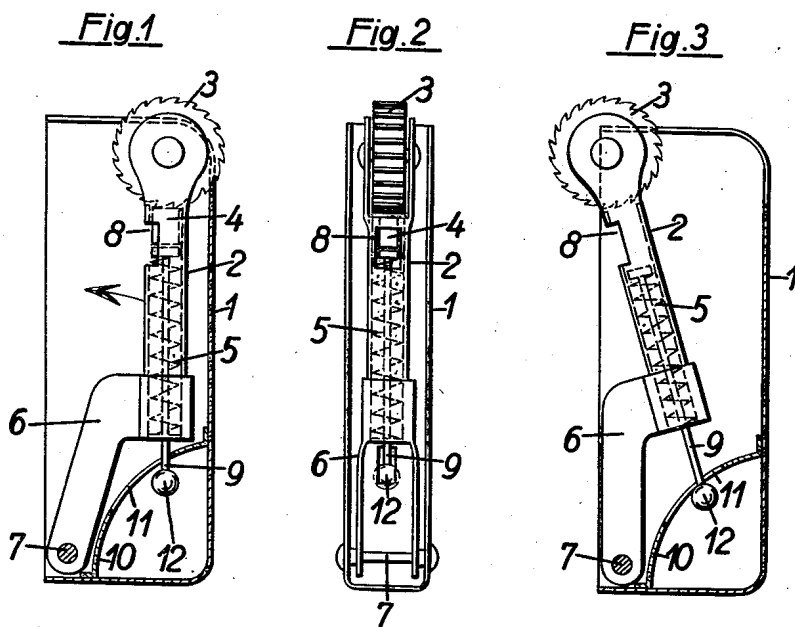


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PYROPHORIC LIGHTER
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PYROPHORIC LIGHTER

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This invention relates to improvements in pyrophoric lighters.

The object of the invention is to facilitate the insertion of the igniting stone into such lighters.

In order to enable the insertion or replacement of the igniting stone in pyrophoric lighters without completely removing small parts which may be lost easily, it has heretofore been proposed to support the upper end of the spring for the igniting stone on a bolt extending lengthwise through said spring, said bolt extending out of the lower end of the guiding sleeve for the igniting stone and terminating there in an actuating knob. When the igniting-stone spring is then retracted by hand by means of said bolt, the igniting stone can be laid into its guiding sleeve through a lateral opening provided in the sleeve. This operation, however, can be performed only with difficulty even when using both hands. To facilitate this step, a lighter has been designed in which the guiding sleeve for the igniting stone, while being locked in its operating position, is constructed as a sliding part and upon unlocking is moved wide enough outside its housing under the force of the igniting-stone spring, which is rigidly mounted in the housing, thus permitting of the insertion of the igniting stone through the lateral opening provided in the guiding sleeve.

This invention provides a device in pyrophoric lighters which also enables the insertion and replacement of the igniting stone in a simple manner, without the removal of parts, in that the guiding sleeve for the igniting stone together with the parts contained in it is movably mounted in relation to its supporting means, e. g. the lighter housing, and that the igniting-stone spring is controlled by a steering device, e. g., a guiding member, which automatically causes at least the retraction of the spring within the guiding sleeve.

The drawings illustrate an embodiment of the invention in which

Fig. 1 is a side view of the device with a longitudinal section through the housing, and

Fig. 2 is a front view, the lighter being in operating position.

Fig. 3 is in a side view of the device with a longitudinal section through the housing, in swung-out position.

The embodiment chosen shows only the igniting system of the lighter. This system is accommodated in the part 1 of the housing. The guiding sleeve 2 for the igniting stone carries in known manner at its upper end the rubbing

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wheel 3 and contains the igniting stone 4 and the pressure spring 5. At its lower end, the sleeve is provided with a laterally projecting supporting fork 6, together with which it can be turned about the pin 7 mounted in the housing 1. The sleeve is provided near the rubbing wheel 3 with a preferably rectangular lateral opening 8, which is so dimensioned that a normal-size igniting stone can be introduced through it. The igniting-stone spring 5, through which a bolt 9 extends in known manner, is supported above by a spring collar of the bolt 9 and below by the drawn-in end of the sleeve 2, said end at the same time serving as a guide for the bolt 9. The lower end of the bolt 9 is provided with a guiding head extending through a longitudinal slot 11 in a guiding part 10 having a substantially curved surface which is provided in the housing 1, preferably in its lower corner. This guiding part is so formed that when the guiding sleeve 2 is in operating position, as shown in Fig. 1, the igniting-stone spring is unrestrained, whereas when the sleeve is swung out into the position shown in Fig. 3, the end head 12 is held back by the guiding part 10 so that the bolt 9 is retracted and compresses the igniting-stone spring 5.

The device operates on the following principle:

When an igniting stone of the usual length is inserted, the end head 12 is about the length of one stone below the guiding part 10. The end head 12 lies against the guiding part 10 only when the igniting stone has been completely, or almost completely, worn away. In order to insert a new stone, it is only necessary to turn the guiding sleeve 2 in the sense indicated by the arrow into the oblique position shown in Fig. 3. The bolt 9, being held back by the guiding part 10, is then displaced downward in the sleeve 2, thus compressing the spring 5. The new igniting stone can now be inserted into the sleeve 2 through the opening 8, which has now been freed. After being released, the sleeve 2 automatically returns to its operating position (Fig. 1) under the influence of the compressed spring 5, which presses the stone against the rubbing wheel 3.

In combination with a fuel tank carrying the wick, the invented igniting device in accordance with the present invention gives an operative lighter. The guiding sleeve 2 can be fixed in its operating position by accordingly connecting the fuel tank.

It may also be mentioned that when the bolt 9 is made of the proper length, its upper end is held back just before touching the rubbing wheel

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by the head 12 supported on the guiding part 10 when the ignition stone has been almost consumed, a useless wearing away of the rubbing wheel thus being avoided.

Finally, the guiding sleeve may be arranged in such manner that it is movable parallel to itself in the housing or other elements may be used to guide the igniting-stone spring 5.

What I claim is:

1. A pyrophoric lighter comprising a casing, 10 a flint, a flint guiding sleeve pivotally supported inside the casing, a friction wheel carried at the top end of said sleeve, a spring within said sleeve, a bolt extending within said sleeve lengthwise through and bearing against the top end of said spring, and spring bolt guide means rigidly mounted inside the casing and adapted to exercise a pull on the bolt during the pivotal movement of the sleeve thus causing the retraction of the spring within the sleeve whereas the free play of the spring is unhindered when the guide sleeve is in its position for use, said sleeve having a lateral opening through which a flint may be inserted after the spring has been partially retracted. 20

2. A pyrophoric lighter as set forth in claim 25

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1, which comprises means for pivotally connecting the sleeve end opposite the friction wheel with the lighter casing, the pivot being a lateral distance apart from the longitudinal axis of the sleeve, and in which said spring bolt guide means comprises a guide slot through which the bottom end of the bolt extends, said bolt end having a wide head for engaging with said guide means during the pivotal movement of the sleeve by which a pull is exercised on the bolt.

3. A pyrophoric lighter as set forth in claim 2, in which said spring bolt guide means comprises a curved part in which said guide slot is provided.

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