

Oct. 28, 1941.

P. G. MASTERS

2,260,534

VENTILATOR FOR CORRUGATED STRUCTURES

Filed Dec. 18, 1939

3 Sheets-Sheet 1

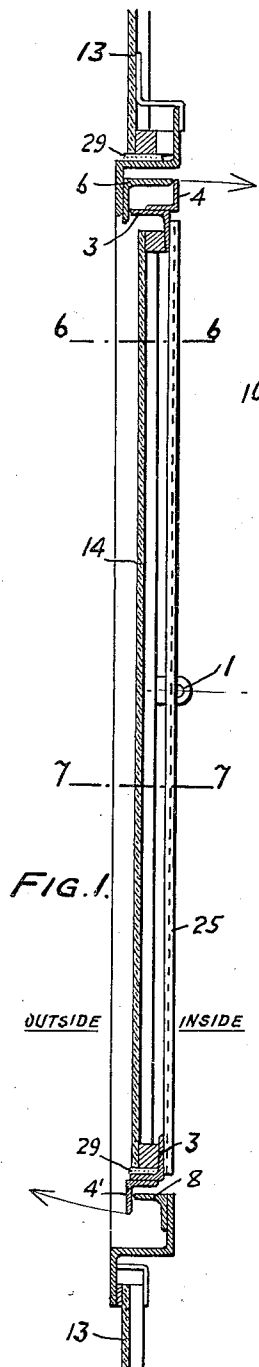


FIG. 1.

OUTSIDE

INSIDE

WITNESS:

R. B. Mitchell

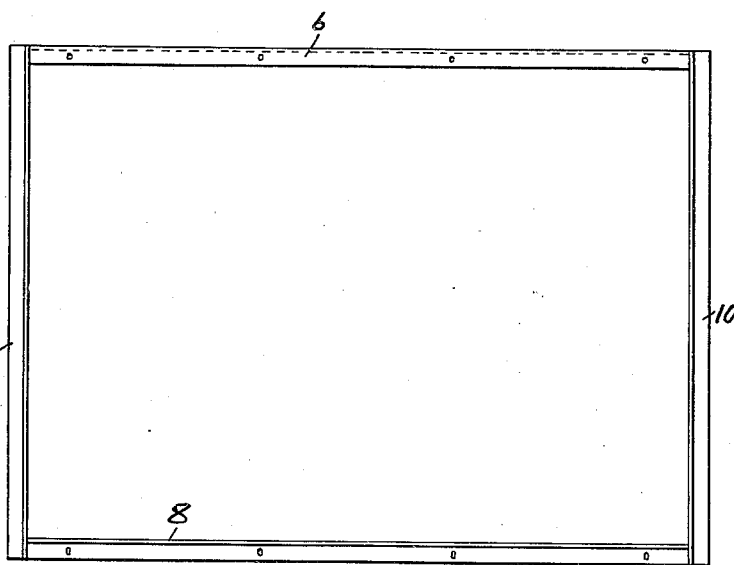


FIG. 2.

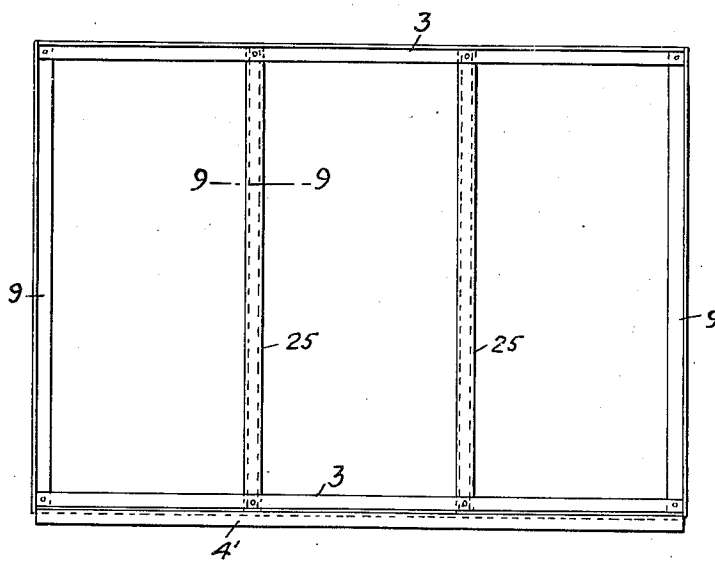


FIG. 3.

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3 Sheets-Sheet 2

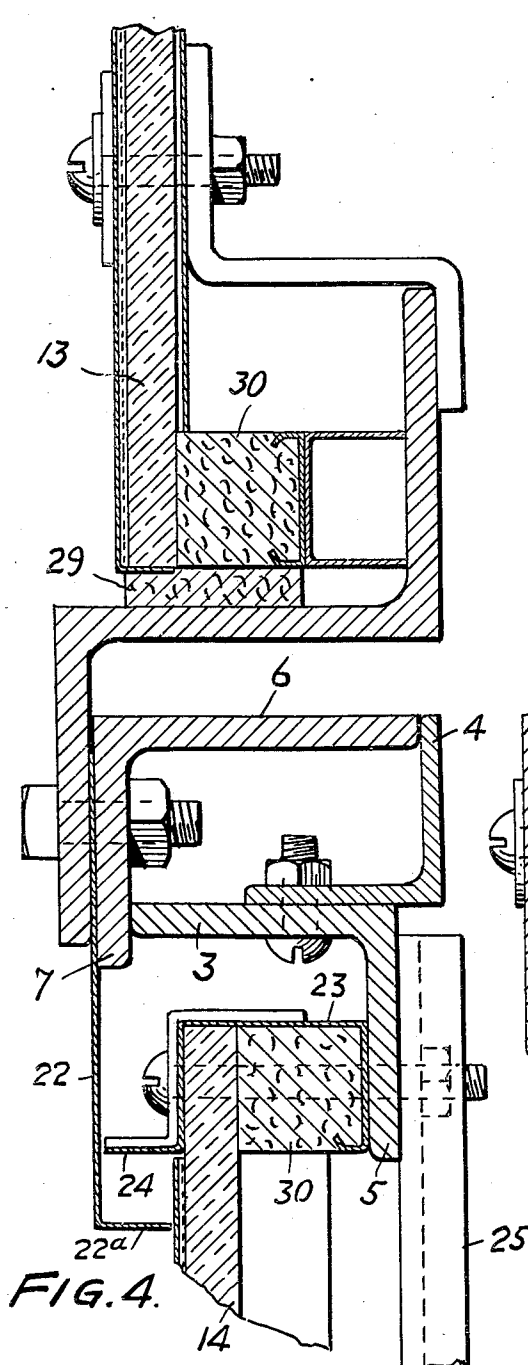


FIG. 4.

WITNESS:

Robt. P. Litchell

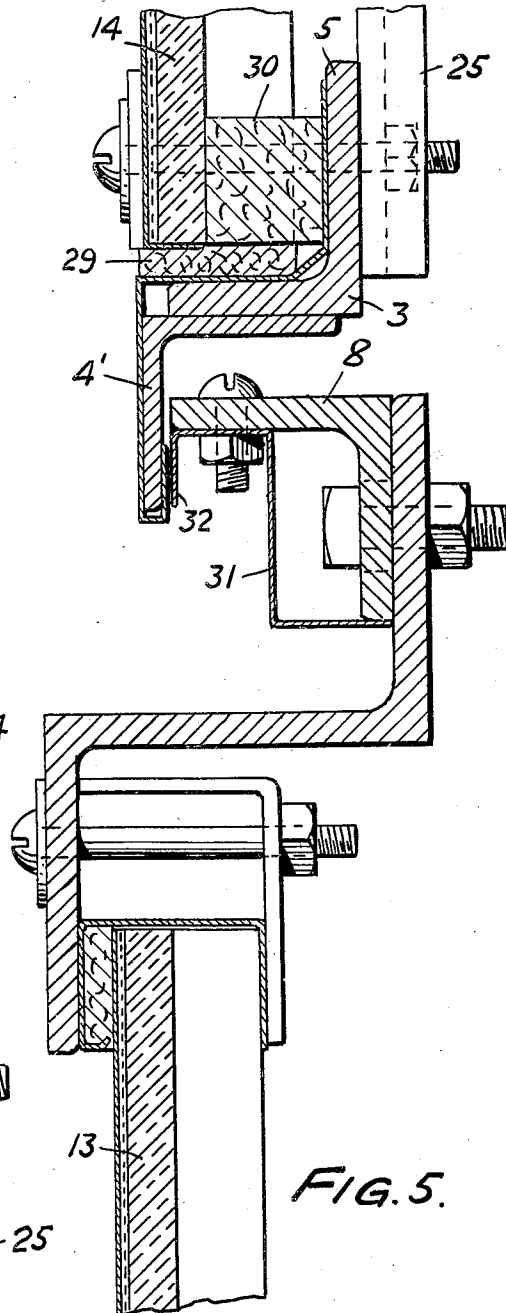


FIG. 5.

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VENTILATOR FOR CORRUGATED STRUCTURES.

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3 Sheets-Sheet 3

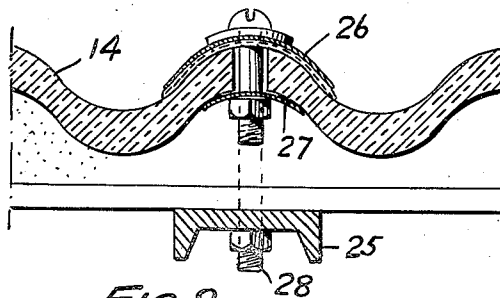
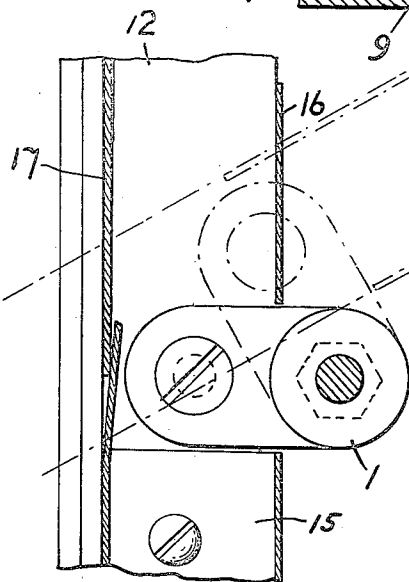
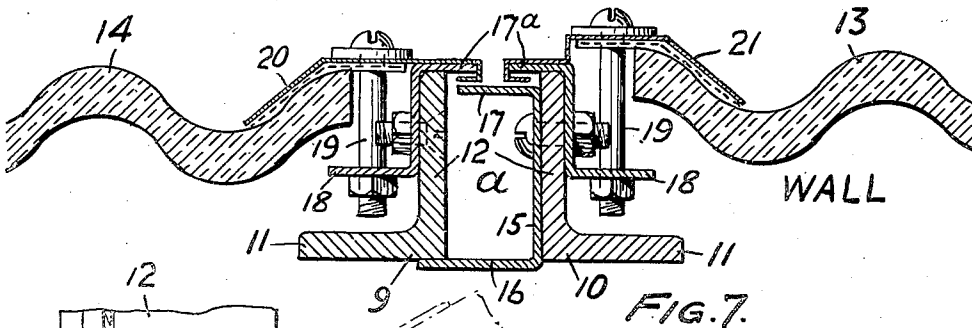
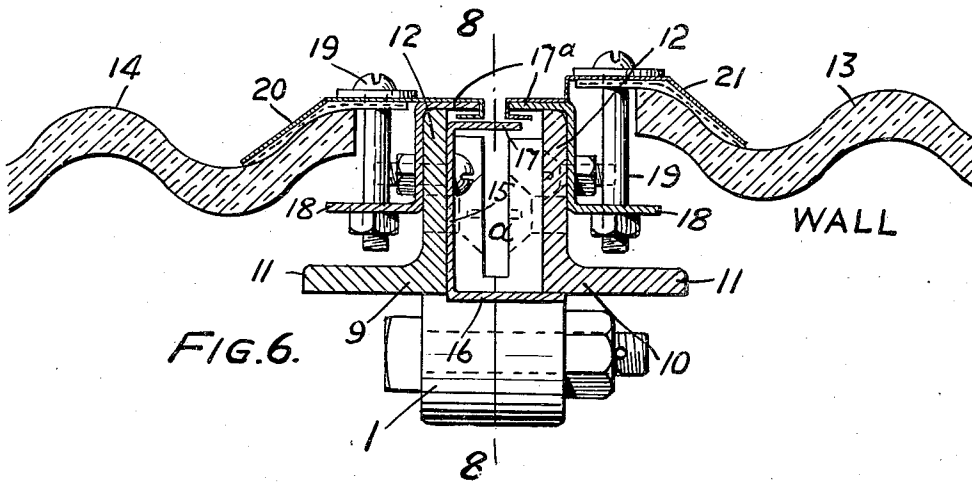


FIG. 8.

FIG 9.

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WITNESS:

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UNITED STATES PATENT OFFICE

2,260,534

VENTILATOR FOR CORRUGATED
STRUCTURES

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Application December 18, 1939, Serial No. 309,771

3 Claims. (Cl. 189—69)

One object of the present invention is to provide corrugated wall structures with corrugated glass ventilators of the type that are pivoted intermediate of their top and bottom edges in a simple, comparatively inexpensive and satisfactory manner; another object of the present invention is to provide a construction at the meeting edges of the ventilator frame affixed to the wall structure and the pivotally mounted ventilator frame which shall be sightly and at the same time exclude wind and weather from the interior of the building construction; another object is to provide a construction of the character indicated in which the corrugated wall sheets and the corrugated ventilator sheets are securely mounted and protected from accidental breakage.

Other objects of the invention will appear from the following description at the end of which the invention will be claimed.

Generally stated, the invention consists of the improvements to be presently described and finally claimed.

In the following description reference will be made to the accompanying drawings forming part hereof and in which,

Figure 1 is a vertical section through a ventilator construction embodying features of the invention and from which details of construction are omitted for the sake of clearness.

Figure 2 is a detached view of a rectangular frame which is mounted in the wall structure.

Figure 3 is a detached view of a ventilator frame which is pivotally mounted in the fixed frame shown in Figure 2.

Figs. 4 and 5 are sectional views drawn to an enlarged scale, Fig. 4 showing the construction above the pivotal mounting, and Fig. 5 showing the construction below the pivotal mounting.

Figure 6 is a horizontal sectional view taken on the line 6—6 of Fig. 1 but showing detail not illustrated in the latter figure.

Figure 7 is a similar view taken on the line 7—7 of Figure 1.

Figure 8 is a vertical section taken on the line 8—8 of Figure 6; and

Figure 9 is a sectional view taken on the line 9—9 of Figure 3 and drawn to an enlarged scale.

Referring to the drawings, the swinging frame shown in Figure 3 and which is pivoted at 1, Figure 1, to the fixed frame shown in Figure 2, has (Figs. 4 and 5) in its top and bottom members respectively three flanges of which one 3 is generally horizontal and of which two, 4 and 5, are generally vertical and are disposed generally

in alignment in the top member, Fig. 4, and are out of alignment in the bottom member Fig. 5. The fixed frame shown in Figure 2 has at the top a horizontal flange 6 and a vertical flange 7, Fig. 4, abutting respectively the inner edge of the horizontal flange 6 at the top of the face of the upstanding flange 4 at the top of a swinging frame and the vertical flange 7 abutting at the end of the flange 3 of the swinging frame, and at the bottom, Figure 5, a horizontal flange 8 abutting at its end on the inner face of the vertical flange 4¹ of the swinging frame. The vertical members 9 and 10, Figs. 6 and 7, of both frames are spaced apart and consist respectively of two flanges of which one 11 lies in the plane of the wall and the other 12 at right angles thereto forming a vertical space *a*. There are corrugated members 13 forming part of the wall structure and in an opening in which the fixed frame is mounted and there are corrugated glass sheets 14 mounted in the swinging frame and these are mounted in the manner that will be described. Two sections of U or trough shaped weather strip 15, Figs. 6 and 7, of flexible metal are disposed to close with one of their flanges 16 the inner side of the space *a*, and the body of the lower section is secured below the pivot 1 to the fixed frame and above the pivot to the swinging frame. Z-shaped strips are secured to the inside faces of the respective flanges 12 of the side members of the frames and these Z-shaped strips have one flange 17^a overlying the flange 17 of the section 15 of U-shaped weather strip and having the other flange 18 provided with clips or bolts 19 for holding corrugated sheets. Sash and jamb caps 20 and 21 cover the edge of the corrugated sheets which confront the side bars of the frames and these caps 20 and 21 are turned in over the edge of the flange 17^a of the Z-shaped strips to close the space *a* in box form. By the described construction rain and weather are excluded where the side parts of the ventilator adjoin the wall construction. From the top of the fixed frame depends a weather strip 22 having an inturned flange 22^a at its lower end and this flange 22^a abuts on the outside of the corrugated material. 23 is a weather strip secured at the top of the swinging frame and provided with a flange 24 that co-operates with the strip 22. At this point it may be remarked that for the sake of clearness in the drawings some space is shown between the weather strips of relatively thin material, whereas in the actual structure they should contact with each other and they do so under some spring pressure. Re-

ferring to Figure 9, 25 is a bar in the swinging frame and in line with it the spaced edges of the corrugated glass are covered by outside and inside strips 26 and 27 and the strip 26 secured to the bar 25 by means of a bolt 28. The construction last described is already employed in the art. Referring to Figure 4, 29 is a pad upon which the corrugated material 13, which usually is glass, rests and a similar pad is shown in Figure 5 and on it rests the corrugated material 14. 30 indicates a corrugated filling strip corrugated on one edge in conformity with the corrugations of the sheets 13 and 14 and it is well known in the art. The horizontal flange 8 carries a strip 31 of flexible metal provided with a flange 32 confronting the flange 4¹ to form a seal at the lower edge of swinging frame.

I claim:

1. For a corrugated sheet building wall construction including a ventilator comprising a fixed frame mounted in an opening in the wall and a movable frame pivotally mounted in the fixed frame for movement about a horizontal axis, the improvement which comprises the combination of adjacent side elements of the fixed and of the movable frames arranged with their confronting faces in spaced relation, trough shaped sections of thin metal strips secured respectively above the pivotal mounting to the outside surface of the side element of the movable frame and below the mounting to the outside face of the side element of the fixed frame, one of the flanges of the trough shaped strips spanning the space between the side elements and the other flange being shorter than the first and partially spanning said space, Z-shaped strips of thin metal secured respectively to the inside face of said elements and having one of their flanges overlapping the last mentioned short flange and having another of their flanges projecting from the inside face of the side elements and provided with clips for holding an edge of the corrugated sheets, and weather strips secured to said clips and overlying the corrugated sheets and interturned between a flange of the Z-shaped strips and the shorter flange of the trough shaped strip.

2. For a corrugated sheet building wall construction including a ventilator comprising a fixed frame mounted in an opening in the wall,

and a movable frame pivotally mounted in the fixed frame for movement about a horizontal axis, the improvement which comprises the combination of the top member of the movable frame having a horizontal flange and an upstanding vertical flange disposed toward the inside of the wall, the top member of the fixed frame having a vertical flange 7 abutting the horizontal flange of the top member of the movable frame and a horizontal flange abutting the upper end portion of the upstanding vertical flange of the movable frame, the bottom members of said frames having like flanges but in reverse relative arrangements, a weather strip of thin metal 22 clamped between the said vertical flange 7 of the top member of the fixed frame and the fixed frame and depending from the top member of the fixed frame and inwardly flanged at its lower edge toward the movable frame, a weather strip of thin metal mounted over the top of the movable frame, and outwardly flanged toward the first mentioned weather strip, and abutting sheet metal weather strips arranged between the lower members of each frame and respectively carried thereby.

3. For a corrugated sheet building wall construction including a ventilator comprising a fixed frame mounted in an opening in the wall and a movable frame pivotally mounted in the fixed frame for movement about a horizontal axis, the improvement which comprises the combination of adjacent side elements of the fixed and of the movable frames arranged with their confronting faces in spaced relation, trough shaped sections 15 of thin metal strips secured respectively above the pivotal mounting to the outside surface of the side element of the movable frame and below the mounting to the outside face of the side element of the fixed frame, one of the flanges 16 of the trough shaped strips spanning the space between the side elements providing one seal and the other flange 17 being shorter than the first and partially spanning said space, Z-shaped strips of thin metal secured respectively to the inside face of said side elements and each having one of its flanges 17^a overlapping the last mentioned short flange 17, and caps 20 and 21 turned over the edges of the last mentioned flanges 17^a and each confronting the shorter flange 17 of the trough-shaped strips.

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