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PATENT SPECIFICATION

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COMPLETE SPECIFICATION.



Improvements in Pyrophoric Lighters.

We, HERMANN THORENS SOCIÉTÉ ANONYME, of Sainte-Croix, Canton de Vaud, Switzerland, a Swiss company, 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:—

The subject of the present invention is a pyrophoric lighter which is particularly adapted for domestic use, as for instance to light the burners of gas stoves and is of the type comprising a casing in the shape of a pistol and an operating trigger for the spark producing means, to which is articulated a hook which cooperates with an eccentric having a nose and connected to the usual friction wheel.

According to the invention, the lighter comprises a wick cover rotatably mounted on the casing and subjected to the action of a spring which constantly tends to maintain the cover in closed position, the cover being connected, by means of a flexible member, with the above mentioned hook.

The accompanying drawing represents, by way of example, one embodiment of the subject of the invention.

Figs. 1 and 2 are two elevations showing the lighter mechanism in two different positions of functioning, one side wall of the casing having been removed.

Fig. 3 shows a detail in elevation.

In the represented lighter, 1 is the casing having the shape of a pistol. The wick 2, traversing the tube 3, is in communication with the fuel reservoir 4. 5 is the friction wheel upon which bears a pyrophoric stone 6, capable of sliding in a guiding sleeve 7. The stone is applied against the friction wheel by means of a lever 8 pivoted at 9 on the casing; one end of this lever bears on the stone by the intermediary of a rod 8a, while the other end is connected to a spring 10, the tension of which may be adjusted by a screw 11 which projects out of the lighter, and screws into a nut 12 traversed by the end of the spring. When the screw 11 is screwed or unscrewed, the lever bears with more or less force on the stone to maintain it in contact with the friction wheel.

[Price 1/-]

This latter is provided with side teeth 13 (see Fig. 3) destined to cooperate with a corresponding tothing provided on a disk 14 rotatably mounted on the axis of the friction wheel 5. This disk 14 carries an arm 15 articulated at 16 to a small connecting rod 17 which is itself articulated at 18 to an eccentric 19.

This eccentric is subjected to the action of a spring 20 wound about the axis of the eccentric and having one end fixed to the same, so that anticlockwise rotation of the eccentric tensions the spring and is provided with a nose 21 cooperating with a hook 22, rotatably mounted at 23 on a trigger 24, itself articulated at 25 to the casing 1. 26 is a spring carried by the trigger, and which tends to maintain the hook 22 engaged with the nose 21.

The wick cover 27 is rotatably mounted at 28 on the casing and is subjected to the action of a spring 29 which tends constantly to maintain the cover in closed position (see Fig. 1); it is, moreover, connected to the hook 22 by a flexible member 30, constituted by a steel wire of which the ends, after having traversed the apertures 31 and 32 of the wick cover and hook, respectively, are turned back on themselves and then knotted and soldered 33.

By the initial displacement of the trigger 24 about its axis 25, in the direction of the arrow *f*, the different above described members are brought into the position represented in Fig. 2. The hook 22 has moved from the left towards the right, has raised the wick cover 27 by the intermediary of the flexible member 30, and has pivoted the eccentric 19 which has pushed the connecting rod 17 from the right to the left. When the trigger is pulled still more, the eccentric acted upon by the hook 22 keeps on turning and the spring 20 is further tensioned. At the moment when the edge 22<sup>1</sup> of the hook enters in contact with the edge 19<sup>1</sup> of the eccentric, this latter pushes the hook downwardly out of engagement with the nose 21. The eccentric being freed, is suddenly brought back into its original position by the action of the spring 20. The rod 17 moves suddenly towards the

right, and imparts rotation to the arm 15 and the disk 14 of which the teeth engage the teeth 13 of the friction wheel 5 and transmit rotation to this latter which, in  
 5 contact with the pyrophoric stone 6, produces ignition sparks. When the trigger is released, the spring 29 lowers the wick cover, which brings the trigger back into its original position by the intermediary  
 10 of the flexible member 30. The hook 22 moves also from right to left and engages again behind the nose 21.

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

1. A pyrophoric lighter having a casing

in the shape of a pistol and provided with an operating trigger to which is articu-  
 20 lated a hook cooperating with an eccentric having a nose and connected to the friction wheel, characterised by a wick cover rotatably mounted on the casing and sub-  
 25 jected to the action of a spring which constantly tends to maintain the cover in position of closure, the cover being connected, by a flexible member, with the above mentioned hook.

2. The improved pyrophoric lighter,  
 30 arranged, constructed and operating substantially as hereinbefore described and as illustrated in the accompanying drawing.

Dated this 31st day of August, 1931.

MARKS & CLERK.

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

