June 1, 1954 M. V. FROELICH ET AL 2,679,796

AIR DUCT PLASTER REGISTER FRAME

Filed Aug. 26, 1952

FIG. 1.

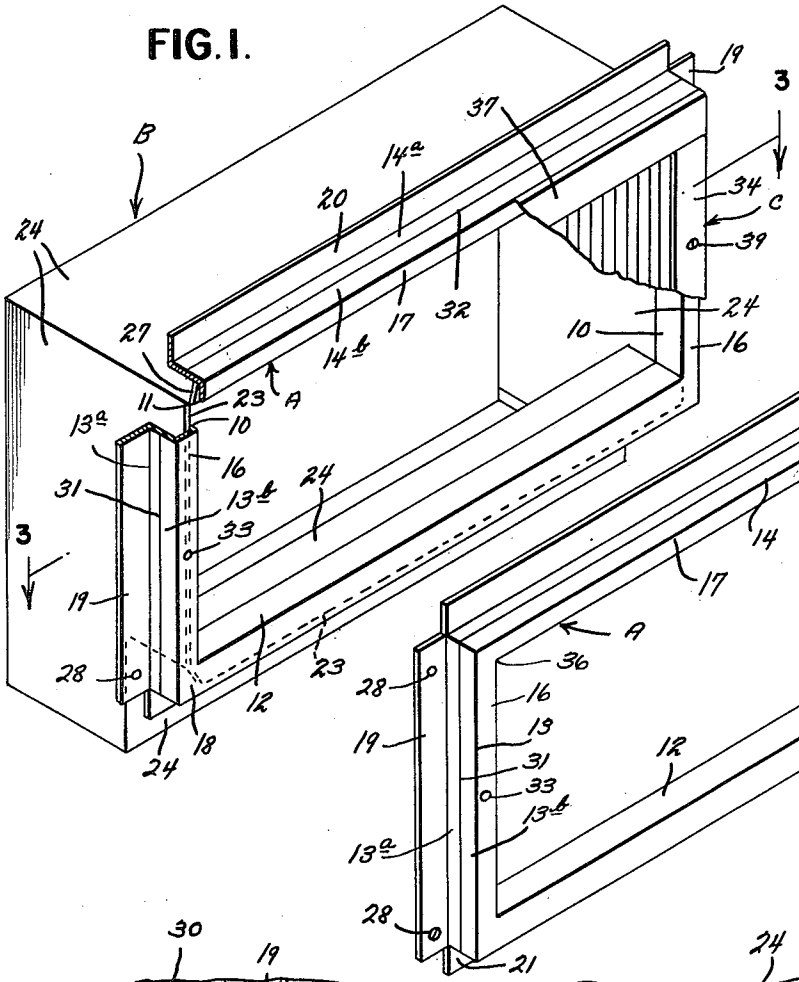
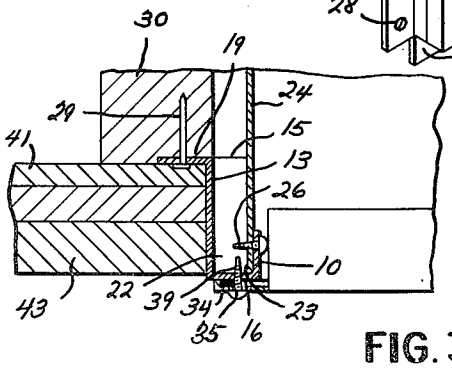


FIG. 2.



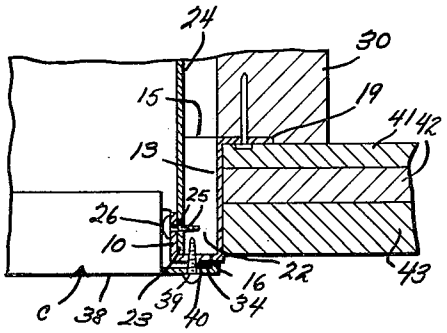


FIG. 3.

INVENTORS
MAX V. FROELICH
HERBERT E. DRAPER

BY Thomas F. Healy
ATTORNEY

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AIR DUCT PLASTER REGISTER FRAME

Max Vernon Froelich and Herbert Earl Draper,
Louisville, Ky.

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3 Claims. (Cl. 98—114)

1

The present invention relates to improvements in an air duct plaster register frame and has for an object the provision of a device of this kind which permits of the complete installation of the stackhead or box, the frame and the register at one operation before the plastering is done so that the mechanic doing this work does not have to first set the box and then return to complete the job after the plasterers have finished their work.

Another object of the present invention is to provide an improved frame structure which affords a positive connection between the studding and the stackhead or box.

A further object of the present invention is to provide an improved device of this character in which a guide line is provided for the plasterers to follow so that when the frame is used in a baseboard installation the proper amount of space will be left by the plasterers outwardly of the plaster to accommodate the baseboard to assure an even tight fit and so that the register grill may be detachably mounted on the frame.

In one of its broadest aspects the present invention contemplates the provision of an improved air duct plaster register frame comprising a substantially continuous wall defining a register receiving space, means for attaching said wall to the free end portions of a stackhead of a warm air heating system, means for securing said wall to the studding of a building in which the heating system is installed, and means for attaching the register to the wall.

More specifically the present invention contemplates the provision of an improved air duct plaster register frame comprising two pairs of opposed inner walls, two pairs of outer walls cooperating with the inner walls to provide a space for receiving the free end portions of a stackhead of a warm air heating system, two pairs of front walls connecting the forward ends of said inner and outer walls, and a flange extending outwardly from the rear end of each outer wall, fastening means for securing the free end portions of the stackhead to one pair of said inner walls, fastening means for securing said flanges to the studding of a building in which the heating system is installed, said inner walls defining a register receiving opening, and fastening means for detachably securing the register to one pair of said front walls and in said opening, one pair of said outer walls and at least one wall of the other pair of outer walls having a guide line thereon intermediate the forward and rear ends thereof to provide a guide for the application of plaster.

2

With the foregoing and other objects in view, the invention will be hereinafter more fully described and more particularly pointed out in the appended claims.

In the drawings, in which the same parts are denoted by the same reference numerals throughout the several views;

Figure 1 is a perspective view of the improved device constructed in accordance with the present invention showing its application to a stackhead and register and with parts broken away and parts in section;

Figure 2 is a perspective view of the improved device alone; and

Figure 3 is a sectional view taken on the line 3—3 of Figure 1.

Referring more particularly to the drawings, A generally indicates the improved air duct plaster register frame, B a stackhead or box of the conventional type to which the frame is applied, and C a conventional type register or grill which is attached to the frame.

The frame A comprises a pair of opposed inner end walls 10, opposed inner top and bottom walls 11 and 12, a pair of outer end walls 13, top outer wall 14, bottom outer wall 15, front end walls 16, top front wall 17, bottom front wall 18, end flanges 19, top flange 20 and bottom flange 21. The corresponding inner and outer walls of the frame are disposed in spaced apart substantially parallel relation to provide spaces 22 therebetween for the reception of the free end portions 23 of the walls 24 of the box B.

The inner end walls 10 and the free end portions 23 of the end walls of the box B may be provided with aligned screw threaded openings 25 for the reception of fastening means, such as screws 26 for securing the frame A to the box B. The free end portion of the front wall 24 of the box B may be secured to the inner bottom wall 12 of the frame by spot welding or the like and the extreme free end part 27 of the top wall 24 of the box B may be bent upwardly and secured to the inner face of the top front wall 17 by welding or the like. The front wall 24 may be secured to the flange 21 of the frame by welding or the like.

The outer walls extend rearwardly a greater distance than the inner walls and the flanges 19, 20 and 21 extend outwardly from the rear edges of the outer walls at substantially right angles thereto. The flanges 19 may be provided with holes 28 for the reception of fastening elements, such as nails 29 by which the frame A may be secured to studding 30.

The outer walls 13 and 14 have a substantial depth and the walls 13 are divided by a guide line 31 into a rear plaster receiving area 13a and a forward baseboard receiving area 13b and the wall 14 is divided by a guide line 32 into a rear plaster receiving area 14a and a forward baseboard receiving area 14b. The guide lines 31 and 32 are disposed substantially midway between the forward and rear edges of their respective walls so that the areas defined thereby are of substantially the same depth. Intermediate their ends the front end walls may be provided with screw threaded openings 33 and the end walls 34 of the register C may have openings 35.

The inner walls of the frame A define a space 36 for receiving the register C. When the register C is positioned within the space 36 the end walls 34 of the register will engage the front end walls 16 of the frame A and the top wall 37 and the bottom wall 38 of the register will engage the top front and the bottom front walls 17 and 18 of the frame A. At that time the openings 33 and 35 will be in registry to receive fastening elements, such as screws 39 by which the register will be detachably secured to the frame A. A rubber gasket 40 may be disposed between the front walls of the frame A and the walls of the register C to set up a gas tight joint therebetween.

In the use of the device, assuming that the box B has been installed in the conventional or in any other suitable manner, the frame A will be slipped over the free end portions 23 of the walls 24 of the box B so that the free end portions 23 are received by the spaces 22 and engage the outer faces of the inner walls. The frame A will be secured to the box B by the screws 26 and by welding as described above. The frame will then be secured to the studding 30 by the fastening elements 29 and the register C will then be secured in place on the frame as described above.

The plaster areas 13a and 14a of the outer walls 13 and 14 are of sufficient depth to accommodate laths 41 and plaster 42. The areas 13b and 14b are of sufficient depth to accommodate the baseboard 43 so that the outer face of the baseboard lies inwardly of the outer faces of the walls of the register and the front walls of the frame to facilitate the mounting and dismounting of the register C. The lines 31 and 32 will serve as guides to the plasterers so that the outer face of the plaster will line up with the guide lines 31 and 32 and will not extend outwardly therebeyond to provide a neat even surface of plaster and to leave room for the baseboards.

It will be noted that with the use of this improved frame, the complete installation of the box, the frame and the register can be accomplished at one time without the necessity of the workman returning after the plasterers have done their part of the job. The frame with the nails 29 and screws 26 serves as a positive securing means for permanently securing the box to the studding and the plaster 42 will cover the heads of the nails 29 and engage the flanges of the frame to aid in securing the frame in proper position.

The guide lines 31 and 32 may be made in any suitable manner as by a writing implement or by indentation of the material from which the frame is made. The frame may be made of any suitable material, such as cold rolled steel and may be made in one piece or in sections. The registers come in sizes, 6 x 8, 6 x 10, 6 x 12, 6 x 14, and 6 x 30. In the 6 x 12 and 6 x 14 size, the frame will span the sixteen inch center studs. On the other sizes, all sheet metal workers have S slides or pocket slides, which are simply tightly crimped pieces of metal which slide over another metal edge and form an extension. These S slides can be affixed to the top edge of the frame and the S slide nailed to the studding.

It is apparent from the above that the present invention contemplates the provision of an improved air duct plaster register frame comprising two pairs of opposed inner walls, two pairs of outer walls spaced from and substantially parallel to the corresponding inner walls to provide spaces for receiving the free end portions of the walls of a box of a warm air heating system, two pairs of front walls connecting the forward ends of said walls, and a flange extending outwardly from the rear edge of each outer wall, fastening means for securing the free end portions of the box to said inner walls, fastening means for securing said flanges to the studding of a building in which the heating system is installed, said inner walls defining a grill receiving opening, fastening means for securing the grill to said frame and within said opening, and a guide line formed on one pair of said outer walls and on at least one wall of the other pair of outer walls intermediate the forward and rear edges thereof to provide a guide for the application of plaster and to divide each lined wall into plaster and baseboard receiving areas.

It is obvious that various modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such modifications being restricted only by the scope of the following claims.

What we claim is:

1. In combination a box of a warm air heating system having walls provided with free end portions, a register having end walls, an integral frame comprising two pairs of opposed inner walls, two pairs of outer walls spaced from and substantially parallel to the corresponding inner walls to provide spaces receiving the free end portions of the box walls, two pairs of front walls connecting the forward ends of the inner and outer walls, and a flange extending outwardly from the rear edge of each outer wall, the free end portions of the box walls and one pair of said inner frame walls having aligned screw threaded openings therein, fastening elements received by said openings, the flanges of one pair of outer frame walls having holes therethrough, fastening elements extending through said holes and adapted to enter studding of the building in which the heating system is installed, the end walls of the register and one pair of front frame walls having aligned openings, fastening elements received by said aligned openings in the register and front frame walls for securing the register to the frame, and a guide indentation formed on one pair of said outer walls and on at least one wall of the other pair of outer walls intermediate the forward and rear edges thereof to provide a guide for the application of plaster and to divide each indented wall into plaster and baseboard receiving areas.

2. In combination a box of a warm air heating system having walls provided with free end portions, a register having end walls, an integral frame comprising two pairs of opposed inner walls, two pairs of outer walls spaced from and substantially parallel to the corresponding inner walls to provide spaces receiving the free end

portions of the box walls, two pairs of front walls connecting the forward ends of the inner and outer walls, and a flange extending outwardly from the rear edge of each outer wall, the free end portions of the box walls and one pair of said inner frame walls having aligned screw threaded openings therein, fastening elements received by said openings, the flanges of one pair of outer frame walls having holes therethrough, fastening elements extending through said holes and adapted to enter studding of the building in which the heating system is installed, the end walls of the register seating directly upon the front walls of the frame, the end walls of the register and one pair of front frame walls having aligned openings, fastening elements received by said aligned openings in the register and front frame walls for securing the register to the frame, and a guide indentation formed on one pair of said outer walls and on at least one wall of the other pair of outer walls intermediate the forward and rear edges thereof to provide a guide for the application of plaster and to divide each indented wall into plaster and baseboard receiving areas, said flanges and said outer walls being disposed at substantially right angles to one another and said outer walls being straight and flat to provide seats in said areas for the adjacent ends of the plaster and baseboard.

3. For use with a box of a warm air heating system of a building having walls provided with free end portions having screw threaded openings therein and a register having end walls provided with openings, an integral frame comprising two pairs of opposed inner walls, two pairs of outer walls spaced from and substantially parallel to the corresponding inner walls to provide spaces adapted to receive the free end portions of

the box walls, two pairs of front walls connecting the forward ends of the inner and outer walls, and a flange extending outwardly from the rear edge of each outer wall, one pair of said inner frame walls having screw threaded openings therein adapted to be aligned with the threaded openings in the corresponding box walls, fastening elements for reception by said openings, the flanges of one pair of outer frame walls having holes therethrough, fastening elements extending through said holes and adapted to enter studding of the building in which the heating system is installed, the end walls of the register adapted to seat directly upon the front frame walls, one pair of front frame walls having openings adapted to align with the openings in the register end walls, fastening elements for reception by said aligned openings in the register and front frame walls for securing the register to the frame, and a guide indentation formed on one pair of said outer walls and on at least one wall of the other pair of outer walls intermediate the forward and rear edges thereof to provide a guide for the application of plaster and to divide each indented wall into plaster and baseboard receiving areas and to receive some of the plaster to form an interlock between said indented walls and plaster, said areas being flat and non-inclined to form seats for the flat ends of the plaster and baseboard.

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