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CIGARETTE LIGHTER

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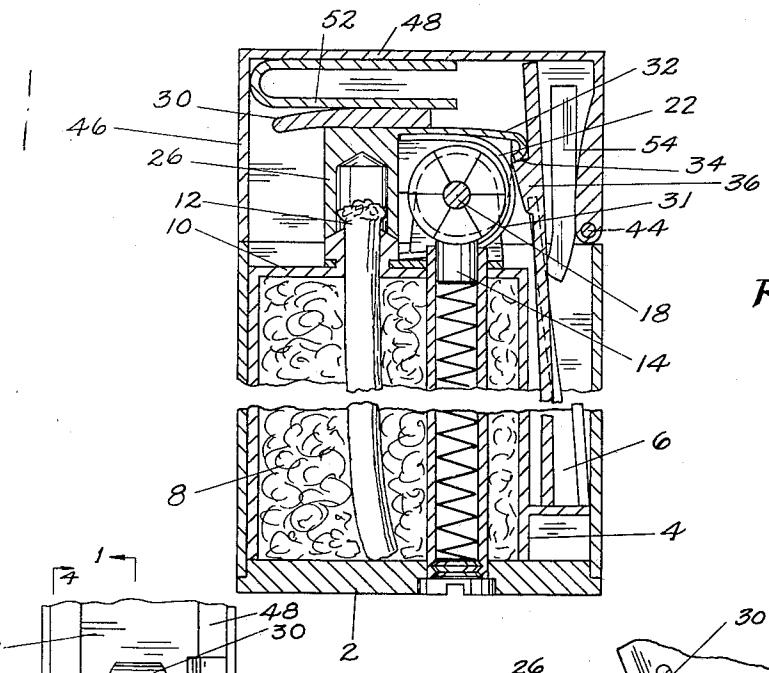


Fig. 1

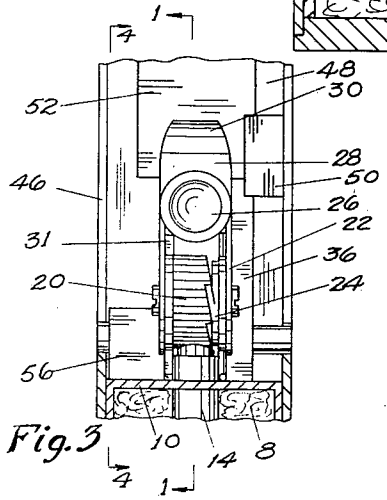


Fig. 3

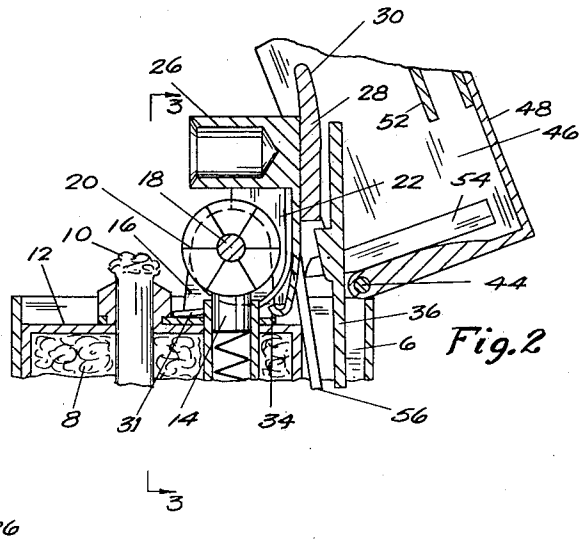


Fig. 2

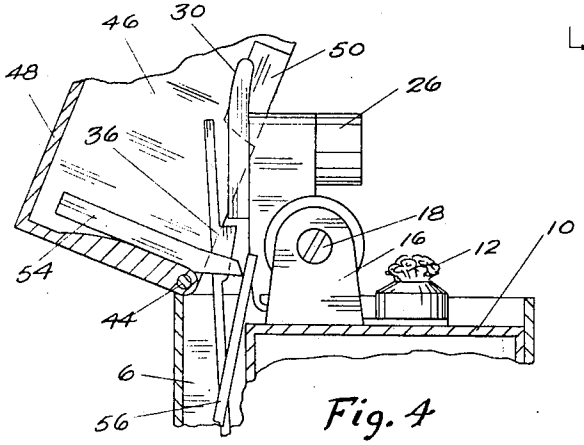


Fig. 4

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CIGARETTE LIGHTER

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2 Claims. (Cl. 67—7.1)

1

The invention relates to cigarette lighters, and more particularly to lighters of the pyrophoric type.

The primary object of the invention is to provide a lighter which is easy to operate, but which at the same time is effective in igniting the wick at each operation.

Another object of the invention is to provide a lighter which is of simple and yet sturdy construction, and which can be manufactured economically and easily.

Still another object of the invention is to provide a lighter which operates automatically when the cover is raised to ignite the wick.

A further object of the invention is to provide a lighter having an arrangement for raising the cover by the sudden release of a spring, such arrangement being controlled by the cover which is itself subject to a snap action. While it has been heretofore known to release a latch by the raising of a cover, so as to allow a spring to lift a snuffer and operate an igniting mechanism, the movement of the cover has ordinarily been a simple manual one, which is often slow and ineffective just at the time when the release is to take place. According to the present invention, on the other hand, the cover during the final part of its movement to uncovering position is subject to the influence of a snap action mechanism which causes the quick and certain movement of the cover at the time during which it releases the latch, so that a sudden and rapid actuation of the latch, and thus an effective operation of the igniting mechanism, is assured. This same snap action device also holds the cover closed when the lighter is not in use, thus preventing accidental operation without the need of special devices for that purpose.

A further object of the invention is to provide, in a lighter having a latched snuffer spring operated to ignite the wick, and in which the latch is released by lifting the cover, with cooperating means on the snuffer and cover to restore the snuffer to closed, latched position when the cover is closed. More particularly, this aspect of the invention contemplates the provision of cooperating cam surfaces on the cover and snuffer engageable so that closing of the cover restores the snuffer to wick covering position.

Further objects and advantages of the invention will appear more fully from the following description, especially when taken in conjunction with the accompanying drawings which form a part thereof.

In the drawings:

2

Fig. 1 is a vertical cross-section substantially on the line 1—1 of Fig. 3 through a cigarette lighter embodying my invention with the parts in inoperative position;

Fig. 2 is a similar view with the parts in operative position;

Fig. 3 is a view substantially on the line 3—3 of Fig. 2; and

Fig. 4 is a cross-section substantially on the line 4—4 of Fig. 3.

The lighter includes a body portion 2 having a dividing wall 4 forming on one side an open well 6 and on the other a fuel chamber or container 8 closed by a top wall 10. Through wall 10 project a wick 12 and a flint 14, the latter being held in the conventional flint tube.

Upstanding from the top wall 10 are ears 16 in which are mounted a shaft 18. This carries a flint wheel 20 engaging flint 14. A snuffer member has ears 22 pivoted on shaft 18 on each side of the flint wheel. One of these ears has rigid with it a disc 24 having a struck out ratchet tooth engageable with ratchet teeth in the side wall of the flint wheel. The snuffer has also a forwardly extending projection 26 carrying a snuffer cap 28 above the wick 12. Projection 26 extends beyond the snuffer cap and has a downwardly turned end 30 forming a cam surface, the function of which will be described below. A leaf spring 31 having one end resting on top wall 10 and its other end engaging the under side of snuffer extension 26, and having its central position bowed around pivot 18, urges the snuffer to raised position.

The snuffer also has a rearward projection 32. This is engageable over a shoulder 34 on a latch member 36 composed of a flat plate spring extending into the well 6 and secured at its bottom end to the rear wall of the lighter body. The latch has an upward extension above the shoulder, the purpose of which will be described below.

Pivoted at 44 at the top of the back wall of body portion 2 is a cover 46 having a top wall 48. This cover has a lug 50 at the bottom of one side wall adjacent latch 36. Top wall 48 carries a U-shaped resilient metal strip having its lower leg free and provided with a cam surface engageable with the end portion 30 of snuffer 26. The rear wall of the cover has rigidly secured thereto a plate 54 which extends slightly outwardly from the cover to engage a second flat leaf spring 56 secured at its lower end on the back wall of the body and extending upwardly through well 6.

The device hereinbefore described operates as follows:

In the closed position, shown in Fig. 1, the cover is yieldingly held against movement by the engagement of spring **56** against plate **54**. The snuffer is held closed by engagement of shoulder **34** beneath projection **32**.

When the user wishes to light a cigarette, he lifts the cover **46** against the resistance of spring **56**. When plate **54** passes a certain point on the spring, the spring acts to throw the cover the rest of the way to fully open position (Fig. 2). During this movement, lug **50** engages latch **36** (see Fig. 3) and swings the latch clockwise until shoulder **34** moves out from under projection **32**. When this occurs, spring **31** quickly lifts snuffer **26** and turns the flint wheel **20** to ignite the wick.

After the lighter has been used, the user pushes cover **46** downward. At a certain point in this downward movement, the cam surface of block **52** will engage the cam surface **30**, and will push the snuffer back to lowered position. At the same time, lug **50** will move so as to allow latch **36** to move back towards locking position under the action of spring **40**. When the cover reaches its lowest position, therefore, the parts will have again assumed the position shown in Fig. 1, and the lighter will be ready for another operation.

While I have described herein one embodiment of my invention, I wish it to be understood that I do not intend to limit myself thereby except within the scope of the claims hereto or hereinafter appended.

I claim:

1. A cigarette lighter comprising a body portion including a fuel container, a wick extending from the top thereof, igniting mechanism mounted on the top of the body portion, a snuffer pivoted on top of the body portion for movement between wick covering and uncovering positions, a spring acting between the body and the snuffer urging said snuffer towards uncovering position, means operatively connecting said snuffer to said igniting mechanism for operating said igniting mechanism when said snuffer moves to uncovering position, a cover pivoted on said body portion and adapted to enclose said wick, snuffer and igniting mechanism, latch means normally holding said snuffer in covering position, said latch means including a spring blade having one end fixed to the body portion and having near its free end a shoulder engaging under said snuffer, means on said cover engageable with the free end of said blade to release said latch means when said cover is raised to uncover the wick, snuffer and igniting mechanism, said snuffer and cover having cooperating portions engageable with one another when the cover is closed to move the snuffer to covering position, said blade returning to holding position when the cover is closed and the snuffer moved to covering position, and yieldable means resiliently holding said cover in closed position.

2. In a lighter as claimed in claim 1, said yieldable means including a downward projection on said cover adjacent the pivot point thereof and extending below said pivot point, and a spring blade having one part fixed to the body and having another part engaging said projection at a point below said pivot point.

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