Oct. 27, 1931. J. L. BROWNELL 1,828,995

COMBINED RADIATOR AND GUARD

Filed July 28, 1930 2 Sheets-Sheet 1

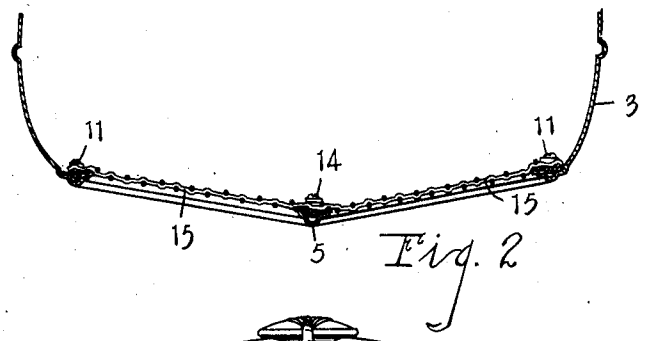


Fig. 2

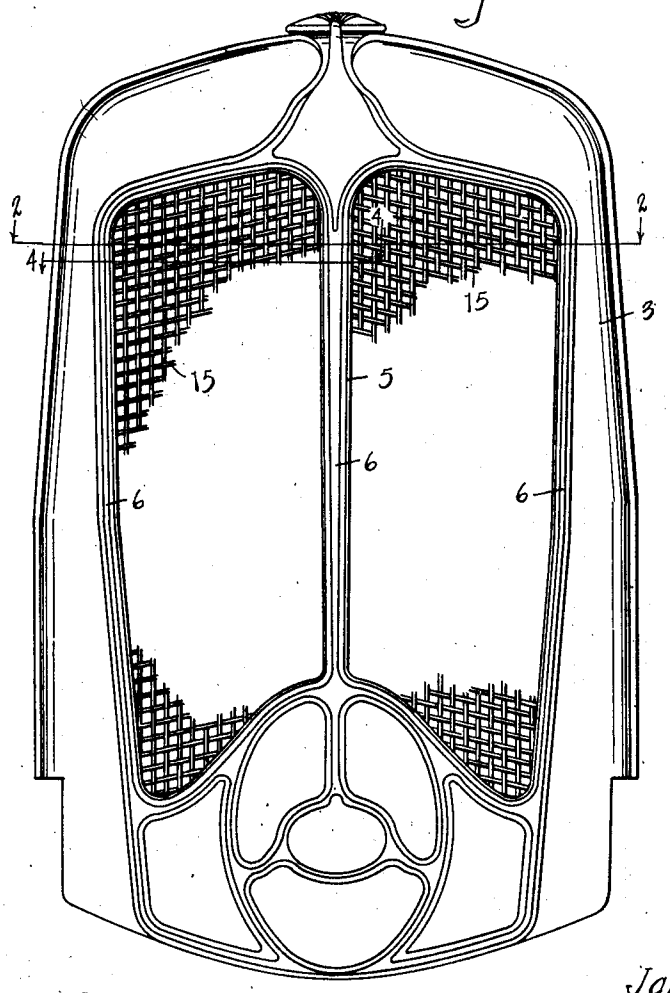


Fig. 1

INVENTOR
James L. Brownell
BY Chappell & Earl
ATTORNEYS

Oct. 27, 1931. J. L. BROWNELL 1,828,995

COMBINED RADIATOR AND GUARD

Filed July 28, 1930 2 Sheets-Sheet 2

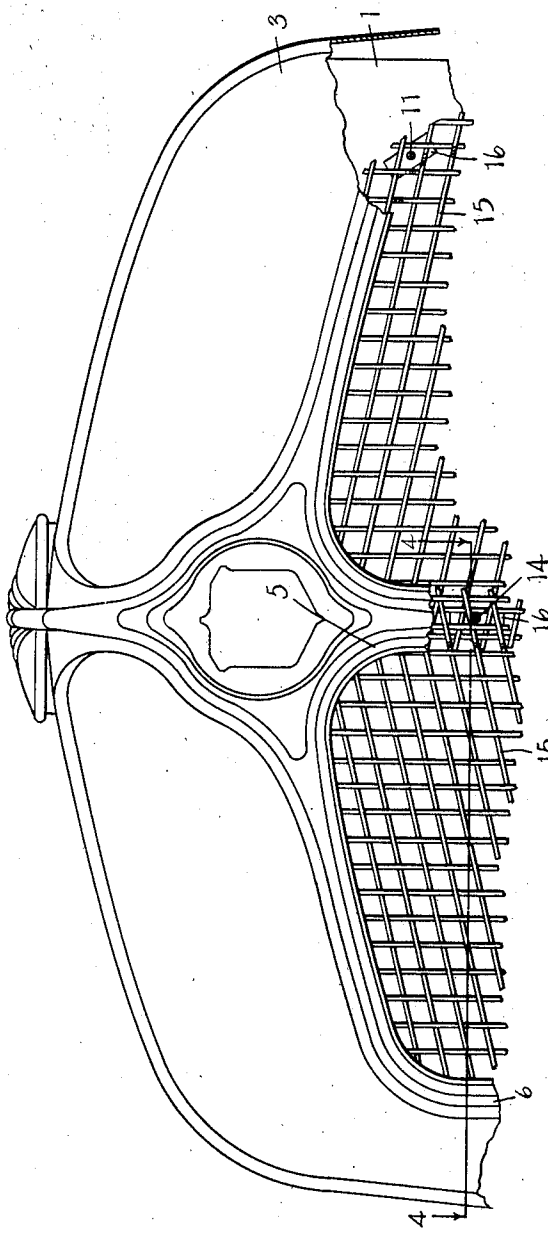


Fig. 3

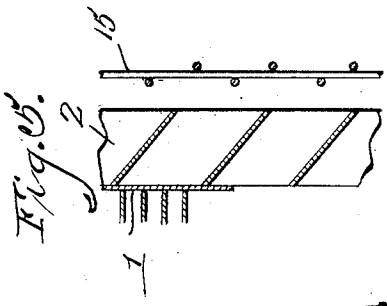


Fig. 5

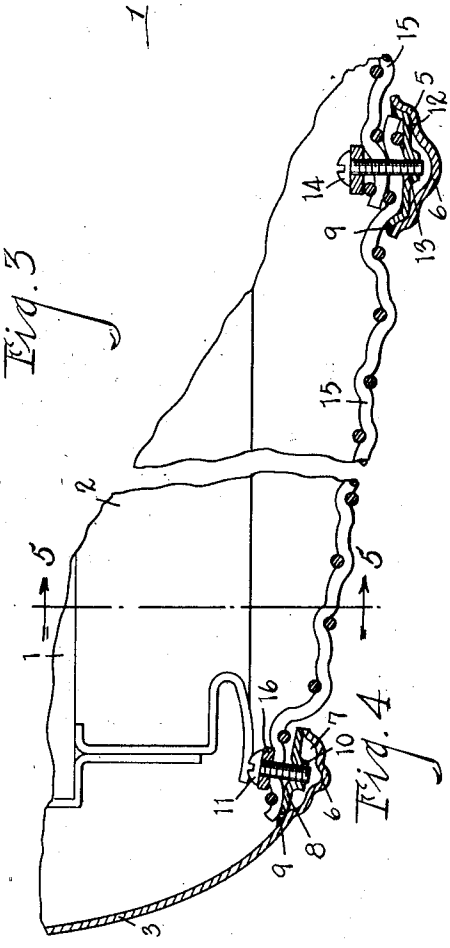


Fig. 4

INVENTOR
James L. Brownell
BY Chappell & Earl
ATTORNEYS

Patented Oct. 27, 1931 1,828,995

UNITED STATES PATENT OFFICE

JAMES L. BROWNELL, OF KALAMAZOO, MICHIGAN, ASSIGNOR TO CHECKER CAB MANUFACTURING CORPORATION, OF KALAMAZOO, MICHIGAN

COMBINED RADIATOR AND GUARD

Application filed July 28, 1930. Serial No. 471,328.

The main object of this invention is to provide in a radiator for motor vehicles a combined shell and guard which very effectively protects the radiator, is attractive in appearance and comparatively simple and economical in structure.

Objects pertaining to details and economies of my invention will definitely appear from the description to follow. The invention is defined in the claims.

A structure which embodies the features of my invention is clearly illustrated in the accompanying drawings, in which:

Fig. 1 is a front elevation of a radiator embodying the features of my invention, a portion only of the grid being shown and no attempt being made to show details of the radiator or the radiator cover.

Fig. 2 is a horizontal section through the radiator shell or housing on line corresponding to line 2—2 of Fig. 1.

Fig. 3 is an enlarged fragmentary front elevation.

Fig. 4 is an enlarged horizontal section on line corresponding to line 4—4 of Figs. 1 and 3.

Fig. 5 is a fragmentary vertical section taken on line 5—5 of Fig. 4.

In the embodiment illustrated, 1 represents the core of a radiator which is here indicated conventionally, and 2 represents a cover or winter-front, so-called, of the louvre type. No attempt is made to show the details of this cover structure as the relation thereof to the shell or housing and the guard grid is the feature it is desired to illustrate.

The shell or housing 3 is a sheet metal stamping and has a front opening with a vertical bar 5 formed integrally with the sill disposed centrally of the opening. This bar is formed into an inwardly facing stepped channel cross section.

The edges of the opening are formed to provide outwardly projecting stepped beads 6 which result in inwardly facing channels 7. Within or across these channels I secure the metal attaching strips 8 which are fixedly secured as by means of solder or spotwelding indicated at 9. The attaching strips are provided with threaded screw holes 10, portions of the bar being struck up and tapped to receive the screws 11. A similar attaching strip 12 is secured across the channel of the bar 5 and this has tapped holes 13 therein to receive the screws 14 corresponding to the screws 11.

The grids 15, preferably of woven wire, are arranged with their edges overlapping the attaching strips and are secured thereto by the screws arranged through the meshes of the grids. The screws are provided with clamping washers 16.

The shell with the grids is arranged over the louvre cover and the radiator, serving to effectively conceal the cover and also to protect it and the radiator from blows which might injure the same. It is not intended that the radiator shell or grid shall be of such weight as to protect these parts in the case of major accidents but it is effective in protecting the parts against accidents that very commonly result in injury to the radiator or to the cover thereof without injuring the vehicle.

I have illustrated and described my improvements in an embodiment which I have found very practical in use. I have not attempted to illustrate or describe other embodiments or adaptations which I contemplate as it is believed those skilled in the art will be able to embody or adapt my improvements as may be desired.

The structure illustrated, however, has the advantage of being very strong and rigid, even though made of light material. The vertical center bar on the housing not only serves to support the grid, but also serves to substantially reinforce the frame. The grid attaching strips serve as reinforcing elements for the edges of the shell opening so that it is not easily distorted even when formed of light material.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. The combination with a radiator, of a sheet metal shell or housing for said radiator open at the front and having a central vertical bar of inwardly facing stepped channel cross section, said bar being formed at the edges

of the opening to provide outwardly projecting beads of stepped cross section and inwardly facing channels, grid attaching strips having threaded openings therein secured on the inner sides of said shell in opposed relation to said channels, said strips constituting reinforcing members for the shell, woven wire grids disposed with their edges in overlapping relation to said attaching strips, and screws arranged through said grids from the inside thereof and threaded into said threaded openings of said attaching strips.

2. The combination with a radiator, of a sheet metal shell or housing for said radiator open at the front and having a central vertical bar of inwardly facing channel cross section, said bar being formed at the edges of the opening to provide inwardly facing channels, grid attaching strips secured on the inner sides of said shell in opposed relation to said channels, woven wire grids disposed with their edges in overlapping relation to said attaching strips, and fastening members through said grids engaging said attaching strips.

3. The combination with a radiator and a louvre cover, of a shell or housing for said radiator and cover open at the front and having inwardly facing channels at the edges of the front opening, attaching strips secured on the inner side of said shell in opposed relation to the said channels, and a grid disposed on the inner side of said shell and secured to said attaching strips.

4. The combination with a radiator, of a shell or housing therefor open at the front and having a central vertical bar, attaching strips secured to said bar and to the edges of the front opening of said shell, a grid disposed with its edges in overlapping relation to said attaching strips, and fastening members on said attaching strips engaging said grid.

5. The combination with a radiator, of a shell or housing therefor open at the front, attaching strips secured to the edges of the front opening of said shell, a grid disposed with its edges in overlapping relation to said attaching strips, and fastening members on said attaching strips engaging said grid.

6. The combination with a radiator, of a shell or housing for said radiator open at the front and having inwardly facing channels at the edges of the front opening, attaching strips secured on the inner side of said shell in opposed relation to the said channels, and a grid disposed on the inner side of said shell and secured to said shell.

7. The combination with a radiator and a louvre cover therefor, of a shell or housing for said radiator and louvre cover mounted to enclose them both, said shell having an opening at the front end, a grid for said front opening disposed on the inner side of said shell with its edges in overlapping relation to the edges of the opening and secured thereto.

In witness whereof I have hereunto set my hand.

JAMES L. BROWNELL.