

PATENT SPECIFICATION

Application Date: Aug. 27, 1941, No. 10923/41 **545,518**

Complete Specification Accepted: May 29, 1942.



COMPLETE SPECIFICATION

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 improvements in pyrophoric lighters for cigarettes or the like, of the kind in which a striking wheel is pivotally mounted upon an upper plane surface of the lighter casing or reservoir, such striking wheel having resiliently held in contact therewith a "flint" of ferrocium or like pyrophoric substance and having an operating knurled or "thumb" wheel secured thereto in a manner to prevent relative rotation of the two wheels.

In previously known lighters of this kind such striking and thumb wheels have been secured pivotally to the lighter casing or reservoir by means of a screw-threaded pivot pin passing through axial holes provided in such wheels and engaging in a screw-threaded hole formed therefor in the lighter casing. It has been found in practice that such screw-threaded pivot pins have the tendency to become loose and to fall out and be lost while carried in the pocket of the user.

By the present invention this disadvantage is obviated and a form of mounting of the striking and thumb wheels is provided such that unintentional removal of the said wheels is prevented, while at the same time a simple and relatively inexpensive method of manufacture can be employed. The improved form of mounting of the striking and thumb wheels further presents a simplification in the assembly of the parts concerned.

According to the invention, a pin or the like projects from each end of a substantially integral assembly of the striking and thumb wheels, one of such pins being spring-pressed and capable of

movement into and out of a recess or slide-way provided therefor in the said assembly of the striking and thumb wheels. The projecting pins engage in holes or recesses provided therefor in suitable parts of the lighter or the lighter casing.

A constructional form of the invention is illustrated by way of example in the accompanying drawing, in which

Figure 1 is a side elevation of a pyrophoric lighter for cigarettes or the like incorporating the invention,

Figure 2 is a similar view to an enlarged scale of the assembly of striking and thumb wheels above referred to, and

Figure 3 is a central section through such assembly.

As shown in the drawing, there is provided upon the upper plane surface of a lighter casing or reservoir 1 an assembly comprising a striking wheel 2 and a thumb wheel 3, the wheel 2 being keyed or otherwise formed substantially integrally with the wheel 3. For example, the wheel 2 is secured in any convenient manner, whereby relative rotation of the parts is prevented, to an upward cylindrical or other extension 4 of the thumb wheel 3, as shown in Figure 3.

Pins 5, 6 are provided extending outwardly in an axial direction from holes or recesses provided therefor in the wheels 2 and 3 respectively, one of such pins (in the present case the pin 5) as shown in Figure 3, being urged outwardly from its wheel in an axial direction by a spring such as the spring 7, held in compression in a recess 8 provided therefor in the wheel 3 and in its upward extension 4. An annular flange or other stop 9 upon the inner end of the pin 5 engages a shoulder in the recess 8, and thus prevents removal of the pin in an upward direction, the spring 8 bearing against such flange or stop 9 and against the inner end of a plug 10 carrying the pin 6. The plug 10 may be held within the aperture or recess provided therefor in the wheel 3 in any convenient manner, for example by soldering or brazing, or by means of screw-threads.

The mounting of the striking and

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thumb wheel assembly above described upon the lighter casing is effected by the insertion of the pins 6 and 5 into holes provided therefor respectively in the upper plane surface of the casing or reservoir of the lighter and in an extension 11 of a tube or holder 12 wherein a "flint" and a spring therefor are held. In order to insert the pins 5 and 6 into such holes, the pin 5 is depressed against the action of the spring 8 into the bore of the striking wheel 2, the pin 6 is inserted into the hole in the lighter casing or reservoir, and the striking wheel 3 is moved into position under the extension 11 of the member 12. The pin 5 is then released and under the pressure of the spring 8 moves into the hole provided therefor in the extension 11. It will be appreciated that although there has been shown and described a construction in which the pin 5 is urged by a spring into the hole provided therefor in the extension 11 of the member 12, the invention also includes a construction in which either both pins are similarly spring pressed, or in which only the lower pin, *i.e.* that which engages in a hole provided therefor in the lighter casing or reservoir, is spring-pressed. 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. An assembly comprising the striking and operating wheels of a pyrophoric lighter for cigarettes or the like, provided with a pin or the like extending outwardly in an axial direction from each of such wheels, which are coaxially mounted in such assembly, one of such pins being movable in an axial direction within a recess or the like provided therefor in the assembly, and the assembly being capable of being mounted in position upon the lighter casing or reservoir by the engagement of such pins in holes or recesses provided therefor in suitable parts of the lighter or of the lighter casing.

2. An assembly according to Claim 1,

wherein a spring is provided within the said recess to urge the movable pin outwardly in a radial direction.

3. A pyrophoric lighter for cigarettes or the like, comprising an assembly of the striking and operating wheels in coaxial spaced relationship, in which a pin projects outwardly in an axial direction from each of such wheels, one of such pins being movable in an axial direction within a recess provided therefor in the assembly, and holes being provided in suitable parts of the lighter mechanism or casing within which the outer ends of such pins may be received to hold the assembly in position upon the lighter.

4. A pyrophoric lighter according to Claim 3, wherein the movable pin is urged in an outward direction by a spring provided within a recess within the assembly.

5. A pyrophoric lighter according to Claim 3 or Claim 4, or an assembly for such a lighter according to Claim 1 or Claim 2, wherein the movable pin is the upper pin projecting from a recess in the upper and striking wheel, and wherein a hole for the reception of such pin is provided in an extension of a horizontally disposed tube in which are held a pyrophoric element and spring means for urging such element into contact with the striking wheel.

6. A pyrophoric lighter for cigarettes or the like, constructed and operating substantially as hereinabove described with reference to the accompanying drawing.

7. An assembly of the striking and operating wheels of a pyrophoric lighter for cigarettes or the like, constructed and operating substantially as hereinabove described with reference to the accompanying drawing.

Dated this 26th day of August, 1941.

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Fig. 1.

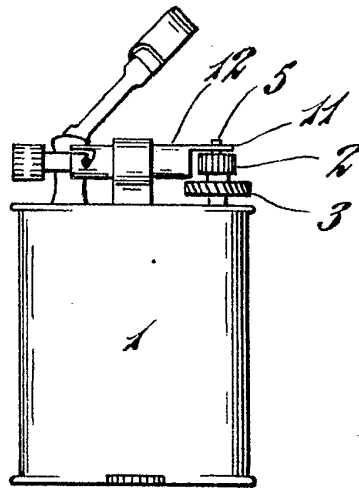


Fig. 2.

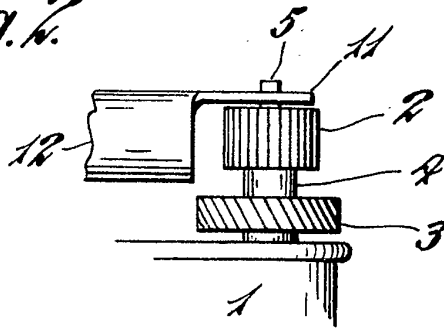
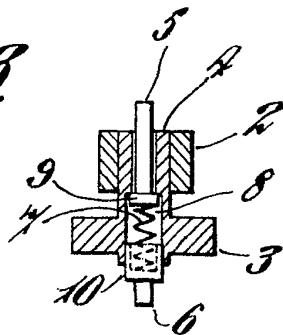


Fig. 3.



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