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## PATENT SPECIFICATION



Application Date: June 10, 1938. No. 17331/38.

511,319

Complete Specification Left: March 27, 1939.

Complete Specification Accepted: Aug. 16, 1939.

### PROVISIONAL SPECIFICATION

#### Improvements in Pyrophoric Lighters for Cigarettes and the like

We, BARNETT PEARLMAN, of 20, The Ridgeway, Golders Green, London, N.W.11, and JOHN HENRY COLLINS, of 75, Torrington Park, North Finchley, London, N.12, both British subjects, do hereby declare the nature of this invention to be as follows:—

This invention relates to pyrophoric lighters of the kind in which a wheel moved by a spring is rotated in contact with the flint when a latch holding the spring under stress is withdrawn.

In a lighter of the kind to which this invention can be applied the wheel is mounted on the same axis as a pivoted arm carrying an extinguisher, this arm having a part formed to be engaged by a spring latch to hold it in position resting upon the tube in which the wick is placed. The wheel is free on its pivotal support, and is provided laterally with ratchet teeth to engage with ratchet teeth on a member on the same axis having an arm extending therefrom to engage the extinguisher arm. A spring is provided which is stressed when closing the extinguisher so that when the spring latch releases the extinguisher arm the said member is moved and carries with it, by engagement of the ratchet, the extinguishing arm and the wheel.

A lateral thrust must be exerted on the said member to keep the ratchet teeth in engagement and according to this invention a part of the spring for rotating the wheel is employed for exerting an axial thrust on this member.

For this purpose a coiled spring is employed extending through the bore of the wheel and the said member, one end of the spring bearing against a fixed abutment and the other end bearing against the arm extending from the said member. Further, one end of the spring is bent or otherwise so disposed that it exerts a lateral pressure as well as a rotational force on the member having ratchet teeth formed thereon.

The latch may be provided with a safety catch for holding it in position retaining the extinguisher closed. This safety catch may be a slidable or rotary member which can be removed when desired by the thumb or finger of the user, or the latch may be held in the latching position on a ledge from which it can be displaced by thrusting it sidewise.

Dated this 10th day of June, 1938.

D. YOUNG & Co.,  
11 & 12, Southampton Buildings,  
London, W.C.2,  
Agents for the Applicants.

### COMPLETE SPECIFICATION

#### Improvements in Pyrophoric Lighters for Cigarettes and the like

We, BARNETT PEARLMAN, of 20, The Ridgeway, Golders Green, London, N.W.11, and JOHN HENRY COLLINS, formerly of 75, Torrington Park, North Finchley, London, N.12, now of 59, Southwood Lane, Highgate, London, N.6, both British subjects, 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 lighters of the kind in which a striking wheel is mounted on the same axis as a pivoted arm carrying an extinguisher, this arm having a part formed to be

engaged by a spring latch to hold it in position resting upon the tube in which the wick is placed. The wheel is free on its pivotal support, and is provided laterally with ratchet teeth to engage with ratchet teeth on a member on the same axis having an arm extending therefrom to engage the extinguisher arm. The member and the striking wheel are held in engagement by a spring mounted on the pivot and adapted to be stressed when closing the extinguisher so that when the spring latch releases the extinguisher arm the said member is rotated by the spring and rotates the extinguishing arm and the wheel.

According to this invention the spring

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extends through the entire bore of the striking wheel and through the member.

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

Figure 1 is a side elevation of a pyrophoric lighter of the type to which this invention relates,

Figure 2 is a view similar to Figure 1, in which the lighter mechanism is shown in section, and

Figure 3 is a section on the line A—A, Figure 2.

As shown in the drawings a lighter 1 has its striking wheel 2 mounted to rotate freely on a pivot 3, whereon is also rotatably mounted an arm 4 carrying an extinguisher 5. The arm 4 has a part 5a thereof formed to engage with a latch 6 provided with a spring 7 and rotatable about a pivot 8. The two pivots 3 and 8 are supported in lugs or brackets 9 mounted on the lighter casing.

The latch 6 holds the arm 5 in position resting upon the wick-tube 10.

Ratchet teeth 2a are formed on one side of the striking wheel 2 engaged by ratchet teeth 11a on a member 11 which is also rotatably mounted upon the pivot 3 and has an extension part 11b engaging the arm 4.

A coiled spring 12 is mounted upon the pivot 3, extending through the entire bore of the striking wheel 2 and the member 11, one end of such spring bearing against the lighter casing and the other end being engaged in a recess 13 provided therefor in a part of the member 11.

One end of the spring 12 is bent or otherwise so disposed that it exerts an axial thrust upon either the member 11 or the wheel 2 to hold these two parts closely in contact, thus ensuring engage-

ment of the ratchet teeth of the member 11 with those formed on the wheel 2.

Closing of the extinguisher arm 4 stresses the spring 12, so that when the latch 6 is depressed against the pressure of its spring 7, the arm 4 and the member 11 rotate upon the pivot 3, and the member 11 rotates the striking wheel 2 through the ratchet teeth 11a, 2a.

The latch 6 may, if desired, be provided with a safety catch for holding it in position retaining the extinguisher closed. This safety catch (not shown in the drawing) may be a slidable or rotary member which can be moved out of engagement with the latch when desired by the thumb or finger of the user, or the latch may be held in the latching position on a ledge from which it can be displaced by thrusting it sideways.

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 set forth, wherein the spring extends through the entire bore of the striking wheel and through the member.

2. A pyrophoric lighter as claimed in Claim 1, wherein one end of the coiled spring bears against a fixed abutment and the other end engages in a recess formed in a part of the ratchet toothed member.

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

Dated this 27th day of March, 1939:

D. YOUNG & Co.,

11 & 12, Southampton Buildings,  
London, W.C.2,

Agents for the Applicants.

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

