Oct. 19, 1926. 1,603,404

G. PROCTOR

LATCH FOR VESTIBULES OR CABINETS

Filed March 26, 1925 2 Sheets-Sheet 1

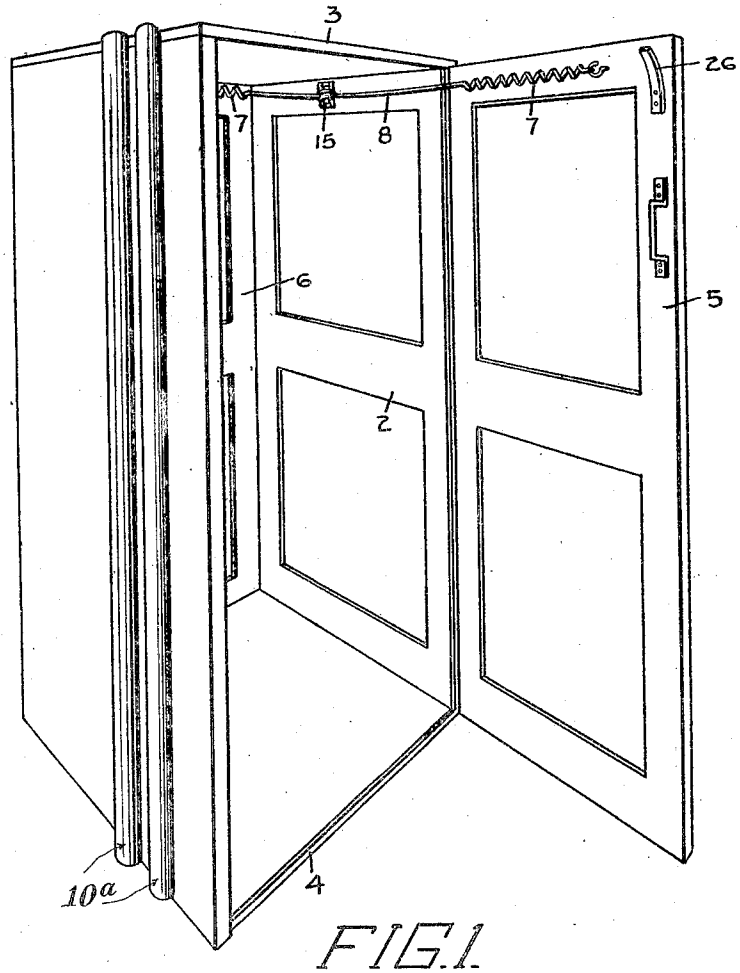


FIG. 1.

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LATCH FOR VESTIBULES OR CABINETS

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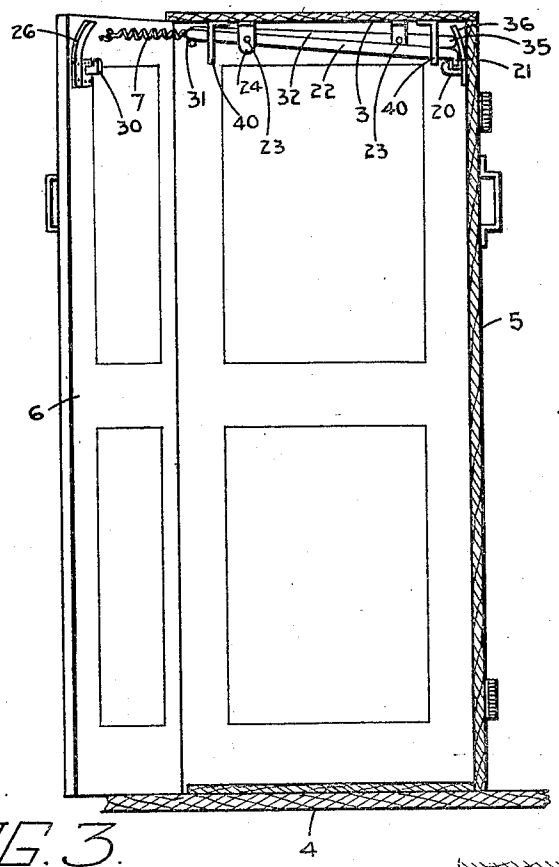


FIG. 3.

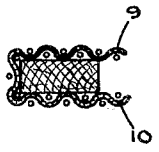


FIG. 7.

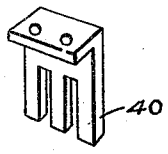


FIG. 6.

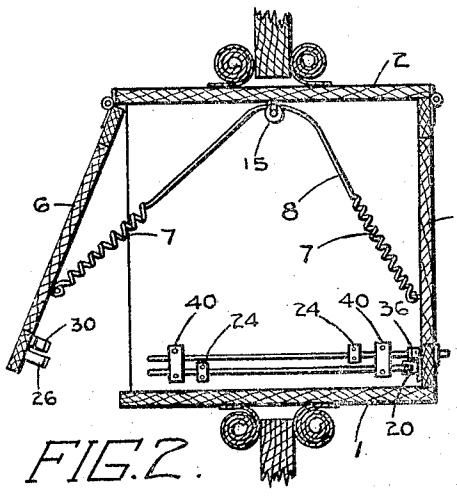


FIG. 2.

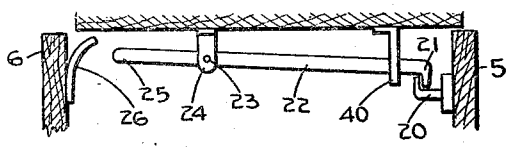


FIG. 4.

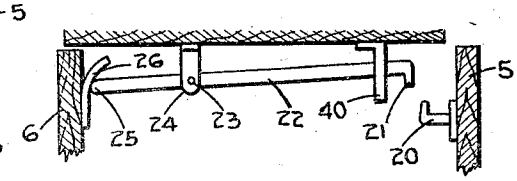


FIG. 5.

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UNITED STATES PATENT OFFICE.

GEORGE PROCTOR, OF TORONTO, ONTARIO, CANADA.

LATCH FOR VESTIBULES OR CABINETS.

Application filed March 26, 1925, Serial No. 18,507, and in Canada March 29, 1924.

The object of my invention is to construct a portable or temporary vestibule or cabinet that can be conveniently transported from place to place and readily set in position or installed to intercept communication through any selected doorway or passage and thus shut off the corresponding room or section of the building from the remainder of the premises so that:—

(*a*) In the case of infectious or contagious diseases the patient and attendant may be isolated, in the sick room or that part of the building assigned to the patient and attendant; and

(*b*) Where quiet is essential sounds emanating from or passing to any particular room or part of the building may be intercepted and deadened so that in the case of sickness the patient will not be disturbed by noises exterior to the sick room and in music conservatories and educational institutions the instructors and pupils will be free from outside disturbances.

In the preferred construction the cabinet comprises a strong skeleton frame, two sides and the top of which are covered with textile fabric and lined internally with similar material, this material in the case of infectious or contagious diseases being saturated with disinfectant solution which may be renewed from time to time. The other two sides of the cabinet are each closed by a hinged door opening outwardly from the interior of the cabinet. One of these doors shuts off the interior of the cabinet from the isolated room and the other of the doors shuts off the interior of the cabinet from the passage, hall or adjoining room with which the isolated room is connected.

A positive latching device is provided for preventing either door being opened until the other is tightly closed so that air currents from the isolated room will be intercepted by, and detained in, the cabinet and thus prevented in the case of sickness from carrying infection into the adjoining part of the building, such air currents as may pass into the cabinet from the isolated room being chemically purified while detained in the chamber by the disinfectant sprayed on said textile fabric material, this positive latching of one door in closed position when the other is opened being advantageous to the successful performance of the intended functions of the invention.

For an understanding of the invention reference is to be had to the following description and to the accompanying drawings in which:—

Fig. 1 is a perspective view of a portable vestibule or cabinet constructed in accordance with the present invention,

Fig. 2 is a transverse section of the same,

Fig. 3 is a vertical section,

Fig. 4 is a view of the latching device with the door closed,

Fig. 5 is a view of the same latching device with the door partly opened,

Fig. 6 is a detail view of one of the guide brackets, and

Fig. 7 is a fragmentary section showing the inner and outer coverings of textile fabric material with a chemically treated air space between them.

Like numerals of reference indicate like parts throughout the specification and drawings.

In the preferred construction the portable vestibule or cabinet consists of two side frames 1 and 2, a top frame 3 and a floor frame 4. The floor frame is broader from side to side of the doorways than the top frame 3 so that the doors 5 and 6 swing at an angle and tend to automatically close by gravity. The doors are preferably arranged at opposite sides of the vestibule but they can be arranged in such sides of the vestibule as is most convenient for providing access to and from the compartment.

Interior of the cabinet are two springs 7. One end of each spring is connected to a curved wire 8 passing around a pulley 15 anchored to the cabinet and the other end of each spring is anchored to its respective door. The tension of these springs assist the gravity closing of the doors. The doors, sides and the top of the cabinet are constructed of skeleton frames covered externally with fabric material 9 and interiorly lined with similar material 10. This fabric material may be extended beyond the cabinet and attached to the floor, walls and door

frame of the building. In Fig. 1 two rolls 10^a of fabric material are shown to be attached to the top and sides of the vestibule or cabinet and sufficiently spaced apart to receive the door frame to which they are to be attached. This fabric material can be extended if desired to the floor adjacent to the vestibule and to the side walls and ceiling of the building when it is desired to isolate a section of the building and form an enclosed space around the doorway of the apartment through which all air emanating from the apartment must pass before having access to the other parts of the building.

In Fig. 2 the doors are shown in their closed position and to prevent the two doors being simultaneously opened each door is provided with a latching device controlled by the opening and closing of the opposite door. As shown in Fig. 4 each latching device comprises a hook-shaped keeper or locking member 20 secured to the door 5 and engaging with this hook-shaped keeper or locking member 20 is an arm 21 of a pivoted bar 22. The bar 22 rocks on a pivot or fulcrum 23 inserted through a bracket 24 secured to some convenient part of the cabinet frame and the end 25 of the bar 22 extends to and is engaged by a curved plate 26 secured to the door 6. The fulcrum or pivot 23 is so located that that part of the bar 22 between the pivot 23 and the arm 21 is longer than that part of the bar between the pivot 23 and the end 25. Thus the tendency of the arm 21 is to fall by gravity into the keeper 20. The curved plate 26 is so located and arranged that when the door 6 is closed it engages the end 25 of the bar 22 and bearing down upon the end 25 raises the arm 21 out of engagement with the keeper 20. When the door 6 is moving to an open position the curved plate 26 travels away from the end 25 of the bar 22 and disengaging it enables the arm 21 to drop by gravity into the keeper 20 and this engagement of the arm 21 with the keeper prevents the door 5 being opened until the door 6 has again been tightly closed. The travel of the door 6, to the slightest extent, from its closed to its open position releases the plate 26 from the end 25 so that the latching engagement of the arm 21 with the keeper 20 is practically instantaneous. The door 6 is likewise provided with a keeper 30 into which enters the arm 31 of a latch bar 32, similar in respect to construction and action to the bar 22, and fulcrumed or pivoted at 33 to the bracket 34. The end 35 of the bar 32 is engaged by a curved plate 36 attached to the door 5. When the door 5 is opened the plate 36 releases the end 35 of the bar 32 and the arm 31 then drops into the keeper 30 and holds the door 6 in its closed position. Consequently the slightest opening movements of either of the doors 5 or 6 disengages the curved plates 26 and 36 from the ends 25 and 35 of the bars 22 and 32 respectively and immediately these plates disengage the ends of their respective bars the arms 21 and 31 drop into the keepers and latch the opposite doors against further opening movement.

In the use of the vestibule or cabinet the door through which the entrance is made is opened and while this door is opened the other door is latched. The entrance door may then be manually closed or in the event of it not being manually closed it will automatically close by gravity assisted by the action of the spring. When it is tightly closed the curved plate engages the end of the latch bar for the other door and depresses that end to disengage the arm from the keeper. Both doors are then released by the latch mechanism and either one can be opened for exit. The door through which the exit is made and the latch mechanism for the other door act in the manner described. Suspended from the top of the cabinet are guide brackets 40 which permit of the oscillating movement of the latch bars and prevent their lateral movement so that the arms 21 and 31 will move in a fixed path and positively engage the keepers.

By this means one part of the building can be shut off from another and all direct atmospheric communication with the two parts can be interrupted. Thus when the cabinet is used the interrupted passage of the atmospheric currents tends to eliminate sound disturbances and when the cabinet is used for isolation purposes the interrupted air currents are delayed for a sufficient period within the cabinet to become disinfected.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a vestibule or cabinet two sides of which are each closed by a hinged door opening outwardly from the interior of the cabinet, a latching device, for preventing the two doors being simultaneously opened, comprising a keeper secured to each door and two pivoted latch members each fulcrumed interjacent its ends and adapted to engage by gravity with its respective keeper, a releasing member secured to each door for engaging the pivoted latch member for the other door and so located and arranged that when the door is closed it maintains the pivoted latch member for the other door out of engagement with its respective keeper and when the door is opened it releases the pivoted latch member for movement into engagement with its respective keeper.

2. In a vestibule or cabinet two sides of which are each closed by a hinged door opening outwardly from the interior of the

cabinet, a latching device, for preventing the two doors being simultaneously opened, comprising a hook-shaped keeper secured to each door, two pivoted latch members, each fulcrumed interjacent its ends and adapted to engage by gravity with its respective keeper, a curved plate secured to each door for engaging the pivoted latch member for the other door and so located and arranged that when the door is closed it bears upon said pivoted latch member and raises it out of engagement with its respective keeper and when the door is opened it moves out of engagement with said pivoted latch member so that it can move by gravity into latching engagement with its respective keeper.

Dated at the said city of Toronto, this 20th day of March, A. D. 1925.

GEORGE PROCTOR.