March 26, 1935. L. B. GREEN 1,996,046

BEAD ORNAMENTED PARALLEL BLADE GRILLE

Filed Sept. 29, 1934

Fig. 1

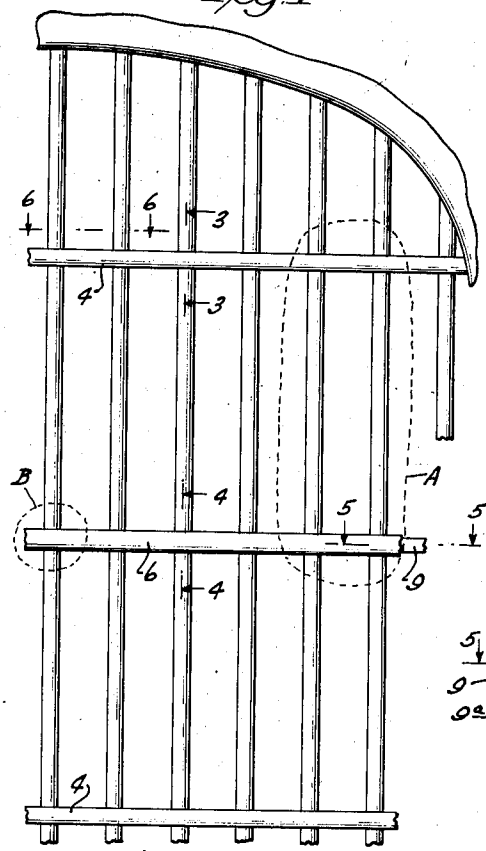


Fig. 2

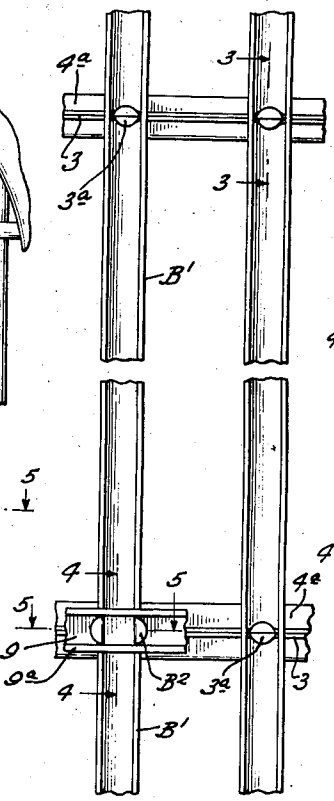


Fig. 3

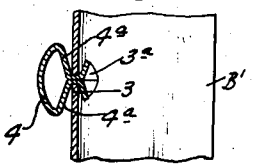


Fig. 4

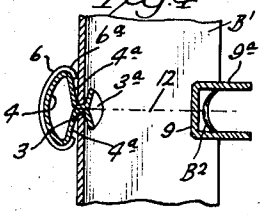


Fig. 5

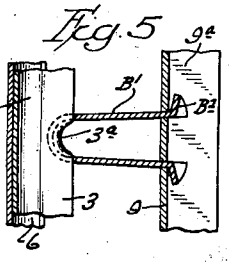


Fig. 10

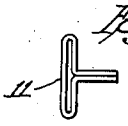


Fig. 6

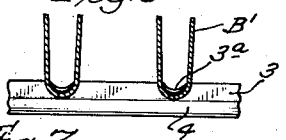


Fig. 9

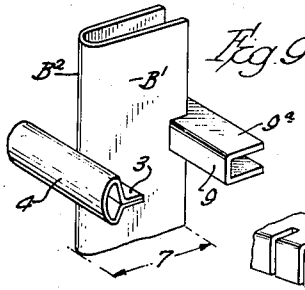


Fig. 11



Fig. 7

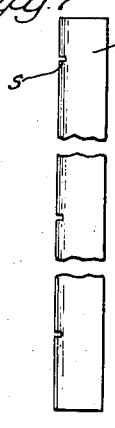


Fig. 8

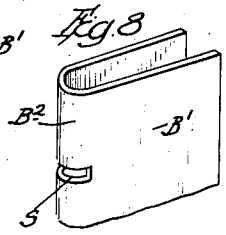


Fig. 12

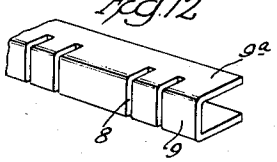
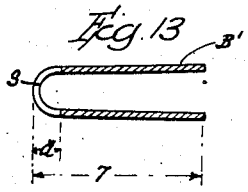


Fig. 13



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Patented Mar. 26, 1935 1,996,046

UNITED STATES PATENT OFFICE

1,996,046

BEAD-ORNAMENTED PARALLEL-BLADE GRILLE

Lee B. Green, Lakewood, Ohio, assignor to The Globe Machine & Stamping Company, Cleveland, Ohio, a corporation of Ohio

Application September 29, 1934, Serial No. 746,237

7 Claims. (Cl. 189—82)

My invention relates to grilles or guards in which the grille blades extend substantially parallel to one another and are of a rearwardly open U-section, grilles of this class being now used extensively for guarding the frontal air-admitting apertures in the radiator shells of passenger automobiles. When thus used, each such grille also improves the frontal appearance of the automobile and partially conceals the radiator core behind it, and the extent to which the grille detracts the attention from the radiator core is enhanced when the grille also includes blade-connecting members extending transversely of the blades.

Owing to the stiffness of such U-sectioned blades, relatively few and widely spaced cross-bars suffice for affording the needed rigidity in the grille as a whole, and particularly so when each cross-bar has slots through which the rearward portions of both U-web of each blade extend. However, such a disposition of the cross-bars causes the major portions of these bars to be rearward of the blades, thereby making the cross-bars far less effective in improving the appearance of the grille and in concealing the radiator core than would be the case if each cross-bar had its forward portion in the same surface with the most forward portions of the blades. Indeed, I have found that a much greater enhancing of the appearance of the grille would be obtained by disposing transverse strips of brightly finished beading or moulding in front of the grille blades, and that the appearance of a parallel-blades grille is additionally improved if such conspicuous strips also conceal the usual blade-connecting cross-bars.

Generally speaking, my invention aims to provide simple and inexpensive frontal grille-ornamenting cross-bars adapted to be fastened to rearwardly open U-sectioned grille blades, and also aims to provide the grille blades with simple and easily made formations which will permit such ornamenting cross-bars to be attached speedily and firmly to the blades without requiring any welding, soldering or riveting operations.

In addition, my invention aims to provide a blade and cross-bar assembly which will permit the use of auxiliary ornamenting mouldings when desired; and which will readily permit certain ornamenting cross-bars to be positioned where they conceal the more rearward blade-connecting bars, without interfering with a convenient attaching of such rearward cross-bars to the blades.

Illustrative of embodiments of my invention,

Fig. 1 is a fragmentary front elevation of a grille having frontal cross-bars attached to upright grille blades according to my invention, including an adjacent portion of a radiator shell front.

Fig. 2 is an enlarged rear elevation of the portion of the same grille within the dotted outline A of Fig. 1.

Fig. 3 is an enlarged section taken along the line 3—3 of Figs. 1 or 2.

Fig. 4 is a similarly enlarged section taken along the line 4—4 of Figs. 1 or 2.

Fig. 5 is a section taken along the line 5—5 of Figs. 2 or 5, drawn on the same scale as Fig. 4.

Fig. 6 is an enlarged section taken along the line 6—6 of Fig. 1.

Fig. 7 is a fragmentary side elevation of one of the U-sectioned blades, showing the spaced slots.

Fig. 8 is an enlarged elevation of a slotted portion of a blade.

Fig. 9 is an enlarged perspective view of the grille portion within the dotted outline B of Fig. 1.

Figs. 10 and 11 are sections of ornamenting cross-bars, showing other shapings than those of Fig. 3.

Fig. 12 is a perspective view of a portion of the rearward cross-bar in Figs. 1, 4, and 5.

Fig. 13 is a section taken transversely of the blade portion shown in Fig. 8, through the slot in that blade.

In the illustrated fragment of a flat-fronted grille for spanning the usual aperture in a radiator shell front 1, Fig. 1 shows the grille as including U-sectioned upright blades presenting approximately parallel webs B^1 connected at their forward edges by a forwardly convexed U-back B^2. Each of the said blades has similarly spaced slots S of uniform width extending rearwardly into it, rearwardly as shown in Fig. 7, these slots being similarly spaced in the several blades so that they aline longitudinally of the slots.

These blades are cross-connected by cross-bars each of which is formed by rolling a strip of sheet metal to a cross-section resembling that of an ordinary spring cotter having quite short shanks. In other words, the initially flat strip is formed so that its longitudinal edge portions form two flat and contiguous webs 3 connected respectively at their inner edges by an incomplete tube 4, as shown in Fig. 9.

When each of the frontal slots S in the blades is of a width not smaller than, and desirably closely approximating, the joint thickness of the two webs 3 of a cross-bar, this double-webbed portion

of the cross-bar can readily be slid rearwardly into the slots of all of the blades which it is to connect. To insure an adequate inserting of these overlapping webs into the corresponding slots in the blades, I preferably make the webs 3 of the cross-bar of an exterior width corresponding to the extreme depth *d* (Fig. 13) of each such slot, so that the free edges of both webs can seat on the bottom of each slot to limit their insertion and so that the most rearward parts of the said tubular portion of the cross-bar will then bear against the convexed front of the blade as shown in Fig. 3.

The overlapping portions 4*a* of the said two webs 4 which are disposed behind the U-back of each blade are then pried apart and bent away from each other, as shown in Figs. 3, 4 and 5, so as to clamp the said U-back of the blade between the bent-apart web portions 3*a* and rearward portions 4*a* of the tubularly front of the cross-bar. This clinching operation can readily be performed simultaneously by the use of a gang of punches for anchoring such a cotter-sectioned cross-bar to a large number of blades, so that the entire assembly is quite expeditious as well as inexpensive.

When the rearward portions 4*a* of such a forwardly disposed incomplete tubular part of the cross-bar are jointly convexed toward the blades, as in Fig. 3, an ornamenting moulding 6 can readily be slid over this tubular front part 4, or even snapped over it, if this molding has its longitudinal edge portions 6*a* recurved toward each other to hook behind the rearward parts 4*a* of the tubular portion of the cross-bar, as shown in Fig. 4. Thus my above described blade and cross-bar assembly readily permits an auxiliary molding to be attached without the use of auxiliary fastening elements, or even of tools. This molding 6 can then be of chrome-plated metal or stainless steel, or of some other color or finish contrasting with that of the blades.

Moreover, since the overlapping webs of my cotter-sectioned cross-bars necessarily extend into each blade for only a fraction of the total depth 7 (Fig. 13) of each blade, stiffening and grille-supporting cross-members still can readily be attached to the rearward portions of the blades, and each such rearward cross-member can be substantially concealed by one of my previously described frontally attached cross-bars.

Thus, Figs. 2 and 4 show each blade as having the rearward portions of both of its blade webs B^1 extending through a pair of slots 8 in the channel-back 9*a* of a rearwardly open channel-sectioned cross-bar, to which cross-bar each blade is then anchored by a spreading apart of the two web portions B^2 which are behind the said channel-back and between the channel webs 9*b* of that cross-bar, after the manner more fully disclosed in my copending application #688,364, filed September 8, 1933 on a Grille for automobile radiator fronts.

When such a stiffening cross-bar is disposed directly behind one of my frontally attached cotter-sectioned cross-bars, it will be obvious from Figs. 1 and 4 that the frontally attached cross-bar substantially conceals the rearwardly disposed stiffening bar, and particularly so when the frontal cross-bar is wider than the rearward one, as shown in Figs. 1 and 4 and in the lower portion of Fig. 2. Since my frontally attached cotter-sectioned cross-bars also cross-connect and stiffen the blades, a number of the rearwardly or otherwise attached stiffening cross-bars needed for a given assemblage of blades can be quite small when these blades are also cross-connected by my frontal bars, and these frontal bars also can be made of quite thin metal.

Moreover, the cross-section of the tubular part of my here presented cross-bars can be varied, as shown for example by the V-sectioned frontal part 10 of the cross-bar of Fig. 11, and the frontal part can even be flattened, as shown at 11 in Fig. 10.

So also, while I have heretofore described my cross-bars as used on a flat-fronted grille, it should be obvious without separate illustration that such cross-bars can also be attached to blades which have longitudinally curved forward edges, or which are not strictly parallel, or which present their forward edges in a non-planular surface. It will likewise be obvious that my here disclosed blade and cross-bar assembly can be used in grilles for other purposes than in connection with automobile radiator shell fronts—as for example for spanning an air-admitting opening in the housing for an air-conditioning unit.

Moreover, the same frontal cross-bars can readily be affixed as above described to blades of varying overall thickness, provided that the clear spacing between the blades permits a ready insertion of a punch for deforming the blade-housed portions 3*a* of the webs of the cross-bars to a clinching shape substantially as shown in Fig. 3.

So also, while I have illustrated a portion of a grille or guard having quite widely spaced blades, and one in which the slots S extend at right angles to the forward edges of the blades, I do not wish to be limited in this respect, since many changes might be made without departing either from the spirit of my invention or from the appended claims.

I claim as my invention:

1. A grille comprising spaced and substantially paralle blades of rearwardly open U-section presenting their U-backs in a common frontal surface, the said blades having alined slots extending transversely of the blades and rearwardly into the blades to a considerably greater depth than the thickness of the U-backs of the blades; and spaced ornamenting members each comprising two flatwise contiguous webs conjointly extending through alined slots in the several blades; and a tubular frontal portion of greater diameter than the width of one of the said slots, extending in front of and bearing rearwardly against the U-backs of the blades; the portions of the said two contiguous webs which are within the interior of each U-sectioned blade diverging rearwardly and bearing forwardly against the rearward face of the U-back of the blade so as to clamp the said tubular frontal portion to the blade.

2. A grille as per claim 1, in which each of the said slots corresponds substantially in its width to the joint thickness of the said contiguous webs.

3. A grille as per claim 1, including a cross-bar fastened to the rearward portions of both U-webs of each blade and extending parallel to and behind the tubular frontal portion of one of the said ornamenting members so to be concealed by the latter.

4. A grille as per claim 1, including a cross-bar extending parallel to one ornamenting member and secured to the rearward portions of the blades, the cross-bar having its medial longitudinal plane in common with the contiguous faces

of the two webs of the said one ornamenting member.

5. A grille comprising spaced and substantially parallel blades of rearwardly open U-section presenting their U-backs in a common frontal surface, the said blades having alined slots extending transversely of the blades and rearwardly into the blades to a considerably greater depth than the thickness of the U-backs of the blades; and spaced ornamenting members each comprising two flatwise contiguous webs conjointly extending through alined slots in the several blades, and a tubular frontal portion of considerably greater diameter than the width of one of the said slots, the said frontal portion bearing rearwardly against the U-backs of the blades; the portions of the said two contiguous webs which are within the interior of each U-sectioned blade being segments of a hollow sphere disposed respectively at opposite sides of the plane of the contiguous faces of the said two webs and convexed toward the inner face of the U-back of the blade.

6. A metal grille comprising spaced and substantially parallel blades, the said blades having alined and counterpart transverse slots extending rearwardly into them; and ornamenting members each comprising in integral formation a rearwardly slitted tubular frontal portion extending in front of the blades and of greater diameter than the width of a slot, and two overlapping flat webs extending rearwards respectively from the slit edges of the said frontal portion; the said overlapping webs of each ornamenting member extending through alined slots in the several blades, and the joint thickness of the said webs being substantially equal to the width of one of the said slots.

7. A metal grille as per claim 6, in which the width of each of the said webs of the ornamenting members corresponds substantially to the extreme depth of one of the said slots, and in which the overlapping webs of each ornamenting member have their free edges engaging the bottoms of the blade-slots through which these webs extend.

LEE B. GREEN.