Dec. 26, 1939. H. G. DYKE 2,184,994

ASHTRAY

Original Filed Aug. 19, 1936

Fig. 1.

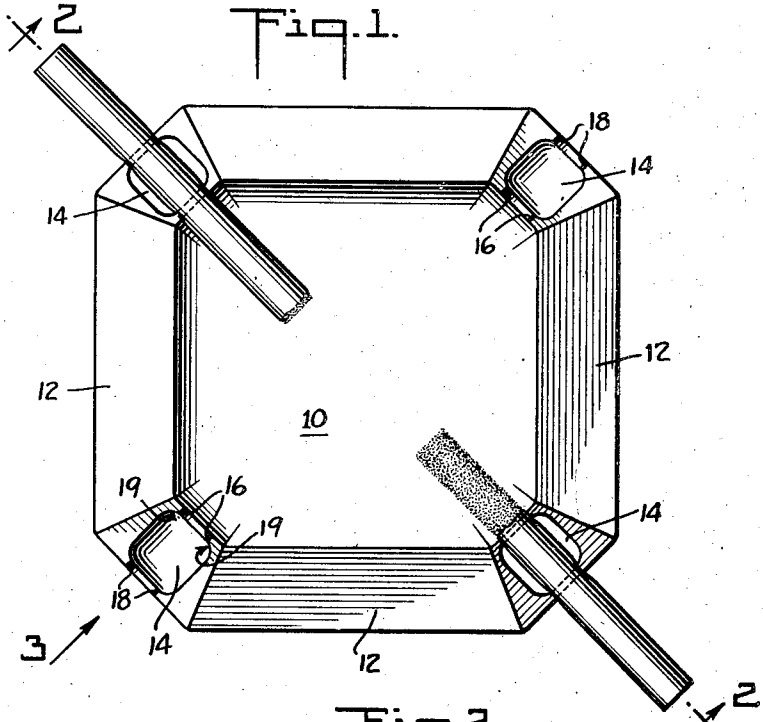


Fig. 2.

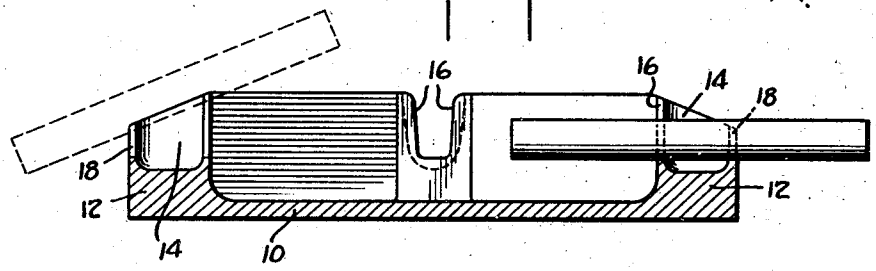
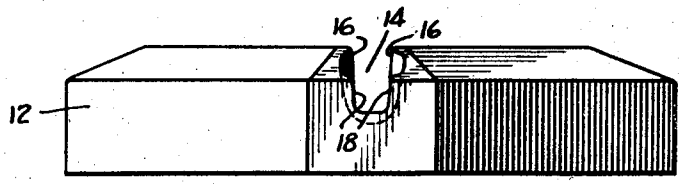


Fig. 3.



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ASHTRAY

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5 Claims. (Cl. 131—240)

This invention relates to ashtrays, and particularly ashtrays for accommodating cigarettes. The objects of this invention include the provision of an ashtray which will:

Grip the cigarette so that it cannot fall out;

Snuff the cigarette out if it is allowed to burn down to a predetermined point short of the end of the cigarette;

Do away with the necessity of balancing the cigarette on a rest;

Leave the outer end of the cigarette free and accessible for easy picking up;

Minimize and partially eliminate the gummy sweating from condensation which ordinarily occurs when the cigarette burns up close to its support;

Induce the user to press the cigarette into the groove where it will be held;

Hold the lighted end of the cigarette from smoldering on the floor of the tray;

Present no surface on which the cigarette can be balanced in such way that it could fall off as it burned down; and

Be so shaped as to give maximum ease of cleaning in combination with the other requirements.

It will be understood that all or various ones of these objects may be carried out in different combinations in accordance with this invention. Further objects will become apparent during the course of the specification.

In the drawing, in which I have shown an illustrative embodiment of my invention,

Fig. 1 is a plan view, showing a freshly lighted cigarette placed in one of the grooves and held thereby, and showing a second cigarette placed in the opposite groove and allowed to burn until automatically snuffed out by the tray;

Fig. 2 is a vertical section on the line 2—2 of Fig. 1, except that in this view I have shown one cigarette held in the groove and another as it would rest if merely laid in the groove and not pressed down; and

Fig. 3 is an elevation taken in the direction of the arrow 3 of Fig. 1.

The ashtray as shown is made in one piece and comprises a floor 10 and peripheral side walls 12. In the side walls 12 are provided any desired number of cigarette recessed formations or rests 14. The side wall 12 is preferably about ½" to ⅝" thick at each point where a cigarette retaining groove is formed and its inner and outer faces are approximately vertical for about the depth of the groove.

The groove is shaped to provide a pair of inner jaws 16 and a pair of outer jaws 18 which are generally U-shaped and rounded off at their top corners. The inner jaws 16 are at least ¼" deep down from the bottoms of their rounded corners, and their opening ¼" down from the bottom of said rounded corners is not greater than, nor less than ⅘ of, the opening at the bottom of the rounded corners. In the embodiments illustrated, the inner jaws 16 are approximately ½" deep and their opening is slightly smaller than the diameter of a cigarette, and preferably approximately .290" at the top, immediately below the rounded off corners, and approximately .270" at the bottom. The edges of the jaws are preferably straight, though preferably not quite parallel but slightly tapering in.

The outer jaws 18 are about ¼" deep, their bottom being preferably level with the bottom of the inner jaws, and their top being lower than the top of the inner jaws by an amount from ⅜ to ⅝ of the distance between the inner and outer jaws, in this case ¼". The opening of the outer jaws 18 is about .280" at the top and about .270" at the bottom. Both of these pairs of jaws have thin inner edges, preferably between $\frac{1}{32}$" and 1/16" in thickness. I have found the most satisfactory thickness to be about .050". This thickness is of some importance in the case of the outer jaws, and of more importance in the case of the inner jaws.

Between the inner and outer jaws the groove is hollowed out to a width of approximately ½" at the top the oppositely facing walls of the recess being concave in horizontal section, and narrowing toward the bottom and ending in a smoothly and gradually concaved shape slightly below the level of the bottoms of the two pairs of jaws. This hollowed out space recedes rather sharply immediately adjacent the edges of the fins which form the jaws, as shown at 19. Because of this hollowed out construction or enlarged intermediate portion of the groove between the inner and outer gripping jaws, the body of the article is out of contact with that portion of the cigarette, whereby condensation is avoided, and at the same time the nearness of the groove surfaces surrounding that portion of the cigarette shields same from free currents of air and reduces the flow of air around the cigarette at the groove to a minimum, thereby aiding in the extinguishing of the cigarette.

It will be noted that the tops of the walls 12 are slanted and no flat surface is provided on which the cigarette can be merely laid overhanging the bowl of the tray.

The cigarette is pressed, horizontal, into one of the cigarette retaining grooves, as shown at the right in Fig. 2. The standard cigarette diameter is $\frac{5}{16}$'', and with this diameter, and the more or less universal compressibility of cigarettes, it has been found that grooves slightly smaller than the diameter of a cigarette and preferably within the dimensions given above, allow the cigarette to be readily pressed down into the jaws and when it is in place hold it firmly so that it cannot fall out no matter how overbalanced it may become as the cigarette burns down.

The fact that the jaws are thin concentrates their squeezing action on the cigarette as it is pressed in so that a very light pressure will suffice to force it down in the groove. At the same time the jaws must not be too thin and sharp for then they would be likely to cut the cigaretter paper. When a part of a cigarette which is near its burning end is in contact with a solid surface, condensation forms on the cigarette where it touches such surface. I have found that if the jaws gripping the cigarette are not over $\frac{3}{32}$'' thick, and preferably not over $\frac{1}{16}$'' thick, such condensation or sweating is negligible. If, however, the jaws be materially thicker than this, very noticeable and objectionable areas of condensation form where the cigarette touches the tray and such areas are likely to be even larger than the surface in actual contact with the cigarette, whereas with jaws less than $\frac{1}{16}$'' thick the condensation will be only to the extent of such small surface itself.

There is another limitation on the thickness of the inner jaws. They should not be less than $\frac{1}{32}$'' in thickness in order to exclude the air sufficiently to snuff out the cigarette. If the inner jaws are thinner than this the fire will travel past them and the cigarette keep right on burning, and, moreover, thinner fins than this would be likely to puncture the cigarette.

When the cigarette is placed in the groove, the user does not have to bother about balancing it on a lip or ledge, because the groove of this special shape grips the cigarette regardless of the balance. When the user wishes to pick it up again he can do so readily because the outer end of the cigarette projects clear from the wall of the tray. I have found that in this regard the length of the groove and therefore the thickness of the wall at this point should be not greater than $\frac{3}{4}$'', and preferably not greater than $\frac{5}{8}$''.

To facilitate cleaning the inside of the groove when it has become dirty with use, the thickness of the wall should be not less than $\frac{1}{4}$'', and preferably not less than $\frac{3}{8}$'', so as to allow a groove opening large enough for the insertion of a finger or free access to a stream of water.

The cigarette is held off of the floor of the tray so that its lighted end does not smolder, burn unevenly, and perhaps go out prematurely as is the case with an ordinary saucer type ashtray where the lighted end of the cigarette lies directly on the floor of the tray. As the cigarette continues to burn, it burns freely and smoothly and can be taken up again for further smoking until it reaches the inner end of the groove. If it is left until it burns to this point, either intentionally or because the person who left it burning there has forgotten about it, it is automatically snuffed out.

As the fire reaches the inner jaws their hold on the cigarette is somewhat weakened by its being partly burnt. For this reason an outer support spaced outwardly from the inner jaws, which outer support preferably takes the form of outer gripping jaws, is an important addition to the gripping action of the inner jaws so as to augment their grip.

If the cigarette is merely laid on top of the groove and not pressed in, the gripping action of the groove does not come into play. For this reason I have made the tops of the inner ends of the groove walls materially higher than the tops of the outer ends of the groove walls. At the left in Fig. 2 there is shown in dotted lines a cigarette which has been merely laid on top of the groove. The fact that it slants at a considerable angle tends to call the attention of the user to the fact that it is not in its proper place, and even if he does not know how the tray should be used, he will naturally be inclined to make the cigarette horizontal, which can only be done by pressing it more or less down into the groove.

While I have described and illustrated a preferred embodiment of my invention it will be understood that the principles here disclosed can be applied to a great variety of shapes and designs. Furthermore all of the features disclosed may be embodied in a single article or only some of them may be used.

Accordingly I wish the scope of my invention to be limited only as defined in the appended claims.

I claim:

1. An ashtray having a peripheral wall and a central ash receiving portion, the inner surface of said peripheral wall extending to a materially higher level than the outer surface, and at least one marginal cigarette rest transverse of the peripheral wall, said rest consisting of a recessed formation having oppositely facing walls concave in horizontal section and extending from the inside to the outside wall surfaces of the tray, the inner and outer ends being in general alignment, the tops of the inner ends of the recess walls being higher than the tops of the outer ends of the recess walls whereby a cigarette first placed therein will tend to incline upwardly from the outside toward the center of the tray and when pressed therein will assume a substantially horizontal position.

2. An ashtray having an ash receiving cavity and an upstanding wall member adjacent thereto, said wall member having a cigarette holding groove provided therein, said groove extending through said wall member from the face adjacent the ash receiving cavity to the outer face of the wall member and terminating in U-shape openings at said faces, said groove openings at both the inner and outer faces of the wall member being of a width slightly less than the diameter of a cigarette, whereby the cigarette can be pressed down therein in generally horizontal position with a slight pressure and whereby said cigarette will be gripped by the sides of the groove at spaced points, one at the inner end of the groove adjacent the ash receiving cavity and one at the outer end of the groove and will be snuffed out when it burns down substantially to the inner side of the wall member, and said groove intermediate its ends being enlarged at each side and at the bottom whereby the wall member is recessed back out of contact with the wrapper of the cigarette positioned therein to minimize condensation on the cigarette wrapper.

3. Device of claim 2 in which the inner face of the wall member is materially higher than its outer face, whereby a cigarette when laid across

the top of said groove will slant up and in at a material angle and will extend horizontally therein only when pressed down into position where gripped within the groove.

4. In an ashtray, an ash receiving bowl, a peripheral wall thereabout, said wall being formed to have at least one cigarette recessed formation therein, said wall at its inner face having a U-shaped opening extending down therein with rounded back top corners and with sides approximately vertical and parallel, and spaced apart by slightly less than a cigarette diameter, said wall at its outer face having a U-shaped opening extending down therein with rounded back top corners and with sides approximately vertical and parallel, and spaced apart by slightly less than a cigarette diameter, in general alignment with the inner opening, said wall being recessed back between said inner and outer openings to form a continuous opening transverse of said wall with the intermediate part of said opening larger than the openings at the faces of the wall, the top of said wall at its inner face being materially higher than the top of said wall at its outer face.

5. An ashtray having an ash receiving cavity and an upstanding wall member adjacent thereto, said wall member having a cigarette holding groove provided therein, said groove extending through said wall member from the face adjacent the ash receiving cavity to the outer face of the wall member, and terminating in U-shaped openings at said faces, said groove openings at both the inner and outer faces of the wall member being of a width slightly less than the diameter of a cigarette, whereby the cigarette can be pressed down therein in generally horizontal position with a slight pressure and whereby said cigarette will be gripped by the sides of the groove at spaced points, one at the inner end of the groove adjacent the ash receiving cavity and one at the outer end of the groove and will be snuffed out when it burns down substantially to the inner side of the wall member, and said groove intermediate its ends being enlarged at each side and at the bottom whereby the wall member is recessed back out of contact with the wrapper of the cigarette positioned therein to minimize condensation on the cigarette wrapper, the depth of the said cigarette holding groove in the wall member being sufficient so that the portion of the cigarette held therein when in snuffing position will be substantially entirely below the upper edge of that wall member, the surfaces of the said enlarged intermediate portion of the groove below and to the sides of the cigarette held in snuffing position being in such spacial relation to the wrapper of the cigarette that the cigarette is shielded from free currents of air, and the flow of air around the cigarette at the groove reduced to a minimum, thereby aiding in the extinguishing of the cigarette.

HERBERT GORDON DYKE.