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C. H. CUNO ET AL

CIGAR LIGHTER

Filed Feb. 6, 1925

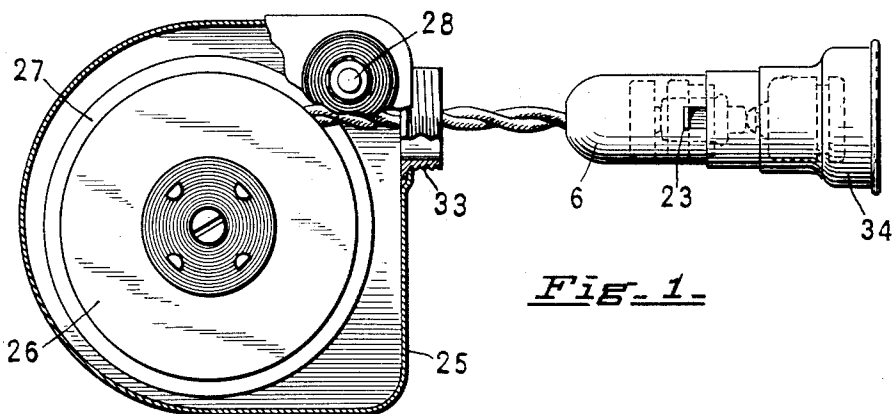


FIG-1-

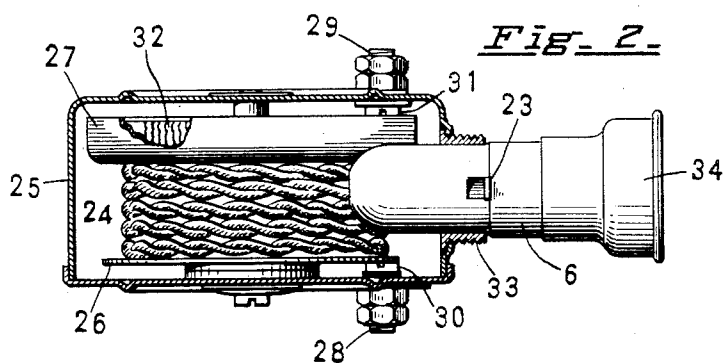


FIG-2-

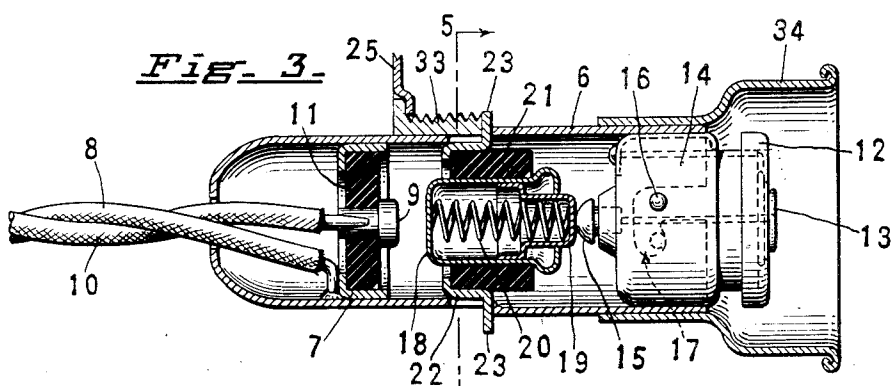


FIG-3-

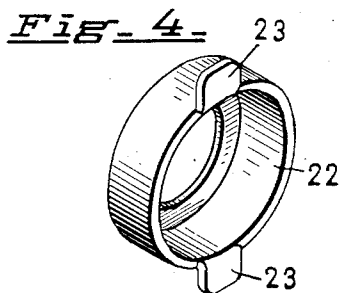


FIG-4-

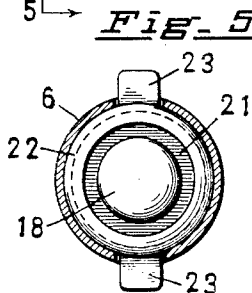


FIG-5-

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CIGAR LIGHTER.

Application filed February 6, 1925. Serial No. 7,257.

To all whom it may concern:

Be it known that we, CHARLES H. CUNO and FREDERICK L. WOOD, citizens of the United States of America, residing at Meriden, county of New Haven, State of Connecticut, have invented a new and useful Cigar Lighter, of which the following is a specification.

Our invention relates particularly to switches for devices such as cigar lighters.

The main object is to provide a simple, inexpensive but reliable construction.

Another object is to provide a switch which can be operated either manually or automatically.

The invention is applied preferably to devices in which the conductor cord or cable is wound on a reel. The switch itself is mounted in the holder with the igniter.

Fig. 1 is a side view and partial section showing a cigar lighter embodying one form of the improvements of our invention, the holder being drawn out of the casing and the switch in the closed or on position.

Fig. 2 is a plan view and partial section showing a holder seated in the reel casing with the switch in the open circuit or off position.

Fig. 3 is an enlarged longitudinal sectional view of the holder and switch.

Fig. 4 is a perspective view of part of the switch operating device.

Fig. 5 is a transverse sectional view of the holder on the plane of the line 5-5 of Fig. 3, and showing the rear end of the switch member.

The holder 6 is of tubular form, preferably such as is commonly employed in devices of this character, for instance, as shown in U. S. Patents Nos. 1,346,368 or 1,523,585. In the rear end is a terminal member 7 to be soldered or otherwise secured in place in contact with the casing and connected to one wire 8 of the conductor cord. The other circuit terminal 9, which is secured to the end of the conductor 10, is preferably mounted in an insulating disc 11 which, for convenience in manufacture, is secured in the terminal ring 7.

The outer end of the holder is adapted to receive the igniter element which has an insulating body 12 and a heater element 13. The ferrule 14 is secured to the base of the igniter element and constitutes one terminal

of the heater wire. The other end of the heater wire is secured to a center terminal 15. The outer terminal 14 is in electrical engagement with the holder and, therefore, electrically connected with the circuit terminal ring 7. We preferably mount the igniter detachably at the end of the holder and for this purpose may provide one or more projections or lugs, such as 16, adapted to fit into corresponding bayonet slots, such as 17, in the outer end of the holder tube 6. One form of such igniter element is more fully shown and described in U. S. Pat. No. 1,460,095.

The switch member proper consists of two telescopic movable tubular members 18 and 19, with an interposed spring 20. These are mounted in an insulating block 21 between the circuit terminal 9 and the igniter terminal 15. The tendency of the spring 20 is to hold the plunger 18 against the circuit terminal 9, and the plunger 19 against the igniter terminal 15. Obviously the circuit can be opened by moving the plunger 18 away from terminal 9 or moving the plunger 19 away from the terminal 15.

A convenient operating means consists of the ring 22 secured to the insulating block 21 and provided with lugs 23 which extend through slots in the sides of the holder. It will be seen that by engaging the rear of the lugs 23 and drawing the insulating block 21 forwardly the circuit may be opened as shown in Fig. 3. For the purpose of ease of operation, preferably the plunger 19 is loosely mounted within the end of the plunger 18 and the insulating block 21 and ring 22 are loosely mounted within the tubular holder 6.

Preferably the device is used with a reel or drum 24 mounted in a casing 25. This drum preferably has two flange members, 26 and 27, and the casing is provided with circuit terminals such as 28 and 29. The inner ends of the conductor cable wires 8 and 10 are secured to the discs or flanges 26 and 27, and electrical communication between these flanges and the terminals 28 and 29 is effected in a suitable manner, as, for instance, by means of sliding contacts 30 and 31. One form of such sliding contact is shown in Cuno Patent No. 1,342,015. The drum or reel is adapted to be wound by some suitable form of spring, such as 32. The

casing is provided with a sleeve or socket 33 adapted to receive the inner end of the holder 6, in a manner commonly employed in such devices.

- 5 It will be seen that the switch may be operated to open the circuit by simply pushing the holder into the sleeve 33 so that the outer end of the sleeve engages the projecting lugs 23 of the switch member, thus moving
10 the parts to the position shown in Fig. 3. The parts may be so designed as to be frictionally held in the position of Fig. 3, or if the winding spring 32 is strong enough, it may overcome the pressure of the spring 20
15 and thus serve to draw the holder into the casing and automatically open the circuit if there is sufficient play between the holder 6 and the sleeve 33. Of course when the holder is withdrawn from the casing the spring 20
20 will automatically thrust the plunger 18 to the rear and close the circuit through the terminal 9. The operator can, of course, open the circuit again without reinserting the holder in the casing by simply pulling
25 forwardly on the lugs 23 of the switch member.

It will be seen that the spring 20 not only tends to keep the circuit closed through the holder but also serves to hold the igniter
30 in position in the end of the holder.

We also prefer to provide with such a device a guard member 34 to assist in holding the igniter in place against accidental disengagement and also to prevent accidental contact with the heater element 13.
35 One form of such device is shown in Cuno Patent No. 1,346,368.

While this invention relates particularly to cigar lighters, it should be understood,
40 of course, that the igniter element may be removed and replaced by any suitable current consuming device, such, for instance, as an ordinary electric lamp bulb. (Not shown.)

45 We claim:—

1. In a cigar lighter, a holder, a stationary terminal mounted therein, a detachable igniter having an end terminal, an insulating block slidable longitudinally in said
50 holder and a double-acting spring-pressed plunger mounted in said block and reciprocable longitudinally between said stationary and said igniter terminals.

2. A cigar lighter comprising a holder
55 having means for receiving an igniter in one end and a contact in the other end having a longitudinal slot between the ends, an insulating block reciprocable in said holder, an operating member secured to said block and extending through said slot, and an ex-
60 pansible switch member mounted in said block.

3. An igniter holder having a slot, an insulating block slidable in said holder, a
65 tubular switch member mounted in said

block, a plunger mounted in said switch member, one end of said switch member being flanged inwardly to engage said plunger and said plunger having a shoulder to engage said flange and a spring inter-
70 posed between the outer ends of said switch member and said plunger and an operating member secured to said block and extending through said slot.

4. A cigar lighter comprising a holder, an
75 insulating disc secured therein, a stationary switch contact mounted in said disc, an insulating block reciprocable in said holder, a switch member carried by said block and reciprocable therewith, a spring pressed terminal carried by said switch member and
80 adapted to serve as a contact for an igniter terminal and means in said holder for receiving an igniter.

5. A cigar lighter comprising a holder, an
85 igniter in one end of said holder, a circuit terminal mounted in the other end of said holder, and an insulating member movable longitudinally in said holder between said
90 igniter and said terminal and having an expansible switch plunger.

6. A cigar lighter comprising a holder, an
95 igniter in one end of said holder, a circuit terminal mounted in the other end of said holder, an insulating member movable longitudinally in said holder between said igniter and said terminal and having an ex-
100 pansible switch plunger, and means for automatically moving said plunger.

7. In a cigar lighter, a holder, an igniter
105 element in the front end thereof, a stationary contact in rear thereof, a contact electrically connected to said igniter element and movable longitudinally in said holder toward and from said stationary contact, a sleeve
110 adapted to receive said holder, and a member secured to said movable contact and projecting from said holder to engage said sleeve and keep said contacts separated while said holder is in said sleeve.

8. In a cigar lighter, a casing having a
115 receiving socket, an igniter holder adapted to be inserted into said socket, a winding reel in said casing for automatically drawing said holder into said socket a stationary
120 contact in said holder, and a switch member movable longitudinally in said holder toward and from said stationary contact and having a projecting operator adapted to
125 seat against the outer end of said socket to open the circuit.

9. A cigar lighter switch element comprising an insulating block, a telescopic plunger secured therein and extending from
125 opposite ends thereof, an expansion spring in said plunger, and a yoke secured to said block and having lugs extending from opposite edges thereof.

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