Dec. 18, 1956 G. M. PATTERSON 2,774,574

BASEBOARD RADIATOR

Filed Oct. 23, 1952

Fig. 2

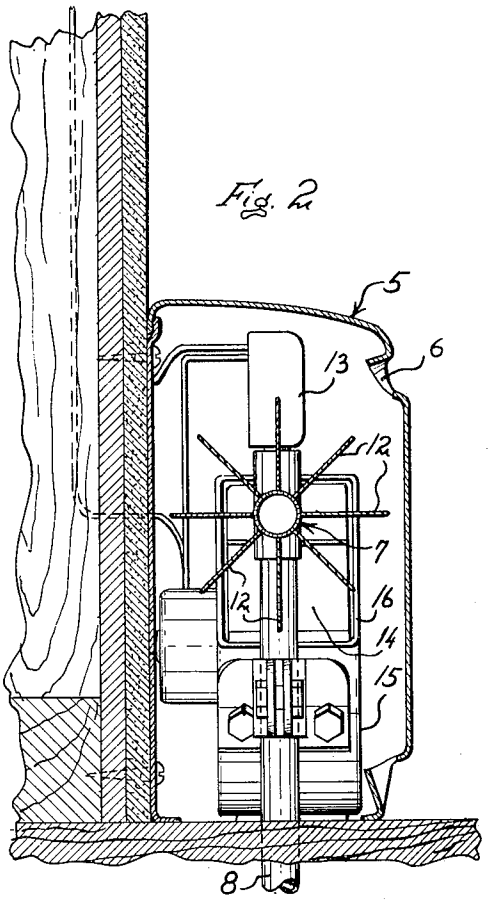
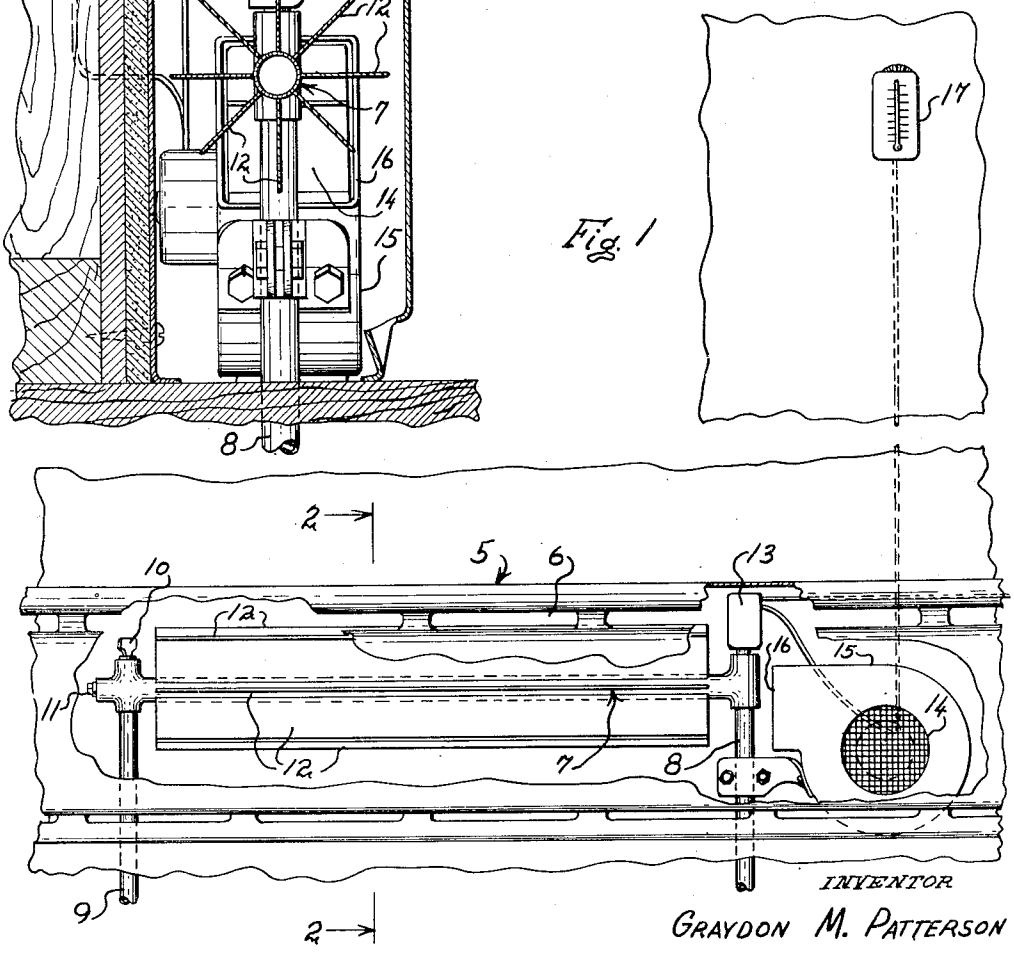


Fig. 1



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BASEBOARD RADIATOR

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1 Claim. (Cl. 257—133)

This invention relates to room heating radiators. More particularly, it relates to heating structures known in the homes as baseboard radiators.

It is a general object of my invention to provide a novel and improved baseboard radiator of cheap and simple construction and operation and having improved efficiency.

A more specific object is to provide a novel and improved baseboard radiator which will heat the air within a given room more quickly and has a higher capacity than heretofore known.

Another object is to provide a novel baseboard radiator constructed to provide heating for a given room at a lower cost than heretofore known.

Another object is to provide a baseboard radiator more compact in size and having positive circulation of the air to provide higher capacity and efficiency.

Another object is to provide a baseboard radiator of novel and improved construction which will permit faster installation of the same than types previously known.

Another object is to provide a baseboard radiator having novel and improved construction which will require less heating units for a given room.

These and other objects and advantages of my invention will more fully appear from the following description made in connection with the accompanying drawings, wherein like reference characters refer to the same or similar parts throughout the several views, and in which:

Fig. 1 is a side elevational view of one embodiment of my invention mounted within a baseboard radiator housing with a portion of the housing broken away to show the interior thereof and the heating assembly; and

Fig. 2 is a sectional view taken approximately along line 2—2 of Fig. 1.

One embodiment of my invention, as shown in Figs. 1 and 2, may include an elongated radiator housing indicated generally as 5, this housing being of low height and having a plurality of restricted discharge openings in the form of longitudinally extending slots 6. These slots 6 are narrow and permit a relatively small amount of air to pass therethrough relative to the total volume of the housing except when driven positively. These openings are sufficiently few in number and sufficiently small in size so that it would be impossible to heat the room solely by a gravity feed.

Mounted within the housing and extending longitudinally thereof is an elongated tubular heating element indicated generally as 7. As best shown in Fig. 2, the heating element shown is a piece of pipe adapted to carry hot water or steam therethrough, the steam or hot water being fed into the heating element 7 by a pipe 8 and carried away therefrom by a pipe 9. Adjacent the discharge end of the heating element 7 is an air relief valve 10 and a plug 11 which plugs an opening provided for extension elements which would permit one or more additional heating elements to be secured thereto as desired. The supply of hot water or steam will generally be provided from a

source in the basement in the manner well-known in the art.

Mounted on the outer surface of the heating element 7 is a plurality of radially outwardly extending fins 12. These fins are preferably of metal of a type which will readily conduct heat so that the heat generated by the heating element may be rapidly dissipated into the air between the fins. As can best be seen in Fig. 1, these fins 12 extend longitudinally of the heating element and throughout substantially the entire length thereof. A thermostatically controlled electric switch 13 is provided at one end of the heating element 7 to prevent the blower 14 from working when the temperature of the heating element 7 is below a predetermined level. The electrically operated blower 14 is mounted within a blower casing 15 which has a discharge opening 16 the center of which is below the heating element 7. The lower portion of the discharge opening is below the lowest level to which the fins extend and the upper portion thereof extends to a level slightly above the heating element 7. As shown in Fig. 1, this blower 14 may be controlled by a thermostat 17 of the conventional and well-known type.

The supply of heat to the room may be controlled with the structure shown in one of two ways. It may be controlled as shown by the thermostat 17 causing the blower 14 to operate whenever the temperature of the room drops below a predetermined level. In combination with such an arrangement, the supply of heating fluid fed through the pipe 8 to the heating element 7 would be constantly maintained at a high temperature level so that there would always be a source of heat available in the heating element 7. This however would not be sufficient to heat the room since the restricted openings 6 would restrict the gravity feed to such an extent that the room would not be properly heated. However, when the temperature of the room dropped below the predetermined level, the thermostat 17 would close the circuit to the blower 14 and cause the blower to positively drive air longitudinally of the heating element 7 and between the fins 12. Because the air would be driven longitudinally of the housing 5 and in contact with the fins 12 a much greater period of time than would ordinarily be the case, and because the fins, by extending radially and outwardly and longitudinally of the heating element 7 will heat the air more efficiently, the temperature of the air will be raised considerably more than would otherwise be the case. The driving force of the blower, however, will cause the air to leave through the restricted openings 6 at a relatively high rate of speed and thus the room will be warmed within a very short period of time since there will be a constant supply of hot air within the housing at the time the blower commences to run.

This unit may be used without the thermostat 17 by providing a thermostat (not shown) in connection with the source of supply of hot fluid fed into the heating element 7 through the pipe 8. This is a conventional way of supplying hot water to radiators carrying the same for the purposes of heating rooms. In such a case the thermostat would cause the hot water or steam to run into the heating element 7 only when the temperature of the room dropped below a predetermined level. The blower 14 in such an arrangement would be continuously operated except when the temperature dropped below a predetermined level at which the thermostatic electric switch 13 was set. When this occurred the switch 13 would break the circuit to the blower and it would not close again until the temperature of the heating element was raised to a level above the point at which the switch 13 is set. At all other times the blower 14 would operate continuously so that there would be provided substantially continuous circulation thereby.

It should be noted that the blower 14 has its discharge

opening positioned so that the bulk of the air driven into the housing **5** is directed longitudinally of the housing at a level below the heating unit **7** and so that the bulk of the air passes between the fins **12** which extend downwardly from the heating element. Thus the bulk of the air is heated while passing along the fins **12** longitudinally of the heating unit and receives additional heat while passing upwardly across the fins which extend horizontally from the heating element and upwardly therefrom. In this manner more efficient heating is attained so that the temperature of the air will be considerably higher as it is forced from the housing **5**.

Thus it can be readily seen that I have provided a novel and improved baseboard radiator of cheap and simple construction and operation and having improved efficiency. It can be readily seen that through the use of the blower and the improved means of heating the air, the unit will more quickly heat a room and has a higher capacity than similar heating units heretofore known. It can be shown that such a unit as disclosed and claimed herein will provide heat for a room at a lower cost than units of another type.

It should also be noted that my particular heating unit is more compact in size and has positive circulation of the air to provide a higher capacity. Because of its improved efficiency in performance it requires less time to install such a unit in view of the fact that less units are required.

It will of course be understood that various changes may be made in the form, details, arrangement and proportions of the various parts without departing from the scope of my invention.

What is claimed is:

In a baseboard radiator the combination of an elongated housing of low height adapted to be secured adjacent the baseboard in a room, said housing having apertured upper portions through which air is discharged, an elongated heating element mounted within the interior of said housing between the upper and lower portions thereof and extending longitudinally through the housing, a plurality of elongated heat-transferring fins extending longitudinally along said heating element and substantially radially outwardly from said heating element into spaced relation with said housing, said fins being secured to said heating element along the length thereof in heat-transmitting relation, and a blower mounted within said housing and having an air discharge opening disposed in close proximity with one end of said heating element and said fins and directing air longitudinally between said fins, the center of the air discharge opening being disposed below said heating element and directing a proportionately greater quantity of air between the downwardly extending fins as compared to the air driven between the upwardly extending fins, whereby portions of the air driven longitudinally between the downwardly extending fins will circulate between the fins and the housing into proximity with the upwardly extending fins to receive all of the heat available from the upwardly extending fins and then be discharged through the apertured upper portions of the housing into the room.

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