

March 17, 1936.

E. C. FOX

2,034,231

AIR REGISTER

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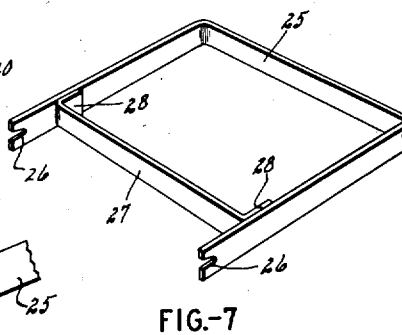
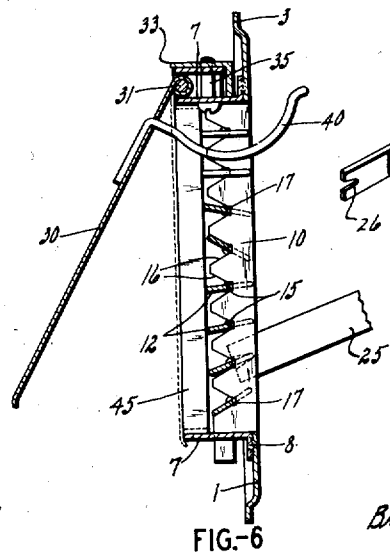
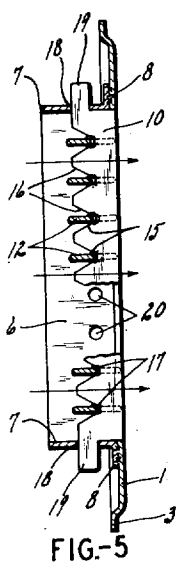
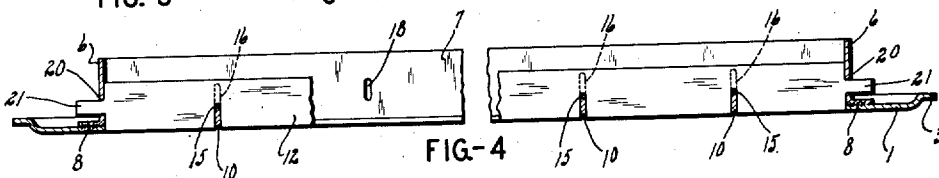
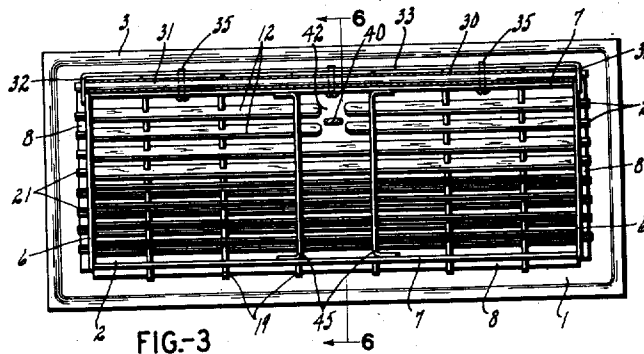
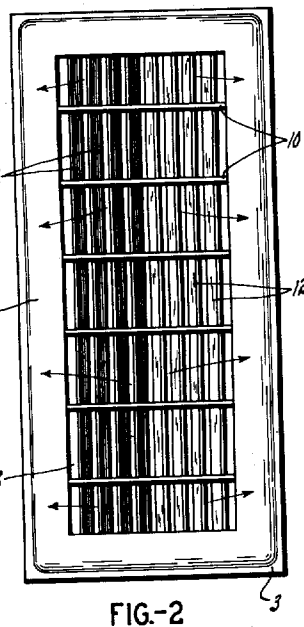
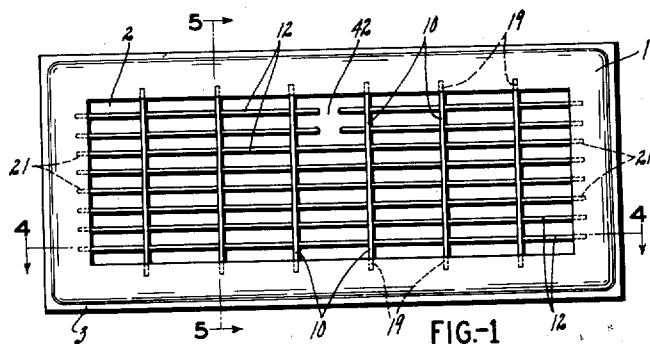


FIG-7

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AIR REGISTER

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Application July 12, 1934, Serial No. 734,743

6 Claims. (Cl. 98-110)

This invention relates to improvements in air registers, especially forced air registers, such as are used in heating and ventilating systems and the like.

5 The general object of the present invention is the provision of an air register which is of simple and inexpensive construction, of neat and pleasing appearance and of strong and sturdy character.

10 A more specific object of the present invention is the provision of an improved air register in which at least some of the grille bars thereof are individually adjustable, thereby enabling them to be arranged in various air deflecting positions, depending upon the direction or directions of air flow desired.

Another more specific object of the present invention is the provision of an improved air register in which non-adjustable grille bars are utilized, in a simple and inexpensive manner, to automatically maintain the individually adjustable grille bars in the positions to which they are manually adjusted.

Further objects of the present invention are in part obvious and in part will appear more in detail hereinafter.

The invention will be readily understood from the following description of two embodiments thereof, reference being had to the accompanying drawing in which:

30 Fig. 1 is a front view of the present improved air register, arranged in a horizontal position and having the individually adjustable grille bars thereof all horizontally disposed; Fig. 2 is a front view of said register, arranged in vertical position and having half of the individually adjustable grille bars turned to the left and the other half turned to the right; Fig. 3 is a rear view of said register, arranged in horizontal position and having the individually adjustable grille bars disposed in the same positions of adjustment as shown in Fig. 2, said register being provided with a controlling air valve, in section at its pivot rod; Fig. 4 is a longitudinal sectional view of the register, the view being on the line 4-4, Fig. 1; Fig. 5 is a cross-sectional view of the register, the view being on the line 5-5, Fig. 1; Fig. 6 is a cross-sectional view of the register, the view being on the line 6-6, Fig. 3, and showing the controlling air valve in a different position of adjustment; and Fig. 7 is a perspective view of a device for effecting the individual adjustment of the adjustable grille bars.

As indicated in said drawing, the present improved air register comprises a suitable face

plate 1, of any suitable size and shape, the one here shown being generally rectangular. Said face plate has a centrally disposed air opening 2 of generally rectangular shape and a rearwardly offset marginal portion 3, the offsetting of which enables said face plate to firmly engage the wall or the like in which it is mounted in use thereof.

Welded or otherwise suitably secured to the rear surface of said face plate, around the air opening 2 thereof, is a suitable grille bar supporting frame, here shown as comprising a pair of end members 6 and a pair of side members 7, each of said frame members being provided with a laterally extending base portion 8 for welding or other suitable connection to the face plate 1.

Suitably mounted in said supporting frame are two sets of grille bars, a set of transversely disposed grille bars 10 and a set of longitudinally disposed grille bars 12. As here shown, there are six transversely disposed grille bars 10 arranged in longitudinally and uniformly spaced relation relative to the air opening 2 of the face plate 1 and eight longitudinally disposed grille bars 12 arranged in transversely and uniformly spaced relation relative to said face plate opening. In order to enable the two sets of grille bars to be inter-connected in nested relation, cooperating notches are cut in said bars, the notches 15 in the longitudinally disposed grille bars 12 being relatively narrow notches of uniform width and the notches 16 in the transversely disposed grille bars 10 being generally V-shaped notches terminating at their inner ends in relatively narrow and relatively short notch portions 17.

The grille bars of each set are provided with suitable end extensions to enable them to be mounted in the aforesaid supporting frame, the side members 7 of said frame being provided with slot-like openings 18 (Fig. 4) to non-rotatably receive the end portions 19 of the transversely disposed grille bars 10 and the end members 6 of said frame being provided with generally circular openings 20 (Fig. 5) to rotatably receive the end extensions 21 of the longitudinally disposed grille bars 12.

The transversely disposed, non-adjustable grille bars 10 are utilized as tensioning members for the longitudinally disposed, adjustable grille bars 12 and hence serve as a simple and efficient means for automatically maintaining said longitudinally disposed, adjustable grille bars in the positions of adjustment to which they are manually and individually adjusted.

In Figs. 1 and 5, the longitudinally disposed, adjustable grille bars 12 are all arranged in hori-

zontal position, so that they exert a minimum deflecting effect on the air passing through the register, the path of the air being shown by the arrows, Fig. 5. In Fig. 2, one-half of the adjustable grille bars 12 are adjusted to one side and one-half to the other, so that the air passing through the register is deflected in equal proportions to the right and left, as indicated by the arrows. In Fig. 3, the adjustable grille bars 12 have the positions of adjustment shown in Fig. 2, but due to the horizontal arrangement of the register, the air passing therethrough is deflected upwardly and downwardly in equal proportions, as will be readily understood. In Fig. 6, the adjustable grille bars 12 have various positions of adjustments, the purpose of which is to indicate the individual adjustability of said bars.

Although any suitable means may be utilized for manipulating the longitudinally disposed grille bars 12 in effecting individual adjustment thereof, the device here shown for such purpose comprises a generally U-shaped metal strip 25, the ends of which are provided with suitable notches 26 to receive two spaced portions of each grille bar 12 in effecting adjustment thereof. If desired and as shown, the legs of said adjusting strip may be connected by a suitable metal strip 27 having laterally bent end portions 28 welded or otherwise suitably secured thereto.

In the embodiment of the invention shown in Figs. 3 and 6, a suitable valve 30 is provided for controlling the amount of air flowing through the register, said valve being fixedly mounted on a suitable pivot rod 31 journaled in the laterally bent end portions 32 of a metal tensioning bar 33. Said tensioning bar is adjustably secured by suitable screws 35 to one of the frame side members 7, and by suitably adjusting said screws, said tensioning bar is enabled to apply the desired tension to the valve 30 and its pivot rod 31 to firmly maintain them in any desired position of adjustment.

For convenient manipulation of said valve to adjust its position, a suitable handle 40 is provided therefor, said handle being welded or otherwise suitably secured to said valve and being adapted to extend through a suitable opening 42 formed by cutting away the intermediate portions of the two adjacent longitudinally disposed grille bars 12, as best shown in Fig. 3.

If desired and as shown, the intermediate portions of the frame side members 7 may be interconnected by a pair of suitable metal strips 45, said strips being welded or otherwise suitably secured to said frame members 7 to the rear of and in alignment with two of the transversely disposed non-adjustable grille bars 10. As will be readily understood, said strips 45 serve as a

means to provide a more rigid structure, as a partial support for the valve 30 when said valve is in fully closing position, and as a means for maintaining in assembly the two longitudinally disposed grille bars 12 which have their intermediate portions cut away to form the valve handle receiving opening 42.

Further features and advantages of the present air register will be apparent to those skilled in the art to which it relates.

What I claim is:

1. In an air register, a plurality of individually adjustable grille bars, and grille bar means extending substantially normal thereto and cooperating with intermediate portions thereof for maintaining each of such individually adjustable grille bars in the position to which it is adjusted.
2. In an air register, a plurality of individually adjustable grille bars, and a plurality of non-adjustable grille bars for automatically maintaining said adjustable grille bars in the positions to which they are adjusted.
3. In an air register, a plurality of individually adjustable grille bars, and a plurality of non-adjustable grille bars extending substantially normal thereto and adapted to automatically maintain said adjustable grille bars in the positions to which they are adjusted.
4. In an air register, a set of non-adjustable grille bars and a set of individually adjustable grille bars extending substantially normal thereto, said non-adjustable and adjustable grille bars being provided with cooperating apertures which enable said sets of bars to be interconnected in nested relation.
5. In an air register, a set of non-adjustable grille bars and a plurality of individually adjustable grille bars extending substantially normal thereto, said non-adjustable and adjustable grille bars being provided with cooperating notches which enable said sets of bars to be interconnected in nested relation, the notches of said non-adjustable bars being of generally V-shape.
6. In an air register, a face plate provided with an air opening, a frame secured to said face plate around said opening, and grille bars mounted in said frame and extending in spaced relation across the air opening of said face plate, some of said grille bars extending longitudinally of said opening and other of said grille bars extending transversely thereof, said frame being provided with non-circular openings in which said transversely extending grille bars are non-adjustably mounted and with circular openings in opposed relation to said non-circular openings, in which said longitudinally extending grille bars are mounted for individual adjustment.

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DISCLAIMER

2,034,231.—Ernest C. Fox, Cleveland Heights, Ohio. AIR REGISTER. Patent dated March 17, 1936. Disclaimer filed April 8, 1942, by the assignee, The Independent Register Company.

Hereby enters this disclaimer as to claim 1 of said patent.
[Official Gazette April 28, 1942.]

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2. In an air register, a plurality of individually adjustable grille bars, and a plurality of non-adjustable grille bars for automatically maintaining said adjustable grille bars in the positions to which they are adjusted.
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