Oct. 7, 1969 K. OHNBORN 3,471,679

ELECTRIC CIGARETTE LIGHTER

Filed June 10, 1968 2 Sheets-Sheet 1

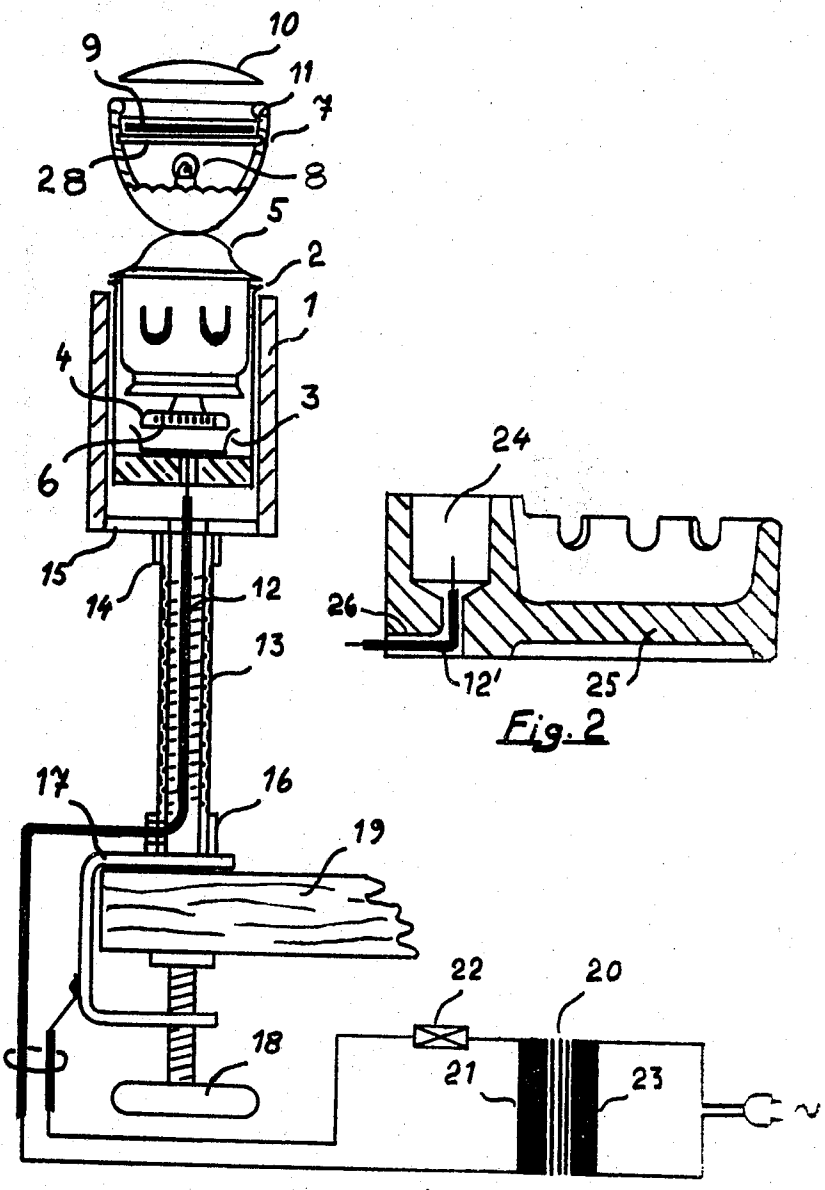


Fig. 1

Fig. 2

INVENTOR.
KURT OHNBORN
BY
Burns, Doane, Benedict, Swecker & Mathis

Oct. 7, 1969 K. OHNBORN 3,471,679

ELECTRIC CIGARETTE LIGHTER

Filed June 10, 1968 2 Sheets-Sheet 2

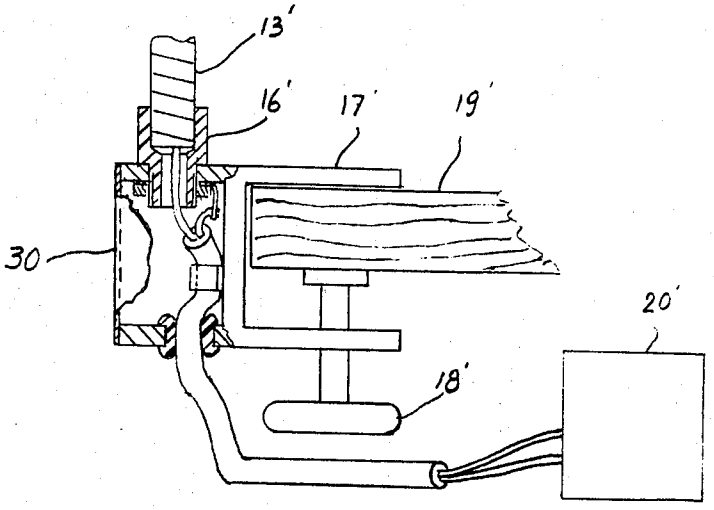


Fig. 3

INVENTOR.
KURT OHNBORN

BY
Burns, Doane, Benedict
Swecker & Mathis

United States Patent Office

3,471,679

Patented Oct. 7, 1969

3,471,679

ELECTRIC CIGARETTE LIGHTER

Kurt Ohnborn, Nygatan 26, Linkoping, Sweden

Filed June 10, 1968, Ser. No. 735,862
Claims priority, application Sweden, Feb. 28, 1968, 2,541/68
Int. Cl. F23q 7/22
U.S. Cl. 219—269
7 Claims

ABSTRACT OF THE DISCLOSURE

An electric cigarette lighter which may be connected to an A.C. electric main having a base in a metal supporting means. The base receives a removable lighter section having a handle portion by which the section may be removed. An insulated electric conductor within the supporting means is connected to one end of a low voltage winding of a transformer energized from the A.C. main. The other end of the low voltage winding is connected to the metal supporting means. A fuse may be connected in series with the low voltage winding.

The metal supporting means may include a fastening means by which the lighter may be attached to a table or desk. Alternatively, the metal supporting means may form part of an ashtray. Furthermore, the removable lighter section may contain a lamp which illuminates a symbol or advertisement provided in the handle portion.

The present invention relates to an electric cigarette lighter with a base part and a lighter part removably attached to said base part, said base part being provided with contacts and said lighter part being further provided with contact means cooperating with the contacts in said base part and with a lighter filament connected between said contact means. Such cigarette lighters are already known and they are extensively used for example in cars.

An object of the present invention is to provide a simple and reliable electric cigarette lighter which is intended to be connected to the electric A.C. mains so as to be supplied with energy from said mains, said cigarette lighter being simple, rigid and safe. A cigarette lighter according to the present invention is intended for use primarily in hotel rooms, restaurants, offices, homes and in transport means such as ships, trains and aircrafts, and the intention is to provide a cigarette lighter which combines the obvious advantages of not needing to be filled with any lighter fuel and of always to be near at hand and to be operated with the safety which comes from the principle of that the lighter under operation is disconnected from the A.C. mains. The latter characteristic is very important in view of eliminating fire risks.

Acording to the present invention, said advantages are achieved mainly because the socket is fastened to a supporting means of metal, within which an electric conductor insulated from said supporting means is located and that the cigarette lighter includes two conductors connected to the low voltage winding of a mains transformer, one of said conductors being the said insulated conductor and the other conductor being said supporting means of metal, and that said mains transformer has a fuse connected in series with its low voltage winding, said fuse being preferably a replaceable thermo fuse.

The cigarette lighter according to the invention has preferably a supporting means which comprises an adjustable, preferably bendable, tubular metal arm of the kind which, for instance, is used as supporting arm for a desk lamp and which at one end carries said base and at its other end is provided with a fastening means for fastening said supporting means to the edge of a desk or the like.

A cigarette lighter according to the invention may also include a block in the shape of a heavy, e.g., as an ash tray formed metal member which is provided with fastening means for said supporting arm.

In the following, the invention will be described more in detail, reference being had to the accompanying drawing, in which—

FIG. 1 is a diagrammatical view, partly in section, showing a cigarette lighter according to the invention, said cigarette lighter being mounted on a bendable, tubular metal arm,

FIG. 2 illustrates a longitudinal section through a metal member shaped as an ash tray and intended to carry a cigarette lighter according to the invention, and

FIG. 3 illustrates a different type of fastening means for the cigarette lighter.

The arrangement according to FIG. 1 comprises an outer sleeve **1** which surrounds a base **2** provided with an electrical contact **3**, said contact being adapted to cooperate with a contact surface **4** of a lighter part **5** removably mounted in said sleeve. The lighter part **5** is provided with a filament **6** and with a handle part **7**. In the handle part **7** there is an electric lamp **8** which may be connected in parallel with the filament **6** by means of conductors which are not shown in the figure. In front of said lamp there is a screen **28** in the hollow handle part **7**, said screen being of transparent material. In front of the screen **28** there is a space intended to receive some transparent advertisement or the like, said advertisement being indicated as a disc **9**. The disc **9** may be covered by an outer plate **10** of transparent material which, for example, in case the handle part **7** is made from a plastic material, may be snapped into place in a groove **11**. An electric conductor **12** is connected to the contact **3** in the base **1** and located in a bendable arm **13**, said bendable arm being suitably of the type which is constituted by a helically wound, metal strip. An intermediate connecting means **14** is provided for connecting the arm **13** to the bottom **15** of the sleeve **1**. The bottom end of the arm **13** is provided with a suitable connecting means **16** fastened to one shank of a mainly U-shaped fastening means **17**. The other shank of said fastening means **17** is provided with a screw **18** by means of which said fastening means in a manner known per se can be clamped to the edge of a desk plate **19** or a corresponding furniture. The electrical conductor **12** is connected to one pole of the secondary winding **21** of a transformer **20** and the metallic fastening means **17** is connected to the other pole of said secondary winding **21** by means of another conductor. In series with said secondary winding **21** there is connected a thermo fuse **22**, which preferably is displaceable. The primary winding **23** of the transformer may or may not be provided with a fuse. said primary winding is connected to the A.C. mains.

In the embodiment now described, the filament **6** of the lighter part **5** is adapted to be connected to the secondary winding of the transformer by pressing down said lighter part in the socket **1** from the position shown in FIG. 1 so that the contact means **3** and **4** will make contact with each other. The contact means **3** is adapted to lock the lighter part in the in-pushed position until the temperature of the filament has risen to sufficient value for lighting a cigarette. The invention is, however not limited to this type of lighters but it may of course also be adopted to a lighter, in which the base or the lighter part are provided with switching means. Also such lighters are known per se.

A cigarette lighter according to the invention may also be mounted in a mainly cylindrical bore **24** in a metal member **25**, which may be shaped, for example, as an ash tray. In that case, the insulated conductor **12'**, corresponding to the conductor **12**, passes through an aper-

ture **26** in the bottom of the bore **24** and the other secondary conductor from the transformer **20** may be connected to the metal in the base part in any suitable way.

According to FIG. 3, the fastening means by which the lighter can be clamped to the edge **19** of a desk or the like is composed of an I-shaped member **17'**. A screw **18'** is threaded in one of the flanges of said I-shaped member so as to clamp the fastening means **17'** to the edge of the desk **19**. A connecting means **16'** corresponding to the connecting means **16** in FIG. 1 is attached to the upper flange **17'** of said I-shaped member. The transformer **20'** here illustrated only as a block, is by means of a conductor connected to the lower flange of said I-shaped member as shown. The connections between the conductor from the transformer and the connecting means **16'** are arranged between the two flanges as shown. Said connections are covered by a cap **30** which is removably attached between the upper and lower flange of said I-shaped member **17'**.

What I claim is:

1. An electric cigarette lighter with a removable lighter part (**5**) located in a base (**2**) which is provided with a contact (**3**), said lighter part being provided with contact means (**4**) cooperating with the contact (**3**) in said base part, said lighter part having also an electric filament (**6**) connected between said contact means, characterized by the fact, that the base (**2**) is provided with a supporting means (**13, 25**) of metal within which an insulated electric conductor (**12, 12'**) is located, the arrangement further comprising two conductors connected to the low voltage winding (**21**) of a mains transformer (**20**), one of said conductors being said insulated conductor (**12, 12'**) and the other constituted by said metal supporting means (**13, 25**), and said mains transformer being further provided with a fuse in series with the low voltage winding thereof, said fuse being preferably a replaceable thermo fuse (**22**).

2. A cigarette lighter according to claim **1**, characterized by the fact, that the supporting means (**13**) is formed by an adjustable, preferably bendable hollow metal arm

(**13**) which carries said base at the one end thereof and which at the other end thereof is provided with a fastening means (**17**) for clamping the device to the edge of a furniture (**19**) or the like.

3. A cigarette lighter according to claim **1**, characterized by the fact, that the supporting means comprises a heavy, for example as an ash tray shaped metal member (**25**) provided with a recess (**24**) for receiving the lower end of said bendable arm (**13**).

4. A cigarette lighter according to claim **1** characterized by the fact, that the lighter part is provided with a handle part in which an electric lamp (**8**) is located and that the front portion of said handle part is transparent and that an advertisement or the like is insertable in front of said lamp so that it will be illuminated from behind by said lamp.

5. A cigarette lighter according to claim **4**, characterized by the fact, that the lamp is connected in parallel to said filament.

6. A cigarette lighter according to claim **4**, characterized by the fact, that said transparent part is covered at the front by a removably attached transparent sheet.

7. A cigarette lighter according to claim **6**, characterized by the fact, that said transparent part is provided with portions of different transparencies or different colours, e.g., in the shape of a symbol or an advertisement.

References Cited

UNITED STATES PATENTS

2,037,027	4/1936	Jackson	219—262
2,270,564	1/1942	Schroeder	219—269 X
2,386,168	10/1945	Pattberg	219—262
2,648,758	8/1953	Kroll et al.	219—269

VOLODYMYR Y. MAYEWSKY, Primary Examiner

U.S. Cl. X.R.

219—264, 267, 517