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H. I. STOVER

2,500,330

GRILLE

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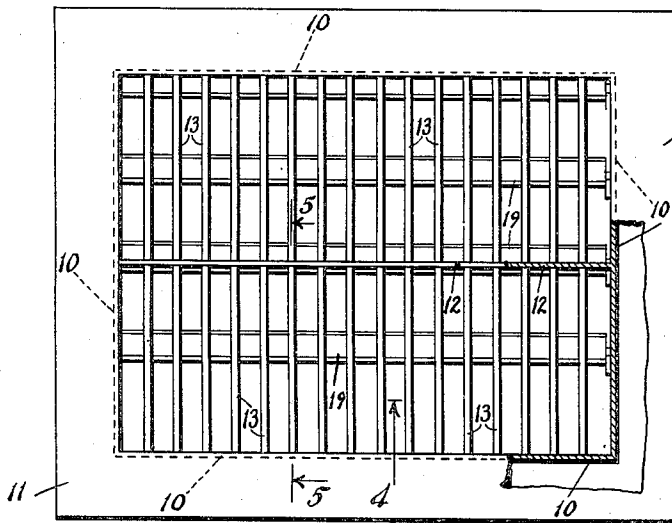


Fig. 1

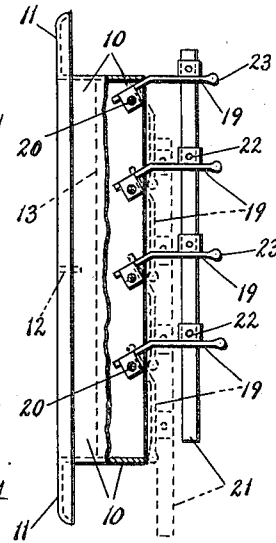


Fig. 2

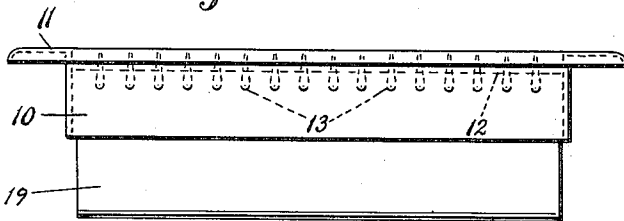


Fig. 3

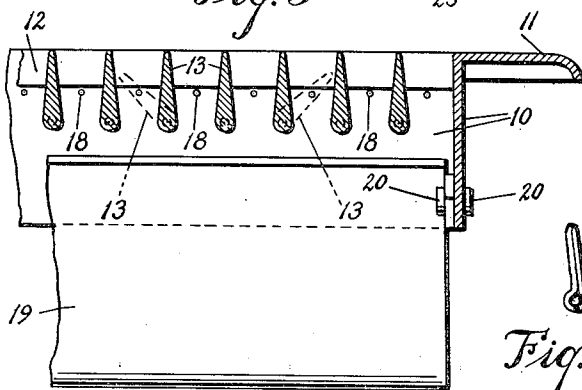


Fig. 4

Fig. 6

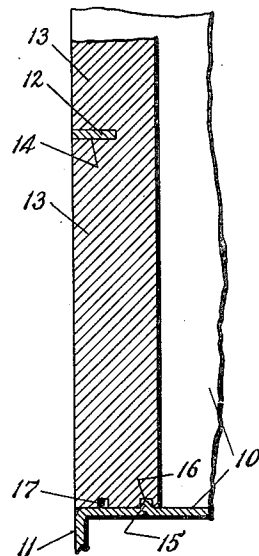


Fig. 5

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UNITED STATES PATENT OFFICE

2,500,330

GRILLE

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1 Claim. (Cl. 98—110)

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The principal object of my invention is the provision of an air flow grille wherein structural characteristics make possible reduced static pressure, an increased volume of air and greater C. F. M. at the face of the grille than is possible with any standard grille the open market affords;

An important object of the herein invention is the provision of a grille providing dual deflection of the air stream regulatory at will so as to deflect the air stream upwardly, straight ahead, or downwardly, at the same time left or right as may be desired;

A further object of the invention is the provision of a grille providing a greatly increased volume of air at any given foot velocity over standard grilles and registers the market affords, and wherein adjustment of the movable blades to direct the direction of air flow may readily be accomplished without resort to a wrench as is commonly necessary with all grilles heretofore produced;

And a further object of the herein invention is the provision of a grille highly efficient in action, and structurally designed to present a pleasing appearance.

I attain these objects by the grille disclosed in the accompanying drawings in which:

Figure 1 is an elevation of the grille with a part thereof broken away to more advantageously disclose its structure;

Figure 2 is an end elevation partly broken away to better disclose the interior of the grille;

Figure 3 is a side elevation;

Figure 4 is a section on line 4—4 of Fig. 1;

Figure 5 is a section on line 5—5 of Fig. 1, and

Figure 6 is an end view of a modified form of blade adaptable to the grille.

Similar numerals of reference indicate like parts throughout the several views.

The grille proper is provided with a conventional grille box 10 open at front and back to provide for the passage of air. It has a flange 11 designed to frame the opening wheresoever provided for setting the grille.

A transverse bar 12 having its ends fixed against two walls of the box 10 provides a stabilization of said walls and divides the face of the grille.

A plurality of pivoted blades 13 are provided transverse the grille at right angles to said bar 12 and are notched at 14 to receive said bar. The latter is loose fitted into the notch 14.

The blades 13 are pivoted upon blisters 15 provided on two walls of the box 10, said blisters acting as pivots inserted into holes 16 provided on the ends of the blades 13.

Other holes 17 are provided in the ends of the blades 13 to receive dentitive blisters 18 provided as stops on the same walls of the box 10 carrying the blisters 15 so that the blades 13 may be set

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in either direction up to an angle of 45° as indicated by broken lines in Fig. 4.

The blades 13 are in general, tear drop shaped with long trailing sides so that air currents breaking against the thick edge of said blades are induced to flow freely past the blades with a vacuum pull at the trailing edges and with less static pressure due to vacuum and the center line trailing edges as herein provided.

A movable louver is provided at the intake side of the grille. It is designed to direct the flow of air current in the box or to stop said flow entirely.

The louver embodies a plurality of blades 19 pivoted at their ends as at 20 so as to overlap when the louver is closed as indicated by broken lines in Fig. 2. It is provided with a bar 21 pivoted to the blades 19 as at 22 so that the blades 19 are moved in unison. The latter blades are shown as bulbous at their leading edge 23 to provide a streamline effect on the air currents.

A modification of the blade 13 is shown in Fig. 6 where said blade designated as 13' as shown as formed from sheet metal.

The grille is structurally produced from light materials readily obtainable in the open market and at no great cost.

The blades are arranged to frictionally ride freely and may be moved with one's finger or any suitable object, a lead pencil for example, no wrench being required. They are secured in adjustable position and may be used interchangeably in associated arrangement with one another, a portion thereof, for example, may be set to deflect the air current one way, the balance to direct it another. Moreover, the horizontally positioned blades may be used independently from the vertically positioned blades, or vice-versa.

The grille is ideal for air conditioning systems, for example, and may be produced in varying sizes, and assembled at low cost.

As numerous apparently different embodiments and changes in structure may from time to time suggest themselves without departing, however, from the scope thereof herein shown and described, it is intended that the description and drawings thereof shall be interpreted as illustrative and not in a limiting sense.

What I do claim, however, is:

In an airflow grille, a grille box open at its front and back for passage of air therethrough, a rigid cross bar carried by and dividing said box, and a plurality of grille blades extending across said box at right angles to said bar and being pivoted at their ends to opposite sides of said box so as to lie in spaced parallel relation to one another subject to individual tilting in opposite direction, said blades having rounded wider edges disposed innermost in said box and narrow trailing portions extending therefrom and provided with slots

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in which said cross bar extends, the outer edges of said blades being in the same plane with the outer edge of said bar and the outer edges of the grille box, and a plurality of integral projections on said box, said blades having openings in the ends thereof in which said projections are mounted to form pivots for said blades, said blades having additional openings in the ends thereof and additional integral projections on said box arranged to extend into said additional openings for holding the blades in adjusted positions.

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