

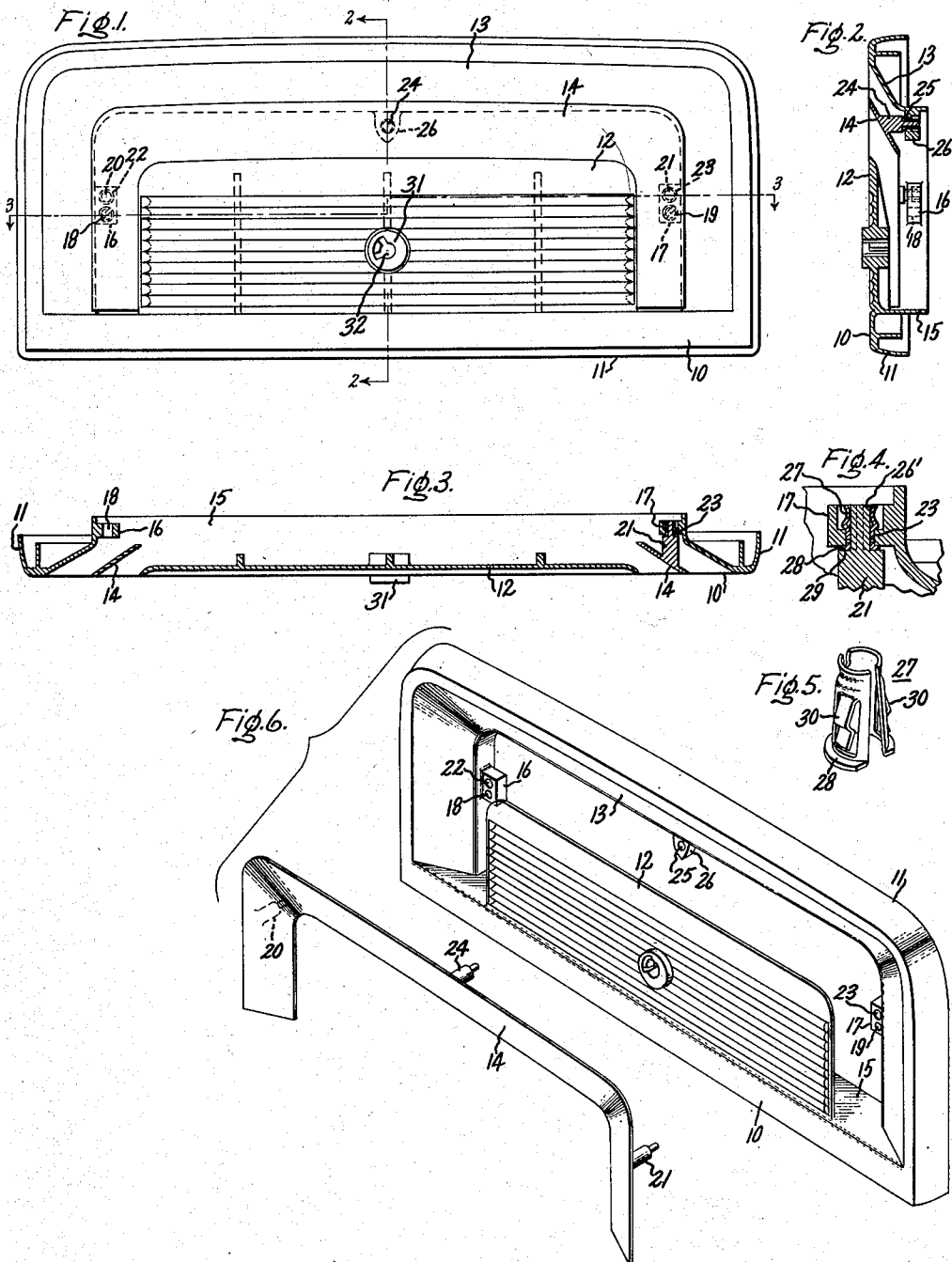
April 15, 1952

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2,593,133

AIR REGISTER

Filed Oct. 29, 1949



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UNITED STATES PATENT OFFICE

2,593,133

AIR REGISTER

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Application October 29, 1949, Serial No. 124,384

2 Claims. (Cl. 98—40)

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My invention relates to air registers such as those employed at the outlets of warm air heating systems.

The registers for controlling the outlet of air systems, such as warm air house heating systems, are commonly mounted on the wall in positions suitable for directing the air into the rooms in the required manner. It is desirable that air registers present a pleasing appearance in keeping with the decoration of the room, and thus it is desirable that the presence of the attaching devices of the register should not detract from the general appearance of the register. Furthermore, it is desirable that the register be readily detachable and also that a damper or any other mechanism behind the register shall be readily accessible. Accordingly it is an object of my invention to provide an air register which shall present a pleasing appearance uninterrupted by screws or other attaching devices and which may be readily detached from the supporting structure to afford access to the space behind the register.

Further objects and advantages of my invention will become apparent as the following description proceeds, and the features of novelty which characterize my invention will be pointed out with particularity in the claims annexed to and forming a part of this specification.

In carrying out the objects of my invention I provide a register plate having an air opening therein and a detachable louver or air directing vane mounted within the opening. The plate is arranged to be secured by screws or other attaching devices to a suitable register box or other supporting structure. The air directing vane is shaped so that its projected area in the plane of the face of the plate will cover substantially the entire opening. The attaching devices for securing the plate to the register box are accessible when the directing vane is removed, and when the vane is in position, it covers substantially the entire face area of the opening as viewed from the front and the attaching devices are thus concealed from view.

For a better understanding of my invention, reference may be had to the accompanying drawing in which Fig. 1 is a front elevation of an air outlet register embodying my invention; Fig. 2 is a view on the line 2—2 of Fig. 1; Fig. 3 is a view on the line 3—3 of Fig. 1; Fig. 4 is an enlarged sectional view of a portion of the outlet register; Fig. 5 is an enlarged perspective view of a friction attaching element employed in the register; and Fig. 6 is a perspective view show-

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ing the vane removed and in front of the register.

Referring now to Figs. 1, 2 and 3, the air outlet register comprises a plate 10 having a flange 11 formed thereon and extending rearwardly from the face of the plate. A central panel section 12 cooperates with a sloping air directing portion 13 to form an inverted U-shaped opening through the plate, and a complementary U-shaped air directing vane 14 is mounted within the opening in a position to cooperate with the sloping portion 13 to direct the air laterally outward from the plate. A subflange 15 is provided for facilitating the attaching of the plate to a register box or other aid duct structure (not shown). The plate may be mounted with the rear of the flange 11 engaging the surface of a wall so that the air outlet opening is located close to the wall. In order to facilitate the attaching of the plate to the register box, two lugs 16 and 17 are formed on the inner wall of the flange 15 and are provided with openings 18 and 19 through which bolts, screws or other attaching devices may be inserted for securing the plate to its support. The vane 14 is secured to the plate 12 by a pair of posts 20 and 21 frictionally engaging recesses 22 and 23 respectively in the lugs 16 and 17 and also by a third post 24 frictionally engaging a recess 25 in a center lug 26 formed at the top of the flange 15. The posts 20, 21 and 24 are of the same construction and have portions of reduced cross section terminating in shoulders which act as stops for determining the position of the plate 14. The construction of the post 21 is clearly shown in Fig. 4 where the reduced portion indicated at 26' is shown within the opening 23 and secured within the opening by a friction element 27, the element 27 having a flange 28 which abuts the shoulders of the post 21, as indicated at 29. The construction of the frictional attaching element 27 is clearly shown in Fig. 5. Similar frictional elements are employed to secure each of the posts 20, 21 and 24 in position. The friction element 27, as shown in Fig. 5, is in the form of a split sleeve of spring metal having two friction arms 30 struck out and bent in a form to retain the friction element in position within the recess 23 so that it remains in position and affords movement of the post 21 when the vane 14 is being attached or removed.

From Fig. 1 it is readily apparent that the vane 14 covers substantially the entire face area of the opening in the plate 10 and that it conceals from the view of a person in front of the

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register all three of the attaching lugs. The surface area of the register presented to view is thus uninterrupted by attaching elements such as screws, clips, or bolts. A boss 31 having a suitable shaft opening 32 may be provided for receiving a damper operating shaft or other control device.

When the vane 14 is to be removed, it is drawn directly forward from its position as shown in Figs. 1, 2 and 3 so that the mounting posts are slidably disengaged from the frictional elements. The vane 14 may be moved upwardly after the posts have been disengaged and thus easily clears the edges of the panel portion 12 so that the vane may readily be removed from its position on the register. As soon as the vane has been removed, the screws or other attaching devices in the lugs 16 and 17 are readily accessible so that the entire plate may be detached.

In Fig. 6 the air directing vane 14 is shown in its position in front of the register plate 10 and it is readily apparent that the screw or bolt secured in the attaching lugs 16 and 17 may be readily reached for purposes of attaching or removing the plate 10. After the plate has been secured in position, the vane 14 may be quickly placed in its required position by inserting reduced portions of the posts 20, 21 and 24 in the recesses in the lugs 16, 17 and 26 and by then pressing the vane back into its position with the shoulders of the posts resting against the flanges of the resilient frictional attaching elements.

Thus a register having an appearance free from interrupting screw heads or other attaching devices has been provided which may easily be positioned on or removed from the supporting structure. A simplified and attractive design may therefore be employed.

The appearance design of the register shown on the drawing is not my invention, but is that of Arthur C. Wesche and is disclosed and claimed in his design application Serial No. D951, filed February 19, 1949, now Design Patent No. 156,790, and assigned to the same assignee as the present invention.

From the foregoing it is readily apparent that I have provided an extremely simple and effective arrangement for affording concealment of the attaching devices of an air register and for affording ready access to the attaching devices

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for purposes of securing or removing the register.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. An air register or the like comprising a plate having an opening therein for the passage of air, an air directing vane adapted to be positioned in said opening and forming with said plate a substantially continuous projected face area in the plane of the face of said plate, a plurality of lugs on said plate extending into said opening, means on said lugs for facilitating the attaching of said plate to a supporting structure, a plurality of attaching elements on said vane, means including friction gripping members for securing said attaching elements to said lugs, said members being disengaged upon direct forward movement of said vane away from said opening whereby said vane may be removed readily to afford access to said plate attaching means and whereby said vane when in position in said opening substantially conceals said lugs.

2. An air register or the like comprising a plate having an opening therein for the passage of air, an air directing vane adapted to be positioned in said opening, said vane extending over substantially the entire projected face area of said opening in the plane of the face of said plate, attaching lugs on said plate for facilitating the securing of said plate to a supporting structure and for retaining said vane in position, attaching elements on said vane extending toward said lugs, friction means for retaining said elements on said lugs, and means on said attaching elements for determining the position of said vane in said opening, said lugs being substantially concealed by said vane and being readily accessible upon removal of said vane.

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