Feb. 25, 1958 P. F. BRINEN 2,824,722

AIR-SPLITTER FOR BASEBOARD CONVECTORS

Original Filed Sept. 3, 1954

Fig. 1

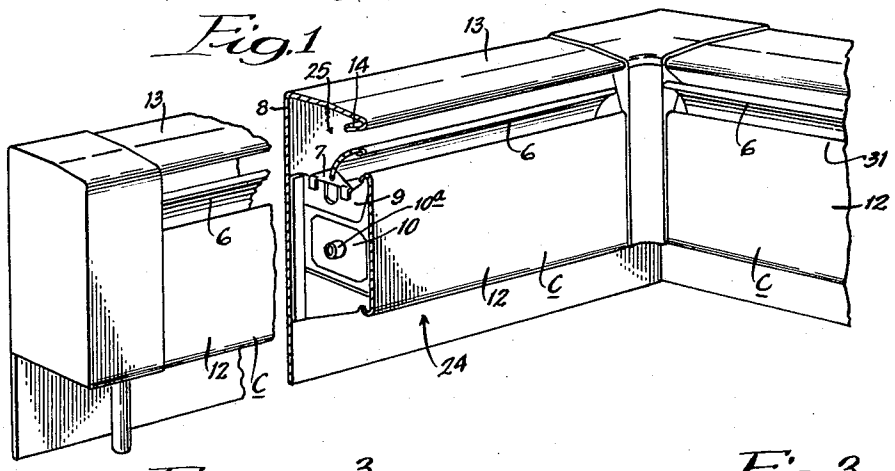


Fig. 2

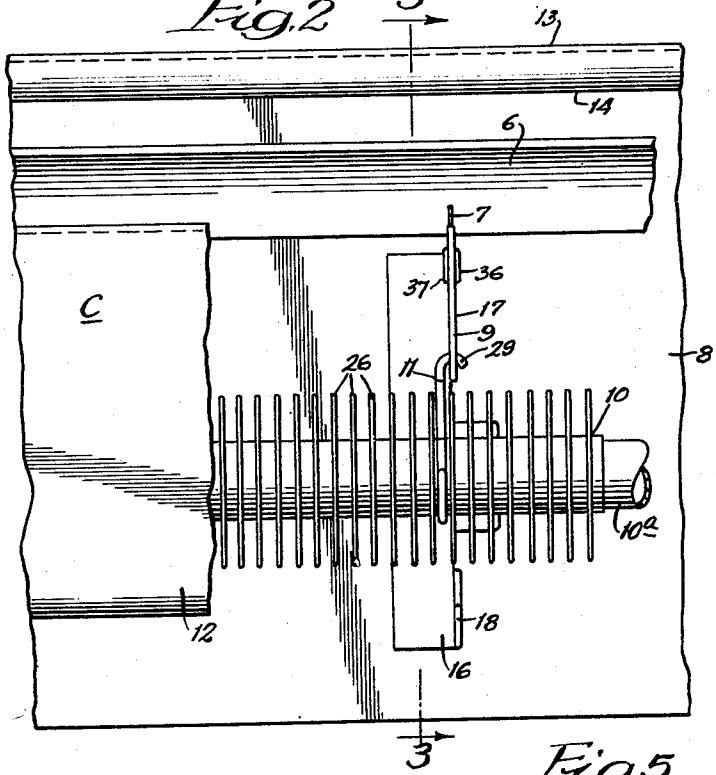


Fig. 3

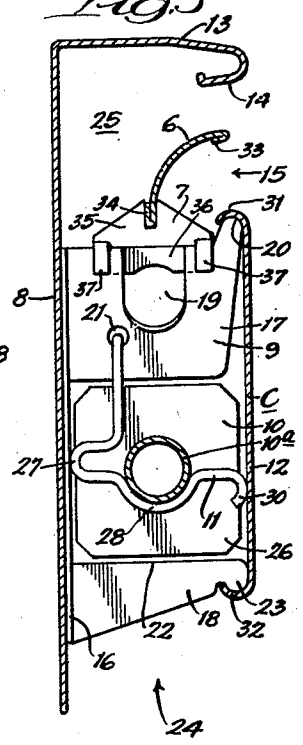


Fig. 4

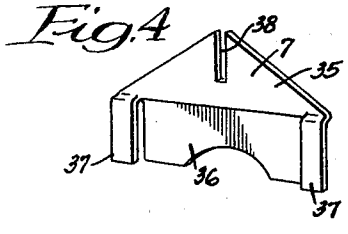
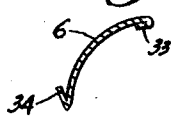


Fig. 5



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AIR-SPLITTER FOR BASEBOARD CONVECTORS

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Original application September 3, 1954, Serial No. 454,186. Divided and this application December 28, 1955, Serial No. 555,860

2 Claims. (Cl. 257—133)

This invention relates to heat exchangers, of the convector type, for location around a room along what is generally known as the base-board.

The main objects of this invention are to provide an improved construction and relative arrangement of an air-splitter and supporting clip for base-board type convectors; and to provide an improved form of air-splitter and supporting clip of this kind which is simple in construction, hence economical to manufacture and facile to initially assemble on the job and subsequently remove and replace when the convector requires servicing.

In the adaptation shown in the accompanying drawings;

Fig. 1 is a perspective view, partly broken away, of an assembled stretch of base-board convector wherein is arranged an air-splitter and supporting clip constructed in accordance with this invention;

Fig. 2 is an enlarged, fragmentary, and partly-broken away, front view of a section of the convector assembly shown in Fig. 1;

Fig. 3 is a transverse, sectional elevation of the same as veiwed from the plane of the line 3—3 of Fig. 2;

Fig. 4 is a perspective view of one of the supporting clips which are used for removably positioning the air-splitter in place; and

Fig. 5 is an end elevation of an air-splitter, before positioning on a supporting clip.

The essential concept of this invention involves a pentagonal-shaped clip formed to fit over the top edge of the heating-core suspending-bracket and thereby position an arcuate-shaped panel above the heating core so as to subdivide the heated-air space above the core and direct the air flow horizontally outwardly into the room.

An air-splitter embodying the foregoing concept, for use with base-board convectors C, comprises a panel 6 and supporting clips 7.

The base-board convector here shown is of an over-all form and relative arrangement such as fully set forth, illustrated, and claimed in copending application Ser. No. 454,186, filed September 3, 1954, and of which this is a divisional application.

Each section of such a base-board convector C comprises a wall mounting 8 to which is secured brackets 9 and from which brackets a section of the heating core 10 is suspended by hangers 11, and concealed behind a front panel 12, between the upper opposed edges of which panel 12 and mounting 8 is disposed the air-splitter panel 6 set in the clips 7, as presently will be described more fully.

As the drawing clearly reveals, the wall mounting 8 has a right-angularly-disposed top 13, the forward end of which is turned inwardly to form a bead 14 spaced vertically above and in near alignment with the front panel 12, to provide a heated-air outlet 15 from the space above the heating core 10.

The brackets 9, several of which are used with each length of wall-mounting 8, are metal stampings from the bases 16 of which extend the right-angularly-disposed, vertically-spaced flanges 17 and 18. Medially the flange 17 is formed with a U-shaped recess 19 and has its upper

outer corner extended to form an upwardly-disposed, rounded prong 20. Near its lower rear portion is an aperture 21 for the reception of one end of the hanger 11. The recess 19 is provided to accommodate a return pipe for the heating core 10 when, for some reason, it is desired to have the inlet and outlet supply pipes at one en dof a stretch of convector C.

The flange 18 has its upper edge 22 at right angles to the base 16 but its lower edge is inclined upwardly and notched near the outer end to provide a downwardly-disposed rounded prong 23. These flanges 17 and 18 are so spaced from each other vertically that the prongs 20 and 23 may have the panel 12 releasably snapped thereon, as so clearly shown in Fig. 3.

The brackets 17 and 18 are so positioned on the mounting back 8 that with the panel 12 in place on the prongs 20 and 23 there is a space 24 above the floor and a space 25 below the mounting top 13 to provide for the requisite circulation of air into, and up through, and from the space wherein the core 10 is suspended.

The heating core 10 is of conventional character comprising a tube 10*a* on which is bonded rectangularly-shaped, axially-spaced fins 26.

The hanger 11 (Figs. 2 and 3) is a piece of wire bent to simulate the general form of an L with an outwardly-disposed loop 27 formed near the junction of the two leg parts of the L. The lower horizontally-disposed leg part is curved downwardly to provide a cradle 28 for the tube 10*a* on the heating core 10.

The free ends of the wire hanger 11 are bent to form hooks 29 and 30. The loop 27 and the hook 30 are so shaped and spaced that the opposite extreme peripheral points are spaced apart a distance but slightly less than the front-to-rear distance between the front face of the bracket base 16 and the inside face of the front panel 12, when the latter is in place on the prongs 20 and 23, as shown in Fig. 3. Thus, when the hook is inserted in the aperture 21, in the flange 17, and the heating core 10 is suspended on two or more of these hangers 11, the edges of the fins 26 are held free of contact with the bracket bases 16 and the panel 12. Accordingly, when there is an expansion and contraction of the heating core 10 there is no annoying tinkling sound created by the dragging of the edges of the fins 26 along these parts.

The panel 12, for each stretch of convector C, is simply a sheet of metal. The opposite longitudinal peripheral portions are bent to provide annular beads 31 and 32. These beads are so formed that with just a little pressure they may be sprung over the curved extremities of the prongs 20 and 23, respectively, to insure the panel being held firmly in place on these brackets 9, to conceal the heating core 10.

The air-splitter panel 6 is a curved strip of sheet metal formed with reinforcing rib 33 along the one longitudinal edge and a V-shaped flange 34 (Fig. 5) along the other edge. An air-splitter 6 is supported on two or more bracket flanges 17 by the clips 7 (Figs. 3 and 4).

The clips 7 are sheet-metal stampings of pentagonal form. Two edges are parallel and two other edges are inclined to form a triangular part 35 based on a rectangular part 36 bounded by the two parallel edges and the fifth edge disposed at right angles to the two parallel edges.

The ends of the rectangular part 36 are struck out from the face of that part to form prongs 37. The triangular part 35 has a slot 38 extending inwardly from its apex.

In width this slot 38 is slightly greater than the thickness of the material from which the air-splitter 6 is made so that with the V-shaped flange 34 pressed into the slot 38 the air-splitter 6 is frictionally held in place. With one of these clips 7 astride the upper edges of each bracket

flange **17**, the air-splitter **6** is positioned nearly medially in the heated air outlet **15**.

As the foregoing makes abundantly clear, these clips **7** allow for a very simple and extremely convenient manner of mounting the air-splitter **6** in place to subdivide the space **25**, above the heating core **10**, and also the heated-air outlet **15**. Thus the air entering the air inlet **24**, and rising as it is heated, is forced out through the outlet **15** and in two streams both horizontally directed into the room.

The clips **7** are easily set in place with the prongs **37** and the rectangular part **36** straddles the bracket flange **17**. By pressing the V-shaped flange **34** into the recess **38**, the panel **6** is firmly held in place. When necessary these parts are as easily separated.

An air splitter of this kind contributes two advantages to the base board convection herein shown. It provides for a smoother, more uniform and greater volume of air flow through the outlet **15**. The clip-type mounting in no way interferes with the location of a return tube through bracket recess **19**.

Variations and modifications in the details of structure and arrangement of the parts may be resorted to within the spirit and coverage of the appended claims.

I claim:

1. In combination with a base-board convector comprising a wall-mounting terminating in a horizontally-disposed top and supporting transversely-disposed flanges whereon is suspended a front panel with its upper edge disposed below the forward edge of the top to provide a heated-air outlet, an arcuate-shaped air-splitter panel, and a plurality of clips each notched along opposite edges to respectively seat on the flanges and to seat the air-splitter panel along one lateral edge intermediate the mounting and the front panel to fixedly dispose the other lateral edge intermediate the forward edge of the top and the upper edge of the front panel and thereby subdivide the heated-air outlet so as to always direct two horizontal streams of heated air through the heated-air outlet.

2. In combination with a base-board convector comprising a wall-mounting terminating in a horizontally-disposed top and supporting transversely-disposed flanges whereon is suspended a front panel with its upper edge disposed below the forward edge of the top to provide a heated-air outlet, an arcuate-shaped air-splitter panel one lateral edge of which is bent back upon itself to V-form, and a plurality of clips having prongs offset from the faces of the base part thereof to form longitudinally-alined notches for seating over the flanges, each clip also having a notch extending inwardly from the top edge to seat the V-form latter edge of the air-splitter panel intermediate the mounting and the front panel to fixedly dispose the other lateral edge intermediate the forward edge of the top and the upper edge of the front panel and thereby subdivide the heated-air outlet so as to always direct two horizontal streams of heated air through the heated-air outlet.

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