

June 14, 1932.

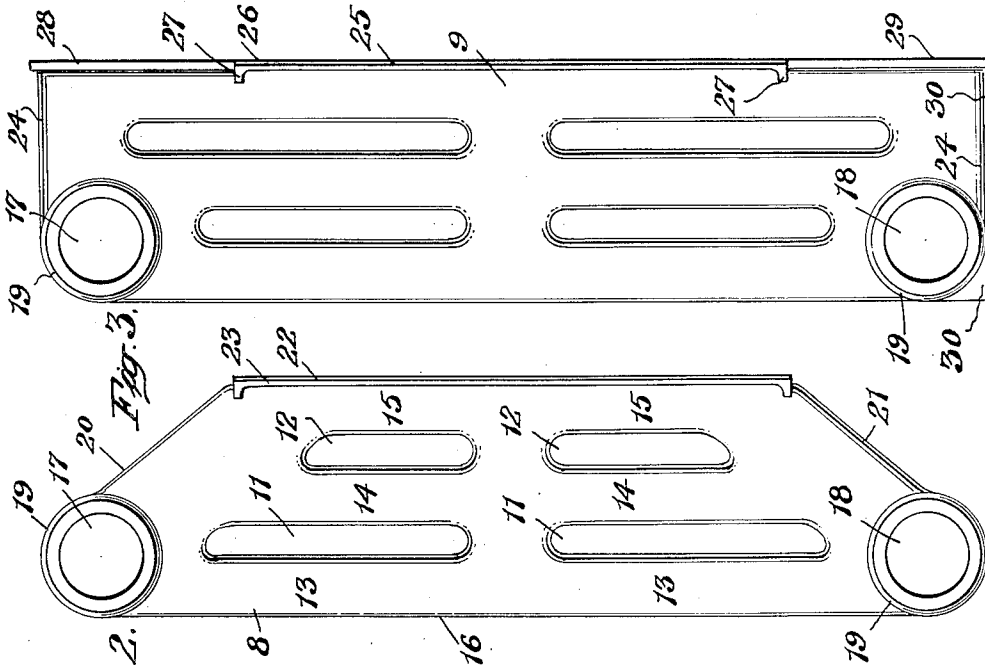
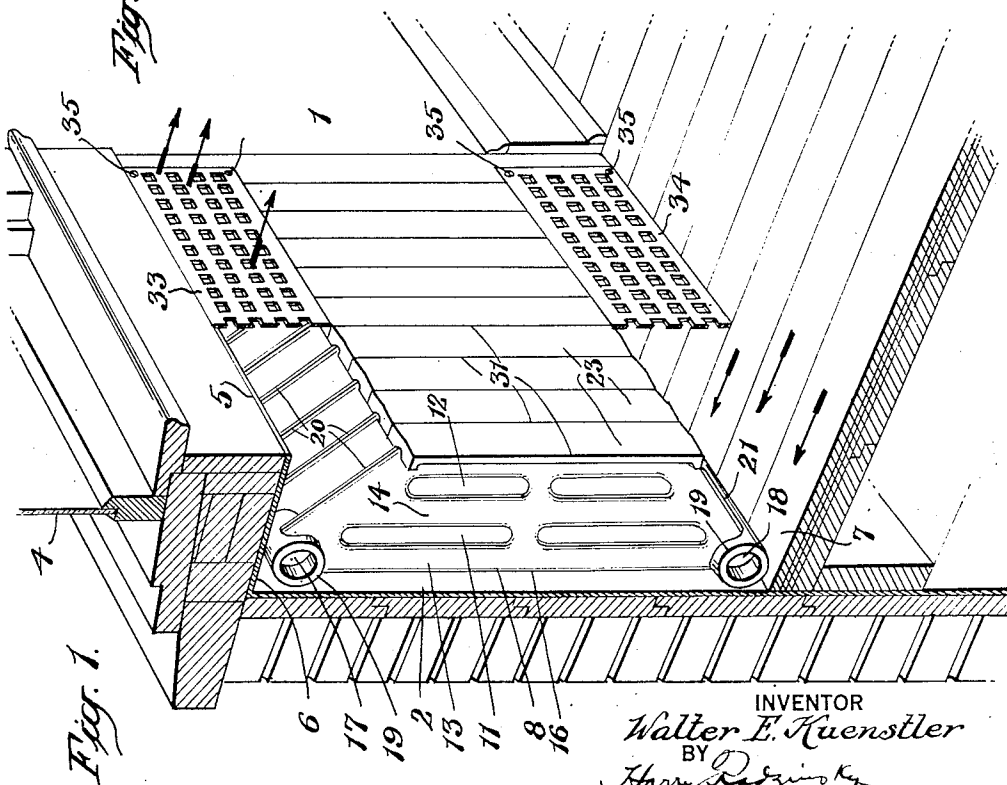
W. E. KUENSTLER

1,863,056

RADIATOR

Filed Sept. 3, 1929

2 Sheets-Sheet 1



INVENTOR

Walter E. Kuenstler

BY

Harry Radzinsky
his ATTORNEY

June 14, 1932.

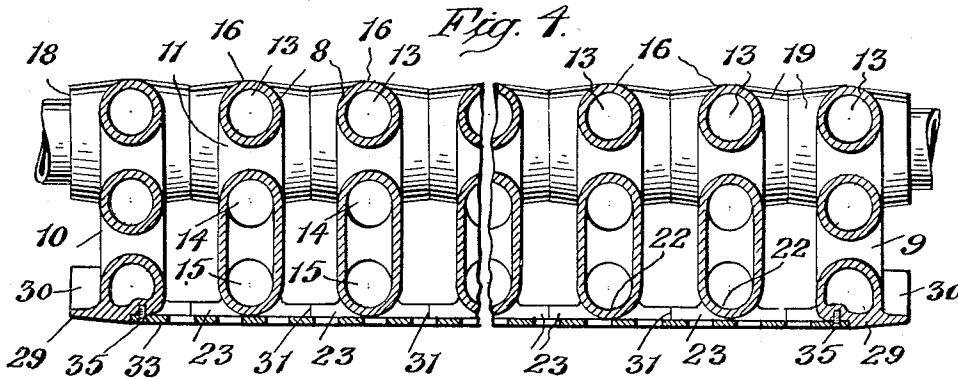
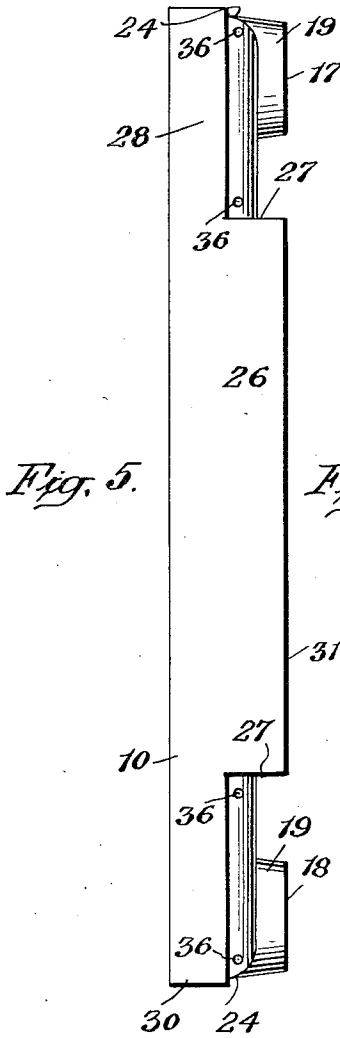
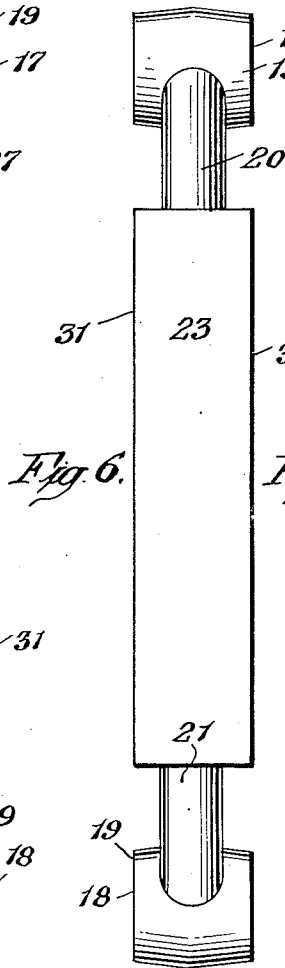
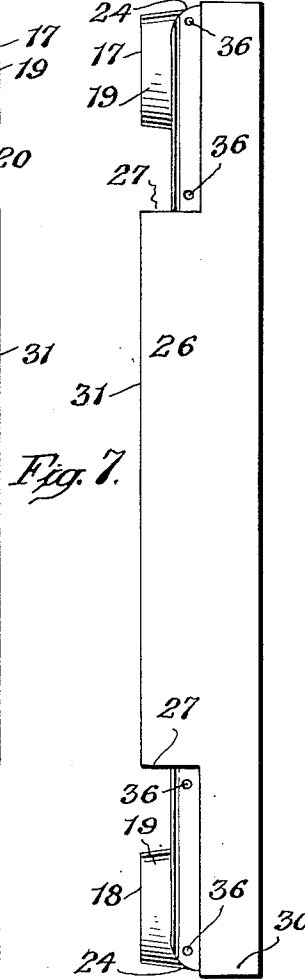
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RADIATOR

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UNITED STATES PATENT OFFICE

WALTER E. KUENSTLER, OF NEW YORK, N. Y.

RADIATOR

Application filed September 3, 1929. Serial No. 339,976.

This invention relates to an improvement in radiators for heating purposes and has for its object to provide such a device which will, by reason of its improvements in design and construction, be particularly effective in performing the functions for which it is intended.

My improved radiator is so constructed that it may be used as a radiator of the built-in type, that is, it is primarily intended to be located in a depression or recess provided for it in the wall.

The primary object of the invention is to provide a radiator of such shape and form that it may, as heretofore stated, be conveniently disposed in a wall recess without in any way impairing its heating function.

A further object of the invention is to provide a radiator so shaped and formed, that its function of heating the room within which it is disposed is greatly enhanced. I attain these desired results by so shaping the radiator units as to permit a constant stream of heated air to pass from the radiator into the room and also permitting the cooler air to enter between the radiator cells or units at the bottom of the radiator and consequently become heated.

With these objects and such other objects as may hereinafter appear in view, I have devised the particular arrangement of parts set forth below and more particularly pointed out in the claims appended hereto.

Reference is to be had to the accompanying drawings, forming a part hereof in which

Figure 1 is a perspective view partly in section showing a radiator of my improved type disposed in a wall recess;

Figure 2 is a side elevation of one of the central or intermediate cells or radiator units; Figure 3 is a side view of one of the end units;

Figure 4 is a transverse sectional view of my improved radiator in assembled condition;

Figure 5 is a front elevation of one of the end cells or units;

Figure 6 is a similar view of one of the central cells or units; and

Figure 7 is a front elevation of the end

unit opposite to that disclosed in Figure 5.

Throughout the various views of the drawings, similar reference characters designate similar parts.

As heretofore stated, my improved radiator is of a type which is intended to be conveniently disposed in a wall recess. In Figure 1 of the drawings, I have shown a wall 1 of a room which is provided with a recess 2 in which the radiator 3 is adapted to be located. This recess 2 is preferably located beneath a window 4 and below the sill 5 thereon, although if desired, the recess may be located at any other convenient position. When disposed as shown in Figure 1, it will be seen that the recess 2 is provided with an upper termination 6 formed by the underside of the sill 5 and a lower termination 7 formed by the floor of the room.

Referring now to the radiator construction. The same consists of a plurality of joined or connected cellular members or units. At 8 is shown one of the central or intermediate cells or units, as many of these being used as required to provide a radiator of any suitable length.

At 9 is shown one of the end members, there being two of these members employed, the other of which is shown at 10 in Figures 4 and 5. The construction of each intermediate member 8 is clearly disclosed in Figures 1, 2, 4 and 6 of the drawings.

In Figure 1, the end member 10 has been purposely omitted in order to clearly disclose the structure of the intermediate members 8.

Each intermediate member 8 is of flat, hollow form slotted as at 11 and 12 to provide the tubular passages 13, 14 and 15, through which the heated water or steam passes. The member 8 is provided with a longitudinal side edge 16 which comprises the rear of the unit and at the outermost terminations of this side edge 16 is provided connection openings 17 and 18, such openings being surrounded by bosses 19. The ends of the radiator unit 8 are disclosed at 20 and 21 and it will be seen that these two ends converge toward one another to the front edge 22 of the section. These edges 20 and 21 incline inwardly and terminate at the opposite ends of a flange 23 which extends for the full

length of the front edge 22 on the section 8. Thus, it will be seen that the unit 8 is provided with connection openings which are located at the points of greatest distance apart in the section and that the opposite ends of the section converge toward one another and away from the openings 17 and 18 to the shorter front edge 22 on the section. The purpose of the particular conformation of the radiator section 8 will be later explained in detail.

As was heretofore stated, a number of the sections 8 may be employed to provide a radiator of desired length, a number of such sections being shown joined together in Figures 1 and 4. The joining together of these sections is effected in the usual way, that is, by the utilization of connection nipples which enter into the connection openings 17 and 18 of the respective units.

At 9 is disclosed one of the end units, the same being generally similar to the central units 8, in that it has similarly located connection openings 17 and 18 surrounded by their flanges 19. The end member 9 is not provided with the inclined ends as disclosed in the central members 8 but instead has substantially parallel or straight ends 24, which when the radiator is assembled project above and below the inclined ends 20 and 21 on the intermediate sections 8.

It will be seen that the front edge 25 of the end sections 9 and 10 is provided with a flange 26, a portion of this flange terminating in shoulders 27, the remainder of the flange continuing as at 28 and 29 to the full length of the radiator section 9. At its lower end, the section 9 is provided with supporting feet 30.

I have just described the structure of the end member 9, the end member 10 being exactly similar in construction except that its parts are oppositely disposed to those on the section 9 so that when the two end members 9 and 10 are used, they co-operate to support a plurality of members 8 between them and form a complete radiator. Such united structure is disclosed in Figures 1 to 4 of the drawings.

It will be seen that when the parts are united as described, the longitudinal edges 31 on the flanges 23 provided on each of the members 8 abut, so that a smooth or substantially plane surface is provided across the front of the radiator. Due to the converging ends on the members 8, it will be seen that these flanges terminate for some distance below the underside of the sill 5. The lower terminations of the flanges also terminate at a considerable distance above the floor 7. It will thus be seen that a space is provided at the upper and lower ends of the radiator, the greatest area of which is located at the mouth of the wall recess. Thus, cool air may freely enter in the direction of the arrows shown at the lower part of Figure 1 and pass up be-

tween the heated cells of the radiator and becoming heated, pass out from the top of the radiator into the room in the direction shown by the arrows at the upper part of the figure.

Through the construction just disclosed, it will be clear that the radiator design is such as to permit the entry and exit of air in a direction at right angles to the plane of the radiator. If desired, the upper and lower openings disposed between the upper and lower terminations of the flanges 22 and the adjacent ends of the wall recess may be covered by grilles disclosed at 33 and 34. These grilles 33 and 34 may be secured in place by means of screws 35 which will enter tapped openings 36 provided in the end members 9 and 10.

From the foregoing, it will be seen that I have provided a radiator of novel form and construction. Through the shape which I employ, a radiator may be disposed in a wall recess without in any way impairing its heating efficiency. On the contrary, the peculiar "wedge" shape of the radiator cells permits a direct entry of air from the room to a point below the radiator from whence it passes up through the cells and is directly diverted into the room. The mouths of the openings to and from the radiator are, by reason of the peculiar shape of the radiator, wide and permit the maximum entry and exit of the air. Considerable efficiency in heating operation is therefore secured.

Having described one embodiment of my invention, it is obvious that the same is not to be restricted thereto, but is broad enough to cover all structures coming within the scope of the annexed claims.

What I claim is:—

1. In a radiator assembly, a plurality of units connected together adjacent their rear edges, the ends of said units inclining toward one another to the front of the units, the front of each of said units being provided with a flange adapted to co-operate with a similar flange on adjoining units to provide a smooth face across the radiator assembly, and radiator grilles against which the opposite ends of said flanges abut.

2. In a radiator assembly, a wall depression, a radiator mounted therein, said radiator having ends converging towards its front, and radiator grilles extending between the upper and lower terminations of the radiator front and the upper and lower terminations of the wall depression.

3. In a radiator construction, a plurality of connected radiator units, some of said units comprising intermediate members having a shorter front flanged edge and a longer rear edge, connection openings disposed in each of said units at the outer terminations of the longer rear edge, end units being connected to said intermediate members and supporting the same, and a grille disposed above

the upper terminations of the flanged edges on the intermediate units and means for securing said grille to the end units.

4. In a radiator assembly adapted to be mounted in a wall recess, a plurality of units connected together at their ends, the units when connected forming a radiator having an inclined front face portion, and a grille disposed in the wall at the upper end of the radiator and located between the upper end of the radiator and the upper end of the wall recess.

Signed at the city, county and State of New York, this 30th day of August, 1929.

WALTER E. KUENSTLER.