

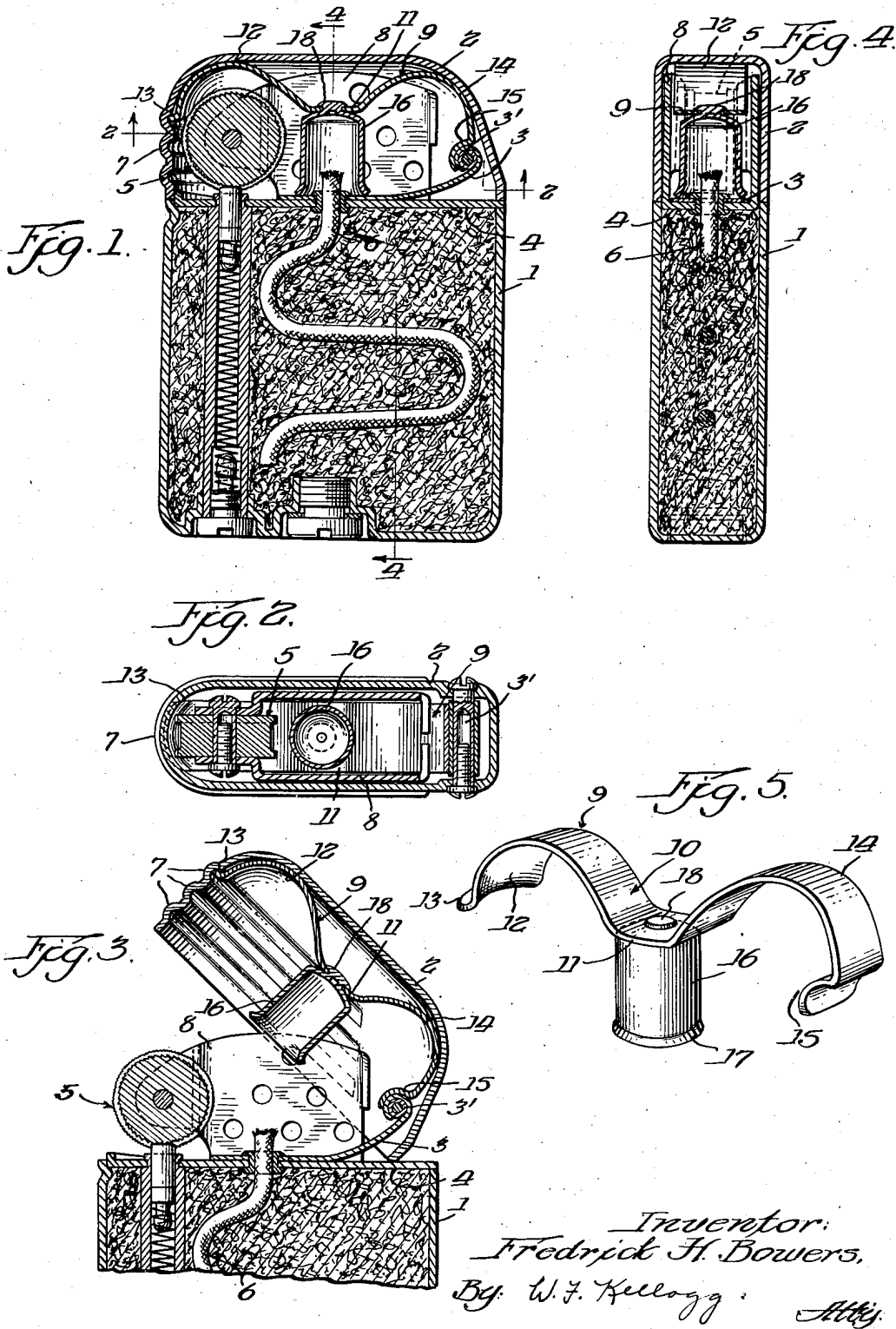
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POCKET PYROPHORIC LIGHTER

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# UNITED STATES PATENT OFFICE

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## POCKET PYROPHORIC LIGHTER

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### 1 Claim. (Cl. 67-7.1)

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This invention relates to improvements in pocket pyrophoric lighters of the cap closure type, having for an object to provide an advantageous and novel form of snuffer device for the wick or burner of a pocket lighter, such, for example, as illustrated and described in my abandoned application for Letters Patent, Serial No. 602,086, filed June 28, 1945, whereby with movement of the lighter cap to a closed position with relation to the lighter wick and casing, a flame produced by the wick will be instantly and completely snuffed or extinguished.

Moreover, it is an object of the invention to provide a snuffer device which, with movement of an equipped lighter cap closure to closed position, will be engaged over its wick end and snugly contacted at and about its free and open end with the top end wall of the lighter casing, thus, positively exclude air from within the same to effect a satisfactory flame snuffing operation.

It is also an object to provide a snuffer device of the stated character, having means for attaching and yieldably mounting the same in a lighter cap closure, whereby to ensure its positive and air excluding auto-adjustable engagement with the lighter top end wall and over and about the wick.

Yet another object of the invention is to provide a snuffer attaching and mounting means of such construction and formation that the same may be effectually and quickly, though securely, installed in and attached to lighter closure caps of somewhat different constructions and/or designs.

Other objects of the invention will be in part obvious and in part pointed out hereinafter.

In order that the invention and its mode of operation may be readily understood by those skilled in the art to which it appertains, I have in the accompanying drawings and in the detailed following description based thereupon, set out one embodiment of my invention.

In the drawings:

Figure 1 is a longitudinal section through a pocket pyrophoric lighter of the cap closure type, illustrating my improved snuffer device mounted in said cap.

Figure 2 is a transverse section taken on the line 2-2 of Figure 1, looking in the direction in which the arrows point.

Figure 3 is a fragmentary longitudinal section of the snuffer device equipped lighter, wherein

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the cap closure of the lighter casing has been moved to a partially open position with relation to the lighter casing.

Figure 4 is a longitudinal section taken on the line 4-4 of Figure 1, looking in the direction in which the arrows point, and

Figure 5 is an enlarged perspective view of the improved snuffer device.

Referring in detail to the accompanying drawings, it will be noted upon reference thereto that I have shown my improved snuffer device attached or installed in the cap closure of a form of pocket pyrophoric lighter, such as disclosed in my aforesaid and identified pending application, which device, generally, consists of a casing 1, a cap closure 2 pivotally mounted on one end of a spring mounting bracket 3, as at 3', as shown in Figure 1 of the accompanying drawings, to engage over and adjacent the normally upper end wall 4 of the lighter casing whereby to house or enclose a lighter mechanism assembly, generally indicated at 5, and the extended or exposed end of the lighter wick 6, this latter being extended through a suitable way provided in an intermediate portion of said wall 4.

The cap closure 2, whose cross-sectional shape and size adjacent its point of closure contact with the lighter casing end wall 4, substantially corresponds to that of the lighter casing 1, is of dome or hood-like formation, having a plurality of outwardly pressed ribs or similar portions 7 formed or otherwise provided in its normally forward and free end.

It is usual and preferable that a suitable type of wind guard 8 be fixedly mounted on an intermediate portion of the outer side of the end wall 4 surrounding the extended portion of the wick 6, for an obvious purpose.

The improved snuffer device comprises a strip-like body of spring metal or other suitable material, indicated in its entirety by the numeral 9. As shown in Figures 2 and 4 of the drawings, the width of the strip-like body 9 is such that the same is more or less closely received within the upper portion of the cap closure 2 and has its intermediate portion inwardly bowed or curved, as indicated at 10, the intermediate portion of said bowed or curved part being formed substantially flat, as indicated at 11, for a purpose which will be presently described. The over-all lengths

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of the bowed spring strip-like body has one of its ends inwardly curved, as at 12, and outwardly flanged, at 13, while its opposite end portion is somewhat similarly inwardly curved, as at 14, and is formed throughout its width, with a dished or transversely curved flange 15, whose transversal curvature is such as to permit snug engagement between the same and an adjacent portion of the pivot mounting 3' of the cap closure 2 on the spring mounting bracket 3.

A snuffer cap 16, consisting of a substantially hollow cylindrical body closed at its upper end and open and flanged at its lower end, as at 17, is riveted or otherwise fixedly connected to the lower or inner side of the flat intermediate portion 11 of the body 9, as at 18.

To install the improved snuffer device in the cap closure 2, the spring strip-like body 9 is inserted into said cap 2, abutting its closed outer side, in the manner shown in Figure 1 of the drawings. The length of the spring strip-like body 9 is such that the same substantially corresponds to, though slightly exceeds, the internal length of the cap closure 2. The result of such length and insertion engagement is that the transversely curved flange 15 on the curved end portion 14 of the strip-like body 9, snugly and more or less bindingly engages with and about a portion of the pivot mounting 3'. The remaining and flanged end 13 of the curved end portion 12 of said body springingly engages in the adjacent or uppermost rib 7 in said cap 2. Consequently, it will be understood and appreciated that the spring strip-like body 9 will be securely though detachably retained within the cap closure 2 with the snuffer cap 16 downwardly extended therefrom with its flanged open end 17 outer or lowermost. The depth of bowing or curving of the intermediate portion of the spring strip-like body 9, as at 10, is such that the flanged open and lower end of the snuffer cap 16 will be arranged in substantially the same horizontal plane as that of the inner edge or rim of the cap closure body 2. Thus, with downward pivotal or swinging movement of the cap closure 2, say, from the position shown in Figure 3 to the position shown in Figure 1, the snuffer cap 16 will be engaged over and about the extended wick end 6 of the lighter device. Its flanged open end 17 will be abuttingly though yieldably engaged with the adjacent portion of the lighter casing end wall 4, in a manner to substantially exclude the admission of air thereto and about said extended wick end. Therefore, a flame produced by the extended wick end will be promptly and fully extinguished upon the described swinging engagement of the snuffer cap 16 thereover. The spring or yieldable mounting of the snuffer cap 16 on the bowed or curved intermediate portion 10 of the body 9 provides autoadjustability thereto, i. e., when its flanged open end 17 is abuttingly engaged with an adjacent portion of the lighter casing end wall 4, said

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snuffer cap will be permitted to move slightly upwardly or outwardly to compensate for this abutting contact with said end wall, and so, a positive engagement will be effected entirely about its open end with said end wall 4.

If adjustment, repair or replacement of the spring mounted snuffer device becomes necessary, it will be readily understood and appreciated that access to and removal of the same from the cap closure 2 may be readily effected, merely by engaging and flexing one of its curved and flanged spring ends from either the ribbed portion 7 of said cap closure or from the pivotal mounting 3' therefor. Moreover, it will be seen that because of the inherent spring properties of the body 9, it may be satisfactorily and conveniently installed in or attached to lighter casing cap closures of somewhat different constructions and/or designs.

I claim:

In combination with a pyrophoric lighter device including a casing having an upper end wall, a wick in the casing having one end portion extended through an opening in the end wall, pivotal mounting means attached to and supported on the end wall in spaced relation thereto, and a domed closure cap pivotally connected in proximity to one end wall thereof to said pivotal mounting means swingable, at times, over the upper end wall, said closure cap having an inwardly opening pocket in its remaining end wall, a strip-like spring member having an inwardly bowed intermediate portion, the opposite end portions of the member being curved on themselves and inwardly disposed, a snuffer cap carried on the inner side of said bowed intermediate portion of the spring member, said member being of a length substantially corresponding to the length of the closure cap and being springingly and removably received therein longitudinally of the same, the free end of one of the member curved opposite end portions having an outwardly facing seat formed therein snugly and springingly removably engaging a portion of said pivotal mounting means, and the free end of the remaining member curved opposite end portion having an outwardly extended flange thereon springingly removably engaged in said pocket in the remaining end wall of the closure cap.

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