PATENT SPECIFICATION

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294,820

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COMPLETE SPECIFICATION.

Improvements in Lighters for Pipes, Cigars and the like.

I, SAMUEL SEGAL, a citizen of the United States of America, of 114, East 42nd Street, New York, 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 a lighter and particularly, a pocket lighter, more particularly applicable for igniting pipes, cigars and the like, but capable of general application.

In connection with pyrophoric igniter suggestions have been made previously to pivotally mount a cap for fitting over a wick on the shaft of a milled or roughened wheel co-operating with a flint or the like, the cap having an extension which is adapted to be depressed when rotating the milled wheel, so as to raise the cap from the wick when the wheel is rotating, the cap being mounted on the shaft of the wheel in such a manner that when the cap has been raised it will be held away from the wick by friction, the wick being mounted in a tube closed at the bottom and pierced with one or more capillary holes. It has also been suggested in connection with lighters to move the cap away from the wick by means of a hand piece or lever, the depression of the hand piece or lever serving to actuate the milled disk or to release this so as to enable it to be rotated by a spring. Suggestions have also been made in lighters to provide a sliding member normally held in one position by a spring and adapted to be moved by pressing together a pair of pivotally mounted thumb pieces, whereby a milled wheel co-operating with a flint or the like is brought adjacent the wick, whilst a cap is removed from the wick when the sliding member has been moved to its forward position.

According to the present invention a disk is mounted in a sliding member, so arranged that when pressure is applied to the disk the member is caused to slide and release a cap or snuffer, which moves away from the wick, whilst continued pressure on the disk results in the rotation thereof.

In the accompanying drawings:—

Figure 1 is a side elevation of such a lighter.

Figure 2 is a plan view thereof.

Figure 3 is a sectional view.

Figure 4 is a fragmentary view of the upper portion of the lighter, and

Figure 5 is an enlarged sectional view of this part.

In these views the numeral 10 indicates the lighter casing, to the interior of which access may be had through an opening normally closed by a plug 11 and the upper surface of which is formed with an opening through which the wick of the lighter extends.

At this time it will be noted that according to the present invention a tube 12 is mounted to project within the casing 10 and above the upper surface thereof, the latter portion of the tube providing a wick nozzle and the lower portion of this tube being preferably formed with openings 13 through which fluid fuel may pass into contact with the wick to move, by capillary attraction, to the upper end of the latter.

Also extending above the cover of the casing is a lug 14 which pivotally mounts a lever 15 normally urged upwardly by means of a spring-pressed pin 16, it being here noted that the pivoted end of the lever is enlarged to prevent the pin from being completely ejected from its seating regardless of the position to which the lever may be swung. A further lug 17 also extends from the upper surface of the lighter and is formed with a bore to slidably mount a barrel 18, the movement of the latter in one direction heing limited by a pin and slot connection hereinafter described. A nut or collar 19 is mounted upon screw threads formed at the rear end of the barrel to further limit the movement thereof when the pin and slot do not cooperate, and the movement of the barrel in the opposite direction being limited by a block 20 affixed thereto which has a tube extension 21 projecting slidably into a bore formed in the lug 17.

[*Price* 1/-]

A spring 22 has its opposite ends bearing against the base of the lug- and tube-bores to normally maintain the parts in position shown in Fig. 5.

Disposed within the rear end of the barrel 18 is a set screw 23 and disposed within the forward end of the same is a spark-producing element 24 such as is commonly called a flint, which extends into a forked portion 25 formed at the outer end of the barrel. A spring 26 is interposed between the inner ends of the flint and the set screw, and a sparking disk 27 is secured to a shaft 28 extending transversely of the arms of the forked portion 25, it being obvious that if this construction or its equivalent is adopted, that the tension of the spring may be regulated by the position of the set screw to have the flint 24 bear against the disk 27 with that intimacy of contact which, while allowing a rotation of the disk, will result in a maximum sparking. With a view to rotating the shaft 28 a thumb wheel 29 may be provided, and it will be here observed that, as at 30, the shaft may be axially bored to receive a spare or reserve flint 24, it being furthermore noted that the shaft and disk may be shouldered to prevent relative rotation of these elements.

As aforestated the lever 15 is pivotally mounted by the lug 14 and this mounting is preferably effected by the use of a headed pin 31. As shown in Figure 2 the head of this pin lies adjacent to and in line with the collar or nut 19, the shank thereof extending through bores in the arms of the lug and the lever 15. As a consequence it will be appreciated that the pin, while effectually serving as a mounting member, can at no time become accidentally detached, for the reason that its withdrawal is precluded due to the fact that its head will contact with the periphery of the member 19 should such a tendency occur. On the other hand, if it is actually desired to dismount the lever 15 this may be effected readily by simply dismounting the collar or nut from the barrel, withdrawing the set screw 23 and moving the barrel outwardly, whereupon the head of the pin will be exposed.

As shown in Figures 3 and 4, the lever 15 is formed with a shoulder 32 extending at an angle to its arc of swing, and a slot 33 inclined upwardly being formed in the lever at the point of juncture of the shoulder and the lever body. Furthermore, it will be noted that the shiftable block 20 carries a pin 34 which lies normally within the slot or recess 33 and which, as shown, may carry a roller 35. By this construction it will be apparent that the lever will be held normally in the position shown in Figs. 1, 2 and 3, but that if the barrel 18 is moved inwardly, carrying with it the block 20, this will result in the pin 34 moving to a point at which the shoulder clears the same, thus permitting the lever 15, under the action of the spring-pressed pin 16, to swing upwardly. Due to the manner in which the shoulder edge extends, if the lever is in the position shown in Figure 4 and is swung downwardly, this edge will contact with the roller mounted by the pin, conceding that the former is employed, causing the block 20 and the barrel secured thereto to be shifted inwardly until the pin reaches a position in line with the slot or recess 33 whereupon, under the action of the spring 22 it will move outwardly and, incident to the inclination of the slot, this outward movement will result automatically in the further tendency of the lever 15 to swing downwardly, to thus firmly seal the cap.

A wick 36 is preferably used consisting of a fibrous body which may be reinforced by a central wire. Obviously, as the fibres are consumed it will be necessary, with a view to trimming the wick, to shear the wire center thereof. In order to conveniently accomplish such an action a cap 37, which is mounted at the outer end of the lever 15 and serves as a wick snuffer, has its lower edge beveled and the upper, or wick nozzle end of the tube 12 likewise has its upper edges beveled. Thus, cooperating knife edges are presented, as at 38, and it is obvious that if the end of the wick is bent to extend beyond the cap as the latter is moved downwardly, that any surplus wire will be sheared. Likewise it is apparent that if no centrally reinforced wick is employed that, nevertheless, the structure just described will be of use in trimming the wick itself. Furthermore, as in Figure 4, the end of the tube 12 may be formed with a slot 39 through which, if desired, the operator may extend the end of the wick and by flexing the same break the central reinforcement, thus avoiding the necessity of employing cooperating shearing edges or providing an additional wick trimming expedient supplementing the shearing edges.

Thus, it will be understood that by means of the present lighter it is only necessary for an operator to actuate the thumb wheel 29, which will result initially in such pressure being transmitted to the barrel to cause a retraction of the latter within its bearing 17 and a movement of the block 20 rearwardly and against the action of the spring 21. Proper pressure upon the thumb wheel will

further result in a turning of the same and in a corresponding movement of the disk 27 to produce sparks. The initial action will cause the pin 34 to move out of the recess or slot 33 to permit the lever 15 to swing upwardly through the position shown in Figure 4. Consequently the spray of sparks will be cast directly towards the wick thus exposed, initiating a flame at this point. This flame may be snuffed by simply swinging the lever downward to bring the cap 37 to a position at which it covers the open end of the tube 12, this downward swinging causing the lever to again be latched and retained in its normal position. As afore brought out, the pivot pin 31 will not become detached accidentally and the wick may be trimmed as previously described. Also, by having the shaft 28 bored to receive a flint 24, a convenient spare flint retaining member is provided.

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. In a lighter which includes a wick or other ignitable structure, a movable cap or snuffer for such structure and a mechanism by means of which sparks, produced by a rotatable disk in contact with a flint or other sparking element, are thrown towards the wick, the construction wherein the disk is mounted in a sliding member so arranged that when pressure is applied to the disk, the member is caused to slide and release the cap or snuffer, which moves away from the wick, whilst continued pressure on the disk results in the rotation thereof.

2. A lighter according to Claim 1 in which the cap, under the influence of a spring, is normally urged away from wick covering position and in which a catch is provided between the cap and the sliding member to be released when the latter is shifted.

3. A lighter according to Claim 2 in which the catch is automatically engaged upon the cap being shifted back to wick snuffing position.

4. A lighter according to Claim 2 or 3 in which a spring is employed to cause the flint or sparking element to bear against the disk and in which this spring is so mounted that the intimacy of contact between the parts of this mechanism will not be varied in the shifting thereof.

5. A lighter according to Claim 2, 3 or 4, in which the cap is mounted upon a swingable arm and a spring bears against such arm, the catch being provided by a recess formed in the arm and a pin extending into the recess and being carried by the sliding member.

6. A lighter according to Claim 5 in which the recess extends at an angle and a spring is employed for normally urging the sliding member to its outermost position, this spring, under normal conditions, serving to draw the cap towards the wick or other structure employed.

7. A lighter according to any of the preceding claims in which the wick includes a fibrous body and a relatively stiff core within the same.

8. A lighter according to any of the preceding claims in which the cap is formed with a shearing edge by means of which the wick may be trimmed.

9. A lighter according to any of the preceding claims in which a spout or nozzle is provided for the wick and this element is formed with a notch through which such wick may be extended for trimming purposes.

10. A lighter according to any of the preceding claims in which a shaft is employed for mounting the sparking disk of the lighter, the disk as well as the shaft having irregular cooperating surfaces preventing rotation of these elements with respect to each other.

11. A lighter according to any of the preceding claims in which the wick extends within a perforate tube in turn extending into a receptacle providing a fuel reservoir for the wick.

12. A lighter according to any one of the preceding claims wherein the sparking disk of the lighter is actuated by a thumb wheel.

13. A lighter construction arranged and adapted for use as a whole substantially as described in connection with the accompanying drawings.

Dated this 24th day of November, 1927.

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Fig. 2.

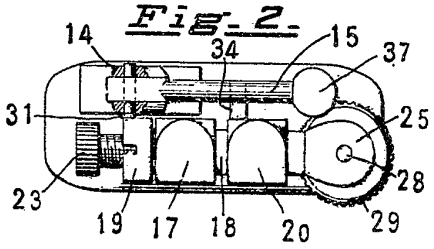


Fig. 1.

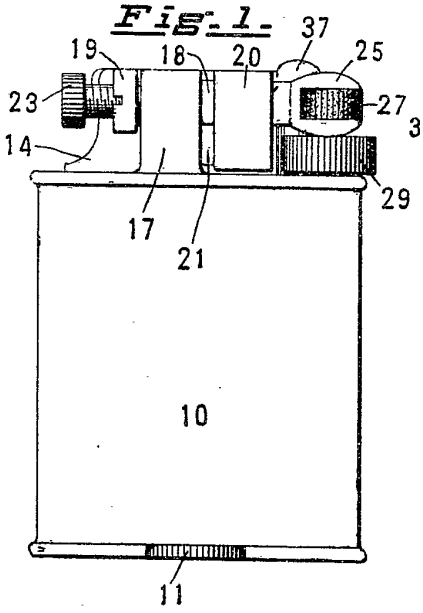


Fig. 4.

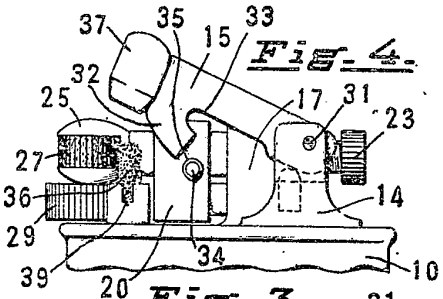


Fig. 3.

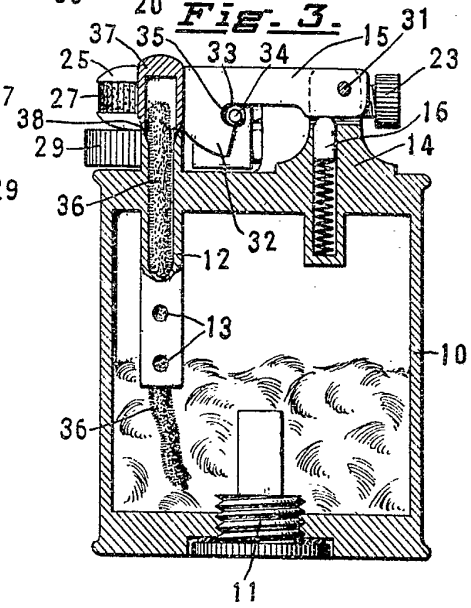
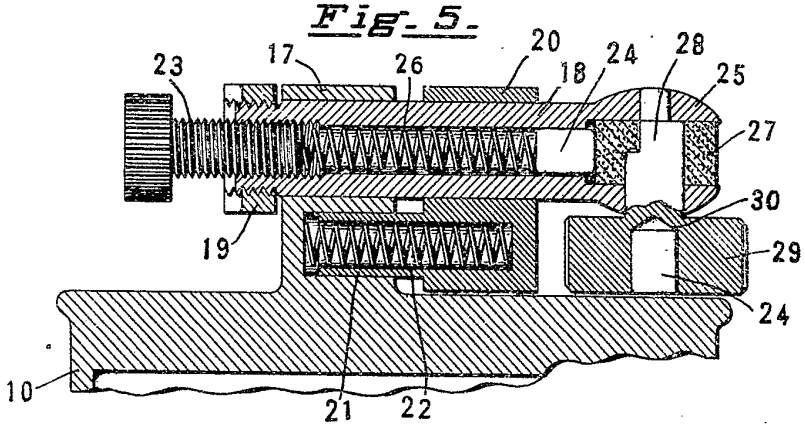


Fig. 5.



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