

PATENT SPECIFICATION

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PROVISIONAL SPECIFICATION

Improvements relating to Cigar, Cigarette, or like Lighters

I, BENNO LÖWENTHAL, of 2, Manessestrasse, Zürich, Switzerland, a German Citizen, do hereby declare the nature of this invention to be as follows:—

5 This invention relates to pyrophoric cigarette or like lighters in which a part carrying a cap for a wick, which when the part is closed covers the wick, is mounted on the same rotary spindle as the friction wheel and is resiliently urged to fly open but is retained closed by a lever which although separate then virtually constitutes a rearward extension of the cap-carrying part.

10 In the lighter according to the invention the cap-carrying part and the lever are of inverted U-shaped cross-section and they pass over the frame in which the spindles for the cap-carrying part and the lever are carried. The adjacent horizontal or vertical end edges or part of the vertical edges, or both horizontal and vertical edges of these two parts preferably abut against one another when they are in the closed position in which they may conveniently be locked by a projection on the end of the lever which engages under the horizontal surface of the adjacent end of the cap-carrying part. When the lever is tilted by downward pressure on its other end, the cap-carrying part is tilted in the other direction due to the upward pressure of the projection until the projection slips past its horizontal edge, when this part flies open under the action of its spring and thus rapidly rotates the friction wheel to ignite the wick.

15 In order that the nature of the invention may be clearly understood one example of a lighter made in accordance with it will now be described in greater detail. The wick projects through the top of the container or body of the lighter at a point near its left end. Secured on the top of the lighter to the right of the wick is an open-topped bearing member of U-shaped transverse section made of sheet metal conveniently by bending or pressing from a single piece. The left-hand end is open and the right-hand end closed. A spindle passes through the two vertical walls of this member nearer its left-hand end and has a friction wheel mounted on

it between these walls. The two ends of the spindles project and pass into and are secured in the two vertical walls of a cap-carrying member of inverted U-shaped transverse section, which walls thus pass down on the outsides of the walls of the bearing member. The cap-carrying member is also made by bending or pressing sheet metal and its left-hand end is closed and the right-hand end open. Near its left-hand it carries, on the underside of its upper horizontal wall, a cap for the wick. This cap is slidably mounted in a short tube to the end of which it is urged by a helical spring housed in the tube. A spring urges the cap-carrying member to fly open in a clockwise direction. A second spindle presses through the bearing member to the right of the first spindle. The ends of the second spindle pass into the vertical walls of a second member similar to the cap-carrying member but having no cap and its right-hand end closed instead of the left-hand end. It is urged to move in an anti-clockwise direction by means of a spring which passes round its spindle and one limb of which presses against the underside of its top wall and the other limb against the bottom of the bearing member on the top of the body-portion of the lighter. A flat member is secured to this underside so that part of it projects. It may extend over all or most of the space between the vertical walls. When the parts are in the closed positions, i.e. with the cap pressing down on the wick the projecting end of the flat member is under the right-hand end of the horizontal upper wall of the cap-carrying member. The upper wall of this member is now in the same plane as that of the second member. The right-hand end edge of the upper wall of the cap-carrying member is now butted against the left-hand end edge of the second member, as also are the upper parts of the adjacent vertical edges of the vertical walls of these members. Downward pressure on the top of the second member towards its right-hand end causes this member to turn in a clockwise direction. The cap-carrying member is first moved slightly in the reverse direction by the

projecting end of the flat member the spring of the wick-cap being compressed accordingly but the flat member eventually slips past the right-hand horizontal edge of the cap-carrying member which then flies open in the same direction to rotate the friction wheel and ignite the wick which it has now uncovered. The end of the flat member now acts as a stop to prevent the cap-carrying member from moving too far. The vertical walls of the bearing member are cut away so as to allow the right-hand end of the top wall of the cap-carrying member to pass down

and the adjacent vertical edges of the two members are shaped so that they clear one another on the opening movement.

It will be seen that the construction according to the invention while simple, provides an ignition device which is normally substantially enclosed.

Dated this 25th day of March, 1937.

For the Applicant:

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COMPLETE SPECIFICATION

Improvements relating to Cigar, Cigarette, or like Lighters

I, BENNO LÖWENTHAL, of 2, Manessestrasse, Zürich, Switzerland, a German Citizen, 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 pyrophoric cigarette or like lighters in which a pivoted member carrying a cap for a wick, which cap covers the wick when the member is in a closed position, is mounted on the same spindle as the friction wheel and is resiliently urged to fly open but is retained closed by a lever which although separate is arranged end-to-end with this member so as virtually to constitute an extension of it and which can be moved to release the cap-carrying member.

In the lighter according to the invention the cap-carrying member and the lever are of inverted U-shaped cross-section and they pass over the outside of a frame made by bending a single appropriately-shaped piece of sheet metal, which frame carries the spindle on which the cap-carrying member is pivoted as well as that on which the lever is pivoted.

The invention will now be described with reference to the accompanying drawing which illustrates one example of a lighter made in accordance with it. In this drawing, Fig. 1 is a side elevation of the top of the closed lighter with parts shown broken away and in section.

Fig. 2 is a side elevation showing the lighter open, and

Fig. 3 is a plan.

Referring to the drawing, the wick tube *d* projects through the top of the container or body of the lighter at a point near its left end. Secured on the top of the lighter to the right of the wick tube is an open-topped bearing member or frame *g* of U-shaped transverse section and made by

bending a single appropriately-shaped piece of sheet metal. The left-hand end is open and the right-hand end closed.

A spindle *e* passes through the two vertical walls of this frame *g* nearer its left-hand end and has a friction wheel *f* mounted on it between these walls. The two ends of the spindle project and pass into and are secured in the two vertical walls of a cap-carrying member *a* of inverted U-shaped transverse section, the walls of which thus pass down on the outside of the walls of the bearing member.

The cap-carrying member is also made by bending sheet metal and its left-hand end is closed and the right-hand end open. Near its left-hand end it carries, on the underside of its upper horizontal wall, a cap *b* for the wick tube *d*. This cap *b* is slidably mounted in a short tube to the end of which it is urged by a helical spring *c* housed in the tube. A spring, which is not shown, urges the cap-carrying member *a* to fly open in a clockwise direction. A second spindle *i* passes through the frame *g* to the right of the first spindle *e*. The ends of the second spindle pass into the vertical walls of a second member or lever *h* which is similar to the cap-carrying member *a* but having no cap and having its right-hand end closed instead of the left-hand end. It is urged to move in an anti-clockwise direction by means of a spring *m* which passes round its spindle and one limb of which presses against the underside of its top wall and the other limb against the bottom of the frame *g* on the top of the body-portion of the lighter. A flat member *l* is secured to this underside so that part of it projects. It may extend over all or most of the space between the vertical walls. When the parts are in the closed positions shown in Fig. 1, i.e. with the cap *b* pressing down on the wick tube *d*, the pro-

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jecting end of the flat member *l* is under the right-hand end of the horizontal upper wall of the cap-carrying member *a*. The upper wall of this member *a* is now in the same plane as that of the second member *h*. Downward pressure on the top of the second member *h* towards its right-hand end causes this member to turn in a clockwise direction. The cap-carrying member *a* is first moved slightly in the reverse direction by the projecting end of the flat member *l*, the spring of the wick-cap carrier being compressed accordingly but the flat member *l* eventually slips past the right-hand horizontal edge of the cap-carrying member *a* which then flies open in the same direction into the position shown in Fig. 2, rotating the friction wheel *f* as it does so to ignite the wick which it has now uncovered. The end of the flat member *l* now acts as a stop to prevent the cap-carrying member *a* from moving too far. The vertical walls of the bearing member *g* are cut away as shown at *k* so as to allow the right-hand end of the top wall of the cap-carrying member *a* to pass down and the adjacent vertical edges of the two members are shaped so that they clear one another on the opening movement.

Instead of or in addition to employing a member *l* on the lever to retain the cap-carrying member in its closed position, the arrangement may be such that the right-hand end edge of the top wall of the cap-carrying member *a* abuts against the corresponding left-hand end edge of the lever *h*. The adjacent vertical edges of the side walls of these members, or the upper parts of these edges, may instead abut when the parts are in this position for the same purpose; or the edges of both the upper and the side walls of the two members may abut.

It will be seen that the construction

according to the invention while simple, provides an ignition device which is normally substantially enclosed.

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

1. A pyrophoric cigarette or like lighter in which a pivoted member carrying a cap for a wick, which cap covers the wick when the member is in a closed position, is mounted on the same rotary spindle as the friction wheel and is resiliently urged to fly open but is retained closed by a lever which although separate is arranged end-to-end with said member so as virtually to constitute an extension of it, and wherein the cap-carrying member and the lever are of inverted U-shaped cross-section and pass over a frame made by bending a single appropriately-shaped piece of sheet metal, which frame carries the spindle on which the cap-carrying member is pivoted as well as that on which the lever is pivoted.

2. A pyrophoric lighter according to Claim 1, wherein the cap is resiliently mounted on its carrying member so that it can be moved with respect to it when the member is tilted in the reverse direction just prior to release.

3. A pyrophoric lighter substantially as hereinbefore described with reference to the accompanying drawings.

Dated this 25th day of March, 1938.

For the Applicant:

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Reference has been directed, in pursuance of Section 7, sub-section (4), of the Patents and Designs Acts, 1907 to 1938 to Specifications Numbered 379,532, 378,356, 372,099 and 350,742.

[This Drawing is a full-size reproduction of the Original.]

