

Nov. 22, 1932.

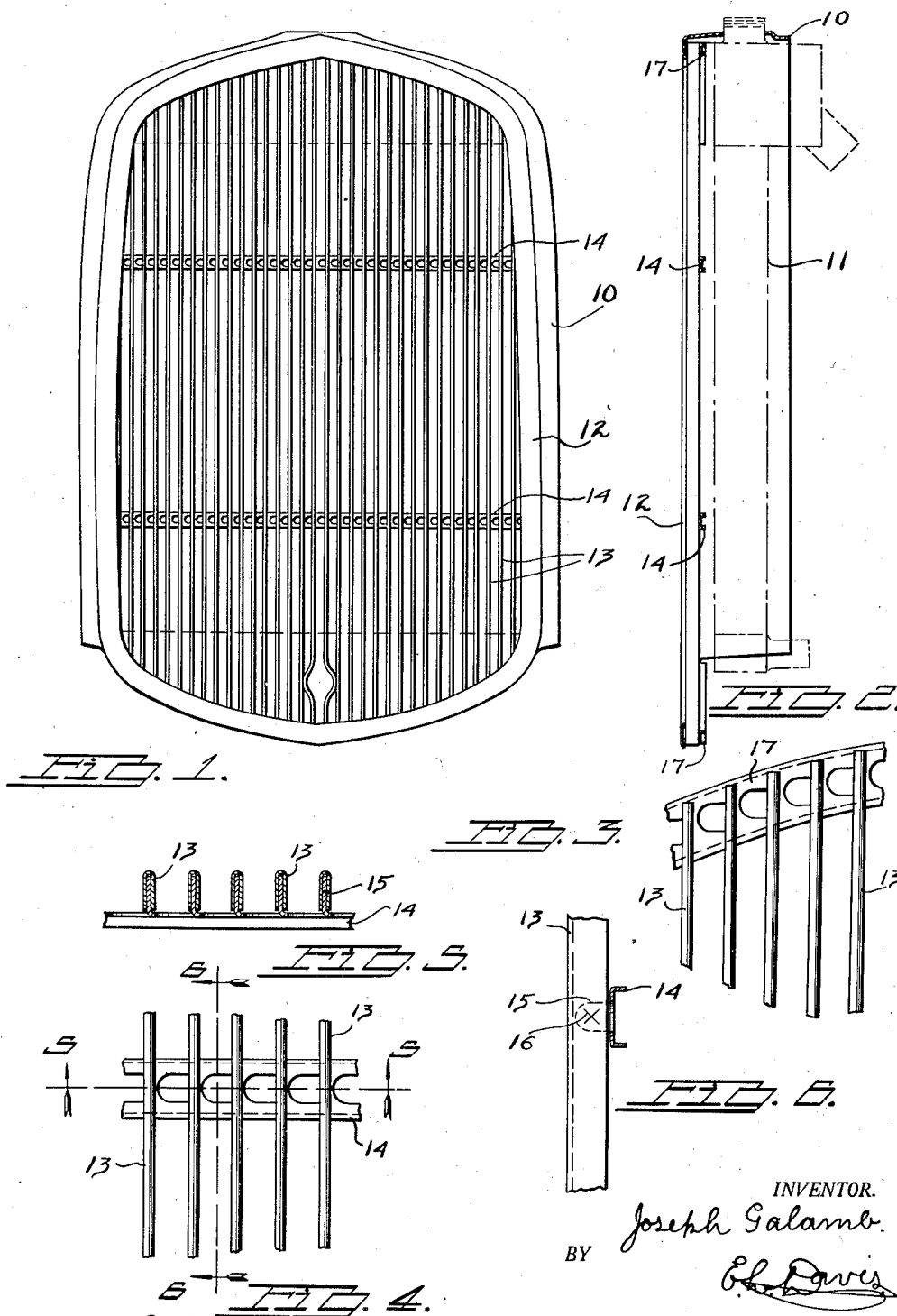
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RADIATOR SHIELD CONSTRUCTION

Filed April 1, 1931

2 Sheets-Sheet 1



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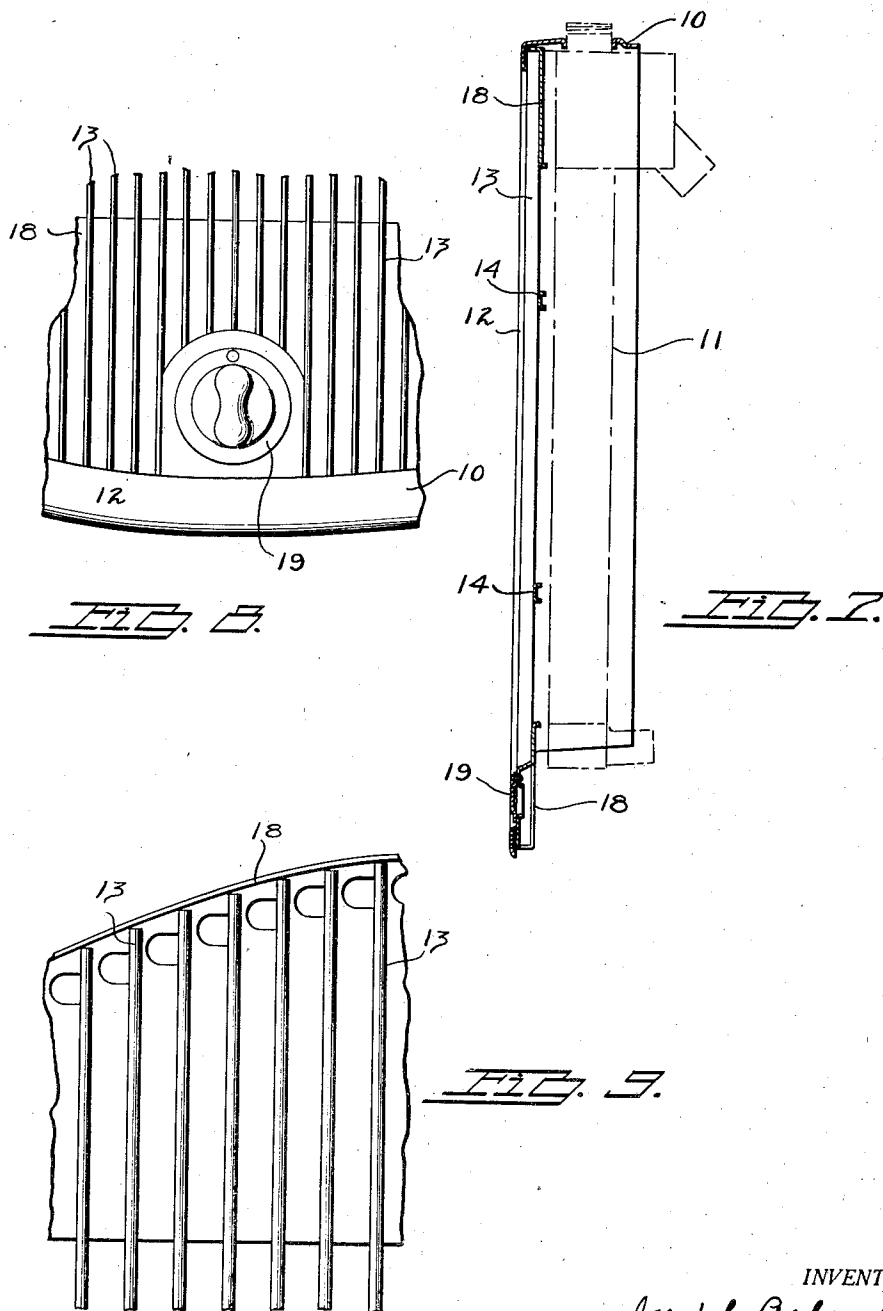
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RADIATOR SHIELD CONSTRUCTION

Application filed April 1, 1931. Serial No. 526,823.

The object of my invention is to provide an automobile radiator shield of simple, durable and inexpensive construction, which shield will be ornamental and will protect the radiator from damage in case of minor accidents.

A further object of my invention is to provide a radiator shield having exceptional strength against distortion or bending. I accomplish this desirable result by forming the shield of U shaped strips which strips extend both vertically and horizontally across the radiator front, thereby forming a structure of maximum strength in proportion to the material used. Due to this construction, I am enabled to construct my shield from comparatively light sheet metal and still provide ample strength therein.

In the past, certain radiator shields have been constructed by corrugating a flat sheet of metal and then punching openings between each of the corrugations through which the incoming air is supplied to the radiator. It will readily be seen that when sufficiently large openings are provided to allow the radiator to be effectively cooled, a large portion of the material of the shield must be punched away. This not only wastes the material from which the shield is made but necessitates a very difficult punching operation in order to remove all of the stock between the corrugations. In the construction of my improved shield no material is wasted and further, there are no difficult punching operations such as in the above mentioned structure.

Still a further object of my invention is to provide a radiator shield having top and bottom plates thereacross, which plates effectively hide the top and bottom water tanks of the radiator from view and also provides means for securing the shield bars in place.

Polished chromium steel is being used to a great extent for the exposed parts of automobiles and is admirably suited for use in radiator shields both from an appearance standpoint and from the durability of its finish. However, such steel is not only very expensive but is also quite difficult to work so that corrugated radiator shields of the

former type were commercially impossible to produce. My improved shield may be constructed entirely of chromium steel without encountering any difficult forming operations and without the loss of any of this relatively expensive material. Still further, due to the exceptional rigidity of my structure, a lighter gage of metal may be used to obtain the desired strength, and as the cost of such metal is almost directly proportional to its thickness, a materially cheaper structure results.

With these and other objects in view, my invention consists in the arrangement, construction and combination of the various parts of my improved device, as described in the specification, claimed in my claims, and illustrated in the accompanying drawings, in which:

Figure 1 shows a front view of my improved radiator shield in combination with a radiator shell.

Figure 2 shows a vertical central sectional view through the structure, shown in Figure 1, the radiator proper being shown in dotted lines to illustrate its position in relation to my shield.

Figure 3 shows a fragmentary view of the top edge of my radiator shield.

Figure 4 shows a fragmentary view of the center portion of the radiator shield.

Figure 5 shows a sectional view, taken on the line 5—5 of Figure 4.

Figure 6 shows a sectional view, taken on the line 6—6 of Figure 4.

Figure 7 shows a vertical central sectional view of an alternate construction wherein top and bottom plates are used to support the shield bars.

Figure 8 shows a fragmentary view of the lower portion of the shield shown in Figure 7, and

Figure 9 shows a fragmentary view of the upper edge of the alternate construction shown in Figure 8.

Referring to the accompanying drawings, I have used the reference numeral 10 to indicate generally a radiator shell which forms an ornamental enclosure for a radiator, shown by dotted lines 11. The shell 10 is

of the ordinary construction consisting of a highly polished band in position around the top and sides of the radiator. This band has a relatively narrow inturned bead 12 forming an outline for the front of the radiator which bead is spaced a sufficient distance in front of the radiator so that my shield may be interposed between the bead and the radiator front. It is preferable to allow a slight space between the rear face of the shield and the front face of the radiator so that a limited bending movement of the shield is permitted.

My radiator shield consists of a plurality of vertically extending U shaped strips 13 spaced laterally across the radiator. The ends and intermediate portions of these strips are secured to several transverse U shaped members to thereby form a unitary structure. The strips 13 are formed from a flat strip of metal bent back upon itself along its center. The lengths may be either formed singly in a punch press or may be cut from stock formed by continuous rolling, either of which methods of forming are suitable.

The transverse members for holding the intermediate portions of the strips in lateral spaced relationship consists of a pair of U shaped or channel members 14 which extend across the shell 10. The web portions of these channels have a plurality of equally spaced tabs 15 punched therefrom so as to extend outwardly away from the arms of the channels. These tabs are of such length that the arms of the strips 13 straddle these tabs and may be spot welded thereto, as shown by the cross 16 in Figure 6. The ends of the strips 13 are in like manner secured to curved channel members 17 which lie back of the top and bottom portions of the bead 12 and which are also provided with tabs 15 for welding the ends of the strips thereto.

It will be apparent that the space between the strips 13 allows free entrance of air to the radiator and in fact the total area thus provided is considerably larger than the clear space through the average radiator so that no air restriction is offered by this shield.

Referring to Figures 7 through 9, an alternate construction is shown wherein the curved channels 17, shown in my preferred structure, are replaced by plates 18 which are proportioned to hide from view the radiator tanks. These plates are disposed at the top and bottom of the shield and are provided with tabs 15 whereby the strips 13 may be spot-welded in place. This construction is particularly desirable where the radiator tanks are diagonally creased to prevent vibration of the tank walls.

Figure 8 illustrates a starting crank grommet 19 which is secured to the lower plate and is provided with an opening therethrough whereby the starting crank may be inserted to crank the engine.

Among the many advantages arising from the use of my improved device it may be well to mention that I have provided U shaped members extending both vertically and transversely across the radiator front so that maximum rigidity is provided. Due to the transverse members the impact received on the individual vertical strips are distributed to the adjacent strips so that an exceptionally strong shield results. I am, therefore, able to construct the shield from very light material and still obtain ample strength for the purpose desired. This is particularly advantageous when a polished chromium steel shield is desired as the cost of the thin sheet stock used materially reduces the cost of the structure. When such a polished radiator shield is to be constructed the individual strips may be automatically polished and buffed as they are being formed so that very little extra cost is encountered over the unfinished structure.

Some changes may be made in the arrangement, construction, and combination of the various parts of my improved device without departing from the spirit of my invention, and it is my intention to cover by my claims, such changes as may reasonably be included within the scope thereof.

I claim as my invention:—

1. In a radiator shield, reinforcing members extending along two opposite edges of the radiator, a plurality of tabs extending outwardly from each of said members, and a plurality of U shaped strips extending between said members and straddling one of the tabs thereon, said strips being secured to said tabs to thereby form a unitary structure.

2. In a radiator shield, channel shaped reinforcing members extending along two opposite edges of the radiator, a plurality of tabs extending outwardly from each of said channel members, and a plurality of U shaped strips extending between said members and straddling one of the tabs thereon, said strips being secured to the tabs to form a unitary structure.

3. In a radiator shield, reinforcing members extending along two opposite edges of the radiator, a plurality of tabs extending outwardly from each end of said members, and a plurality of U shaped strips extending between said members and straddling one of the tabs on each member, said strips being spot welded to the tabs to thereby form a unitary structure.

4. In a radiator shield, reinforcing members extending along the top and bottom of the radiator, a plurality of tabs extending outwardly from each of said members, and a plurality of vertical U shaped strips extending between said members and straddling one of the tabs of each member, said strips being secured to the tabs to form a unitary structure.

5. In a radiator shield, a radiator shell having an inwardly extending bead forming an outline for the radiator front, reinforcing members extending across the top and bottom of the radiator behind said bead, a plurality of tabs extending outwardly from each of the reinforcing members, and a plurality of vertical U shaped strips extending between said members and straddling the respective tabs thereon. 70
6. In a radiator shield, inwardly extending channel shaped reinforcing members extending across the top and bottom of the radiator, a plurality of tabs extending outwardly from the web portions of each of said members, and a plurality of vertical U shaped strips extending between said members and straddling the respective tabs thereon, said strips being welded to said tabs. 80
7. In a radiator shield, a plurality of inwardly extending channel shaped reinforcing members spaced forwardly from the front of the radiator, spaced tabs extending forwardly from each of said members, and a plurality of vertical U shaped strips extending between said members and straddling the respective tabs thereon, said strips being welded to the tabs. 85
8. In a radiator shield, a radiator shell enclosing the exposed edges of the radiator and having an inwardly extending bead outlining the front thereof, a plurality of inwardly extending channel members disposed across the top and bottom of said radiator behind said bead, a plurality of channel reinforcing members extending across the intermediate portion of said shell, aligned tabs extending outwardly from each of said channel members, and a plurality of vertical U shaped strips straddling each row of aligned tabs, said strips being secured to the tabs. 90
9. In a radiator shield, a radiator shell enclosing the exposed edges of the radiator and having an inwardly extending bead outlining the front thereof, a plurality of inwardly extending channel members disposed across the top and bottom of said radiator behind said bead, a plurality of channel reinforcing members extending across the intermediate portion of said shell, aligned tabs extending outwardly from each of said channel members, and a plurality of vertical U shaped strips straddling each row of aligned tabs, said strips being spot welded to said tabs. 95
10. In a grille for automobile radiators and the like, the combination of upper and lower base plate members, a plurality of substantially vertical bar members secured to the outer faces of said base plate members, the former members being substantially in the form of U-shaped channel bars, and laterally extending lugs in the outer faces of said base plate members adapted to engage with the inner surfaces of said U-shaped bar members. 100
11. In a device of the character described, means for securing channel bars to the face of a base plate consisting of resilient projections extending perpendicularly from the face of said base plate and adapted to engage with the inner surfaces of said channel bars. 105
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