

Aug. 7, 1951

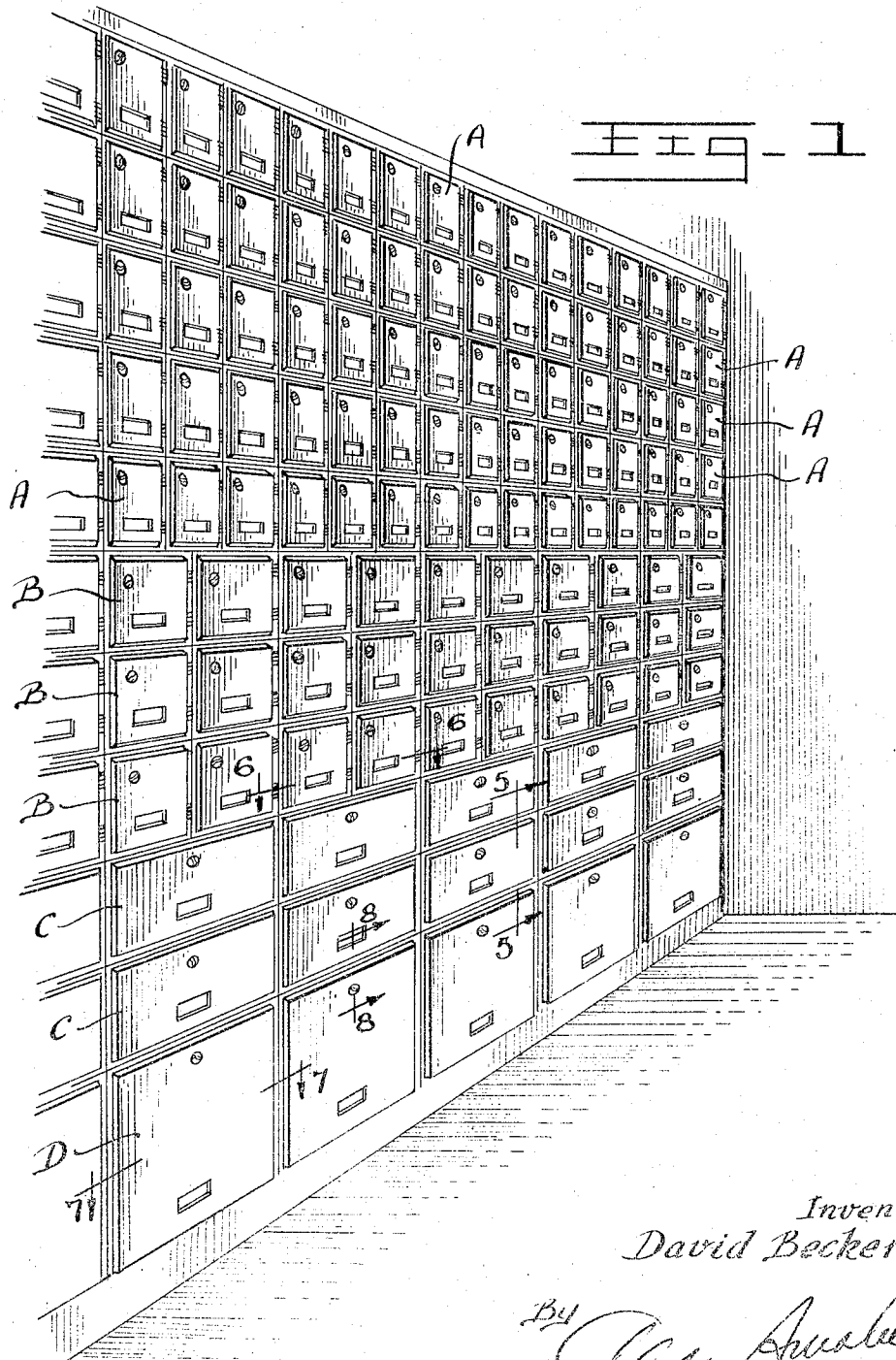
D. BECKER

2,563,094

INTERCHANGEABLE POST OFFICE BOX CONSTRUCTION

Filed Jan. 18, 1950

3 Sheets-Sheet 1



Inventor  
David Becker

By *Wm. A. Ainsley*  
Attorney

Aug. 7, 1951

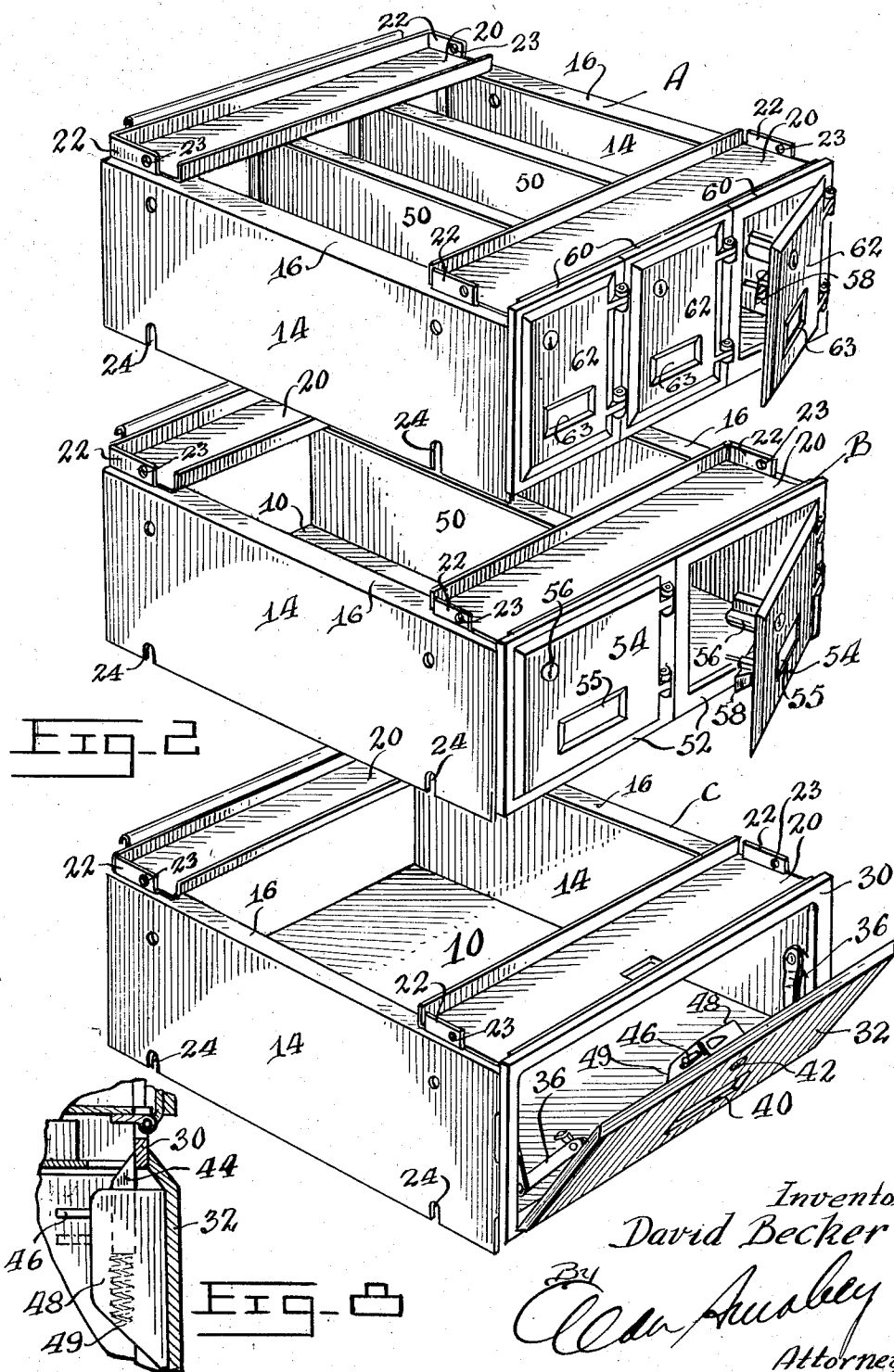
D. BECKER

2,563,094

INTERCHANGEABLE POST OFFICE BOX CONSTRUCTION

Filed Jan. 18, 1950

3 Sheets-Sheet 2



Inventor  
David Becker

By  
C. A. Akeley  
Attorney

Aug. 7, 1951

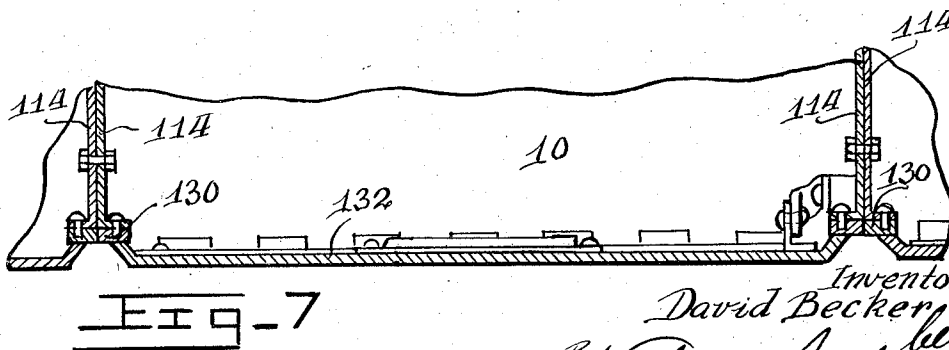
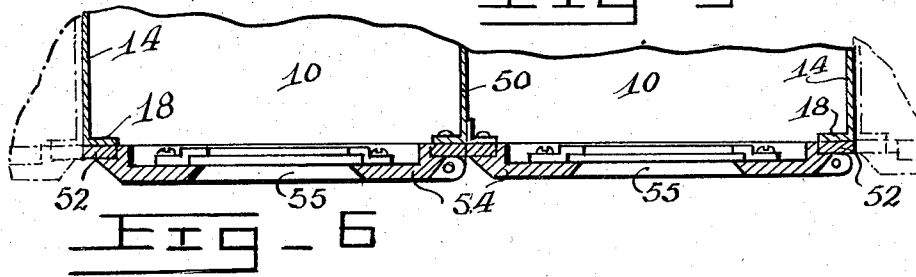
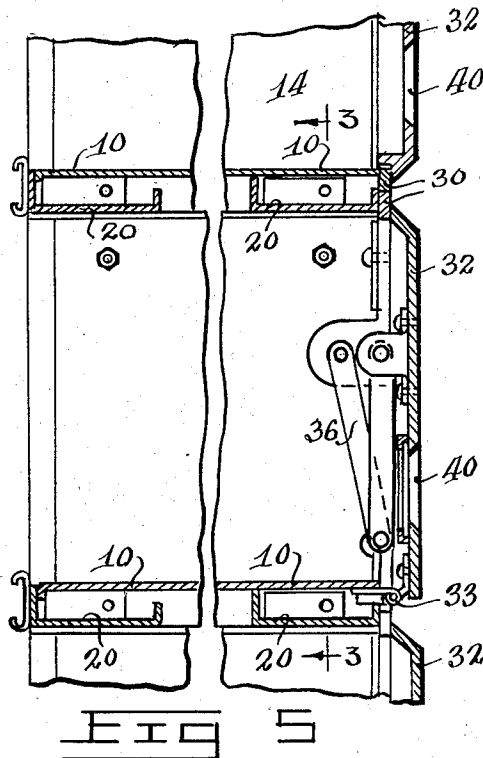
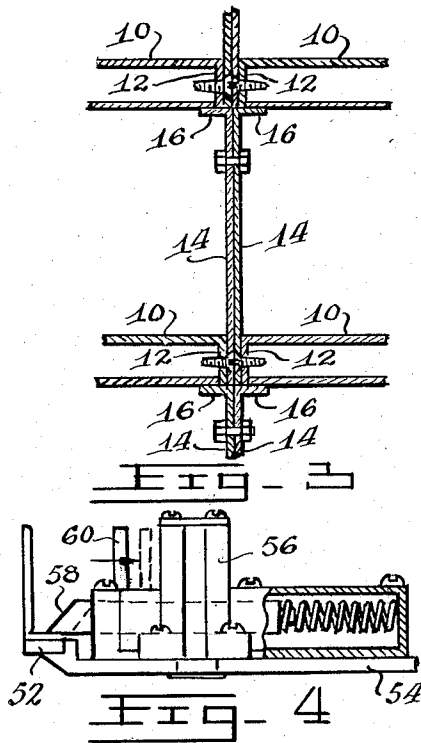
D. BECKER

2,563,094

INTERCHANGEABLE POST OFFICE BOX CONSTRUCTION

Filed Jan. 18, 1950

3 Sheets-Sheet 3



Inventor  
David Becker  
By *Alan A. Sawyer*  
Attorney

## UNITED STATES PATENT OFFICE

2,563,094

INTERCHANGEABLE POST OFFICE BOX  
CONSTRUCTION

David Becker, Montreal, Quebec, Canada, as-  
signor to Rubenstein Bros. Company, Montreal,  
Quebec, Canada, a corporation of Quebec

Application January 18, 1950, Serial No. 139,217  
In Canada October 22, 1949

5 Claims. (Cl. 232—24)

1

*Introduction*

The present invention relates to interchangeable units or boxes capable of interconnection to provide a multiple unit construction and more particularly to an interchangeable post office lock box capable of being interconnected to provide a multiple unit post office lock box construction.

*Applicant's development*

Accordingly, the present invention is an interchangeable sheet metal post office lock box that in the basic form comprises a base, side walls extending upwardly from the base at each side, a door frame spanning the box at the front, at least one door hingedly connected to the frame, a lock on each door, means whereby the lock may be opened from the interior of the box, and locating and positioning means on the top and bottom of each box whereby the boxes may be interconnected vertically and horizontally to provide a multi-unit lock box construction of any required size.

More specifically, a preferred construction of a post office lock box according to the invention comprises a sheet metal box that includes a base having downwardly extending marginal side flanges and a pair of side walls secured to this base at each side, preferably by spotwelding, and to the downwardly extending flanges. The side walls include substantially narrow marginal flanges along the top and front ends which, when the sides are assembled to the base, extend inwardly in opposed relationship from both sides of the base. Flanged stiffening and locating members are secured to the top marginal flanges of the side walls so as to extend across the box adjacent the front and rear. This forms the basic structure for all forms of the box and from this structure several alternate forms of the box are constructed as follows:

A single door type includes a door frame extending completely across the front of the box that is secured to the front flanges of the side walls and a door is provided that is hingedly attached to the frame so as to open parallel with the base of the box. An alternative form is made up by providing a flanged partition member that extends from the base to the stiffening members and is positioned substantially centrally of the base so as to divide the box into two separate compartments. In this form two door frames are mounted on the front of the box where they are secured centrally to a flange of the partition member, and to the front flanges of the side walls. A door is hingedly attached to each frame

2

so as to open parallel with the side walls. As a further alternative, two partitions are provided and three door frames are mounted across the front of the box and are secured to the flanges of the partition members and the front flanges of the side walls with a door hingedly mounted in each frame as in the two door construction.

These preferred box constructions are all of equal overall outside dimensions so as to be interchangeable in any sequence as required but it is also contemplated that other similar units might be constructed having a proportionate height or width, for example, a box having the same width but double the height.

The doors in all forms of construction are each provided with a lock, preferably of the cylinder tumbler pin type, which is mounted on the door so that the striker engages with the door frame when the box is closed, and means are provided with each lock so that the box can be opened from the interior without the use of a key, the rear portions of all boxes being left open to provide access to the boxes from the rear.

*Detailed description*

Having thus generally described the nature of the invention, particular reference will be made to the accompanying drawings, and in which:

Figure 1 is a diagrammatic view in perspective elevation of a multi-unit post office box construction embodying boxes constructed in accordance with the invention.

Figure 2 is a diagrammatic view in perspective elevation illustrating in more detail three alternative forms of post office lock box constructed in accordance with the invention.

Figure 3 is a section of Figure 5 along the line 3—3 illustrating in more detail the arrangement thereof.

Figure 4 is a section of the centre construction shown in Figure 2 along the line 4—4 illustrating in more detail the lock arrangement.

Figure 5 is a section of a portion of the construction of Figure 1 along the line 5—5.

Figure 6 is a section of a portion of the construction of Figure 1 along the line 6—6.

Figure 7 is a section of a portion of the construction of Figure 1 along the line 7—7.

Figure 8 is a section of a portion of the construction along the line 8—8.

With particular reference to Figure 1 of the drawings, a section of a multi-post office lock box construction is illustrated in the assembled condition. This construction is made up of four forms of sheet metal post office boxes con-

3

structed in accordance with the invention, namely, type "A" which includes three doors that are side hinged, type "B" which includes two doors that are side hinged, type "C" which includes a single door extending across the width of the box that is hinged at the bottom so as to open horizontally, and type "D" which is identical to type "C" excepting that the side walls are double the height of the other boxes.

The basic construction of all of these boxes is identical comprising, a base 10 having downwardly extending flanges 12, side walls 14 that include inwardly extending upper flanges 16 and front flanges 18, and a pair of flanged stiffening and locating members 20. Preferably, these members are spot welded together to form the basic structure, the unflanged marginal edge of the side walls 14 being welded to the base flange 12 at each side with the members 20 welded to the upper flanges 16 so as to extend across the base in spaced apart relationship adjacent the front and rear of the box.

The flanged members 20 are slightly shorter in length than the width of the base 10 so that the flanges 16 of the side walls 14 extend beyond the members 20 at each side sufficiently to accommodate a double thickness of material, namely, the lower margin of the side wall 14 and the flange 12 of a similar box when they are mounted one above the other. This allows the boxes to be nested vertically one on top of the other and as the end flanges 22 of the members 20 are each provided with an opening 23 and the lower marginal edges of the side walls 14 and the flanges 12 of the base include U-shaped slots 24 adapted to register with these openings, the insertion of self tapping screws through the slots 24 and into the openings 23 secure the adjacent boxes firmly against vertical and horizontal displacement.

With particular reference to Figure 2, the basic structure of the base 10, side walls 14, and stiffening members 20 is now provided with a door frame 30 that is secured to the front wall flanges 18 so as to constitute a type "C" box.

A door 32 is hingedly connected to the door frame 30 as indicated at 33 (see Figure 5) so as to open outwardly in a horizontal direction and a pair of folding supporting lever arms 36 are connected between the door 32 and the frame 30 so as to support the door 32 substantially parallel with the base 10 when the door is in the open position. The door 32 includes a recessed opening 40 adapted to frame a suitable identification plate secured from the inner face of the door and a lock 42 is mounted on the door so that the striker engages the rear of the frame 30 as shown in Figure 8. The lock 42 is of the pin tumbler cylinder type and the striker 44 is spring mounted and is provided with a pin 46 extending from the lock casing 48 so that the striker 44 can be withdrawn from the interior of the box without the key. The lock casing 48 is designed specifically for the purpose having a wedge shaped rear surface 49 so as to allow mail to be withdrawn from the box without catching on the lock.

In the second box construction illustrated in Figure 2, namely, type "B," a flanged partition member 50 is mounted centrally of the base 10 and is secured to the base 10 and the stiffening members 20 so as to divide the box into two compartments. A pair of door frames 52 are secured to the side wall front flanges 18 and centrally to the front flanges of the partition

4

member 50. A door 54 having a recessed front opening 55 is side hinged to each of the frames 52 and locks 56 having strikers 58 are mounted on each door so that the striker 58 engages with the frame 52 when the door is locked, see Figure 4. The strikers 58 are spring biased and are each provided with an outwardly extending pin 60 so that they can be opened from the interior of the box.

The other construction illustrated in Figure 2, namely, type "A," is essentially the same as type "B" with the exception that two partition members 50 are provided and are arranged so that the box is divided into three separate compartments.

In this arrangement three door frames 60 are provided and are secured to the side wall front flanges 18 and to the front flanges of the partition members 50. A door 62 having a recessed opening 63 is side hinged to each of the door frames 60 and locks 56, similar to those used in the "B" type of box, are mounted on each door so as to have the strikers 58 engage with the frames 60.

The post office lock box constructions "A," "B," and "C" being constructed mainly of common basic parts, are all of equal overall outside dimensions so that they are interchangeable in any sequence desired.

The remaining post office lock box type "D" illustrated in the multiple unit assembly of Figure 1 is similar in construction to type "C" as previously described. The only difference is that the side walls 14 are twice the height of the side walls 14 used in the other constructions. This allows the unit "D" to be interchangeable, in that two boxes of type "A," "B," or "C" can be removed and replaced by a single box type "D" in any sequence desired. For example, a preferred size for the present boxes "A," "B," "C," is 12 inches wide by 5½ inches high by 14 inches deep, with the box "D" being 12 inches by 11 inches by 14 inches deep.

In the preferred constructions illustrated the door frames and doors are all of die case metal construction. The bevelled marginal edges and recessed identification plate openings of the doors and the hinge sections on both parts are formed in the casting process so that the frames and doors are readily interchangeable. The locks and identification plates are also interchangeable and are mounted on the various doors so that they can be easily removed from the interior of the box and changed for service or replacement.

On assembly, the various boxes "A," "B," "C," "D," are assembled one on top of the other in the required sequence and are secured together vertically with suitable screws as previously described. The assembled vertical units are then placed side by side and suitable bolts inserted through openings 70 provided in all the side walls 14 so as to secure the vertical units together horizontally as is shown in Figure 3. Preferably in installation as shown in Figure 1, a frame work "E" is provided that is adapted to surround the desired multiple unit construction so that the assembled boxes serve as a partition between the post office employees and customers with the open ends of all the boxes facing inwardly so as to provide access to each base from the rear.

It will be understood that other sizes of post office lock boxes could be made within the scope of the invention and still remain interchangeable with the constructions described. This could be accomplished by making such alternative boxes in

5

proportionate sizes, for example, double the width so as to be interchangeable with more than one standard size box.

I claim:

1. An interchangeable sheet metal post office lock box structure adapted for vertical and horizontal interconnection with adjoining boxes of the same construction, comprising, a base having on each side margin a downwardly extending side flange, a side wall adjoining each side of the base and having a portion overlapping said side flange and secured thereto, each side wall including an inwardly extending upper marginal flange and an inwardly extending front marginal flange, a pair of flanged stiffening plates extending between the side walls at the front and rear of the box, each stiffening plate including a base mounted on the upper marginal flanges of the side walls but spaced from the outside edges of said flanges, each stiffening plate including a front upwardly extending flange, a back upwardly extending flange and end flanges extending from a point adjacent to one of said upwardly extending flanges to a point spaced from said other upwardly extending flange thereby leaving a gap unflanged, the side walls formed at their lower margins with slots, the said end flanges formed with openings, the slots being adapted to register with openings in the end flanges of the stiffening plates of the box below, the openings being adapted to register with slots in the side walls of a box above, at least one door frame secured to said side wall front flanges and a door mounted on said door frame, openings in the side walls adapted to register with openings in the wall of the boxes beside it, said box being adapted to nest on a similar box underneath it and to be nested with a similar box above it and to be connected to similar boxes at each side, the lower margin of each side wall of the box being adapted to be connected to the end flanges of the stiffening plates of the next lower box, each side wall of the box being adapted to be connected to the side wall of horizontally adjoining boxes, the box also being adapted to be connected by the end flanges of its stiffening plates to the lower margin of the side walls of the box above it.

2. A box as claimed in claim 1, wherein the end flanges of said stiffening plates are spaced inwardly from the outer surfaces of said side wall

6

a distance equal to the combined thickness of said side wall and said base side flange.

3. An interchangeable sheet metal post office lock box as claimed in claim 1, wherein a single door is hinged to the bottom of said frame and there are folding support members between said door and frame adapted to support said door substantially parallel with said base when said door is open.

4. An interchangeable sheet metal post office lock box as claimed in claim 1, wherein there is a flanged partition member disposed centrally of said box base and extending parallel to said walls between said base and said stiffening plates, said partition member having a base, and side and end flanges extending from said base, a pair of door frames secured to said side wall front flanges and one of said partition end flanges, each of said frames extending substantially one half the width of said box, and a door hingedly mounted to each of said door frames so as to open parallel with said side walls.

5. An interchangeable sheet metal post office box as claimed in claim 1, wherein there are two flanged partition members positioned in equally spaced apart relationship on said box base and extending parallel to said side walls between said base and said stiffening plates, each of said partition members having a base and side and end flanges extending from said base, three door frames secured to said side wall end flanges and said partition end flanges, each of said door frames extending substantially one third of the width of the box, and a door hingedly mounted in each frame so as to open parallel with said side walls.

DAVID BECKER.

#### REFERENCES CITED

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

#### UNITED STATES PATENTS

| Number    | Name    | Date          |
|-----------|---------|---------------|
| 825,503   | Zylstra | July 10, 1906 |
| 1,612,335 | Wilhelm | Dec. 28, 1926 |
| 1,629,620 | Harmony | May 24, 1927  |
| 1,632,734 | Hammer  | June 14, 1929 |
| 1,735,379 | Content | Nov. 12, 1929 |
| 1,750,339 | Wood    | Mar. 11, 1930 |