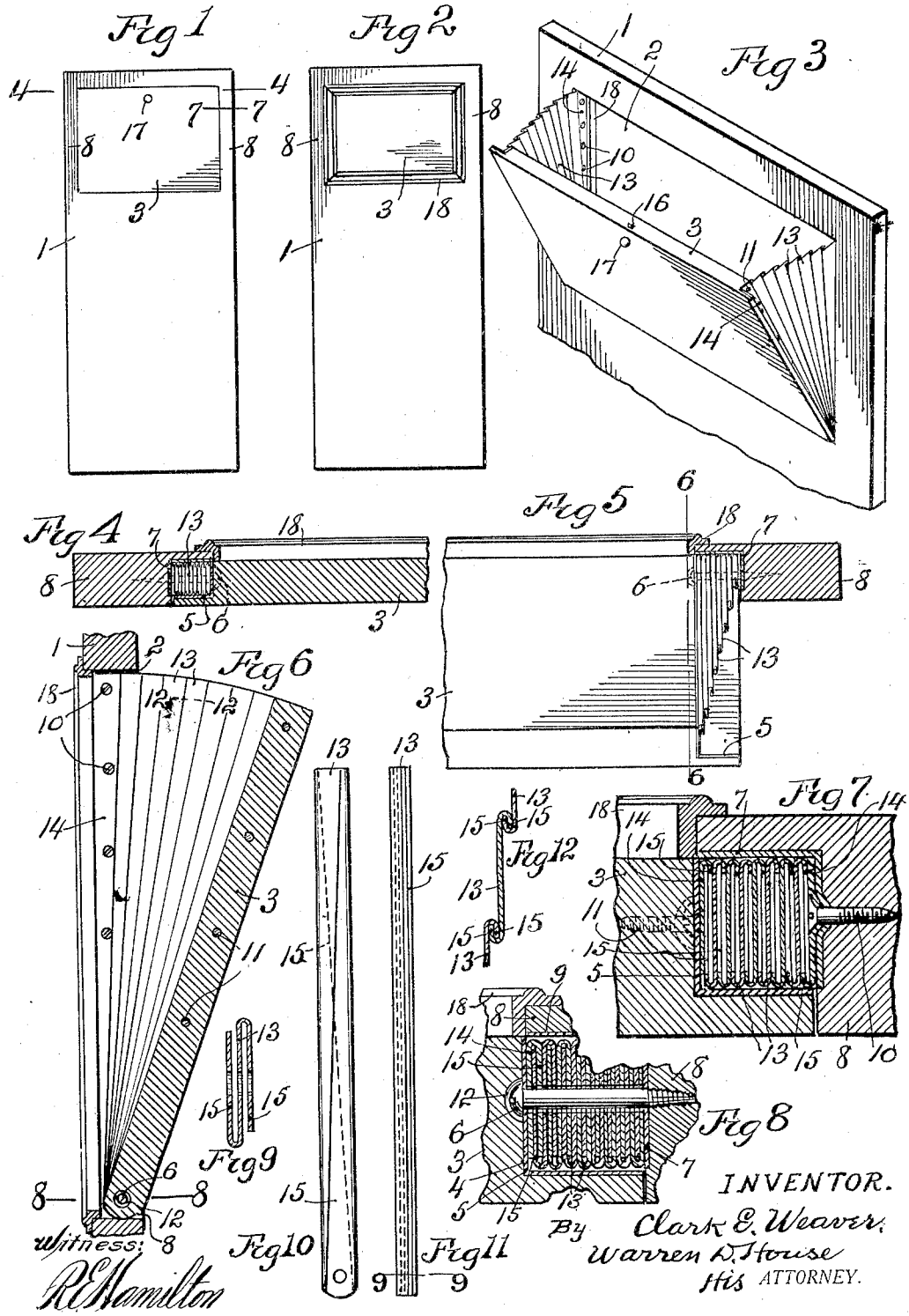
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VENTILATOR

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VENTILATOR

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My invention relates to improvements in ventilators of a type adapted for use in connection with doors, sashes or transoms.

One of the objects of my invention is to provide a novel ventilator of the kind described, which is novel, simple, cheap, durable, not liable to get out of order, which will afford good ventilation and will permit of the elimination of transoms, while affording their functions, which may be applied to doors or sashes, and which, when applied to a door will not, when in the closed position, change the appearance of the door from that of an ordinary door, which is easy of application and which is efficient in its operation.

My invention provides further a novel door provided with my improved ventilating means.

The novel features of my invention are hereinafter fully described and claimed.

In the accompanying drawing, which illustrates the preferred embodiment of my invention,

Fig. 1 is an elevation of a door, looking at one side thereof, which is provided with my improved ventilator.

Fig. 2 is an elevation of the same, looking at the opposite side thereof.

Fig. 3 is a perspective view, enlarged, showing a portion of a door provided with my improvement, the closure being shown in the open position.

Fig. 4 is an enlarged horizontal section on the line 4—4 of Fig. 1, showing a portion of the door and ventilator, the closure being shown in the closed position.

Fig. 5 is an enlarged section on the plane of the line 4—4 of Fig. 1, showing a portion of the door and ventilator, the closure being shown in the open position.

Fig. 6 is a section on the line 6—6 of Fig. 5.

Fig. 7 is an enlarged section on the line 7—7 of Fig. 1.

Fig. 8 is an enlarged section on the line 8—8 of Fig. 6.

Fig. 9 is an enlarged section on the line 9—9 of Fig. 11.

Fig. 10 is a side elevation of one of the intermediate wing members.

Fig. 11 is an edge elevation of the same.

Fig. 12 is an enlarged section on the line 12—12 of Fig. 6.

Similar reference characters designate similar parts in the different views.

In the application of my improved ventilator to a door, an ordinary door 1 is provided with an opening 2 therethrough, directly under the top rail of the door.

My improved ventilator is mounted in the opening 2 and comprises the following described parts.

3 designates a rectangular member, which may be composed of wood or other suitable material, and which is adapted to be pivotally mounted at its lower edge in and to serve as a panel of the door and as a closure for the opening 2.

For pivotally mounting the closure 3, opposite edges of the closure 3 are each provided, at the same side of the closure, with a groove 4, Figs. 7 and 8, in which is mounted an angle bar 5, through which extends a horizontal pivot screw 6, which extends through an angle plate 7 and into the adjacent stile 8 of the door. The angle plate 7 is mounted in a vertical groove 9 in the stile 8. The angle plate 7 is fastened by screws 10 to the stile 8, Figs. 6 and 7.

The angle plates 5 are fastened by screws 11 to opposite edges respectively of the closure 3, Figs. 3, 6 and 7. The closure 3 is provided at each end edge with a recess 12 for receiving the head of the adjacent pivot screw 6, Figs. 4, 5, 6, 7 and 8.

For the purpose of closing the space between the stiles 8 and the closure 3 at opposite sides of the opening 2, when the closure 3 is in the open position, shown in Figs. 3, 5 and 6, and for providing an air passage communicating with the opening 2, for ventilation purposes, I provide two wings, preferably folding, one set of edges of which are fastened to the closure 3 at opposite end edges thereof respectively, and the other set of edges of the wings being attached to the stiles 8 respectively.

In the preferred embodiment of my invention, shown in the drawings, each wing comprises a plurality of intermediate members

13 and two end members 14. The end members 14 are respectively fastened to the stiles 8 by the screws 10, the other end members 14 being respectively fastened to the angle plates 7 by the screws 11, Figs. 5, 6, and 7.

The members 13 of each wing are pivoted adjacent to their lower ends on the adjacent screw 6 and are slidably movable and overlap each other, so as to assume the folded position shown in Figs. 4, 7, and 8, or to be spread to the open position shown in Figs. 3, 5 and 6.

For limiting the spreading of the wings the following described means are provided. Each end member 14 of each wing is provided at one longitudinal edge with a fold flange 15 which is longitudinally tapering, and which diverges toward the pivoted end of said member from the opposite end thereof. In like manner the longitudinal edges of each member 13 are respectively provided with similarly diverging fold flanges 15, which are respectively disposed at opposite sides of said member.

The fold flanges 15 of each intermediate member 13 respectively interlockingly and slidably engage the adjacent fold flanges of the adjacent members.

This arrangement of the members 13 and 14 permits the members to be always engaged with each other, and enables them to be folded to the positions shown in Figs. 4, 7 and 8, and the flanges 15 by engagement with each other limit the spreading movement of the wings to that shown in Figs. 3, 5 and 6. The wings and closure 3 also provide an air passage in communication with the opening 2 in the door 1, for ventilation.

When the closure 3 is in the closed position, the door at both sides presents the appearance of an ordinary panel door, the wings being entirely hidden in the recesses afforded by the grooves 9 in the stiles 8 and the grooves 4 in the closure 3 and being disposed wholly between the sides of the door.

To releasably hold the closure 3 closed, any suitable means may be provided, as a catch 16, actuated by a knob 17, and adapted to engage the rail at the upper end of the door.

Mouldings 18 may be fastened to the door 1 around the opening 2 at the outer side of the door, assuming that the closure 3 is at the inner side of the door.

Screening of the opening 2 may be effected without any interference with the ventilator.

With the use of my improvement, there need be, for ventilation purposes, no transoms over the doors provided with the ventilators.

The members 13 and 14 may be of sheet metal, and the closure 3 and door 1 may also be metal, if desired.

In the operation of the invention, to open the closure 3 it is but required to release the catch 16 and pull on the knob 17. The wings being expansible, the closure will swing to the open position in which it will be held by the members 13 and 14. To close the closure 3 it is only needed to push it to the vertical position, upon which the wings will collapse to the folded position, and the catch 16 will hold the closure 3 shut.

I do not limit my invention to the structure shown and described, as many modifications, within the scope of the appended claims, may be made without departing from the spirit of my invention.

What I claim is:—

1. A ventilator wing comprising a plurality of members pivoted to each other adjacent to one set of ends and movable one upon the other to and from a folded position, each end member having at its inner longitudinal edge a fold flange which diverges toward the pivoted end of said member from the opposite end thereof, each intermediate member having at opposite longitudinal edges and at opposite sides thereof two flanges respectively interlocked and having sliding engagement with the adjacent flanges of adjacent members, each of said two flanges diverging in width toward the pivoted end of the member from the opposite end thereof, said end members being adapted to be respectively attached to a support and to a member hinged to said support.

2. A door having an opening therethrough just below the top rail and between and extending to the stiles of the door, a molding extending around and extending over the edges of said opening at one side of the door, a panel hinged to the body of the door at the lower edge of the said opening and adapted to be swung from an open position to a closed position closing said opening and in the closed position abutting against said molding, opposite side edges of said panel having at the side of the panel next to said molding two longitudinal grooves respectively, the inner side edges of said stiles having, at the side of the door opposite to said molding two longitudinal grooves co-operating respectively with the grooves in the panel to form, when the panel is closed, two closed housings, and folding wings connecting the side edges of the panel with the inner edges of said stiles, and, in the closed position of the panel being disposed wholly within said recesses respectively.

In testimony whereof I have signed my name to this specification.

CLARK E. WEAVER.