July 31, 1962 R. TROPIANO 3,046,719

ROOM REGISTER

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Fig. 1

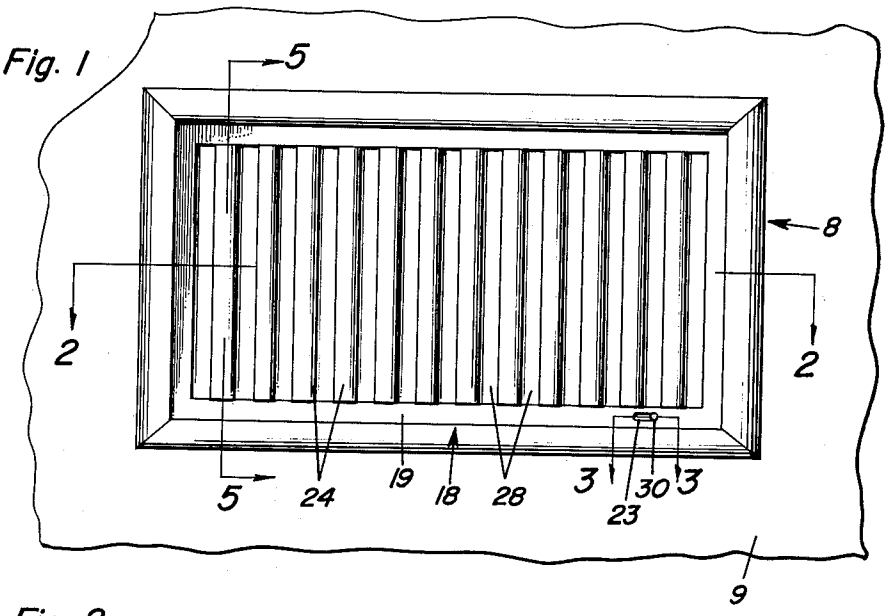


Fig. 2

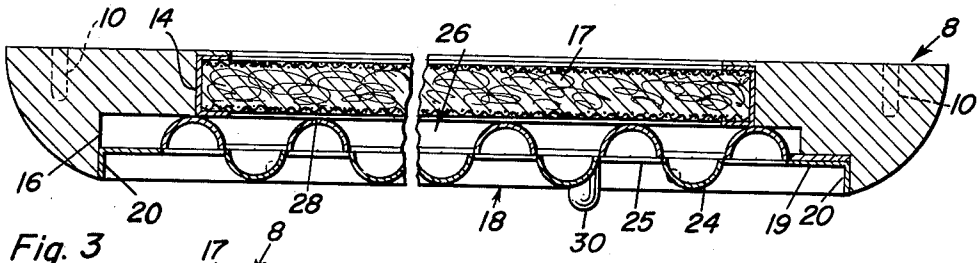
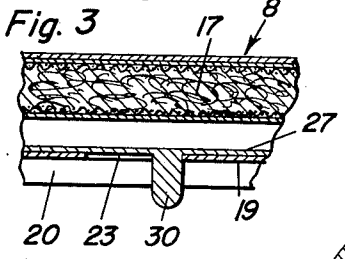


Fig. 3



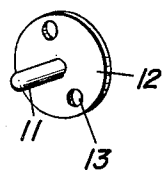
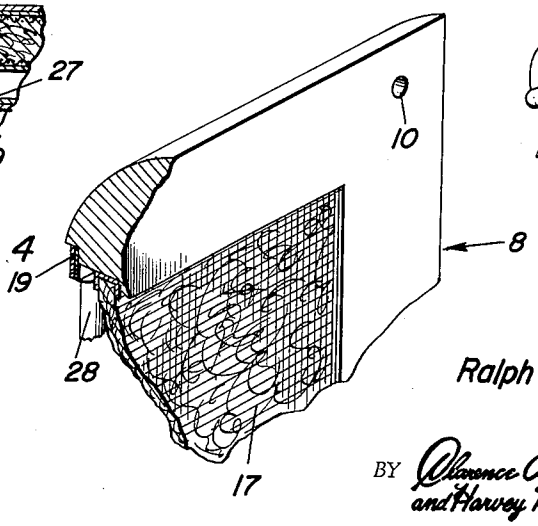


Fig. 4



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Fig. 5

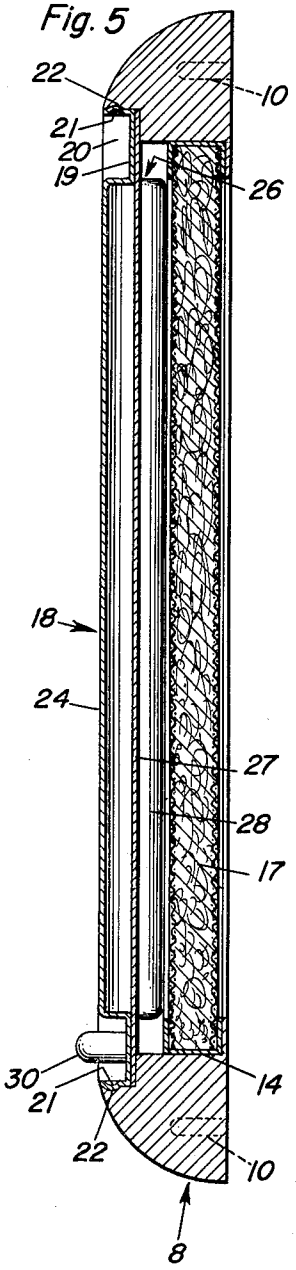


Fig. 6

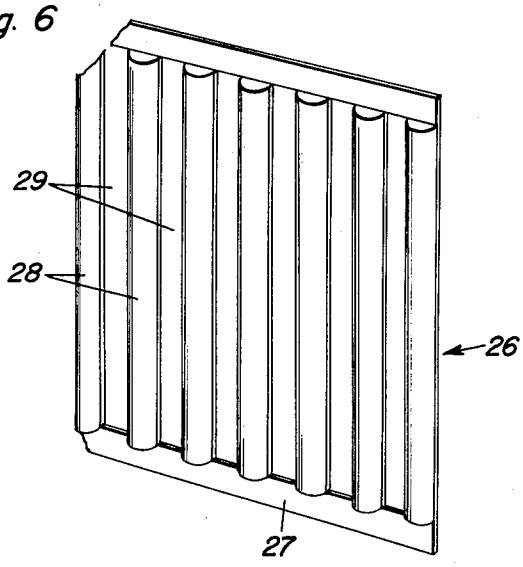
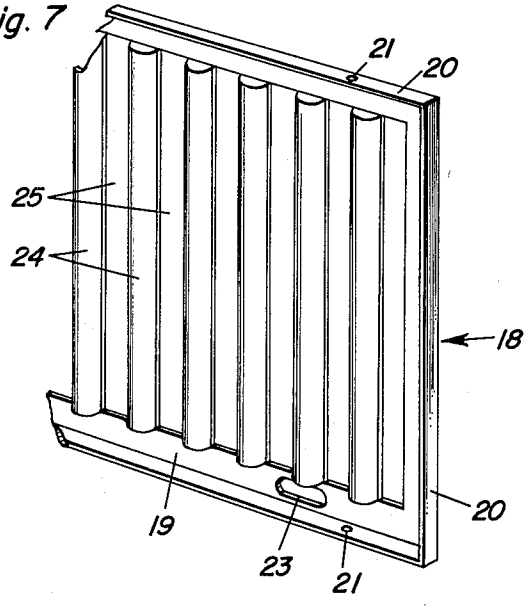


Fig. 7



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ROOM REGISTER

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2 Claims. (Cl. 55—417)

This invention relates to new and useful improvements in room registers for warm or cold air outlets and has for its primary object to provide, in a manner as hereinafter set forth, a device of this character comprising a unique arrangement of air filter, damper, etc.

Another very important object of the present invention is to provide a room register of the aforementioned character comprising an assembly which includes no screws, bolts or other extraneous fastening elements, which may be quickly installed by unskilled labor and from which, further, the filter may be expeditiously removed for cleaning, replacement or other purposes without tools.

Still another very important object of the present invention is to provide a room register of the character described which, with the exception of the filter, may be of injection-moulded plastic, suitably colored as may be desired.

Other objects of the invention are to provide a room register of the character set forth which will be comparatively simple in construction, strong, durable, compact, of light weight, attractive in appearance and which may be manufactured and installed at lost cost.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a view in front elevation, showing a room register embodying the present invention installed;

FIGURE 2 is a view in horizontal section on an enlarged scale, taken substantially on the line 2—2 of FIGURE 1;

FIGURE 3 is a fragmentary view in horizontal section on an enlarged scale, taken substantially on the line 3—3 of FIGURE 1;

FIGURE 4 is a rear perspective view of an upper corner portion of the device showing, separated therefrom, one of the mounting pins;

FIGURE 5 is a vertical sectional view on an enlarged scale through the device, taken substantially on the line 5—5 of FIGURE 1;

FIGURE 6 is a perspective view of one end portion of the slidable damper; and

FIGURE 7 is a perspective view of one end portion of the stationary grating.

Referring now to the drawings in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a generally rectangular frame 8 of suitable material, preferably of injection-moulded plastic, which frame may be of any desired dimensions. The frame 8 is adapted to be mounted over an air outlet in a wall structure 9. Toward this end, the back of the frame 8 has formed in the corner portions thereof sockets 10. The sockets 10 are for the reception of pins 11 which project from disks 12, said disks being apertured as indicated at 13 to accommodate screws for mounting said disks on the wall 9.

As shown to advantage in FIGURES 2 and 5 of the drawings, the inner walls of the frame 8 are stepped in

a manner to provide inner and outer rabbets 14 and 16, respectively. An air filter 17 is removably mounted in the inner or rear rabbet 14.

Removably mounted in the outer or front rabbet 16 is a stationary grating 18. The grating 18 includes a substantially rectangular plate 19 having outwardly right angularly extending flanges 20 on its edges. The upper and lower flanges 20 comprise pressed detents or the like 21 which are adapted to snap into depressions or sockets 22 provided therefor in the rabbet 16 of the frame 8 for removably securing the assembly in said frame. The lower portion of the plate 19 has formed therein a longitudinal slot 23 the purpose of which will be presently set forth. The plate 19 further comprises a series of vertical bars 24 of arcuate or substantially U-shaped cross-section which are spaced from each other in a manner to define vertical slots or air passages 25.

Also mounted in the rabbet 16, in back of the grating 18, is a slidable and removable damper 26. The damper 26 includes a rectangular plate 27. The plate 27 of the damper 26 comprises a series of vertical bars 28 of arcuate or generally U-shaped cross-section, said bars being spaced from each other in a manner to define vertical slots or air passages 29. The bars 28 of the slidable plate 27 control or regulate the air passages 25 in the plate 19. This is shown in FIGURE 2 of the drawings. When the bars 28 are opposed to the bars 24 the air passages 29 and 25 are in registry and open. It will be noted that the arcuate bars 24 of the plate 19 protrude outwardly or forwardly. The arcuate bars 28 of the plate 27 protrude inwardly or rearwardly. Fixed on the lower portion of the plate 27 is an operating handle 30 which is operable in the slot 23.

It is thought that the use of the device will be readily apparent from a consideration of the foregoing. Briefly, the pins 11 are secured on the wall 9 adjacent the corners of the outlet therein and the frame 8 is mounted on said pins. The removable filter 17 is then mounted in the inner or rear rabbet 14 of the frame 8. The slidable damper 26 is then mounted in the rabbet 16 of the frame 8. With the operating handle 30 protruding through the slot 23, the grating 18 is inserted in the rabbet 16 in face-abutting engagement with the plate 27 of the damper 26.

When the grating 18 is thus inserted the detents 21 snap into the sockets 22 and the assembly is thus secured. Of course, to remove the air filter 17 for cleaning, replacement or for any other purpose, the foregoing procedure is substantially reversed.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A room register comprising a rectangular frame for mounting on a vertical wall around an air outlet therein, said frame including inner walls having stepped outer and inner rabbets therein, a removable air filter in the frame seated in the inner rabbet, a damper slidable in the outer rabbet and retaining the filter in position in said inner rabbet, a grating in said outer rabbet abutting the damper for retaining same in position in said outer rabbet and having air passages therein controlled by said damper, an actuating handle on the damper operable through the

grating, means for releasably securing the grating in the frame, said outer rabbet having sockets therein, said means including marginal flanges on the grating and detents on said flanges engageable in the sockets, and means for removably securing the frame on the vertical wall.

2. The combination of claim 1, wherein the last-named means comprises outwardly projecting pins affixed to the wall adjacent the opening, said frame having sockets in its corner portions receiving said pins.

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