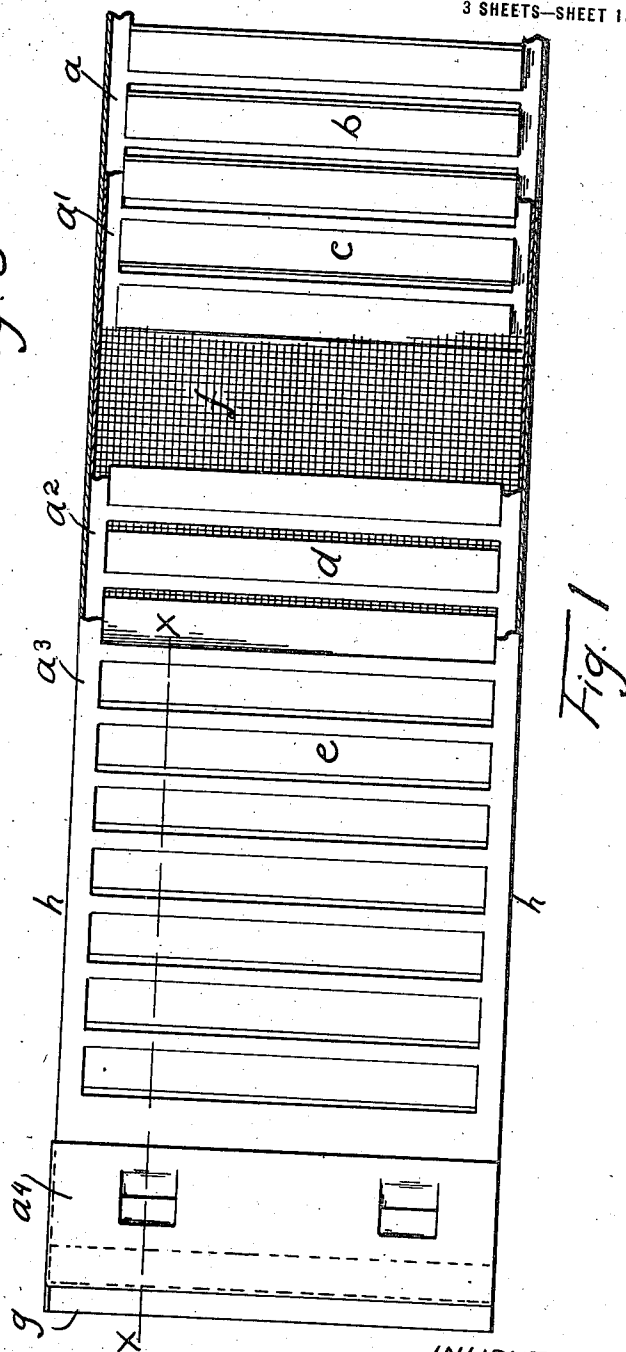
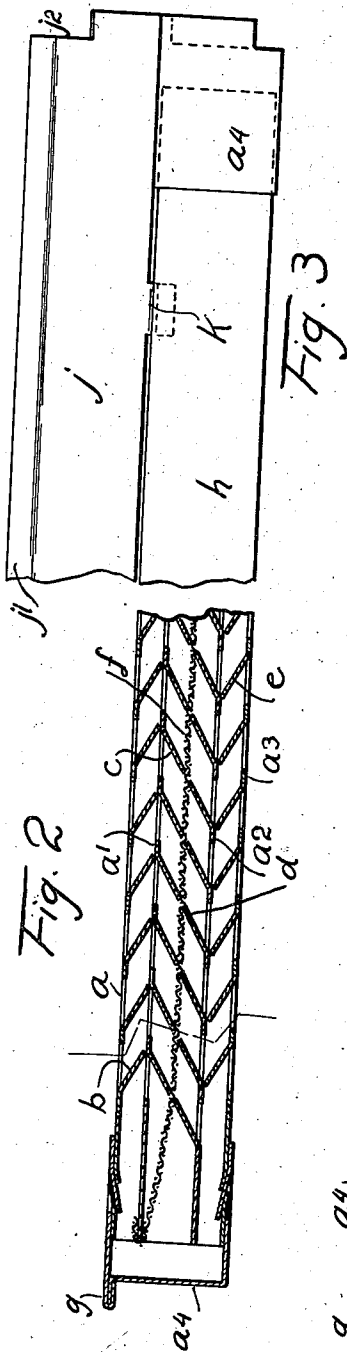


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VENTILATOR.
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3 SHEETS—SHEET 1.



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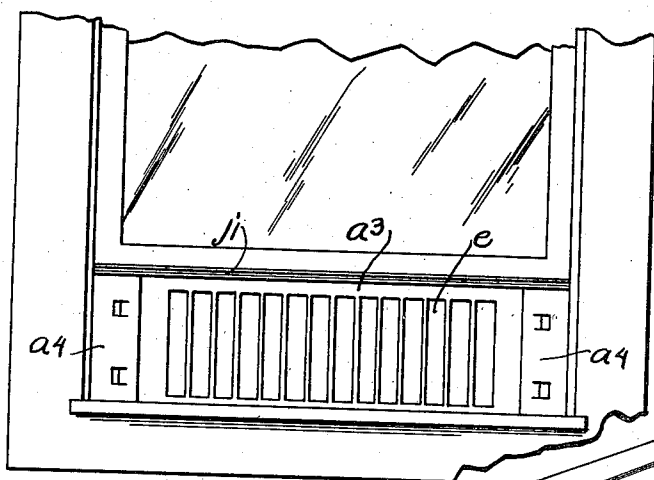


Fig. 7

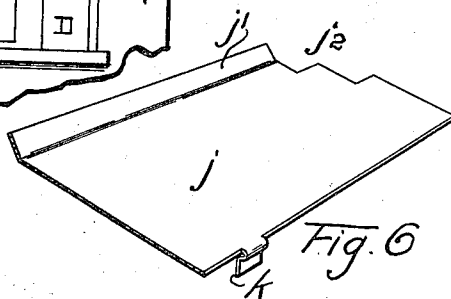


Fig. 6

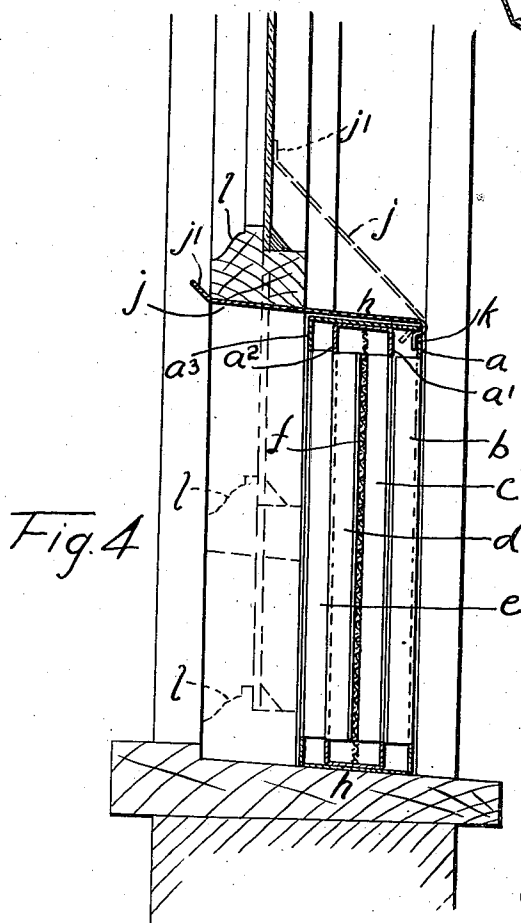


Fig. 4

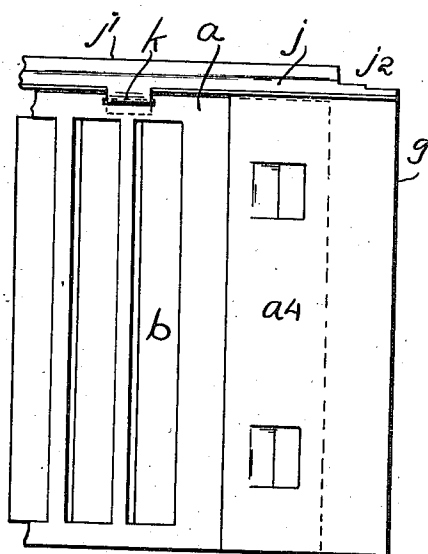


Fig. 5

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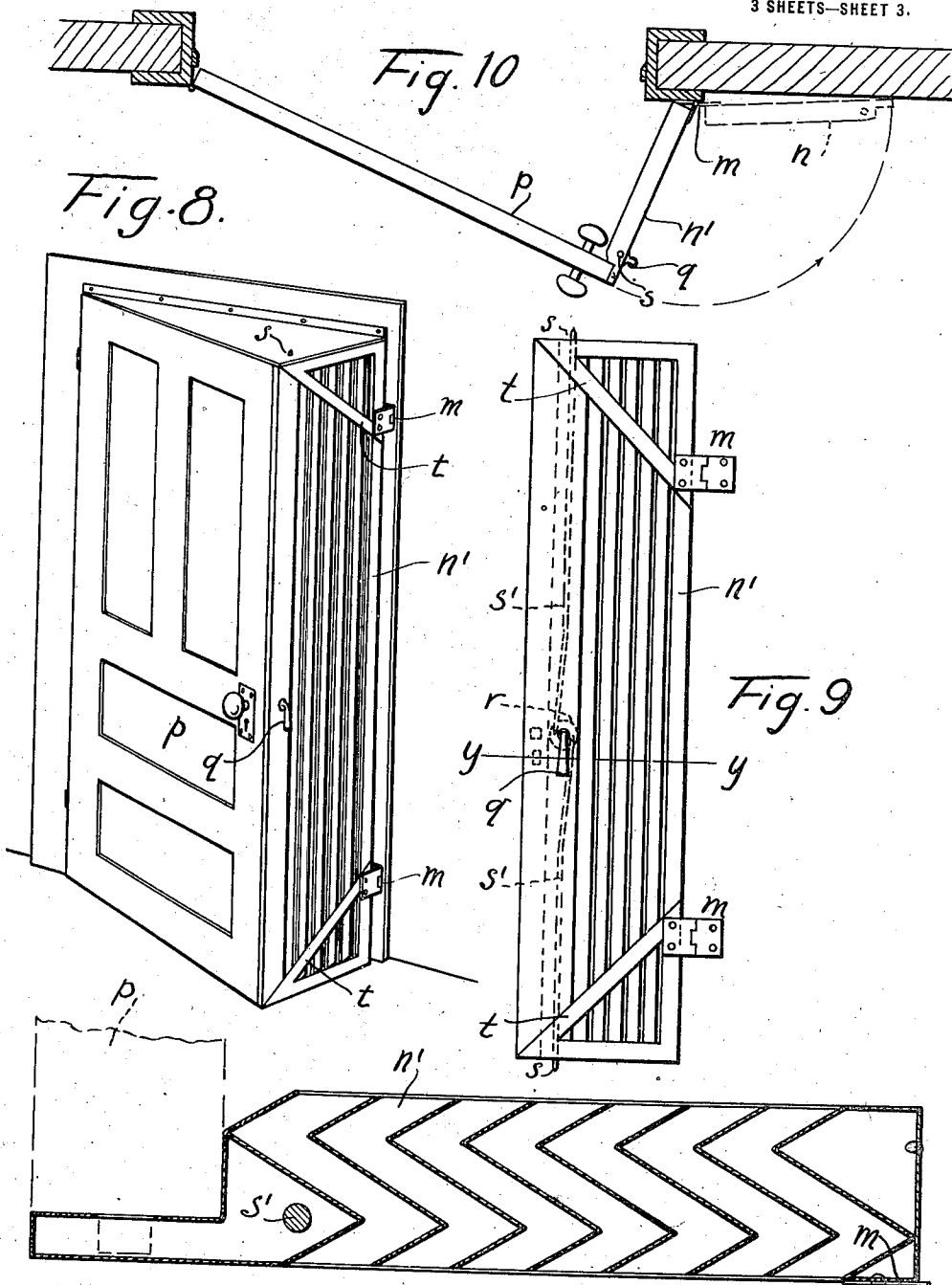


Fig. 11

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UNITED STATES PATENT OFFICE.

GEORGE E. BANNING, OF HIGHLAND PARK, MICHIGAN.

VENTILATOR.

1,318,042.

Specification of Letters Patent.

Patented Oct. 7, 1919.

Application filed October 25, 1916. Serial No. 127,590.

To all whom it may concern:

Be it known that I, GEORGE E. BANNING, who am a citizen of the United States, residing at Highland Park, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Ventilators, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to window and door screens or ventilators and has for its object the construction of a screen which shall not only prevent the entry of strong wind currents but will screen out dust, to a great extent, and larger particles of dirt completely; also it can be applied to windows or doors with great facility. It consists in the combinations and arrangements hereinafter described and pointed out in the claim.

In the drawings,—

Figure 1, is a vertical side view of my ventilator with a portion broken away to show the interior sectional screen.

Fig. 2, is a horizontal cross-section on the line X—X of Fig. 1.

Fig. 3, is a top view of a portion of Fig. 1.

Fig. 4, is a vertical sectional view of the ventilator as applied to a window.

Fig. 5, is an elevation of a portion of my ventilator and plate.

Fig. 6 is a ledge adapted to be attached to the top of the ventilator for keeping out rain or snow.

Fig. 7, is the elevational inside view of the ventilator attached to a window.

Fig. 8, is a perspective view of a modified form of my ventilator as applied to a door.

Fig. 9, is a detailed elevational view of the same construction and showing means for locking the same to the door.

Fig. 10, is a sectional plan of a door-frame and wall and a plan of a door and my ventilator applied thereto.

Fig. 11, is a sectional view on the line y—y of Fig. 9.

Similar letters refer to similar parts.

The structure of my improved ventilator is shown more particularly in Fig. 2 which is a transverse section of a vertical elevation of the structure as shown in Fig. 1 on the lines x—x. It essentially consists of an arrangement and combination of plates a , a' , a^2 , a^3 arranged parallel to each other

and held at each end in spaced relation by appropriate headers a^1 , a^4 . Each of these plates has punched out of its face and turned in at an angle flanged pieces b , b , c , c , d , d , and e , e . Thus the plate a has punched out of its surface the angular flanges b , b ; the plate a' has punched out of its surface the angular flanged portion c , c ; and the plate a^2 has also similarly flanged portions d , d punched out of it and the plate a^3 has similar punchings e , e . When these punched plates are arranged in the proper form and relation, the angular portions b , b meet the plates a' at the point where the punched portions through that plate join the plate. The plate a' is arranged so that its sections that are punched radiate from the contact points of the flanged sections b , b and form a reëntering angle. The punched portions from the plate a^2 are arranged so that they are substantially on line parallel with and adjacent to the section punched from the plate a' , leaving a narrow space between the two for the purposes herein-after stated. The punched sections from the plate a^3 are arranged angularly to meet the angle of the punched sections from a^2 and thus form with the punched sections a reëntering angle. Thus the punched sections b , b , c , c , d , d , and e , e , form, when taken together and arranged properly, roughly, the form of a Z with a space between the two sets of two plates, each with the punched sections arranged as stated between these two sections and passing between the punched sections c , c , and d , d is a fine screen f , which may be attached at each end to either one of the respective sections a' or a^2 . In the drawings it is shown attached to a' and is thus stretched between the ends of the sections through the longitudinal spaces between the punched sections c and d . Appropriate means are provided for holding this structure in this relation. This structure is the essential feature of my invention.

As a means for adjusting it to the different widths of windows, as shown in Fig. 1, I have provided substantially telescoping sections added to each end thereof, having a ledge or flange g to engage a side of the window and jamb and make a fairly good fit. In Fig. 1, is a vertical view of this device shown assembled but with a portion broken away in order to show the screen f . One end only is shown so that adjusting

means appear, as the adjusting means at the other end, if one is desired, is the same except being a reversal. It is not deemed necessary to describe it; in fact, but one adjusting means is really necessary.

The punched plates arranged as shown in Fig. 2 are capped by any appropriate means at both top and bottom and held in relative position by such capping, as shown in Fig. 1 at *h, h*. The exact means of capping it is unnecessary to show, as it might be accomplished by a great variety of attachments. If made of sheet metal the edges of the vertical punched plates *a'*, *a''*, *a'''* may be soldered to the cap or may be otherwise attached as may be deemed best in the process of manufacture. The whole, when completed, forms a solid structure adapted to be placed in the aperture formed by a raised window as shown in Figs. 4 and 7. In order, however, to properly place it in such a structure, I prefer to provide a further upper ledge extending from one side of the ventilator and of the form shown in Fig. 6, and shown applied as in Fig. 4. This plate, marked *j*, a cross-section of which is shown in Fig. 4, is attached by means of clips *k*, one of which is shown in Fig. 4 and likewise in Fig. 6, is passed through an opening in the upper edge of the wall of the ventilator hooked in behind it, while the plate *j* is dropped over upon the top of the ventilator and extending beyond it forms a ledge or surface upon which the sash *l* of the window may rest and also closes off any opening between the sash and ventilator. On raising the window from this position, the plate *j* can be tilted upward and inward until its edge *j'* can rest against the glass thereof, the tilted position being shown in dotted lines. The sash can then be dropped to any point below the top surface or edge of the ventilator, as shown in dotted lines in Fig. 4, or may even be closed down entirely. This permits a modification of the opening and at the same time furnishes a close and tight-fitting sloping surface upon the outside of the window which would prevent the entry of water or snow in between the ventilator and the window when the window sash is lowered beneath the top of the ventilator, otherwise, owing to the fact that the glass of the window is not usually flush with the lower end of the window sash, there would be an opening between the glass and the ventilator which would not be screened or protected in any way. This plate *j*, is acting as a screen, as shown in lifted position in dotted lines in Fig. 4. While I have shown it attached pivotally to the outer edge of the ventilator it may be pivotally attached at any point on the top of the ventilator and accomplish the same result. Its edges are notched, as shown in Fig. 6 at *j''* for the purpose of closely en-

gaging the side of the sash and window frame and more closely shutting off the opening that otherwise would be left. A lowered position in perspective of this plate or screen *j* is shown in Fig. 5. A top view of the ventilator and plate turned back for the purpose of putting it in position is shown in Fig. 3.

In order to apply this ventilator to a door, which is one of the objects of my invention, I have illustrated such means of application together with a modified feature of construction in Figs. 8, 9, 10 and 11.

Fig. 8, is a perspective view of the door to which is applied this structure. The ventilator proper is made precisely as already described, consisting of four sections of sheet metal with punchings arranged as heretofore described. At the edge, however, there are hinges *m, m* provided and attached to the framework of the ventilator whereby it may be attached to a door jamb in any convenient position with reference to the molding of the jamb. When not in use the ventilator as a whole, designated *n*, may be folded back against the wall, as shown in Fig. 10, and the door of course closed in the ordinary manner. When used in connection with a door it is swung into position as shown at *n'* and its outer edge connected to the edge of the door in the manner shown in Fig. 10. The outer edge is formed as shown in Fig. 11 with a rabbet or portion of the structure of the screen extending beyond its body and into which the edge of the door *p* may fit and it may be locked in that position by any appropriate locking means such as shown, or any other locking means, so that the door and ventilator cannot be separated from the outside of the room in which the door enters and in which the ventilator is placed.

I have shown as a locking means a handle *q* actuating a cam plate *r* shown in dotted lines with the ordinary bolt *s* having the operating shaft *s'* shown in dotted lines and which may engage any convenient recess in the floor. It is obvious, however, that many forms of locking devices, as hasps and staples, may be employed to lock the ventilator to the door or floor, as may be desired, so that it could not be separated from the door or its position with reference thereto except by manipulating such means from the inside of the room as stated. The door ventilator need not necessarily have the internal wire screen *f* and the plates may be punched so that their edges meet where the screen otherwise would be placed in the center between the two, leaving merely a zig-zag Z-shaped passage for air. Appropriate braces can be used in the door application of the ventilator, such as are shown at *t, t*. These, however, are all well-known and common and do not form any part of

my invention. They serve to stiffen the structure.

It is obvious that the punchings constitute, when arranged, baffle plates whereby the
5 current of air is transformed into a very gentle zephyr-like movement.

The operation of this device in these two applications is sufficiently obvious from the foregoing description.

10 It is also obvious that many changes might be made in the form and arrangement of the application of this device without departing from the invention and I do not desire to limit myself to the specific means of
15 the application that are shown and described.

What I desire to claim is:

The combination of a ventilator adapted to close a window opening and permit the ingress and egress of air therethrough, of a
20 movable plate ledge hinged to said ventilator and adapted to receive the lower edge of the sash of a window when the window is raised to the upper edge of the ventilator and adapted to be tilted upward and
25 outward to engage the glass of said window, when said window is lowered below the top of said ventilator, substantially as and for the purpose described.

In testimony whereof I sign this specification. 30

GEORGE E. BANNING.