

Nov. 7, 1967

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3,351,069

ASH TRAY

Filed Sept. 27, 1965

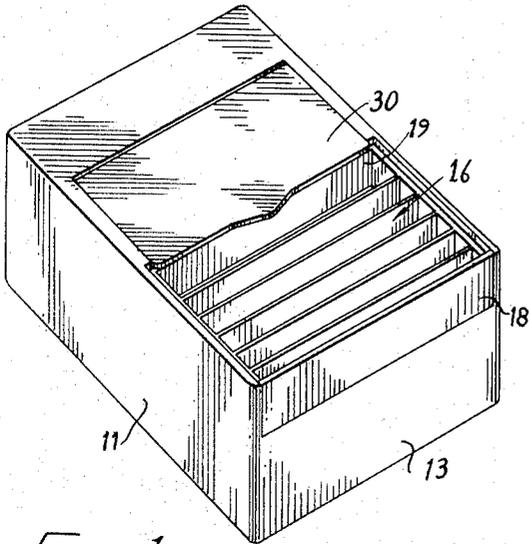


Fig. 1.

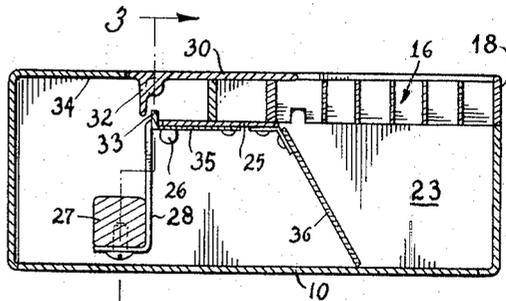


Fig. 2.

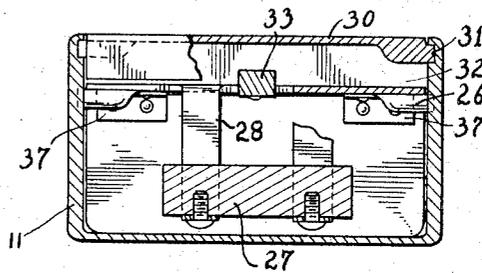


Fig. 3.

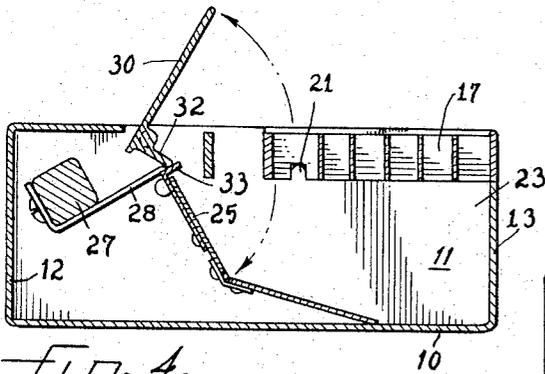


Fig. 4.

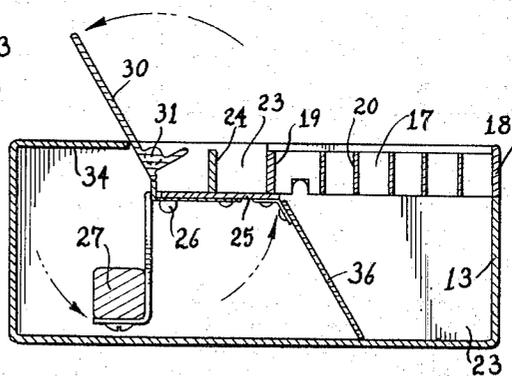


Fig. 5.

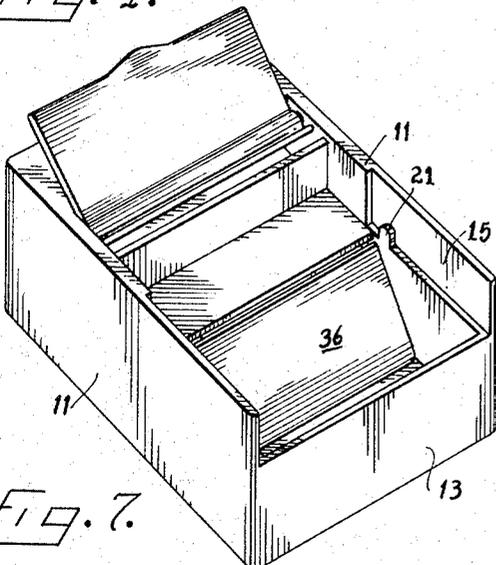


Fig. 7.

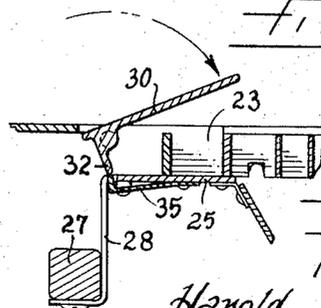


Fig. 6.

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3,351,069
ASH TRAY

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Filed Sept. 27, 1965, Ser. No. 490,236
9 Claims. (Cl. 131-235)

This invention relates to ash trays, and more particularly to that type of ash tray which includes a relatively air-tight compartment in which a lighted cigarette-stub may be deposited to be extinguished by the exhaustion of oxygen in the compartment.

It is an object of the invention to provide in a device of the type indicated an extinguishing compartment which will automatically discharge an extinguished stub when the compartment is opened for the reception of a second, burning stub. A further object of the invention is to prevent extinguished stubs from accumulating in a manner that would interfere with the subsequent discharge of other cigarettes.

In its preferred form, an ash tray embodying my invention is in the form of a generally parallelepipedal box having a bottom, front, rear, and side walls. At one end, hereinafter designated the front end, the top of the box is open to receive a screen or grid capable of supporting a lighted cigarette while permitting ashes therefrom to pass into the interior of the box. In the rear of the screen, a pair of spaced, vertical walls extend across the box to serve as the front and rear walls of the extinguishing compartment. The bottom of such compartment is defined by a bottom closure pivoted in the box on a horizontal axis in the rear of the extinguishing compartment and biased toward a closed position in engagement with the lower edges of the walls. A lid for the extinguishing compartment is also pivotally mounted in the box on a horizontal axis in rear of such compartment and is operably connected to the bottom closure in such a manner that opening of the lid will first swing the bottom closure downwardly to permit discharge of a cigarette stub in the extinguishing compartment and will then release the bottom closure for upward swinging movement into engagement with the front and rear walls of the compartment. Desirably, there is hinged to the free edge of the bottom closure a leaf which is inclined downwardly and upwardly into sliding engagement with the bottom of the box and which serves both to prevent cigarette stubs from working under the closure and pushes accumulated stubs forwardly whenever the closure is swung downwardly.

Other objects and features of the invention will become apparent from the following more detailed description and from the accompanying drawing, in which:

FIG. 1 is an isometric view of the ash tray in normal condition, with the extinguishing compartment closed;

FIG. 2 is a longitudinal section through the ash tray showing the movable parts in normal condition;

FIG. 3 is a transverse section on the line 3-3 of FIG. 2;

FIG. 4 is a view similar to FIG. 2 showing the movable parts in the condition existing when the lid of the extinguishing compartment is partially opened;

FIG. 5 is a view also similar to FIG. 2, but showing the condition existing when the lid is fully open;

FIG. 6 is a fragmental section similar to FIG. 2 showing the condition existing at an intermediate stage in closing movement of the lid; and

FIG. 7 is an isometric view showing the tray with the lid fully opened and the screen removed.

As will be clear from the drawing, the ash tray has a general box-like form and comprises a bottom 10, side walls 11, a rear wall 12 and a front wall 13. As best shown in FIG. 7 the upper edges of the side walls 11, for a dis-

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tance extending rearwardly from the front of the box, are deeply rabbeted, as indicated at 15, and the upper edge of the front wall 13 is flush with the lower edge of the rabbets 15. The lower edges of the rabbets and the upper edge of the front wall 13 serve to support an ash-passing screen designated in its entirety by the reference numeral 16.

A preferred form of screen 16 comprises side members 17 received in the rabbets 15, a front wall 18 resting upon and coplanar with the front wall 13 of the tray-body, a rear wall 19 extending across the tray body, and flat bars 20 arranged in vertical planes and extending between the side members 17, such bars being desirably so spaced from each other that a cigarette will not fall between them. To locate the screen 16 in the tray, the lower edges of the side members 17 may be notched to receive bosses 21 on the side walls 11 of the tray-body.

The rear wall 19 of the screen forms the front wall of an extinguishing compartment 23, the rear wall 24 of which is fixed to extend across the tray-body between the sides 11 and in rearwardly spaced relation to the wall 19. The bottom of the extinguishing compartment is formed as a plate-like closure 25 which extends rearwardly beyond the compartment and is there pivotally mounted in any convenient manner from the side walls 11, as indicated at 26. To bias the closure 25 to its closed position, I desirably provide it with a counterweight 27 rigidly connected to the closure, as by arms 28.

The top of the extinguishing compartment 23 is closed by a lid 30 pivotally supported from the side walls 11 in rear of such compartment. The pivotal mounting of the lid 30 may take any convenient form and is located, as indicated at 31 above the pivotal axis 26 of the bottom closure 25. Rigid with the lid 30 is a lip 32 which, when the lid is closed, projects downwardly to a point adjacent the rear edge of the bottom closure 25 in a position to engage a pawl 33 located on the closure 25 in rear of its axis of pivotal mounting 26. As shown, the pawl 33 is connected to the closure 25 by a leaf spring 35 in such manner that, in opening movement of the lid 30, the pawl will be retained in the path of the lip 32 but, in closing movement of the lid, the lip 32 can depress the pawl 33 and move past it. In the rear of the lid 30, the tray-body is provided with a top wall 34 which preferably is flush with the lid when the latter is in closed position.

In order to prevent stubs discharged from the extinguishing compartment from accumulating therebelow to interfere with subsequently discharged stubs, a deflector leaf 36 may be hingedly connected to the free edge of the closure 25, such deflector, when the closure is closed occupying a forwardly and downwardly inclined position as indicated in FIGS. 2, 5, and 7. The hinge connection between the deflector 36 and closure 25 may take any convenient form, but as shown constitutes a pair of strips 37 of flexible material such, for example as polypropylene secured to the adjacent edge portions of the closure and deflector.

In the normal condition of the device, shown in FIGS. 1, 2, and 3, the lid 30 is closed and the counterweight 27 holds the closure 25 against the lower edges of the walls 19 and 24 to close the extinguishing compartment 23 at its bottom. In this condition, the smoker may use the screen 16 as a support for a lighted cigarette or to scrape ashes from a lighted cigarette, such ashes falling into the lower portion of the tray-body in front of the deflector 36. When the smoker desires to extinguish his cigarette, he raises the lid 30 through the position indicated in FIG. 4 to the position shown in FIGS. 5 and 6. At an intermediate point in such opening movement of the lid, the lip 32 engages the pawl 33 to depress the closure 25 and elevate the counterweight 27, as shown in FIG. 4. As the lid progresses in opening movement

beyond the position shown in FIG. 4, the lip 32 clears the pawl 33, and the action of gravity on the counterweight 27 causes the closure 25 to swing upwardly and close the bottom of compartment 23 as shown in FIG. 5. Depression of the closure 25 into the position shown in FIG. 4 permits any stub in the compartment 23 to fall downwardly and to be directed toward the front of the tray-body by the deflector 36, which, at the limit of downward swinging of the closure 25 still occupies a downwardly and forwardly inclined position. Having deposited the cigarette stub in the extinguishing compartment 23, the smoker swings the lid 30 forwardly into its normal position, thus closing the top of such compartment. In this closing movement of the lid, the lip 32 engages the pawl 33, thus forcing the pawl downwardly against the action of the spring 35 to permit the lid to be completely closed while the closure 25 remains in closed position to retain the deposited cigarette in the extinguishing compartment. The depressed position of the pawl is shown in FIG. 6, from which it will be evident that as the lid moves to a closed position the lid 32 will clear the pawl and permit the spring 35 to elevate it into its normal position as shown in FIG. 2.

It will be noted from a comparison of FIGS. 2 and 4, that as the closure 25 swings downwardly from a closed position the lower edge of the deflector 36 moves forwardly along the bottom wall 10 of the tray, with the result that stubs and ashes accumulating in the tray are pushed forwardly by the deflector in successive opening movements of the lid 30.

I claim:

1. An ash tray, comprising
a hollow body adapted to serve as a receptacle for tobacco ashes and cigarette stubs and having a bottom wall,
means providing near the top of said body a relatively air-tight extinguishing compartment, said means including

a pair of spaced walls extending across the body above the bottom wall,

a bottom closure engageable with the lower edges of said walls to close the bottom of said compartment and movable downwardly from a closed position to an open position to permit the contents of the compartment to fall therefrom into the hollow body under the influence of gravity, and

a lid movable from a closed position in which it closes the top of said compartment to a fully open position in which it exposes the compartment for reception of a cigarette stub,

means biasing said closure to a closed position, and means operable as said lid is moved from said closed position to said fully open position for momentarily moving said closure from, and then permitting its return to, its closed position, said last named means permitting the lid to be closed while the closure is in closed position.

2. An ash tray as set forth in claim 1 with the addition that said closure, when in open position, is inclined to the horizontal to direct matter falling from said compartment away from a position beneath the closure.

3. An ash tray as set forth in claim 1 with the addition that said closure is pivoted on a horizontal axis adjacent one of said walls, and a deflector pivoted to said closure on a second horizontal axis adjacent the other of said walls, said deflector, when the closure is closed, being downwardly inclined and resting on said bottom wall.

4. An ash tray as set forth in claim 1 with the addition of movable means extending across the interior of

the hollow body and occluding the gap between the closure and the bottom wall to prevent material discharged from the extinguishing compartment into the hollow body from moving into a position beneath the closure.

5. An ash tray, comprising
a hollow body adapted to serve as a receptacle for tobacco ashes and cigarette stubs and having a bottom wall,
means near the top of said body providing a relatively air-tight extinguishing compartment, said means including

a lid movable from a closed position in which it closes the top of the compartment to a fully open position in which it exposes the compartment for reception of a cigarette stub, and

a closure controlling communication between said compartment and the hollow body and operable to permit the contents of the compartment to pass into the hollow body,

means biasing said closure to a closed position, and means operable as said lid is moved from said closed position to said fully open position for momentarily moving said closure from, and then permitting its return to, its closed position, said last named means permitting the lid to be closed while the closure is in closed position.

6. An ash tray as set forth in claim 1 with the addition that said extinguishing compartment is located intermediate the length of said hollow body,

a top wall covering the interior of the body at one side of said compartment, and
an open work grid for the passage of ashes covering the interior of the body at the other side of said compartment.

7. An ash tray as set forth in claim 1 with the addition that said extinguishing compartment is spaced from one end of said body, and a top wall covering the interior of said body between the compartment and said body end.

8. An ash tray as set forth in claim 1 with the addition that said extinguishing compartment is spaced from one end of said body, and an open work grid covering the interior of said body between the compartment and said body-end.

9. An ash tray as set forth in claim 1 with the addition that said extinguishing compartment is located intermediate the length of said hollow body, a top wall covering the interior of the body at one side of said compartment.

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