PATENT SPECIFICATION

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COMPLETE SPECIFICATION.

Improvements in or relating to Cigar Lighters.

I, SAMUEL EDMONDSON GUINN, a citizen of the United States of America, resident of Johnson City, County of Washington, State of Tennessee, in the United States of America, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to that type of cigar lighter in which a fuel container is provided with a cover or igniter casing which is adapted, when moved in relation to the said container, to operate a pyrophoric-ignition means.

These lighters have been made to rely upon a spring for the purpose of causing the igniter casing, when released by a hand-operated catch, to make the pyrophoric material spark and ignite the fuel delivered to the ignition point by means of a wick carried by a tube or nipple mounted on the fuel container.

In this type of cigar lighters, the pyrophoric material and in some cases part of the spark producing mechanism are carried by the fuel container and enclosed by a movable igniter casing hinged directly to the container and a snuffer tube has been fitted to the casing.

According to my invention the lighter has a casing for the igniter mechanism which is carried by the wick tube and is made in two sections, one fixed to the said tube and the other hingedly attached to the fixed section, said hinged section being spring-controlled and carrying a hook adapted to lift a spring controlled arm of the mechanism a predetermined distance at which the arm is automatically released and rotates an igniter disc fixed to the shaft or pivot of the arm. When the hinged section closes it effects the setting of the igniter mechanism.

The igniter mechanism with the pyrophoric material-feed device and other improvements form the chief features of my invention which I will now describe with reference to the accompanying drawings, in which:—

Fig. 1 is a perspective view of the improved lighter.

Fig. 2 is a vertical section of the same.

Fig. 3 is a section on line 3—3 of Fig. 2.

Fig. 4 is a broken perspective view of the lighter, the igniter casing being shown open.

The improved lighter comprises a container 1 serving as a receptacle for the fuel, as alcohol or the like, a wick tube 2 extending upwardly from the container and in open communication therewith for the passage of a wick 3.

An igniter casing is mounted above the wick tube 2, comprising a fixed section 4 of hollow formation, having a depending threaded nipple 5 adapted to be screwed into the upper end of the wick tube 2 for supporting the igniter casing. The casing section 4 is provided with a wick guide 6 terminating in a conical end portion 7 for cooperation with the snuffer as hereinafter explained. The igniter casing also includes a movable section 8 having depending ears 9 to permit hingedly connecting said movable section to the fixed section through a transverse rod 10, on which within the casing is arranged a spring 11 with its free end engaging beneath the movable section 8 and serving to return the latter to closed position.

The movable section 8 is interiorly provided with a depending tube 12, adapted when the section is closed, to cover the exposed portion of the wick 3 and also bear more or less snugly on the conical surface of the guide terminal 7,

to form a seal to prevent the vapor from the fuel escaping and trapping the vapor within the tube 12 for a purpose which will presently appear.

Rotatably mounted in the forward portion of the fixed section 4 of the igniter casing is a shaft 13, on which is secured a disc 14 having a tangential arm 15, which extends forwardly through a slot 16 formed in the forward wall of the movable section 8 of the igniter casing, and projects beyond said igniter casing, as shown. The disc 14 is provided with a lateral pin 17 connected by a spring 18 to the fixed section of the casing, whereby to maintain the disc 14 normally in an inoperative position, that is, with the arm 15 resting upon the upper edge of the forward wall of the fixed section of the igniter casing, as clearly shown in Fig. 2.

To assist in arresting the arm 15 at all times in the same position, that is, preventing wear under the impact of the arm, the forward wall of the section 4 of the case, at the point of engagement therewith of the arm 15, is provided with an integral pillow block 4^1, the upper end of which receives a hardened bearing pin 15^1, to receive the blow of the arm in the operation described.

The forward wall of the movable section 8 is provided with an operating hook 19, having a hook terminal 20 to normally underlie the projecting portion portion of the arm 15, this hook having a lateral bar at the upper end pivotally connected at one end 21, to the movable section 8, the opposite end of the bar being free and normally resting upon a pin 22 projecting from the forward wall of the section 8, as shown more particularly in Fig. 1. Section 8 is provided with an operating handle 23, whereby said section may be swung on its pivot 10 against the tension of spring 11.

The pyrophoric material, here shown as of rod form, at 24, is slidably mounted in a tube 25 carried by the fixed section of the igniter casing and terminating at its upper end in line with and below the shaft 13. The lower end of the tube depends below the fixed section 4 of the igniter casing, and is adapted to receive a rod 26 carried upon the upper end of a plunger 27 mounted in a bore 28 formed in a cylindrical web cast with and within the fuel container 1, the bore 28 being of course closed against the fuel portion of the casing. The plunger 27 is normally operated in the upward direction by a spring 29 held in the reduced lower end of bore 28 and bearing against the plunger 27, and is manually retracted at will through a handle section 30, preferably of wire of U form to provide bearing width, which handle extends through a slot 31 in the adjacent wall of the fuel container 1.

The operating member of the igniter is in the form of a serrated disc 32 fixed upon the shaft 13 immediately above the tube 25, so that the pyrophoric material 24 is maintained in contact with the peripheral edge of said disc 32 at all times by the action of the spring 29.

Obviously, through manipulation of the handle 23, the movable section 8 of the igniter casing is turned on its pivot, and this action through the hook 19 serves to engage and raise the arm 15, move the disc 14 against the tension of the spring 18 and correspondingly move the igniter disc 32. The relation of the centres of movement of the arm 15 and the movable section 8 of the casing are such that upon continued action the hook end 20 rides off the end of the arm 15, whereupon the spring 18 operates to return the disc 14 and thereby the shaft 13 to normal position. In this movement of the shaft, the igniter disc 32 is moved rapidly over the end of the pyrophoric material and the resultant sparks ignite the fuel at the wick 3. After the use of the light, the handle is released, the spring 11 acts to return the movable section of the igniter casing to normal position, the hook 19 being displaced by the end of the arm 15 and then returned to operative position below the arm, and the tube 12 acting to snuff or cut off the flame from the wick.

The tube 12 additionally serves to retain fuel vapor and to permit this vapor to escape adjacent the ignition point in the operation of the device, whereby the ignition of the wick is rendered more certain and the proper operation insured through a single action of the pyrophoric material, thus avoiding the usual repetitions of the sparking action necessary to operate the usual igniter of this type, and thus saving the material.

Through depressing the plunger 27 through the medium of the handle 30, to withdraw the rod 26 from the tube 25, fresh pyrophoric material may be conveniently added without opening or disturbing any portion of the device other than that noted.

The igniter as a whole may be mounted upon a convenient base or desk or show case, or may form a part of the usual cigar storage and igniting outfit designed for home use, or may be made a stationary fixture at any place or places where it may be useful.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is

to be performed, I declare that what I claim is:—

1. A cigar lighter of the kind first herein referred to in which a casing for the igniter mechanism is carried by the wick tube and is made in two sections one fixed to the said tube and the other hingedly attached to the fixed section, said hinged section being spring-controlled and carrying a hook adapted to lift a spring-controlled arm of the mechanism a predetermined distance at which the arm is automatically released and rotates its shaft or pivot carrying an igniter disc which acts on the pyrophoric material.

2. A cigar lighter according to the Claim 1 in which a tubular element fixed in the igniter casing and terminating adjacent the igniter disc is provided to hold the pyrophoric material.

3. A cigar lighter according to Claim 1 in which the hook is mounted so as to permit its end to pass the arm upon the closing of the igniter casing and to be operatively positioned relative to the arm by gravity.

4. A cigar lighter according to Claim 1 in which a pyrophoric material tube is carried by the igniter casing and an element is slidably guided within the fuel container to co-operate with the pyrophoric material in said tube and maintain endwise pressure thereon.

5. A cigar lighter according to Claim 4 in which a hole is formed in the fuel container in line with the pyrophoric material tube and is closed against the container and carries a spring pressed, manually-operable element adapted to maintain endwise pressure on the pyrophoric material.

6. A cigar lighter according to Claim 5 in which the element slidably guided within the fuel container is provided with a rod (26) adapted to enter the pyrophoric material tube and maintain endwise pressure on the said material.

7. A cigar lighter according to Claims 5 and 6 in which the hole formed in the fuel casing has its wall slotted to receive a projection from the slidable element, said projection passing through and being guided by the slot for the purpose of manually withdrawing the element when it is desired to replace the pyrophoric material.

8. A cigar lighter according to Claims 1—7 in which the wick tube projects into the igniter casing and is provided with a sealing surface adapted to co-operate with a snuffer tube carried by the movable section of the casing for the purpose of trapping vapours within the snuffer tube, the open end of said snuffer tube moving toward and across the generating point of the spark producing means upon the opening movement of the section, whereby trapped vapours are brought adjacent the sparking point for initial flame production to ignite the wick.

9. A cigar lighter according to Claim 8 in which the snuffer tube is moved wholly out of contact with the flame from the wick when the movable section is open to permit uninterrupted access to the flame.

10. The improved cigar lighter substantially as herein described and shown.

Dated this 18th day of November, 1924.

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Fig. 1.

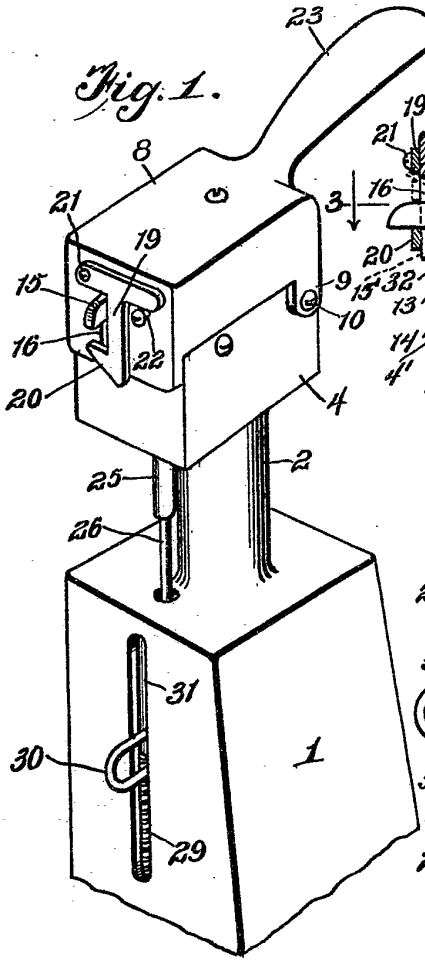


Fig. 2.

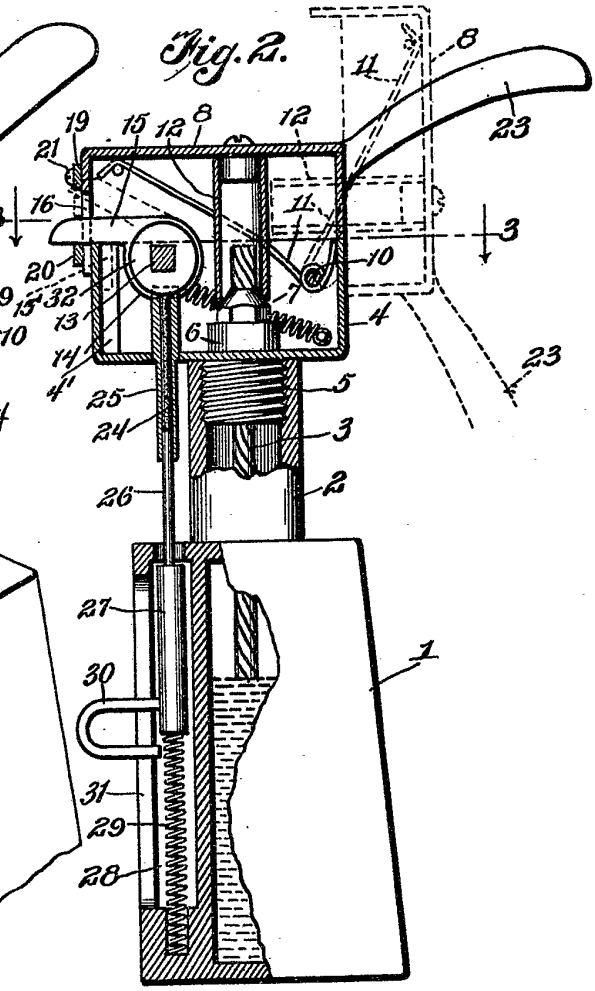


Fig. 4.

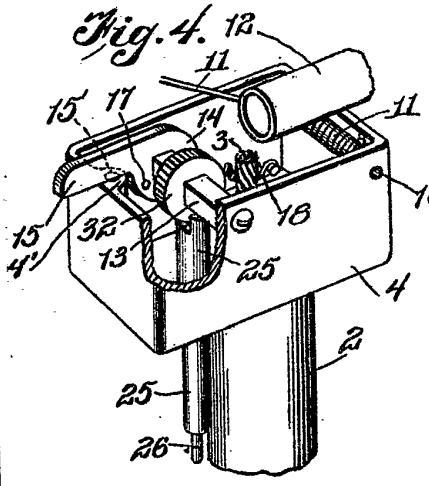
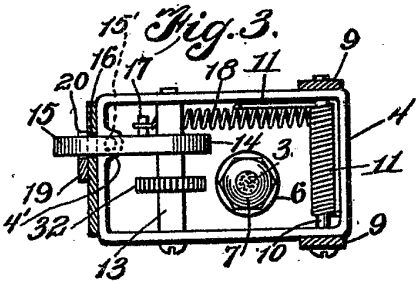


Fig. 3.



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