July 11, 1961 A. B. GOETTL 2,991,707

AIR DIRECTING LOUVER DEVICE

Original Filed Aug. 20, 1957

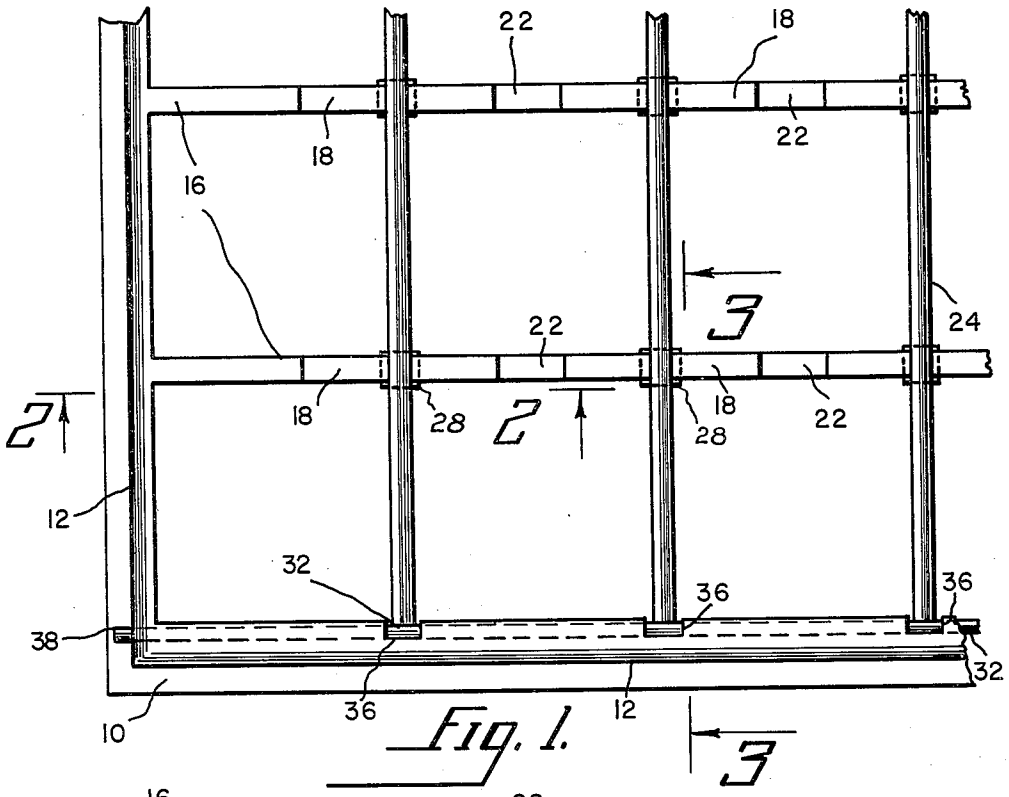


Fig. 1.

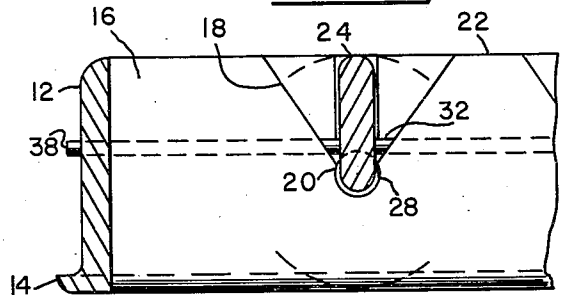


Fig. 2.

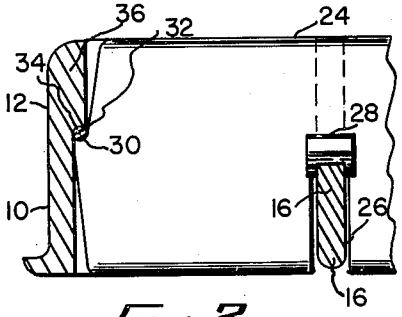


Fig. 3.

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AIR DIRECTING LOUVER DEVICE

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Original application Aug. 20, 1957, Ser. No. 679,223, now Patent No. 2,895,401, dated July 21, 1959. Divided and this application May 18, 1959, Ser. No. 813,836

2 Claims. (Cl. 98—40)

The present invention relates to an air directing louver device.

This application is a division of my copending application for Air Directing Louver Device, Serial No. 679,223, filed August 20, 1957, now Patent No. 2,895,401, dated July 21, 1959.

In the construction of air directing louver devices employing intersecting notched slats various devices have been employed for holding the notches of such intersecting slats in mesh or engaged relation with each other during the flow of air between the slats. Furthermore, it has been a problem to provide simple means for holding such slats in various adjusted positions relative to each other and within a frame which circumscribes the assembly of the intersecting slats.

According to the present invention a plurality of intersecting louver slats are provided with meshing notch portions having inwardly directed notch extremities wherein arcuate bearings interconnect the slats. The centers of the arcuate bearings form pivotal axes for the slats and permit them to pivot within the angular limits of the notches of these slats while the arcuate bearings also provide frictional interengagement of the slats to hold them in various angularly adjusted positions relative to each other.

The present improvements in air directing louver construction are particularly adapted to the use of plastic materials which may have sufficient resilience to provide for frictional loading of interengaging arcuate bearings which interconnect the slats at their intersecting notch portions.

It is an object of the present invention to provide an air directing louver device wherein arcuate bearings, at the inner extremities of meshing notches in intersecting slats, interconnect the intersecting slats on their pivotal axes.

Another object of the invention is to provide an improved air directing louver construction particularly for use in the assembly of slats in frames.

Further objects and advantages of the present invention may be apparent from the following specification, appended claims and accompanying drawings in which:

FIG. 1 is a fragmentary side elevational view of an air directing louver device including a plurality of intersecting slats contained in a substantially rectangular frame.

FIG. 2 is a fragmentary sectional view taken from the line 2—2 of FIG. 1; and

FIG. 3 is a fragmentary sectional view taken from the line 3—3 of FIG. 1.

As shown in FIG. 1 of the drawings, the present air directing louver device is provided with a frame **10** which is substantially rectangular and is provided with side elements **12** having flange portions **14** adapted to surround an opening in which the frame **10** may be inserted. The frame is provided with a plurality of integral spaced parallel slats **16** having substantially V-shaped notch portions **18** therein. These V-shaped notch portions are provided with arcuate concave cylindrical bearing portions **20** at their inner extremities and the notches **18** diverge outwardly to a common edge **22** of the slats **16**.

A plurality of slats **24** are disposed at substantially right angles to the slats **16** and intersect the same. The slats **24** are provided with U-shaped notch portions **26** having parallel sides which straddle the slats **16** and at the inner extremity of the notch portions **26** are arcuate in cross section convex surfaced cylindrical bearing portions **28** which are integral with the slats **24**.

The arcuate bearings **28** are engaged in the arcuate recesses of the slats **16** and the arcuate bearing portions **20** extend substantially more than 180 degrees around the arcuate bearing portions **28**. It will be noted that the bearings **28** are tightly fitted in the arcuate recesses **20**. The resilience of the plastic material of the slats **16** at the arcuate bearing portions **20** grip the bearing portions **28**, provide sufficient friction so that the slats **24**, when pivoted within the angular notch portions **18**, will remain in adjusted position.

In operation, the slats **24** may be pivoted relative to the slats **16** within the angular limits of the V-shaped notches **18** while the arcuate bearing portions **20** grip the arcuate bearing portions **28** due to resilience of the plastic material in the slats **16**. Thus, the slats **24** may be pivoted to various angular positions at which they will remain during vigorous flow of air through the louver slats; thus the slats are prevented from buffeting or moving out of adjusted position while air is being directed through the louver slats to a location in a building room as desired. The bearing portions **28**, which are resilient, are snapped into the concave arcuate bearing portions and provide a very simple arrangement for initial assembly of the louver slats in intersecting relationship with each other.

Various modifications of the present invention may be resorted to in a manner limited only by a just interpretation of the following claims.

I claim:

1. In a louver slat construction the combination of: a frame; a first slat fixed in said frame and having a substantially V-shaped notch; a second slat intersecting said first slat and having a U-shaped notch meshing with the V-shaped notch of said first slat; inner portions of said notches of said slats being adjacent each other and each provided with arcuate cylindrically shaped bearing structure, said arcuate bearing structures having a concentric pivotal axis for one of said slats relative to the other and permitting movement of one slat within the angular limits of said V-shaped notch in the other slat, said arcuate cylindrically shaped bearing structure of one slat being frictionally engaged for more than 180 degrees around the arcuate cylindrical bearing structure of the other one of said slats thereby pivotally interconnecting said first and second slats and maintaining them in engagement at their meshing notch portions.

2. In a louver slat construction the combination of: a frame; first slats stationary in said frame and each having a substantially V-shaped notch; second slats intersecting said first slats and each having U-shaped notches meshing with the V-shaped notches of said first slats; inner portions of said notches of said second slats provided with an arcuate integral cylindrical bearing structure, said first slats at the apex portion of said V-shaped notches having arcuate cylindrical recesses conforming with and frictionally engaging said cylindrical bearing structure for more than 180 degrees about their arcuate structure.

References Cited in the file of this patent

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