May 26, 1936. T. W. BAILEY 2,042,246

DOOR

Filed Aug. 7, 1933

Fig. 1.

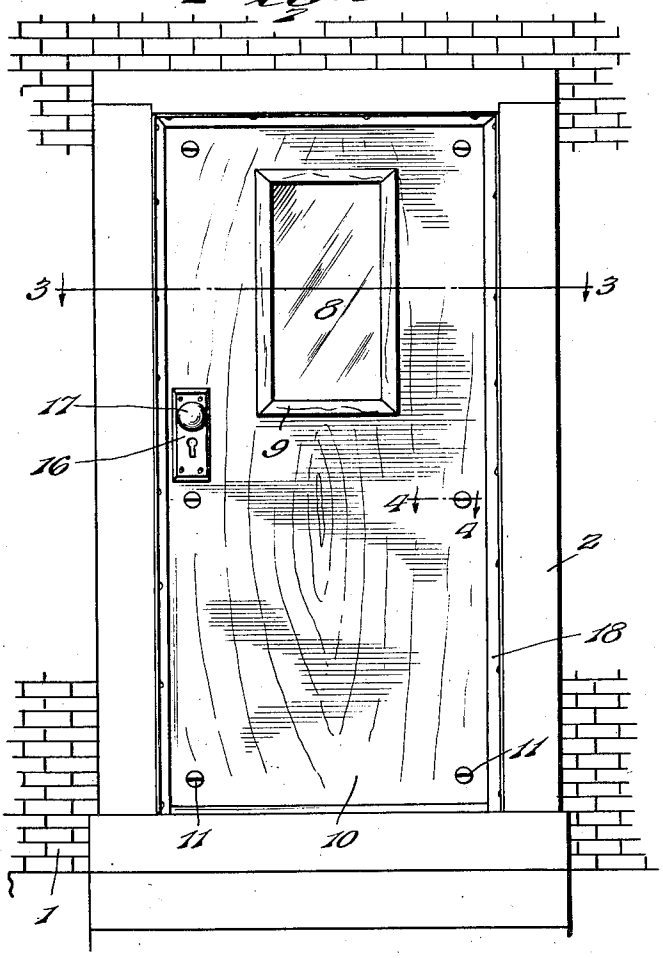


Fig. 2.

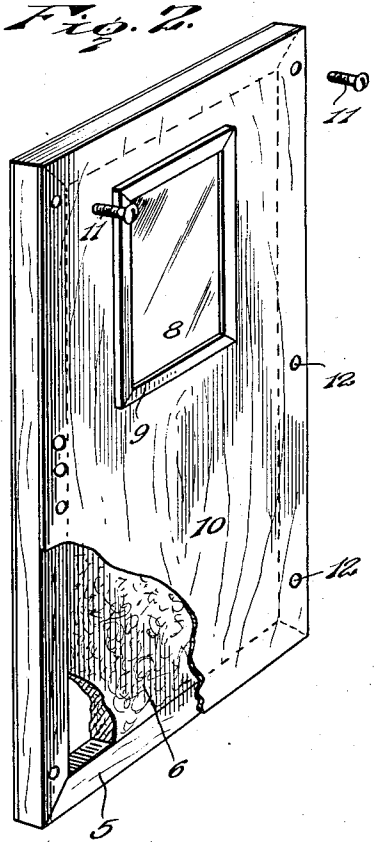
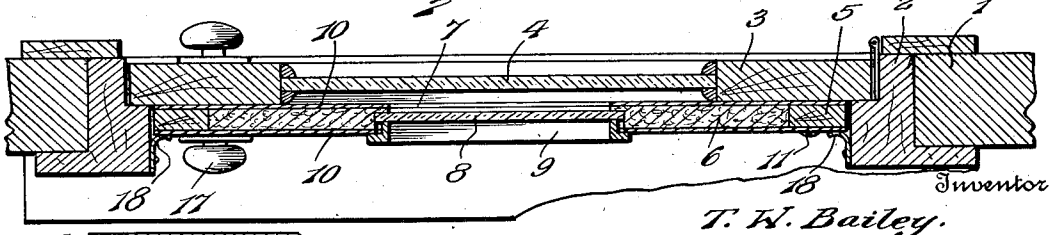


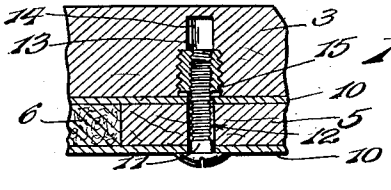
Fig. 3.



Inventor

T. W. Bailey.

Fig. 4.



By Lacey & Lacey Attorneys

Patented May 26, 1936 2,042,246

UNITED STATES PATENT OFFICE

2,042,246

DOOR

Thomas W. Bailey, Royal, Iowa

Application August 7, 1933, Serial No. 684,071

1 Claim. (Cl. 20—36)

This invention relates to doors and has for its object the provision of means whereby extremely cold outside temperatures will be resisted so that the inside temperatures of a building or room will be easily maintained. The invention provides a panel of heat insulating material which may be readily applied to or removed from an entrance door to move with the door and will act to effectually retain the higher inside temperatures within the room and prevent the formation of frost upon the glass panels of the entrance door. The invention is illustrated in the accompanying drawing and will be hereinafter fully described, the novel features being particularly pointed out in the appended claim.

In the drawing,

Figure 1 is an elevation of a door having the invention applied thereto,

Figure 2 is a perspective view of the insulating panel removed from the door,

Figure 3 is a section on the line 3—3 of Figure 1, and

Figure 4 is a detail section on the line 4—4 of Figure 1.

In the drawing, the reference numeral 1 indicates the wall of the building and the numeral 2 denotes a door frame set in the wall at any point while 3 is an entrance door mounted in the door frame in the usual or any preferred manner, the door being illustrated as having a glass panel 4 therein.

In carrying out the present invention, there is provided a panel consisting of a frame 5 which is preferably rectangular and may be composed of wood, as will be understood. This frame is of such dimensions that it will extend through the entire height and width of the door 3 and fit closely within the door frame 2, as will be understood upon reference to Figure 3. The frame is filled with a body 6 which may be asbestos, wood pulp, or any composition fiber board, which is practically impervious to cold and this body 6 may be provided with an opening 7 corresponding to the position of the glass panel 4 in the door 3, which opening will receive a glass plate 8. The glass plate 8 may be secured in the body 6 in any convenient manner, and I have illustrated in Figure 3 a rabbet in the walls of the opening 7 against which the glass pane seats, and a frame 9 set against the outer face of the pane at the margins thereof and overlapping the outer side of the panel so as to impart a pleasing appearance to the panel. The composition or fiber body 6 is confined between two thin plates or lamina which are secured to the inner and outer sides of frame 5 in any preferred manner and extend over the entire area of the frame so that the body will be closely confined and an attractive appearance will be imparted to the panel.

The panel is placed flat against the outer face of the door 3 and is secured thereto by bolts 11 inserted through openings 12 provided therefor in the panel and having their inner ends engaged in anchors 13 which are seated in sockets 14 in the door 3. These sockets are short sleeves threaded both externally and internally and provided at their outer ends with grooves or notches 15 to be engaged by a screw driver whereby the anchors may be secured in the sockets provided therefor in the door. When the bolts 11 are inserted through the openings 12 and turned home in the respective anchors, the panel will be firmly secured directly against the outer face of the entrance door, as shown clearly in Figure 3 and as will be understood. In summer, when the panel will not be needed, the bolts may be removed and the panel set aside. The bolts may then be re-engaged in the anchors and turned home against the outer sides of the same so that the holes will not be prominent in the door to present an unsightly appearance.

The panel will be provided at a proper point with an escutcheon plate 16 and suitable openings to accommodate the spindle of the door lock and the key for the same, the outer door knob 17 being consequently disposed at the outer side of the panel so that the panel will, for all practical purposes, be a part of the entrance door.

In order to avoid the leakage of cold air around the edges of the panel and the main door, weather strips 18 are secured upon the door frame to bear against the outer face of the panel, as clearly shown in Figure 3, so that a snug fit will be obtained.

In cold climates, extremely low temperatures affect the interiors of buildings and rooms so that it has been very difficult to maintain a comfortable temperature within a building. Frequently, frost will form on the inner surface of an entrance door and when the temperature of the room rises this frost will melt and the moisture will flow down over the surface of the door so that the door is frequently warped and becomes unsightly and loses its efficiency as a closure for the door frame. To meet these conditions, storm doors have been used but these storm doors are inefficient and are, furthermore, objectionable for the reason that they are mounted independently of the entrance door and must be opened and closed separately from the entrance door so

that a person passing into or from a building is subjected to inconvenience and delay. Frequently the storm door is blown shut violently by a strong wind and thereby broken and loses its utility. These objections are all overcome by the use of my panel which is secured directly to the door and moves as a part of the same. The panel may be attached to and detached from the door as often as desired without disfiguring the door or having the threads of the anchors or the anchoring bolts worn away. Actual use of the invention has demonstrated that the formation of frost and moisture on the inside of the entrance door is positively prevented and the entrance of extremely cold temperatures is overcome. A dead air space is formed between the panel and the glass of the entrance door which prevents the gathering of frost on the inside of the door and consequently overcomes the lowering of the temperature which is due to this frosting. The panel can be attached to any old door as well as to new doors without disfiguring the same and will not add such weight to the door as will cause it to tear from its hinges or otherwise work unsatisfactorily.

I have shown and described what I now believe to be the best embodiment of the invention but it must be understood that the invention is not limited to the precise details illustrated and various changes may be made therein within the scope of the appended claim.

Having thus described the invention, I claim:

A cold excluding panel for a door comprising a bordering frame, inner and outer facing sheets having their marginal portions secured against said frame with the frame between the facing sheets, opposed sight openings being formed in the facing sheets, a packing of insulating material filling the space between the facing sheets defined by the bordering frame, a transparent sheet between the opposed openings having its margins embedded in the insulation, and a securing frame for the transparent panel having portions overlapping the outer facing sheet about the sight opening thereof and other portions extending through the said sight opening and bearing against the transparent sheet to firmly hold the same in place, means being provided for securing the cold excluding panel flat against the outer face of a door with the sight opening and transparent sheet in opposed relation to a sight opening and transparent sheet of the door.

THOMAS W. BAILEY.