PATENT SPECIFICATION

326,455

Application Date: Dec. 11, 1928. No. 36,568/28.

Complete Left: Sept. 11, 1929.

Complete Accepted: March 11, 1930.

PROVISIONAL SPECIFICATION.

Improvements relating to Electrically Heated Tobacco Lighters.

We, JOSEPH LUCAS LIMITED, a Company duly incorporated under the Laws of Great Britain, and WILLIAM HENRY EGGINTON, a British Subject, both of Great King Street, in the City of Birmingham, do hereby declare the nature of this invention to be as follows:—

This invention has for its object to provide an improved electrically heated tobacco lighter adapted for use more particularly on motor vehicles.

The invention comprises a detachable member provided at its outer end with a heating element and having concentric circuit connections projecting from its inner end, a socket open at its front side to receive the said member, and plugs on the rear of the socket for engaging with a fixed socket in the current supply circuit, sufficient axial freedom being provided between the socket and the member carrying the heating element to allow of the latter being connected to or disconnected from the supply circuit.

In one manner of carrying the invention into effect, the detachable member consists of an outer part of insulating material. Concentrically within this part and extending beyond its rear side is arranged a slidable and insulated contact stem which carries at its front end a flat spiral heating element. The movement of the stem is controlled by a helical spring located within the outer part. Also the latter contains a cylindrical metal contact piece which projects slightly beyond the rear of the outer part and serves as a guide for the stem and heating element. In conjunction with the latter is a perforated shell or cage which serves to complete the electrical circuit through the heating element.

The socket which receives the detachable member comprises a sheet metal cylinder open at its front end and closed at its rear by a disc of insulating material to the front of which are secured a metal ring and a central peg. These parts are electrically connected to a pair of plugs secured to the rear of the insulating disc and adapted to engage an ordinary socket fitting in the current supply circuit. The detachable connection between the member carrying the heating element, and the socket, is effected by a suitable bayonet fastening or other suitable means, which allow a sufficient amount of axial movement of the said member within the socket.

When not in use, the member carrying the heating element, though attached to the socket, is held out of contact with the the metal ring on the base of the socket by the action of the spring on the central stem. To bring the heating element into action, the member carrying the same is pressed inwards against the ring on the base and is held until the element is sufficiently heated. The member carrying the heating element is then detached from the socket and can be used for lighting a cigar, cigarette or pipe. The device affords a special convenience in the lighting of a pipe as by pushing on the rear of the central stem the heating element can be caused to project sufficiently from the outer part to enter the pipe bowl. After use the member carrying the heating element is replaced in the socket in readiness for further use.

When it is required to use the socket in the supply circuit for other purposes, such as the connection thereto of an inspection lamp or other fitting, the lighter is removed.

By this invention we are able to provide a heater in a simple and convenient form which can readily be applied to existing electrical connections. The invention is not limited to any particular subordinate details as these may be varied as required.

Dated this 10th day of December, 1928.

MARKS & CLERK.

COMPLETE SPECIFICATION.

Improvements relating to Electrically Heated Tobacco Lighters.

We, JOSEPH LUCAS LIMITED, a Company duly incorporated under the Laws of Great Britain, and WILLIAM HENRY EGGINTON, a British Subject, both of

[*Price* 1/-]

Great King Street, in the City of Birmingham, 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 has for its object to provide an improved electrically heated tobacco lighter adapted for use more particularly on motor vehicles.

The invention comprises the combination of a heating element, an insulated contact stem and a shell or cage concentric with the stem for carrying the heating element, an outer body part with respect to which the said cage is axially movable, a spring contained between the body part and heater cage, a contact piece on the inner end of the body part, a socket into which the body part can be inserted, contact pieces in the socket with which the stem and the contact piece on the body can co-operate, and securing means providing a slidable and detachable connection between the body part and the socket.

In the accompanying sheet of explanatory drawings:—

Figure 1 is a longitudinal section, Figure 2 a front elevation and Figure 3 a side elevation of a lighter constructed in accordance with this invention.

Figure 4 is a side elevation of the removable portion of the lighter with the central part extended.

In carrying the invention into effect as shown, the detachable member consists of an outer body part *a* of insulating material. Concentrically within this part and extending beyond its rear side is arranged a slidable contact stem *b* which is insulated by a non-metallic sleeve *c* and washer *d*, and which carries at its front end a flat spiral heating element *e*. The movement of the stem is controlled by a helical spring *f* located within the outer part. Also the latter contains a cylindrical metal contact piece *g* which at *h* projects slightly beyond the rear of the outer part *a*. In conjunction with the latter is a perforated metal shell or cage *i* which serves to complete the electrical circuit through the heating element. It will be understood that the whole of the parts *b*, *c*, *d*, *e* and *i* form a single unit which is slidable axially within the metal part *g*, the latter being adapted to serve as a guide for the inner part of the shell *i*.

The socket which receives the detachable member comprises a sheet metal cylinder *j* open at its front end and closed at its rear by a disc *k* of insulating material to which are secured a metal ring or plate *l* and a central peg *m*. These parts are electrically connected to a pair of plugs *n*, *o* secured to the insulating disc and adapted to engage ordinary socket fittings *p*, *q* in the current supply circuit. The detachable connection between the member *a* carrying the heating element, and the socket *j* is effected by a suitable bayonet fastening or other suitable means, which allow a sufficient amount of axial movement of the said member within the socket. Such means in the example illustrated comprise pegs *r* on the part *j* engageable with slots *s* in the part *a*.

When not in use, the member *g*, though attached to the socket by the part *a*, is held out of contact with the metal ring *l* on the base of the socket by the action of the spring *f* on the cage *i* of the central stem *b*, the inner end of the latter pressing against the peg *m*. To bring the heating element into action, the part *a* is pressed inwards causing the part *g* to press against the ring *l* on the base and is held until the element *e* is sufficiently heated. The member *a*, together with the parts contained therein, is then detached from the socket and the part *e* can then be used for lighting a cigar, cigarette or pipe. The device affords a special convenience in the lighting of a pipe as by pushing on the sleeve *c* surrounding the rear of the central stem the heating element *e* can be caused to project sufficiently from the outer part to enter the pipe bowl as shown in Figure 4. After use the member carrying the heating element is replaced in the socket in readiness for further use.

When it is required to use the sockets *p*, *q* in the supply circuit for other purposes, such as the connection thereto of an inspection lamp or other fitting, the lighter is removed.

By this invention we are able to provide a lighter in a simple and convenient form which can readily be applied to existing electrical connections.

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

1. In electrically heated tobacco lighters, the combination comprising a heating element, an insulated contact stem and a shell or cage concentric with the stem for carrying the heating element, an outer body part with respect to which the said cage is axially movable, a spring contained between the body part and heater cage, a contact piece on the inner end of the body part, a socket into which the body part can be inserted, contact pieces in the socket with which the stem and the contact piece on the body

can co-operate, and securing means providing a slidable and detachable connection between the body part and the socket, substantially as described.

2. In a tobacco lighter as claimed in Claim 1, the adaptation of the cage and body part to permit the heater to be advanced beyond the front end of the body part, substantially as described.

3. A tobacco lighter comprising the combination and arrangement of parts, substantially as described and illustrated.

Dated this 31st day of August, 1929.

MARKS & CLERK.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1930

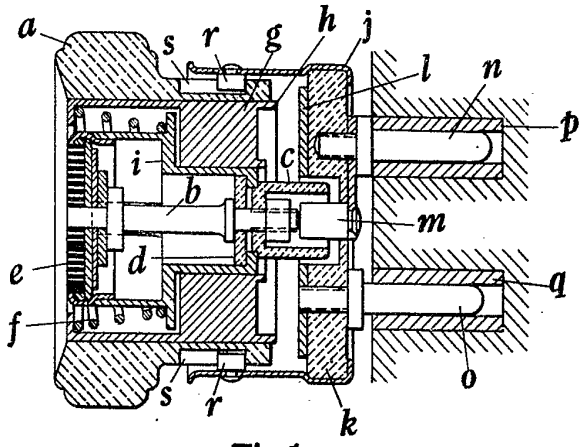

Fig.1

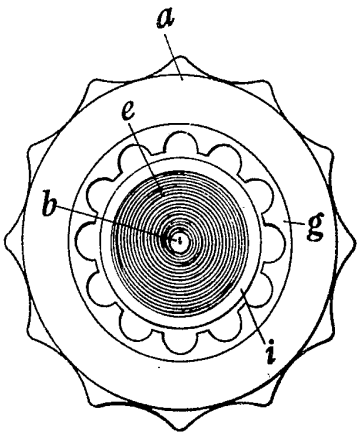

Fig.2

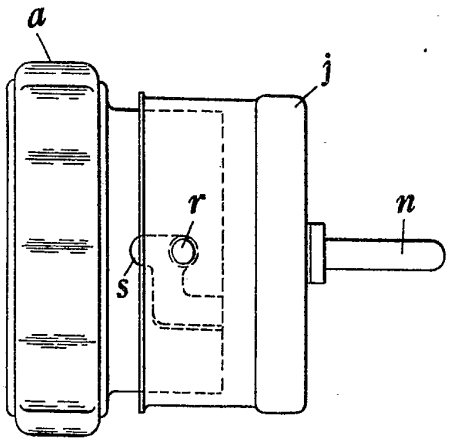

Fig.3

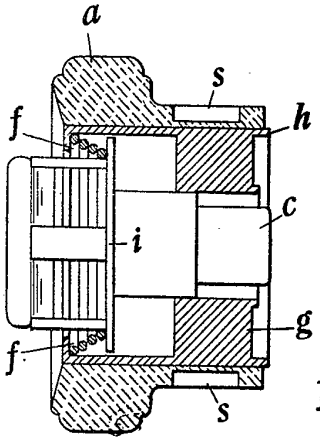

Fig.4

Charles & Read Ltd. Photo Litho.