June 14, 1927.

S. HAMMER

1,632,734

METAL RECEPTACLE

Original Filed Jan. 13, 1925

3 Sheets-Sheet 1

Fig. 1.

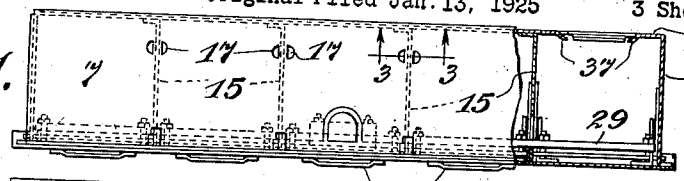


Fig. 2.

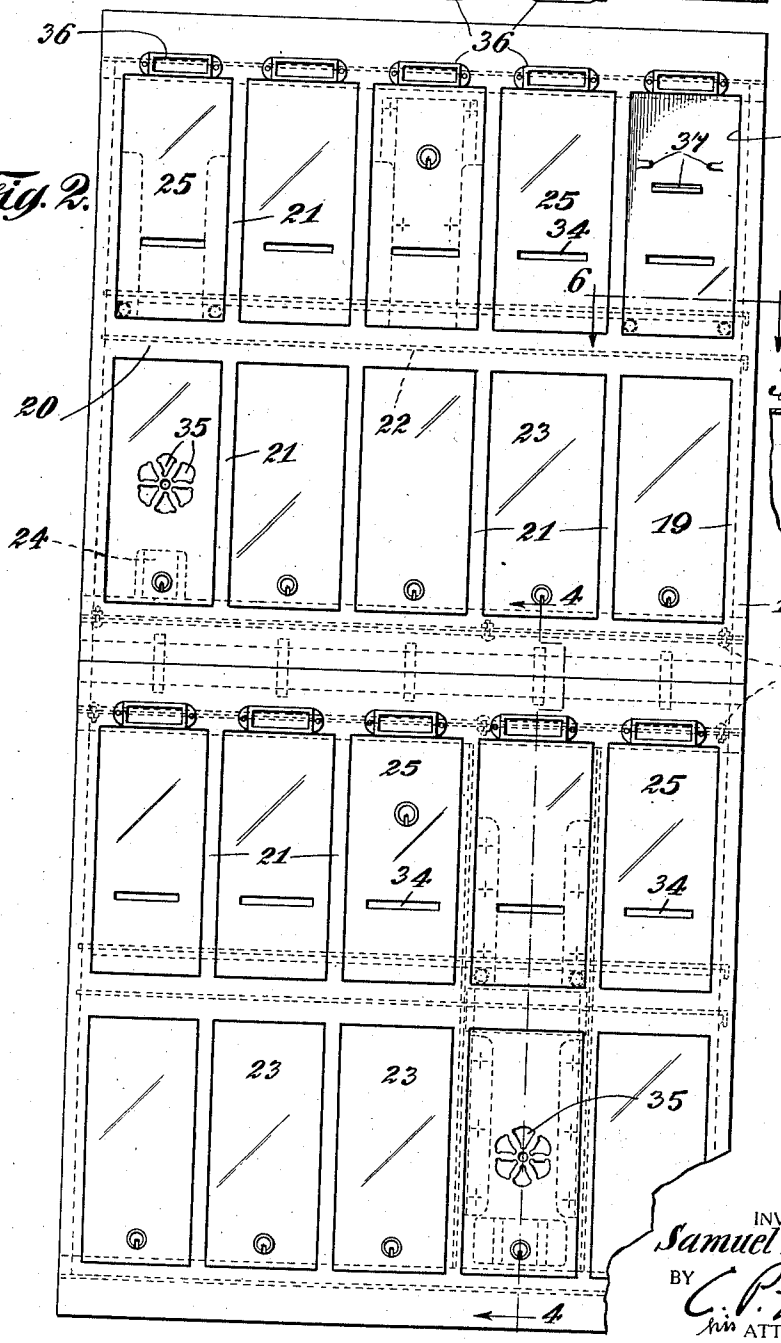
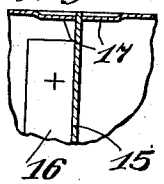


Fig. 3.



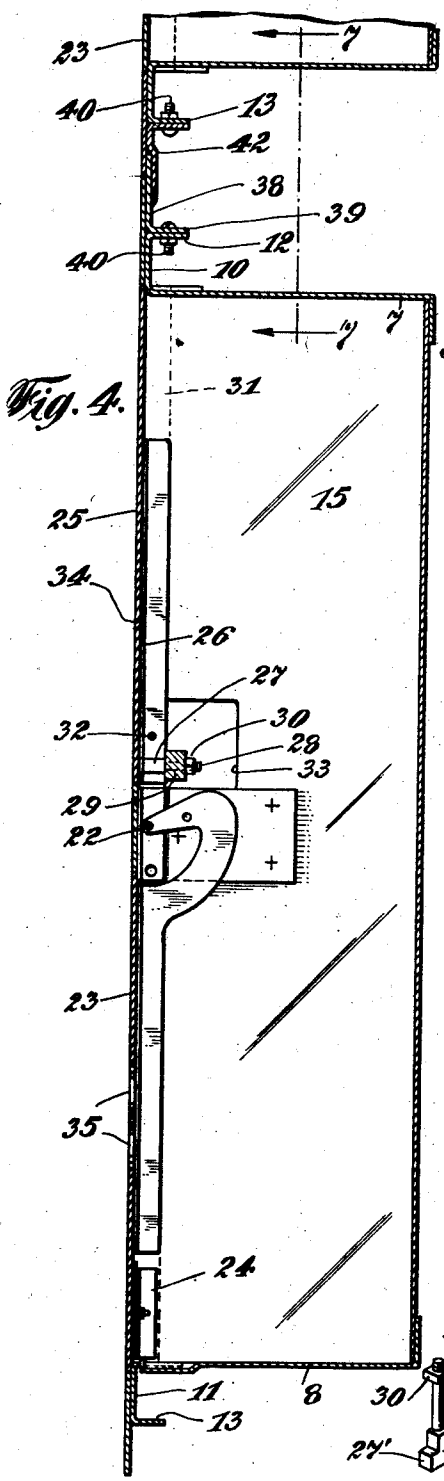
INVENTOR
Samuel Hammer
BY
C. P. Goepel
ATTORNEY

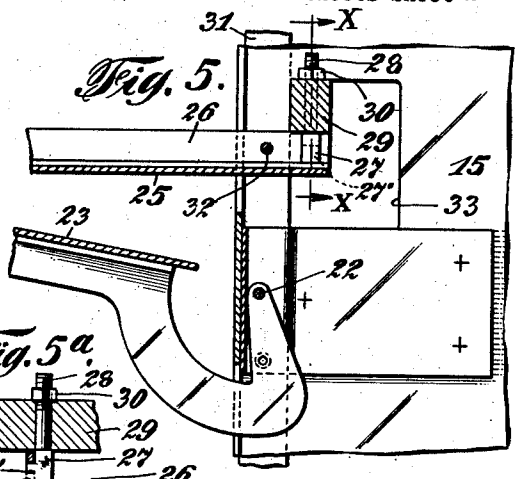
June 14, 1927. 1,632,734

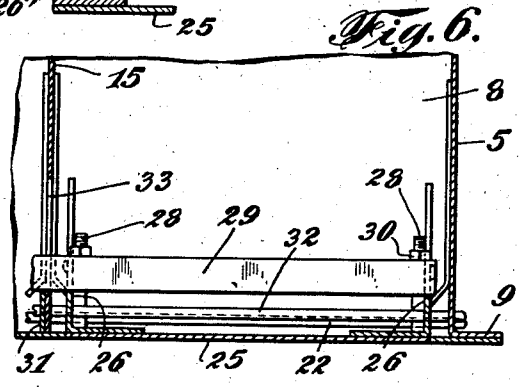
S. HAMMER

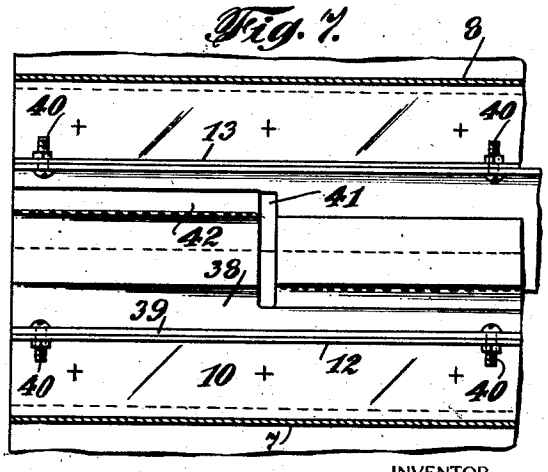
METAL RECEPTACLE

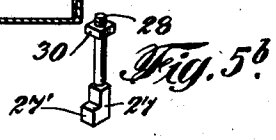
Original Filed Jan. 13, 1925 3 Sheets-Sheet 2











INVENTOR
Samuel Hammer
BY C. P. Goepel
his ATTORNEY

June 14, 1927. 1,632,734

S. HAMMER

METAL RECEPTACLE

Original Filed Jan. 13, 1925 3 Sheets-Sheet 3

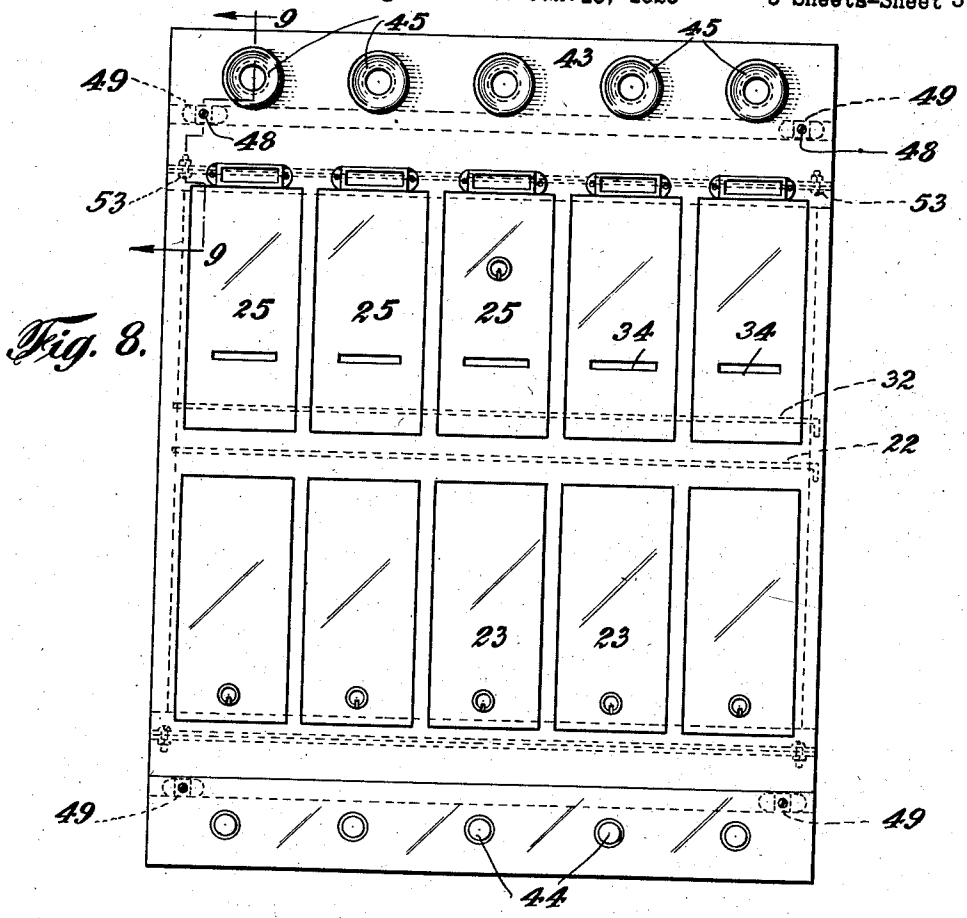


Fig. 8.

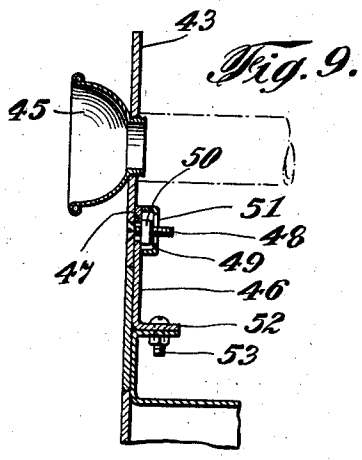
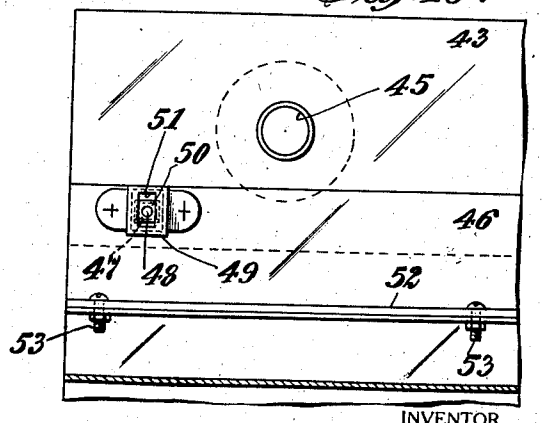


Fig. 9.

Fig. 10.



INVENTOR
Samuel Hammer
BY C. P. Goepel
his ATTORNEY

Patented June 14, 1927. 1,632,734

UNITED STATES PATENT OFFICE.

SAMUEL HAMMER, OF BROOKLYN, NEW YORK, ASSIGNOR TO UNITED METAL BOX CO. INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

METAL RECEPTACLE.

Original application filed January 13, 1925, Serial No. 2,152. Divided and this application filed June 23, 1926. Serial No. 117,936.

This invention relates to metal receptacles and more particularly to boxes or receptacles such as are usually provided in apartment houses, hotels and other large buildings for receiving mail of the tenants residing therein.

The subject matter of this application is a division of application Serial No. 2,152 filed January 13th, 1925, and more particularly comprehends certain improvements in mail boxes or receptacles of this type over the construction described in my co-pending application for patent, filed May 13th, 1924, Serial No. 712 945. In the application last referred to, I illustrate a multi-compartment mail receptacle in which individual tenants' doors close the lower portions of the mail receiving compartments, while the upper portions thereof are closed by a single common door, equipped with the post-office lock and of which only the postman or carrier has the key. An important object of this invention is to provide separate upper doors for the compartments fixed at one of their ends in spaced relation to each other, to a common counter-balancing bar which extends across the several mail compartments through openings in the dividing walls or partitions between said compartments. This bar limits the unitary downward swinging movement of the doors to an open horizontal position, said doors being pivotally mounted upon a common hinge rod fixed at its ends in the side walls of the receptacle. For this upper series of doors, a common post-office lock is provided, mounted upon the inner side of one of the doors, while, of course, each of the lower tenants' doors is provided with a separate lock.

It is another object of my present improvements to provide a simple, durable and effective means for securely interlocking a plurality of vertically or longitudinally adjacent boxes or receptacles arranged in the face of the building wall, so that the front plates or walls of the several boxes are maintained in accurate alignment with each other, preventing relative displacement of the receptacles in the event of settling or shrinkage of the wall structure, and maintaining the front exposed surfaces of said receptacles at all times flush with the face of the wall.

It is also an object of my present invention to provide an improved adjustable attaching or connecting means whereby a panel, provided with push buttons or speaking tube connections, may be attached to the upper or lower ends of the receptacle and positioned in the plane of the front wall of said receptacle.

Another detail feature of improvement resides in the means for rigidly connecting the upper and lower ends of the spaced vertical partitions with the top and bottom walls of the box or receptacle.

With the above and other objects in view, the invention consists in the improved receptacle and in the form, construction and arrangement of its several parts, as hereinafter more fully described, illustrated in the accompanying drawings and subsequently incorporated in the subjoined claims.

In the drawings wherein I have illustrated one simple and satisfactory embodiment of the invention, in which similar reference characters designate corresponding parts throughout the several views,—

Figure 1 is a top plan view partly in section of a mail box or receptacle constructed in accordance with my present improvements.

Figure 2 is a front elevation, showing two of the receptacles mounted in vertically superposed relation.

Figure 3 is a detail section taken on the line 3—3 of Figure 1.

Figure 4 is a vertical sectional view taken on the line 4—4 of Figure 2.

Figure 5 is an enlarged vertical section showing one of the lower doors and the upper doors in open position.

Figure 5^a is a detail section taken on the line x—x of Figure 5.

Figure 5^b is a detail perspective view of one of the parts.

Figure 6 is a detail horizontal section taken on the line 6—6 of Figure 2.

Figure 7 is a sectional view taken on the line 7—7 of Figure 1.

Figure 8 is a front elevation of one of the receptacles having upper and lower accessory panels connected thereto.

Figure 9 is a vertical section taken on the line 9—9 of Figure 8, and

Figure 10 is a detail fragmentary elevation of the inner side of assembled panel, as shown in Figure 9.

In a practical embodiment of my invention, the side and rear walls 5 and 6 respectively are formed from a sheet metal plate, the top and bottom walls 7 and 8 being preferably also formed integral with one of the side walls and having flanges lapping upon the other side and rear wall of the receptacle and to which they are securely united by a series of spot welds. At the front side of the box, the side walls thereof are provided with the out-turned flanges 9 and the top and bottom walls with the upwardly and downwardly extending flanges 10 and 11 respectively. The upper edge portions of these latter flanges are inwardly bent at right angles as at 12 and 13 for a purpose which will hereinafter appear. The flanges 9, 10 and 11 are spot welded to the inner side of the front plate or wall 14 of the receptacle, said plate being of sufficient length to project vertically an appreciable distance beyond the flanges 10 and 11.

The interior of the box or receptacle is divided into a series of separate compartments extending the full length thereof by the vertical partitions 15. These partitions consist of stamped sheet metal plates each of which is provided on its rear edge with a laterally projecting flange 16 spot welded to the rear wall of the box structure. The upper end edge of each partition wall fits closely against the top wall 7 of the box and for greater security, this top wall on opposite sides of each partition wall or plate, is indented as at 17, to form tongues or lips separated at their opposed ends by the intermediate portion of the top wall which is in line with the partition wall or plate. These opposed ends of the indentations or lips thereby abut against the opposite sides of the partition plate and effectually prevent possible lateral displacement of the upper end thereof. If desired, the lower end of each partition plate may be rigidly held in connection with the bottom wall of the box structure in a similar manner.

The front plate 14 of the receptacle is preferably of brass and has a highly polished surface. This brass plate is provided with an upper series of openings 18 therein and a lower series of openings 19, the corresponding openings in the two series being associated with the same vertical mail receiving compartment formed by the partition plates 15. These two series of openings are spaced from each other by a central horizontal panel 20 and the several openings in each series are horizontally spaced from each other by the vertically extending strips 21 which connect the horizontal panel 20 with the upper and lower end portions of the plate 14.

A hinge rod 22 extends horizontally along the inner side of the panel 20 and has its end suitably fixed in the side wall of the box. Upon this rod a plurality of doors 23 for the lower series of openings 19 are hingedly mounted at their upper ends. Since the means for hingedly mounting these doors and for sustaining the individual doors in their open positions substantially corresponds with the structure disclosed in my co-pending application herein above referred to, it is not necessary to further explain the same in detail. It will suffice to state that each of these doors is provided on its inner side and its lower end with a suitable lock, one of which I have indicated at 24, the keys for such door locks being in the possession of the respective tenants.

I also provide the structurally separated or independent doors 25 for the upper series of openings 18 through which communication is afforded with the upper portions of the mail compartments. Preferably these latter doors are of the same size and shape as the lower doors 23, and each of said doors on its inner side end along its opposite longitudinal edges has secured thereto, one flange of an angle bar 26, these bars being also secured by spot welding to said doors. Each of said angle bars carries a stud 27 projecting inwardly at right angles to the plane of the door and having a reduced threaded end 28 which is adapted for engagement through one of a series of spaced openings provided in a comparatively heavy metal bar 29.

As shown in Figures 5^a and 5^b of the drawings, I preferably provide the stud 27 at its other end with an angularly projecting rectangular lug 27′ for snug fitting engagement in a similarly shaped opening 26′ in the inwardly extending flange of the angle bar 26. Thus, when the bar 29 is assembled, the several studs 27 are held in close engagement against the inner sides of the angle bar flanges and against movement relative thereto without necessitating the use of tools or securing means to permanently attach the lugs to the flanges of the angle bars.

Nuts 30, threaded upon these studs rigidly clamp this bar against the edges of the inwardly projecting flanges of the angle bars 26. On one side of each of the partition plates 15 at its front edge, a metal reinforcing strip 31 is secured and through said strips and the partition plates, a hinge rod 32 extends, said hinge rod being fixed in the side walls of the box structure, and being located above the studs 27. It is understood, of course, that the inwardly extending flanges of the angle bars 26 likewise are provided with suitable openings to receive this

hinge rod. Inwardly of the reinforcing strips 31, each partition plate 15 is provided with an opening 33 preferably of square or rectangular shape, the front edge of said opening being flush with the rear edge of the reinforcing strip 31 and said edges constituting a stop against which the connecting bar 29 is adapted to engage. It will be readily seen that the series of upper doors 25 are very rigidly and substantially connected with each other by means of the heavy bar 29 so that in effect, they operate as a single door swinging as a unit to open and close position with respect to the several door openings 18. This bar 29 serves to counterbalance the sections of the doors below the hinge rod 32 with the relatively greater portions of such doors which extend above said hinge rod, so that in the movement of the doors to their opened or closed position, the parts of the box structure will not be subject to excessive strain or jar, due to violent contact of the connecting bar 29 with the said partitions 15. It will be noted that when in open position, the several doors 25 are substantially horizontally disposed as seen in Figure 5 of the drawings, which provides a convenient shelf upon which the postman may sort his mail. This feature, however, is not broadly claimed in the present application since it constitutes a part of the subject matter of my co-pending application.

Each of the doors 25 may be provided with a narrow slot as indicated at 34 to receive a card while each of the lower doors 23 have suitable ornamentally shaped sight openings 35. Above each of the upper door openings 18 is a suitable name card holder 36 which is attached to the face of the plate 14, and, if desired, the rear wall of the box structure at the upper ends of the several compartments may be formed with the inwardly struck card holding tongues 37.

By providing the structurally separate doors 25 instead of a single door member for all of the compartments, as in my former application, it is necessary to carry in stock doors of only one size. Thus, any desired number of the doors 25 can be assembled and rigidly connected with each other by simply providing bars 29 of different lengths for the mail boxes of the different widths having a greater or less number of the separate mail receiving compartments.

I have also provided means for mounting two or more boxes or receptacles in vertically superposed interlocked relation. In large apartment houses, having numerous tenants, it is frequently necessary to provide a great number of mail boxes which practically cover the greater part of the wall space in the lobby or vestibule. Not infrequently, it happens, due to careless workmanship in mounting the boxes, shrinkage of the wall structure or other causes, that one of the mail boxes will be moved out of horizontal or vertical alignment with the others so that the surfaces of the front plates of the boxes are not flush with each other or with the surface of the wall. I have provided means for eliminating this difficulty, and to this end, as shown in Figures 4 and 7 of the drawings, I provide on the inner side of the upper and lower end of the front plate 14, the interlocking bars 38. Each of these bars has an angular flange 39 on one of its longitudinal edges adapted for engagement upon the flanges 12 or 13, as the case may be, and is secured to said flange of the box structure by a plurality of bolts 40 or other equivalent means. These bars 38 are closely engaged against the rear side of the plate 14 and extend beyond the end edge thereof. At a point substantially mid-way of the length of this vertically disposed portion of the bar 38, said bar is slotted as at 41, and the longitudinally extending portion of said bar at one side of said slot is angularly off-set, as at 42, so that said portion of the bar is disposed in spaced parallel relation to the plate 14. This intervening space is substantially the equivalent to the thickness of said bar.

As will be seen from reference to Figure 7 of the drawings, in assembling the boxes or receptacles in the recessed face of the wall structure, the part of the bar 38 located at one side of the slot 41, carried by one of the receptacles, has an interlocking frictional fit between the off-set portion 42 of the bar, carried by the other receptacle and the edge of the front wall 14 of said receptacle. In this manner, as shown in Figure 4, the adjacent receptacles are securely held in interlocked assembled relation and with their front walls 14 accurately aligned with each other. Of course, it will be understood that this interlocking means may be provided on the side flanges 9 of the receptacles, as well as on the top and bottom flanges thereof. By thus interlocking the several receptacles, inaccuracies in the forming of the recesses to receive said receptacles or shrinkage or settling of the wall structure will not result in displacement of the receptacles in relation to each other. Thus, the close fitting arrangement and neat appearance of the boxes in the face of the wall will be maintained.

In many cases, the mail box or receptacle is provided at either one or both ends with a panel or panels in which the signal push buttons or the speaking tube mouth pieces are mounted. Heretofore, no provision has been made for compensating for inaccuracies in the box construction in the attachment of said panels, and in such cases, it has been necessary to redrill the bolt receiving holes, whereby the panels are attached or connected with the flange of the box wall. To

overcome this difficulty, as shown in Figures 9 and 10 of the drawings, I provide the panel 43 in which the signal buttons 44 or mouth pieces 45 are mounted with an adjustable attaching plate 46. As herein shown, this plate is provided at suitably spaced points adjacent one of its edges, with openings 47 of preferably rectangular form through which the screws 48, preferably having their heads counter-sunk in the face of the panel 43, extend. To the rear side of the attaching plate 46 and extending over each of the openings 47 therein, a cap or housing 49 of sheet metal is secured, said housing enclosing a nut 50 threaded upon the screw 48 and the rear wall of said housing having an opening 51 therein through which the screw extends. The other longitudinal edge of the plate 46 is flanged, as at 52, and provided with spaced openings to receive attaching bolts 53 whereby said plate may be securely fixed to the flange 12 or 13 on the wall of the box structure.

In fabricating the boxes, the space or distance between the flanges 12 and 13 and the end edge of the front wall 14 of the box is not always uniform and likewise the spacing of the openings in said flanges may possibly vary. Therefore, it will be readily appreciated that by providing the attaching plate 40 on the rear side of the panel 43, which is capable of both vertical and lateral adjustment, with respect to the panel, said panel may be readily attached and properly aligned with the front wall 14 of the box notwithstanding such inaccuracies. While I have referred to a particular form of this adjustable attaching means, it will be understood that various mechanical alternative embodiments thereof are possible.

From the foregoing description, considered in connection with the drawings, it is believed that the several novel features of my present disclosures and the advantages thereof in practical operation will be clearly understood. By the new mounting and arrangement of the door elements, affording access to the upper ends of the mail receiving compartments, I have succeeded in materially reducing cost in construction, while at the same time, providing a very rigid and durable structure. It is to be noted that in the arrangement of the upper and lower series of doors, and also in the means which I have provided for applying and securing the several vertical partitions in place, there are no externally projecting or visible parts which would detract from the neat appearance of the box or receptacle when installed. It will further be appreciated that such a mail receptacle, as I have herein described, may be manufactured and sold at comparatively small cost. Further, it complies with all postal regulations, and is practically theft proof.

I have herein disclosed an embodiment of my present invention, which has been found to be entirely successful in practical use. Nevertheless, it is to be understood that these various structural features may be susceptible of considerable modification in the form, and arrangement of the several detail parts thereof, and I accordingly reserve the privilege of resorting to all such legitimate changes as may be embodied within the spirit and scope of the invention as claimed.

Thus, for instance, instead of providing a multicompartment receptacle, having a one piece body structure, the receptacle may obviously be made up of individual units, each unit having one or more compartments and the units rigidly connected with each other by rivets, bolts or other suitable connecting means. Further, although I have herein referred to the use of a heavy metal bar 29 for counterbalancing the compartment doors, it will be understood that in lieu of this bar, one or more springs or other equivalent counterbalancing means might be substituted therefor.

I claim:

1. In metal receptacles each having a sheet metal body structure and a separate door plate closing the front of said body structure, the top, bottom and side walls of the body structure being flanged and fixed to the rear side of said front plate; means on the flange of the top wall of one receptacle coacting with means on the flange of the bottom wall of a vertically superposed receptacle for interlocking the receptacles with each other to maintain said front plates in the same vertical plane.

2. In metal collection receptacles of the character described, each having a front plate and adapted to be mounted in the face of a wall, means carried by each receptacle for interlocking engagement with the complementary means on an adjacent receptacle when the receptacles are assembled in the wall structure whereby said front plates are positioned and held in a common plane with their outer faces flush with the wall.

3. In metal collection receptacles each having a separate front plate fixed to the body walls of the receptacle, complementary interlocking members arranged at the rear side of said front plates and projecting beyond the edges thereof, said members, on adjacent receptacles adapted for interlocking engagement with each other to maintain the front plates of said receptacles in a common plane.

4. In metal receptacles, each having a front plate and the body walls of the receptacle secured to the rear side of said plate, members fixed to said body walls and projecting beyond the edge of the front plate, each of said members having a part in contact with the rear side of said plate and an

angularly off-set part spaced from said plate, said parts of the members on adjacent receptacles adapted to interlock with each other and maintain said front plates of the receptacles in a common plane.

5. In combination with a metal receptacle adapted to be mounted in the face of a wall and having a front plate, a plate secured at the rear side of said front plate and projecting beyond the edge thereof, a panel, and means for adjustably connecting said panel with the projecting part of said latter plate to secure said panel in abutting contact with the edge of said front plate and in alignment therewith.

In testimony that I claim the foregoing as my invention, I have signed my name hereto.

SAMUEL HAMMER.