Aug. 27, 1946. J. B. HINSON 2,406,685

EXTINGUISHER

Filed Feb. 27, 1945

Fig. 1.

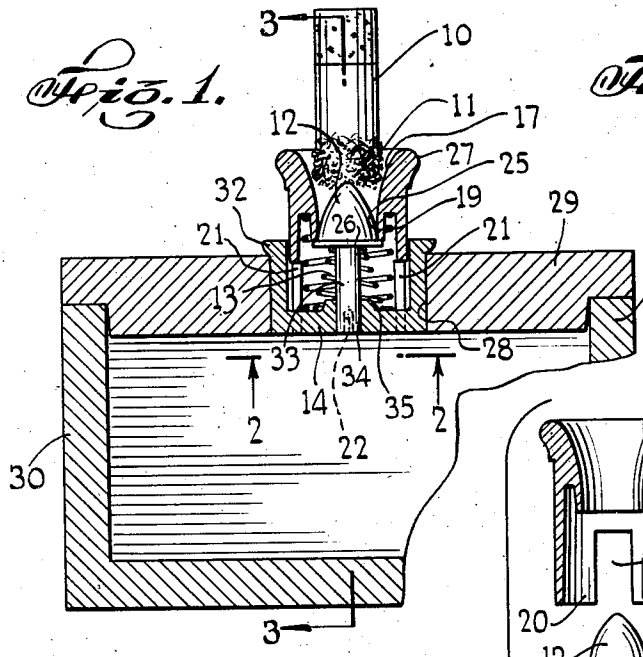


Fig. 3.

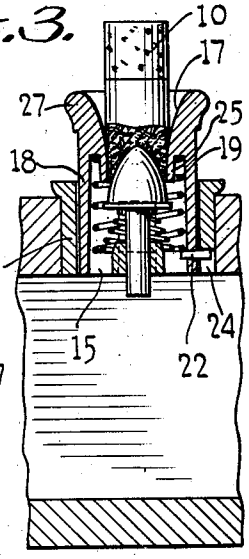


Fig. 2.

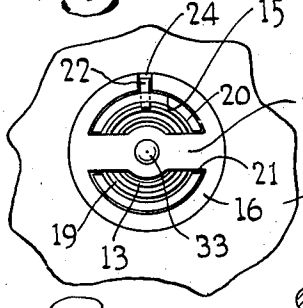


Fig. 5.

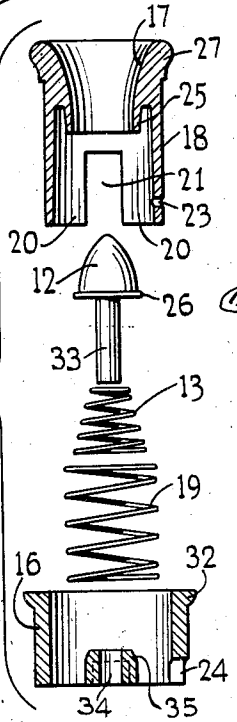


Fig. 4.

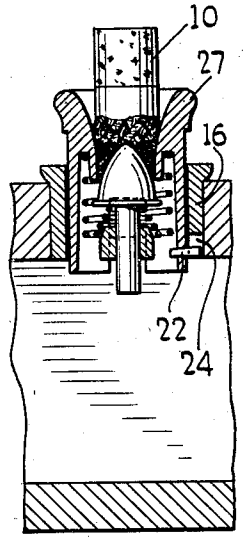
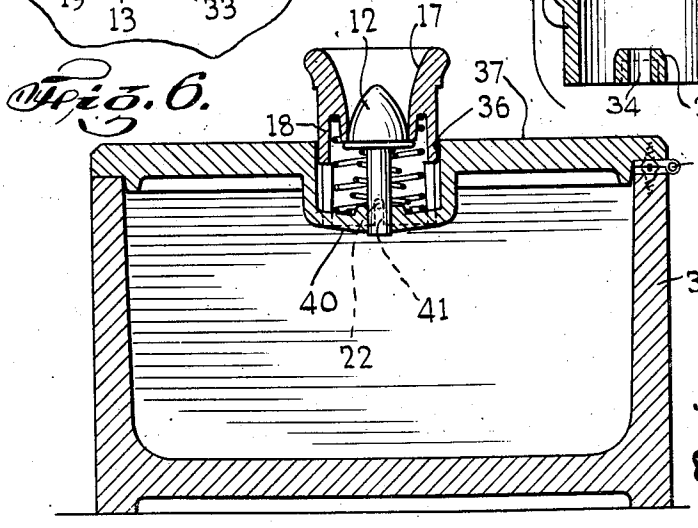


Fig. 6.



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EXTINGUISHER

Jay B. Hinson, Hartsdale, N. Y.

Continuation of application Serial No. 497,574, August 6, 1943. This application February 27, 1945, Serial No. 579,928

5 Claims. (Cl. 131—237)

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This invention relates to extinguishers suitable for extinguishing cigaretes, and is herein described in some detail as embodied in a molded plastic box having a top to close in any smolderng cigarette left therein. This application is a continuation of my prior application Ser. No. 497,574, filed August 6, 1943.

Cigarette extinguishers are already known which embody a cone against which the tip of a burning cigarette may be pressed to extinguish the glowing tip.

Such an extinguisher may be perfectly satisfactory when so used, but the extinguisher is unsatisfactory when built into the cover of a box intended to hold cigarette stubs for the reason that the opening around the extinguishing cone permits cigarette smoke to escape as it rises from any unextinguished stubs deposited within the box.

For that, and other reasons, it is desirable to provide a cigarette extinguisher which will easily be built, rugged, obviously simple to use effectively, and which automatically closes any opening in the structure upon which it is mounted.

According to the present invention, a cigarette extinguisher is provided which avoids all the disadvantages and objections mentioned above and meets all the enumerated requirements. The extinguisher shown is well adapted to be molded out of many synthetic plastics, either as part of a box or as an element adapted to be sold separately to assemblers who combine the element with boxes or other supporting devices.

Other features and advantages will hereinafter appear.

In the accompanying drawing,

Figure 1 is a sectional view of an extinguishing unit mounted in a separate box cover.

Figure 2 is a bottom view on the line 2—2 of Figure 1.

Figure 3 is a fragmentary view in section on the line 3—3 of Figure 1, showing the extinguisher in the act of extinguishing a cigarette.

Figure 4 shows the parts of Figure 3 at the end of an extinguish act.

Figure 5 shows the principal operating parts spaced for clarity of illustration.

Figure 6 shows the extinguisher as a molded-in part of a box cover.

In the form of the invention shown in Fig. 1, a cigarette 10 with a glowing tip 11 is being lowered to be extinguished, but is shown just as it touches the extinguishing cone or floating plug 12. As the cigarette 10 is pushed down further the tip 11 is pressed against the cone 12 and

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disintegrates or yields while the cone is pushed down against the compression of its spring 13 which rests upon a cross piece 14 extending across the bore 15 of the shell 16 until the cone 12 is arrested by the closing of the coils of its spring. The cigarette ashes may fall down around the cone within the cylinder. At the same time, the body of the cigarette 10 has come in contact with the close fitting funnel-shaped inside face 17 of a slidable hollow sleeve 18 which fits fairly closely within the shell 16, and is thrust upwardly by a decidedly stronger spring 19 also bearing upon the cross-piece 14.

When the cigarette 10 is pressed further downwardly, toward the Figure 4 position, it pushes down the sleeve 18, pinching the tip 11 between the funnel-shaped face 17 and the cone 12, and completely extinguishing it.

Upon withdrawing the extinguished cigarette the spring 19 moves the sleeve 18 upward, as it is guided by its legs 20 which lie on each side of the opening 21 which straddle the cross-piece 14, moving it until the sleeve 18 is stopped by the pin 22 projecting from the side opening 23. The metal pin 22 stops its upward movement because it reaches the upper end of the guide slot 24 in the shell 16.

While the sleeve 18 moves up, the cone 12 is following it under the urging of its lighter spring 13. The cone 12 is confined by lower skirt 25 of the funnel-shaped face 17, because its flat annular rim 26 lies against the annular lower edge of the skirt 25.

The skirt 25 is shown as spaced away from the outer wall of the sleeve 18 forming an annular pocket in which lies the upper coil of the spring 19.

The outer surface of funnel-shaped face 17 is shown as forming an annular boss 27 which suggests to a user that the cigarette be not pushed too hard, because the boss 27 seems to strike the top of the shell 16 to limit its motion.

In Figs. 1 and 3 the shell 16 is shown as closely fitted by a press fit into an opening 28 in the rabbeted top 29 of a box or receptacle having sides 30, 31. The shell 16 may be provided with an annular boss 32 to serve as ornament and to prevent the shell 16 from being pushed down through the top 29. The shell 16 with its boss 27 forms a convenient handle for lifting the top 29 to deposit cigarette stubs therein, and the top 29 and shell 18 and cone 12 close the box against escape of smoke if any unextinguished cigarettes are placed in it, while the depressed

cone 12 allows ash to drop into the box, around the cross-piece 14.

The cone is shown as guided by a downwardly projecting post 33 passing through an opening 34 in the cross-piece 14, which may carry a boss 35 around the opening 34 to steady the post 33.

The structure shown in Fig. 6, includes the cone 17, the hollow cylinder 18, but the sleeve 18 slides in an opening 36, in a cover 37 hinged at 38 at the top of one side 39. The rabbeted cover 37 is shown as molded with an integral cross-piece 40, like the cross-piece 14, to support the springs. The cross-piece 40 is shown at the bottom of the dished opening 36 and the pin 22 rides an opening 41 in one side of the dished portion and is mounted on the hollow sleeve 18.

The top of the hollow sleeve 18, with its annular boss 27 forms a convenient handle for tilting the cover 37 on its hinges 38. When the cover 37 is down, the cone 12 closes the hollow cylinder 18, and no smoke can escape.

The molded parts of either form are easily assembled and then the pin 22 inserted to hold the structure together.

Having thus described in some detail certain embodiments of the invention, what is claimed is:

1. In an extinguisher a support, a slidable hollow sleeve adapted to have a cigarette fit within it, a slidably mounted plug within the sleeve adapted to be struck by the tip of the cigarette and be pushed by it before the sleeve is pushed, springs on the support tending to return the sleeve and plug to close them together against passage of smoke, and a receptacle beneath the support.

2. In an extinguisher having a support, a sleeve slidable in the support, a skirt inside the sleeve, a plug adapted to lie against the underside of the skirt, springs for the sleeve and the plug thrusting them upward, and a pin limiting the travel of the sleeve in the support.

3. In an extinguisher, a box, a top for the box, a hollow sleeve slidable on the top to receive a cigarette tip, a plug normally closing the sleeve but moved by a cigarette tip to open the sleeve to permit ashes to fall into the box, a spring for the plug, and a stronger spring for the sleeve.

4. In an extinguisher, a box, a top for the box, a hollow sleeve projecting above the top and slidable in the top to receive a cigarette tip, a plug normally closing the sleeve, but moved by the cigarette tip to open the sleeve to permit ashes to fall into the box, a cross-piece below the sleeve, and springs resting on the cross-piece separately supporting the plug and sleeve.

5. In an extinguisher a support, a hollow sleeve slidable in the support, a funnel-shaped skirt within the sleeve, a slidably mounted plug within the sleeve, an annular rim on the plug adapted to underlie the skirt, a spring normally holding the plug against the skirt, a stronger spring holding the sleeve so that a cigarette first depresses the plug to open a passage for ashes and then depresses the sleeve to pinch the cigarette tip against the plug, and a stop limiting the throw of the sleeve.

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