Oct. 25, 1949. F. E. HUTTER ET AL 2,485,734

CIGARETTE LIGHTER

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Fig. 1

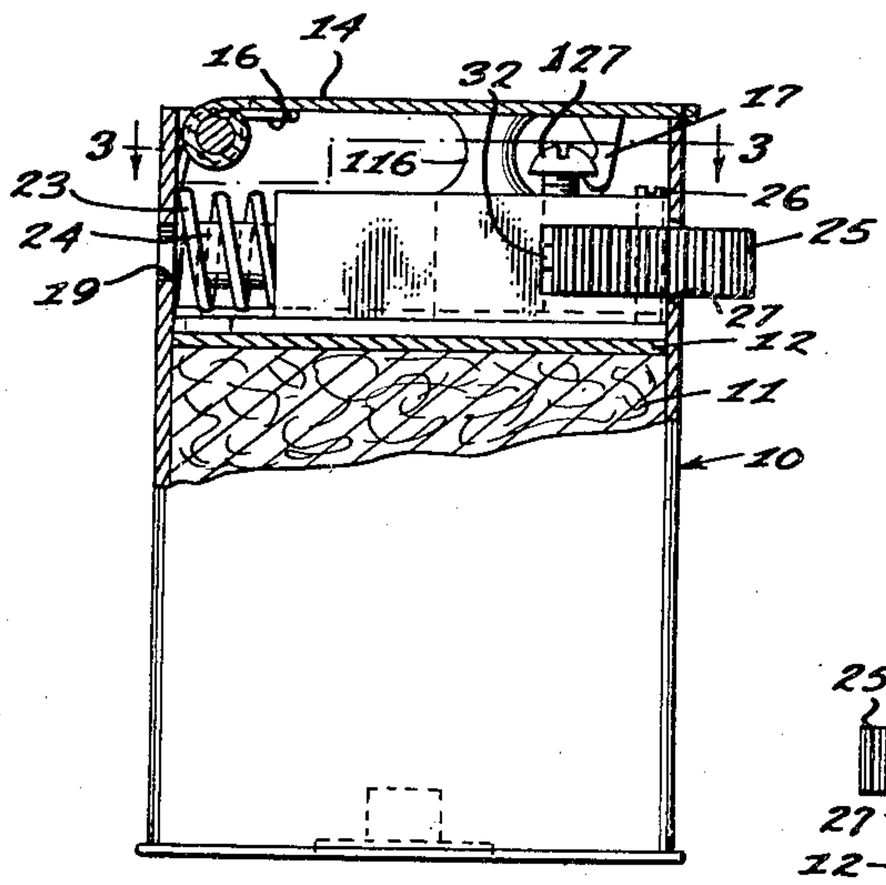

Fig. 2

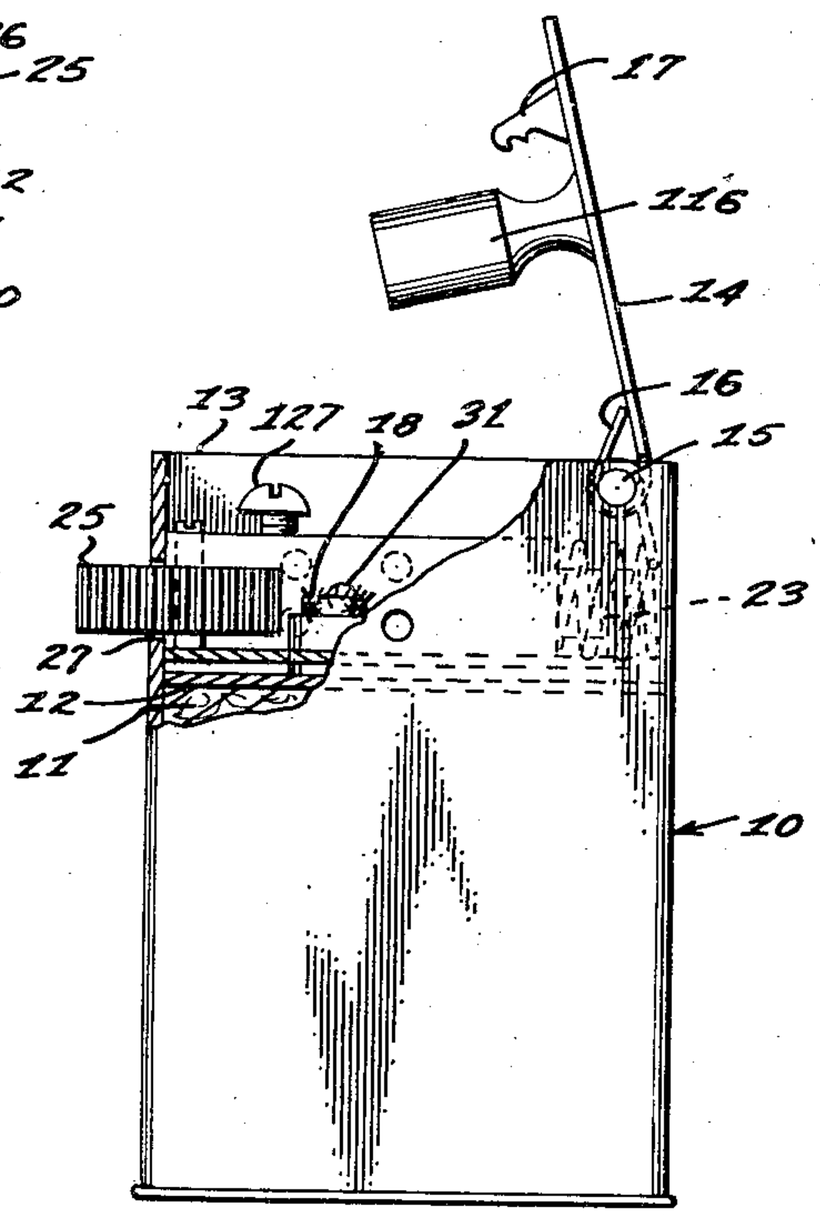

Fig. 3

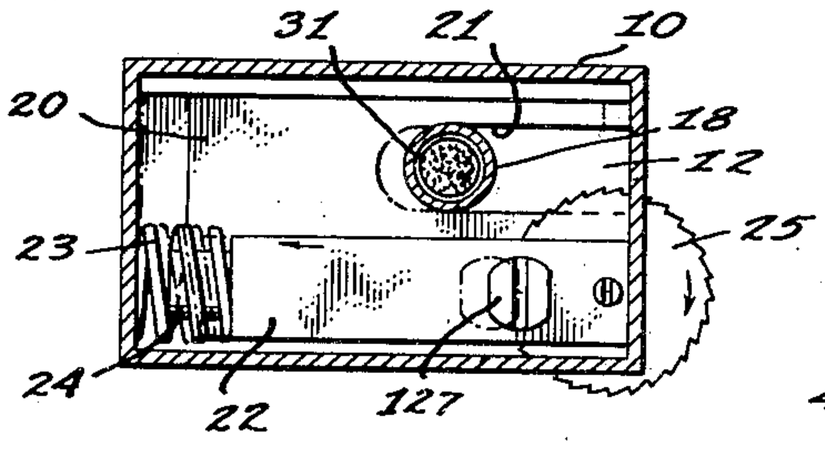

Fig. 4

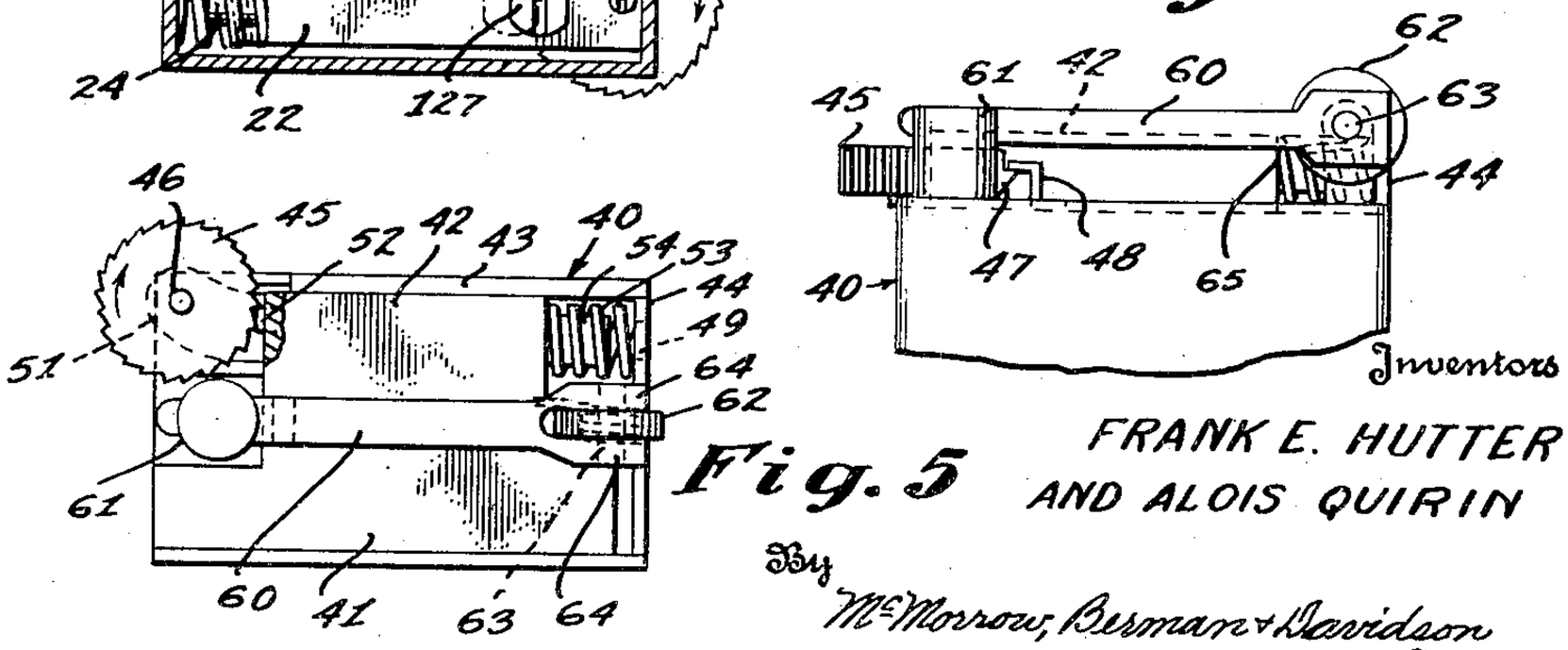

Fig. 5

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CIGARETTE LIGHTER

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2 Claims. (Cl. 67—7.1)

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Our invention relates to cigarette lighters, and more particularly to that type of cigarette lighter which is semi-automatic in operation.

With the foregoing in view, an object of our invention is to provide an improved semi-automatic cigarette lighter.

A further object is to provide a lighter of the class described, wherein the act of spinning the striker wheel simultaneously operates the slidable release of the cover or snuffer latch.

A further object of our invention comprises a cigarette lighter of the class described, wherein the flint of the striker wheel and latch for the cover are slidably mounted as a unit, whereby the act of spinning the striker wheel releases the cover latch and permits the cover to open as the lighter lights.

Other objects and advantages reside in the particular structure of the invention, combination and arrangement of the several parts, and in the particular method or mode of operation, all of which will be readily apparent to those skilled in the art upon reference to the specification and drawings, wherein the invention is described, claimed and shown.

In the drawings:

Figure 1 is a side elevation, partly in vertical section, showing the preferred form of the invention;

Figure 2 is a view similar to Figure 1, showing the cover open and being taken from the opposite side of the lighter:

Figure 3 is a horizontal section taken substantially on the plane of the line 3—3 of Figure 1;

Figure 4 is a fragmentary side elevation of a modification of the invention;

Figure 5 is a plan view of the modification of Figure 4.

In the drawings, 10 designates generally a casing for one form of the invention. The casing 10 includes the usual fuel compartment 11 closed at the top by a partition 12 and having an upstanding wind guard 13 surrounding the top of said casing and forming an enclosure. A cover 14 for closing the top of the enclosure is pivoted to the wind guard by any suitable means 15, and is biased in an opening direction by a spring 16. The under side of the cover 14 carries a snuffer 116 and a rigid latch lug 17. A wick carrier 18 of tubular cross-section extends upwardly from the partition 12 and carries therein the usual wick 31. The rear wall of the wind guard 13 is formed with an opening 19 therethrough to provide access to the flint tube, as will be described later. The forward wall of the wind guard 13 is formed

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with a slot 27 therethrough for a purpose to be described later.

A plate member 20 is fitted within the enclosure formed by the wind guard 13 and rests atop the partition 12 for sliding movement in a forward and backward direction therein. The plate 20 is provided with a slot 21 which fits around the wick tube 18. A driving spring 23 biases the plate 20 in the forward or solid line position. The rear end of the spring 23 bears against the rear wall of the wind guard 13, while the forward end of the spring bears against the rear end of a housing 22 which is integral with the plate 20. The housing 22 contains a flint tube 24, the rear end of which is in alignment with the opening 19 to permit replenishment of the flint. The flint 32 is held in an operative position by the usual spring (not shown). The forward end of the housing 22 is bifurcated, and the striker wheel 25 is mounted between such bifurcations by any suitable spindle 26. A latch member 127 mounted atop the housing 22 is integral therewith. As is clearly shown in Figure 1, the action of the spring 23 maintains the latch member 127 in operative engagement with the lug 17 of the cover 14.

In operation, and with the parts in the positions of Figure 1 and Figure 3, the spinning of the striker wheel 25 in a clockwise direction, Figure 3, moves the wheel 25, latch member 127, and housing 22 to the left in slot 27 against action of the spring 23. Such movement releases the latch member from the cover latch lug 17 and permits the cover spring 16 to spring the cover to the opening position, Figure 2. At the same time, the spinning action of the striker wheel 25 has struck a spark from the flint 32 and ignited the wick 31. The lighted wick 31 is extinguished by manually closing the cover 14 while releasing the wheel 25. Upon release of the wheel, the driving spring 23 returns the housing wheel, flint, and lug 127 to the Figure 1 and Figure 3 positions, whereby the cover is again latched in position as the lug 17 rides over the latch member 127. The combined lateral and spinning movement of the striker wheel results in a scattering of sparks over a wide area whereby to insure ignition of the wick.

In the modification of Figures 4 and 5, the lighter 40 comprises a structure generally similar to that of the preferred embodiment of the invention, but the wind guard 13 is eliminated and replaced by a low flange 43 which extends upwardly a short distance from the lighter housing. An extension 44 of the flange 43 at the rear end of the housing provides a rigid abutment for the

driving spring **53** and is formed with an opening **49** therethrough for access to the flint tube **54**. A plate member **41** is slidable in forward and backward directions within the flange **43**, and mounts thereon a housing **42** which bears the flint tube **54** and flint **52**. The forward end of the housing **42** is formed with vertically spaced ears **51** between which is mounted a striker wheel **45** by any suitable pivot **46**. A bar **60** is pivotally mounted at the rear of the lighter on an ear **62** which extends between the bifurcations **64** on the rear end of the bar **60**. Any suitable pivot pin **63** completes the connection, and the bar **60** is loaded in an open direction by means of the hinge spring **65**. The forward end of the bar **60** is formed with a snuffer **61** which is adapted to enclose the usual wick (not shown).

A latch dog **47** is formed intergrally with the snuffer **61** and normally engages the latch lug **48**, which is integral with the slide plate **41**. The latch lub **48** may be formed of an integral upstruck portion of the plate **41**.

The operation of the modification of Figues 4 and 5 is the same as that of the preferred form of the invention. That is to say, spinning of the striker wheel **45** in a clockwise direction, Figure 5, will normally entail sufficient pressure on the wheel in a rearward direction to overcome the force of driving spring **53**, whereby the housing **42**, wheel **45**, and flint **52** are forced rearwardly against the action of the spring **53**. Such movement carries the latch lug **48** rearwardly out of engagement with the latch dog **47**, whereby the hinge spring **65** throws the bar **60** to the open position.

While we have shown and described what are now thought to be the preferred embodiments of our invention, it is to be understood that we do not limit ourselves to the precise structures shown and described, except as herinafter claimed.

What is claimed is:

1. In a cigarette lighter including a casing having a vertically disposed windguard surrrounding the top thereof forming an enclosure with an open top, a normally open cover pivotally mounted on the rear wall of said wind-guard for closing the top of said enclosure, the forward wall of said wind-guard having an opening therethrough, and a wick operatively mounted in said enclosure adjacent the forward wall of said windguard, the improvement comprising a horizontal plate member mounted in said enclosure for slidable movement forwardly and rearwardly therein, said plate member being provided with an enlongated housing secured thereto having a bifurcated forward end, a striker wheel rotatably mounted in the bifurcated forward end of said housing adjacent said wick, and positioned so

that it partially extends through the opening in the forward wall of said wind-guard, a flint tube operatively secured within said housing in engageable relation with said striker wheel, coacting latch means mounted on the forward end of said housing and said cover for holding said cover in closed position, and spring means operatively secured to the rear end of said housing intermediate the latter and the rear wall of said wind-guard for normally urging said plate member forwardly to maintain said latch means in engageable relation with said cover when the latter is in closed position.

2. In a cigarette lighter including a casing having a vertically disposed wind-guard surrounding the top thereof forming an enclosure with an open top, a normally open cover pivotally mounted on the rear wall of said wind-guard for closing the top of said enclosure, the forward wall of said wind-guard having an opening therethrough, and a wick operatively mounted in said enclosure adjacent the forward wall of said windguard, the improvement comprising a horizontal plate member mounted in said enclosure for slidable movement forwardly and rearwardly therein, said plate member being provided with an elongated housing secured thereto having a bifurcated forward end, a striker wheel rotatably mounted in the bifurcated forward end of said housing adjacent said wick, and positioned so that it partially extends through the opening in the forward wall of said wind-guard, a flint tube operatively secured within said housing in engageable relation with said striker wheel, coacting latch means mounted on the forward end of said housing and said cover for holding said cover in closed position, and a coiled spring encircling said flint tube and operatively secured to the rear end of said housing intermediate the latter and the rear wall of said wind-guard for normally urging said plate member forwardly to maintain said latch means in engageable relation with said cover when the latter is in closed position.

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