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ASH TRAY

Thurman W. Horn, Anniston, Ala.

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This invention relates to an ash tray and more particularly to one adapted for use on railway coaches, buses, aircraft and the like.

An object of my invention is to provide an ash tray of the character designated which cannot be removed easily by passengers.

A further object of my invention is to provide an ash tray having no removable parts or inserts and yet can be readily cleaned.

A still further object of my invention is to provide an ash tray of the character designated which shall be simple of construction, economical of manufacture and one which can be readily installed with a minimum expenditure of time and labor.

As is well known in the art to which this invention relates, difficulties have been encountered in maintaining suitable ash trays on buses, railway coaches and aircraft due to the fact that passengers often remove the ash trays or any removable parts thereof. This is especially true with souvenir hunters due to the fact that they often remove anything from buses, railway coaches and aircraft which is not secured permanently in place.

Briefly my improved ash tray comprises a vertically extending base plate having an open ended receptacle mounted for pivotal movement thereon with the free edges of the receptacle in sliding contact with the plate. The receptacle is cut away at one side to provide an opening for receiving and discharging ashes. The receptacle is connected to the base plate by a spring whereby upon rotation of the receptacle in one angular direction relative to the plate, the spring urges the same in an opposite direction. The opening may thus be moved to a position adjacent the bottom of the plate for discharging ashes and when released, the spring returns the receptacle to its original position. Angular movement of the receptacle is limited by a stop member whereby the opening normally assumes a position adjacent the top of the plate in position for receiving ashes and the like. A cover member is mounted for pivotal movement on the receptacle in position to overlie the opening when the cover member is shifted in one direction.

An ash tray embodying features of my invention is shown in the accompanying drawing forming a part of this application, in which:

Fig. 1 is a front elevational view;

Fig. 2 is a rear elevational view;

Fig. 3 is a plan view showing the means for attaching the ash tray to a supporting structure;

Fig. 4 is a sectional view taken along the line IV—V of Fig. 1; and

Fig. 5 is a sectional view taken along the line V—V of Fig. 4.

Referring now to the drawing for a better understanding of my invention I show a relatively flat base plate 10 which is adapted to be secured to a suitable supporting structure, such as the back of a seat, by means of screws 11 which pass through suitable openings 12 provided in the base plate. Formed integrally with the base plate 10

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and projecting outwardly at substantially right angles thereto is a hollow post 13.

Mounted over the base plate 10 and the hollow post 13 is a receptacle 14 having an open side adjacent the base plate 10. The free edges of the receptacle 14 are in sliding contact with a recessed portion 16 provided adjacent the periphery of the base plate 10. Preferably, the receptacle 14 is in the form of a substantially hemispherical shell and the base plate 10 is round, as shown in Figs. 1 and 2. The receptacle 14 is provided with a centrally disposed opening 17 for receiving a short pin 18. As shown in Fig. 5, the receptacle 14 is held against rotation relative to the pin 18 by means of a laterally extending pin 19 which passes through an opening in the pin 18. Diametrically opposed slots 21 and 22 are provided in the walls of the receptacle 14 adjacent the opening 17 for receiving the ends of the pin 19, as shown.

The inner end of the pin 18 is reduced in size and is provided with a transverse opening 23 therethrough for receiving one end of a tension spring 24. The other end of the tension spring 24 is attached to a pin 26 which extends transversely of the hollow post 13 and fits in diametrically opposed recesses 27 and 28 at the rear of the base plate 10, as shown in Figs. 2 and 4. Due to the fact that the pins 19 and 26 are non-rotatably attached to the receptacle 14 and base plate 10, respectively, rotation of the receptacle relative to the base plate distorts the spring so that upon release of the receptacle 14 it will return to its normal position. To limit rotation of the receptacle 14 relative to the base plate 10, an outwardly projecting shoulder 29 is provided on the base plate 10 in position to be engaged by a stop pin 31 secured to and projecting inwardly of the receptacle 14. In addition to urging the receptacle 14 in an angular direction, the spring 24 also holds the receptacle resiliently against the base plate 10. This construction facilitates installation of the screws 11 due to the fact that the receptacle can be sprung outwardly a sufficient distance to permit the pin 31 to pass free of the shoulder 29, thus permitting complete rotation of the receptacle as the screws are installed.

The upper portion of the receptacle 14 is cut away along the line 32 to provide an opening 33 for receiving and discharging ashes and the like. As shown in Fig. 1, with the pin 31 in engagement with the shoulder 29, the opening 33 is adjacent the top of the plate 10.

Mounted for pivotal movement on the pin 18 intermediate the outer surface of the receptacle 14 and the head of the pin 18 is a cover member 34 for the opening 33. Preferably, the cover member 34 is in the shape of a segment of a hemisphere and is of a size to completely cover the opening 33 when moved to the dotted line position shown in Fig. 1. A knob 36 forming a handle extends through the cover member 34 with the inner end thereof engaging the edges of the opening 33 to limit rotation of the cover member when it is moved to fully opened and closed positions, as shown in solid and dotted lines, respectively, in Fig. 1.

Formed integrally with the base 10 and projecting outwardly thereof within the receptacle 14 is a suitable lip member 37 for snuffing out cigarettes. Preferably, the outer surface of the lip 37 is curved as at 38.

From the foregoing description, the operation of my improved ash tray will be readily understood. To uncover and cover the opening 33 in the receptacle 14, the knob 36 is moved to the full and dotted line positions, respectively, as shown in Fig. 1. Whenever it is desired to empty the tray, the knob 36 is moved to the full line position shown in Fig. 1 whereupon the inner end of the knob 36 engages the edge of the receptacle thus causing the entire receptacle to rotate relative to base plate 10

upon further movement of the knob 36 in a clockwise direction, as viewed in Fig. 1. As the receptacle 14 is turned, the pin 18 turns therewith, thereby applying tension to the spring 24. The knob 36 is thus moved until the opening 33 is positioned adjacent the bottom of the plate 10 whereupon the contents of the receptacle 14 are dumped. As soon as the knob 36 is released, the spring 24 causes the receptacle to return to its original position with the pin 31 reengaging the shoulder 29.

From the foregoing, it will be seen that I have devised an improved ash tray which can be secured rigidly to a supporting structure and has no removable parts, thereby eliminating unauthorized removal of the tray or its working parts. By providing a receptacle which rotates in a vertical plane about a centrally disposed pin, the opening 33 therein may be readily moved from a position to receive the ashes and the like to a position to dump the same. Also, by providing a tension spring connection between the receptacle and the base plate, the receptacle is resiliently held against the base plate and at the same time means is provided for returning the receptacle to its original position after the same has been rotated to the inverted position for dumping ashes or the like.

While I have shown my invention in but one form, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various changes and modifications without departing from the spirit thereof, and I desire, therefore, that only such limitations shall be placed thereupon as are specifically set forth in the appended claims.

What I claim is:

1. An ash tray comprising a vertically extending base plate, a substantially hemispherical shell mounted rotatably for pivotal movement on said plate with the free edges of the shell in sliding contact with said plate, there being an opening in said shell for receiving and discharging ashes and the like, spring means connected non-rotatably to said shell and to said plate whereby said shell is urged into engagement with said plate and upon rotation of said shell in an angular direction relative to said plate said shell is urged in an opposite angular direction, means limiting movement of said shell in said opposite angular direction whereby said opening is positioned normally adjacent the top of said plate, and a cover member in the shape of a segment of a hemispherical shell pivotally mounted on said shell adjacent the center thereof.

2. An ash tray comprising a stationary vertically extending base plate, an outwardly projecting hollow post mounted on said plate, a substantially hemispherical shell mounted for rotary movement over said post with the free edges thereof in sliding contact with said plate, said shell being cut away at one side thereof to provide a passage for receiving and discharging ashes and the

like, there being an opening adjacent the center of said shell, a pin extending inwardly through said opening and secured non-rotatably to said shell, a spring within said hollow post secured non-rotatably at one end to said pin and at the other end thereof to said plate whereby said shell is urged into engagement with said plate and upon rotation of said shell in one direction the spring urges the same in an opposite direction, and stop means limiting rotation of the shell in said opposite direction whereby said passage is positioned normally adjacent the top of said plate.

3. An ash tray as defined in claim 2 in which a cover member in the shape of a segment of a hemisphere is pivotally connected to the pin intermediate the outer surface of the shell and the head of said pin.

4. An ash tray as defined in claim 3 in which an inwardly extending stop member is mounted on the cover member in position to engage the shell adjacent said passage whereby angular movement of the cover member is limited.

5. An ash tray comprising a vertically extending base plate, a hollow post extending outwardly of said plate, a receptacle having an open side and mounted rotatably for pivotal movement at the outer end of said post with the edges of the receptacle at said open side in sliding contact with said plate, there being an opening in said receptacle for receiving and discharging ashes and the like, a tension spring within said hollow post, means connecting non-rotatably one end of said spring to said plate and the other end thereof to said receptacle whereby said receptacle is urged into engagement with said plate and upon rotation of said receptacle in an angular direction relative to said plate the receptacle is urged in an opposite angular direction, and a shoulder on the base plate and an inwardly extending pin on the receptacle in position to engage said shoulder thereby limiting angular movement of said receptacle in said opposite angular direction whereby said opening is positioned normally adjacent the top of said plate.

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