

June 7, 1949.

O. A. LABUS

2,472,748

AIR REGISTER

Filed March 8, 1946

2 Sheets-Sheet 1

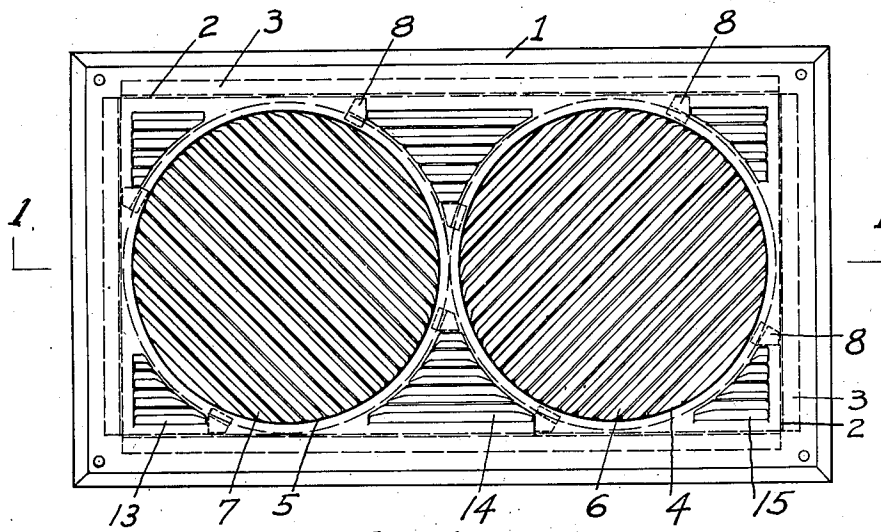


Fig. 1

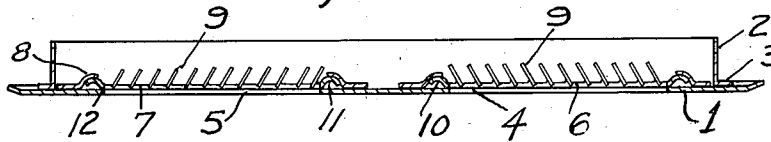


Fig. 2

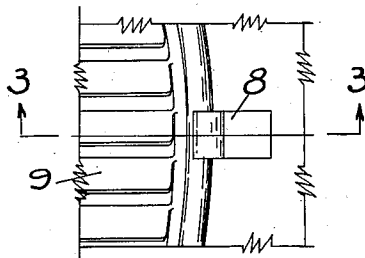


Fig. 3

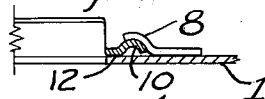


Fig. 4

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2 Sheets-Sheet 2

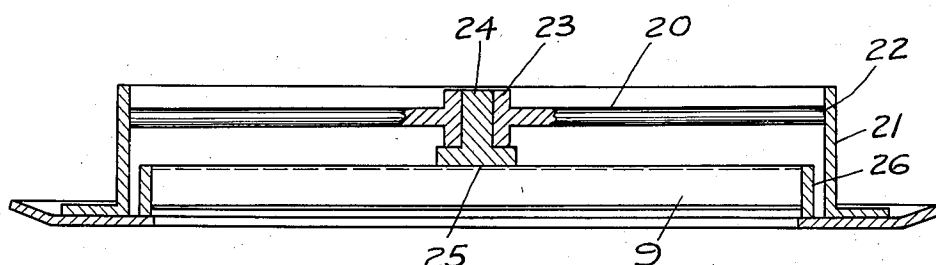


Fig-6

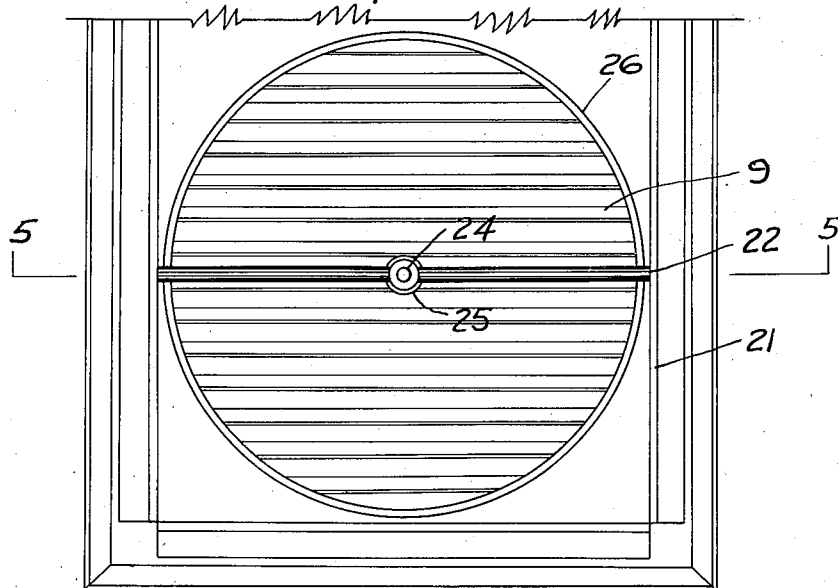


Fig-5

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UNITED STATES PATENT OFFICE

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AIR REGISTER

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2 Claims. (Cl. 98—40)

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This invention relates to a grille or air supply register particularly adapted to the use of high velocity air in heating and cooling.

One of the objects of my invention is to directionally control the direction of the air stream emitted from the register through a radial forward arc of 360° by a simplified means of control.

Another object of my invention is to control the direction of the air stream by a plurality of outlets each controlling the direction of the stream emitted therefrom.

Another object of my invention is to secure a better air distribution through directing the air streams through different divergent or convergent paths.

Another object of my invention is a simplified adjustment means of thus controlling the paths of the air streams.

Complete air circulation throughout a room, either to be heated, or cooled, depends both on the velocity and the direction of the incoming air—in heating, the direction of the path of air should be down; and in cooling, the direction should be up. When high velocity air is used it is desirable at times to break up the high velocity, and at other times to use the high velocity to more completely circulate the air in the room, which may be accomplished by directionally controlling the paths of the various streams of air.

The above and other objects of my invention will be apparent from the following specification and drawings in which—

Figure 1 is a front elevation of the air register or grille.

Figure 2 is a cross-section of the grille shown in Figure 1 taken on the lines 1—1 of Figure 1.

Figure 3 is a plan view of a portion of the grille.

Figure 4 is a cross-section of a portion of the grille taken on the line 3—3 of Figure 3.

Figure 5 is a plan view of an air register showing a different form of my invention.

Figure 6 is a cross-section of the register taken on the line 5—5 of Figure 5.

Referring to Figure 1, the register has a front plate 1, a collar 2 with an angle flange 3 for attaching the collar 2 to the front plate 1, while the collar 2 is used to connect the register to a conventional air duct.

The front plate 1 which is substantially flat, has a plurality of circular openings 4 and 5 for the outlet of air therethrough and a plurality of additional secondary outlets 13, 14, and 15 surrounding the circular openings.

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Circular grilles 6 and 7 are positioned in the openings 4 and 5 and have blades 9 tilted from the normal, designed to direct the paths of the air streams emitting through the circular openings.

The circular grilles 6 and 7 have annular flanges 10 and 11 which bear against the front plate 1 at 12 and also against flanges 8 which are attached to the front plate 1, so that the grilles 6—7 may easily rotate axially with their circumferential flanges 10 and 11 being confined between the flanges 8 and the face of the front plate.

The flanges 8 are made and affixed to the front plate 1 so as to provide a spring tension to hold the grilles 6 and 7 against the face of the front plate 1 at the contact surface 12, and in effect form a slot for the guidance of the annular flanges 10 and 11.

The grille members 6 and 7 are preferably fabricated from a flat metal sheet with the air directional vanes tilted from the normal and integrally formed with the annular circumferential flange 10.

Referring to Figures 5 and 6, a flange 21 is attached to the rear face of the register to support a rod 20 which is attached to the flange 21 at 22. Intermediate the ends of the rod 20 and preferably at the center thereof, is positioned a journal 23 which may be an integral part of the rod 20. A shaft 24 is attached to the vanes 9 at 25 and shaft 24 revolves in the journal 23. The vanes 9 are either attached to, or are integral with a circular rim 26, to form a circular grille, free to move on a center axis or shaft 24.

I claim:

1. An air register comprising a front plate, a rectangular flange fastened to said front plate, a plurality of substantially circular openings in said front plate within the boundary of said rectangular flange, a plurality of longitudinal parallel secondary openings in the portions of the front plate surrounding the circular openings and within the boundary of said rectangular flange, a plurality of circular grilles having blades tilted from the normal, means on the front plate supporting said grilles in said substantially circular openings for rotation with respect to the front plate.

2. An air register comprising a front plate, a rectangular flange fastened to said front plate, a plurality of substantially circular openings in said front plate within the boundary of said rectangular flange, a plurality of secondary open-

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ings in the portions of the front plate surrounding the circular openings and within the boundary of said rectangular flange, a plurality of circular grilles having blades tilted from the normal, said grilles being mounted in said substantially circular openings against the back surface of said front plate, each of said grilles having an annular peripheral flange which extends inwardly from said front plate, and means on the front plate engaging the rear surfaces of said peripheral flanges for supporting said grilles for rotary adjustment with respect to said front plate.

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