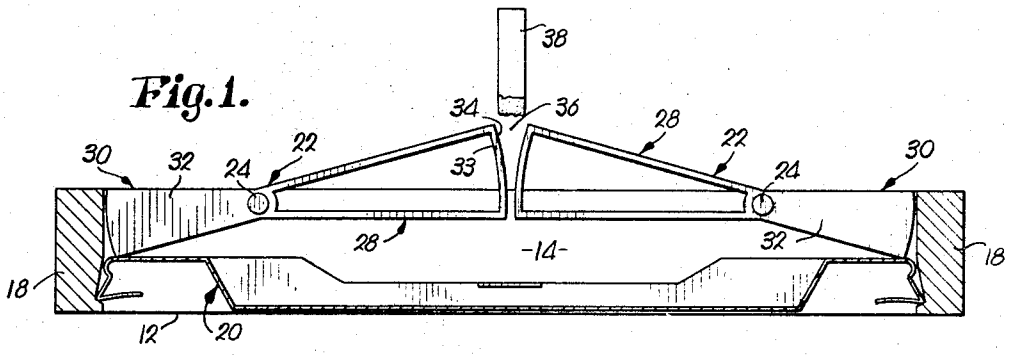
Dec. 17, 1968 L. N. CROSWHITE 3,416,538

CIGARETTE EXTINGUISHER

Filed Nov. 21, 1966

Fig. 1.



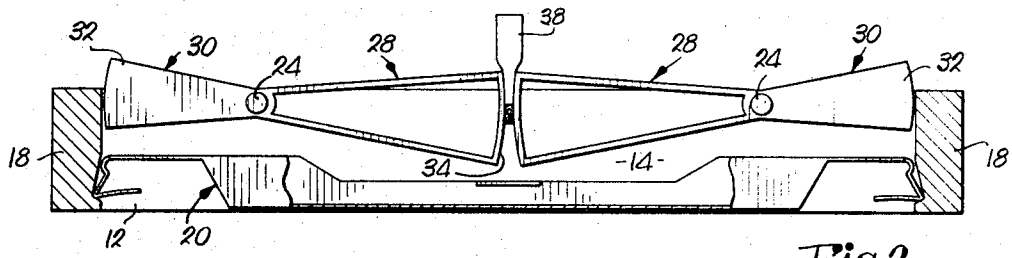


Fig. 2.

Fig. 4.

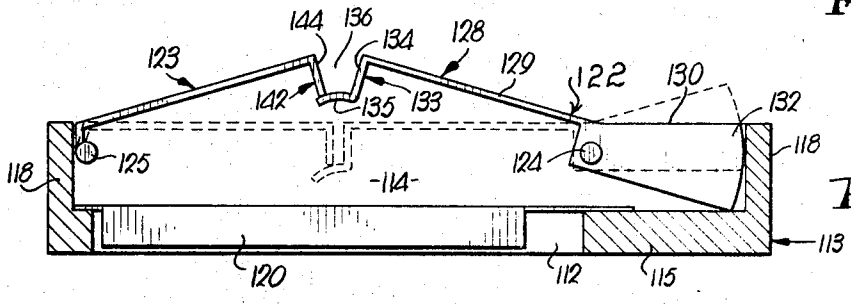


Fig. 3.

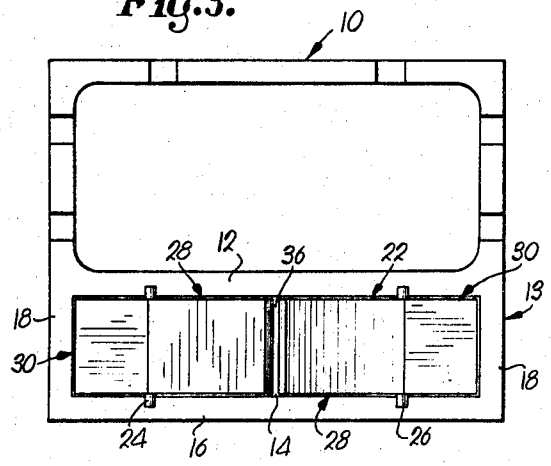
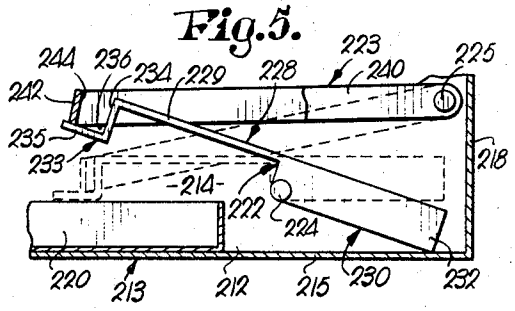


Fig. 5.



INVENTOR
Larry N. Croswhite

BY
Hovey, Schmidt, Johnson & Hovey.
ATTORNEYS.

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CIGARETTE EXTINGUISHER

Larry N. Croswhite, 3611 N. Chelsea, Kansas City, Mo. 64117

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ABSTRACT OF THE DISCLOSURE

The structure disclosed herein includes a pair of swinging arms mounted on a base, the arms being disposed above an ashtray and arranged to swing portions thereof toward each other for extinguishing a cigarette placed therebetween.

This invention relates to cigarette extinguishing apparatus, and more particularly, to improved means for snuffing out lighted cigarettes.

It is the primary object of this invention to provide a cigarette extenguisher having pivotal arms which are swung toward each other to extenguish a cigarette therebetween, the improvement being the elimination of interconnecting structure between the arms as has been necessary with prior devices to effect the extinguishing process. Prior extinguishers have generally involved a pair of snuffing faces on the arms which move toward each other to extinguish the cigarette, the faces being interconnected by linkage to effect a joint operation of the faces. The extinguished material invariably collects on the linkage and shifting of the arms is impaired by consequent build-up of the material on the linkage.

Accordingly, it is an important object of the invention to provide an extinguisher as above described wherein counter-balance structure is used to dispose the arms in operative position to obviate the need for interconnecting linkage. The lack of connection between the arms precludes troubesome buildup of ashes on the extinguishing apparatus and this affords the additional advantage of facilitating the cleaning of the extinguisher whereby a neat appearance is easily maintained. Also the pivot structure for the arms is placed into open seats for ease in removing, to further facilitate cleaning and for simplicity of construction.

It is another object of this invention to provide a cigarette extinguisher wherein the extinguishing is automatically effected by downward pressure of the cigarette on the snuffing faces, with no additional mechanism being required to cause shifting of the snuffing faces to extinguish the cigarette.

The present invention achieves its objectes in various embodiments which are described in detail in the following specification and shown in the accompanying drawing, wherein:

FIGURE 1 is a vertical, cross-sectional view of one embodiment of a cigarette extinguisher made pursuant to the teachings of my invention;

FIG. 2 is a view similar to FIG. 1 but showing the extinguishing operation;

FIG. 3 is a plan view thereof;

FIG. 4 is a vertical, cross-sectional view of a second embodiment of the invention; and

FIG. 5 is a fragmentary, vertical, cross-sectional view of a third embodiment of the invention.

In the embodiment of the present invention as shown in FIGS. 1–3, an ashtray **10** is provided and connected

in side-by-side relationship through sidewall **12** to a base **13**. Base **13** has a recessed compartment **14** formed therein, the latter being surrounded by sidewall **12**, outer sidewall **16**, and opposed end walls **18**. With reference to FIGS. 1 and 2, the inner surfaces of end walls **18** are suitably notched to complimentally releasably receive a tray **20** at the bottom of compartment **14**.

A pair of arms **22** are pivotally mounted for vertical swinging movement on base **13** by respective shafts **24** secured intermediate the ends of arms **22**, each shaft **24** being received by a corresponding pair of opposed seats **26** formed in sidewalls **12** and **16**. Each arm **22** comprises an integral member which is hollow at one end **28** thereof, the other end **30** being solid to define a coutnerweight structure **32**.

Each end **28** is substantially triangular and has an arcuate web **33** at the extremity thereof to present an outer snuffing face **34**. Shafts **24** are suitably spaced to dispose snuffing faces **34** in opposed, closely spaced relationship to define an extinguishing zone **36** therebetween, faces **34** being normally yieldably disposed in the upper positions, shown in FIG. 1 by counterweights **32** which rest on tray **20**.

In operation, recognizing that snuffing faces **34** are normally disposed as shown in FIG. 1, a lighted cigarette **38** is inserted into extinguishing zone **36** and into contact with snuffing faces **34** to force the latter downwardly in unison. Arms **22** are fulcrumed by their respective shafts **24** for swinging in opposite directions which thereby brings snuffing faces **34** toward each other upon downward swinging thereof to the lower position shown in FIG. 2, which effects extinguishing of cigarette **38**. The extinguished material from cigarette **38** falls in tray **20** whereupon cigarette **38** is lifted and snuffing faces **34** permitted to automatically swing to their corresponding upper positions in response to the action of counterweights **32**.

It will be appreciated that the extinguishing process and automatic resetting of arms **22** are achieved without any attendant need for linkage mechanism interconnecting arms **22**. Thus, the operation of the arms will not be impaired by an accumulation of ashes on linkage of any type, with the ashes either being dropped into tray **20** or adhering to faces **34** from which they may be wiped clean to easily maintain a neat appearance. Buildup of ashes on the faces will not occur as subsequent cigarettes will tend to force previous ashes from snuffiing faces **34**.

In the embodiment of the invention shown in FIG. 4, there is provided a base **113** having a recessed compartment **114** defined therein and surrounded by sidewall **112**, a second sidewall (not shown), and end walls **118**. A bottom **115** is formed in base **113** and has an opening therein for receiving a tray **120**. A first arm **122** is pivotally mounted intermediate its ends for vertical swinging movement by a shaft **124** connected between the sidewalls of case **113**. One end **128** of arm **122** includes a plate **129** having an integral, downwardly extending web **133** presenting an outer snuffing face **134**, there being an integral lip **135** extending laterally from the lowermost edge of web **133**. The other end **130** of arm **122** has a counterweight **132** thereon which normally rests on bottom **115** to yieldably dispose snuffing face **134** in the upper position shown in the full-line portions of FIG. 4.

A second arm **123** is pivotally mounted at one end thereof for vertical swinging by a shaft **125** connected between the side-walls of base **113**. Second arm **123** comprises a shank portion having a depending finger **142** at

the free end thereof, the outer surface of the latter defining a snuffing face **144**. The lower edge of finger **142** rests on the upper surface of lip **135** with the suffing faces **134** and **144** thereby being disposed in opposed, closely spaced relationship to define an extinguishing zone **136** therebetween, faces **134** and **144** being normally disposed in the upper positions shown in the full-line portion of FIG. 4. It will be appreciated that if it is desired to reduce the pressure of finger **142** on lip **135**, a suitable counterweight may be provided on arm **123** at the side of shaft **125** opposite the said one end of arm **123**. The depth of insertion of the cigarette into extinguishing zone **136** is controlled by the depth of the faces **134** and **144** and the fact that lip **135** extends therebetween, as illustrated, to first engage the ignited end of the cigarette when it is inserted in zone **136**.

In the operation of the embodiment shown in FIG. 4, a cigarette is inserted into extinguishing zone **136** into contact with the upper surface of lip **135**, such contact serving to permit the faces **134** and **144** to swing downwardly in unison to the lower positions shown in broken lines in FIG. 4, thereby extinguishing the cigarette. Arms **122** and **123** thus swing in opposite directions to bring snuffing faces **134** and **144** into substantially parallel relationship for extinguishing the cigarette therebetween. When the extinguished cigarette is lifted, snuffing face **134** will automatically swing to its upper position in response to the action of counterweight **132**, with snuffing face **144** also being shifted to its upper position as it is carried by lip **135**. As noted with respect to the first embodiment, there are no interconnecting elements between arms **122** and **123** whereby operation thereof is not impaired and cleaning of the extinguisher is facilitated.

In the embodiment of the invention shown in FIG. 5, there is provided a base **213** having a compartment **214** therein, the latter being surrounded by sidewall **212**, end wall **218**, and walls opposed thereto (not shown). A bottom **215** is provided in base **213** and receives a tray **220**.

A first arm **222** is pivotally mounted intermediate its ends for vertical swinging by a shaft **224** connected between the sidewalls of base **213**. One end **228** of arm **222** includes a plate **229** having an integral, downwardly extending web **233** presenting an outer snuffing face **234**, there being an integral lip **235** extending laterally from the lowermost edge of web **233**. The other end **230** of arm **222** has a counterweight **232** thereon which normally rests on bottom **215** to yieldably dispose snuffing face **234** in the upper position shown in the full-line portions of FIG. 5.

A second arm **223** overlies first arm **222** and is pivoted at one end thereof for vertical swinging by a shaft **225** connected between the sidewalls of base **213**. A second arm **223** is U-shaped in configuration to present a pair of opposed legs **240** positioned outwardly of first arm **222** and secured at one end thereof to shaft **225**, there being a bight **242** at the other end of legs **240**. The lower edge of bight **242** rests on lateral lip **235** whereby the inner surface thereof presents a snuffing face **244** disposed in opposed, closely-spaced relationship to snuffing face **234** whereby an extinguishing zone **236** is defined between the faces.

In the operation of this embodiment, a cigarette is inserted into extinguishing zone **236** and into contact with lip **235** to force the faces **234** and **244** downwardly in unison to the lower position indicated by the broken-line portion of FIG. 5. Arms **222** and **223** are fulcrumed whereby snuffing faces **234** and **244** are shifted toward each other into substantially parallel relationship for extinguishing the cigarette. The extinguished cigarette is then lifted to permit automatic upward swinging of snuffing face **234** through the action of counterweight **232**, with arm **223** also being swung upwardly as it is carried by lip **235**.

As discussed with respect to the first two embodiments of this invention, the form shown in FIG. 5 utilizes no interconnecting linkage between arms **222** and **223** and thus provides the corresponding advantages of smooth operation and ease of cleaning. This embodiment is particularly suitable for compact installations since the arms are arranged in overlying relationship and thus require only a minimum of operating space.

In each of the three embodiments discussed above, it will be noted that the arms pivot about substantially parallel, horizontal axes whereby the corresponding snuffing faces are swung into substantially parallel relationship during the extinguishing process. In the embodiments shown in FIGS. 1–3 and 4, the pivotal mountings of the respective arms are on opposed sides of the corresponding extinguishing zone whereby the extinguishing process is effected by pivoting the arms in opposite swinging directions. In the embodiment of the invention shown in FIG. 5, the arms are on a common side of the extinguishing zone and are thus pivotal in the same swinging direction to extinguish the cigarette. In each of the embodiments, downward pivotal movement of the free end of at least one counterweight is limited by structure such as that seen in FIGS. 1, 4 and 5, thereby defining the elevated position of the arms.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A cigarette extinguisher comprising:
- a base;
- a first and second arm, each arm having a snuffing face thereon;
- means pivotally mounting said first arm intermediate the ends thereof on said base for vertical swinging movement from an elevated position to a lowered position, one end of the first arm having said snuffing face thereon;
- a counterweight on the other end of said first arm for normally yieldably disposing the snuffing face thereof in an elevated position;
- means pivotally mounting the second arm on said base for vertical swinging movement from an elevated position to a lowered position;
- structure for normally yieldably disposing the snuffing face of the second arm in an elevated position in closely-spaced relationship to the snuffing face of the first arm to define an extinguishing zone between said faces, said arms being free of any physical connection therebetween, each arm being fulcrumed at its respective pivotal mounting to bring said snuffing faces toward each other upon swinging thereof to a lowered position whereby a lighted cigarette may be inserted into said zone into contact with the snuffing faces in their elevated position to force the latter to a lowered position and toward each other to extinguish the cigarette therebetween; and means underlying the free end of the counter weight and said yieldable structure for limiting the movement thereof and for defining the elevated position of said first and second arms.

2. The invention of claim **1**, said base including a tray underlying said snuffing faces for receiving extinguished material.

3. The invention of claim **1**, wherein said arms pivot about substantially parallel horizontal axes.

4. The invention of claim **1**, said pivotal mountings being on opposed sides of said extinguishing zone and said arms being pivotal in opposite swinging directions for extinguishng the cigarette.

5. The invention of claim **4**, said second arm being pivoted intermediate its ends by its respective mounting means, the end adjacent said first arm having said snuffing face thereon, and said structure comprising a counterweight on the other end of the second arm.

6. The invention of claim **5**, said arms each comprising an integral member, said member being hollow at said one end and having an arcuate surface at the extremity

of said one end to define the corresponding snuffing face, said member being solid at said other end to present said counterweight.

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