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PATENT SPECIFICATION



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PROVISIONAL SPECIFICATION

Improvements relating to Pyrophoric Lighters

We, JOHN HENRY COLLINS, of The Old House, Nazeing, Essex, a British Subject, and B. PEARLMAN & COMPANY LIMITED, of 9-13, Redchurch Street, London, E.2, a British Company, do hereby declare the nature of this invention to be as follows:—

This invention relates to improvements in pyrophoric lighters, and is directed to the provision of an efficient and convenient pocket lighter for cigarettes or the like in which the minimum of metal is used in the manufacture.

According to the invention, the improved pyrophoric lighter comprises a hollow body part moulded from an artificial resinous material, having apertures in one end thereof through which may be passed a wick and a tube in which are carried a spring and a pyrophoric element or "flint", an aperture being also provided at the other end of the hollow body part to permit a suitable liquid fuel to be supplied to absorbent material contained within the hollow body part, a cap or plug being provided to enclose the said absorbent material within the body part, a metal plate being mounted above the end of the body part through which the wick and the flint-tube project, and a cap member being also provided to enclose the projecting ends of the wick and the flint-tube.

The metal plate is secured to the upper end of the hollow body part by downwardly projecting tongues or flanges which engage suitably formed parts of the outer surface of the body part, being held thereon by the frictional contact between the metal tongues or flanges and the artificial resin body part.

The metal plate mounted on the upper end of the body part has an aperture provided therein through which the wick projects, such aperture being formed in a raised part of such plate, thereby spacing the wick aperture in the plate from the wick aperture in the upper end of the body part. By this means, the heat generated by the ignition of fuel vapour at the wick end is prevented from deleteriously affecting the artificial resin of which the body part of the lighter is made.

A second aperture is provided in the metal plate through which projects the outer end of the tube carrying the spring and the "flint"; the end of this tube is slit and flattened and holes are bored through such flattened parts to provide bearings for the pivot pin of a striking wheel mounted between the flattened parts of the tube. The inner end of the tube, which extends within the body part substantially to the full length thereof, is closed by a screwed plug whereby tension is applied to the spring, and whereby such tension may be regulated in the known manner.

In a convenient constructional form of the invention, the body part of the lighter comprises a hollow cylindrical member, open at one end, its other or upper end being shaped to provide a recessed cylindrical surface against which there may engage by frictional contact the inner cylindrical surface of a cap member, similarly formed of artificial resinous material. Such recessed cylindrical face of the body part may alternatively have screw threads provided thereon to be engaged by corresponding screw threads on the interior of the cap member.

A further inwardly recessed cylindrical surface is provided upon the upper end of the body part, over which may be forced the downwardly depending cylindrical flange of a metal plate which is securely held in position upon the body part by the friction between the two engaging surfaces.

Registering apertures are provided in the metal plate and in the upper end of the body part through which project a wick and a tube containing a "flint" and a flint-spring, the end of the tube within the body part of the lighter being closed by a screwed plug in the known manner and the upper end thereof projecting above the metal plate being slit and flattened to serve as the mounting for a striking wheel pivoted on a pin the ends of which engage in holes in such flattened parts of the tube.

The part of the metal plate in which the hole is formed is raised above the plane of the remaining part of the

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plate, so that a space is provided between the wick hole in the upper end of the body part and the wick hole in the plate.

The lower end of the body part is 5 formed with an internal screw thread which is engaged by an external screw thread upon a cylindrical flange of a cap member whereby the end of the body part is closed. The dimensions of the flint 10 tube are so chosen that the screwed plug closing the end thereof within the body part extends into the flange of the closure member, so that such screwed plug is accessible to the fingers of the user when 15 the closure member has been removed, for example, when it is desired to insert a new flint or to adjust the tension of the flint-spring.

The upper end of the flint tube, where 20 it passes through the metal plate, may be soldered or otherwise secured thereto, the said tube being maintained in position within the body part of the lighter by such securing means and by the cotton

wool or like absorbent material with 25 which the interior of the body part is filled, such material being packed closely around the flint tube.

It will be seen that by the above described construction a lighter is provided 30 in which the minimum of metal parts are included and in which all the processes of manufacture are of relative simplicity, thus enabling the costs of manufacture to be reduced to a very low figure. The 35 method of construction whereby the aperture for the wick in the metal plate is spaced from the artificial resin body part affords a satisfactory method of utilising artificial resin materials for the body part 40 of the lighter without incurring the risk of heat-deterioration of such materials.

Dated this 12th day of November, 1941.

D. YOUNG & CO.,
21, Bourne End Road, Northwood,
Middlesex,
Agents for the Applicants.

COMPLETE SPECIFICATION

Improvements relating to Pyrophoric Lighters

We, JOHN HENRY COLLINS, of The Old House, Nazeing, Essex, a British Sub- 45 ject, and B. PEARLMAN & COMPANY LIMITED, of 9-13, Redchurch Street, London, E.2, a British Company, do hereby declare the nature of this invention and in what manner the same is to be 50 performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to improvements in pyrophoric lighters, and is directed to 55 the provision of an efficient and convenient pocket lighter for cigarettes or the like in which the minimum of metal is used in the manufacture.

According to the invention, the improved pyrophoric lighter comprises a 60 hollow body member and a cap member fitting thereon, both the body member and the cap member being moulded from artificial resinous material, a metal plate 65 being mounted on the upper part of the hollow member through which project the ends of a wick and a flint tube.

The invention may be carried into 70 practice as shown in the accompanying drawing.

As shown in the said drawing, the improved pyrophoric lighter comprises a hollow body part 1 moulded from an artificial resinous material, having apertures 75 2, 3 in one end thereof through which may be passed a wick and a tube 4 in which are carried a spring and a pyrophoric element or "flint", an aperture

5 being also provided at the other end of the hollow body part to permit a suitable liquid fuel to be supplied to 80 absorbent material contained within the hollow body part, a cap or plug 6 being provided to enclose the said absorbent material within the body part, a metal 85 plate 7 being mounted above the end of the body part through which the wick and the flint-tube project, and a cap member 8 being also provided to enclose the projecting ends of the wick and flint-tube 90 4.

The metal plate 7 is secured to the upper end of the hollow body part by downwardly projecting tongues or flanges 9 which engage suitably formed parts 10 of 95 the outer surface of the body part, being held thereon by the frictional contact between the metal tongues or flanges 9 and the artificial resin body part.

The metal plate 7 has an aperture 11 100 provided therein through which the wick projects, such aperture being formed in a raised part 12 of such plate, thereby spacing the wick aperture 12 in the plate from the wick aperture 2 in the upper end of 105 the body part. By this means, the heat generated by the ignition of fuel vapour at the wick end is prevented from deleteriously affecting the artificial resin of which the body part 1 of the lighter is 110 made.

A second aperture is provided in the metal plate 7 through which projects the outer end of the tube 4 carrying the

spring and the "flint"; the end of this tube is slit and flattened and holes are bored through such flattened parts to provide bearings for the pivot pin 13 of a striking wheel 14 mounted between the flattened parts of the tube. The inner end of the tube, which extends within the body part substantially to the full length thereof, is closed by a screwed plug 15 whereby tension is applied to the spring, and whereby such tension may be regulated in the known manner.

In the constructional form of the invention shown in the drawing, the hollow cylindrical body part of the lighter is open at one end, its other or upper end being shaped to provide a recessed cylindrical surface 16 against which there may engage by frictional contact the inner cylindrical surface of the cap member 8, similarly formed of artificial resinous material. Such recessed cylindrical face 16 of the body part 4 may alternatively have screw threads provided thereon to be engaged by corresponding screw threads on the interior of the cap member.

A further inwardly recessed cylindrical surface 17 is provided upon the upper end of the body part, over which may be forced the downwardly depending cylindrical flange or tongues 9 of the metal plate 7, which is securely held in position upon the body part by the friction between the two engaging surfaces, or may be held thereon by screwthreads provided on the surface 17 and in the tongues 9.

The lower end of the body part 1 is formed with an internal screw thread which is engaged by an external screw thread upon a cylindrical flange of the cap member 6 whereby the end of the body part is closed. The dimensions of the flint tube are so chosen that the screwed plug closing the end thereof within the body part extends into the flange of the closure member, so that such screwed plug is accessible to the fingers of the user when the closure member has been removed, for example, when it is desired to insert a new flint or to adjust the tension of the flint-spring.

The upper end of the flint tube 4, where it passes through the metal plate, may be soldered or otherwise secured thereto, as shown at 19, the said tube being maintained in position within the body part of the lighter by such securing means and by the cotton wool or like absorbent material with which the interior 20 of the body part is filled, such material being packed closely around the flint tube.

It will be seen that by the above described construction a lighter is provided

in which the minimum of metal parts are included and in which all the processes of manufacture are of relative simplicity thus enabling the costs of manufacture to be reduced to a very low figure. The method of construction whereby the aperture for the wick in the metal plate is artificial resin materials for the body part affords a satisfactory method of utilising artificial resin materials for the body part of the lighter without incurring the risk of heat-deterioration of such materials.

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 pyrophoric lighter for cigarettes or the like comprising a hollow body member and a cap member fitting thereon, both the body member and the cap member being made from artificial resinous material, a metal plate being mounted on the upper part of the hollow body member through which plate project the ends of a wick and of a flint tube.

2. A lighter according to Claim 1, wherein registering apertures are provided in the upper end of the hollow body member and in the metal plate through which passes a wick, the part of the metal plate in which the wick aperture is formed being raised to provide a space between the two registering apertures.

3. A lighter according to Claim 1, wherein the metal plate is spaced from the upper end of the body member, and is secured thereto by means of the engagement with a part of the body member of reduced diameter of depending tongues or flanges formed on the plate.

4. A lighter according to any of the preceding claims, wherein the metal plate is screw-threadedly mounted on the body member.

5. A lighter according to any of Claims 1 to 3, wherein the metal plate is held upon the body member by the frictional engagement of a depending flange or of depending tongues formed on the metal plate with the outer surface of the body member.

6. A lighter according to any of the preceding claims, wherein the end of the body member remote from the metal plate is closed by a screwed plug.

7. A lighter according to Claim 6, wherein the end of the flint-tube projects within a hollow formed in the screwed plug.

8. A pyrophoric lighter for cigarettes or the like constructed as hereinabove described with reference to the accompanying drawing.

Dated this 15th day of October, 1942. D. YOUNG & CO.,
21, Bourne End Road, Northwood,
Middlesex,
Agents for the Applicants.

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

