

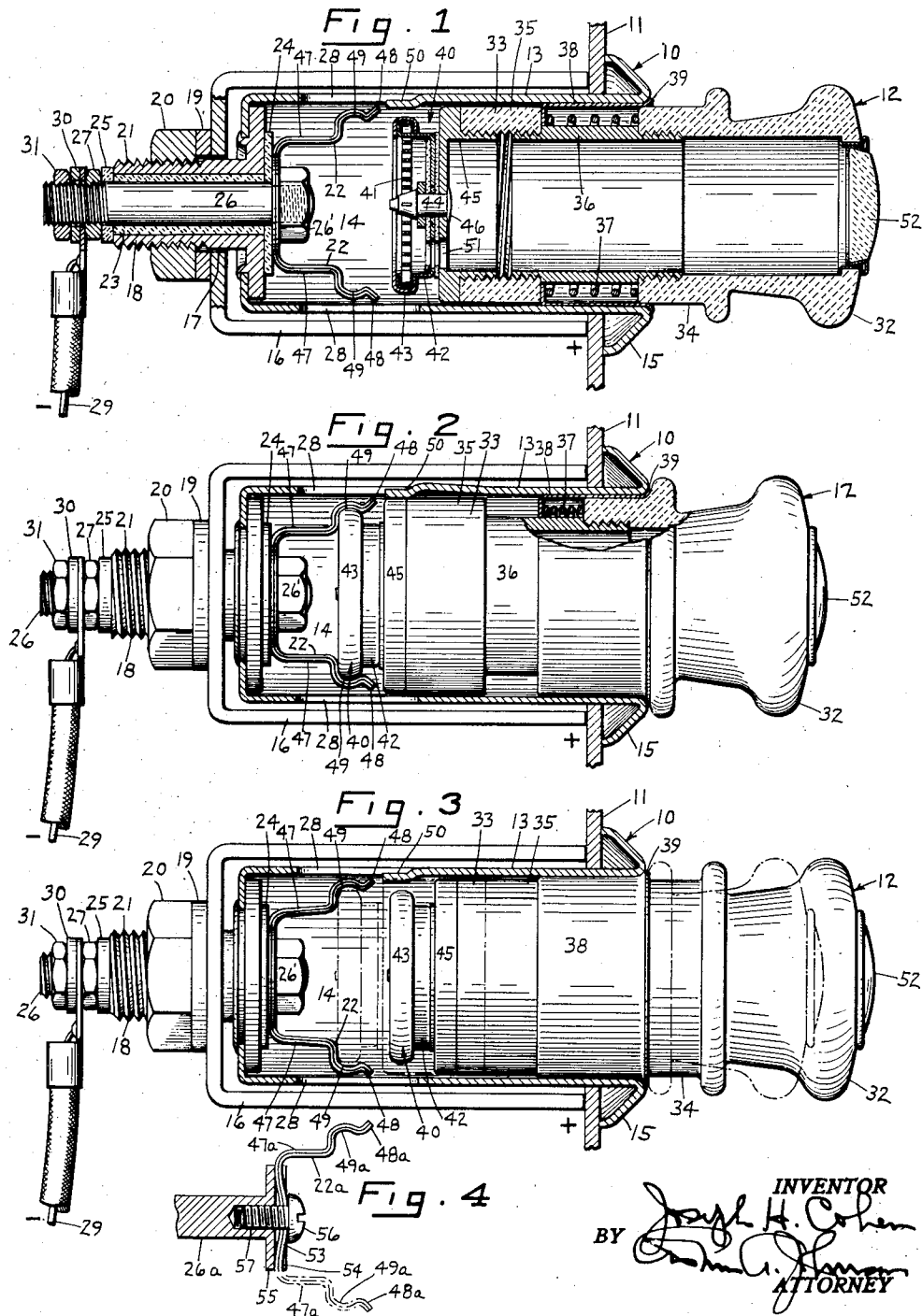
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CIGAR LIGHTER

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CIGAR-LIGHTER

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23 Claims. (Cl. 219—32)

This invention relates to electric cigar-lighters, and more particularly, to devices of this character for use with automobiles, although it is applicable for home, office and other similar use. More specifically, it is an improvement over that form of automatically controlled cigar-lighter shown in my copending application Serial No. 624,193, filed July 23, 1932.

In my aforesaid application, I have disclosed a cigar-lighter with novel forms of structure adapted to normally support the removable igniting unit in an inoperative position in a socket and arranged to maintain a circuit controlling interponent in an energizing position until the igniting unit is heated a predetermined extent, whereupon thermostatic means releases the interponent and allows it to move the removable igniting unit back into the inoperative position in the socket again.

It is an object of the present invention to provide a cigar-lighter having many of the advantages of my aforesaid invention just described, but which will be simpler mechanically, more economical to manufacture and more positive and fool-proof in its action.

A feature of the present invention is the provision of a cigar-lighter which may be applied to its base with a straight and natural longitudinal movement and moved from an inoperative position to an operative or energizing position on the base with the same natural straight line movement. Also, a novel thermostatic control arranged to catch the removable igniter unit directly and hold it in energizing position for a predetermined period.

Another feature is the provision of a catch on the stationary member of the cigar-lighter having a direct mechanical and electrical connection with the heater element portion of the removable igniting unit to be advantageously heated directly by both radiation and convection.

A further feature is the provision of a novel arrangement for varying the degree of heat given to the resistance element and to compensate for wear of parts.

Yet another feature is the provision of a thermostatic detent adapted to catch and hold the removable igniting unit directly in an energizing position deep in a socket against spring pressure until properly heated and then release it for partial ejection from the socket for use, and for safety clearance from the feeder contacts. This feature of construction is also arranged to give a mechanical click or knock to audibly warn the

operator that the device is heated and ready for use.

Other features and advantages will hereinafter appear.

In the drawing—

Figure 1 is a completely cross section view taken axially through the center of the device, with the removable igniting unit at the inoperative position in the stationary member.

Fig. 2 is a view similar to Fig. 1, with fewer parts in cross section, and with the igniting unit in the energized position.

Fig. 3 is a view similar to Fig. 2, but shows the catch in its expanded position and the removable igniting unit moved back again to its inoperative station in the socket.

Fig. 4 is a detail view of a modified form of thermostatic contact.

The cigar-lighter selected for illustrating the present invention is of the so-called sleeve type for use with automobiles and comprises a base member 10 for attachment to a panel 11 of an automobile, and a removable igniting unit 12 which is normally supported by the base member, but which may be mechanically and electrically disconnected for manual transportation within the car and for handling by various occupants therein for the purpose of lighting cigars, cigarettes and the like.

The base member 10 comprises a sleeve 13 forming a deep socket 14 adapted to pass through a suitable aperture in the instrument panel 11 until a flange 15 on the front end thereof engages with the instrument panel. It is held in this position on the panel by a U-shaped yoke 16 having an aperture 17 passed over a contact sleeve 18 at the bottom of the socket 14 where it is tightened in position and the flange 15 portion of the socket 14 drawn firmly into engagement with the panel 11 by a washer 19 and nut 20 run up and tightened on the thread 21 portion of the contact sleeve 18.

The U-shaped yoke, in addition to clamping the base member in place, serves through the washer 19, nut 20 and sleeve 18 to conduct a grounded current to the socket 14 if the flange 15 seating on the front face of the panel 11 fails in this function.

The base member also supports and carries an insulated contact 22. This contact, in its present preferred form, is insulated from the socket by a collar 23 passing through a bore of the sleeve 13 and insulating washers 24 and 25 at the front and rear ends of the sleeve, and it is held in place on a shouldered stud 26 by a nut 26' and is then

passed through the insulating members just described where it is rigidly secured with a primary nut 27. This primary nut serves to locate and hold the contact 22 relative to the socket 14 so that the contact cannot rotate within the socket and inadvertently move away from clearance slots 28 in the side of the socket and harmfully engage with the sleeve 13 carrying an opposite pole of the circuit.

A feed wire 29 is connected to the stud 26 and is secured to the latter by a washer 30 and secondary nut 31. Thus, the base member is provided with members (the socket 14 and contact 22) terminating both sides of a car circuit which are insulated from each other.

The removable igniting unit 12 comprises a knob or handle 32, and a plunger section 33 adapted to slidably fit into the socket 14 and support the igniting unit therein. This plunger section comprises a shoulder 34 on the knob 32 and an aligning sleeve 35 spaced forwardly therefrom by a threaded and shouldered collar 36. It should be particularly noted that this structure forms a support for a spring 37 and sleeve 38, the latter being provided with a flange 39 adapted to engage the front of the socket 14 and limit movement into the socket while the spring 37 normally urges the knob section of the igniting unit rearwardly with respect to the collar in order to prevent the igniting unit from engaging with the fixed contact in the base member if the unit is initially mounted into the socket and yet adapted to yield and permit the unit to be moved forwardly by conscious effort.

The igniting unit 12 is completed with a heater unit 40 preferably having a threaded connection with the auxiliary sleeve 35 which is made of insulation in order to properly insulate the heater unit from electrical connection with the base member 10 and with the spacing sleeve 36 portion of the igniting unit. This heater unit comprises a resistance element 41 in the form of a spirally wound band supported in and connected at its outer end to a metal cup 42 where it is secured in place with an overlapping ring 43, and is at its other end supported by and connected to a centrally disposed stud 44 which passes through the cup 42 and a threaded sleeve 45 and rigidly secured in place by the headed section 46 thereof. The stud 44 provides an electrical connection between the threaded sleeve 45 and the inner end of the spirally wound resistance element, but is insulated from the cup 42 and other end of the resistance element by three washers best seen in Fig. 1.

Now, it should be particularly noted that the stationary contact 22 on the base member 10 is made of bimetallic strips so as to be thermally responsive and expand upon heating, and is arranged to normally embrace the heater unit and thereby hold the igniting unit in the socket 14. To this end it is preferably provided with two fingers 47 at opposite sides of the center and spaced wide apart. Also, the fingers are of substantial length in order to provide considerable resiliency. These fingers are at their outer ends provided with a bevel 48 adapted to be engaged by the collar 43 on the heating unit 40, and are provided with a concave notch 49 conforming substantially with the contour of the collar 43. The shape of these parts and the relationship between the fingers 47 and collar section 43 of the heating unit 40 is such that the fingers are first spread apart by the collar as the igniting unit is moved rearwardly in the

socket 14, until the concave notches snap over the collar and hold the igniting unit in the back position within the socket as shown in Fig. 2, the resiliency of the contact fingers 47 and holding strength of the concave notches being stronger than the pressure of the compressed spring 37 while the igniting unit is initially in the back position.

In this back position current is transmitted from the ungrounded stationary contact 22 through the collar 43 to the outer end of the resistance element 41 while the grounded circuit in the base member is transmitted to the resistance element through a spring finger 50, preferably lanced from the side of the sleeve 13, engaging the outer wall of the threaded sleeve 45 and through the latter and the stud 44 passed to the inner end of the resistance element, whereupon the resistance element is gradually brought to incandescence for the purpose of cigar and cigarette lighting.

As the resistance element is brought to incandescence, heat is passed to the collar 43, thence to the ends of the fingers 47 for direct mechanical transmission of heat and is also radiated substantially against the fingers whereupon the thermally responsive bimetallic strips, comprising the contact 22, begin to expand and gradually carry the concave notches 49 on the arms 47 out of engagement with the collar 43 portion of the igniting unit, the parts being so proportioned that the contact 22, when cold, catches and holds the igniting unit 12 back into the energizing position until the resistance element is brought to a white heat or to another predetermined degree of incandescence. Thereafter, the contacts and the catch formed thereby releases its hold upon the igniting unit and the spring 37 and sleeve 38 assembly on the igniting unit quickly moves the latter to the back inoperative position shown in Fig. 3.

The degree of incandescence may also be indicated to an operator by the provision of several aligned holes in the cup 42, insulating washers and threaded sleeve 45, as shown at 51 in Fig. 1, which permit light rays to pass through the bore of the igniting unit and rearwardly through the disk 52 which is preferably made of catalin or other light ray conducting material.

Operation of the device is as follows:

The removable igniting unit 12 is normally moved into the socket 14 to the inoperative position shown in Fig. 1 where the flange 39 on the spring sleeve 38 engages the flange 15 of the socket. The parts are so arranged that the unit moves easily into this position and special effort is required to move it deeper into the socket after the flange engages the shoulder. Thus, the operator releases the removable igniting unit after it is properly located in the socket in the normal rest or inoperative position.

When it is desired to energize the removable igniting unit, the operator merely presses the igniting unit deeper into the socket 14 in a straight line direction and without rotation or special aligning effort against the pressure of the spring 37 until the collar 43 on the heating element 40 spreads the ends of the two spring contact fingers 47 apart and deep enough so that the concave notches 49 snap over the collar to hold the igniting unit in the back or operative position deep in the socket for energization by the contacts 22 and 50 cooperating with the collar 43 and threaded sleeve 45. The operator may, with the present invention, immedi-

ately take his hand away from the igniting unit again and grasp the wheel, gear shift lever, or other part of the car again for efficient and regular operation of the car, rather than holding the igniting unit in place as with the usual type of lighter while the resistance element 41 is being heated to incandescence for use.

At the same time, the heating unit 40, by convection and radiation as hereinbefore described, heats the thermally responsive contact 22 and causes the two arms 47 to spread apart slowly as the heating unit is being brought to the proper degree of incandescence. When properly heated, the notches 41 clear the collar 43 and allows the spring 37 to push the igniting unit outwardly with respect to the socket 14 and thereby hold the contacts on the heating unit 40 clear of the feeder contacts 22 and 50 on the base 10. In this latter movement, there is a snap noise as the flange on the spring sleeve 38 engages the back wall of the auxiliary sleeve 35 which will be heard by the operator to warn him that the removable igniting unit is satisfactorily heated and ready for use and that it should be used without delay while the heating unit is incandescent.

Thus, the present invention provides a simple automatic control, which, in effect, grasps and holds the removable igniting unit itself in energizing position until it is properly heated and thereupon releases it and automatically moves it out of electrical connection after it is properly heated into a position of safety with respect to the feeder contacts on the base, thereby minimizing the possibility of excessive drain on the battery or other source of current. The direct mechanical connection between the heating unit and the bimetallic contact provides an economical structure, and, more particularly, provides a construction which is direct and highly responsive to the heating of the resistance element. Furthermore, the contact 22 which forms the catch receives heat directly by convection and radiation from the resistance element.

In Fig. 4 there is shown a modified form of combined catch and contact 22a comprising a bimetallic strip which is substantially similar to the preferred form shown in Figs. 1 to 3. It is, however, provided with a bowed base 53 adapted to fit into a slot 54 across the head 55 of a bolt 26a in order to prevent relative turning and is held on the bolt by a screw 56 passing through the base 53 and having a threaded connection 57 with the bolt. This contact is also provided with a pair of arms 47a having bevels 48a and concave notches 49a to receive the removable igniting unit 12 in much the same manner as the first form of contact hereinbefore described. However, this modified form of contact has the advantage of making it possible to easily and quickly change the pressure of the catch on the removable igniting unit and thereby increase or decrease the degree of incandescence before release is effected by simply tightening the screw 56 and thereby flattening the bowed base of the contact and at the same time moving the fingers 47a toward each other to increase the pressure and by loosening the screw allowing the bowed section to move outwardly again while the fingers likewise spread outwardly in order to decrease the pressure of the catch on the igniting unit and thereby effect a quicker release. This adjustment is particularly advantageous in order to compensate for any stretch or wear of the contact from continuous use or from constant heating and cooling. The adjustment may be easily effected

by simply inserting a screw driver into the socket and turning the screw 56 in the desired location.

Both forms of the invention have the advantage of partially ejecting the igniting unit from the base into a more convenient position for complete removal, and, at the same time, the partially ejected relative location of these parts provides an auxiliary warning to the operator that the igniting unit is in condition for use if he fails to hear the mechanical click of the igniting unit as it is ejected to the back position or if he hears some extraneous click which he thinks is the cigar-lighter, for in the latter situation the igniting unit would still be in the deep position and visually indicate to the operator that it is not yet properly heated.

If preferred, the contact member 22 or 22a may be made with but a single finger 47 or 47a respectively by omitting the finger as shown with dot-and-dash lines in Fig. 4.

The broader aspects of the invention herein disclosed are described and claimed in my co-pending applications Serial No. 624,193, filed July 23, 1932, and a division thereof, Serial No. 118,838, filed January 2, 1937.

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

Having thus described the invention, what is claimed as new and for which it is desired to obtain Letters Patent, is:—

1. In an electric cigar-lighter, the combination of a stationary base member; a socket in the base member; a removable igniting unit longitudinally manually slidable in said socket from a shallow inoperative to a deep operative position; yielding means normally forcing said igniting unit from said deep operative position to said shallow inoperative position; cooperating contacts on the igniting unit and the base member respectively, adapted to engage when the igniting unit is in said deep operable position and disengage when in said shallow inoperative position, one of the contacts on the base member extending into the path of movement of one of the contacts on the igniting unit so that said contacts are maintained in good electrical engagement by the tendency of the igniting unit to move toward inoperative position; and a spring detent adapted to catch and releasably hold the igniting unit deep in the socket in the operative position against the pressure of said yielding means and as a result of said longitudinal movement of the igniting unit to said operative position.

2. In an electric cigar-lighter, the combination of a base member; a socket on the base member; a removable plug manually longitudinally slidable in said socket to a shallow inoperative position and into a deep operative position; a heating coil on said removable plug; yielding means normally urging said removable plug longitudinally from said deep operative position to said shallow inoperative position; cooperating contacts on the igniting unit and the base member respectively, adapted to engage when the igniting unit is in said deep operable position and disengage when in said shallow inoperative position, one of the contacts on the base member extending into the path of movement of one of the contacts on the igniting unit so that said contacts are maintained in good electrical engagement by the tendency of the igniting unit to move toward inoperative position; and a thermally responsive catch adapted to hold said plug in the deep operative position normally and to release said plug when

said heating coil is energized a predetermined extent, whereupon said yielding means ejects said plug longitudinally from the deep operative position to the shallow inoperative position, said catch being rendered operative as a result of the longitudinal movement of the igniting unit into said operative position.

3. In an electric cigar-lighter, the combination of a base member; a socket in the base member; a removable igniting unit including a spacing sleeve with a knob and collar secured thereto forming shoulders at opposite ends thereof; and yielding means, including a spring and sleeve on said spacing collar between the two shoulders, forming a support for the removable igniting unit in said socket normally in a back inoperative position and yieldable to permit forced travel of the igniting unit deeper into the socket to an operative position.

4. In an electric cigar-lighter, the combination of a base member; a socket in the base member; an escutcheon flange on the base member; a removable igniting unit including a spacing sleeve with a knob and collar secured thereto and forming shoulders at opposite ends thereof; and yielding means, including a spring and sleeve having a flange engaging the escutcheon flange on said spacing collar between the two shoulders, forming a support for the igniting unit in said socket normally in a back inoperative position and yieldable to permit forced travel of the movable igniting unit deeper into the socket to an operative position.

5. In an electric cigar-lighter, the combination of a base member; a removable plug supported by said base member; a heating element on said plug; and a thermostatic catch on the base member directly engaging the heating element for locking the plug in the base member until the heating element is heated a predetermined extent.

6. In an electric cigar-lighter, the combination of a stationary base member; a plug adapted to be removably supported in said base; a heating element on said plug; yielding means normally urging the plug member away from the base member; and a thermostatic catch on the base member directly engaging the heating element adapted to lock the plug member in the base member against the pressure of the yielding means and adapted to release and allow the plug to be moved away from the base member under the influence of the yielding means when the heating element is heated a predetermined extent.

7. In an electric cigar-lighter, the combination of a base member; a removable plug supported on the base member and movable longitudinally thereon into operative and inoperative positions; an electrical heating coil on said plug; a ferrule surrounding the coil, and a thermostatically controlled catch for locking said plug in its operative position longitudinally and adapted to release automatically so that the plug may return to its inoperative position longitudinally when said coil is heated a predetermined extent, said catch comprising a bimetallic detent adapted to snap over the ferrule and thereby lock the plug in operative position.

8. In an electric cigar-lighter, the combination of a base member; a socket in the base member; a plurality of contacts of opposite polarity on the base member; a removable igniting unit; a plurality of contacts of opposite polarity on the igniting unit, said igniting unit having a free slid-

ing fit into a shallow inoperative position in the socket where the plurality of contacts on the said igniting unit are entirely free of the said contacts on the base member; yielding means adapted to permit forced movement of the igniting unit deeper into said socket to an energizing position where said plurality of contacts on the base member and said plurality of contacts on the igniting unit are brought into cooperating engagement; and a thermostatic catch for holding said igniting unit in the energizing position for a predetermined period of time.

9. In an electric cigar-lighter, the combination of a base member; a socket in the base member; a stationary contact in the base member; a combined thermostatic catch and contact in the base member; a removable igniting unit; a plurality of contacts on the igniting unit; a stop on the igniting unit for limiting free sliding movement of the igniting unit into a shallow position in the socket, where the two contacts on the latter are entirely free of the two contacts on the base member; and yielding means necessitating a forced travel of the igniting unit deeper into the socket into an energizing position where the contacts on the base member and on the igniting unit cooperate, and where the combined catch and contact on the base member holds the igniting unit in the energizing position until the igniting unit is properly heated.

10. In an electric cigar-lighter, the combination of a base; a socket in the base; a removable plug slidable in said socket to a shallow inoperative position and a deep operative position; a heater element carried by said plug; a pair of contacts associated with the heater element; a plain contact on the base member engaging one of the contacts of the heater element; and a bimetallic combined contact and catch adapted to engage the other contact of the heater element in close proximity thereof so as to be heated directly by radiation and conduction from the heater element.

11. In an electric cigar-lighter, the combination of a base; a socket in the base; a removable plug slidable in said socket to a shallow inoperative position and a deep operative position; a heater element carried by said plug; a pair of contacts associated with the heater coil; a plain contact on the base member engaging one of the contacts of the heater element; and a contact having a bimetallic spring arm with a notch adapted to catch and hold the other contact on the heater element and in close proximity thereof so as to be influenced directly by radiation and conduction of heat from the heater element.

12. In an electric cigar-lighter, the combination of a base; a socket in the base; a removable plug slidably movable in said socket to a shallow inoperative position and a deep operative position; means for partially ejecting the plug from the socket; a heater element carried by said plug; a pair of contacts associated with the heater coil; a plain contact on the base member engaging one of the contacts of the heater coil; a bimetallic catch and contact including a plurality of yielding arms thermally influenced by said heater element; notches in said arms adapted to catch and hold said removable plug in the deep operative position of the socket; and means for varying the spacing between said arms and the pressure with which they catch the removable plug, in order to control the degree of incandescence of the heater coil prior to release of

the notches from the heater element and the ejection of the removable plug.

13. In an electric cigar-lighter, the combination of a base; a socket in the base; a removable plug slidably movable in said socket to a shallow inoperative position and a deep operative position; means for partially ejecting the plug from the socket; a heater element carried by said plug; a pair of contacts associated with the heater coil; a plain contact on the base member engaging one of the contacts of the heater coil; a bimetallic contact for engaging the other contact on the heater coil and being thermally responsive thereto including an arm with a notch adapted to engage and hold said removable plug in the deep operative position; and means for varying the pressure with which said arm engages and holds said removable plug to effect a predetermined energization of the heater coil.

14. In an electric cigar-lighter, the combination of a base; a socket in the base; a removable plug slidably movable in said socket to a shallow inoperative position and a deep operative position; means for partially ejecting the plug from the socket; a heater element carried by said plug; a pair of contacts associated with the heater coil; a plain contact on the base member engaging one of the contacts of the heater coil; a bimetallic contact for engaging the other contact on the heater coil and being thermally responsive thereto including an arm with a notch adapted to engage and hold said removable plug in the deep operative position; a bowed base on said bimetallic contact; and screw means for flattening said bowed base and thereby varying the pressure with which said arm engages and holds said removable plug to effect a predetermined energization of the heater coil.

15. In an electric cigar lighter, the combination of a stationary base member; a socket in the base member; a removable igniting unit longitudinally slidable in the socket into a shallow inoperative position and a deep operative position; yielding means normally forcing said igniting unit from said deep operative position to said shallow inoperative position; a heating element on the inner end of the igniting unit and having a projecting flange; and a spring detent adapted to engage said flange on the heating element and releasably holding the latter and the igniting unit deep in the socket into operative position against pressure of said yielding means and as a result of said longitudinal movement of the igniting unit to said operative position.

16. In an electric cigar-lighter, the combination of a stationary base member; a socket in the base member; a removable igniting unit longitudinally manually slidable in said socket from a shallow inoperative to a deep operative position; a heating element carried by said igniting unit; cooperating contacts on the base and igniting unit respectively for energizing said heating element only when the igniting unit is in said deep operative position, one of the contacts on the base member extending into the path of movement of one of the contacts on the igniting unit; yielding means normally forcing said igniting unit from said deep operative position to said shallow inoperative position and deenergizing the heating element, said forcing means by tending to move the igniting unit toward shallow position causing said cooperating contacts to maintain good electrical engagement when the igniting unit is in energizing position; and means operable to engage and detain the igniting unit in its deep operative position against the pressure of said yielding means when the said unit is manually moved to said position while it is below an intended temperature and also operable to nondetaining relation to said unit when the latter is heated to said temperature so as then to allow said yielding means to move the unit to its shallow inoperative position.

17. A lighter as defined in claim 16, wherein the means last-mentioned includes a thermostat.

18. In an electric cigar-lighter, the combination of a stationary base member; a socket in the base member; a removable igniting unit longitudinally manually slidable in said socket from a shallow inoperative to a deep operative position; yielding means normally forcing said igniting unit from said deep operative position to said shallow inoperative position; and means operable to engage and detain the igniting unit in its deep operative position against the pressure of said yielding means when the said unit is manually moved to said position while it is below an intended temperature and also operable to nondetaining relation to said unit when the latter is heated to said temperature so as then to allow said yielding means to move the unit to its shallow inoperative position, the means operable to engage the igniting unit including a metallic thermostat itself shaped to provide a spring catch engageable with said unit when the unit is manually moved to deep operative position and the unit is below said intended temperature.

19. In an electric cigar-lighter, the combination of a stationary base member; a socket in the base member; a removable igniting unit longitudinally manually slidable in said socket from a shallow inoperative to a deep operative position; yielding means normally forcing said igniting unit from said deep operative position to said shallow inoperative position; and means operable to engage and detain the igniting unit in its deep operative position against the pressure of said yielding means when the said unit is manually moved to said position while it is below an intended temperature and also operable to nondetaining relation to said unit when the latter is heated to said temperature so as then to allow said yielding means to move the unit to its shallow inoperative position, the means operable to engage the igniting unit including a thermostat, the igniting unit including a carrier for the heating element thereof, and said carrier being engaged by the means which includes the thermostat when said means detains the igniting unit in its deep operative position.

20. In a cigar-lighter of the removable type, a holder; an igniting unit movably mounted on the holder and including a heating element; means responsive to solely bodily movement of the igniting unit and heating element toward the holder to close a current supply circuit, including the heating element, to heat the latter for use; means, including means responsive to the temperature of the heating element, for moving the igniting unit outwardly of the holder when the heating element attains a predetermined temperature to open the current supply circuit leading to the heating element, said temperature responsive means being metallic and constituting a part of the current supply circuit including an electric current supply contact having a surface to normally engage and disengage the heating element directly and being movable to open the circuit when the heating element attains said predetermined heat; and means for electrically

connecting said heating element to said temperature responsive means when the latter is in circuit-opening position to again close the circuit whereby the temperature of the heating element
5 may be raised above said predetermined temperature.

21. In a cigar-lighter of the removable type, a holder; an igniting unit movably mounted on the holder and including a heating element; means
10 responsive to movement of the igniting unit and heating element on the holder from a normal open circuit position to close a current supply circuit, including the heating element, to heat the latter for use; means, including means responsive
15 to the temperature of the heating element, for moving the igniting unit on the holder to normal position when the heating element attains a predetermined temperature to open the current supply circuit leading to the heating element, said
20 temperature responsive means being metallic, engaging directly the heating element and constituting a part of the current supply circuit and being movable to open the circuit when the heating element attains said predetermined heat; and
25 means for electrically connecting said heating element to said temperature responsive means when the latter is in circuit-opening position to again close the circuit whereby the temperature of the heating element may be raised above said
30 predetermined temperature.

22. In a cigar lighter, the combination of a

socket; an igniting unit mounted in said socket for complete removal and replacement; a heating element on the inner end of said igniting unit and including a resistance wire and an annular contact connected thereto and closely thermally
5 encircling said resistance wire; a contact finger in the socket to directly engage the annular contact on the heating element and be heated thereby; and means completing an energizing circuit through said resistance wire, said contact finger
10 being heat-responsive so as to electrically disengage said annular contact when the said resistance wire is brought to a desired degree of incandescence.

23. In a cigar lighter, the combination of a
15 socket; an igniting unit mounted in said socket for complete removal and replacement; a heating element on the inner end of said igniting unit and including a resistance wire and an annular contact connected thereto and closely thermally
20 encircling said resistance wire; a contact finger in the socket to directly engage the annular contact on the heating element and be heated thereby; and means completing an energizing circuit through said resistance wire, said contact finger
25 being bimetallic and heat-responsive so as to electrically disengage said annular contact when the said resistance wire is brought to a desired degree of incandescence.

JOSEPH H. COHEN. 30

DISCLAIMER

2,117,232.—*Joseph H. Cohen*, Bridgeport, Conn. CIGAR-LIGHTER. Patent dated May 10, 1938. Disclaimer filed March 19, 1941, by the assignee, *Automatic Devices Corporation*.

Hereby enters this disclaimer to claims 1, 2, 10, 11, 16, 17, and 18 of the patent.
[*Official Gazette April 22, 1941.*]