Feb. 23, 1937. G. E. WHITLOCK 2,071,673

RADIATOR FRONT

Filed April 15, 1935

FIG.1.

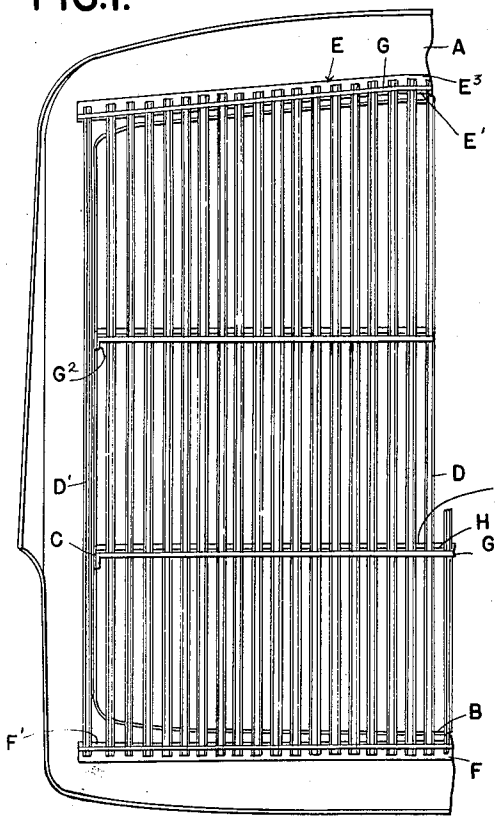


FIG.2.

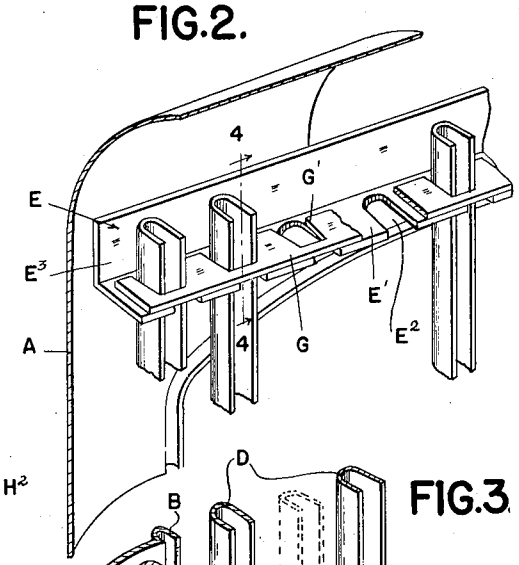


FIG.3

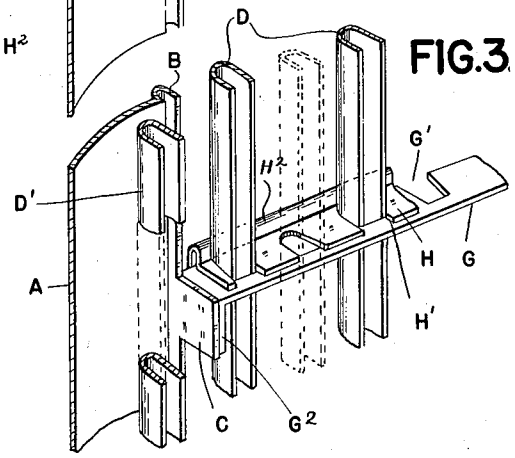
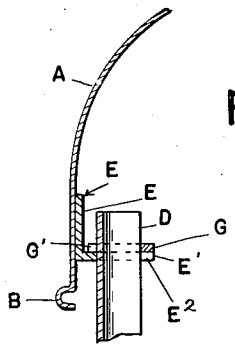


FIG.4.



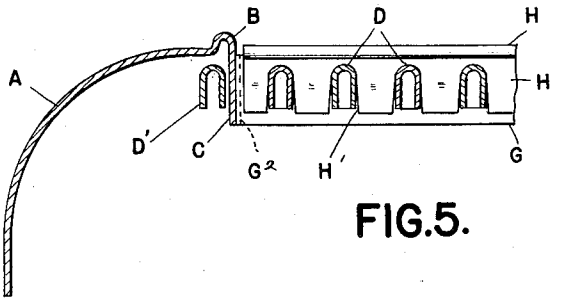


FIG.5.

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RADIATOR FRONT

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Application April 15, 1935, Serial No. 16,503

3 Claims. (Cl. 293—54)

The invention relates to radiators of the type extensively used in modern automobiles and in which a grille is placed in front of the radiator proper and within the radiator shell. It is the object of the invention to obtain a construction which can be readily mounted in the radiator shell to form in effect an integral construction, thereby avoiding any danger of rattling or independent vibration of the parts. To this end the invention consists in the construction as hereinafter set forth.

In the drawing:

Fig. 1 is a rear elevation of a portion of a radiator shell with the grille applied thereto;

Fig. 2 is a perspective view looking at the inside of the top of the shell and showing the manner of mounting the grille bars thereon;

Fig. 3 is a similar view showing the attachment of the grille bars to an intermediate cross bar;

Fig. 4 is a vertical cross section on line 4—4 Fig. 2;

Fig. 5 is a horizontal section.

A is the outer shell within which the radiator is enclosed and which may be of any suitable construction but as shown has the rounded sides and top surrounding the central opening. A bead B is preferably formed in the shell to surround the opening and at certain points in the sides of the shell are the inwardly extending ears C. The grille is formed of a series of pressed sheet metal bars D of U-shaped cross section, the bend in the U being turned to the front, thereby giving the appearance of a heavy bar. These grille bars extend from the top to the bottom of the radiator shell and are secured thereto as follows:

E is a cross bar secured to the upper portion of the shell and to the inner side thereof. This cross bar is provided with a flange E′ having a series of slots E^2 therein opening through the rear edge and of a size to receive the U-shaped cross bars D and to hold the same in properly spaced relation. The bar E is also provided with an angle flange E^3 which may be spot welded or otherwise secured to the inner surface of the shell and so positioned that the flange E′ will be above the edge of the opening in the shell. A similar slotted bar F is secured to the lower portion of the shell to receive and secure the lower ends of the grille bars. To assemble the grille, the U-shaped bars D are first engaged with bars G which have a series of slots G′ opening from the front side and spaced to correspond to the slots E^2. The bars G are so positioned that when the grille is inserted within the shell A a pair of these bars will lie adjacent respectively to the flange E′ and the corresponding lower flange F. There are also intermediate bars G which are positioned to align with the ears C projecting inward from the sides of the shell. After the assembly of these parts, bars H having slots H′ entering from the inner edge and preferably provided at their outer edge with the head or bead H^2 are placed adjacent to the intermediate bars G. These bars H will thus hold the grille bars D in engagement with said intermediate bars and the overlapping portions of the bars G and H are then welded to each other to firmly secure the parts in this relation. The assembled grille is then placed within the shell, with the bars G at the top and bottom adjacent respectively to the flanges E′ and F. These adjacent flanges are then welded to each other which will secure the grille at top and bottom to the radiator shell. The intermediate bars G have their ends turned to form flanges G^2 which register with the ears C and these parts are then welded to each other to secure the grille to the shell at intermediate points as well as at top and bottom.

The grille bars D which are attached to the intermediate bars G are arranged within the opening in the shell and are spaced inward from the beaded edge B. With this arrangement anyone viewing the grille at an angle from the front could see into the shell beyond the outermost grille bar which would produce an objectionable appearance. I have therefore avoided such result by placing an outer grille bar D′ which is secured at top and bottom to the slotted flanges E′ and F′ but is positioned beyond the ends of the intermediate bars G. These outer bars D′ will thus obstruct any view into the interior of the shell and if they are not directly in line with the opening, the securing at top and bottom is all that is needed to hold them from displacement.

A radiator shell provided with a grille constructed as described is one which can be easily manufactured and assembled and which when complete is so firmly attached to the shell as to preclude independent movement. As the slots in the bars E′, F, H and G taper from their outer open ends inward, the pressing of the adjacent bars together and the final welding of the same will cause a pinching of each of the grille bars so as to hold the latter from endwise displacement.

What I claim as my invention is:

1. The combination with a radiator shell, of flanges secured within the upper and lower portions of said shell to extend across the same and provided with rearwardly opening spaced slots, pressed sheet metal grille bars of U-shaped cross section, cross bars slotted in their forward edges to correspond in position to the slots in said flanges, said cross bars being engaged with said grille bars from the rear side of the latter and being positioned to lie adjacent respectively to said flanges with the grille bars in engagement with the slots thereof, intermediate cross bars formed in pairs slotted respectively through their forward and rear edges to correspond in spacing to the slots in said flanges and engaging said grille bars from front and rear thereof, being rigidly secured to each other, the ends of said intermediate cross bars being secured to the sides of said shell and said top and bottom cross bars being rigidly secured to the adjacent flanges on the shell.

2. The method of forming grilled radiator shells comprising the attachment of flanges within the upper and lower portion of the shell, said flanges having spaced rearwardly opening slots therein, assembling a series of parallel sheet metal grille bars of U-shaped cross section with cross bars slotted in their forward edges to correspond in position to the slots in said flanges and to engage said grille bars from the rear side thereof, certain of said cross bars being positioned to lie adjacent respectively to said slotted flanges with one or more intermediate cross bars, placing a bar having rearwardly opening slots in engagement with said grille bars adjacent to each of said intermediate bars engaging the assembled grille bars with the slotted flanges, rigidly securing the adjacent cross bars with said flanges and securing the ends of the intermediate cross bars with the sides of the radiator shell.

3. The combination with a radiator shell, of flanges secured within the upper and lower portions of said shell to extend across the same and provided with rearwardly opening spaced slots, pressed sheet metal grille bars of U-shaped cross section, cross bars slotted in their forward edges to correspond in position to the slots in said flanges, said cross bars being engaged with said grille bars from the rear side of the latter and being positioned to lie adjacent respectively to said flanges with the grille bars in engagement with the slots thereof, intermediate cross bars formed in pairs slotted respectively through their forward and rear edges to correspond in spacing to the slots in said flanges and engaging said grille bars from front and rear thereof being rigidly secured to each other, the ends of said intermediate cross bars being secured to the sides of said shell, and said top and bottom cross bars being rigidly secured to the adjacent flanges of the shell, and an additional grille bar arranged beyond the ends of said intermediate cross bars and attached to said upper and lower slotted flanges, said additional bar concealing the opening between the side of the shell and the last of the grille bars which are attached to the intermediate cross bars.

GEORGE E. WHITLOCK.