Jan. 22, 1952 R. W. NICKERSON 2,583,389

ASH TRAY AND RECEPTACLE

Filed April 12, 1946

Fig. 1

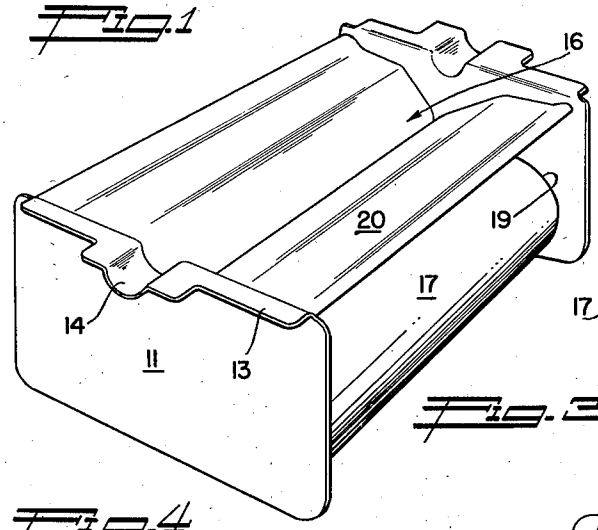


Fig. 2

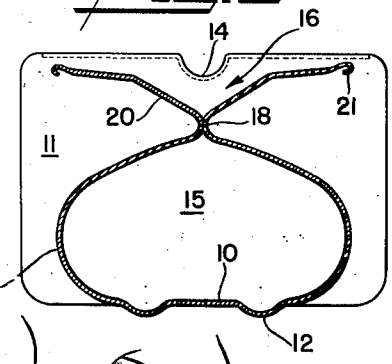


Fig. 3

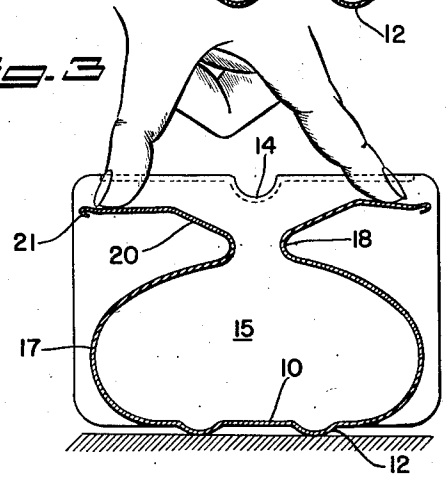


Fig. 4

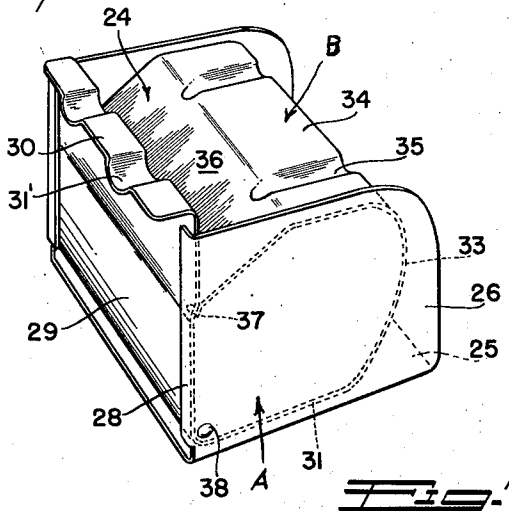


Fig. 5

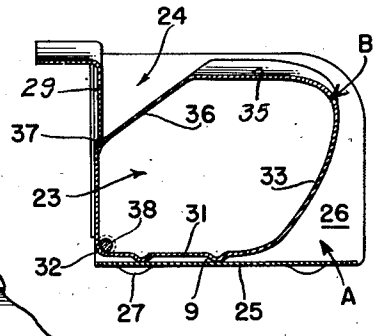


Fig. 7

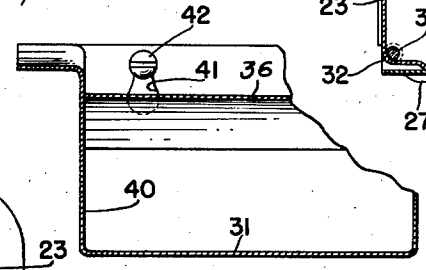
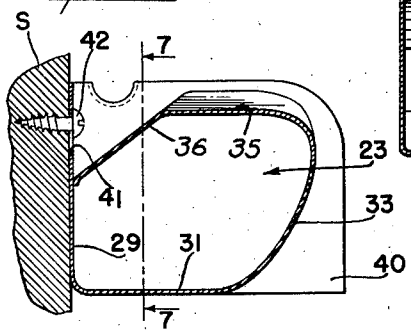


Fig. 8



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ASH TRAY AND RECEPTACLE

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4 Claims. (Cl. 220—20.5)

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This invention relates to smokers' ash trays and it is a general object of the invention to provide a practical, inexpensive ash tray and receptacle in which cigarette and cigar butts, ashes and pipe embers may be deposited with the assurance that they will quickly become extinguished.

Smokers' ash trays and stands have been introduced embodying a lower container or well for receiving the ashes and cigar and cigarette butts and having a hinged door for controlling the entrance to the well. The closures or doors of these prior devices are usually urged to the closed positions by springs and the mechanisms for operating them against the spring action include levers, links, operating buttons, etc. Accordingly, prior ash trays of this class have been rather costly in that they require the fabrication and assembling of a number of individual parts.

An important object of the present invention is to provide a smoker's ash tray and receptacle of the general class above referred to which may be constructed of a single blank or piece of sheet metal stock, or the like. In a preferred embodiment of the invention a single continuous section of the sheet metal, or the like, is formed so as to constitute the well or receptacle and closure means for the same, the closure means normally occupying a closed position by reason of the inherent resiliency of the material and being readily moved or flexed to an open position by finger pressure to admit the cigar and cigarette butts, etc. into the receptacle. The closure means automatically returns to the closed position when the finger pressure is relieved, and when in the closed condition constitutes or carries an external tray or container means for temporarily receiving the ashes and for supporting lighted cigarettes, cigars and pipes. The device does not require or include the hinges, levers, springs, operating buttons or like parts heretofore embodied in this type of device and therefore is less expensive to manufacture. The invention contemplates the provision of either a single tray-forming closure for the lower receptacle or a pair of cooperating closures. However, in both instances the closure means is a simple integral continuation of the sheet stock from which the device is fabricated.

Another object of the invention is to provide an ash tray and receptacle device of the character mentioned wherein the well or lower receptacle is effectively sealed and is substantially airtight when the closure means is in the normal condition, so that lighted cigar and cigarette butts and other glowing or burning material introduced therein is extinguished by reason of insufficient oxygen to support continued combustion.

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Another object of the invention is to provide a device of the character referred to in which the closure means remains in the closed position to prevent the escape of burning or glowing material in the event the device is inverted or falls to the floor. The closure means remains closed at all times to substantially seal the well or main receptacle except when deliberately opened for the purpose of introducing material into the receptacle or for emptying the same.

Other features and advantages of the invention will become apparent from the following detailed description, throughout which reference will be made to the accompanying drawings, wherein:

Fig. 1 is a perspective view of a receptacle and tray device of the invention embodying a pair of cooperating closures;

Fig. 2 is a vertical transverse sectional view of the device shown in Fig. 1;

Fig. 3 is a view similar to Fig. 2, illustrating the manner in which the receptacle may be opened;

Fig. 4 is a perspective view of a device of the invention embodying a single closure;

Fig. 5 is a vertical transverse sectional view of the structure shown in Fig. 4;

Fig. 6 is a view similar to Fig. 5, illustrating still another form of the invention; and

Fig. 7 is a fragmentary vertical sectional view of the device shown in Fig. 6.

Figs. 1, 2 and 3 show the invention embodied in an ash tray and receptacle characterized by a pair of cooperating closure parts. In this form of the invention a single integral blank or sheet of material constitutes the entire device and all of its parts. The device may be constructed of any selected or appropriate flexible, resilient and non-inflammable sheet material such as steel, stainless steel, copper, bronze, etc. and the material may be plated, polished or otherwise finished as desired. As illustrated in Fig. 1, the device is an elongate structure of generally rectangular outline or shape, it being understood that the proportions and configuration may be materially varied.

Referring to Fig. 2, it will be seen that the device has a substantially horizontal bottom wall 10 which terminates at its opposite ends in upturned or substantially vertical end walls 11. If desired, the bottom wall 10 may have spaced ridges or dimples 12 projecting from its lower surface to act as feet or supports for holding the

major portion of the bottom wall spaced from the surface of the table or object on which the device is placed. The end walls 11 are integrally connected or joined with the bottom 10 at normal or right-angled corners and the two spaced end walls are flat and in substantially parallel relation to one another. I have shown the end walls 11 as rectangular parts having straight vertical side edges and horizontal upper and lower margins, it being apparent that these walls may be given other configurations. In the form of the invention being described the end walls 11 are provided with means for holding or carrying lighted cigars, cigarettes, etc. Outturned horizontal flanges or lips 13 extend along the upper edges of the walls 11 and are provided with troughs or grooves 14 for receiving the cigars and cigarettes. The lips 13 may be of increased width at the grooves 14 to give the grooves ample length. The lips, which are preferably integral with the end walls 11, give the walls increased strength and rigidity. The walls 11 just described constitute the ends of a well or lower receptacle 15 and of a tray portion 16 for temporarily receiving the ashes and for carrying lighted cigarettes and cigars.

The well or receptacle 15 referred to above is defined by the bottom wall 10, the end walls 11 and two side walls 17. The walls 17 are integral with the bottom 10 and, as will later become apparent, carry closures for the receptacle 15. Referring to Fig. 2, it will be seen that the side walls 17 curve outwardly and upwardly from the horizontal bottom wall 10 and then curve upwardly and inwardly or toward one another to rather abrupt or short-radius curves or bends 18. While the bowed or curved side walls 17 are integral with the bottom wall 10 which in turn is integral with the end walls 11, the side walls 17 are otherwise independent of the end walls and are capable of flexure and movement with respect to the end walls. The end edges or margins 19 of the walls 17 are straight and preferably flat, to lie in contact with or in immediately adjacent parallel relation to the inner surfaces of the end walls 11. Accordingly, upon flexure and movement of the side walls 17 the edges 19 wipe along the surfaces of the walls 11, or at least move in close proximity to these surfaces. The bowed or curved shape of the walls 17 is such that the walls are capable of distributed flexure upon being forcibly spread apart, and this configuration coupled with the resiliency of the sheet stock normally holds the walls in the position shown in Fig. 2 and returns them to this position when the spreading pressure is relieved. The distributed flexure or bending reduces to a minimum the fatiguing of the metal, so that there is little possibility of ultimate fracture of the walls as a result of long-continued usage. It will be seen from an inspection of Figs. 1 and 2 that the well or receptacle 15 is normally completely closed and substantially sealed so that lighted cigarettes and cigars introduced therein will soon consume the oxygen in the closed space and become extinguished. The rather abrupt curves or bends 18 are in direct opposition to one another and cooperate to close the upper end of the receptacle 15 when the parts are in their idle or normal positions.

The tray portion 16 of the device is defined by the upper parts of the end walls 11 and skirts or aprons 20 on the side walls 17. The aprons 20 are integral continuations of the side walls 17, being formed to slope upwardly and laterally from the bends 18. In this connection it will be observed that the upper parts of the side walls 17, the bends 18 and aprons 20 form the closure means for the receptacle 15, being intgerally joined flexible portions which normally extend across the top of the receptacle. It is preferred to give the inner portions of the aprons 20 a substantial pitch or inclination to leave a rather deep trough or tray for the ashes and to assure the free passage of the ashes and cigarette butts into the receptacle when the same is opened. The outer portions of the aprons 20 are arranged at a lesser angle to the horizontal so that cigars and cigarettes may be placed on them in positions where the lighted ends are clear and above the deep part of the tray. Downwardly and rearwardly turned finish beads 21 extend along the outer edges of the aprons 20.

The flat outer portions of the aprons 20 present upper surfaces that may be conveniently engaged or pressed upon by the fingers to flex or spread the walls 17 to the open position shown in Fig. 3 where the closure bends 18 are spaced apart to leave a free opening into the well or receptacle 15. In this connection it will be observed that the upper portions of the walls 17 and their bends 18 constitute spring closures for the receptacle, the bends normally being in pressure engagement with one another to close the receptacle. The chamber or receptacle 15 may be easily opened by merely pressing downwardly on the aprons 20, as illustrated in Fig. 3, to admit ashes and cigar and cigarette butts and to permit the emptying of the device. This may be accomplished by two fingers of one hand or by the fingers of both hands, as desired. Upon removing the downward finger pressure from the aprons 20 the walls 17 flex back to the positions where the bends 18 are again in contact with one another to close the chamber or receptacle 15.

In Figs. 4 and 5 I have illustrated a form of the invention characterized by a single movable and flexible closure. In this particular structure there are two members or sections A and B of suitable sheet stock such as steel, stainless steel, bronze or copper shaped and assembled to define a normally closed well or receptacle 23 and an open container or tray 24. The section or member A is a substantially U-shaped part having a horizontal lower wall 25 and substantially vertical end walls 26 rising from the opposite extremities of the wall 25. The lower wall 25 may have spaced depressed dimples forming supporting feet 27. Inturned flanges 28 are provided along the rear edges of the side walls 26. It is preferred to terminate the flanges 28 a short distance above the lower extremities of the side walls 26. The spaced walls 26 are parallel or at least present flat parallel opposing inner surfaces.

The member or section B fits within the U-shaped section A and has a rear wall 29 which closes the back or rear side of the assembly. The wall 29 is upright and engages rearwardly against the abovementioned flanges 28. A rearwardly-extending lip 30 may be formed on the upper edge of the wall 29 and is shaped to have spaced depressions or channels 31' for receiving lighted cigars and cigarettes. The section B further includes a substantially horizontal bottom wall 31 extending forwardly from the wall 29. The wall 31 is integrally joined with the wall 29 along a substantially right-angle bend 32 having a suitable radius and extends forwardly between the end walls 26 in engagement with or in substan-

tially parallel relation to the lower wall 25 of the section A. I have shown spaced corrugations or beads 9 on the wall 31 for resting on the lower wall 25. The sheet or material of the section B continues upwardly and forwardly from the bottom wall 31 to have a front wall 33. The material of the section B is flexible and resilient and the front wall 33 is curved or shaped to readily flex or bend when the closure or door for the receptacle 23 is opened.

The tray portion 24 for temporarily receiving the ashes, cigar butts, etc. is defined at its sides by the upper portions of the walls 26 and its rear by the back wall 29. A normally horizontal part 34 extends rearwardly from the front wall 33, being integrally joined therewith at a rather large radius curve or bend. This part 34 is in the nature of a shelf or rest for carrying lighted cigars and cigarettes and may have spaced channels 35 for receiving such objects. The channels 35 also serve to stiffen the part 34. A wall 36 which is pitched downwardly and toward the back extends rearwardly from the shelf part 34 and forms the bottom of the tray 24. The shelf part 34 and the wall 36 further serve to close the upper end of the well or receptacle 23. In this connection it is to be understood that the end edges of the back wall 29, lower wall 31, front wall 33, shelf part 34 and wall 36 closely engage or contact the inner surfaces of the walls 26 so that the well or receptacle is sealed and substantially airtight. The configuration and inherent resiliency of the section B are such that the rear edge of the tray wall 36 bears against the back wall 29. It may be preferred to provide a slight forward joggle or offset 37 in the back wall 29 to be engaged by a bead or edge bend on the wall 36, the parts being so related that the edge of the wall 36 yieldingly bears upwardly against the offset.

It is preferred to incorporate means for retaining the sections A and B in the assembled relationship. This means may consist of a simple rod 38 engaged in aligned openings in the side walls 26 of the section A to pass through the receptacle 23 at the inside of the bend 32. The ends of the rod 38 are upset or headed up at the external surfaces of the side walls 26. The rod 38 engaging in the bend 32 prevents upward and forward displacement of the section B with respect to the section A, while the flanges 28 prevent rearward displacement; and the beads 9 resting on the bottom wall prevent downward displacement. The rod 38, in addition to retaining the section B in the section A, assists in tying the side walls 26 together and thus resists spreading of the U-shaped section A.

In employing the device of Figs. 4 and 5 the exposed tray 24 may be utilized to receive cigar and cigarette ashes, pipe ashes and cigarette butts, and lighted cigars and cigarettes may be placed in the channels 31' and 35 to have their lighted ends above the tray. When it is desired to empty the ashes into the receptacle 23 or to deposit lighted cigar or cigarette butts, the shelf part 34 is pressed downwardly with the fingers. When this is done the front wall 33 and adjacent parts of the section B flex and the tray wall 36 moves downwardly and forwardly leaving an ample opening into the receptacle. The inclination of the wall 36 is such that material deposited in the tray 24 immediately falls into the receptacle 23. Upon removing the pressure from the shelf part 34 the tray wall 36 springs back into engagement with the offset 37 to again close the receptacle 23. The section B may be constructed of stock having sufficient rigidity to allow cigar and cigarette butts to be crushed out against the wall 36, but is sufficiently flexible to permit easy opening of the receptacle 23 as just described. In emptying the device it is simply inverted and the closure or wall 36 is opened to permit the contents of the receptacle to spill out.

Figs. 6 and 7 illustrate still another form of the invention which resembles the device of Figs. 4 and 5 but which differs therefrom in that it is constructed entirely of a single integral and continuous piece of sheet metal or other flexible resilient non-inflammable material. In this construction the above-described section A is dispensed with; however the back wall 29, bottom wall 31, front wall 33, shelf part 34 and tray wall 36 are substantially the same as in Figs. 4 and 5. Accordingly corresponding reference numerals are applied to the corresponding parts of the devices shown in Figs. 4 to 7, inclusive. The device of Figs. 6 and 7 has two side walls 40 formed integral with the bottom wall 31 to extend upwardly from the opposite extremities thereof. The walls 40 are vertical to present flat parallel inner surfaces which cooperate with the edges of the walls 29, 31, 33, 34 and 36 to seal off or close the receptacle 23. The device of Figs. 6 and 7 operates in the same manner as that of Figs. 4 and 5, the receptacle 23 being normally closed and being readily opened by merely applying a downward force on the shelf part 34 to move the wall 36 downwardly away from the back wall 29.

The devices of Figs. 4, 5, 6 and 7 are adapted to be removably installed in public establishments such as restaurants, taverns, railway cars, waiting rooms and the like. In Fig. 6 I have illustrated one manner of installing the device in such situations. The flange 30 is omitted from the back wall 29 so that the wall may be engaged against a vertical support S. Openings 41 are provided in the wall 29 to receive screws 42 for securing the device to the support. The openings 41 may be so shaped that the device may be easily disengaged from the screws when it is to be emptied and cleaned.

From the foregoing it will be seen that I have provided practical and extremely inexpensive ash trays embodying sealed or closed wells for cigar and cigarette butts, pipe ashes and other glowing or burning material. The devices may be readily fabricated from sheet stock with relatively simple dies. If desired, they may be produced at such low cost that it is commercially practical to employ them as advertising media, in which event the visible surfaces or walls may carry printing, symbols, etc., pressed or otherwise formed thereon.

Having described only typical preferred embodiments of the invention, I do not wish to be understood as restricted to the specific details set forth but reserve to myself any features or modifications that may appear to those skilled in the art.

I claim:

1. A device of the character described comprising a receptacle having spaced end walls, and outwardly bowed side walls, the side walls being flexible and resilient, and closures extending inwardly toward one another from the upper ends of the side walls, to normally engage one with the other to close the upper end of the receptacle, and then extending outwardly, the upper por-

tions of said end walls and the outwardly-extending portions of the closures forming a tray for temporarily receiving material, the closures being movable away from one another to admit material into the receptacle upon the application of sufficient downward pressure to the closures to flex said side walls, the resiliency of said side walls restoring the closures to the closed positions when said pressure is relieved.

2. An ash tray and container comprising a pair of spaced end walls presenting parallel opposing surfaces, and a pair of spaced opposed side walls extending between said surfaces, the side walls being flexible and resilient and being movable with respect to the end walls when subjected to flexure, said end and side walls defining a lower receptacle, and closures integral with and extending inwardly toward one another from the upper ends of said side walls to engage one with the other to close the upper end of the receptacle, the closures including outturned aprons, said aprons and the upper portions of the end walls defining a tray for ashes, and the like, said side walls being yieldable upon the application of pressure to the aprons to move the closures to open positions where said material may enter the receptacle.

3. An ash tray and container comprising a bottom wall, end walls rising from the bottom wall, and side walls rising from the bottom wall and extending between the inner surfaces of the end walls, said end and side walls being integral with the bottom wall, the side walls being bowed outwardly and being flexible and resilient, the bottom, end and side walls defining a receptacle, closures integral with and extending upwardly and inwardly from the side walls to cooperate and close the upper end of the receptacle, and aprons on the closures extending upwardly and outwardly therefrom, said aprons and the upper portions of the end walls defining a tray for ashes and like material, the closures being movable to open positions to admit such material to the receptacle upon the application of downward pressure to the aprons sufficient to flex the side walls.

4. A receptacle of the character described comprising a normally closed lower compartment and an open tray located over said compartment, said receptacle having parallel, planar end walls common to both the closed compartment and the tray and a tubular body which is located between, and which has its ends closed by, said end walls, the walls of said body curving upwardly and inwardly from a bottom wall, abutting above the bottom wall, and then being reversely bent to extend upwardly and outwardly in opposite directions to form the bottom and sides of said tray, said body being resilient and being attached to said end walls only in the region of said bottom wall, whereby upon the application of pressure to the sides of said tray the abutting walls of said body separate to provide an entrance through which material may be introduced into said compartment and whereby upon the release of such pressure said abutting walls will automatically assume their normal abutting relation to close said compartment.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
245,912	Young	Aug. 16, 1881
682,524	Bonnemaison	Sept. 10, 1901
820,067	Richardson	May 8, 1906
908,070	Carr	Dec. 29, 1908
1,803,239	Deane	Apr. 28, 1931
1,893,704	Hyatt	Jan. 10, 1933
2,021,723	Grunwald	Nov. 19, 1935
2,291,753	Patten	Aug. 4, 1942
2,490,482	Shackell	Dec. 6, 1949

FOREIGN PATENTS

Number	Country	Date
151,659	Germany	May 18, 1904
469,506	Great Britain	July 27, 1937
839,834	France	Jan. 7, 1939