May 26, 1931. A. McGAVIC 1,806,637

LOUVER DOOR

Filed April 20, 1927

FIG. 1

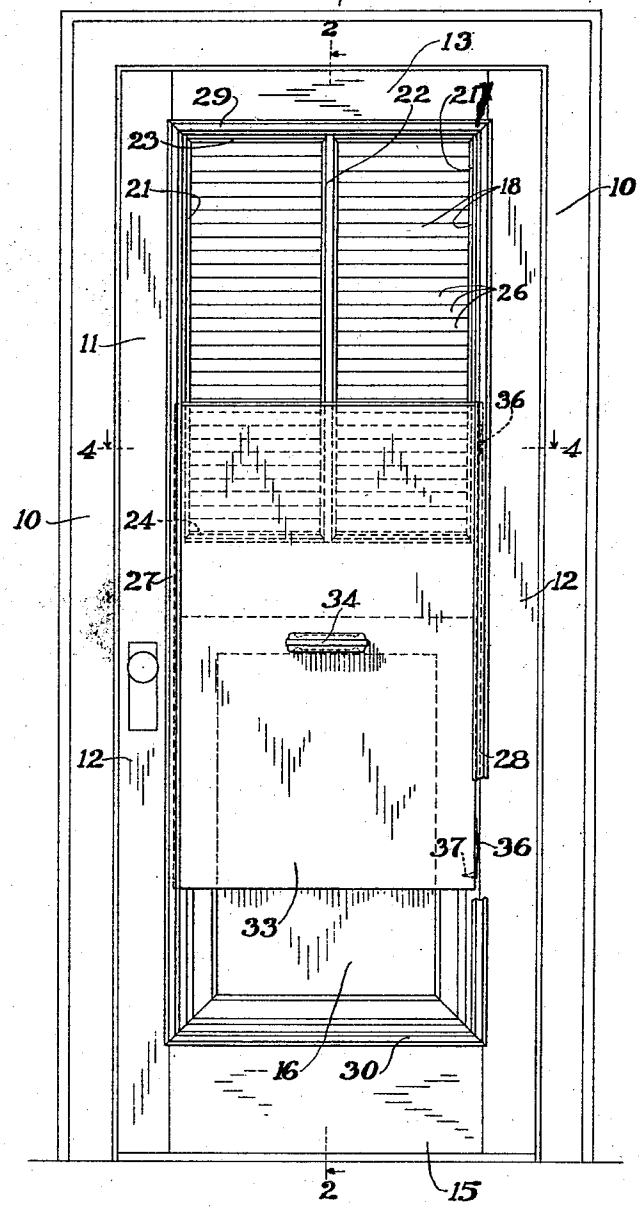


FIG. 3

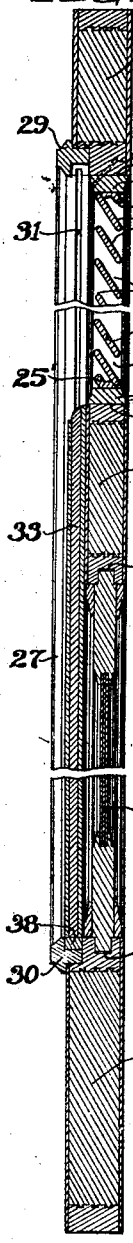


FIG. 2

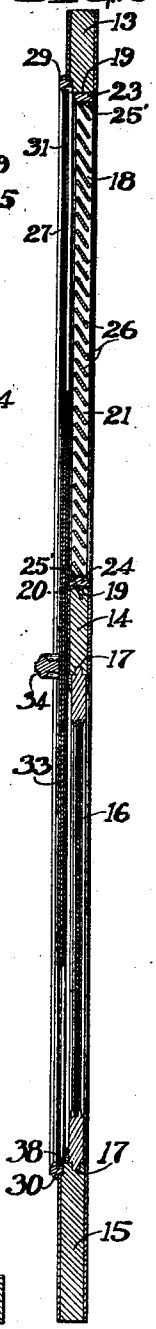
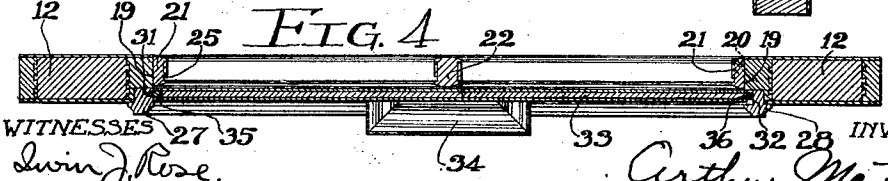


FIG. 4



WITNESSES

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Patented May 26, 1931 1,806,637

UNITED STATES PATENT OFFICE

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LOUVER DOOR

Application filed April 20, 1927. Serial No. 185,233.

It has been customary in hotels and apartments to provide, in addition to the usual entrance door for the main doorway of each room, a louver or slat door in the same doorway to afford ventilation during the warmer months, the auxiliary door being either swung back against the corridor wall during the cooler months or else removed entirely. This condition has necessitated two sets of doors, representing a substantial investment in the case of large buildings. It has then been proposed to employ entrance doors having metal louvers mounted thereon for ventilation, but the use of metal louvers has proved generally unsatisfactory both because of their appearance and inability to furnish adequate ventilation during the summer months. It has also been proposed to provide louver entrance doors of wood but they have been of such construction as to be unsatisfactory in use and objectionable in appearance.

It is an object of the present invention to provide a louver entrance door of wood construction for hotels and apartments, capable of affording ample ventilation to obviate the need for the usual transom over the doorway, and of such character as to insure quietness in use, privacy to the occupants of the room, smooth and easy manipulation for adjustment of ventilation, and pleasing appearance.

Another object of the invention is to perfect details of the louver door including a sliding panel by which ventilation is regulated.

The invention further consists in the several features hereinafter set forth and more particularly defined by the annexed claims.

In the accompanying drawings, Fig. 1 is an elevation of a louver door embodying the invention, as viewed from the interior of the room, the louvers being partially closed;

Fig. 2 is a longitudinal sectional elevation of the door at a slightly larger scale taken on the line 2—2 of Fig. 1;

Fig. 3 is a similar fragmentary sectional view on a still larger scale with the louvers fully opened; and

Fig. 4 is a transverse sectional view of the door taken on the line 4—4 of Fig. 1.

In these drawings, the numeral 10 designates a door casing of a hotel or apartment room, in which is hingedly mounted for swinging movement the louver door 11 embodying the invention. The louver door 11 comprises a pair of stiles 12 joined by an upper rail 13, an intermediate rail 14, and a bottom rail 15, all of which may be formed of veneered core stock. A fixed door panel 16 occupies the space between the stiles 12 and the intermediate and lower rails 14 and 15 and has a permanent tongue and groove connection 17 with these members.

A fixed louver frame 18 is let into the rectangular opening 19 formed between the stiles 12 and the top and intermediate rails 13 and 14, and is secured therein, preferably in slightly recessed relation, by nails 20 driven diagonally through the marginal portions of the louver frame and into the surrounding and abutting rails and stiles. The louver frame comprises a pair of side upright strips 21 and an intermediate centrally-disposed upright strip 22 which are joined by horizontal top and bottom strips 23 and 24, respectively. The inner side faces of the side upright strips 21 and both side faces of the central upright strips 22 are provided with shallow inclined parallel slots 25, which have closely fitting therein the ends of horizontal wooden slats or louvers 26, the lower edge of any one louver being lower than the upper edge of the subjacent louver, and the upper edges of the louvers being on the room side of the door. At the upper and lower end of each set of louvers, an auxiliary louver strip 25′ is secured to the interior face of the louver frame, not only to impart a finished appearance to the louver frame, but to avoid the appearance of peep-forming cracks along the edges of the end louvers, since the louvers are of wood and somewhat flexible.

The inner or room side of the door is recessed or rabbeted along the inner edges of the stiles and upper and lower rails to receive therein portions of flanged molding strips 27, 28, 29 and 30, which together form an elongated rectangular upright frame, the molding strips 27 and 28 being disposed vertically along the stiles and the molding strips 29 and

30 being disposed horizontally along the top and bottom rails, respectively. The inner face of the upright molding strip 27 at one side of the door is provided with a narrow longitudinal channel 31 preferably V-shaped in cross-section, while the upright molding strip 28 at the other side of the door is of T-shaped section and forms with the rabbeted corners of the stile a channel 32 preferably somewhat wider than the channel 31.

A slide panel 33, preferably formed of a sheet of veneer, has its opposite side edges disposed in the channels 31 and 32 in the upright molding strips 27 and 28 and is provided with a handle or lift 34 by which it may be moved up and down. One side edge of the panel includes a narrow tongued hardwood strip 35 which slidably fits in the V-shaped channel 31, while the opposite side edge of the panel is provided with a pair of spaced longitudinally-extending springs 36, one end of each spring being secured to the edge of the panel by a screw 37 and the intermediate portion of the spring being arched to slidably engage the bottom of the channel 32 and thus laterally urge the tongued edge 35 of the panel into the channel 31. In this manner the panel is guided for smooth vertical sliding movement without unnecessary play or opportunity for rattling, and sufficient friction is afforded to maintain the panel at any adjusted position. The panel may be readily placed in the door by laterally urging the panel into the channel 32 against the action of the springs 36 to permit the entrance of the tongued strip 35 into the channel 31 at the opposite side. In order to avoid the accumulation of dust or other foreign matter in the lower molding strip 30, a filler strip 38 is placed within the molding strip groove and forms an abutment for the lower edge of the panel 33 in its lowermost position.

When the panel is in its lowermost position the upper edge thereof is at the bottom edge of the louver frame 18 so that all the louvers are then fully exposed to afford a maximum of ventilation. When it is desired to partially close the louvers, the slide panel 33 is drawn upwardly by the handle 34 to the intermediate positions of Figs. 1 and 2, where the panel is frictionally retained, and when it is desired to completely close the louvers, the slide panel is lifted to its uppermost position in which the upper edge of the frictionally held panel enters the inner groove of the upper molding strip 29.

The veneered slide panel 33 has vertically grained outer laminæ while the interior wood has a horizontal grain, which permits the upper edge of the interior wood layer to be molded or rounded, as seen in Fig. 3, thereby affording the appearance of an inserted molding. At one side edge of the panel the horizontally grained interior wood layer is removed to permit the insertion of the tongued hardwood strip 35, heretofore described, which affords a smooth durable sliding surface.

The intermediate rail 14 is thinner than the upper and lower rails 13 and 15, the inner face of this rail being substantially flush with the bottom of the shallow recess receiving the thin slide panel 33, while the outer face of the rail is flush with the outer face of the other rails and stiles. The outer face of the door has no louver parts projecting from its plane, while on the inner or room face of the door the molding strips 27, 28, 29 and 30 project slightly and form a neat rectangular frame within which the depressed slide panel is unobtrusively mounted. Both the inner and outer faces of the door thus present a pleasing substantial appearance having no suggestion of bulkiness or make-shift construction.

What I claim as new and desire to secure by Letters Patent is:

1. A louver door comprising a pair of spaced stiles, top and bottom rails joining said stiles, an intermediate rail joining said stiles and of lesser thickness than the top and bottom rails and having its inner face depressed from the plane of the inner face of the door, the inner marginal edge portions of said stiles and top and bottom rails being rabbeted at the inner face of the door substantially to the plane of the depressed inner face of said intermediate rail, a fixed panel closing the space between said stiles and the intermediate and lower rails, a fixed louver frame occupying the space between said stiles and the upper and intermediate rails, there being upright channels on the inner side of said door adjacent the rabbeted inner edge portions of said stiles, and a panel vertically slidably movable in said channels to close said louver frame when in its upper position and to expose said frame when in a lower position.

2. A louver door comprising spaced stiles and spaced rails joining said stiles, a fixed panel extending between said stiles at the lower portion of the door, a fixed vision-obstructing louver frame extending between said stiles at the upper portion of the door, there being upright channels on the room side of said door adjacent said stiles, a ventilation-regulating panel vertically slidably movable in said channels and having a V-shaped edge fitting in one of said channels against lateral movement, arched springs secured to one side edge of said panel and slidably engageable with the bottom of one of said channels for laterally urging the opposite edge of said side panel into its channel, said movable panel in its upper position serving to close said louver frame and in a lower position to expose said louver frame, and said movable panel being laterally displaceable in its plane to compress said springs at one edge

for effecting the clearance of the opposite edge with respect to its channel to thereby permit the initial placement of said panel into its channels.

3. A louver door comprising a pair of spaced stiles, top and bottom rails joining said stiles, a fixed stationary panel extending between said stiles at the lower portion of the door, a fixed stationary vision-obstructing louver frame extending between said stiles at the upper portion of the door, flanged strips secured along the inside edge portions of said stiles and rails on the room side of the door to form a vertically-extending rectangular frame and presenting opposite facing longitudinal channels, a filler strip disposed along the inner side of the molding strip at the bottom rail and having an end extending into the channel of the adjacent vertical molding strip, and a ventilation-regulating panel vertically slidably movable in said channels and serving to close said louver frame in its upper position and to expose said louver frame when in a lower position.

4. A louver door comprising a pair of spaced stiles, top and bottom rails joining said stiles, a fixed stationary panel closing the space between said stiles at the lower portion of the door, a fixed stationary vision-obstructing louver frame occupying the space between said stiles at the upper portion of the door, the inside edge portions of said stiles and rails on the room side of the door being rabbeted, flanged molding strips disposed in said rabbeted portions of said stiles and rails to form an upright rectangular frame, some of said molding strips being of T-shaped cross-section with their legs extending into the rabbeted portions of said stiles and rails and the vertical molding strips along said stiles presenting opposite facing longitudinal channels, and a ventilation-regulating panel vertically slidably movable in said channels and serving to close said louver frame when in its upper position and to expose said louver frame when in a lower position.

In testimony whereof, I affix my signature.

ARTHUR McGAVIC.