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RADIATOR

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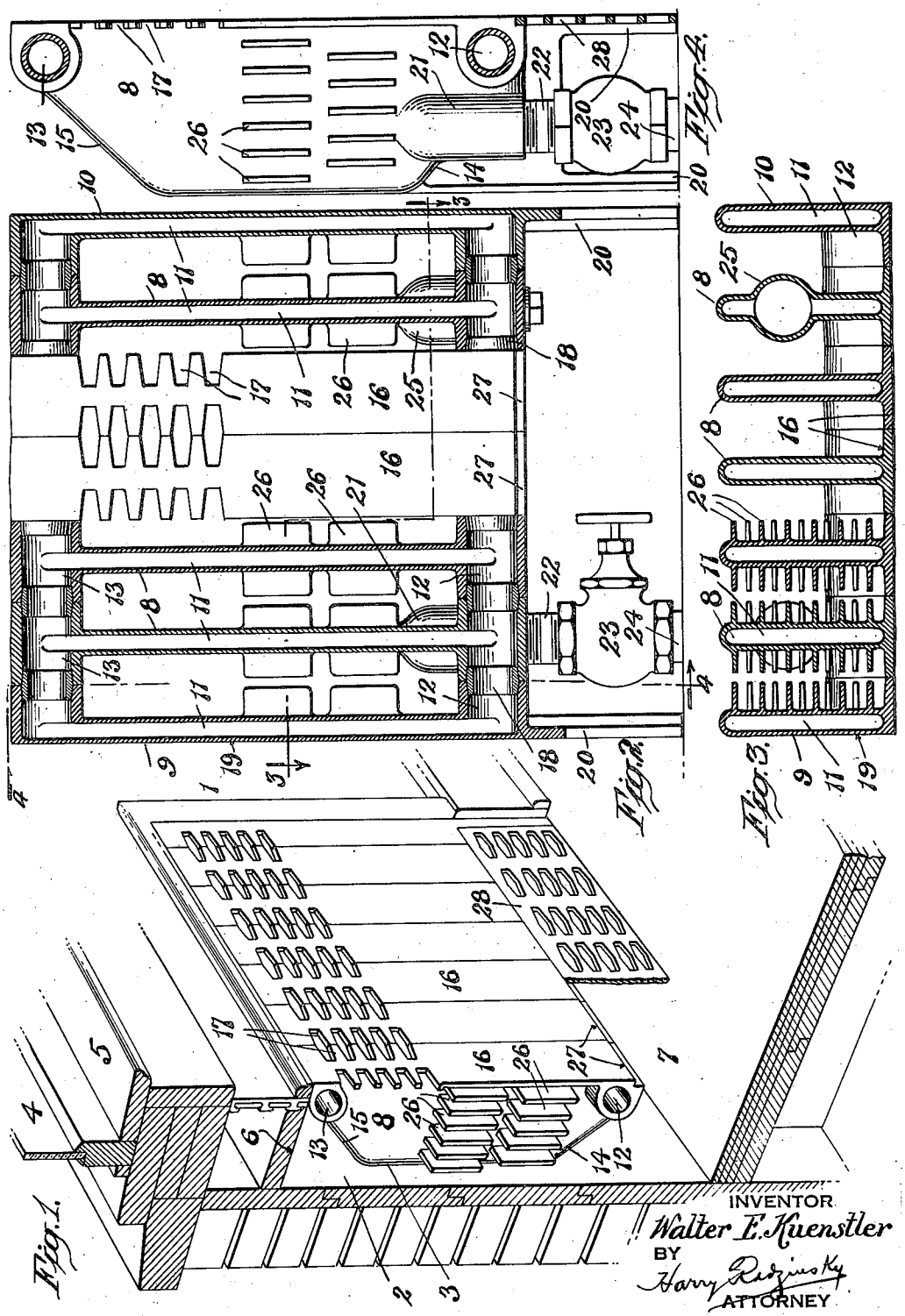


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

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RADIATOR

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4 Claims. (Cl. 257—151)

This invention relates to radiators for heating purposes and has for its object the provision of a device which will, by reason of its construction and design, be particularly effective in performing the heating functions for which it is intended. The invention relates particularly to a radiator of the kind disclosed in my Patent No. 1,863,056 dated June 14, 1932, which is intended primarily for use in a wall recess, the advantages of these recessed types of radiators being apparent to those skilled in this art. In said patent is disclosed a radiator having inclined upper and lower ends converging toward the front of the radiator, the resultant spaces between the ends of the radiator and the wall recess at the front thereof being filled in by separate attached grilles. While this type of radiator has been found very effective in operation, my experiments have shown that improved results, economy in manufacture, easier installation and other advantageous results can be obtained by a radiator in which the various differences in design and structure forming the subject matter of this invention are incorporated.

Accordingly, the invention contemplates the provision of a radiator of the same general type just referred to, but one in which many improvements in design, effectiveness and result are secured, as well as economy in manufacture.

In the accompanying drawing, wherein an embodiment of the invention is shown, Fig. 1 is a perspective view, with parts in section, of a wall recess, showing a portion of the improved radiator situated therein; Fig. 2 is a front view of the radiator, with portions thereof in section; Fig. 3 is a sectional view on the line 3—3 of Fig. 2, looking in the direction of the arrows; and Fig. 4 is a sectional view on the line 4—4 of Fig. 2, looking in the direction of the arrows.

In Fig. 1 of the drawing is shown the wall 1 of a room provided with a recess 2 in which the radiator 3 is adapted to be located. The recess 2 is preferably located below a window 4 and the sill 5 thereof, as is conventional practice, or it may be located at any other convenient position. When arranged as disclosed in Fig. 1, it will be seen that the recess 2 is provided with an upper termination 6 located directly below the sill 5 and a lower termination 7 formed by the floor of the room.

The radiator consists of a plurality of joined or connected cellular units, the number of these units employed being dependent upon the size of the radiator required to fit within the wall recess.

At 8 is shown one of the central or intermediate cells or units, a plurality of these intermediate units being connected together between the two end units 9 and 10. Each intermediate unit 8 is of elongated, flat, hollow form and is provided with a vertically disposed heating-fluid passage 11 connecting with a horizontal passage 12 at its lower end and a similar horizontal passage 13 at its upper end. The upper and lower closed ends 14 and 15 of vertical passage 11 are inclined, as clearly shown in Figs. 1 and 4, these ends diverging toward the front, relatively flat face, of the radiator. It will be seen that with the arrangement shown, the horizontal passages 12 and 13 of the radiator are located adjacent the front thereof and nearest to the interior of the room. Directly in front of each of the units 8 is provided an integral flange 16, said flange extending from the longitudinal lower passage 12 to the upper passage 13, but being recessed or interrupted as at 17 near its upper end. With this arrangement when the units 8 are placed together with the longitudinal edges of their respective flanges 16 in abutment, a flat face is provided across the front of the radiator for the greater lower portion thereof, and where the recessed portions 17 abut, an integrally formed grille results.

As heretofore stated, a number of the sections 8 may be employed and connected together to provide a radiator of any desired length. The joining together of these sections is effected in the usual way, that is, by the utilization of connection nipples 18 which join together the passages 12 and 13 of the several units in the conventional manner to form continuous horizontal passage in the upper and lower ends of the radiator, at the front thereof.

The end units 9 and 10 of the radiator are similar in construction to the intermediate units 8 in that they have similarly located connection openings 12 and 13 and vertically disposed passages 11. These end elements also have flat outer faces 19 and downwardly extending supporting legs 20 upon which the entire radiator rests. The intermediate section 8 which is located next to the end unit 9 has its lower end 14 formed with an enlargement or boss 21 located in back of the lower passage 12, said boss constituting an inlet opening and connecting to an inlet pipe 22, inlet valve 23 and piping 24 extending from the boiler or other source of heating fluid supply. The intermediate unit located next to the end unit 10 is provided with a similar boss 25 in which a vent valve is enclosed.

The bosses 21 and 25 are so located that their internal passages lead directly upward into the vertical passage 11 of the unit on which they are formed so that during the heating operation there is a direct upward flow of steam or other heating fluid and a highly satisfactory result is obtained. The various units 8, 9 and 10 constituting the radiator are formed on the faces of the walls of the vertical passage 11, with projecting fins 26 for aiding in heat radiation. In the case of the end units 9 and 10 these fins are located only on the inner walls of the passage 11, the outer walls 19 thereof being perfectly flat and smooth as heretofore mentioned.

The flanges 16 on the front face of the various units are recessed or cut away at their lower end as shown at 27, these various recesses co-operating as shown in Fig. 1 to form a continuous groove into which the upper end of a movable grille 28 fits. Said grille extends between the recess 27 and the floor and may be secured in position in any suitable way and preferably by being pivoted between the front legs 20 of the end units 9 and 10 of the radiator.

Through the arrangement disclosed, I provide a radiator of exceptional efficiency with its greater radiating surface disposed toward the room. The formation of the upper integral grille on the front face of the radiator results in considerable saving in the cost of manufacture and installation. The distribution of the inlet pipe and vent valve is such as to render them easily accessible and convenient to adjust by lowering the lower grille 28. Numerous other advantages in both manufacture and use follow from the use of the structure described.

What I claim is:

1. A radiator for location in a wall depression, said radiator having ends converging rearwardly from the front, thereby providing its greater radiating surface at the front facing the interior of the room in which the wall depression is located and having upper and lower horizontal heating-fluid passages disposed at the widest part of the radiator, said radiator having a flat face disposed between and connecting the horizontal passages, said face being recessed adjacent the upper passage to provide an integrally formed grille.

2. In a radiator construction, a plurality of connected radiator units, some of said units comprising intermediate members having a longer front flanged edge co-operating in the formation of the greatest radiating surface at the front of the radiator and a shorter rear edge, connection openings disposed in each of said units at the outer terminations of the longer front edge, the flanges on the front edge extending between said connection openings and co-operating in the formation of a relatively flat face across the front of the radiator, said flanges being interrupted near their upper ends to provide an integrally formed grille.

3. In a radiator construction, a plurality of connected radiator units, the front face thereof constituting the widest portion of the radiator thereby presenting the greatest radiating surface at the front of the radiator with the body of each unit tapering rearwardly therefrom, the units having connection openings at their widest portion, and also formed with flat flanged faces extending between and connecting said openings, said flat flanged faces being interrupted near the top to form an integral grille and having radiating fins projecting laterally in the space between the units and below the grille.

4. In a radiator, a plurality of connected radiator units, the front face thereof being flanged so that when said units are placed in united relationship the abutting flanges thereon provide a substantially flat face across the front of the radiator, said units when united providing upper and lower horizontal heating fluid passages disposed directly in back of the flanges and at the extreme ends of the radiator, the ends of each unit in back of the fluid passages converging so that the back end of the radiator is of less length than the flanged front thereof and the front of the radiator presents a greater radiating surface than the rear.

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