Mar. 5, 1929.   F. J. MATCHETTE   1,703,944

SERVICE CABINET

Filed May 13, 1927   4 Sheets-Sheet 1

Fig. 1.

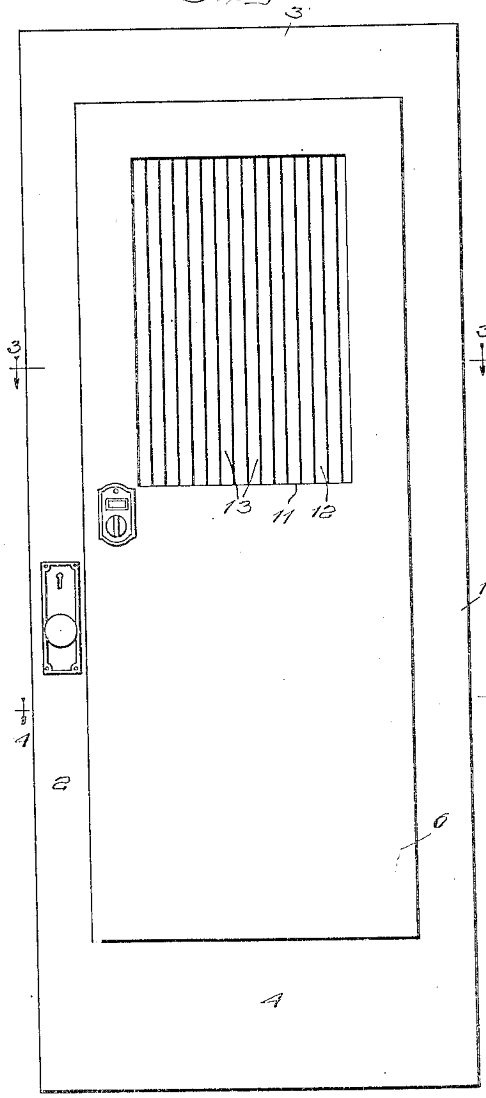


Fig. 2.

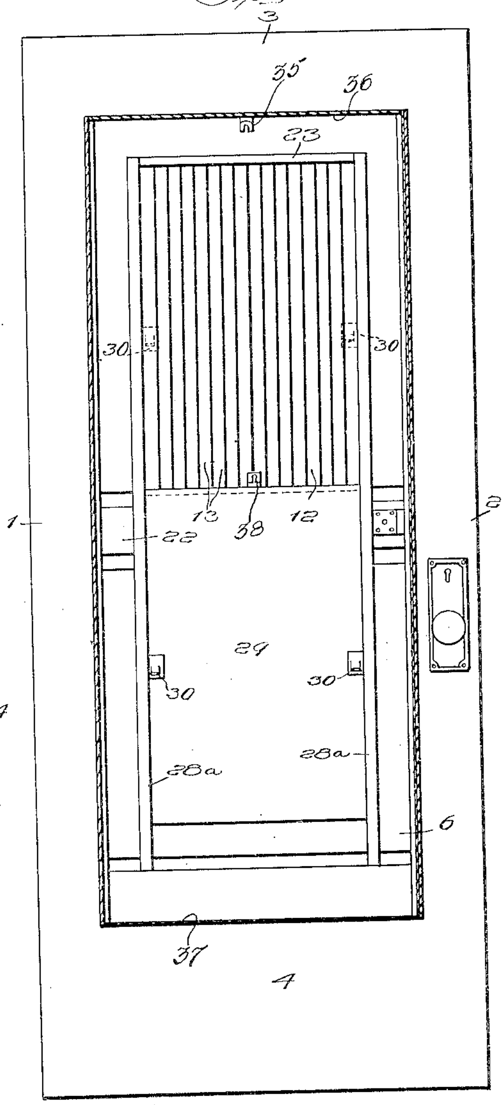
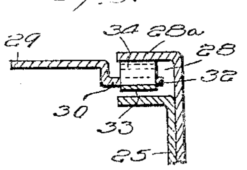


Fig. 11.



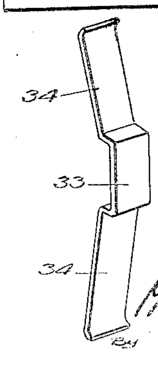


Fig. 12.

Witness:

William P. Kilroy

Inventor:

Frank J. Matchette

Brown Boettcher Dienner

Attys.

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SERVICE CABINET

Filed May 13, 1927 4 Sheets-Sheet 2

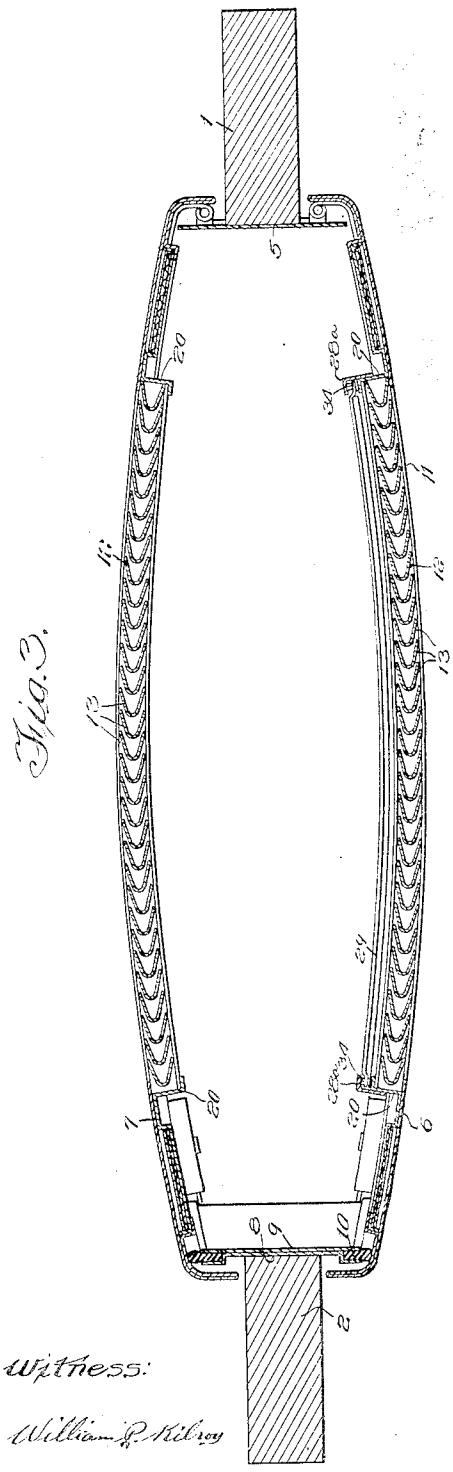

Fig. 3.

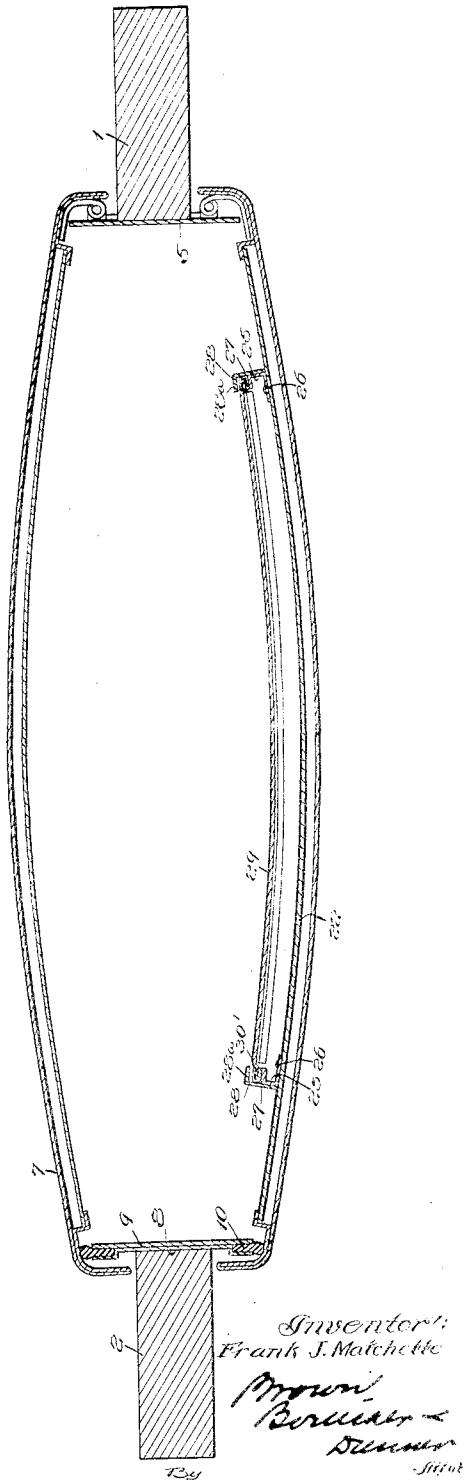

Fig. 4.

Witness:
William P. Kilroy

Inventor:
Frank J. Matchette
Brown, Berneder & Brenner
Atty

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SERVICE CABINET
Filed May 13, 1927 4 Sheets-Sheet 3

Fig. 5.

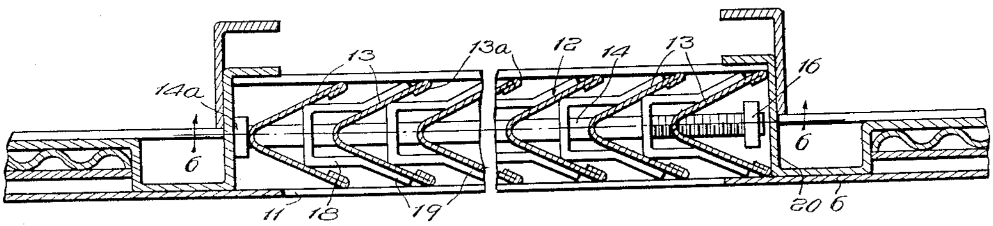


Fig. 6.

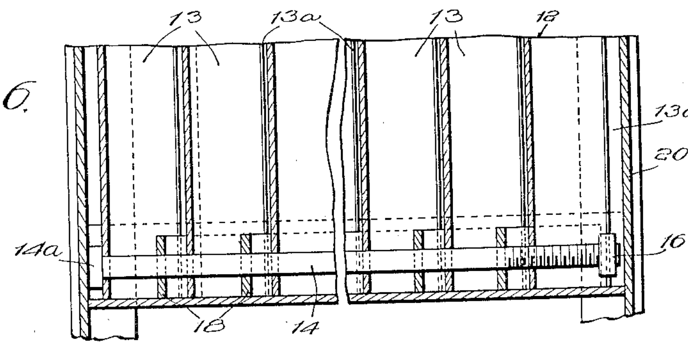


Fig. 7.

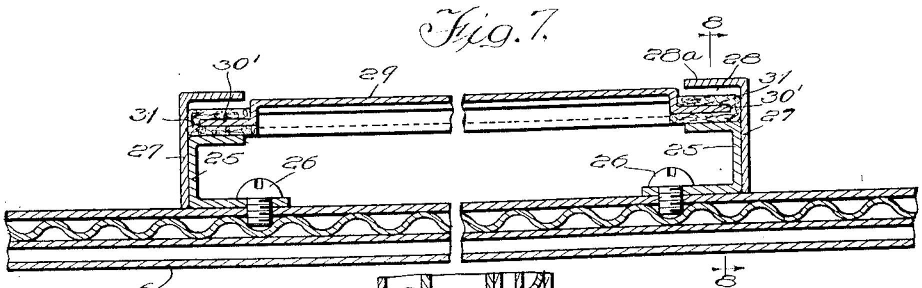
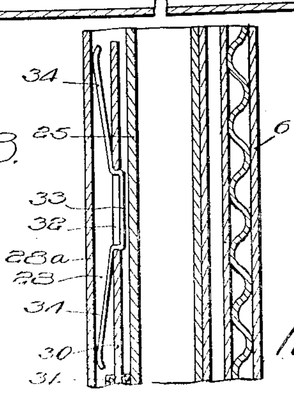


Fig. 8.



Witness:
William P. Kilroy

Inventor:
Frank J. Matchette
Brown Boettcher & Dienner
Attys.

Mar. 5, 1929. F. J. MATCHETTE 1,703,944

SERVICE CABINET

Filed May 13, 1927 4 Sheets-Sheet 4

Fig. 9.

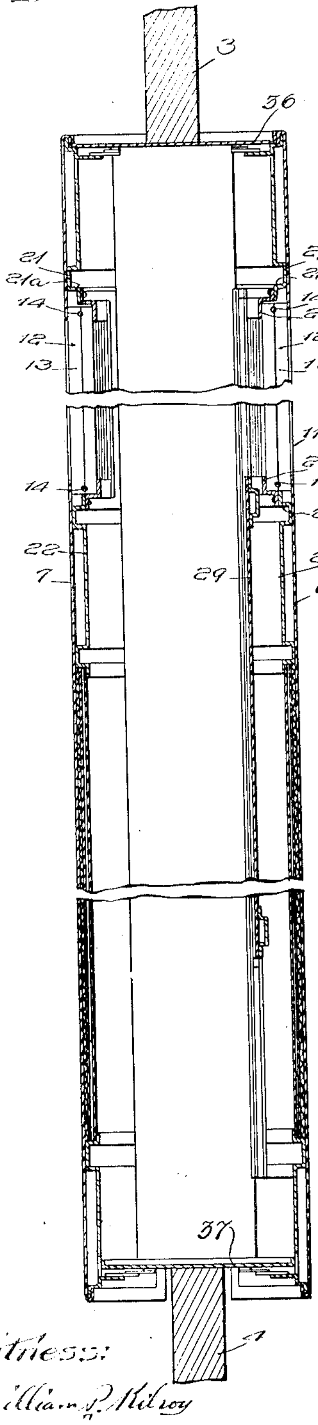
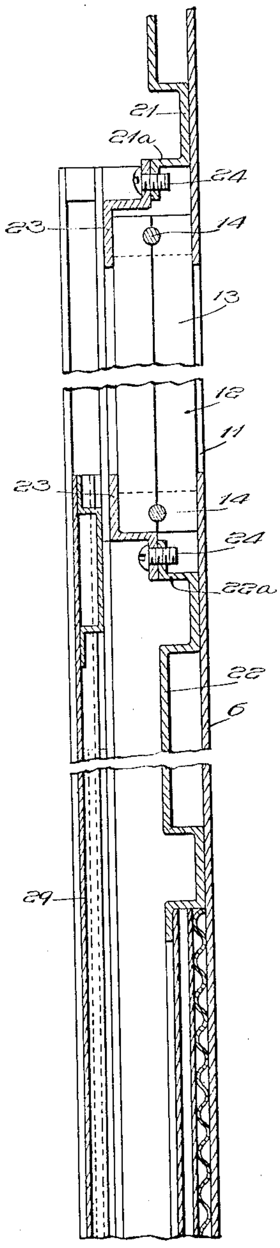


Fig. 10.



Witness:
William P. Kilroy

Inventor:
Frank J. Matchette
By Brown Boettcher & Dienner
Attys.

Patented Mar. 5, 1929. 1,703,944

UNITED STATES PATENT OFFICE.

FRANK J. MATCHETTE, OF NEW YORK, N. Y., ASSIGNOR TO THE SERVIDOR COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

SERVICE CABINET.

Application filed May 13, 1927. Serial No. 191,039.

This invention relates to service cabinets such as are used in hotels and similar places, and has more particular relation to ventilation means associated with such cabinets to permit ready ventilation through the door structure of the room or compartment to which the door is applied.

Cabinets of this type are now in extensive use and include, broadly, a main door frame having associated therewith supplemental doors hinged on the frame at opposite sides thereof and cooperating with the frame to form a service cabinet. An essential feature of this type of cabinet is that the supplemental doors permit access to the cabinet from either side thereof for inserting and removing articles therefrom, these supplemental doors maintaining at all time an effective barrier between the room and the hotel corridor so as to prevent vision into the room by persons in the corridor or by the employees of the hotel who insert articles into and remove articles from the cabinet. Due to the necessity for maintaining an effective barrier between the corridor and the room, at all times, it has been difficult to devise practical means for admitting air through the door structure for ventilating purposes while preventing vision into the room from the corridor. I have heretofore proposed several different ways for admitting air for ventilation purposes at the top and bottom of the door structure adjacent the ends of the cabinet proper. While these various forms of ventilating devices have proved efficient in many respects, I have found that it is possible to obtain greater ventilating efficiency by admitting ventilation air directly through the two doors of the cabinet. This construction is also less expensive than the previous ventilating constructions referred to and very materially decreases the cost of production of the ventilating type of door. I find that it is also possible, by properly constructing and arranging the elements of the ventilator structure, to produce a muffling effect which very effectively prevents, to a large extent, conversation or sounds in the room from passing through the door structure to the corridor, and vice versa. This is, of course, from a practical standpoint an important feature of my invention. Further objects and advantages of my invention will appear from the detail description.

In the drawings:

Fig. 1 is a side view of a ventilating door structure in accordance with my invention taken from the room side;

Fig. 2 is a view similar to Fig. 1 with the inner cabinet door removed, partly in section;

Fig. 3 is a section taken substantially on line 3—3 of Fig. 1;

Fig. 4 is a section taken substantially on line 4—4 of Fig. 1;

Fig. 5 is an enlarged fragmentary sectional view taken transversely of the ventilating structure of the outer cabinet door, looking down;

Fig. 6 is a section taken substantially on line 6—6 of Fig. 5;

Fig. 7 is a fragmentary horizontal sectional view taken through the lower portion of the outer door;

Fig. 8 is a fragmentary section taken substantially on line 8—8 of Fig. 7;

Fig. 9 is a vertical transverse sectional view through the cabinet structure;

Fig. 10 is a fragmentary vertical sectional view through the lower portion of the outer door and the panel member;

Fig. 11 is a fragmentary detail sectional view through the panel member and associated parts, showing the manner of mounting the holding spring; and

Fig. 12 is a perspective detail of one of the panel member holding springs.

The cabinet structure includes a main door frame comprising the hinge stile 1, the lock stile 2, and the top and bottom rails 3 and 4, respectively. This frame is of rectangular shape and is hingedly mounted in the opening of the door frame in a known manner. A hinge plate 5 is secured to stile 1 and hingedly supports the inner and outer cabinet doors 6 and 7, respectively, mounted thereon. These doors are constructed of sheet metal and are curved or bowed transversely, the distance between the doors when closed decreasing uniformly from the center of the cabinet toward the sides thereof. The particular manner of construction of these doors is set forth in detail in my copending application, filed May 18, 1927, Serial No. 191,040. A plate 8 similar to plate 6 is secured to the lock stile 2 and cooperates with a second plate 9 secured thereto to form pockets for reception of sealing and cushion strips 10 of felt or other

suitable material for limiting movement of the doors 6 and 7 in closing direction and effecting an air tight closure therewith.

Each of the cabinet doors 6 and 7 is provided with an opening 11 through the upper portion thereof for ventilation purposes. This opening is illustrated as of rectangular shape and occupies the greater portion of the upper part of the door, though, obviously, the opening can be of any suitable shape or size desired. A ventilator structure 12 extends across the opening 11 from top to bottom thereof, this structure serving to admit air through the door while effectually preventing vision between the members or slats of the ventilator through the opening 11 from either side of the door. The ventilator structure includes a plurality of slat members 13 which are formed of resilient sheet metal of suitable gauge and temper. These slat members are disposed with their vertexes similarly directed and their arms in overlapping relation. This construction is more clearly illustrated in Fig. 5. These slat members are connected, adjacent their upper and lower ends, by connecting rods 14 passing through the slat members which are provided with openings extending through their vertexes of slightly greater diameter than the rods. The rod is provided at one end with a flat head 14ª and is threaded at its other end for reception of a nut 16. Spacers 18 formed of sheet metal are mounted upon the rods between the slats, each of these spacers including a U-shape body portion and angularly disposed arms 19 extending from the ends of the body portion, these arms being parallel with the arms of the adjacent slats and in contact therewith. The outermost slats of the ventilator structure project into retaining angle elements 20 projecting inwardly from the door, these elements being spaced away from the adjacent edges of opening 11, and the portions of the door adjacent the opening cooperating with the elements 20 to form channels which retain the ventilator structure and confine it laterally.

Referring to Fig. 10, reinforcing ribs 21 and 22 are secured to the inner face of door 6 and extend transversely thereof above and below the opening 11. These ribs are provided with inwardly projecting angle flanges 21ª and 22ª, respectively. These flanges receive retaining strips or members 23 of substantially Z-shape in cross section, the inner flanges of which project over the inner faces of the slats 13 at the upper and lower ends thereof, the free edges of these strips being disposed in the plane of the upper and lower edges of the opening 11. The retaining strips are secured to their supporting flanges by screws 24, these screws also serving to force the strips toward the door. In assembling the ventilator structure, the proper number of slats 13 and spacers 18 are placed loosely upon the rods 14, in alternate relation, after which the nuts 16 are threaded loosely upon the rods. This assembly forms the slat unit which is then placed in position by bowing the rods 14 inwardly away from the inner face of the door. This is readily effected by first inserting the rearmost slat 13 in the rear channel element 20, the vertex of this slat, as well as of the other slats of the unit, being directed forwardly of the door. This serves to anchor one side of the slat unit so that the rods can be readily moved inwardly as described and the vertex of the other side slat can be inserted into the forward channel element 20. After this has been done the central portion of the slat unit is pressed outwardly so as to cause the rods to bow in the reverse direction, that is to bow outwardly to conform to the curvature of the door transversely thereof. After this has been done, the securing strips 23 are secured in position and forced toward the outer plate of the door by the screws 24. The normal width of the base of each slat 13 is somewhat greater than the distance between the inner face of the door plate and the inner face of the inner flange of securing strip 23. By the normal width of the base of the slat I mean the width or distance between the outer face of the arms of the slat at the base thereof after the slat has been completely formed and prior to insertion of the slat unit in the door structure. Ordinarily I prefer to have this width $\frac{1}{32}$ inch greater than the distance between the door and the flange of securing strip 23, though this difference may vary considerably. As the strips 23 are forced into position by the screws 24, the arms of the slats 13 are compressed so as to be placed under tension, the corners of the spacers 18 providing, in effect, fulcrum elements about which the base end portions of the arms of the slats are flexed. This flexing of the arms, combined with the bowing of the rods 14, serves to maintain the slats under constant tension so as to effectually prevent any looseness or play thereof. The connecting rods 14 are also held against any play or looseness by the slats, due to the bowing of these rods, combined with the bending of the slats. This provides a very highly efficient ventilator structure in which the slats and all parts associated therewith are held securely in position and any objectionable noise or rattling due to looseness or play of parts is eliminated. Referring to Fig. 5, it will be noted that the head 14ª of rod 14 fits snugly against the inwardly projecting arm of the angle element 20, and the base ends of the arms of the rearmost slat 13 abut the inwardly projecting arm of the rear angle element 20. It will thus be seen that the slat unit is very securely

anchored against movement transversely or longitudinally and is maintained under constant tension, the various elements of this unit cooperating to effectually eliminate all looseness or play of parts. This is of particular importance as eliminating any undesirable or unpleasant rattling such as would occur in a metal structure of this character if there were any loose parts. Preferably, though not necessarily, the edge portion of each arm of each slat 13 is bent inwardly upon itself at 13a to provide a rounded edge so as to present a neat appearance and also avoid sharp exposed edges which would be undesirable in a structure of this character.

As previously stated, and as illustrated in Figs. 3 and 5, the slats 13 are disposed with their vertexes similarly directed and their arms in overlapping relation. This arrangement of the slats is of importance as it very effectually prevents vision through the ventilator structure in any direction while permitting ready flow of air therethrough for ventilation purposes. This arrangement of the slats is also of value in that sound waves cannot readily pass through the ventilating structure without abruptly changing their direction of travel a number of times. The slat unit thus constitutes, in addition to a ventilating structure, a muffler which serves to a very effectually muffle sounds or conversation in the room or in the corridor which is, of course, very desirable. By providing both doors of the cabinet with the ventilating structure illustrated and described, it is possible to admit a large volume of air into the room through the doors of the cabinet for ventilating purposes while maintaining at all times an effective barrier between the corridor and the room, as previously pointed out. This is true even if the outer door of the cabinet be open, as it is impossible to see through the ventilating structure of the inner door, as pointed out. When both doors of the cabinet are in normal closed position, the ventilator structures not only serve to prevent vision into the room from the corridor but they also have a very decided muffling effect which very effectually prevents sound or conversation from passing through the door structure in either direction.

To permit the occupant of a room to close the ventilator structure when desired, I provide a panel or closure member slidably mounted on the inner face of the outer door 6 for movement into and out of position to close the opening 11. Channels 25 are secured to the inner face of door 6 and form continuations of the inner portion of the angle elements 20, these channels being secured in position by suitably spaced screws 26 threading through the inner plate of the door structure. Angle guide strips 27 are secured to the inner portions of the elements 20 and to the panel 25 and form therewith guide channels 28 extending from a point adjacent the bottom of door 6 to the top of opening 11. A sheet metal closure member or panel 29 is slidably mounted in the channels 28, this panel being of a length and width to completely cover and close the opening 11 when in full raised position. To facilitate movement of the panel into and out of operative position lifts 30 of suitable type are secured to the inner face thereof. When the panel is in full raised position it closes the opening 11 of the outer door so as to prevent entry of air therethrough. By adjusting the panel at intermediate positions the ventilation may be regulated as desired.

It is desirable that means be provided to prevent any looseness or rattling of the panel such as would cause objectionable metallic noises. With this object in view I provide the lateral flanges 30′ of the panel, which operate in the channel 28, with cushion elements 31 of felt, or other suitable material which is bent about the flanges and secured thereto by a suitable adhesive, or in any other suitable or preferred manner. Each flange 30 is provided, between the strips 31, with rectangular openings 32 which receive correspondingly shaped central portions 33 of leaf springs, the arms 34 of which bear against the inner faces of the inner flanges 28a of the channels 28 and hold the flanges of the panel snugly against the inner flanges of channels 25 and elements 20. The free ends of the arms 34 of the spring are arched or rounded to eliminate possibility of binding of the springs, as illustrated. The springs and the strips co-act to prevent any looseness or play of panel member 29 while permitting ready adjustment thereof into desired positions. In this connection, the springs and felt strips also co-act with the elements of the guide channels to hold the panel in adjusted position. Preferably, though not necessarily, the body portion of the panel is of channel shape in both transverse and longitudinal section so as to provide a channel of great strength and rigidity which is light and can be readily adjusted. By mounting the panel 29 on the inner face of the outer door, the occupant of the room can obtain ready access to the panel for regulating the ventilation as desired and is at no time visible to persons in the corridor or outside of the door structure. Referring more particularly to Fig. 2, a coat hook 35 of suitable type is secured to the plate or shelf 36 of the cabinet, this plate being preferably of channel cross-section and secured to the top rail 3. A similar plate or shelf 37 is secured to the bottom rail 4, both of these shelves being of approximately elliptical shape to fit snugly between the cabinet doors when they are closed. Panel 29 is

provided at its upper end with a coat hook 38 to receive a coat or other garment when the panel is in either partially or completely lowered position. This permits of a garment being suspended within the cabinet when the slide is open without obstructing flow of air through the ventilator structure. When the panel is in closed position, garments may be suspended from hook 35. The doors of the cabinet are provided with suitable locks, such as those disclosed in my Patent 1,393,149 of October 11, 1921, which cooperate with a suitable interlock arrangement, such as that disclosed in my Patent 1,403,559 of January 17, 1922, whereby simultaneous opening of both of the cabinet doors is prevented. This provides a service cabinet construction in which an effective barrier is maintained at all times between the room and the corridor, as previously referred to. Any suitable arrangement of locks and interlocks, however, may be employed for this purpose, and changes in construction and arrangement of parts of the invention may be resorted to without departing from the field and scope of the same, and I intend to include all such variations, as fall within the scope of the appended claims, in this application in which the preferred form only of my invention is disclosed.

What I claim is:—

1. In combination, a door provided with an opening for ventilation, a plurality of slat members extending across the opening in spaced relation, said members being disposed and adapted to prevent vision therebetween from either side of the door to the other side thereof, and means for securing the slat members against relative movement, said securing means maintaining the slats under constant pressure preventing looseness or play thereof.

2. In combination, a door provided with an opening for ventilation, a plurality of slat members of substantially V-shape in cross-section extending across the opening in spaced relation with their vertexes similarly directed and their arms in overlapping relation, and means for securing the slat members against relative movement, said means subjecting said slat members to transverse pressure and the slat members being resilient to be maintained under constant tension and held against undesirable looseness or play.

3. In combination, a door provided with an opening for ventilation, angle members secured to the door adjacent the sides of the opening and forming with the adjacent portions of the door lateral retaining channels, a plurality of slats of substantially V-shape in cross-section extending across the opening in spaced relation with their vertexes similarly directed and their arms in overlapping relation, the terminal ones of the slats extending into said channels, and means for securing the ends of the slats and for simultaneously subjecting them to transverse pressure, said slats being resilient.

4. In combination, a door provided with an opening for ventilation, a plurality of slats extending across the opening in spaced relation with their vertexes similarly directed and their arms in overlapping relation, and means at the ends of the slats for supporting the slats and for securing them in position, the slats being resilient and said means subjecting said slats to transverse pressure.

5. In combination, a door provided with an opening for ventilation, a plurality of resilient slats of substantially V-shape in cross-section extending across the opening in spaced relation with their vertexes similarly disposed and their arms in overlapping relation, means for confining the slats laterally, and strips secured to the door adjacent the top and bottom of the opening, said strips coacting with the door to secure the ends of the slats and to subject the slats to transverse pressure.

6. In combination, a door provided with an opening for ventilation, a plurality of resilient slats of substantially V-shape in cross-section extending across the opening with their vertexes similarly directed and their arms in overlapping relation, connecting rods extending through the slats, spacers mounted on the rods between the slats, means confining the outermost slats laterally, and means for securing the ends of the slats and for exerting transverse pressure thereon to maintain said slats under constant tension.

7. In combination, a door provided with an opening for ventilation, a plurality of resilient slats of substantially V-shape in cross-section extending across the opening with their vertexes similarly directed and their arms in overlapping relation, connecting rods extending through the slats, spacers mounted on the rods between the slats, members secured to the door and forming therewith channels receiving the outermost slats, and means for securing the ends of the slats to the door and for compressing the slats transversely.

8. In combination, a door provided with an opening for ventilation, angle holding members secured to the door adjacent the sides of the opening, slats extending across the opening in spaced relation, the outermost slats being confined laterally by the angle members, means securing the ends of the slats, angle guide members secured to the holding members and forming therewith guide channels, and a panel member slidably mounted in said channels for movement into and out of position to close said opening.

9. In combination, a main door frame defining an opening, doors hingedly mounted

on the frame at opposite sides thereof and forming with said frame a service cabinet, each of the doors having an opening for ventilation, slats secured across said openings in spaced relation, and a panel member slidably mounted on the inner face of one of said doors for movement into and out of position to close said opening.

10. In combination, a main door frame, doors hingedly mounted on the frame at opposite sides thereof and forming with said frame a service cabinet, said doors being provided with ventilation openings, slats secured across said openings and adapted and disposed to prevent vision through the openings from either side of the frame, and a panel member slidably mounted on the inner face of one of the doors for movement into and out of position to close the opening thereof.

11. In combination, a main door frame, doors hingedly mounted on the frame at opposite sides thereof and forming with the frame a service cabinet, each of said doors having a ventilation opening, substantially V-shaped slats secured across the openings in spaced relation with their vertexes similarly directed and their arms in overlapping relation, and a panel member slidably mounted on the inner face of one of said doors for movement into and out of position to close said opening.

12. In combination, a door provided with an opening for ventilation, a plurality of slats extending across the opening and disposed in overlapping relation, said slats being resilient and capable of being distorted transversely, and means for securing the slats at their ends and for subjecting them to transverse pressure.

13. In combination, a door provided with a ventilation opening, a plurality of substantially V-shaped resilient slats extending across the opening with their arms in overlapping relation, spacers disposed between the ends of the slats and in contact with the arms thereof, and means for securing the ends of the slats and for exerting pressure on the outer portions of the arms thereof, said securing means maintaining the slats under tension.

In witness whereof, I hereunto subscribe my name this 4th day of May, 1927.

FRANK J. MATCHETTE.