Jan. 15, 1929. 1,699,058

J. FREUD

CIGAR LIGHTER

Original Filed Aug. 16, 1926

Fig 1

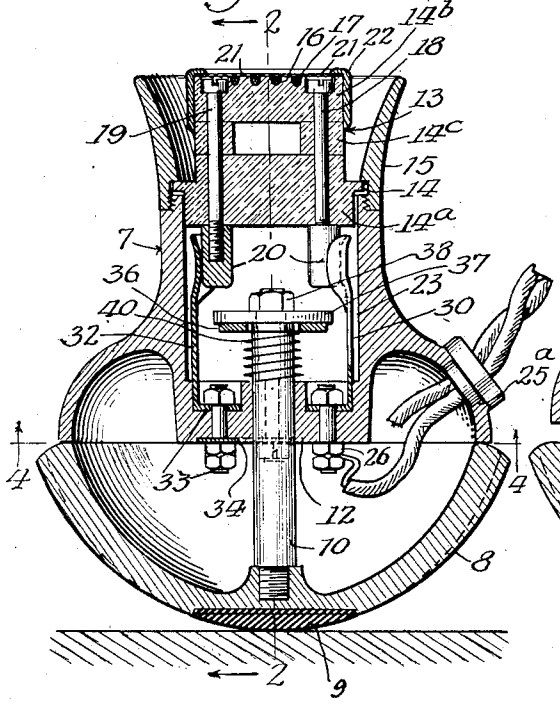


Fig 2

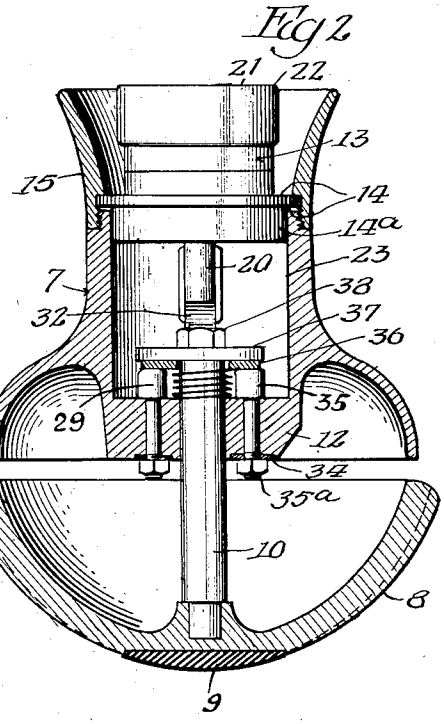


Fig. 4

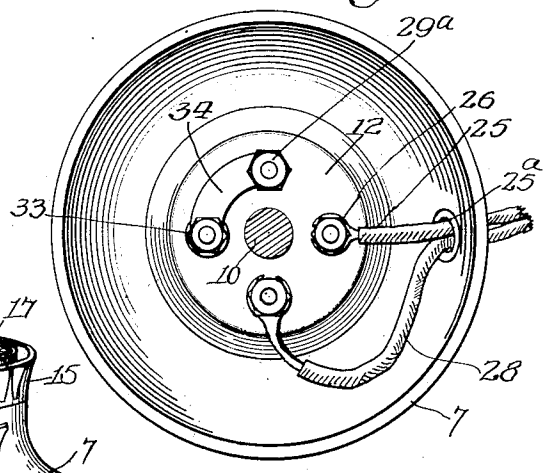


Fig. 5

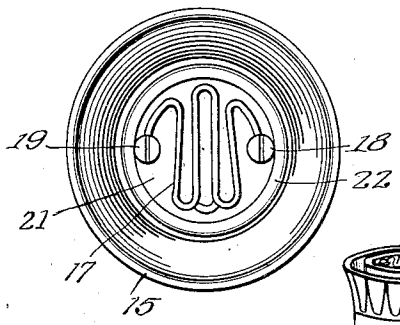
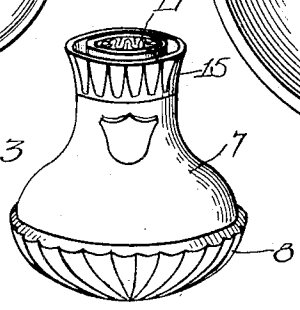


Fig. 3



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UNITED STATES PATENT OFFICE.

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CIGAR LIGHTER.

Application filed August 16, 1926, Serial No. 129,363. Renewed November 5, 1928.

The invention relates to electric cigar lighters.

One object of the invention is to provide a portable lighter which is of new and improved construction and is provided with an automatically operating switch to pass current through the resistance element when the lighter is lifted from the table or its support.

In devices of this type, it frequently occurs that the casing or body of the lighter is tipped over, and when this occurs, the switch automatically closes, so that the resistance element will become heated, with the consequent fire hazard. Another object of the invention is to provide an electric lighter which will right itself, if it should be accidentally tipped, so that the switch will not be, or remain, closed.

Other objects of the invention will appear from the description.

The invention consists in the several novel features hereinafter set forth and more particularly defined by claims at the conclusion hereof.

In the drawings: Fig. 1 is a vertical section of a device embodying the invention. Fig. 2 is a section on line 2—2 of Fig. 1, parts being shown in elevation. Fig. 3 is a perspective of the device. Fig. 4 is a section on line 4—4 of Fig. 1. Fig. 5 is a plan view of the resistance element and the parts associated therewith.

The invention is exemplified in a casing or container comprising an upper member 7 and a lower member or base 8 which are slidably connected together to permit their separation when the upper member is lifted independently of the base. The upper member is enlarged at its lower end and its upper portion is constricted so it may be conveniently grasped between the fingers for manual minipulation. The base is provided with a cushion 9 adapted to rest on a table or other support. The base is formed of heavy material, such as brass, and the upper member is made of light insulating material. Exteriorly, the bottom face of the base is convex so that any lateral shift of the upper member will cause the casing to rock or roll on its convex lower face to change the center of gravity, so the weight of the material will be always distributed so the casing will assume its upright position by gravity as soon as it is released. A post 10 has its lower end threaded into the base 8 and extends through the center of a cross-wall 12 in the lower end of the upper member 7. The post is axially slidable in said wall, to form a sliding connection between the member and the base, which is utilized to operate a switch which controls the operation of the resistance element. A socket 23 is formed in member 7 to contain some of the circuit connections for the resistance element.

A plug 13 for the resistance element is removably held in the upper end of the socket 23 of member 7. Said plug has a flange 14 which is engaged by a collar 15 which is preferably made of insulating material and is threaded to the upper constricted end of member 7, so that the plug will be removably clamped to the casing. Plug 13 is formed of insulating material, is built up of a lower member 14^a, on which the flange 14 is formed, a top member 14^b and a ring 14^c interposed between members 14^a and 14^b. The top face of member 14^b is formed with a sinuous groove 16 in which is laid the resistance element 17. The terminals of element 17 are electrically connected to screws 18 and 19 respectively which extend through and secure the plug-members together. Each of said screws has its lower end threaded into a contact stud 20 below the plug member 14^a and in socket 23. A sheet of mica 21 is held over the resistance element by a flanged ring 22.

The circuit for the resistance element comprises a conductor 25 which passes through an opening 25^a in member 7 and is connected to a bolt 26 which extends through the wall 12 and a conductor 28 which also passes through said opening and is connected to the lower end of a bolt which has a shank extending through the wall 12 and a contact stud 29 at its upper end. An upwardly extending resilient contact strip 30 is adapted to engage one of the studs 20 and has its lower end secured by bolt 26 to wall 12. A similar resilient contact-strip 32 has its upper end disposed to engage the other stud 20 and its lower end is secured to the wall 12 by a bolt 33. An arcuate strip 34 connects bolt 33 and the shank 35^a of a bolt with a contact stud 35 at its upper end which is diametrically opposite to the stud 29. The circuit is normally interrupted between studs 29 and 35. A contact ring 36, adapted to close the circuit across said studs, is secured to the underside of a washer 37 of insulating material which is fixedly secured by a

nut 38 on the upper end of post 10. A light spring 40, coiled around the upper end of stud 10, is interposed between the washer 37 and the wall 12 to supplement gravity in forcing the members 7 and 8 together, so that ring 36 will open the circuit except when the base member 8 is suspended and is entirely free to be lowered by its own weight and when the lighter is held in a substantially upright position.

When the member 7 is lifted off a table or other support, to apply the resistance element to a cigar for lighting it, base 8 will be lowered by gravity away from member 7. Such separation will move the stud 10 downwardly until the contact ring 36 engages the contact-studs 29 and 35 to bridge the gap between said studs, to close the circuit as follows: conductor 25, bolt 26, strip 30, stud 20, screw 18, resistance element 17, screw 19, stud 20, strip 32, bolt 33, strip 34, stud 35, ring 36, stud 29 and conductor 28.

The invention exemplifies a portable cigar lighter of the type which is adapted to rest on a table or support, which will right itself in event that it is tilted; in which the switch is automatically operated by relative movement of the casing members; in which all of the circuit connections are carried in or by the upper casing member; in which the resistance element is mounted in a plug which is removably held in the upper casing member; one which can be readily assembled and produced at a low cost.

The invention is not to be understood as restricted to the details set forth, since these may be modified within the scope of the appended claims, without departing from the spirit and scope of the invention.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a cigar lighter, the combination of a portable casing comprising upper and lower members, the lower member being formed to rest upon a support, the members being movably connected together to separate when the upper member is lifted and the lower member is suspended and to move together when the lower member rests upon a support, a resistance element carried by the upper member, and circuit connections for the element comprising a switch operable by the relative movement of the members to automatically close the circuit when the lower member is suspended from the upper and to open the circuit when the lower member rests on a support.

2. In a cigar lighter, the combination of a portable casing comprising a member and a base formed to rest upon a support, the base and member being slidably connected together to separate when the upper member is lifted and the lower member is suspended and to move together when the base rests upon a support, a plug in the upper member, a resistance element in said plug and circuit connections for the element carried by the upper member comprising a switch operable by the relative movement of the members to automatically close the circuit when the lower member is suspended from the upper and to open the circuit when the lower member rests on a support.

3. In a cigar lighter, the combination of a portable casing comprising a pair of upper and lower members, the lower member being formed to rest upon a support, the members being movably connected together to separate when the upper member is lifted and the lower member is suspended and to move together when the lower member rests upon a support, the upper member being provided with a socket, a plug closing the upper end of the socket, a resistance element carried by the plug, and circuit connections for the element comprising a switch in said socket and operable by the relative movement of the members to automatically close the circuit when the lower member is suspended from the upper and to open the circuit when the lower member rests on a support.

4. In a cigar lighter, the combination of a portable casing comprising a base adapted to rest upon a support and formed with a convex bottom so the casing will return to an upright position after it is tilted on the support, a resistance element mounted in the casing, circuit connections for the element comprising a switch disposed in the casing and means for automatically opening the switch when the casing is positioned so that the base rests upon the support.

5. In a cigar lighter, the combination of a portable casing comprising an upper member and a base adapted to rest upon a support, said base being formed with a convex bottom so the casing will automatically return to an upright position after it is tilted on the support, a resistance element mounted in the upper member, electrical conductors for the element including a switch, and means for automatically maintaining the switch in its open position when the casing is positioned so that it is in an upright position and the base rests upon the support.

6. In a cigar lighter, the combination of a portable casing comprising an upper member and a base adapted to rest upon a support and formed with a convex bottom so the casing will automatically return to an upright position after it is tilted on the support, a plug secured in the upper member, said upper member being formed with a socket, a resistance element in the plug, circuit connections for the element comprising a switch in said socket and automatic means operative under normal conditions to open the switch when the base rests upon the support.

7. In a cigar lighter, the combination of a

portable casing comprising an upper member and a base to rest upon a support and formed with a convex bottom so the casing will automatically return to an upright position when it is tilted on the support, a movable connection between the base and upper member, which permits them to move together when the base rests on a support and permits separation of the base from the upper member when the upper member is lifted and the base is suspended therefrom, a resistance element mounted in the upper member, and circuit connections for the element operable by relative movement of the member and the base.

8. In a cigar lighter, the combination of a portable casing comprising an upper member and a base to rest upon a support and formed with a convex bottom so the casing will automatically return to an upright position when it is tilted on the support, a movable connection between the base and the upper member, which permits them to move together when the base rests on a support, and permits separation of the base from the upper member when the upper member is lifted and the base is suspended therefrom, a plug in the upper member, a resistance element in the plug, and connections for the element comprising a switch carried in the upper member and operable by relative movement of the base and member.

9. In a cigar lighter, the combination of a casing comprising upper and lower members, a post fixed to the lower member and extending into the upper member to connect the members together, a plug secured in the upper member, a resistance element in the plug, contact studs carried by the plug and connected to the terminals of the resistance element, contact strips in the upper member engaging said studs respectively, and circuit connections comprising conductors leading into the upper member and a switch.

10. In a cigar lighter, the combination of a casing comprising upper and lower members, a post fixed to the lower member and extending into the upper member to slidably connect the members together, a plug removably secured in the upper member, a resistance element in the plug, contact studs carried by the plug and connected to the terminals of the resistance element, contact strips engaging said studs respectively, conductors leading into the upper member and a switch operated by the post.

11. In a cigar lighter, the combination of a casing comprising upper and lower members, a post fixed to the lower member and extending into the upper member to slidably connect them, a movable plug, a ring for securing the plug in the upper member, a resistance element in the plug, contact studs carried by the plug and connected to the terminals of the resistance element, the upper member being provided with a socket having its upper end closed by the plug, contact-strips in said socket and engaging said studs respectively, conductors leading into the upper member and a switch operated by the post.

12. In a cigar lighter, the combination of a casing comprising an upper member and a base, a post fixed to the base and extending into the upper member to slidably connect them, a plug removably secured in the upper member, a resistance element in the plug, studs carried by the plug and connected to the terminals of the resistance element, the upper member being provided with a socket, contact strips in said socket and engaging said studs respectively, conductors leading into the upper member, studs to which one of the conductors and one of the strips are respectively connected, and a bridging element for the latter studs operated by the post.

Signed at Chicago, Illinois, this 28th day of July, 1926.

JOSEPH FREUD.