

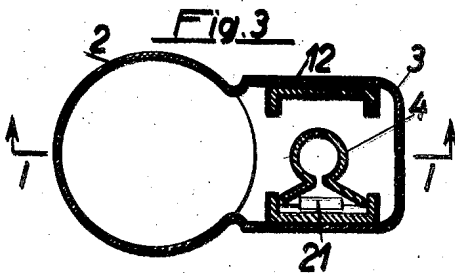
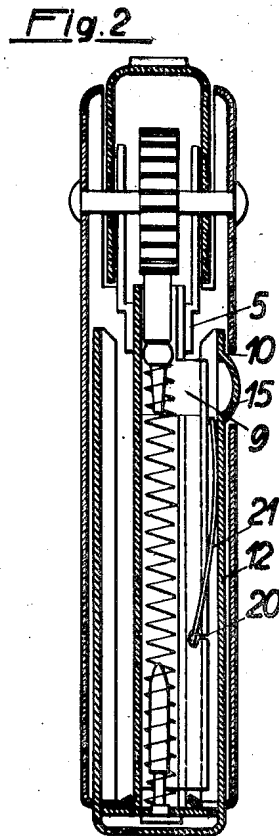
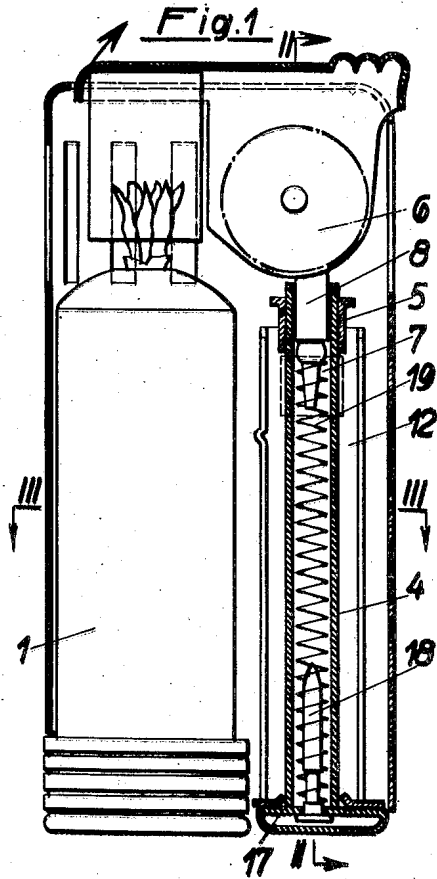
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E. HUBEL
LIGHTER

2,800,784

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2 Sheets-Sheet 1



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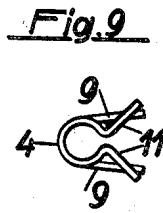
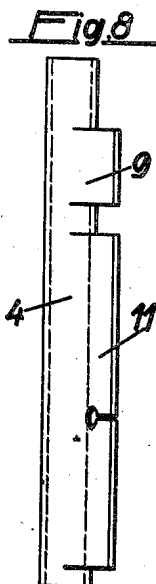
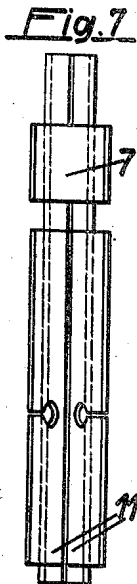
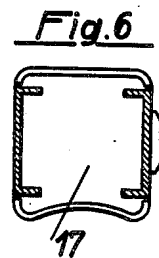
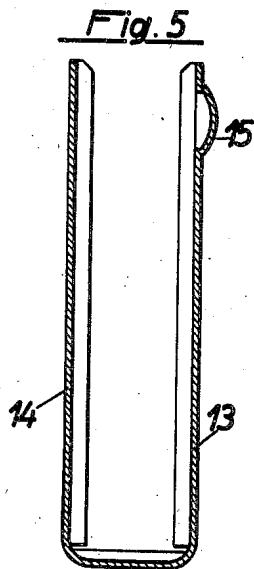
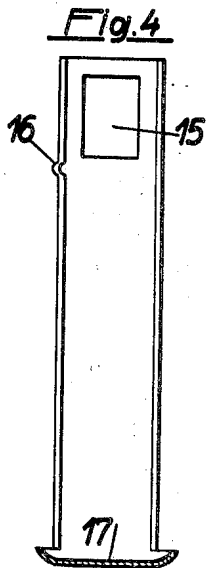
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Claims priority, application Austria July 14, 1953

1 Claim. (Cl. 67—7.1)

This invention relates to a closure for the flint insertion holes in pyrophoric lighters, in which the flint tube and the lighter casing have associated lateral insertion holes and the end of the flint spring remote from the friction wheel bears on a displaceable support subjected to the backpressure of the spring. Such devices are employed in lighters and gas igniters but the known devices have the disadvantage that their insertion hole remains permanently open so that foreign matter may enter there-through and when seized in the flint spring will prevent the perfect function of the lighter.

It is a main object of the invention to provide a lighter in which that disadvantage is avoided and which substantially facilitates the insertion and replacement of the flint. Other objects of the invention will become apparent as the specification proceeds.

In the flint tube the lateral flint insertion hole is preferably provided with guide surfaces and has associated therewith in a known manner a hole provided at the same height in the lighter casing. The end of the flint spring remote from the friction wheel bears on a displaceable support subjected to the backpressure. According to the invention that displaceable support is designed as a slide which can be closed in the operative position of the lighter and which can be locked in that position.

Thus it is a feature of the invention that in a lighter, in combination with a casing having a first lateral insertion hole, a flint tube disposed in said casing to receive a flint and having a second lateral flint insertion hole registering with said first insertion hole, and a flint spring longitudinally disposed in said flint tube to engage with its upper end said flint, there is provided a slide formed with a support portion adjoining the lower end of said spring and a closure portion normally closing said first insertion hole, and means for locking said slide in a position in which said closure portion closes said first insertion hole and operable to release said slide, said slide when thus released being slidable to remove said closure portion from said first insertion hole and expose said insertion holes for the insertion of a flint therethrough into said flint tube.

The use of the insertion hole in the casing as a rest for the locking member provided on the slide, which latter is formed as a cover plate for the hole, eliminates the need for providing the casing with incisions or notches which would reduce its strength, and for providing separate locking means. In a preferred embodiment of the invention the slide is formed as an elongated U-shaped bail, whose limbs are slidably guided along mutually opposite casing walls and at the flint tube and extend through the bottom of the lighter casing, whereas the crosspiece of the bail covers the bottom or, at least, the opening provided in the bottom for the flint tube. In addition to the safe guidance thus provided, the friction is so reduced that the back pressure of the flint spring can automatically return the slide into its open position, in which the slide can be seized at a point where it cannot be deformed. Since the slide can be pulled entirely out of the casing,

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the strain of the flint spring can be readjusted or the flint spring can be replaced quickly.

An illustrative embodiment of the invention is shown in the drawing, in which:

5 Fig. 1 is a partly sectional side view of a friction wheel lighter with an insertion hole closure,

Fig. 2 is a sectional view taken along line II—II and Fig. 3 is a transverse sectional view taken along line III—III of Fig. 1.

10 Fig. 4 is a front view,

Fig. 5 a side elevation and

Fig. 6 is a top plan view of the slide constituting the closure.

15 Figs. 7 to 9 show the flint tube with which the closure is associated in a front view, side elevation, and in plan, respectively.

In the usual manner the friction wheel lighter comprises a sleeve-like shell 2, which receives the extractable fuel tank 1 and merges laterally into a casing 3 of rectangular cross section. That casing has a flint tube 4 rigidly inserted into its bottom. The flint tube 4 has attached to its upper end a bracket 5 carrying the friction wheel 6. The tube 4, which is suitably rolled from sheet metal, has at its end facing the friction wheel 6 a cylindrical portion, on which the bracket 5 can be pushed. Next thereto the insertion hole 7 is provided for the flint 8. This hole is in register with a hole 10 in a side wall of the casing part 3 and may be provided in a known manner with guide surfaces 9 merging tangentially into the tube wall. A short cylindrical intermediate piece is followed by guide strips 11, which also tangentially protrude from the tube 4 and are formed, e. g., by bending the tube wall along the tube seam, as is shown in 20 Figs. 3 and 9. The lower tube end stuck into the casing part 3 is again cylindrical. A slide 12 (Figs. 4—6), which has substantially the form of an elongated U-shaped bail with limbs of C- or wide-web-channel section, forms the closure for the hole 10. Both limbs 13 and 14 extend through the bottom of the casing part 3 in openings corresponding to their cross section and with their webs adjoin mutually opposite side walls of part 3. A boss 15 protrudes from the web of limb 13 and snugly fits into the hole 10. If desired a second boss 16 may be provided on the other limb 14 on the level of the lower edge of boss 25 15. The crosspiece 17 of slide 12 is formed to adjoin the bottom of casing part 3 to cover at least the opening for the flint tube. The crosspiece 17 has centrally inserted therein a stud 18 enclosed by a flint spring 19. The latter bears on the crosspiece 17 of slide 12 and is guided in the flint tube 4. The slide 12 is guided in the casing part 3 by the guide strips 11 and a leaf spring 21 inserted in apertures 20 of said strips.

55 The mode of operation of the device is as follows:

To replace the flint 8 by a new one, the boss 15 is depressed by a finger inserted through the hole 10 to unlock the slide 12. Under the backpressure of the flint spring 19 the slide passes out of the casing 3 until it is arrested by the boss 16 engaging the bottom of casing part 3. Now a new flint can be inserted into tube 4 through the hole 10 and the hole 7 in the tube. Thereafter the slide 12 is returned into its closing position by pressure exerted on crosspiece 17. To re-strain or replace the flint spring 19, the slide 12 is pulled entirely out of the casing 3. This is possible by overcoming the force with which the boss 16 is held by the bottom. Together with the slide 12 the flint spring 19 is removed from its guide tube and can be extended, shortened, or replaced by another one.

70 For opening or closing the flint insertion hole only that hand is required which holds the lighter so that the other hand is free for inserting the flint. The construction of the

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closure parts facilitates the manufacture of the lighter and the replacement of damaged parts.

What is claimed is:

In a lighter, the combination with a casing having side walls and a bottom wall, a flint tube having one end anchored in the bottom wall, said tube extending upwardly within the casing, the bottom wall having spaced slots, a substantially U-shaped slide having spaced springy legs slidable through the slots, said legs being connected at one end by a cross-piece, said cross-piece being disposed on the outside of the bottom of the casing, a spring disposed within the flint tube and having one end bearing against the cross-piece, one of the side walls of the casing having a flint-insertion hole, one of the legs of the slide having a protuberance normally entering said opening and

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held therein by the resilience of said leg, and holding the slide against sliding movement, the flint tube having a flint-insertion opening in registration with the flint-insertion hole in the casing, communication being established between said hole and opening when the protuberance is manually pushed out of the hole and the slide is moved in a direction away from the hole, said hole and opening being dimensioned and arranged to permit of an insertion of a single flint only at a time, when said communication is established.

References Cited in the file of this patent

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