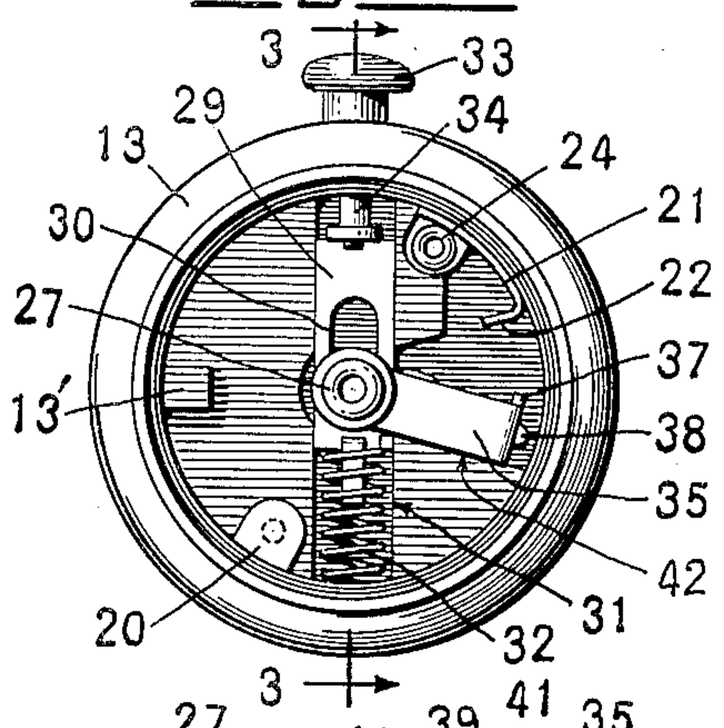


Fig. 6.

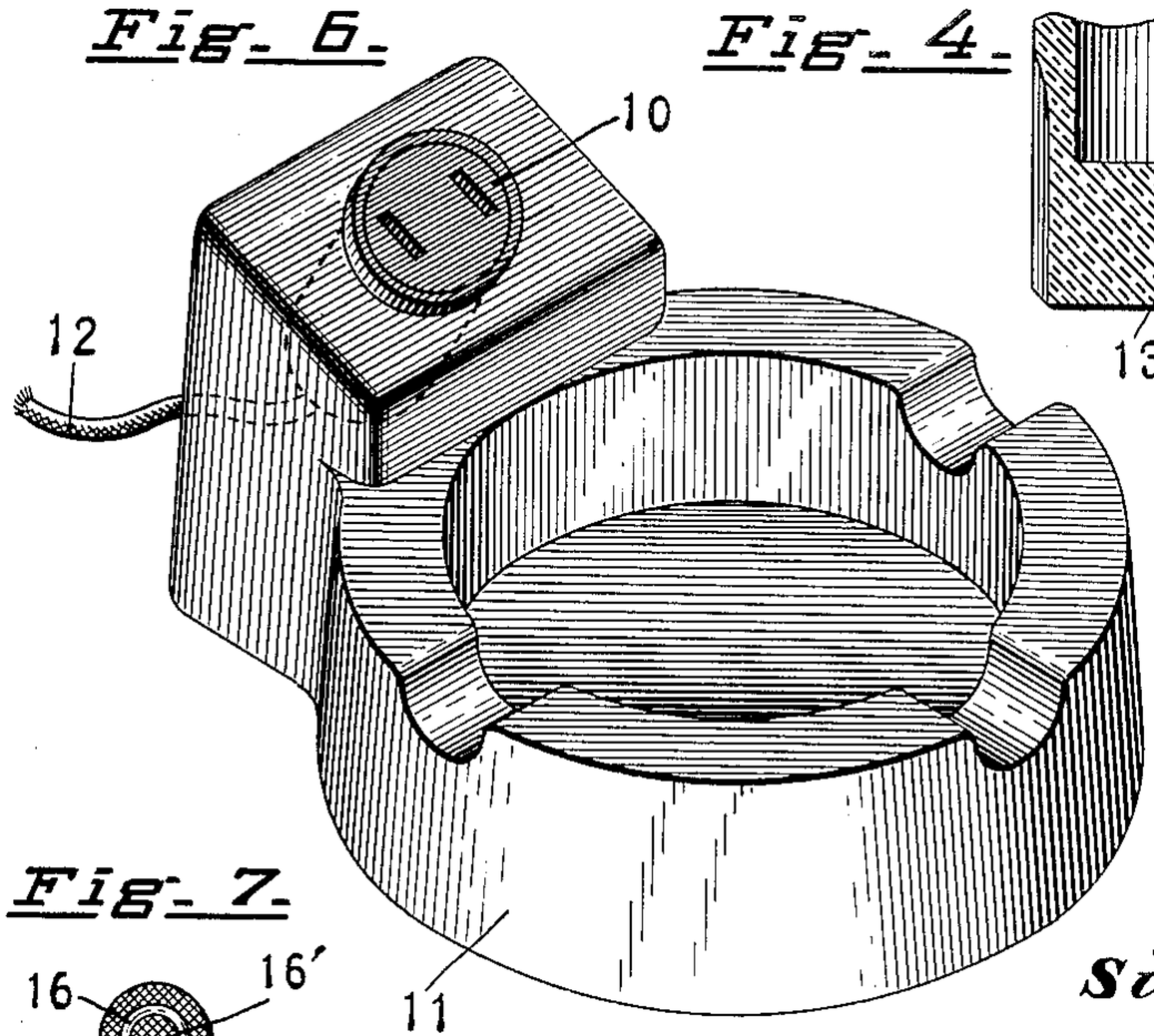


Fig. 4.

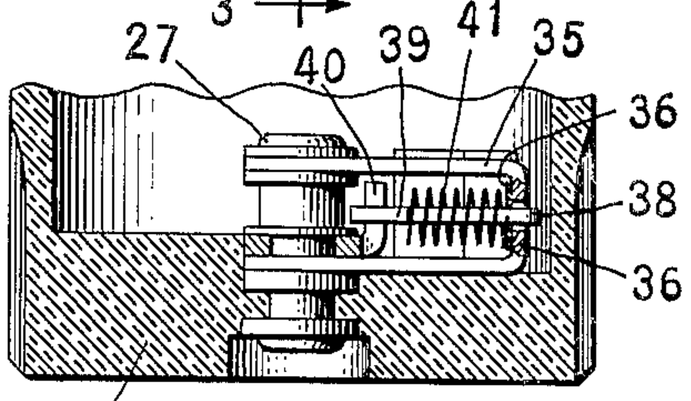


Fig. 5.

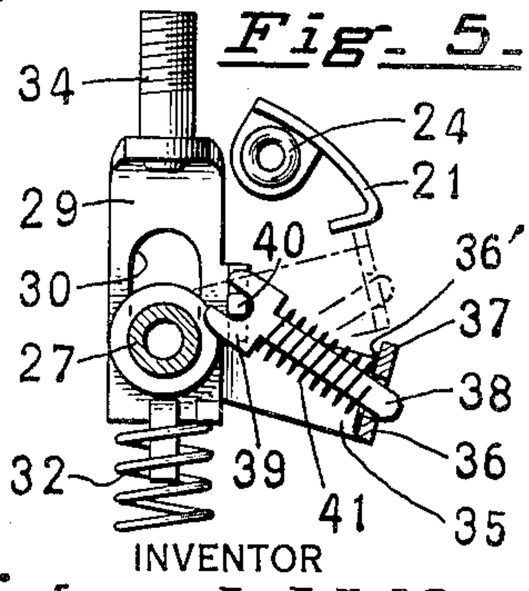
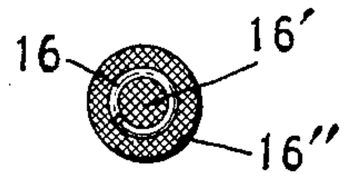


Fig. 7.



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UNITED STATES PATENT OFFICE

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ELECTRIC CIGAR LIGHTER

Application filed June 21, 1930. Serial No. 462,757.

This invention relates generally to cigar lighters and more particularly to the cordless type of such lighters.

It is one of the primary objects of my invention to use the ordinary commercial high voltage current for lighting cigars or the like.

Another object is to use the ordinary type of electrical outlet socket used in the home or office for mounting a cigar lighter.

Another object is to provide a cigar lighter that can be brought into and out of circuit with a source of electrical current by a quick make and break action, and that retains its heat for considerable time after circuit is broken.

A further object is to provide a cigar lighter of simple construction and compact form adaptable for use with a high voltage current.

Another object is to provide a construction which is reliable and durable.

The foregoing and other objects and advantages are accomplished in my present invention by providing a cigar lighter, with a removable unit, which unit carries the igniter element, and has two spaced prongs adapted to fit the standard size of electrical outlet socket.

The igniter or heater element is a coil of wire wound on and also completely covered by asbestos, and arranged in a number of spirals with mica washers between the spirals, insulating the coils from each other.

Inside the removable unit is a snap switch mechanism whereby the circuit may be quickly opened and closed. This switch is operated to close the circuit by a push button extending exteriorly of the unit and automatically opened by a spring when released.

The invention will be better understood from the description thereof to follow and the accompanying drawing in which:

Fig. 1 is an exploded perspective view of my improved lighter associated with an ordinary type of electrical outlet socket.

Fig. 2 is a top plan view of the improved device with the igniter element removed.

Fig. 3 is a sectional view of the lighter taken on the plane of the line 3—3 of Fig. 2 with the igniter element in position, some of the parts being shown in elevation.

Figs. 4 and 5 are detail views of the switch mechanism, some of the parts being shown in section.

Fig. 6 is a perspective view of an ash tray intended to represent a means for mounting the ordinary type of electrical outlet socket for applying my improved lighter.

Fig. 7 is a cross section of the igniter coil.

The improved lighter is especially adapted for use in connection with an electrical outlet socket 10 here shown mounted in an ash tray 11 and which socket is in electrical connection with a source of electrical energy by means of conductors 12. The ordinary outlet socket used for electric lamps or other household or office utensils may of course be used.

The form of my lighter as illustrated comprises a cup-like housing 13 formed of a single unitary structure. This housing is preferable made of some non-metallic insulating material such as bakelite which has low specic conductivity and may be of ornamental appearance.

Within the housing is a heating unit 14 consisting of a cupped device or disc 15 formed of lavite or other suitable heat resisting material. Mounted in the cupped device 15 is in the igniter coil 16 formed of a helix of high resistance wire wound on an asbestos core 16′ and covered with asbestos 16″ and wound in a number of spiral layers and having sufficient cross section to maintain heat enough to light one or more cigars or cigarettes even after the current is turned off.

Perforated discs 17 of mica are placed between the convolutions of the coil and across the top of the heater element. These mica discs insulate the convolutions of the coil from each other and the top mica disc protects the coil from cigar, cigarette ashes or other foreign material. The cupped device 15, coil 16 and discs 17 are secured together by a metallic ring 18. In assembling, the heater unit is guided to its proper position by means of the key 13′ and notch 15′.

The heater unit 14 is spaced from the floor

and wall of the housing providing a chamber 18 therearound which communicates with perforations 19 in the base of the cupped member 15, affording escape of excess heat through the space around the upper edge of the heater and ring 18, thus keeping the housing sufficiently cool for handling.

Mounted on the interior of the floor of the housing adjacent the wall thereof is a spring contact member 20 extending upwardly therefrom. Mounted on the opposite side is another spring contact member 21 having an inwardly directed flange 22. A metal prong 23 extending exteriorally from the floor is connected to each of said contacts by means of rivets 24 passing through openings in the floor of the housing.

By reason of these prongs the housing and its associated parts may be readily attached to and detached from the ordinary type of electrical outlet socket such as shown in Figs. 1 and 6.

An important feature of my invention is the novel switch mechanism for bringing the coil 16 into and out of electrical circuit by a snap action. The outside end of the coil is in permanent connection with the contact 20 by means of a screw bolt 25 and the inner end, at the center of the coil, is secured to the upper end of a threaded bolt 26, the lower end of said bolt passing through and engaging a metal tubular post 27, which extends through the floor of the housing. The lower end of the bolt extends beyond the floor to receive a nut 28 whereby the heater unit is removably secured to the housing.

An elongated plate 29 formed with a slot 30 slides in a transverse groove 31 in the floor of the housing, the tubular post 27 extending through said slot 30 and limiting the movement of the plate. A spiral spring 32 interposed between the wall of the housing and one end of the plate 29 tends to resist the movement of the plate, which is effected by means of a push button 33 positioned exteriorly of the housing and screwed on to the other end of the plate by a rod 34 which extends through the wall of the housing.

Loosely mounted on the post 27 is a swingable member consisting of spaced parallel plates 35 joined at their outer end by an end wall 36 from which extends a contact tip 37. A rod 38 formed with a bifurcated end 39 is mounted between the spaced plates 35, the other end of the rod extending loosely through an opening in the end wall 36.

The bifurcated end 39 is adapted to engage a stud 40 on the sliding plate 29, and movement of this plate is imparted to the swingable member through said stud 40, rod 38 and end wall 36. The rod 38 is normally positioned at an angle to the axis of the spaced plates 35 and is held in such position by a spiral tension spring 41 encircling it, one end of which is seated against an insulating washer 36′ inside the end wall 36 and the other end against the bifurcated end 39. When the rod 38 is moved to the dead center position of the spaced plates 35 the spiral spring 41 becomes compressed and further movement to either side of said dead center position results in a sudden release of said compression, accelerating said movement and resulting in moving the swingable member with a snap action. The contact 21 is positioned in the path of one movement of said swingable member and said member engages said contact with a snap action. The wall of a cut away portion 42 of the floor of the housing is in the path of movement of the swingable member in the other direction and acts as a stop therefor. Engagement of the swingable member with the contact 21 brings the coil 16 into a complete electrical circuit including contact 21, plates 35, post 27, bolt 26, coil 16, stud 25, and contact 20, the contacts being connected to the prongs which are adapted to be connected to a source of electricity.

The tray 11 is shown merely as one form of device with which the invention may be used.

In use, the housing 13 is pushed into the socket 10, the prongs 23 engaging the terminals of the conductors 12. The button 33 is pressed to move the swingable member into engagement with the contact 21 whereupon the circuit is completed as aforesaid. The button is held in pressed position sufficiently long to permit the coil to become heated when the button may be released and the cigar lighted, the housing being removed from the socket for this purpose if desired.

When the button 33 is released the spring 32 forces the plunger 20 back and carries the stud 40 past the center of the thrust link 38 so that the spring 41 snaps the switch member 35 away from contact 21 to break the circuit.

The washer 36′ prevents current passing through the spring 41 which might heat and soften it. The construction is such that it will stand the high temperatures necessary for ignition of a number of cigars or cigarettes without injury to the switch or the other parts. The igniter unit however can be readily replaced in case of damage or deterioration.

From the foregoing it will be noted that I have designed a cigar lighter adapted for use with high voltage electricity and that connection and disconnection with said source of electricity is accomplished by a snap action thereby preventing any injurious effects.

It will be understood that various changes in detail might be resorted to without departing from the principle of the invention.

I claim:

1. A cigar lighter unit comprising a housing, a pair of spaced electrical contacts, a heater unit therein, said heater comprising a lavite cup, a heater coil carried by said cup, a center contact stud connected to one end of said coil, another contact stud connected to

the other end of said coil, switch mechanism in said housing including a sliding plate, a swingable member adapted to be moved into engagement with one of the electrical contacts by said sliding plate, a toggle connection between said plate and swingable member, and means exterior of said housing for actuating said plate.

2. A cigar lighter unit comprising a housing, a pair of spaced electrical contacts, a heater unit therein, said heater comprising a lavite cup, a heater coil carried by said cup, a center contact stud connected to one end of said coil, another contact stud connected to the other end of said coil, switch mechanism in said housing including a sliding plate, a swingable member adapted to be moved into engagement with one of the electrical contacts by said sliding plate, a toggle connection between said plate and swingable member, means exterior of said housing for actuating said plate and spaced prongs connected to said contacts and extending exteriorly of said housing.

3. In a cigar lighter, a heating unit comprising an asbestos core, a coil of wire wound thereon, said wire being covered with a wrapping of asbestos, said coil being arranged in spiral layers and plates of insulating material above, below and between said layers.

SIDNEY L. WOLFSON.