March 10, 1931. J. H. SUTTER ET AL 1,796,273

RADIATOR MOUNTING

Filed May 24, 1930

Fig. 1

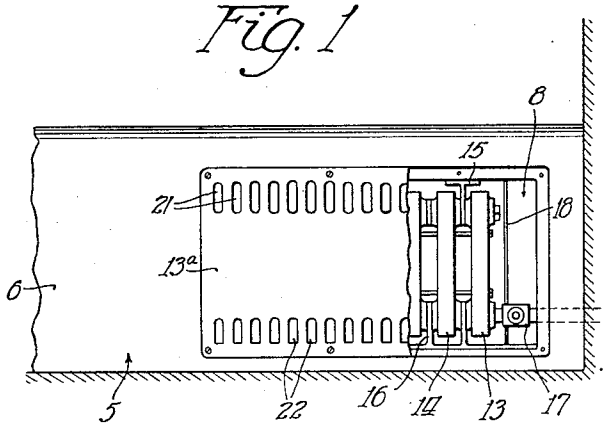


Fig. 2

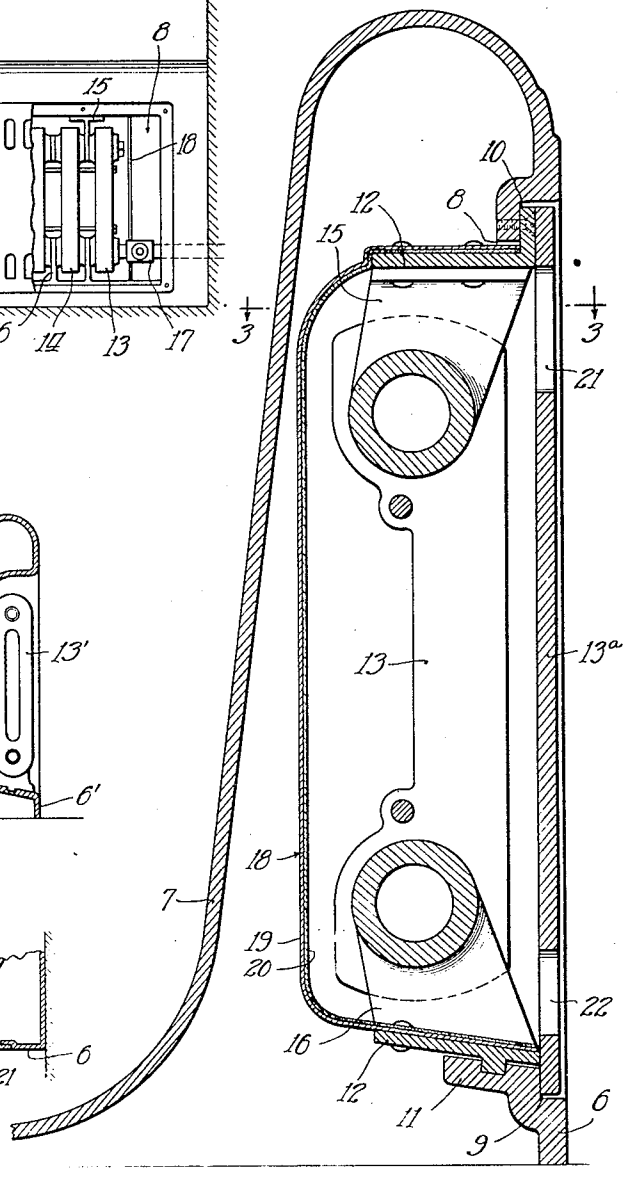


Fig. 4

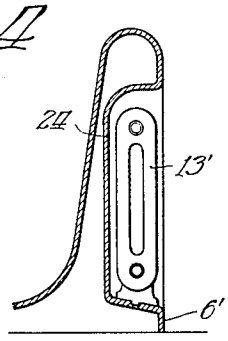
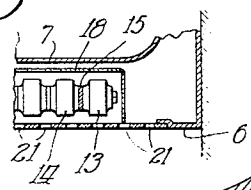


Fig. 3



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UNITED STATES PATENT OFFICE

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RADIATOR MOUNTING

Application filed May 24, 1930. Serial No. 455,309.

Our invention relates to mounting means for radiators and is particularly adaptable to the mounting of radiators in connection with bath tubs of the apron wall type.

The principal purpose of this invention is to provide a novel mounting for a heat radiating device whereby the same may utilize the otherwise unused space between the apron wall and the interior wall of the bath tub.

It is also a purpose of this invention to provide in conjunction with this radiator mounting a novel means whereby to prevent the heat from the radiator unnecessarily warming in the interior of the tub.

It is a further purpose of this invention to provide in a device of this character a novel means whereby to insure maximum heat radiation from the enclosed radiator at all times.

Other objects and advantages of the invention will appear as the description proceeds in connection with the accompanying drawings wherein the preferred form of the invention is shown. It is obvious, however, that various modifications may be made from the exact details shown and described without in any way departing from the scope of the invention, and, it is to be distinctly understood that we do not intend to limit ourselves to the exact details shown and described except in so far as they are limited by the claims.

In the drawings—

Fig. 1 is a side view of a portion of the bath tub equipped with our improved device;

Fig. 2 is a vertical section through one side of the tub illustrating the appearance of the radiator in cross section;

Fig. 3 is a horizontal section taken substantially on the line 3—3 of Fig. 2; and

Fig. 4 is a vertical section through a slightly modified form of the invention.

Referring now in detail to the drawings, the numeral 5 indicates the usual apron wall type of bath tub in which the outer wall 6 and the inner wall 7 are spaced from each other leaving a dead air space therebetween which space normally performs no useful function.

Our invention contemplates the utilization of this space by providing therein a heat radiating element which will take the place of the usual radiator necessary in the bathroom and supply the requisite amount of heat for the bathroom. To this end we preferably cut out or form in the apron wall an opening such as indicated at 8 which opening is of sufficient size to accommodate the requisite size of radiator necessary for the size of the bathroom. This opening we prefer to form as illustrated in Fig. 2 by casting so as to provide the shoulders at 9 and 10 and the shelf 11 for supporting the radiator carrying framework 12 and also to permit the grille 13ª which covers the opening 8 to be inserted substantially flush with the exterior of the apron wall.

The radiating means installed may, of course, be of any desirable form and for illustrative purposes we have shown the same as made up of a series of units such as 13 and 14 which units are connected to the framework 12 by flanged supporting members such as indicated at 15 and 16. Suitable supply connections indicated at 17 for supplying the heating medium such as hot water or steam to the radiators must, of course, be provided, and we have shown a valve at 17 which may be controlled if desired through the grille for turning the radiator on or off.

Now in order to prevent unnecessary waste of heat and to prevent the interior wall 7 of the tub getting too hot, we provide a suitable shield indicated at 18 which surrounds the radiator at the ends and back and which preferably consists of a sheet metal wall 19 and an insulating wall 20 made of any suitable insulating material such as an asbestos compound. The shield and radiator, however, preferably do not extend the full size of the opening 8, and they may be either shorter or of less depth than this opening, and in the present form they are shown as somewhat shorter the purpose being to provide means whereby air circulation can be permitted through the grille to the space around the shield between the apron wall 6 and the interior wall 7 of the tub.

This is accomplished by providing the

grille with upper and lower sets of apertures indicated generally by the numerals 21 and 22 which apertures, as shown most clearly by Figs. 1 and 3, extend beyond the ends of the shield 18 so as to provide air inlet and air outlet openings to the dead air space between the apron wall and the interior wall of the tub. These openings, therefore, permit air circulation about the shield 18 and the radiator so as to further prevent transfer of heat from the radiating element through the shield to the interior wall 7.

Now in order to insure maximum heat transfer from the radiator to the air in the bathroom, the grille openings 21 and 22 are so situated that part of them come at the lower portion of the radiator while other parts of them lie adjacent the top of the radiator thus giving an air circulating path permitting the cold air to enter laterally at the lower edge of the radiator flow upwardly about the radiator as it is being warmed and then discharged again at the upper openings in the grille at 21 into the room. This provides a continuous circulation of air about the radiator and insures good efficiency for the radiating surface provided.

In the design shown in Fig. 4, a somewhat modified construction has been made in that the outer wall 6′ of the top has been formed by depressing it inwardly as illustrated at 24 so that the apron wall itself may form a shield for the radiator and the radiator elements 13′ may then be mounted directly in the recess formed by the depression of portion 24 and if desired, of course, a suitable grille may be provided in front of the radiator.

From the above description, it will be seen that our invention consists essentially of the provision in the apron wall of the tub of a support for a radiator mounting of a shield therein, and the proper application of a grille thereto so as to maintain air circulation with a high degree of efficiency. Other features are, of course, also vitally important to the successful carrying out of the objects of the invention.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. A radiator attachment for bath tubs of the apron wall type comprising a framework insertible between the apron wall and inner wall of the tub, heat radiating means carried by said framework, and a heat insulating shield interposed between said means and said inner wall.

2. A radiator attachment for bath tubs of the apron wall type comprising a framework insertible between the apron wall and inner wall of the tub, heat radiating means carried by said framework, and a heat insulating shield interposed between said means and said inner wall, and a grille in the front of the radiating means and secured to said apron wall.

3. A heat radiating device for mounting on bath tubs of the apron wall type and the like wherein the apron wall has an opening therein comprising a heat radiator insertible through said opening, a supporting frame secured to said wall, and having a shield extending about the sides and back of said wall, and a grille fitting in said opening to enclose the radiator.

4. A heat radiating device for mounting on bath tubs of the apron wall type and the like wherein the apron wall has an opening therein comprising a heat radiator insertible through said opening, a supporting frame secured to said wall, and having a shield extending about the sides and back of said wall, and a grille fitting in said opening to enclose the radiator, said grille having apertures therein adjacent the upper and lower edges of said radiator whereby to provide an air circulating passage from the exterior of the tub about the radiator.

5. A heat radiating device for mounting on bath tubs of the apron wall type and the like wherein the apron wall has an opening therein comprising a heat radiator insertible through said opening, a supporting frame secured to said wall, and having a shield extending about the sides and back of said wall, and a grille fitting in said opening to enclose the radiator, said grille having upper and lower apertures exteriorly of said shield communicating with the space exteriorly of the shield behind said wall.

6. A heat radiating device for mounting on bath tubs of the apron wall type and the like wherein the apron wall has an opening therein comprising a heat radiator insertible through said opening, a supporting frame secured to said wall, and having a shield extending about the sides and back of said wall, and a grille fitting in said opening to enclose the radiator, said grille having apertures therein adjacent the upper and lower edges of said radiator whereby to provide an air circulating passage from the exterior of the tub about the radiator, both to the interior and exterior of the radiator receiving space enclosed by said shield.

In witness whereof, we hereunto subscribe our names this 19th day of May, A. D. 1930.

JOHN H. SUTTER.
GEORGE L. CADENHEAD.