July 7, 1942. J. J. MAURO 2,288,637

BUILDING UNIT AND ASH TRAY

Filed June 1, 1939 4 Sheets-Sheet 1

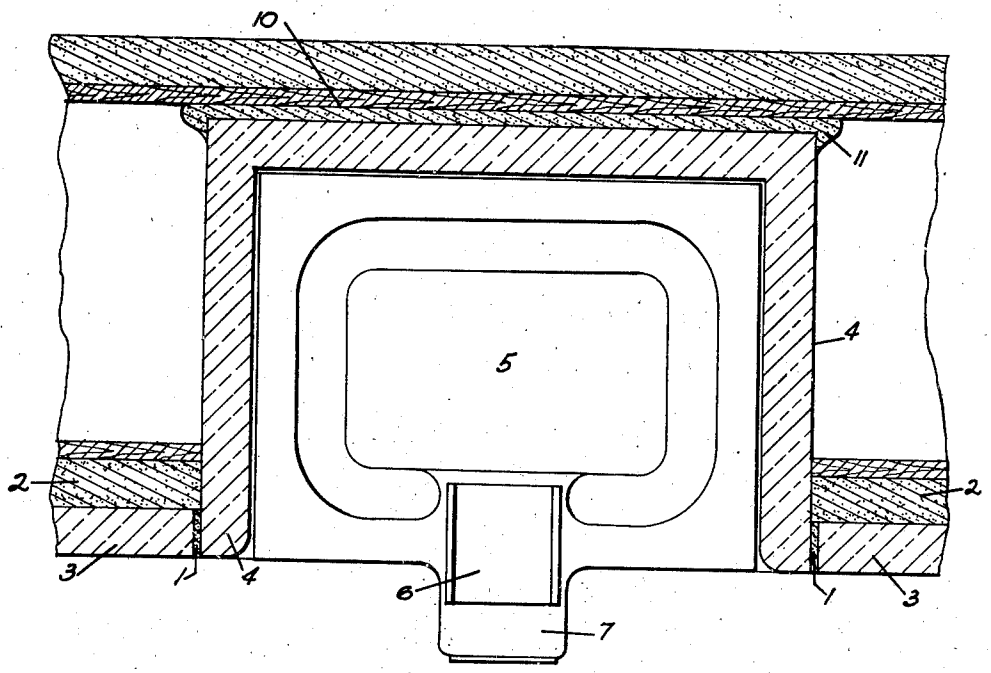


FIG. 1.

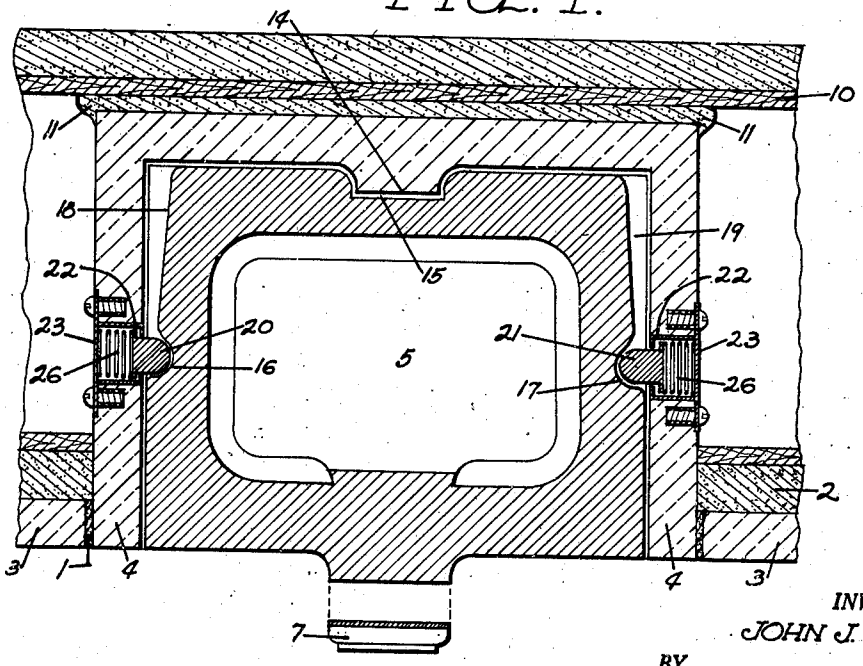


FIG. 2.

INVENTOR.
JOHN J. MAURO.

BY John B. Brady
attorney

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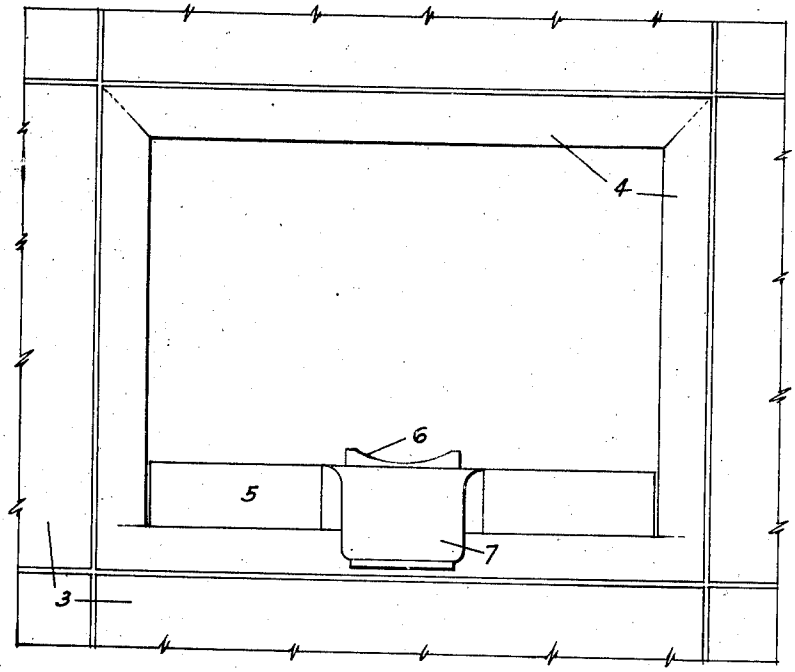


FIG. 3.

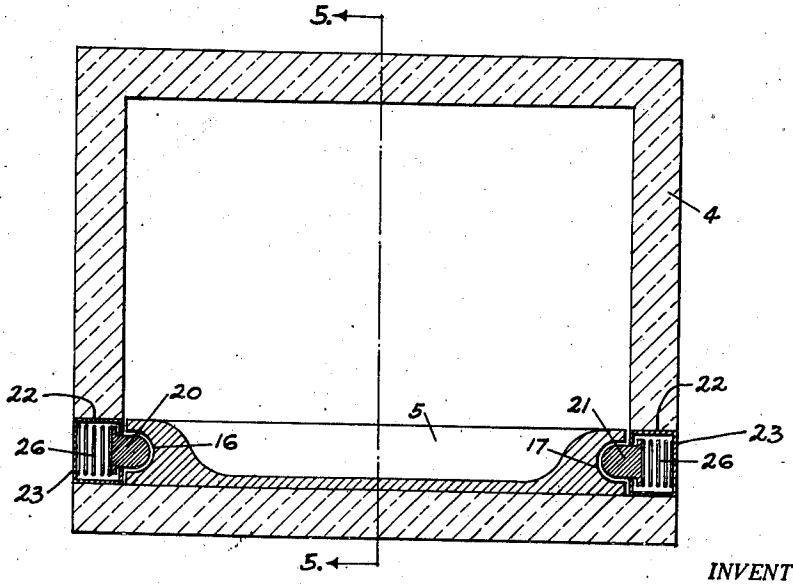


FIG. 4.

INVENTOR.
JOHN J. MAURO.

BY

John B. Brady
attorney

July 7, 1942. J. J. MAURO 2,288,637

BUILDING UNIT AND ASH TRAY

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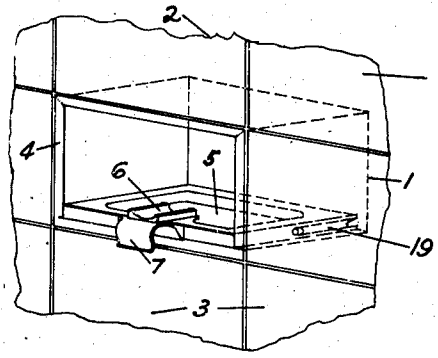


FIG. 6.

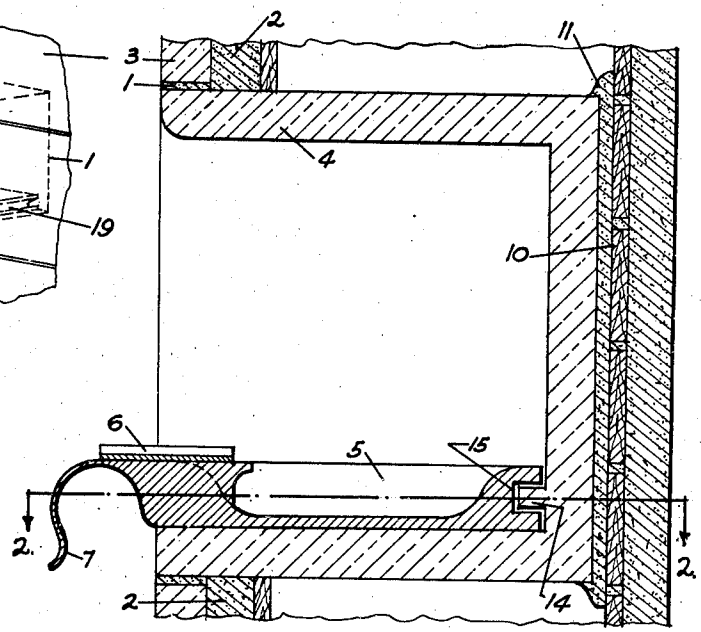


FIG. 5.

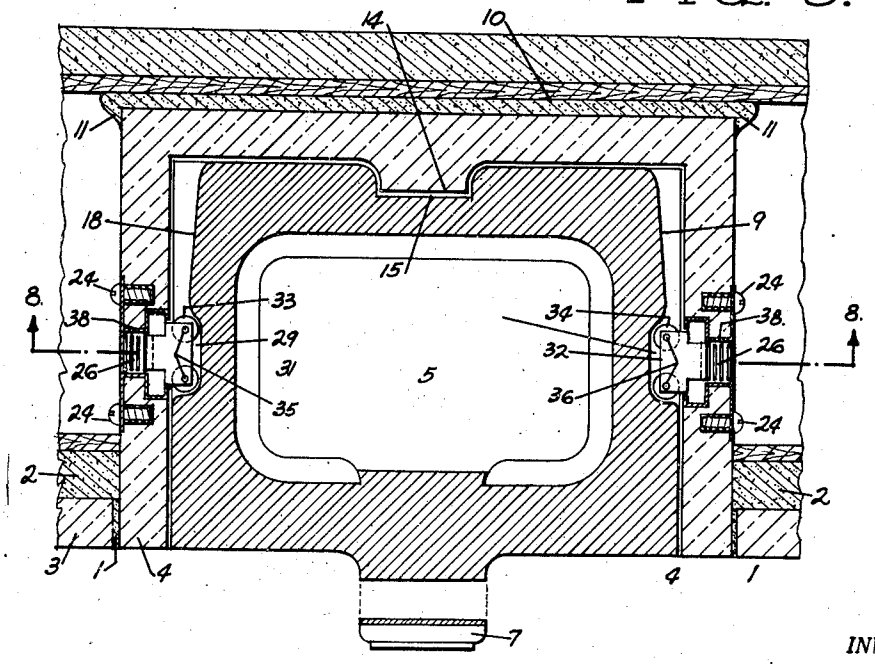


FIG. 7.

INVENTOR.
JOHN J. MAURO.

BY John B. Brady
Attorney

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BUILDING UNIT AND ASH TRAY

Filed June 1, 1939 4 Sheets-Sheet 4

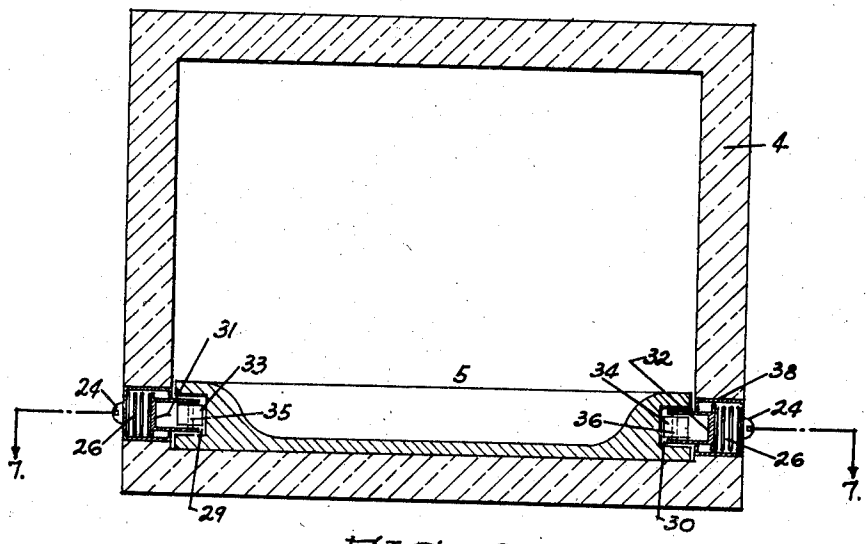


FIG. 8.

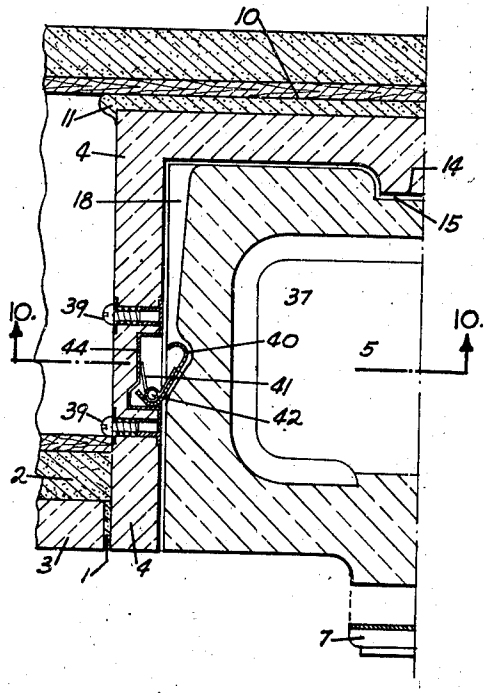


FIG. 9.

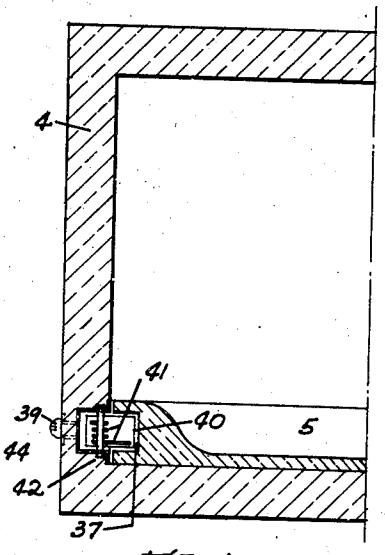


FIG. 10.

INVENTOR.
JOHN J. MAURO.
BY John B Brady
attorney

Patented July 7, 1942

2,288,637

UNITED STATES PATENT OFFICE

2,288,637

BUILDING UNIT AND ASH TRAY

John J. Mauro, Washington, D. C.

Application June 1, 1939, Serial No. 276,932

6 Claims. (Cl. 220—18)

My invention relates broadly to ash trays and more particularly to a construction of ash tray compactly associated with a wall structure recessed to receive a unit which is in turn arranged to receive an insertable and removable support for cigars, cigarettes or pipes and associated tray for receiving the ashes therefrom.

One of the objects of my invention is to provide a smokers' accessory constructed in the form of a building unit which may be mounted within a recessed wall structure and which is arranged to receive a device constituting a support for cigars, cigarettes or pipes coextensive with a tray adapted to collect ashes therefrom, the device being readily removable and replaceable substantially within the confines of the wall structure.

Another object of my invention is to provide a construction of ash tray comprising a box-like structure open at one side and adapted to be set into a niche in a wall and arranged to receive a replaceable device constituting a composite support for cigars, cigarettes or pipes associated with a tray adapted to collect ashes accumulated from the cigars, cigarettes or pipes supported thereon.

Still another object of my invention is to provide a construction of building unit which may be built into a wall structure substantially coextensive therewith but recessed into the wall structure to receive and support a removable tray with an associated cigarette, cigar or pipe rest with means for removably securing the tray in position whereby the tray may be readily removed and accumulation discharged therefrom and the tray replaced in secured position.

A further object of my invention is to provide a building unit which may be formed of various materials such as metal, earthenware or vitreous material adapted to be mounted in a recessed wall structure of comparable materials to form an enclosure open in the plane of the wall structure for receiving a detachable and replaceable cigarette, cigar or pipe support and associated tray adapted to be secured in the base of the building unit and substantially within the confines of the wall structure.

A still further object of my invention is to provide an arrangement of securing means for detachably mounting an ash tray having an associated cigarette, cigar or pipe rest in the base of a frame member extending into a recess in a wall structure in such manner that the cigar, cigarette or pipe rest and associated tray may be readily removed and accumulation discharged therefrom and restored to position for use as a compact smokers' accessory.

Another object af my invention is to provide an arrangement of built-in ash tray for a wall structure in which the ash tray is integral with a cigarette, cigar or pipe rest and is adapted to establish detachable interlocking arrangement with mechanical latching means associated with the wall structure whereby the ash tray may be maintained in position while in use substantially within the confines of the wall structure.

A further object of my invention is to provide a construction of built-in ash tray for wall structures wherein the ash tray is formed from magnetic material and in which magnetic means is associated with the wall structure in a position for magnetically maintaining the tray in position within the confines of the wall structure while permitting ready removal and replacement thereof.

Figure 1 is a plan view of the ash tray showing the support for the ash tray in horizontal section installed as a building unit in a wall structure; Fig. 2 is a horizontal sectional view on line 2—2 of Fig. 5 showing one form of the securing means for the ash tray of my invention; Fig. 3 is a front elevational view of the ash tray and building unit mounting means therefor constructed in accordance with my invention; Fig. 4 is a cross sectional view looking toward the rear of the support for the ash tray of my invention; Fig. 5 is a vertical sectional view taken on line 5—5 of Fig. 4; Fig. 6 is an isometric view of the ash tray mounted in the recess of a wall in accordance with my invention; Fig. 7 illustrates in horizontal sectional view a further modified form of securing means for the ash tray of my invention taken substantially on line 7—7 of Fig. 8; Fig. 8 is a cross sectional view taken substantially on line 8—8 of Fig. 7; Fig. 9 is a fragmentary horizontal sectional view of a further modified form of ash tray and securing means therefor constructed in accordance with my invention; Fig. 10 is a fragmentary sectional view taken substantially on line 10—10 of Fig. 9.

My invention is directed to a construction of ash tray which may be compactly mounted within the confines of a wall structure for utilizing space which is normally wasted and at the same time removing the ash tray to a position where there is minimum danger of the tray being inadvertently tipped over. The construction of ash tray in accordance with my invention substantially eliminates fire hazards resulting from the deposit of lighted cigars, cigarettes or pipes

or hot ashes therefrom into the tray inasmuch as the tray is substantially removed from any objects of inflammable character and is maintained in isolation to objects which might tend to be ignited from lighted cigarettes, cigars or pipes or live ashes therefrom. I provide a frame structure which is substantially box-like in contour open at one side and adapted to be set into a niche, cubbyhole, a cubicle, an aperture or a recess in a wall structure. Such frame structure may be constructed from a variety of materials such as ceramic, vitreous, glazed tile, porcelain, or chinaware material, or nickel, Monel metal, aluminum, stainless steel or other metallic materials in conformity with the surface of the associated wall structure. The frame structure is adapted to be inserted as a building unit into the wall structure with the open side thereof extending substantially in the plane of the wall structure. The base of the frame-like structure may be provided with various forms of mechanical latching means adapted to coact with the replaceable tray and associated cigarette, cigar or pipe rest whereby the tray may be maintained in position and readily removed for discharge of the contents therefrom. The combined receptacle and ash tray of my invention has numerous applications and may be used in countless numbers of places, such as in bathrooms, private and public toilets, dressing rooms, smokers' cars or compartments, restaurants, and in convenient positions in the walls of rooms generally.

Referring to the drawings in detail, Figure 1 illustrates one application of the ash tray of my invention as a built-in unit in a toilet room in which the structure of the ash tray and frame support therefor substantially conforms to the tile walls of the toilet room. The frame member 4 is adapted to be mounted in recess 1 in wall structure 2 having the wall surface covered by tiling 3. The frame member or box-like structure 4 having one side thereof open, extends into the wall structure 2 and terminates substantially in the plane of the wall structure. The frame member 4 is constructed of fireproof material and substantially conforms with the material of the wall structure 2, that is, the frame member 4 may be ceramic, vitreous, glazed tile, porcelain, chinaware, nickel, Monel metal, aluminum, stainless steel, etc. The metallic ash tray 5 is removably mounted in the base of the frame member 4 and has finger-grip 7 and cigar, cigarette or pipe rest 6 integrally connected therewith, and extending slightly beyond the limits of the surface of the wall structure 2.

The frame member 4 is set within the recess in the wall structure and extends substantially through the space between the studs in the wall structure to the rear of the opposite wall surface on the other side of the partition. I have indicated the frame member 4 as extending to the rear of the opposite wall surface at 10 where it is secured in position by mortar or plaster indicated at 11. The mounting of the frame member 4 is thus simplified as frame member 4 constitutes a building unit insertable through the open side of the wall and against the rear surface of the opposite wall on the opposite side of the partition. The sides of the frame member 4 may be secured in position by plaster or mortar 12 adjacent the tiling 3.

Figs. 1–6, inclusive, show one embodiment of my invention in a form which is very practical for manufacture and installation.

The frame member 4 has a projecting lip or lug on the interior thereof adjacent the base in the forms of my construction illustrated in Figs. 2, 5, 7 and 9. The projecting lip or lug 14 enters a rear recess 15 in the ash tray 5 when the ash tray is moved into position within frame member 4 in order to assist in the securing of the ash tray in position. In order to further assist in maintaining the ash tray 5 in place, I provide recesses 16 and 17 in the opposite sides of the ash tray 5. The rearwardly extending sides of ash tray 5 are tapered at 18 and 19 from the position of recesses 16 and 17. Spring actuated detents 20 and 21 are provided in opposite side walls of frame member 4 for engaging in the recesses 16 and 17 in the ash tray 5. The spring actuated detents 20 and 21 are housed in the opposite sides of frame member 4 in housings 22 which extend through the sides of frame member 4 as shown more particularly in Figs. 2 and 4. The back plate enclosing the housing 22 has extended ears 23 set flush with exterior side planes of frame member 4 and secures said housing 22 to said frame member 4 by means of screws 24 extending through back plate extended ears and passing into threaded bores 25 in frame member 4.

It will thus be seen that the ash tray 5 may be moved transversely into the box-like frame member 4 adjacent the base thereof until the tapered sides 18 and 19 engage spring actuated detents 20 and 21. By thrusting the ash tray 5 further into the frame member 4, the detents are yieldably pressed against their coacting springs until recesses 16 and 17 register with detents 20 and 21, whereupon detents 20 and 21 spring into recesses 16 and 17, thus locking ash tray 5 in position. At this time recess 15 has become engaged with projecting lug or lip 14 so that the ash tray is secured in position and ready to receive lighted cigarettes, cigars or pipes and to collect the ashes therefrom. The ash tray is readily withdrawn by applying an outward force on finger-grip 7 to enable the ash tray to be removed from position and the contents thereof discharged preparatory to returning the clean ash tray to its normal position within the frame member 4.

In Figs. 7 and 8 I have shown a modified form of my invention in which the recesses in the opposite sides of the ash tray 5 are shaped as indicated at 29 and 30 in Fig. 7. The opposite side walls of frame member 4 are provided with casements 38, somewhat analogous to housings 22 in the form of my invention shown in Figs. 1 and 4. Reciprocative within each casement 38 I provide spring actuated thrust members 31 and 32. Thrust member 31 carries a pair of rollers 33. Thrust member 32 carries a pair of rollers 34. Rollers 33 are mounted on pivots 35 on thrust member 31 while rollers 34 are mounted on pivots 36 on thrust member 32. The two rollers on each thrust member engage the tapered sides 18 and 19 of the ash tray 5 as it is moved into position, allowing the thrust members to be yieldably spread and then latched into the recesses 29 and 30 for securing the ash tray 5 in position. When the ash tray 5 is withdrawn the rollers are retracted releasing the rollers from the recesses 29 and 30 and enabling the ash tray 5 to be removed for discharge of the ash content therein. The casements 38 in frame member 4 are secured in position in much the same manner as described with respect to housing 22 and the associated parts, such as end plate 23, coil spring 26 and securing means 24 are the same

as those already described in connection with the form of my invention shown in Figs. 1 and 4.

In Figs. 9–10 I have shown a further modified form of my invention in which the ash tray 5 is provided with shaped recesses 37 in opposite sides thereof. The frame member 4 has casements 44 secured in positions adjacent the base but at opposite sides thereof, the casements 44 being maintained in position by screws 39. Casements 44 provide housings for spring members 40, each of which include a coil spring 41 mounted on a confining pin 42 in casements 44. The spring members have angularly shiftable arms which constantly tend to enter casements 44 and the recess 37 in the side of ash tray 5. In positioning ash tray 5 within the frame member, the ash tray 5 is moved transversely into frame member 4 whereupon the projecting arm or leaf of spring member 40 rides upon the tapered portion of ash tray 5, indicated at 18 until the spring arm or leaf engages into shaped recess 37 thus securing the ash tray 5 in position. When it is desired to withdraw ash tray 5, the force exerted upon finger-grip 7 is sufficient to yieldably move the projecting arm or leaf of spring member 40 toward casement 44, thus releasing the ash tray 5 and allowing the ash tray to be withdrawn for discharge of the contents thereof.

Although the various illustrations show my invention in a wood frame and mortar or plaster partition, it is to be understood that it can also be installed or recessed in solid masonry walls or partitions, in structural steel and steel plate partitions, in glass, brick walls or partitions, in prefabricated material partitions, etc.

While I have shown my invention in certain of its preferred embodiments, I realize that modifications may be made in the shape, form and construction of the ash tray of my invention. Accordingly I desire that it be understood that modifications may be made in my invention and I intend no limitations thereon other than may be imposed by the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent of the United States is as follows:

1. An ash tray comprising in combination with a recessed wall structure, a box-like frame member open on one side thereof and extending into said wall structure with the open side substantially in alignment with the recessed wall structure, a projection extending inwardly from the rear wall of said frame member, an ash tray transversely slidable along the bottom of said frame member and having a recess for engaging said projection and a finger engaging portion opposite said recess for removing and restoring said ash tray to the base of said frame member through the open side thereof, the sides of said ash tray each containing tapered grooves terminating in recesses in the sides of the ash tray and spring actuated latching means cooperative with said projection and said recess and engageable in said grooves and said recesses for maintaining said ash tray in position adjacent the base of said frame member when said ash tray is entirely within said frame member.

2. An ash tray comprising in combination with a recessed wall structure, a box-like frame member open on one side thereof and extending into said wall structure with the open side substantially in alignment with the recessed wall structure, a projection extending inwardly from the rear wall of said frame member, an ash tray transversely slidable along the bottom of said frame member and having a recess for engaging said projection and a finger engaging portion opposite said recess for removing and restoring said ash tray to the base of said frame member through the open side thereof, recesses located in substantially the center of the opposite sides of said ash tray, grooves tapering from said recesses to the rear of said ash tray, and spring actuated bullet headed latching means located in said frame member and detachably engageable with the tapered grooves and recesses in said ash tray, said latching means being cooperative with said projection and said recess and with said grooves and said recesses therein for maintaining said ash tray in position adjacent the base of said frame member when said ash tray is substantially within said frame member.

3. An ash tray comprising in combination with a recessed wall structure, a box-like frame member open on one side thereof and extending into said wall structure with the open side substantially in alignment with the recessed wall structure, a projection extending inwardly from the rear wall of said frame member, an ash tray transversely slidable along the bottom of said frame member and having a recess for engaging said projection and a finger engaging portion opposite said recess for removing and restoring said ash tray to the base of said frame member through the open side thereof, said ash tray having grooves in the opposite sides thereof tapered from substantially the middle of said ash tray to the rear thereof with recesses at substantially the beginning of said grooves in the opposite sides of said ash tray, and leaf spring members mounted in said frame member and engageable in the grooved and recessed sides of said tray.

4. An ash tray comprising in combination with a recessed wall structure, a box-like frame member open on one side thereof and extending into said wall structure with the open side substantially in alignment with the recessed wall structure, a projection extending inwardly from the rear wall of said frame member, an ash tray transversely slidable along the bottom of said frame member and having a recess for engaging said projection and a finger portion opposite said recess for removing and restoring said ash tray to the base of said frame member through the open side thereof, said ash tray being tapered from substantially the center thereof toward the rear and being recessed in opposite sides thereof, at substantially the middle portion of the sides of the ash tray, and spring actuated thrust members located in opposite sides of said frame member, each of said thrust members carrying a roller device adapted to roll upon the tapered sides of said ash tray and enter the recesses in the sides of said tray when said tray is fully inserted within said box-like frame member.

5. An ash tray comprising in combination with a recessed wall structure, a box-like frame member open on one side thereof and extending into said wall structure with the open side substantially in alignment with the recessed wall structure, an ash tray transversely slidable along the bottom of said frame member with a finger engaging member projecting beyond the limits of said wall structure for removing and restoring said ash tray to the base of said frame member through the open side thereof, said frame member having a projecting lug positioned slightly above the bottom of said box-like frame member

in the rear wall thereof and said ash tray having a complementary rear recess therein engageable by said lug for preventing said ash tray from tipping when pressure is applied downwardly to the front portion of said ash tray.

6. An ash tray comprising in combination with a recessed wall structure, a box-like frame member open on one side thereof and extending into said wall structure with the open side substantially in alignment with the recessed wall structure, an ash tray insertable into and removable from a position at the bottom of said frame member, said ash tray having grooves rearwardly tapered in depth in opposite sides thereof and recesses at the heads of the respective grooves, spring actuated detent means projecting outwardly from opposite walls of said frame member and frictionally slidable in said grooves for guiding said ash tray during insertion and removal and engageable in said recesses at the heads of said grooves for rigidly retaining said ash tray in inserted position, said frame member including a substantially horizontal projection extending from the rear wall thereof and disposed slightly above the bottom of the frame member and said ash tray having a complementary rear recess engageable by said projection when said ash tray is in inserted position with a portion thereof extending beneath said projection for maintaining said ash tray in level position within said frame member.

JOHN J. MAURO.