

PATENT SPECIFICATION



Convention Date (Germany): April 7, 1925.

250,597

Application Date (in United Kingdom): April 7, 1926. No. 9224/26.

Complete Accepted: Aug. 12, 1926.

COMPLETE SPECIFICATION.

Electric Cigar and Pipe Lighter with Interchangeable Glower.

I, HEINZ AGATZ, of Kundrystrasse 3, Berlin-Friedenau, Germany, a German citizen, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to electric lighters for cigars, pipes and the like, of the kind embodying a high resistance glower element detachably supported in a holder and furnished with a device for automatically making and breaking the circuit through the glower by changing, for example reversing, the position of the holder. A previous proposal has been made to place a quantity of mercury in a divided tube the two parts of which are insulated from each other, and to arrange the electrical connections in such a manner that in one position of the device the mercury is only contained in one portion of the tube, whilst upon reversal of the device the mercury establishes contact between the two parts of the tube and completes the circuit through the glower. The present invention provides an improved and simplified device of this general nature and one in which particular attention has been directed to facility in detaching the glower element for replacement, such elements being admittedly liable to failure.

An electric lighter for cigars, pipes and the like, according to the present invention, comprises a holder provided with a recess, a support for a glower filament removably contained within said recess, and carrying contact pieces for establishing electrical connection between the glower filament and a pair of contacts insulated from each other in the body of the holder, and an electrically conductive ball or roller carried

loosely in the body of the holder so as to close the circuit through the filament only in certain positions of the holder.

No claim is made to the making and breaking of electric circuits generally by means of a ball, since such a method has been previously proposed in connection with electric torches.

Constructional examples of the present invention are illustrated in the accompanying drawings of which:—

Figs. 1 and 2 are sectional views of lighters adapted to be screwed into sockets, making therewith the usual form of screw plug-and-socket connection.

Fig. 3 is a sectional view of another form, and

Fig. 4 is a modification of Figures 1 and 2, adapted for the lighting of pipes.

In the lighters shown in Figs. 1 and 2 the glower 1 is bedded in a stopper shaped body made of heat insulating material having a shank 2 with Edison screw 12 for screwing into the mounting and a somewhat larger shoulder 3 in which there is a cavity to take the glower 1. The stopper shaped body contains a hollow space 4 to lodge the circuit closing device. This is formed of a loose metal substance, for example a ball 10, which in a certain position bridges two fixed contact pieces.

At the foot of the threaded shank 2 is a small contact plate 8 which makes one connection with the mounting whilst the other connection is made by the Edison screw 12. Close to the floor of the hollow space or chamber 4 a contact ring 9 is secured. In the cavity in the shoulder or head 3 the glower 1 is inserted in such a manner that allows easy replacement. The glower 1 consists of a flat piece of insulating material in the outer surface of which grooves are cut to hold the incandescent filament 5. On the inner surface small contact plates

6 are fitted to which the ends of the incandescent filament 5 are connected. Opposite these small contact plates and on the face of the cavity, corresponding contact plates 7 are arranged one of which is connected to the Edison screw 12 and the other to the contact ring 9.

The front of the glower 1 is suitably screened by means of a small sheet of mica in order to shield the incandescent filament 5. In order to secure the glower 1 in the ignition body of the stopper head 3 there is provided a cap 13 having an opening 14, so that the ignition surface is accessible from the outside.

In the form of construction shown in Fig. 1 the floor of the chamber 4 is covered with a concave metal slab 11. In the form of construction shown in Fig. 2 this metal slab is convex. The slabs 11 and 11^a are in direct contact with the small contact plate 8.

In order to use the lighter shown in Fig. 1 it should be slightly inclined. The ball 10 then rolls on the concave slab to a position shown by dotted lines until it makes contact with the contact ring 9 thus closing the circuit of the incandescent filament 5. After use, the ball 10 in consequence of the vertical position again returns to the centre of the concavity and breaks the circuit. In the stopper shaped form of lighter shown in Fig. 2 used for lighters in which when not in use the ignition surface is directed downwards the ball 10 lies against the rear face of the glower 1 inside the chamber 4. When for use the lighter is reversed the ball falls onto the convex surface 11^a and makes contact with the contact ring 9 as shown by the dotted lines. When the lighter is returned to the normal position the circuit is again broken owing to the change of position of the ball 10.

In the form of construction shown in Fig. 3 instead of a stopper shaped body an ignition body 15 without Edison screw is used and is also formed of heat insulating material. This is fixed direct to the body 16 which is provided with legs 17 or correspondingly suitable rim. These, when the circuit is to be closed by turning the lighter upside down, are on the same side as the ignition surface, as shown in Fig. 3, but on the rear side of the body, as shown dotted, if the circuit is to be closed by inclining the lighter.

The ignition body 15 contains a cavity for the insertion of the glower 1. The incandescent filament 5, the small contact plates 6 and 7, for easy interchange of the glower 1, the chamber 4, the con-

tact ring 9 inside the chamber 4 isolated from the filament 5, and the hood 13 for fixing the glower 1 are arranged similarly to those described in Figs. 1 and 2. Since there is no Edison screw, the corresponding contact plate 7 is connected direct to the leading-in wire at 18. The second leading-in wire is connected at 20 to the floor plate 19 in the chamber 4. In the rest position the lighter rests on the legs 17 with the ignition surface downwards and the ball 10 lies beyond the contact. In the reversed position the lighter rests on the legs 17 shown dotted and the ball lies on the floor plate 19 of the chamber 4, in the position shown at 10^a without coming into contact with the contact ring 9. To use the lighter it is slightly inclined. The ball 10 then comes into contact with the contact ring 9 and forms a bridge between this and the contact plate 19.

Should anything go wrong with the switch device or should the glower get burned out, the hood 13 in all the constructional forms described must be removed. Access can then be had to the contact inside the chamber 4. After the fault has been remedied or the glower 1 renewed, the hood 13 is replaced and the lighter is again ready for use. In the lighter shown in Fig. 3 if the ignition body 15 is to be replaced it is drawn far enough out of the body 16 to allow of the connections at 18 and 20 being disconnected. The new igniting body 15 is then inserted and the leading in wires drawn in again.

For pipe lighters the glower 1 is of the familiar shape suitable for pipes and is shown in Fig. 4. Here the glower runs out into a cylindrical shank 21 the face of which, as the ignition surface, carries the incandescent filaments 5. The remaining arrangements can be retained as previously described. Since the pipe lighter when being used is held in such a way that the shank 21 of the glower 1 with its ignition surface is directed downwards, in order to be pressed against the charge of tobacco in the bowl of the pipe, the following construction is employed for the contact device. Opposite the rear wall of the glower 1 inside the chamber 4, in which the ball 10 is loosely engaged, a metal cap 22 of somewhat conical shape is arranged which is connected with the one contact plate 7. When the lighter is reversed the ball 10 drops between the cap 22 and the contact ring 9, as shown dotted and closes the incandescent filament circuit. When the lighter is not in use the ball 10 falls back and takes up a position which precludes the circuit being closed.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

- 5
10
15
20
25
1. An electric lighter for cigars, pipes and the like comprising a holder provided with a recess, a support for a glowler filament removably contained within said recess and carrying contact pieces for establishing electrical connection between the glowler filament and a pair of contacts insulated from each other in the body of the holder, and an electrically conductive ball or roller carried loosely in the body of the holder, so as to close the circuit through the filament only in certain positions of the holder.
 2. A device as claimed in Claim 1 and in which the glowler filament lies in grooves in the face of its support and the latter is retained in the recess in the holder by a detachable cap.
 3. A device as claimed in Claim 1 or Claim 2 and in which the holder comprises a head and a screw-threaded metal-

encased shank, the head having a recess containing the glowler filament and its support with one end of the filament connected through a contact piece to the metal case surrounding the shank and the other end of said filament connected to a conductor extending into a cavity in the shank and terminating in a contact piece insulated from another contact forming the bottom of the cavity for connection to the source of current, and a metal ball loosely carried in said cavity and adapted to connect the two last mentioned contacts in certain positions of the holder.

30
35
40

4. An electric lighter for cigars, pipes and the like constructed and operating substantially as described with reference to and as illustrated in Figs. 1 and 2, or Fig. 3 or Fig. 4 of the accompanying drawings.

45

Dated this 7th day of April, 1926.

TONGUE & BIRKBECK,
329, High Holborn, London, W.C. 1, 50
Agents for the Applicant.

FIG. 1.

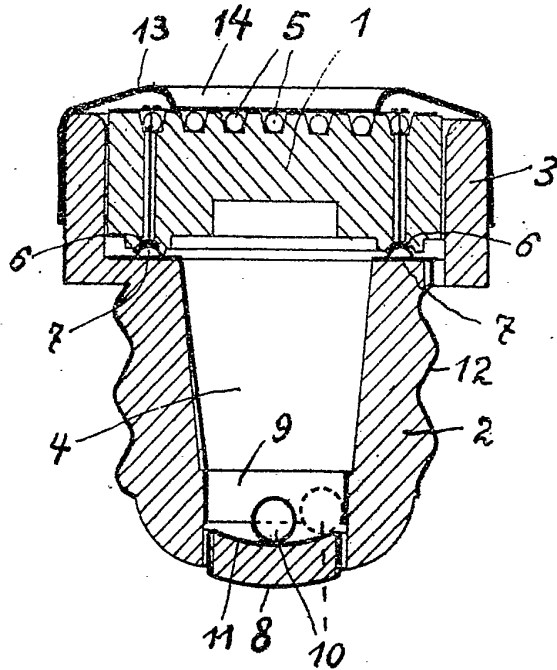
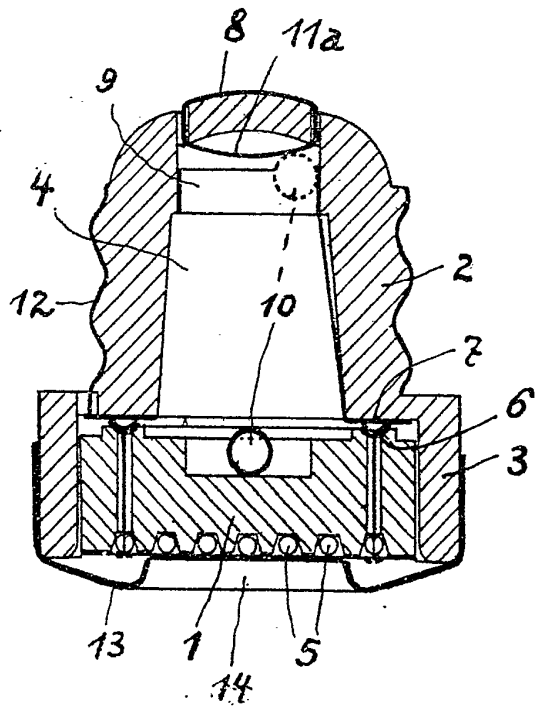


FIG. 2.



[This Drawing is a reproduction of the Original on a reduced scale.]

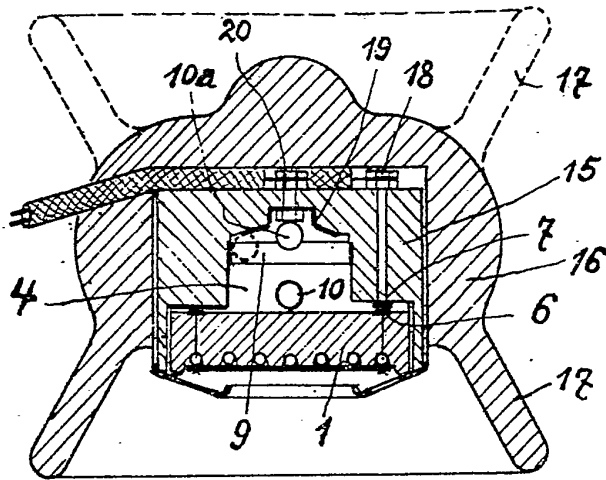


FIG. 3.

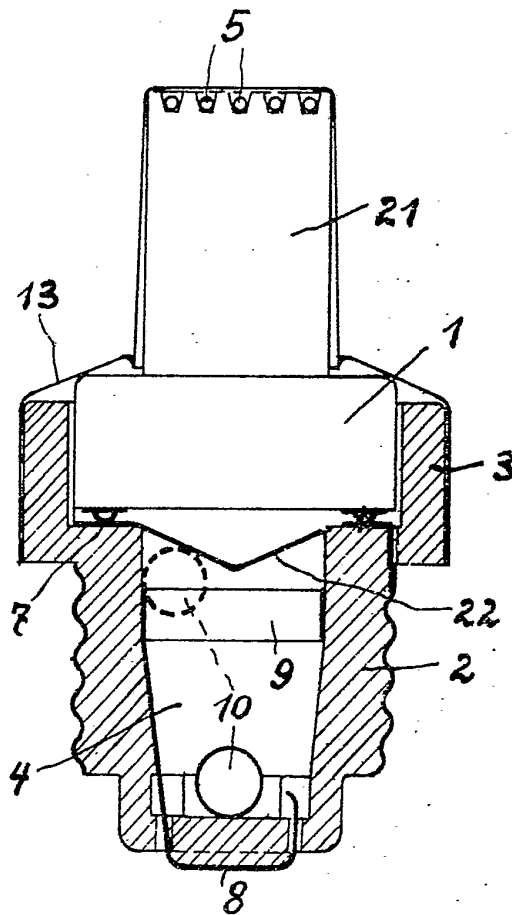


FIG. 4.

FIG. 1.

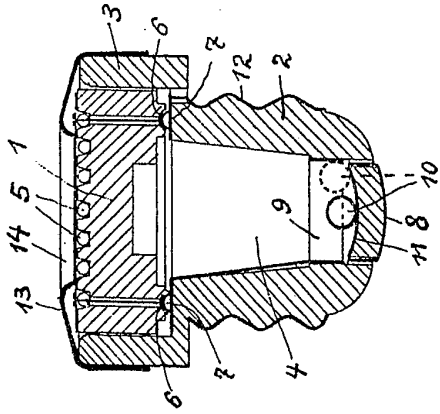


FIG. 2.

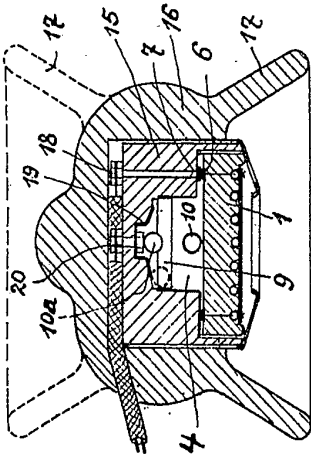
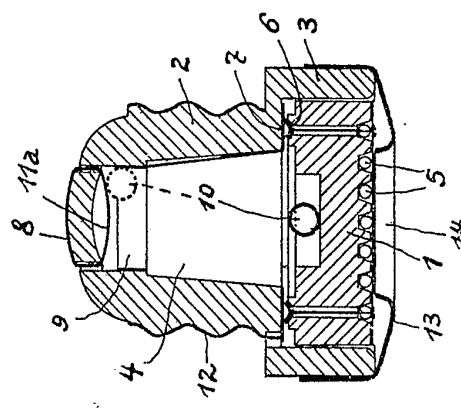


FIG. 3.

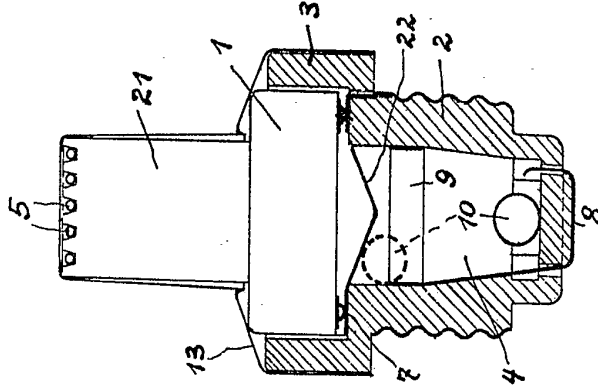


FIG. 4.

[This Drawing is a reproduction of the Original on a reduced scale.]