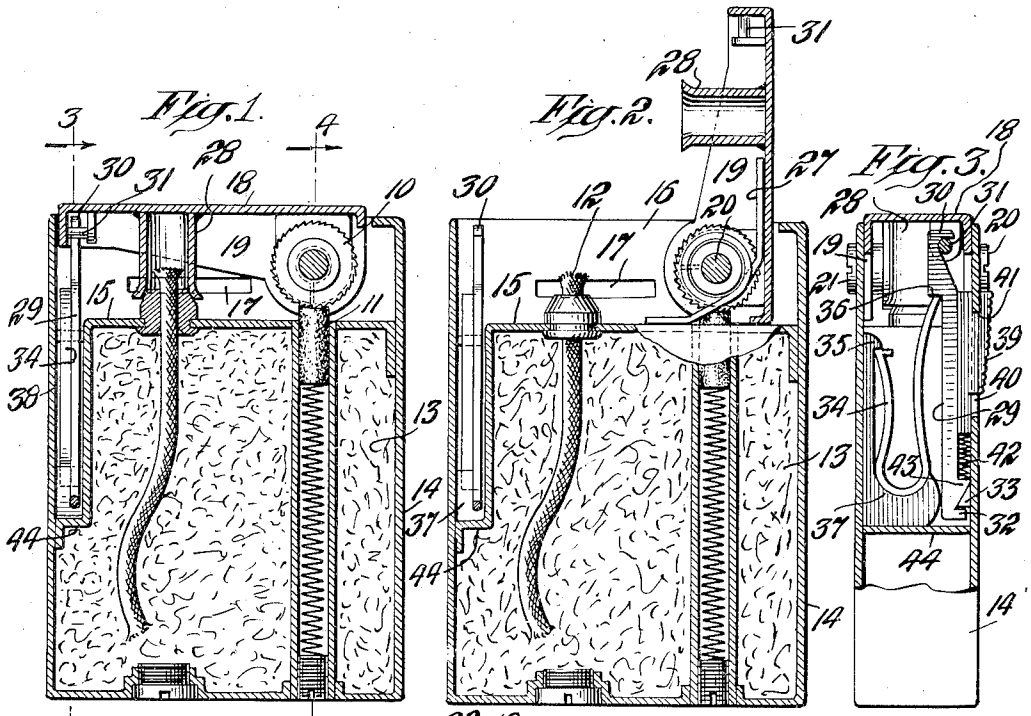
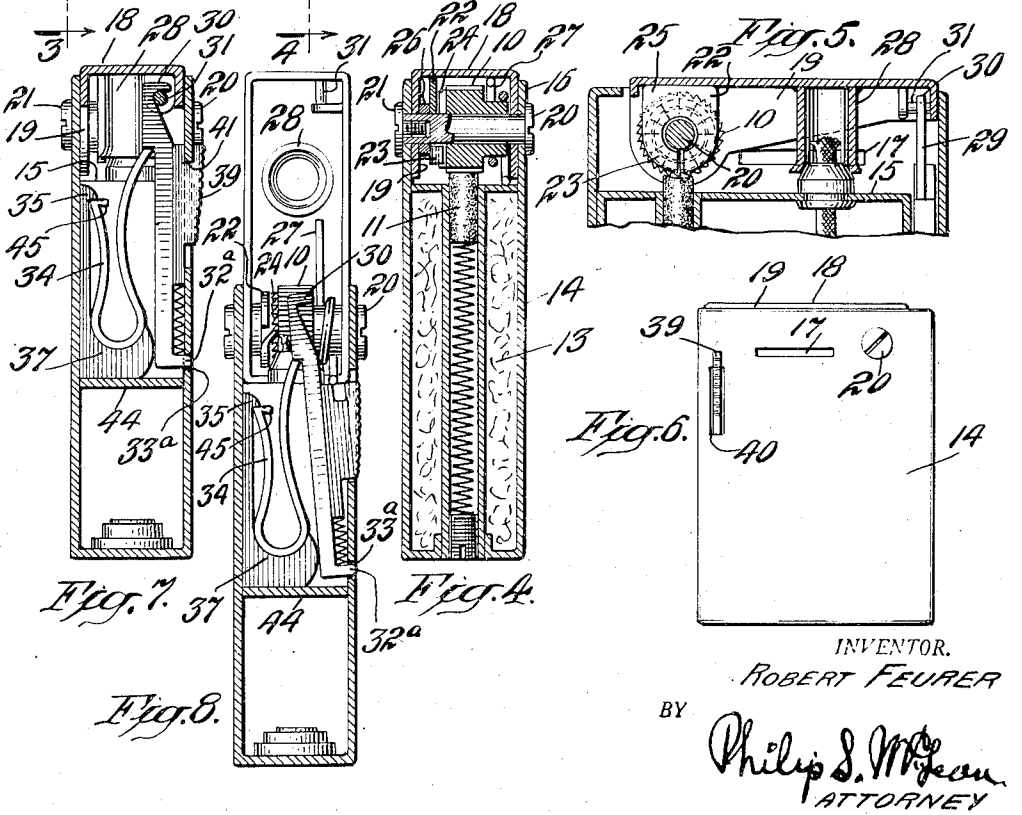
Aug. 23, 1949. R. FEURER 2,479,917

CIGARETTE LIGHTER

Filed Nov. 6, 1945





INVENTOR.
ROBERT FEURER
BY
Philip S. McLean
ATTORNEY

Patented Aug. 23, 1949

2,479,917

UNITED STATES PATENT OFFICE

2,479,917

CIGARETTE LIGHTER

Robert Feurer, Jackson Heights, N. Y., assignor, by mesne assignments, to Feurer Bros., Inc., New York, N. Y., a corporation of New York

Application November 6, 1945, Serial No. 626,949

3 Claims. (Cl. 67—7.1)

1

The invention here disclosed relates to cigarette lighters.

Special objects of the invention are to provide an automatic type of lighter which will ignite upon release of a push-button or like element but which will be safe against accidental or unintentional operation, as by pressure against the device when being carried in the pocket.

Other special objects of the invention are to provide a lighter made up of relatively few, simple parts and which can be quickly, easily and inexpensively assembled without need of screws or other forms of fastenings.

Particularly it is an object of the invention to arrange the parts so that they may be connected in their proper operating relation by the mere act of assembly.

Another purpose of the invention is to provide a pocket lighter having large fuel capacity for the size of the article.

Other desirable objects and the novel features by which all purposes of the invention are attained are set forth or will appear in the course of the following specification.

The drawing accompanying and forming part of the specification illustrates certain present preferred embodiments of the invention. Structure, however, may be modified and changed as regards the immediate illustration, all within the true intent and broad scope of the invention as hereinafter defined and claimed.

Fig. 1 in the drawing is a vertical sectional view of the lighter in closed relation;

Fig. 2 is a similar view showing the cover released and swung open;

Figs. 3 and 4 are vertical sectional views at right angles to those first shown, taken substantially on the planes of lines 3—3 and 4—4, respectively, of Fig. 1;

Fig. 5 is a broken vertical sectional view similar to Fig. 1 but showing parts at the opposite side of the article;

Fig. 6 is a side elevation of the device in closed relation and on a somewhat smaller scale;

Figs. 7 and 8 are vertical sectional views of a modified form of the device in closed and open positions.

As shown in the several views, the igniting mechanism comprises a flint wheel 10 in engagement with a spring pressed flint 11, for throwing sparks to a wick 12 issuing from a fuel chamber 13 taking up practically the entire interior of the casing 14.

The side and end walls of the casing are extended at the top, above the top wall 15 of the

2

fuel chamber, to form an open top compartment 16 vented in the sides at 17 and serving as a flame protector.

When not in use the open top of the case is closed by a cover 18 having dependent side or edge flanges 19 fitting closely down inside the upwardly extending side walls 16 of the case.

This cover is hingedly mounted by having its side flanges 19 pivotally engaged over the stud 20, Fig. 4, which is headed at one end and held by screw 21 at the opposite end in supported relation on the upwardly extended side walls 16.

The flint wheel is pivotally mounted on this same hinge stud, between the side flanges 19 of the cover, and also pivotally engaged on this stud is a washer 22 having a spring pawl portion 23 in engagement with the ratchet teeth 24 on the side of the wheel and having an angular back portion 25 in engagement with the under side of the cover so as to turn with and to the same extent as the cover. A small washer is shown at 26, Fig. 4, engaged between this pawl washer and the adjoining side flange 19 of the cover for holding the pawl washer properly engaged with the ratchet teeth on the side of the flint wheel.

A coiled spring 27 having one or more turns engaged about the stud or the hub portion of the flint wheel, Fig. 4, serves to throw the cover to open position, said spring having its opposite ends engaged with the top wall 15 of the case and with the under side of the cover, respectively, as shown in Fig. 2.

The cover carries a snuffer tube 28 in position to engage over the wick tube, in the closed relation of the parts, Fig. 1.

For securing the cover in closed relation a latch is provided, shown in Fig. 3 in the form of an elongated bar 29, having a hook 30 at the upper end engageable with a short piece of round rod 31 secured at the under side of the cover and having a hook 32 at the lower end rockingly engaged under a lug or projection 33 on the inside of the front wall of the case.

This hooked latch bar 29 is rocked about the pivotal support provided by hook 32 and fulcrum lug 33 by a doubled or hairpin type spring 34 caught at one end beneath a holding projection 35 and engaging at the other end a shouldered portion 36 in back of and below the securing hook 30.

The latch spring 34 is shown as seated in the hollow of a flat supporting piece 37 loosely retained in the thin, flat positioning chamber 38, Figs. 1 and 2, provided interiorly of the case at the upper front portion of the fuel chamber.

This positioning chamber or pocket 38 also serves to retain the latch element in upstanding relation.

The latch is locked against accidental or unintentional operation and on the other hand is shifted in a releasing direction by a push-button slide 39 operating in a vertically elongated slot 40 in the front wall of the casing, in line with the latch bar 29, Fig. 3.

This slide button is notched in its upper end, as indicated at 41, Fig. 3, to interlockingly engage over the front wall of the case at the upper end of the guide slot 40, and it is normally yieldingly held in the locking position described by a spring 42 shown interposed between the lower end of the slide and a shoulder 43 near the lower end of the latch bar.

In the closed condition the cover is secured by the spring pressed, hingedly mounted latch bar and it is locked in this relation by reason of the notched engagement of the trigger slide over the wall of the casing at 41 which prevents inward pressure on the slide to effect release of the latch.

To unlock and release the cover it is necessary to first slide the button 39 downward to clear the notched portion 41 of the latch from interlocking engagement with the wall of the case. Then the slide 39 can be pressed inwardly to force the hook free of engagement with the rod 31 and whereupon the spring 27 will snap the cover open and effect ignition at the wick. This released condition is illustrated in Fig. 8.

Also, there is illustrated in Figs. 7 and 8 a modified form of construction in which the latch is positioned and pivotally mounted by having a hooked or angularly extended lower end 32*a* pivotally entered in an opening 33*a* in the front wall of the casing.

While the flat positioning piece 37 may ordinarily be desirable for positioning and supporting the latch spring 34, this piece is not absolutely essential, it being possible to shape the spring so that it will extend fully to the bottom end wall 44 of the front compartment 38 and be thereby wholly supported and positioned by the walls of this compartment.

In this invention the parts are correlated and maintained in their proper operative relations practically entirely by simple assembly of the parts.

Thus the flint wheel, actuating ratchet, cover and cover opening spring are cooperatively related and connected by simply mounting them as indicated on the hinge stud 20. Similarly the latch, the latch spring, the slide button and the slide locking spring are secured and maintained in their proper operative relations by simply dropping them down into position in the flat pocket or positioning chamber in the front portion of the casing. To facilitate handling and particularly removal of the latch spring, the latter may have an angularly inturned end as at 45 for engagement by pliers, screwdriver or other tool.

What is claimed is:

1. A combination latch, lock and release mechanism for a lighter having a case and a spring opened cover and comprising a spring latch member cooperable with the cover to hold the cover closed and supported in the case for inward yielding movement sufficient to release the cover, said case having an opening in the wall of the same opposite said member, a push-button operable inwardly through said opening to effect inward cover releasing movement of said member, said push-button being confined for lateral shifting movement in said opening for engagement over said wall to prevent inward latch releasing movement and spring means for yieldingly shifting said push-button laterally into said engaged relation with said wall of the case, said case having a pocket confining and guiding said spring latch member for movement as described and said spring latch member including a latch bar and a spring for shifting the same into cover holding position, said latch bar having a hooked inner end, said case having a shoulder for cooperative engagement by said hooked inner end and said latch bar further having a shoulder engageable over said spring for confining the latter in said pocket and whereby said parts may be assembled by shifting said latch bar and spring into said pocket to a position with said hooked inner end of the latch bar engaged over said shoulder of the case.

2. A combination latch, lock and release mechanism for a lighter having a case and a spring opened cover and comprising a spring latch member cooperable with the cover to hold the cover closed and supported in the case for inward yielding movement sufficient to release the cover, said case having an opening in the wall of the same opposite said member, a push-button operable inwardly through said opening to effect inward cover releasing movement of said member, said push-button being confined for lateral shifting movement in said opening for engagement over said wall to prevent inward latch releasing movement and spring means for yieldingly shifting said push-button laterally into said engaged relation with said wall of the case, said case having a pocket confining and guiding said spring latch member for movement as described and said spring latch member including a latch bar and a spring for shifting the same into cover holding position, said latch bar having a hooked inner end, said case having a shoulder for cooperative engagement by said hooked inner end and said latch bar further having a shoulder engageable over said spring for confining the latter in said pocket and whereby said parts may be assembled by shifting said latch bar and spring into said pocket to a position with said hooked inner end of the latch bar engaged over said shoulder of the case and a bearing plate for said spring shaped to fit in and be thereby confined by the walls of said pocket and whereby said bearing plate will be held in said pocket by said spring after said latch bar is engaged with the shoulder as aforesaid.

3. A combination latch, lock and release mechanism for a lighter having a case and a spring opened cover and comprising a spring latch member cooperable with the cover to hold the cover closed and supported in the case for inward yielding movement sufficient to release the cover, said case having an opening in the wall of the same opposite said member, a push-button operable inwardly through said opening to effect inward cover releasing movement of said member, said push-button being confined for lateral shifting movement in said opening for engagement over said wall to prevent inward latch releasing movement and spring means for yieldingly shifting said push-button laterally into said engaged relation with said wall of the case, said case having a pocket confining and guiding said spring latch member for movement as described and said spring latch member including a latch bar and a spring for shifting the same into cover

holding position, said latch bar having a hooked inner end, said case having a shoulder for cooperative engagement by said hooked inner end and said latch bar further having a shoulder engageable over said spring for confining the latter in said pocket and whereby said parts may be assembled by shifting said latch bar and spring into said pocket to a position with said hooked inner end of the latch bar engaged over said shoulder of the case, said latch member being a lever having a hook at the upper end for holding cooperation with the cover and said hooked end portion being disposed at the inner end of said lever and having fulcruming engagement over the shoulder on the case and said spring acting on said lever to hold said hooked end portion in fulcruming engagement with the shoulder on the case.

ROBERT FEURER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,060,150	Adamian	Apr. 29, 1913
1,817,335	Aronson	Aug. 4, 1931
1,822,505	Rogers	Sept. 8, 1931
2,164,178	Maltner	June 27, 1939

FOREIGN PATENTS

Number	Country	Date
14,657	France (Addition to No. 431,985)	Nov. 11, 1911
17,686	Great Britain	1912
517,626	Germany	Feb. 6, 1931