J. T. FISK.

ELECTRIC LIGHTING DEVICE.

APPLICATION FILED OCT. 28, 1907.

904,524. Patented Nov. 24, 1908.

Fig. 1

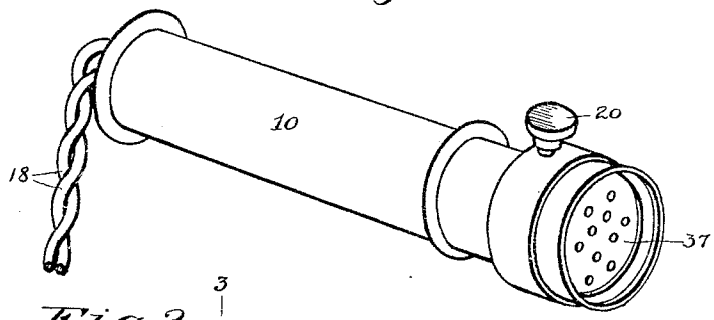


Fig. 2

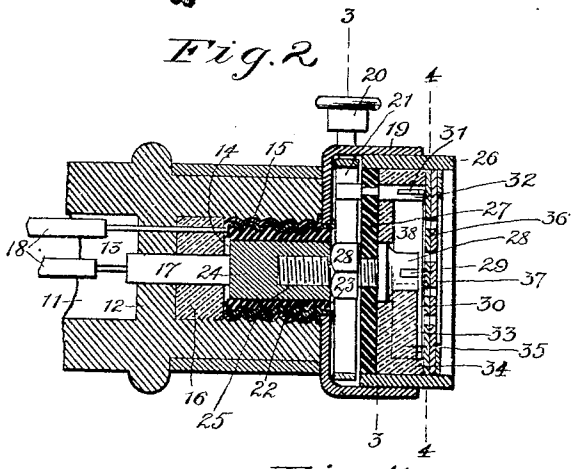


Fig. 3

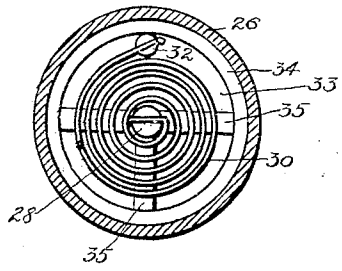


Fig. 4

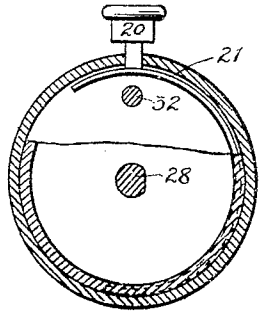
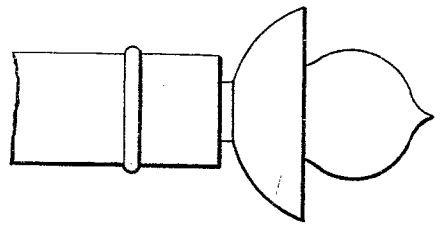


Fig. 5



Witnesses:

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UNITED STATES PATENT OFFICE.

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ELECTRIC LIGHTING DEVICE.

No. 904,524. Specification of Letters Patent. Patented Nov. 24, 1908.

Application filed October 28, 1907. Serial No. 399,425.

To all whom it may concern:

Be it known that I, JOSHUA T. FISK, a citizen of the United States, resident of Rochester, county of Monroe, and State of New York, have invented a new and useful Improvement in Electric Lighting Devices, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to electric lighting devices adapted for use as a cigar-lighter to enable a smoker to light a cigar while in rapid motion or otherwise, but it is applicable for use as a cigar-lighter on the counters of stores or other places.

The invention furthermore relates particularly to that class of devices shown, described and claimed in the application Serial No. 393,418, filed September 17, 1907, by Clarence Wheeler, and consists in an arrangement of parts which while in its general features is identical with the invention of said Wheeler, yet contains certain other improvements differing materially therefrom.

The said improvements are hereinafter fully described and specifically set forth in the claims.

The object of said invention is to increase the efficiency of the device by decreasing the time which is ordinarily consumed in raising the resistance wire to the required temperature, increasing the degree of heat produced by the incandescence of such wire, without increasing the consumption of current.

The annexed drawing and the following description set forth in detail, certain mechanism embodying the invention, the disclosed means constituting but one of various mechanical forms in which the principle of the invention may be applied.

In said annexed drawing:—Figure 1 represents a perspective view of a lighting device embodying my invention, showing its parts arranged for use as a cigar lighter. Fig. 2 is a greatly enlarged axial sectional view through the front portion of the device. Fig. 3 is a cross-sectional view taken on line 3—3 of Fig. 2. Fig. 4 is a similar view taken on line 4—4 of Fig. 2; and Fig. 5 is a view in side elevation of the front portion of the device, showing an electric lamp provided with a reflector connected thereto.

Like numerals of reference, refer to corresponding parts throughout the different views of the drawing.

The device illustrated shows a form of device to which my invention is applied, which may also be used as an illuminant.

The reference numeral 10 designates the body or hand piece of the lighting device, which may be made of any suitable size, form and material, but preferably cylindrical in shape and of wood or hard rubber. This body or hand piece is provided with a longitudinal bore 11, which is divided near its front end by means of a transverse partition 12, thus forming two compartments 13 and 14 of the bore for the reception and operation of the various parts of the device, as will be hereinafter explained.

Located in the compartment 14 of the bore 11 is an internal screw-threaded metallic socket 15 which rests at its inner end on a suitable block or plug 16 interposed between said socket and the front surface of the partition 12, as is clearly shown in Fig. 2 of the drawing. This plug and the partition 12 are apertured for the reception of a terminal 17, to one end of which is connected one of the conductors 18 which are extended through the rear end of the hand piece 10 forwardly, and are connected at their other ends to a battery or other source of electric supply. The other conductor 18 is also extended through suitable openings in the partition 12 and block or plug 16 so as to contact or be electrically connected at its front end with the metallic socket 15, as is clearly shown in Fig. 2 of the drawing.

Located in the socket 15 is a stem or stub shaft of a removable cup 19, which is provided in its wall with a push-button 20 to coact with a contact spring 21 which is located in the cup, as shown in Figs. 2 and 4 of the drawing. The stem of the cup 19 consists of an externally screw-threaded metallic portion 22, which is hollow and of suitable length to extend near the bottom of the socket 15 when screwed therein, and of insulating material 23, such as fiber, which is interposed between the screw-threaded extension 22 and a metallic rod 24, usually of brass, which rod has in its front end a screw-threaded socket 25, and its other or rear end

exposed to contact with the terminal 17 to which one of the conductors is attached.

Removably located in the cup 19 is an igniter carrying cup 26, which has its front end open and its rear end closed by means of a disk or plate 27, of fiber or other suitable material, which plate or disk is centrally apertured for the reception of a screw-bolt or pin 28, which is flattened to prevent it turning in said disk when said pin or bolt is screwed into the socket 25 of the metallic rod 24. The pin or bolt 28 extends forwardly through the disk 27, and is provided in its forward end with a slot 29 for the reception and retention of one end of the igniting wire 30, which is convolute and of suitable material, and has its other end secured in the slot 31 of a metallic post 32 which is extended through the disk 27 so as to project beyond each of its surfaces and so that its inner portion may be in position to be impinged against or contacted with by the contact spring 21 when pressure is applied to the push-button 20 of the cup 19.

Located within the igniter carrying cup 26 is a bushing or plate 33, of lavite or other suitable material, which is formed with a central opening for the reception of the pin or bolt 28 and also with an opening near its periphery, through which is extended the front portion of the post 32, which portion, as before stated, is slotted and holds one end of the igniting wire. The plate or bushing 33 is provided with an annular flange 34, which extends outwardly within the cup 26, and said bushing has on its front surface a number of radially disposed ribs 35 to assist in supporting the wire 30. These ribs are of a depth less than the flange 34, thus allowing the wire 30 to rest on their outer edges, yet to lie within the compartment formed by said flange. Resting on the flange 34 and externally of the wire 30 is a perforated disk, of mica or other suitable material 36, over which is laid a perforated disk 37, of very thin steel, the perforations of which register with those of the disk 36, of mica. The steel or metallic disk 37 is employed to protect the mica disk in the operation of lighting cigars, thus rendering it more durable.

From the foregoing and by reference to the drawing it will be seen and clearly understood that when the parts are assembled as above described and the conductors 18 are in electric communication with a generator, by pressing on the push button 20 the contact spring will be forced into contact with the post 32, thus completing the circuit so that the wire 30 will become heated to a high degree, when by applying the end of a cigar to the perforated plate 37, it may be ignited.

By providing the bushing 33 with the flange 34 an air space 38 is formed below the resistance wire where in the device shown and described in the application of Wheeler, such wire rested directly upon an asbestos sheet. By providing this air space I have found that the wire heats much more rapidly and to a higher temperature than was the case when no such space was provided. Such increase in time of heating and in temperature materially increases the efficiency of the device.

While I have shown the mica protecting disk 36 covered by the perforated steel disk, I have found that it is not absolutely essential to provide the latter and same may be omitted if desired.

Other modes of applying the principle of my invention may be employed, instead of the one explained and change may be made as regards the mechanism herein disclosed, provided the means covered by any one of the following claims be employed.

I, therefore, particularly point out and distinctly claim as my invention:—

1. In an electrical cigar-lighter, the combination of a suitable holder provided with a removable cup-shaped socket member, a resistance mounted in said socket, electrical conductors connected with said resistance, and a protecting perforated cover for the latter, said socket being of a depth such as to form an air space beneath said resistance.

2. In an electrical cigar-lighter, the combination of a suitable holder, a cup-shaped socket mounted upon the latter, and including a lavite bushing mounted therein, said bushing provided with a flange forming a cup-shaped receptacle, a resistance wire mounted in such receptacle, electrical conductors connected with said wire, and a perforated protecting cover over the mouth of said receptacle, said flange being of dimensions such as to form an air-space beneath said wire.

3. In an electrical cigar-lighter, the combination of a suitable holder provided with a removable receptacle, a protecting cover for the mouth of such receptacle, and a resistance wire mounted in the latter; said receptacle being of a depth such as to form an air space below said wire.

4. In an electrical cigar-lighter, the combination of a suitable holder provided with a removable receptacle, a protecting cover for the mouth of such receptacle, and a resistance wire mounted in the latter and at its outer portion, said receptacle being of a depth such as to form an air space beneath said wire.

5. In an electrical cigar-lighter, the combination of a suitable holder provided with a receptacle, a protecting cover for the mouth of such receptacle, and a convolute resistance wire mounted in the latter, such receptacle being provided at its bottom with radial ribs upon which said wire rests.

6. In an electrical cigar-lighter, the combination of a suitable holder provided with a cup-shaped socket, a lavite flanged bushing mounted in said socket and forming a receptacle, a convolute resistance wire in said receptacle, and a protecting cover for the mouth of said receptacle, said bushing being provided with radial ribs upon which the convolutions of said wire rest.

7. In an electrical cigar-lighter, the combination of a suitable holder provided with a cup-shaped socket, a lavite flanged bushing mounted in said socket and forming a receptacle, a convolute resistance wire in the latter, and a protecting cover for the mouth of said receptacle, the flange of said bushing being of a depth such as to form an air space beneath said wire, said bushing being formed with radial ribs upon which the convolutions of said wire rest.

8. In an electric lighting device, the combination with a hollow hand-piece, of a metallic socket and a terminal located in one end thereof, conductors extending into the hand-piece and electrically connected at one of their ends to said terminal and socket and in communication with an electric supply, a removable cup having a stem consisting of a socketed central rod or piece adapted to contact with said terminal, insulating material surrounding said rod and a screw-threaded tubular metallic portion surrounding said insulating material and adapted to engage said first-named socket, a contact spring located in said cup, a push-button extended through the wall of the cup to co-act with said spring, an igniter-carrying cup having a bottom and wall of lavite or similar material located in the first-named cup and provided with means centrally located therein to engage the socket in the stem of the first-named cup, radially disposed ribs in said lavite portion, a post located in the bottom of the igniter-cup near the aforesaid contact spring, and a wire secured at one of its ends to said post and electrically connected at its other end to said centrally located means.

Signed by me, this 26th day of Oct., 1907.

JOSHUA T. FISK.

Attested by:
JANET W. A. RITCHIE,
MARGARET WOOD.