Nov. 27, 1956 D. D. HALLIDAY ET AL 2,771,833

HOT AIR BASEBOARD DIFFUSER

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Fig. 1

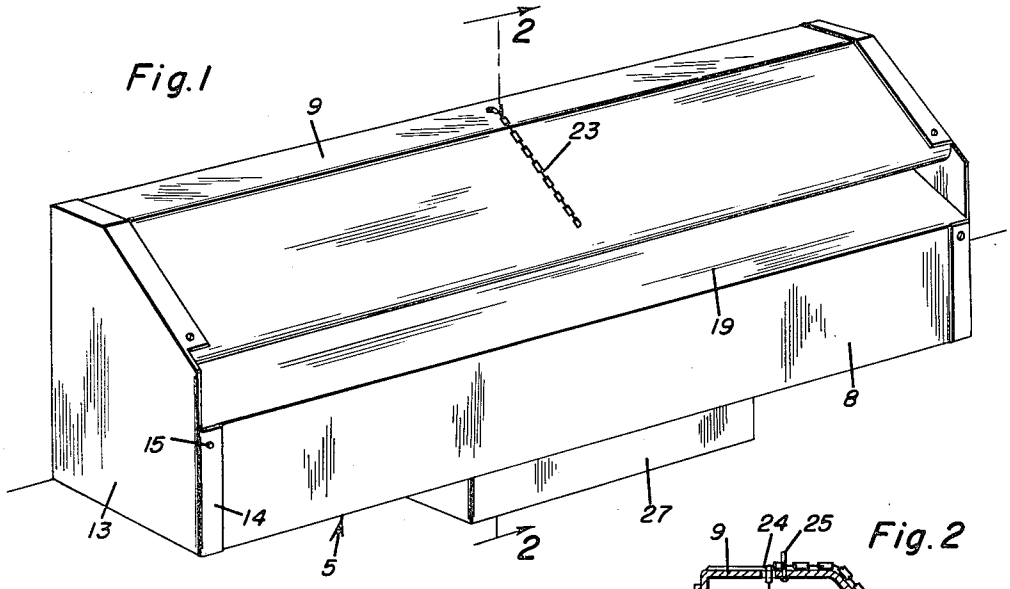
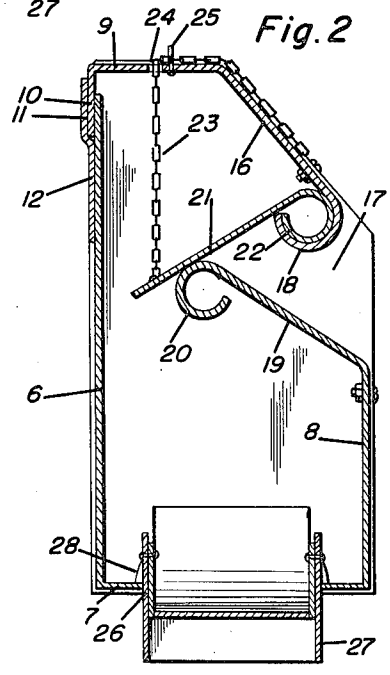


Fig. 2



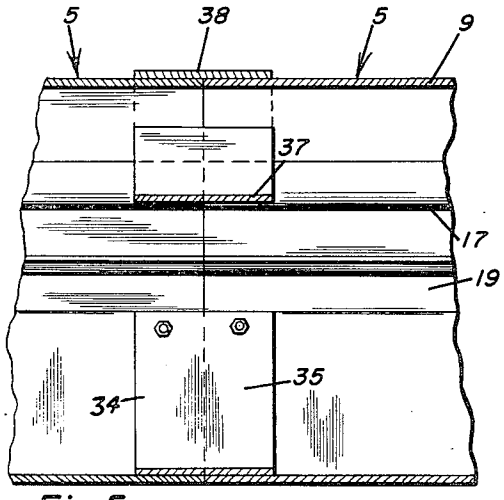


Fig. 5

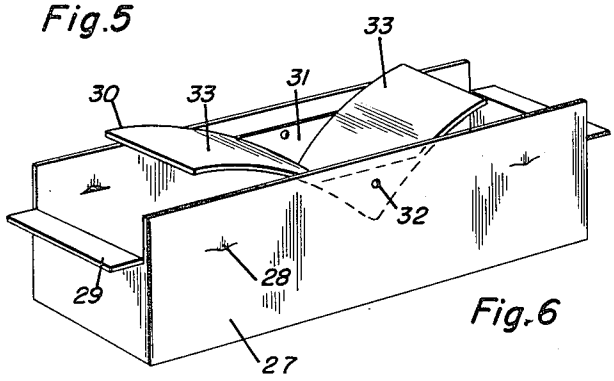


Fig. 6

Donald D. Halliday
Edward P. Halliday
INVENTORS.

BY Thomas A. O'Brien and Harvey B. Jacobson
Attorneys

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Fig. 3

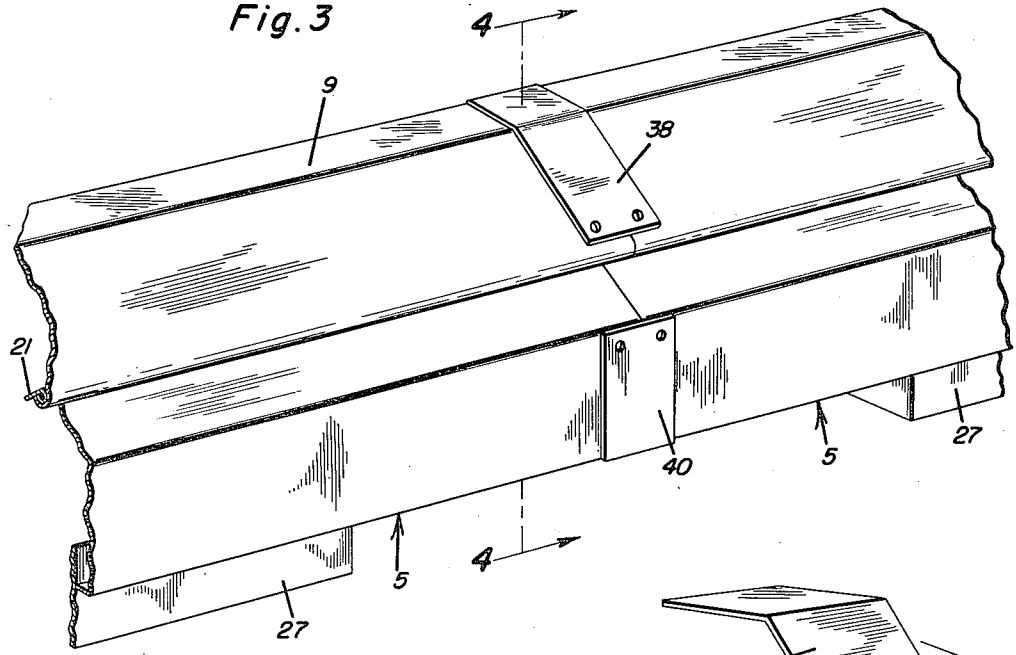
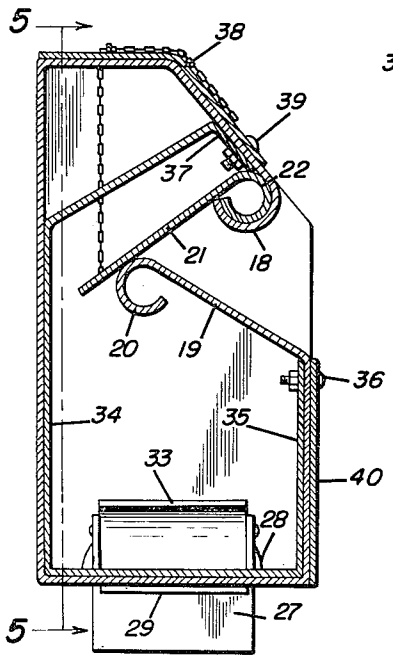


Fig. 4



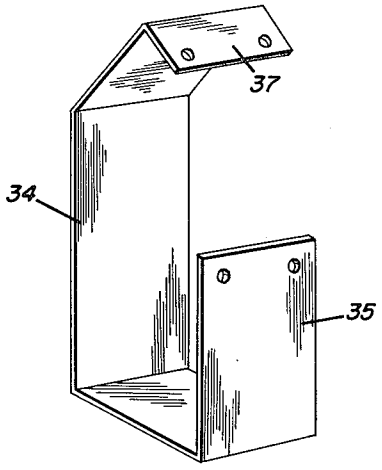


Fig. 7

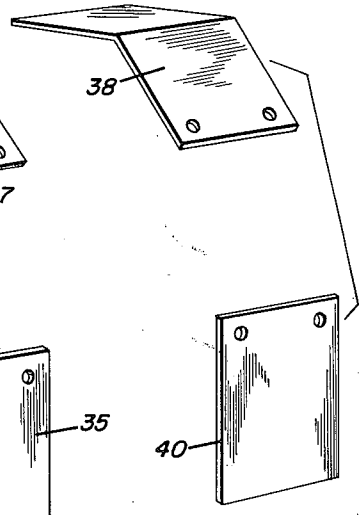


Fig. 8

Donald D. Halliday
Edward P. Halliday
INVENTORS.

BY Clarence A. O'Brien and Harvey B. Jackson
Attorneys

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HOT AIR BASEBOARD DIFFUSER

Donald D. Halliday, Fulton, and Edward P. Halliday, Liverpool, N. Y.

Application November 13, 1953, Serial No. 391,794

3 Claims. (Cl. 98—40)

The present invention relates to new and useful improvements in baseboard heating units for hot air systems and more particularly to a hot air diffusing chamber connected to a high pressure air heating system to reduce pressure of the heated air and disperse the same along the baseboard of a room.

An important object of the invention is to provide an elongated air pressure diffusing chamber adapted for placing in front of a baseboard and having an outlet opening extending the length of the chamber at its front and equipping the bottom of the chamber with a collar for connecting to the hot air supply duct of a heater and whereby the relative capacities of the chamber and duct are such as to reduce the pressure of the heated air before passing outwardly through the opening.

Another object is to provide oppositely extending deflectors in the collar to more uniformly diffuse the air throughout the length of the chamber.

A further object is to provide a rearwardly inclined baffle construction in the chamber under the outlet and a damper for regulating the flow of air from the chamber and closed against the upper edge of the baffle.

A still further object is to provide a hot air baseboard diffuser which may comprise a single chamber or multiplies thereof connected to each other in end-to-end relation.

An additional object is to provide a device of this character of simple and practical construction, which is efficient and reliable in operation, relatively inexpensive to manufacture and otherwise well adapted for the purpose for which the same is intended.

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 perspective view;

Figure 2 is a transverse sectional view taken on a line 2—2 of Figure 1;

Figure 3 is a fragmentary front perspective view;

Figure 4 is a transverse sectional view taken on a line 4—4 of Figure 3;

Figure 5 is a fragmentary longitudinal sectional view taken on a line 5—5 of Figure 4;

Figure 6 is a perspective view of the connecting collar;

Figure 7 is a perspective view of the internal connector for a pair of the chambers; and

Figure 8 is a perspective view of the external connectors therefor.

Referring now to the drawings in detail, wherein for the purpose of illustration we have disclosed a preferred embodiment of our invention, the numeral 5 designates a hot air diffusing chamber of elongated construction and including a rear wall 6, a bottom 7 and a front wall 8. The top of the chamber is closed by a removable cover 9 formed at its rear portion with a downwardly extending

locking flange 10 inserted in a channel 11 formed by welding or otherwise securing a metal strip 12 to the outer surface of the rear wall adjacent the upper edge of the latter and spacing the strip therefrom. The ends of the chamber are closed by end plates 13 having flanges 14 overlapping and secured to the adjacent walls and cover of the chamber by screws 15.

The cover 9 is formed with a sloping front portion 16 which is spaced from the upper portion of the front wall 8 to provide a horizontal opening 17 which extends the entire length of the chamber. The lower edge of the cover 9 is rolled inwardly to form a substantially semicircular channel 18 and the upper portion of the front wall 8 is formed with a rearwardly sloping baffle 19 which projects into the chamber and the inner edge of the baffle is rolled thereunder to form a beading 20 which is positioned rearwardly and below the channel 18.

A damper 21 extends the entire length of the chamber and is formed at one longitudinal edge with a downwardly rolled beading 22 having an arc substantially corresponding to that of the channel 18 and the beading 22 is rotatably fitted in the channel to provide a pivot therefor for swinging the damper vertically into and out of position for closing the opening 17. The damper rests on the beading 20 when in closed position.

A chain or other suitable flexible member 23 is attached to the damper and extends upwardly therefrom through an opening 24 in the cover 9 and is secured on top thereof. A pin 25 projects upwardly from the cover to selectively engage the links of the chain to secure the damper in adjusted position.

The bottom 7 of the chamber is formed with a rectangular shaped opening 26 to receive a correspondingly shaped collar 27 which is formed with outwardly pressed and downwardly flared lugs 28 which yield when forced upwardly in the opening 26 internally of the chamber to rest on the bottom 7 and support the collar thereon. The ends of the collar are formed with outwardly projecting flanges 29 to abut the under side of bottom 7 to lock the collar in the opening 26 in the bottom of the chamber.

A substantially V-shaped deflector 30 is formed with webs 31 at its crotch portion for attaching to the central side portions of the collar internally thereof by screws or rivets 32 to support the wings 33 of the deflector in an upwardly sloping position and extending longitudinally of the collar toward the opposite ends of the latter.

The lower projecting end of collar 27 is adapted for attaching to a floor duct (not shown) of a hot air heating system to place the chamber 5 along the baseboard of a room, as shown in Figure 1, and hot air entering the bottom of the chamber is deflected longitudinally thereof by the deflector wings 33 to equalize the flow of air from the opening 17 into the room substantially uniformly throughout the length of the chamber. The increased capacity of the chamber with respect to the inlet collar 27 will reduce and diffuse the pressure of the hot air so that the flow thereof from the chamber will be slow. The flow may be further controlled or cut off by regulating the damper 21.

Any desired number of the chamber may be connected to each other in end-to-end relation to extend a desired distance along the baseboard by removing one of the end walls 13 and connecting the open ends of the chambers to each other by means of an internal connector 34 which bridges the meeting ends of the chambers and which includes a front flange 35 secured to the inside of the front wall 8 by bolts and nuts 36 and a top flange 37 which is similarly secured to the underside of the sloping front portion 16 of cover 9. A top connector plate 38 is also secured to the outer surface of cover 9 at the meeting edges thereof by bolts and nuts 39 and a front

connector plate 40 is secured to the outside of the front walls 8 of the chamber by the bolts and nuts 36.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, 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 shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed is as follows:

1. A hot air diffusing chamber for heating systems comprising an elongated hollow body having a longitudinally elongated opening in its upper front wall for the egress of air from the chamber, a collar extending downwardly from the bottom of the body adapted for connecting to a hot air duct, an upwardly and rearwardly sloping baffle in the body at the lower portion of the opening, an elongated damper, means swingably supporting one longitudinal edge portion of the damper internally of the body immediately above said opening and with the free longitudinal edge portion of the damper resting on the upper portion of the baffle to close the opening, and actuating means connected to the damper for raising the latter into an inclined position above the baffle for deflecting air through the opening in a downward direction when the damper is open.

2. A hot air diffusing chamber for heating systems comprising an elongated hollow body including a front wall, a rear wall and a bottom, a removable cover closing the top of the body and having a front edge portion spaced above the front wall to provide a horizontal opening at the front of the body for the egress of air therefrom, said bottom of the body having an opening for admitting hot air thereto, a baffle between the first and second openings and sloping upwardly from the front wall toward and spaced from the rear wall, an elongated damper, means swingably supporting one longitudinal edge portion of the damper internally of the body immediately above said opening and with the free

longitudinal edge portion of the damper resting on the upper portion of the baffle to close the opening, and actuating means connected to the damper for raising the latter into an inclined position above the baffle for deflecting air downwardly through the opening.

3. A hot air diffusing chamber for heating systems comprising an elongated hollow body including a front wall, a rear wall and a bottom, a removable cover closing the top of the body and having a front edge portion spaced above the front wall to provide a horizontal opening at the front of the body for the egress of air therefrom, said bottom of the body having an opening for admitting hot air thereto, a baffle between the first and second openings and sloping upwardly from the front wall toward and spaced from the rear wall, a channel member integrally formed with and underlying the front edge portion of the cover above said opening, a damper internally of the body and having a beading at one edge rockably supported in said channel member for vertical swinging movement of the damper and said damper extending rearwardly into the body from said channel member in a downwardly inclined direction and having a rear free edge portion resting on the baffle to close the egress opening, and a flexible member attached to the damper and extending upwardly through an opening in the cover to raise the damper into an open inclined position above the baffle to deflect air downwardly through the egress opening.

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