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PATENT SPECIFICATION

405,887

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PROVISIONAL SPECIFICATION.



Improvements in or relating to Lighters for Cigarettes, Cigars, and the like.

We, MARTINUS THOMSON (British Nationality), of 13, Mansfield Street, Sherwood, Nottingham, GEORGE FREDERICK ANDERSON (British Nationality) of 144, Haydn Road, Sherwood, Nottingham, and HERBERT GEORGE GIBLING (British Nationality) of 12, Oakland Street, Hyson Green, Nottingham, do hereby declare the nature of this invention to be as follows:—

This invention relates to lighters for cigarettes, cigars, and the like, and has for its object to provide a neat, serviceable and compact form of lighter which may be easily and safely carried in a garment pocket, or, if desired, adapted for fitment to a suitable stand or other convenient article, or for supporting on a table or surface, and which, in addition is of simple and inexpensive yet robust construction, and possesses few working parts that are liable to derangement.

A lighter, according to our invention, broadly comprises or includes a suitable case or holder provided with a hinged or other suitable lid or cover at one end and a removable or otherwise displaceable end cap or closure at its opposite end; a carrier consisting of one or more plates or tongues located in said case or holder at that end thereof adjacent to the lid or cover; a container or socket, preferably of cup-like shape, carried in removable or non-removable manner by said carrier and opening to the interior of the device between the carrier and the lid or cover; an electrical igniting element, such as one or more resistance wires, bars, or filaments, mounted in or at the open end of said container or socket; a current conductor or terminal leading from one end of said resistance through the base of said container or socket; a second current conductor or terminal leading from the opposite end of the resistance to the container or holder; and a finger-operating circuit-closing device or switch mounted on the case or holder preferably adjacent to the lid or cover thereof: the arrangement being such that upon insertion of a battery of customary or other convenient type or pattern into that part of said case

[Price 1/-]

or holder between the base of the container or socket and the end cap or closure and by appropriate actuation of said finger-operating device, an electrical circuit through the resistance is closed by way of one terminal of the battery, the igniting element and circuit-closing device, and the other terminal of the battery, so that, by direct application of a cigarette or cigar to the resistance, or the like, whilst current is passing through same, easy and rapid ignition of a cigarette, or the like, may be readily accomplished.

Preferably, said circuit-closing device constitutes a convenient locking means for the lid or cover which may be adapted to move to open position automatically with the closing of the electrical circuit of the igniting element.

In carrying out our invention according to one convenient mode of embodiment, we provide a sheet metal case or holder closed at its lower end by a detachable flanged sheet metal cap of oval or similar shape and fitted at its upper end with a pressed metal lid or cover of a like shape which is connected to the top of the case at one side by means of a hinge incorporating spring means which serve to raise the lid to open position immediately upon its release from a locking catch associated with the case at the opposite side of the lid. Located within the case at the top or upper end thereof is a sheet metal carrier plate formed or otherwise provided with a centrally disposed annular screwthreaded neck or boss which depends into that portion of the case immediately below the carrier plate and constitutes a holder for a small sheet metal cup-shaped container or socket which is screwed into said neck and opens at its upper end into that part of the device between the lid and the adjacent carrier plate. Mounted within the mouth or upper part of said container or socket is a disc of mica or other suitable insulating material, and positioned above and secured to the latter is a core or frame of porcelain or other suitable non-conducting material whereon is wound an electrical resistance consisting of a length of

Price 4s 6d

Price 2s 6d

current-conducting wire one end of which is attached to a metal terminal strip extending downwardly through an aperture in the insulating disc and thence through a second insulating piece located in the base of the container, whilst the other end of the coiled resistance wire is attached to a further current-conducting strip passing through a second aperture in said insulating disc and soldered or otherwise suitably connected with the wall of the screw container.

Positioned within the interior of the case between the base of the small container or socket and the detachable end cap or closure is a cell or battery of conventional type or pattern provided, as is usual, with a suitably bent terminal strip of spring metal which engages the lower end of the resistance terminal projecting through the container base and a second vertically-arranged spring terminal strip which is adapted to be engaged by the metallic contact piece of a circuit-closing device or switch upon depression of an external spring-projected push button thereof, such device being mounted on the wall of the igniter case adjacent to the hinged lid or cover and being provided with the catch member before referred to which is adapted to be inwardly displaced upon depression of said push button in order to release and permit of automatic opening movement of the lid simultaneously with the closing of the electrical circuit through the battery. One or more recesses or sockets are also provided on the upper part of the battery to take over suitably indented or projected part or parts of the case and so serve to locate the

battery in the required position within the case.

In use of the device, it will be seen that when said push button of the switch is pressed inwardly against its spring resistance the catch member associated therewith is released from the lid or a lid projection to allow the lid to move under spring influence to open position, and simultaneously, the contact piece of the switch engages the vertical terminal strip of the cell or battery to close the circuit through the—now exposed—wire resistance which therefore becomes incandescent so that a cigarette or cigar may be placed in contact with it and ignited, the electric current passing by way of the bent terminal strip of the battery through the input terminal of the socket to the resistance and thence by way of the output terminal of the socket, the socket itself, and the switch to the vertical terminal strip of the battery.

The igniting element may be of any suitable construction, for example, it may consist of one or more resistance wires mounted upon a solid or perforated frame or core of any convenient pattern, or one or more coiled resistances or bars or rods of suitable material and of solid, hollow, or perforated form may be used either separately or in conjunction, as may be desired. Or again, a perforated disc or other convenient member of suitable material may be employed.

Dated this 12th day of July, 1933.

JOHN HINDLEY WALKER,
139, Dale Street, Liverpool, and
125, High Holborn, London, W.C. 1,
Agent for the Applicants.

COMPLETE SPECIFICATION.

Improvements in or relating to Lighters for Cigarettes, Cigars, and the like.

We, MARTINUS THOMSON (British Nationality), of 13, Mansfield Street, Sherwood, Nottingham, GEORGE FREDERICK ANDERSON (British Nationality) of 144, Haydn Road, Sherwood, Nottingham, and HERBERT GEORGE GIBLING (British Nationality) of 12, Oakland Street, Hyson Green, Nottingham, 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 lighters for cigarettes, cigars, and the like, and has for its object to provide a neat, serviceable and compact form of lighter which

may be easily and safely carried in a garment pocket, or, if desired, adapted for fitment to a suitable stand or other convenient article, or for supporting on a table or surface, and which, in addition is of simple and inexpensive yet robust construction, and possesses few working parts that are liable to derangement.

A lighter, according to our invention, broadly comprises or includes a suitable case or holder provided with a hinged or other suitable lid or cover at one end and a removable or otherwise displaceable end cap or closure at its opposite end; a carrier consisting of one or more plates or tongues located in said case or holder at that end thereof adjacent to the lid

or cover; a container or socket, preferably of cup-like shape, centrally disposed in and carried in removable or non-removable manner by said carrier and opening to the interior of the device between the carrier and the lid or cover; an electrical igniting element, such as one or more resistance wires, bars, or filaments, mounted at the open end of and insulated from said container or socket; a current conductor leading from one end of said resistance through the base of said container or socket; a second current conductor leading from the opposite end of the resistance to the container or socket; and a finger-operating circuit-closing device or switch mounted on the case or holder adjacent to the lid or cover thereof and above the battery or battery-containing compartment of the case or holder: the arrangement being such that upon insertion of a battery of convenient type or pattern into that part of said case or holder between the base of the container or socket and the end cap or closure and by appropriate actuation of said finger-operating device, an electrical circuit through the resistance is closed by way of one terminal of the battery, the igniting element and circuit-closing device and the other terminal of the battery, so that, by direct application of a cigarette or cigar to the resistance whilst current is passing through same, easy and rapid ignition of a cigarette, or the like, may be readily accomplished.

Preferably, said circuit-closing device constitutes a convenient locking means for the lid or cover which may be adapted to move to open position automatically with the closing of the electrical circuit of the igniting element.

In order that our invention may be fully understood reference is now made to the accompanying sheet of explanatory drawings which illustrate, by way of example only, one convenient mode of carrying the same into effect.

In said drawings:—

Fig. 1 is a side elevation, Fig. 2 a longitudinal section and Fig. 3 a plan view, of a pocket lighter in accordance with the invention, the lid of the lighter being shown in open position in Fig. 3. Figs. 4 and 5 are views, drawn to an enlarged scale as compared with the preceding Figs., showing in longitudinal section and plan view, respectively, the construction of the removable igniter and socket unit of the lighter.

Fig. 6 illustrates, in section, the construction of the combined switch and lid-fastening device, such device being also drawn to an enlarged scale as compared with Figs. 1 to 3, inclusive.

1 generally designates a sheet metal case or holder closed at its lower end by a detachable flanged sheet metal cap 2 and fitted at its upper end with a pressed metal lid or cover 3 of a like shape which is connected to the top of the case at one side by means of a hinge 4 incorporating spring means 5 which serve to raise said lid 3 to open position immediately upon its release from a locking catch 6 associated with the case at the opposite side of the lid. Located within case 1 at the top or upper end thereof is a sheet metal carrier plate 7 formed, as shown, or otherwise provided with a centrally disposed annular screwthreaded neck or boss 8 which depends into that portion 9 of the case immediately below said carrier plate and constitutes a holder for a small sheet metal cup-shaped container or socket 10 which is screwed into said neck 8 and opens at its upper end into that part 11 of the device between lid 3 and the adjacent carrier plate 7. Mounted within the mouth or upper part of said container or socket 10 is a disc of mica or other suitable insulating material 12, and securely positioned above and insulated by the latter from the socket is an igniting element which includes a core or frame 13 of porcelain or other suitable non-conducting material whereon is wound an electrical resistance consisting of a length of wire 14 one end of which is attached to a current-conducting wire 15 extending downwardly through an aperture 16 in the insulating disc and thence through a second insulating piece 17 located in the base of container or socket 10, whilst the other end of the coiled resistance wire 14 is attached to a further current-conducting wire 18 passing through a second aperture 19 in said insulating disc 12 and soldered or otherwise suitably connected at 20 with the wall of the screw container 10.

Positioned within the lower part or compartment 9 of case 1 between the base of the small container or socket 10 and the detachable end cap or closure 2 is a cell or battery 21 of conventional type or pattern provided, as is usual, with a suitably bent terminal strip 22 of spring metal which engages the lower end of the current-conducting wire 15 projecting through the container base and a second vertically-arranged spring terminal strip 23 which is adapted to be engaged by the metallic contact piece 24 of a circuit-closing device or switch 25 upon depression of an external spring-projected push-button 26 thereof, such device 25 being mounted above the battery on the upper part of the igniter case 1 adjacent to the hinged lid or cover 3 and being provided with

the catch member 6 before referred to which is adapted to be inwardly displaced upon depression of said push button 26 in order to release and permit of automatic opening movement of lid 3 simultaneously with the closing of the electrical circuit through battery 21. One or more recesses or sockets, as 27, are also provided on the upper part of the battery to take over suitably indented or projected part or parts 28 of case 1 and so serve to locate the battery in the required position within the case: these means also prevent the use of batteries of a type or pattern other than that intended for employment in the lighter.

In use of the device, it will be seen that when said push button 26 of the switch is pressed inwardly against its spring resistance the catch member 6 associated therewith is released from a lid projection 29 to allow lid 3 to move under spring influence to open position, and simultaneously, the contact piece 24 of the switch engages the vertical terminal strip 23 of the cell or battery 21 to close the circuit through the now exposed wire resistance 14 which therefore becomes incandescent so that a cigarette or cigar may be placed in contact with it and ignited, the electric current passing by way of the bent terminal strip 22 of the battery through the input wire 15 of the socket 10 to the resistance and thence by way of the output wire 18 of the socket, the socket 10 itself and switch 25 to the vertical terminal strip 23 of the battery.

The igniting element may be of any suitable construction, for example, it may consist of one or more resistance wires mounted upon a solid or perforated frame or core of any convenient pattern, or one or more coiled resistances or bars or rods of suitable material and of solid, hollow, or perforated form may be used either separately or in conjunction, as may be desired. Or again a perforated disc or other convenient member of suitable material may be employed.

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. A lighter for cigarettes, cigars, and the like, comprising a case or holder containing or adapted to contain a current supply battery in its lower part and provided with a hinged or other suitable lid or cover at one end and a removable or otherwise displaceable end cap or closure at its opposite end; a carrier consisting of one or more plates or tongues located in said case or holder at that end thereof adjacent to the lid or cover; a container

or socket, preferably of cup-like shape, centrally disposed in and carried in removable or non-removable manner by said carrier and opening to the interior of the device between said carrier and the lid or cover; an electrical igniting element, such as one or more resistance wires, bars, or filaments, mounted at the open end of and insulated from said container or socket; a current conductor leading from one end of said resistance through the base of said container or socket; a second current conductor leading from the opposite end of said resistance to the container or socket; and a circuit-closing switch mounted on the case or holder adjacent to the lid or cover thereof and above the battery or battery or battery-containing compartment of the case or holder.

2. A lighter as claimed in the preceding claim, in which the container or socket is screwed into a centrally disposed annular neck or boss-like member formed or otherwise provided on a carrier plate secured in the end of the case or holder adjacent to a hinged lid or cover thereof, and said container or socket is fitted at its open end with an insulating disc or member constituting a support for an igniting element consisting of a length of current-conducting wire wound upon a core or frame of suitable non-conducting material.

3. A lighter as claimed in the preceding Claim 2, in which a current-conducting wire is attached to one end of said coiled resistance wire and extends downwardly through an aperture in said insulating disc or member and thence through a second insulating piece located in the base of said container or socket, and a further current-conducting wire is attached to the opposite end of said coiled resistance wire and passes through a second aperture in said insulating disc or member and is soldered or otherwise secured to the container or socket.

4. A lighter as claimed in the preceding Claim 1, in which the circuit-closing switch includes a contact piece located within the case or holder, a push button, or the like, situated externally of the case, and a catch member which is adapted to be moved against spring resistance into a position to free the lid or cover simultaneously with the projection of said contact piece into circuit-closing position.

5. A lighter as claimed in any one of the preceding Claims, in which means, such as one or more sockets formed on the battery to take over suitably indented or projected part or parts of the case, are provided to locate and and maintain the battery in required position within the case or holder.

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6. A pocket lighter for cigarettes, cigars, and the like, substantially as hereinbefore described and illustrated in the accompanying drawings.

Dated this 31st day of July, 1933.

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125, High Holborn, London, W.C. 1,
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[This Drawing is a reproduction of the Original on a reduced scale.]

