

Aug. 29, 1950

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2,520,328

CIGAR LIGHTER LOCKING MECHANISM

Filed Jan. 11, 1949

Fig. 3.

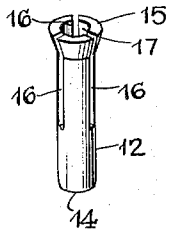


Fig. 1.

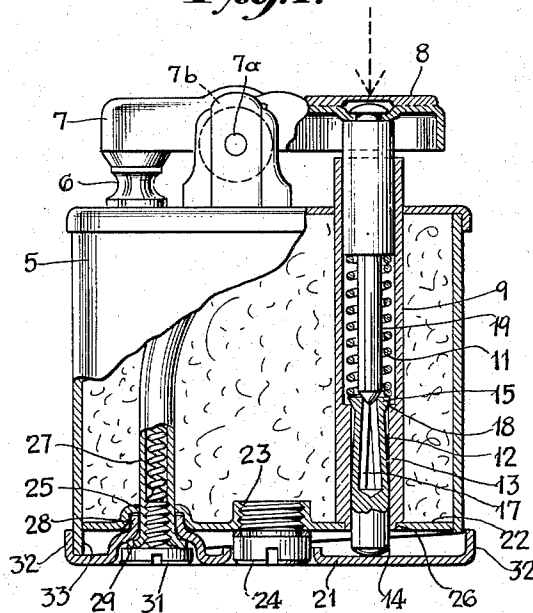
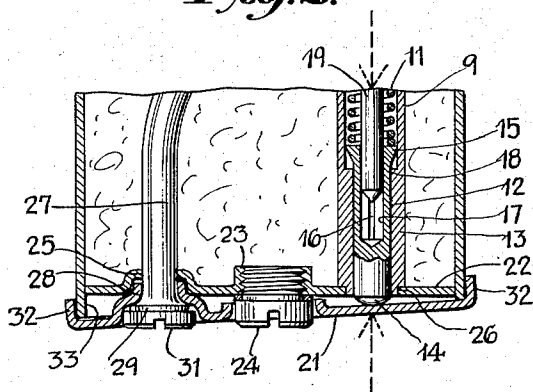


Fig. 2.



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2,520,328

CIGAR LIGHTER LOCKING MECHANISM

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Application January 11, 1949, Serial No. 70,295

4 Claims. (Cl. 67—7.1)

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This invention relates to cigar lighters of the pyrophoric type, wherein the sparking wheel is actuated by a fingerpiece to project sparks toward a wick or burner, and aims primarily to provide a lighter of the above character wherein the fingerpiece will be effectively locked against unintentional operation, e. g. when the lighter is dropped accidentally, the locking mechanism nevertheless being readily released for operation in a normal manner.

Further objects, features and advantages of the invention will be in part obvious and in part specifically referred to in the description herein-after contained, which, taken in conjunction with the accompanying drawing, discloses a preferred form of lighter constructed to operate in accordance with the invention; the disclosure, however, should be considered as merely illustrative of the principles of the invention in its broader aspects. In the drawing:

Fig. 1 is a side elevation, with certain parts cut away, of a cigar lighter having a safety locking mechanism constructed to operate in accordance with the invention;

Fig. 2 is a fragmentary sectional view showing the locking mechanism in a released position; and

Fig. 3 is a view in perspective of the locking member comprising an element of the invention.

In accordance with the invention, a locking member is positioned to normally obstruct or prevent movement of the fingerpiece from its idle position through its wheel actuation stroke, but this locking member is so positioned that when the lighter is grasped by the user in a normal position for intentional actuation, the locking member is thereby moved to an inoperative position in which the lighter is free to be operated in a normal manner.

The invention is illustrated as applied to a lighter of well known form having a fuel casing 5 from which protrudes a wick tube 6 also serving as a seat for a snuffer 7 rotatably mounted on an axle 7a which carries a sparking wheel 7b. A reciprocable fingerpiece 8 is mounted within a barrel 9 supported by the casing 5, and is normally urged toward its upper idle position (shown in Fig. 1) by a compression spring 11 disposed within the barrel. When the fingerpiece is depressed, sparking wheel 7b is rotated (by mechanism well known in the art and therefore not shown or described in detail) to project sparks onto a wick carried by the wick tube, and simultaneously therewith, the snuffer is caused to swing upwardly to expose the wick to the projected sparks. Upon the release of pressure on

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the fingerpiece, the spring 11 restores it to the idle position shown in Fig. 1, the sparking wheel usually being freed from connection with the fingerpiece during this stage of movement. Since various forms of lighters of the construction and mode of operation, as thus far described, are well known in the art to which the invention pertains, the same will not be described in greater detail herein.

In the illustrated form of the invention, the safety locking mechanism above referred to comprises an elongated locking member 12 normally disposed within a reduced portion 13 of the barrel 9, with its lower end 14 projecting downwardly, as shown. The member 12, as shown in greater detail in Fig. 3, is provided with an outwardly flaring head portion 15 at the upper end thereof, and with a plurality of longitudinal slots 16 which render resilient the annular wall of the member 12 so that the passageway 17 in locking member 12 may be enlarged or contracted in diameter. When assembled within the reduced portion of the barrel, the locking member is held in a locking position by spring 11, as shown in Fig. 1, with its head portion 15 wedged against a shoulder 18 on the barrel to contract the passageway 17.

When the parts are in the idle position shown in Fig. 1, the passageway 17 is of such small diameter as to prevent the downward movement of a plunger 19 attached to fingerpiece 8, and thus, for example, if the lighter should be dropped in such manner as would otherwise cause fingerpiece 8 to be pushed inwardly toward casing 5 and thereby produce sparks, the locking member 12 will hold the operating parts of the lighter against movement and thereby prevent sparks from being produced. But if the user nests the lighter casing 5 in his hand and manually depresses the fingerpiece 8 in manner normal to produce an intentional light, a lock releasing member 21 will be thereby actuated to move the locking member 12 to the releasing position shown in Fig. 2, wherein the flaring head 15 on the locking member is moved upwardly by manual pressure on the lock releasing member 21 until the head 15 passes upwardly beyond shoulder 18 and thereby permits the passageway 17 to enlarge sufficiently for plunger 19 to pass freely down into this passageway. This releasing action takes place because in actuating the lighter, the user will naturally nest the fuel casing 5 in his hand and apply downward pressure on the fingerpiece, as indicated by the dotted arrow in Fig. 1; this will produce upward pressure upon

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the lock releasing member 21, as indicated by the dotted arrow at the bottom of Fig. 2. Thus, the lighter may be actuated only by combined inward pressure on both fingerpiece 8 and the lock releasing member 21, a condition which is very unlikely to be created accidentally or unintentionally, and yet the lighter works readily once this combined pressure is applied. Upon release of manual pressure on fingerpiece 8, the spring 11 restores the parts to the position shown in Fig. 1, thereby resetting the member 12 into locking position.

In the illustrated form of the invention, the fuel casing 5 has a bottom wall 22 provided with a filling opening 23 normally closed by a screw 24 and also with additional openings 25 and 26 which receive the sparking metal tube 27 and the barrel 9, respectively. The lower end 14 of the locking member 12 projects downwardly through the opening 26 to engage the lock releasing member 21. A hub 28 in the lock releasing member 21 loosely surrounds the lower end 29 of the sparking metal tube 27 and the usual adjusting screw 31 which fits into the tube. A marginal flange 32 on the lock releasing member 21 may surround a guide flange 33 projecting downwardly from the bottom wall of casing 5. The end 29 of the flint tube may serve as a stop limiting the outward movement of lock releasing member 21 with respect to casing 5.

When a lighter of the type illustrated is to be operated, the user thereof will normally nest the lighter casing 5 in his hand and manually depress fingerpiece 8. Hence, when such a lighter is equipped with the safety locking mechanism of the present invention, normal manual operation will cause the locking member 12 to be released by the lock releasing member 21. When normal manual pressure is released, the locking mechanism will be automatically reset and with the parts in locking position, as shown in Fig. 1, it is highly unlikely that sparks will be unintentionally produced.

While the invention has been disclosed as carried out by a lighter of the above-described construction, it should be understood that changes may be made therein without departing from the invention in its broader aspects, within the scope of the appended claims.

I claim:

1. A cigar lighter of the class described having a fuel casing, a sparking wheel mounted thereon, a reciprocable fingerpiece mounted upon said casing, mechanism interconnecting said fingerpiece with said sparking wheel to actuate the wheel upon movement of the fingerpiece from one limit of its stroke, a locking member normally positioned to prevent actuating movement of said fingerpiece, and means movably carried by the lighter casing and responsive to manual pressure applied thereto by the user when applying pressure to the fingerpiece, thereby to shift said locking member to an inactive position wherein said fingerpiece is released for manual actuation.

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2. A cigar lighter of the class described having a fuel casing, a sparking wheel mounted thereon, a reciprocable fingerpiece mounted upon said casing, mechanism interconnecting said fingerpiece with said sparking wheel to actuate the wheel upon movement of the fingerpiece from one limit of its stroke, a locking member normally positioned to prevent actuating movement of said fingerpiece, and a lock releasing mechanism having a portion exposed upon a surface of the casing, said portion of the lock releasing mechanism being positioned to be manually engaged by the user in grasping the lighter and applying manual pressure to the fingerpiece to thereby move said locking mechanism to an inactive position.

3. A cigar lighter of the class described having a fuel casing, a sparking wheel mounted thereon, a reciprocable fingerpiece mounted upon said casing, mechanism interconnecting said fingerpiece with said sparking wheel to actuate the wheel upon movement of the fingerpiece from one limit of its stroke, a locking member normally positioned to prevent actuating movement of said fingerpiece, and a depressible member exposed on the surface of the casing opposite to said fingerpiece, said last-mentioned member being interconnected with said locking member to move the latter to an inoperative position when manual pressure is applied thereto by the user in conjunction with manual pressure applied to the fingerpiece.

4. A cigar lighter of the class described, comprising a fuel casing, a sparking wheel mounted thereon, a depressible fingerpiece mounted on top of said casing and having a guide plunger, mechanism interconnecting said fingerpiece with said sparking wheel to actuate the wheel upon depression of the fingerpiece, a sleeve normally engaging said plunger to prevent depression of said fingerpiece, a movable lock releasing member underlying the bottom wall of said casing, said last-mentioned member being positioned to be engaged by the user in grasping the lighter for actuation, and means whereby movement of said member as aforesaid will move said sleeve into plunger releasing position whereby said fingerpiece may be depressed.

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