

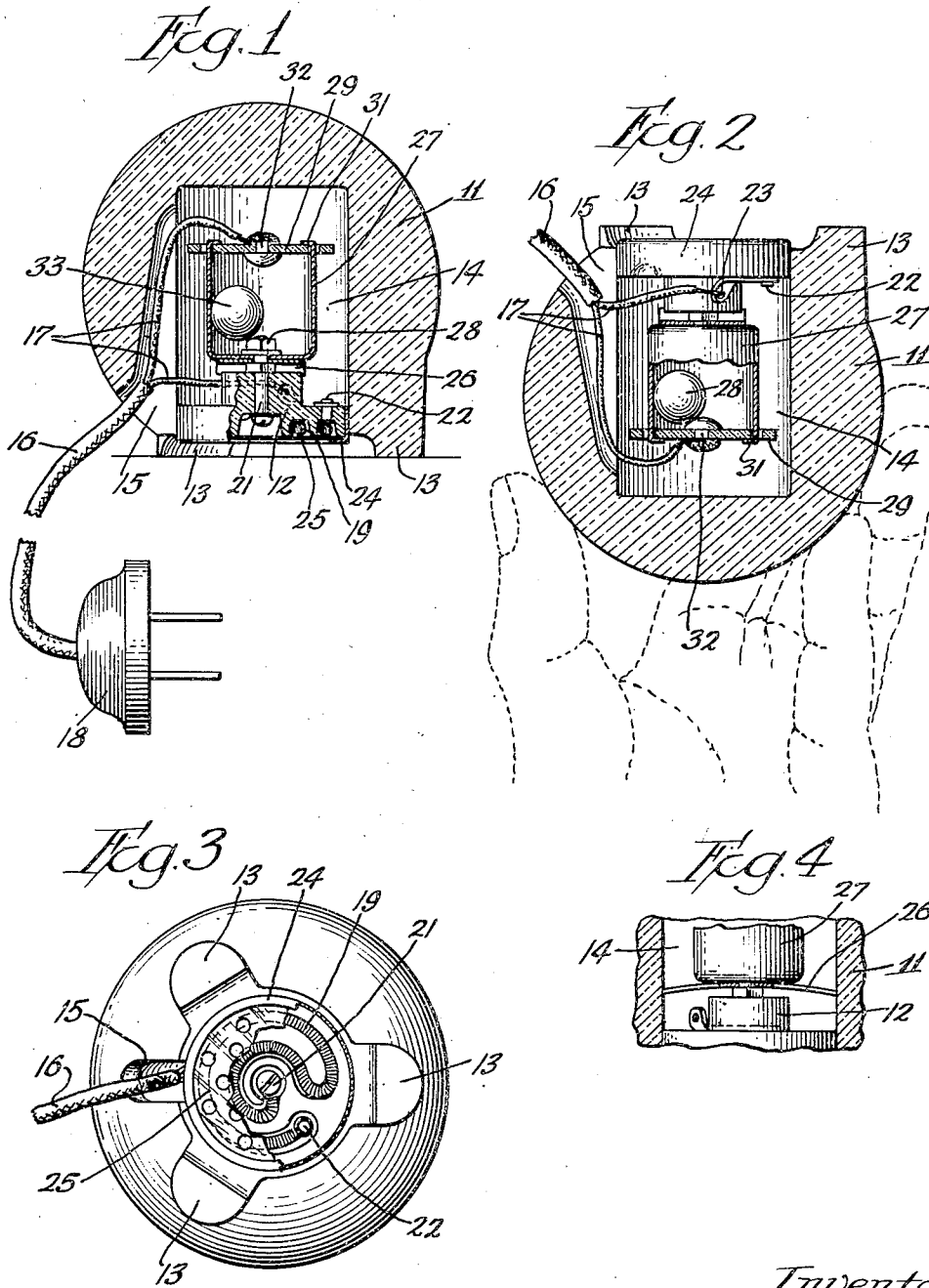
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E. M. SORENG

1,971,585

ELECTRIC LIGHTER

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Inventor:
Edgar M. Loreng
John C. Carpenter
Att'y:

UNITED STATES PATENT OFFICE

1,971,585

ELECTRIC LIGHTER

Edgar M. Soreng, Chicago, Ill., assignor of one-half to Vidrio Products Corporation, Chicago, Ill., a corporation of Illinois, and one-half to Soreng-Manegold Co., Chicago, Ill., a corporation of Illinois

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2 Claims. (Cl. 219—32)

This invention relates in general to electric heating units and while the invention will hereinafter be described as embodied in an automatic, gravity operated, cigar and cigarette lighter, it will be readily manifest that in its entirety and in its several features it is capable of advantageous use in other devices.

A principal object of the present invention is the provision of an automatic, gravity controlled, electric heating unit of simple, economical construction, and of certain quick operation upon inversion of the unit. The invention contemplates the provision of a unit of the above described character consisting of few and simple parts and requiring minimum material in their manufacture.

Another important object of the invention is the provision of a unit of the character described, the parts of which will be so constructed and arranged as to prevent possibility of the parts jamming or becoming wedged or held against instant movement upon manipulation of the unit either from its normal inoperative arrangement to one supplying current to the heating coil or vice versa.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawing, discloses a preferred embodiment thereof.

Referring to the drawing:

Figure 1 is a vertical sectional view taken through a cigar or cigarette lighter in which the present invention is embodied, showing the parts in the position they normally assume when the lighter is placed on a desk, table or other support;

Fig. 2 is a similar view, showing the lighter inverted for use;

Fig. 3 is a top plan view of the lighter as viewed in Fig. 2;

Fig. 4 is a fragmentary sectional view, showing the spring means for securing of the heat unit in the body of the cigar or cigarette lighter.

For the purpose of illustrating the present invention, a cigarette lighter is shown on the drawing, which comprises a body 11 in which is mounted a unit 12 made in accordance with the present invention. The body is preferably of glass or other non-conducting material, and is generally of spherical shape and is provided with three supporting legs 13. A main central recess 14 is provided opening in the bottom of the lighter and between the legs 13. A side recess 15 is arranged in communication with the main recess

14 to accommodate an electric conductor or cord 16 containing two line wires 17 appropriately connected to a wall plug 18. The heating unit comprises a porcelain or other non-conducting electric body, indicated by reference character 12, and this body is grooved to receive a resistance or heating coil 19 connected at one end to a post or bolt 21 at the center of the unit and at the other end to a terminal 22 arranged through an edge portion of the body and electrically connected at 23 to one of the wires 17. The usual cap 24 and perforated mica disk 25 are provided over the coil. The post or bolt 21 extends through the body and through a leaf fastening spring 26 into electrical engagement with a sheet metal cap 27 closed at its base and held to the body by a nut 28 threaded over the end of the bolt 21. The open end of the cup is closed by a fibre disk 29, lugs 31 being arranged through the disk and bent to clinching position as shown.

A metal contact or rivet 32 is provided centrally through the disk and the second wire 17 is connected to this contact on the outer face of the disk. A ball of metal 33 is arranged within the cup and is of diameter sufficient to cause it to engage in point contact both with the contact 32 and the side wall of the cup when the unit is inverted into the circuit closing position shown in Fig. 2.

The spring 26 is preferably of flat steel adapted to be wedged into the opening 14 by merely bushing the lighter hole to finally and permanently assemble the unit in the body 11.

The structure is simple and consists of a minimum number of parts, easily manufactured and assembled, and it will be apparent that inversion of the lighter causes the ball to move into or out of circuit closing contact instantly and without possibility of wedging or sticking.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that many changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A lighting device of the character described including a body of insulating material of general spherical shape having a substantially cylindrical recess at the bottom thereof, a refractory

element of substantially circular cross-section having a diameter substantially the same as the cylindrical recess, a resistance element carried on the lower side of the refractory element, having its ends secured by fastening members extending through the refractory element, a metal cup supported on the refractory element in electrical contact with one of the fastening members, an insulating disc closing the cup, a contact point in the center of the disc within the cup, a metal ball within the cup having a diameter not substantially greater than half the diameter of the cup, and a cord including a pair of conductors,

one connected to said contact point and the other to the second fastening member.

2. The combination defined in claim 1, including a flat comparatively narrow spring secured between the cup and refractory element and extending longitudinally, said spring being slightly longer than the diameter of the cylindrical recess in the body, whereby when the assembly, including the refractory element, spring and cup, are pushed into said recess, said spring engages the sidewalls of the recess to prevent extraction of such assembly.

EDGAR M. SORENG.

15	90
20	95
25	100
30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145
75	150