

PATENT SPECIFICATION



Application Date: Aug. 27, 1941. No. 10924/41.

545,563

Complete Specification Accepted: June 2, 1942.

Bibliotech
Bur. Ind. Nigerian

COMPLETE SPECIFICATION

13 MRT. 1946

An Improved Manufacture of Pyrophoric Lighters for Cigarettes or the like

We, ERNEST EDWARD BEECH, a British Subject, of 29, Shrubland Road, London, E.17, HOWARD WALL LIMITED, a British Company, of 25-37, Hackney Road, London, E.2, and B. PEARLMAN AND COMPANY LIMITED, a British Company, of 9-13, Redchurch Street, London, E.2, 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 an improved manufacture of pyrophoric lighters for cigarettes or the like, of the kind in which a ferrocium or like pyrophoric element and spring means for urging such element into resilient contact with an abrasive or striking wheel are mounted within a tube disposed horizontally upon the upper plane surface of the lighter casing or reservoir.

According to the present invention such tube, and the member whereby the tube is held and mounted upon the lighter casing or reservoir, are each formed from a single strip of sheet metal, thus providing a relatively inexpensive method of manufacturing these parts, and obviating the necessity for the use in such manufacture of the relatively more costly and complicated machinery previously required.

The invention is carried into practice as shown in the accompanying drawing, in which

Figure 1 is a side elevation of a pyrophoric lighter constructed in accordance with this invention,

Figure 2 is a detail view in perspective of the tube hereinbefore referred to.

Figure 3 is a view showing the sheet metal blank from which the tube of Figure 2 is formed,

Figure 4 is a detail view in perspective of the supporting member whereby the said tube is mounted upon the lighter casing or reservoir, and

Figure 5 is a view similar to Figure 3 showing the sheet metal blank from which the supporting member of Figure 4 is formed.

As shown in the drawing, there is mounted upon the upper plane surface of the casing or reservoir 1 of a pyrophoric lighter, a tube 2, hereinafter referred to as the "flint tube", wherein there are carried a ferrocium element or "flint", a spring urging such element into contact with a striking wheel, and a member 3 whereby such spring is held in position within the tube.

The tube 2 is formed from a sheet metal blank 4, of substantially rectangular shape as shown in Figure 4, slot 5, 5 being cut in one of the shorter sides of such rectangular blank, and an arm 6 having a hole 7 therein extending laterally from the other shorter side of such blank. The blank is bent to a substantially cylindrical shape to form a tube 2 as shown in Figure 3, having oppositely disposed slots 5, 5 at one end thereof, and a laterally projecting arm 6 at the other end thereof.

It will be seen that there is thus provided a member adapted to serve as the tubular support in which the "flint", flint spring and spring holding means as usually employed in pyrophoric lighters of this kind may be carried, the arm 6 serving as the upper support for a striking wheel, a pivot pin or rivet passing through the hole 7 therein and extending through the striking wheel to a hole provided therefor in the lighter casing, and the slots 5, 5 serving to receive pins upon a plug or like member 12 whereby a spring inserted into the end of the tube 2 may be stressed to urge a "flint" of ferrocium or the like against the striking wheel held between the lighter casing and the arm 6. Such plug 12 after stressing the spring, is rotated to bring the pins thereon into the re-entrant parts of the slots 5, 5 to maintain the plug in position in the tube with the spring stressed.

The supporting member 3 is formed from a sheet metal blank 8, of substantially cruciform outline, having a finger or lug 9 projecting from each end of the longer arm of the cross, and the shorter arms 10, 10 of the cross being situated at or adjacent to one of the ends of the longer arm, as shown in Figure 5. Adjacent to

the end of the longer arm remote from the shorter arms 10, 10 there is provided a part of reduced width 11. It will be seen that by bending into a substantially cylindrical shape the part of the blank 8 between the arms 10, 10 and the part 11 thereof, and by bending the said arms 10, 10 to lie around the part 11 of reduced width, the fingers or lugs 9 are brought to lie flatly together, a supporting member for the tube 2 being thus produced as shown in Figure 3. The two juxtaposed fingers 9, 9 are passed within the lighter casing or reservoir through a slot provided for such purpose in the upper plane surface thereof, and secured to the inner surface by bending the said fingers 9 outwardly so that they lie in the same plane, and thereafter soldering such fingers 9 to the inner surface of the casing.

The tube 2 is passed through the substantially cylindrical member 3, and may be held in the appropriate position therein in any convenient manner, for example by soldering such tube 2 in the member 3.

In a modified form of the flint tube, (not illustrated) the slots 5, 5 in the blank 4 are dispensed with, and after bending of the said blank 4 to form the tube 2 shown in Figure 2, an internal screw-thread is formed in the end of the tube remote from the finger or lug 6. A screw-plug of the known kind is provided in this form of the lighter, such plug engaging the internal screw-thread of the flint tube to stress the spring therein in the known manner.

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, of the kind wherein a ferrocium or like pyrophoric element, and spring means for urging such element into resilient contact with a striking wheel, are mounted within a tube disposed horizontally upon the lighter casing, characterised by the formation of such tube, and of the member whereby the tube is supported on the casing, each from a single strip of sheet metal.

2. A pyrophoric lighter as claimed in Claim 1, wherein the blank from which

the tube is formed comprises a strip of sheet metal of substantially rectangular shape, having an arm extending laterally from one of the shorter sides of such rectangle, and having slots with re-entrant parts formed in the edge of the other or opposite shorter side of such rectangle.

3. A pyrophoric lighter as claimed in Claim 1 or in Claim 2, wherein the tube-supporting member is formed from a substantially cruciform blank of sheet metal strip having a finger or lug extending from each end of the longer arm of the cross, the shorter arms of the cross being situated at or adjacent to one of the ends of the longer arm, and the end of the longer arm remote from the shorter arms having a part of reduced width between the main portion of such arm and the finger provided upon the end thereof.

4. A pyrophoric lighter according to Claim 2, wherein the slots are so disposed in the blank as to form diametrically opposite bayonet slots when the blank has been bent to form the tube.

5. A pyrophoric lighter according to Claim 3, wherein the shorter arms of the cross are adapted to be folded around the part of reduced width of the longer arm thereof, such shorter arms being of such length that the ends thereof abut one against the other when the arms are bent around the longer arm.

6. A pyrophoric lighter as in Claims 3 and 5, wherein fingers at the ends of the longer arm of the cross extend through an aperture or slot provided therefor in a part of the lighter casing, are then bent outwardly to lie in the same plane, and are thereafter secured in any convenient manner to the inner surface of the lighter casing.

7. The method of manufacture of a pyrophoric lighter for cigarettes or the like hereinabove described with reference to the accompanying drawing.

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

Dated this 26th day of August, 1941.

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Middlesex,
Agents for the Applicants.

[This Drawing is a reproduction of the Original on a reduced scale.]

