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LIGHTER

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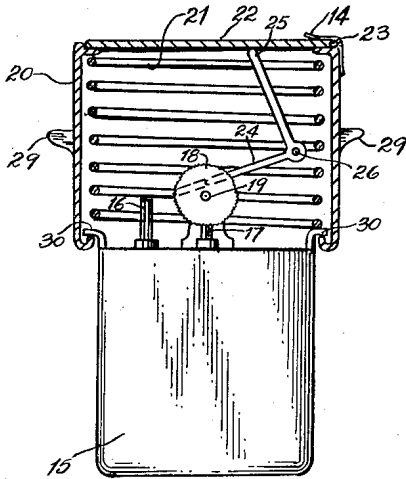


Fig. 1.

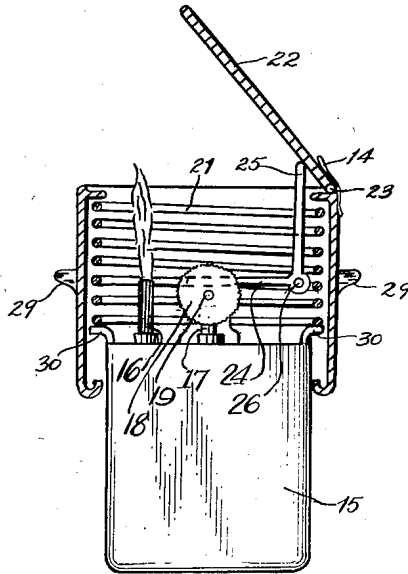


Fig. 2.

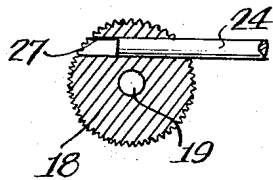


Fig. 3.

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LIGHTER

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2 Claims. (Cl. 67-7.1)

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The present invention relates to cigarette lighters and more particularly to the type employing a wick and also a friction wheel in engagement with a pyrophoric element for producing sparks to ignite the wick upon rotation of the wheel.

An object of this invention is to provide in a lighter of the type mentioned, a novel and improved means for causing rotation of the friction wheel.

Another object hereof is to provide in a lighter of the type set forth having telescopic case members, a novel and improved means for automatically causing a rotary movement of the friction wheel, upon relative movement of the case members.

A further object of the present invention is to provide in a lighter of the character mentioned, a novel, improved and automatic friction wheel and casing lid operative means.

Another object hereof is to provide in a lighter of the type described, having telescopic case members, a novel and improved means to automatically turn the friction wheel and simultaneously control the opening and closing of a lid or casing closure member, upon relative movement of the case members.

A further object of the present invention is to provide in a lighter of the type set forth, a novel, improved and automatic operating means which is simple and cheap in construction, requiring a minimum of parts and efficient in carrying out the purposes for which it is designed.

Other objects and advantages will become apparent as this disclosure proceeds.

In the accompanying drawings forming part of this application, similar characters of reference indicate corresponding parts in all the views.

Fig. 1 is a partial central elevational section of a lighter embodying the teachings of this invention for simultaneously and automatically operating of the friction wheel and casing lid member. This view shows the lighter in non-use or rest condition.

Fig. 2 is a similar view thereof, showing same in use condition.

Fig. 3 is an enlarged section through the friction wheel included in the device shown in Fig. 1, as made by a plane perpendicular to the axis of said wheel, through the path hole.

In the drawings, the casing member designated generally by the numeral 15, serves as the fuel tank for wick 16, and has mounted thereon a pyrophoric element 17 in frictional engagement

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with the serrated peripheral surface of wheel 18, which is secured on shaft 19. An outer casing member 20, is telescopically mounted on casing member 15, while a coil spring 21, serves to maintain the casing members in distended relation. The outer casing 20, being tubular, has a lid 22 hinged thereto at 23, which lid when positioned across the upper opening in casing member 20, closes the casing. When said lid is swung about axis 23, away from said opening, the wick 16, which should then be aflame, is accessible for use. A torsion spring 14, is adapted to maintain the lid 22 in closed position.

An elongated arm or bar 24, is pivotally mounted at one end on the outer casing member 20, on axis pin 26. Said arm 24, has integral therewith an upwardly extending arm 25 from the region of the pivotal connection 26, to the underside of said lid 22 for contact therewith. Arm 24, is positioned in sliding fit within hole 27 through the periphery of the wheel 18; the axis of said hole being spaced from the axis of rotation of the wheel and perpendicular thereto.

In operation, starting with the lighter in rest condition as shown in Fig. 1, in hand, outer casing 20 is pulled down over inner casing 15, for which purpose any suitable means may be provided as for instance the lugs 29 extending laterally from the outer casing member. Spring 21 is compressed, the axis point 26 is lowered with respect to the inner casing 15, whereby lid 22 is lifted to open position simultaneously as the friction wheel 18 is rotated because arm 24 moves towards the horizontal and the arm 25 towards the vertical, as in Fig. 2. During such manipulation, the arm 24 will slide within hole 27 and swing about its axis 26, whereby the friction wheel 18 will be rotated causing sparks to issue from the pyrophoric element 17 to ignite the wick 16. The arm 25, during such manipulation and simultaneously with the rotation of said wheel 18, will slide along the underside of lid 22, causing said lid to open, because the length of the arm exceeds the distance between pivotal connection 26 and the underside of the lid 22, when the latter is in closed condition. As described, the lighter is now in use condition as shown in Fig. 2. Now upon release of hold of said lugs 29, the stressed spring 21 will cause withdrawal of the casing members to their initial position with respect to each other determined by the stop elements 30, and stressed spring 14 will cause lid 22 to close, and automatically there will occur a restoration of all components of the

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device to their initial related positions as shown in Fig. 1.

This invention is capable of numerous forms and various applications without departing from the essential features herein disclosed. It is therefore intended and desired that the embodiments shown herein be deemed illustrative and not restrictive and that the patent shall cover all patentable novelty herein set forth; reference being had to the following claims rather than to the specific description herein to indicate the scope of this invention.

I claim:

1. In a cigarette lighter of the character described, the combination of a casing, a wick and a pyrophoric element carried on the casing, a wheel rotatably mounted on the casing, the periphery of said wheel being serrated and in frictional engagement with the pyrophoric element, whereby upon rotation of the wheel, sparks are produced adapted to ignite the wick; an operating member moveably mounted on the casing; the wheel being provided with a hole commencing at the periphery of said wheel; an elongated arm pivotally mounted at one end on said operating member; the free end of said arm extending into the hole in the wheel and longitudinally slidable therein in contact with the body

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of the wheel, whereby upon movement of the operating member on the casing, the arm is swung causing the wheel to be rotated, and spring means mounted between and against said casing and operating member adapted to maintain the operating member in a predetermined position on the casing.

2. In a lighter as defined in claim 1, wherein the axis of the hole extends spaced and in perpendicular relation to the axis of rotation of said wheel.

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REFERENCES CITED

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

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