Dec. 2, 1958 N. ARBETMAN 2,862,439

LOUVERS

Filed Aug. 11, 1955

FIG. 1.

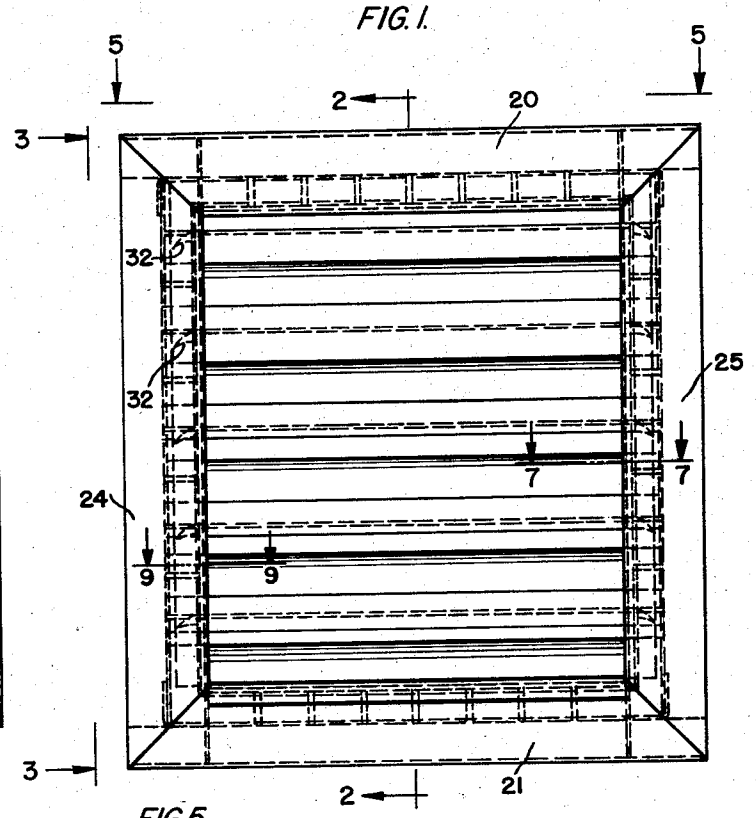

FIG. 2.

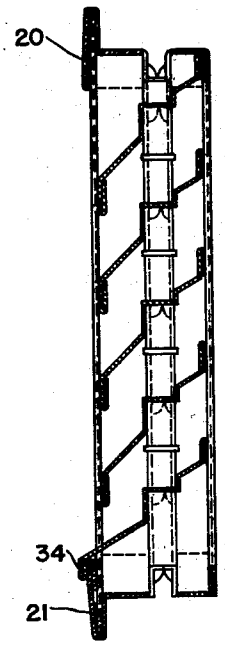

FIG. 3.

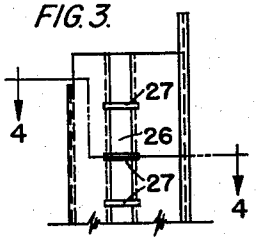

FIG. 4.

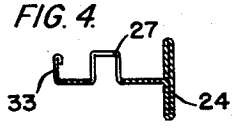

FIG. 5.

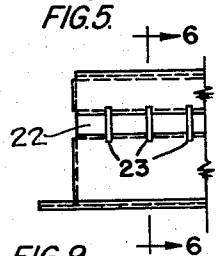

FIG. 6.

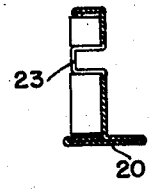

FIG. 9.

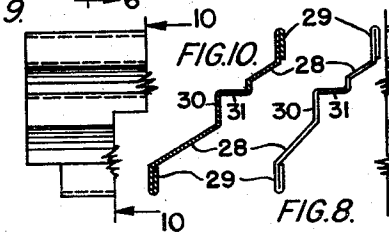

FIG. 10.

FIG. 7.

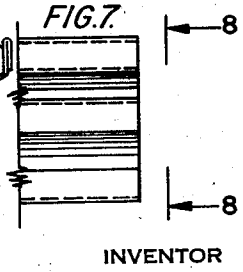

FIG. 8.

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LOUVERS

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2 Claims. (Cl. 98—121)

This invention relates to new and useful improvements in the construction of louver boards or plates and their associated casings, or frames in which they are mounted.

Hitherto louver plates have been made as straight flat planar pieces with a continuous surface in one plane. They have generally been anchored at their ends in suitably sloped slots or grooves in the enclosing walls of the casing between which they extend. This sort of construction of course meant that the enclosing walls always had to be sloped one way and could not be reversed, without providing another casing with suitably formed slots.

The invention herein aims to provide a new and improved construction of louver plates and enclosing frame or casing so slotted to receive the plates that they can with facility be of any predetermined angle.

The invention furthermore contemplates a new and improved construction in louvered assemblies which is sturdy, economical to manufacture and may readily be assembled at the point or place of use. Other objects and advantages of the invention will appear obvious to those skilled in the art from a reading of the specification when the same is taken with reference to the drawing wherein:

Fig. 1 is a front elevation of the louver frame;

Fig. 2 is a vertical front-to-rear section taken on the line 2—2 of Fig. 1;

Fig. 3 is an end elevation of a portion of the frame;

Fig. 4 is a horizontal section taken on the line 4—4 of Fig. 3;

Fig. 5 is a plan view of a portion of the frame;

Fig. 6 is a vertical transverse section taken on the line 6—6 of Fig. 5;

Fig. 7 is a section taken on the line 7—7 of Fig. 1;

Fig. 8 is a view taken at the right of Fig. 7 along the line 8—8;

Fig. 9 is a section taken on the line 9—9 of Fig. 1; and,

Fig. 10 is an elevation taken from the right in Fig. 9 along the line 10—10.

In brief and general terms the invention includes a louver plate which in general has a definite slope but which intermediary its ends has a flat portion which extends at right angles to the general plane of the frame in which the plate is mounted. This flat portion is that portion of the plate which nests in suitably and similarly cut notches in the frame so that, as will be apparent, the plate can be reversed if desired by merely removing the plate from the end notches in the frame and turning it around to slope in the opposite direction. These notches or slots are cut at spaced points in the side pieces of the frame as well as in the top and bottom pieces since the plates may be sloped with respect to a vertical plane as well as a horizontal plane if desired. It is further obvious from the foregoing that the louver structure may be easily assembled.

Referring now merely to the specific form of the invention as shown in an illustrative embodiment, the

frame or casing in which the louver boards or plates are mounted comprises top and bottom angle sheet-metal plates 20 and 21 which are of the conformation shown in Fig. 6, for example, with inwardly extending U-shaped portions 22 having spaced slots or notches cut therein as shown at 23.

The frame also comprises side panels formed of angle sheet-metal plates 24 and 25 which are of the conformation shown, for example, in Fig. 4, and also have inwardly extending U-shaped portions 26 in which are formed spaced slots 27. In each case the slots 23 and 27 extend at right angles across the plates in which they are formed for a reason which will later appear.

These four plates 20, 21, 24, and 25 are connected together in any suitable manner (not shown) such as overlapping of the sheet-metal to form the rectangular frame shown in elevation in Fig. 1 to form the frame in which are to be disposed a plurality of louver boards or plates such as are shown in Figs. 8 and 10. The louver boards each comprise elongate plates which have a series of downward sloping portions such as 28. At the lower and upper ends these louver plates have vertical extending end portions 29.

The medial portion of the louver plates is formed as a sort of step having a vertical leg 30 and a connected horizontal flat 31. The flat portion 31 is received in the slots or notches such as 27 (Fig. 4) or the notches 23 (Fig. 6) depending on whether the plates are to extend between the side panels of the frame or the top and bottom panels.

As shown in Fig. 1, when the plates have their flat portions nested in the notches their ends may be bent down as shown at 32 (Fig. 1) to latch the plate in place. The lower vertical portions 29 of the plates will bear against the front plate 24 and the upper vertical portion 29 will bear against its rear portion 33. With the proper choice of frame and plates dimensions this arrangement will fit snugly so that the plates will remain in place but can be easily removed at will. The bottom plate as shown at 34 in Fig. 2 will extend outside of and partly down across the front of the lower frame panel 21 to allow moisture to flow down outside the unit.

It should be obvious that these plates can be disposed in a general vertical direction between the panels 20 and 21 and have their flat portions nested in the notches 23 in these respective panel members if that sort of louver unit is desired.

While I have described what I consider to be a highly desirable embodiment of my invention, it is obvious that many changes in form could be made without departing from the spirit of my invention, and I, therefore, do not limit myself to the exact form herein shown and described, nor to anything less than the whole of my invention as hereinbefore set forth, and as hereinafter claimed.

What I claim is:

1. A louvre unit having a frame, said frame including spaced apart side members, said spaced apart side members comprising a base member forming an interior wall member of the frame, front and back exterior wall members having portions extending inwardly to the frame and perpendicularly away from said interior wall member, a substantially U shaped portion extending lengthwise of said interior wall section and forming a part of said interior wall section, a plurality of notches in parallel spaced relation and in a plane substantially perpendicular to the lengthwise plane of said U shaped portion, a plurality of louvre plates extending between oppositely positioned side members, each of said louvre plates comprising a central sloping portion lengthwise thereof, said central sloping portion including a step portion extending lengthwise thereof, and parallel disposed

lengthwise sections along the lengthwise marginal extremities of said central sloping portion and extending on opposite sides thereof, a portion of said step portion passing through a slot of said U shaped portion, and one of said parallel disposed lengthwise sections having a portion thereof in contact with said front wall member, and the other of said parallel disposed lengthwise sections having a portion thereof in contact with said rearwall member.

2. A louvre unit having a frame, said frame including spaced apart side members, said spaced apart side members comprising a base member forming an interior wall member of the frame, front and back exterior wall members having portions extending inwardly to the frame and perpendicularly away from said interior wall member, a substantially U shaped portion extending lengthwise of said interior wall section and forming a part thereof, a plurality of notches in parallel spaced relation across and in a plane substantially perpendicular to the lengthwise plane of said U shaped portion, a plurality of louvre plates extending between oppositely positioned side members, each of said louvre plates comprising a central sloping portion, having an intermediate step portion, lengthwise thereof, and parallel disposed lengthwise sections along the lengthwise marginal extremities of said central portion and extending on opposite sides thereof, the lengthwise ends of said step portions having a portion thereof passing through notches in the respective side wall U shaped portions, and said portions being bent within the U portion, and one of said parallel disposed lengthwise sections having a portion thereof in contact with said front wall member, and the other of said parallel disposed lengthwise sections having a portion thereof in contact with said rearwall member.

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