

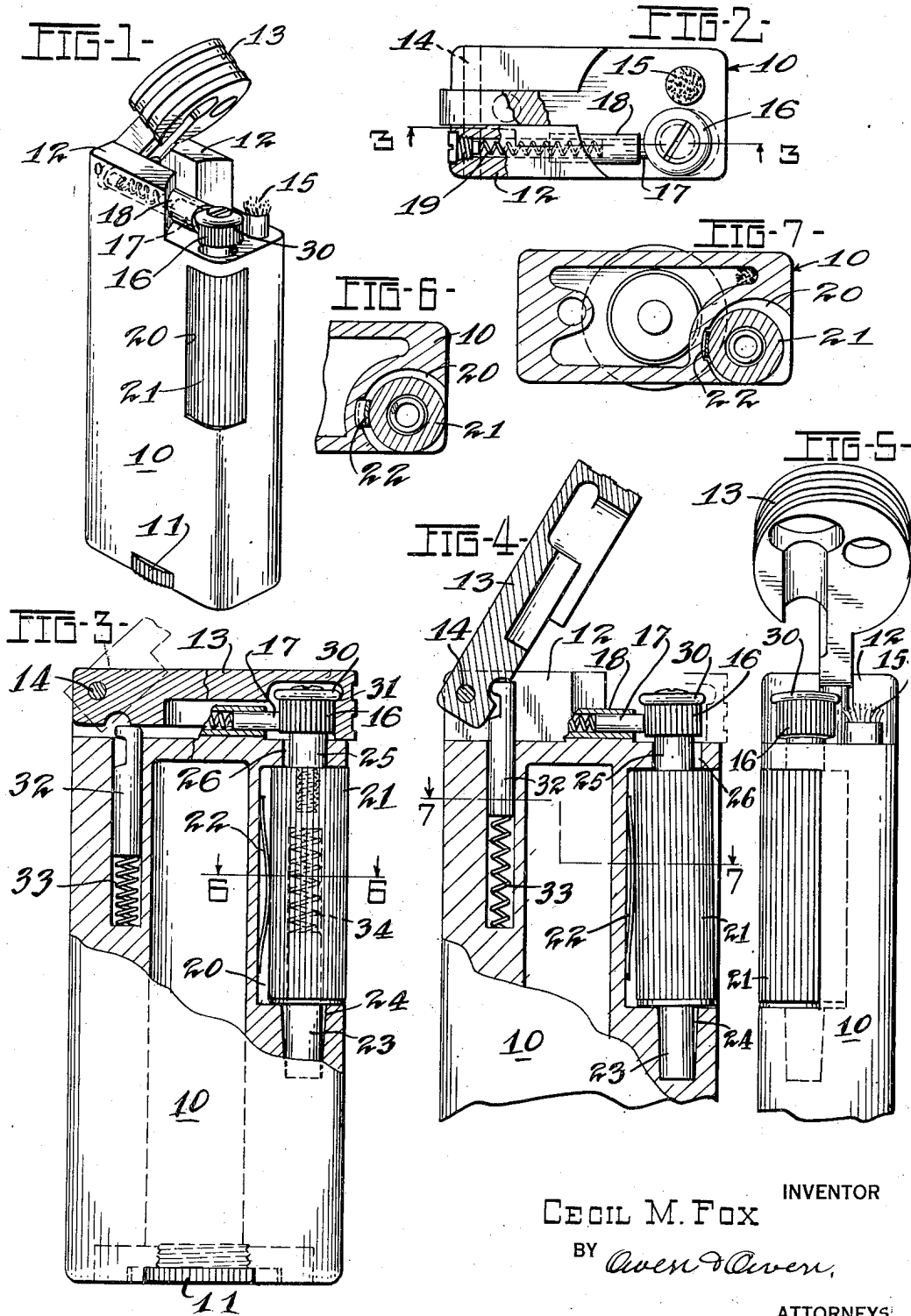
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CIGARETTE LIGHTER

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UNITED STATES PATENT OFFICE

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CIGARETTE LIGHTER

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1 Claim. (Cl. 67—7.1)

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This invention relates to cigarette lighters of the pocket type, and has for its primary object the provision of means adapted to normally hold the cap member in closed position and to be automatically released to permit said member to open under spring action when the lighter is operated to effect an ignition.

Other objects and advantages of the invention will be apparent from the following detailed description and from the accompanying drawings, in which:

Fig. 1 is a perspective view of a lighter embodying the invention, with the cap member open; Fig. 2 is a top or end view thereof, with portions broken away; Fig. 3 is a side elevation with a portion in section on the line 3—3 in Fig. 2, with parts in full view and with the cap member in closed position; Fig. 4 is a similar view with the cap member in open position; Fig. 5 is a front edge view of the lighter with the cap member open; Fig. 6 is a fragmentary cross-section on the line 6—6 in Fig. 3, and Fig. 7 is a cross-section on the line 7—7 in Fig. 4.

Referring to the drawings, 10 designates the case or container for the lighting fluid, access to its interior being had through an opening in its bottom that is closed by a plug 11. The upper end of the case is provided adjacent to its rear edge with two laterally spaced upstanding lugs 12, 12, forming a fork opening in which the narrow shank end of a cap member 13 is fitted and pivotally attached by a pin 14 for opening and closing movements relative to the case. The free end of the cap member 13 is cylindrical, in the present instance, and adapted when in closed position to fit down over the operative sparking portion of the device and the wick 15.

The sparking device includes a rotatable wheel member 16 the periphery of which is serrated or otherwise roughened to have frictional sparking engagement with the exposed end of a flint 17 mounted in a holder 18 projecting from the forward end of one of the lugs 12. The flint is urged forward against the wheel by a coiled expansion spring 19 mounted in a recess in the lug 12 and bearing against the inner end of the flint.

The case 10 is provided in its left front corner portion near its top with a recess 20 in which a wheel 21, intended to be rotated by thumb pressure, is mounted. This wheel is of axially elongated form with its periphery knurled or otherwise roughened to facilitate turning by pressure thereagainst of a thumb of the hand which holds the lighter. The wheel is freely rotatable

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except for the pressure of the spring pressed flint thereagainst and possibly a spring 22 which may be used in addition if desired. The wheel at its lower end has a spring pressed pin 23 axially projecting therefrom and mounted for turning movements in a socket 24 in the bottom of the recess 20. A pin 25 projects axially from the upper end of the wheel through an opening 26 in the upper end of the wall of the recess 20 and a short distance above such wall.

The peripherally roughened friction wheel 16 is fixedly carried by the pin 25 immediately above the top of the case and has peripheral engagement with the outer end of the flint 17. It is well understood in the art that a quick turning of the wheel in engagement with the flint will cause emission of sparks therefrom to ignite the adjacently disposed wick 15 which is soaked with inflammable fluid from the interior of the case.

A feature of the present invention is to provide a releasable catch engagement between the cap member 13, when closed, and a part movable with the wheel 21, and to mount the wheel in a manner to have lateral movement from a normal position upon the application of a turning pressure thereto whereby the cap is released and permitted to open before the wheel has been turned sufficiently to effect igniting of the wick.

To accomplish this, the friction wheel 16, in the present instance, is provided at its outer end with an annular rib 30 for catch engagement with an internal ledge 31 in the cap member 13 to hold said member closed. The thumb wheel 21 and parts carried thereby are mounted to have limited transverse movements relative to the case 10, such movements being resisted by the spring pressed flint 17. If desired, an additional spring 22 may be used. It is thus apparent that upon the application of an initial turning pressure to the wheel 21, it is moved inward against the tension of one or the other or both springs 19 and 22, and the release of the engaging action of the catch parts 30, 31 is effected under the action of a spring pressed plunger 32. This plunger is mounted in a socket in the rear top portion of the case beneath the cap shank and is urged upward against such shank by a spring 33.

For the purpose of transverse movement, the wheel 21, in the present instance, is mounted for lateral rocking movements with the lower end of the pivot pin 23 as a fulcrum, and to permit such movement play is provided for the pin in its bearing. The opening 26, through which the top pin 25 projects, is also larger than such pin to permit and limit said transverse movements.

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The pivot pin 23 preferably projects outwardly from an axial socket in the wheel 21 and is yieldingly urged into engagement with the bottom of the socket 24 by a coiled compression spring 34 in the wheel socket. This yieldingly holds the upper end of the wheel 21 against the upper end wall of the recess 20 and takes up any end-wise looseness or play between the parts.

In practice, the lighter is customarily held in the right hand with the thumb of such hand resting on the wheel 21 so that pressure applied to the wheel by a quick movement of the thumb to impart clockwise movement to the wheel will first bodily move the wheel and parts carried thereby inwardly against the spring tension to release the catch engagement of the rib 30 and ledge 31 to permit an opening of the cap and will then turn the wheel about its axis to throw a series of sparks from the flint 17 to ignite the wick. In this manner a single movement of the thumb serves both to release the catch holding the cap closed and to effect a lighting of the wick.

I wish it understood that my invention is not limited to any specific construction, arrangement or form of the parts, as it is capable of numerous modifications and changes without departing from the spirit of the claim.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent, is:

A lighter comprising a case, a laterally extending recess therewithin, a cylindrical member

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disposed within said recess and having rotary and limited translatory movement therewithin inwardly of the recess and outwardly thereof, a pin assembly including an abrading wheel projecting upwardly of the said cylindrical member and rotatable and movable therewith, a wick on said case, a flint, means to urge the flint outwardly against said abrading wheel, a cover member for the case and wick pivotally secured at one end thereof to the case, means to urge the other and free end of the cover upwardly of the case to uncap the wick, and interengaging means between the pin and the cover when the pin is under the influence of the flint-urging means to lock the cover on the case, compound rotary and straight line movement of the cylinder inwardly of the recess releasing the said other end of the cover to uncap the wick and spark the flint to ignite the wick.

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