April 27, 1954 H. W. DUNCAN 2,676,652

SCREEN DOOR GRILLE MOUNTING

Filed Dec. 8, 1951 2 Sheets-Sheet 1

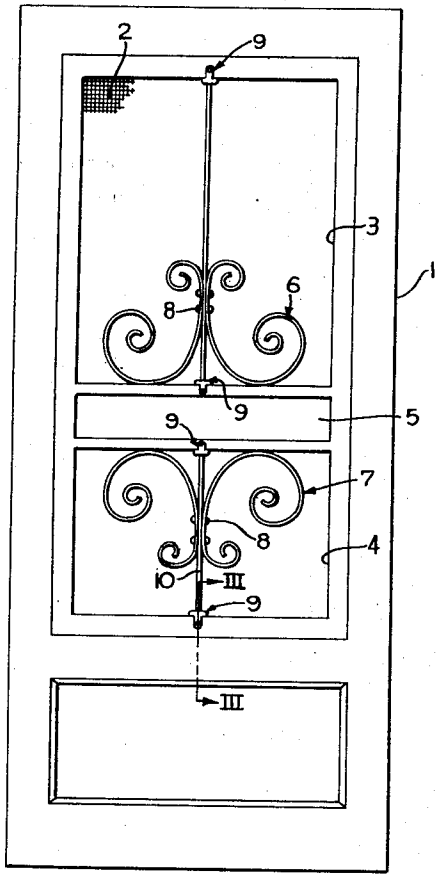


Fig. 1

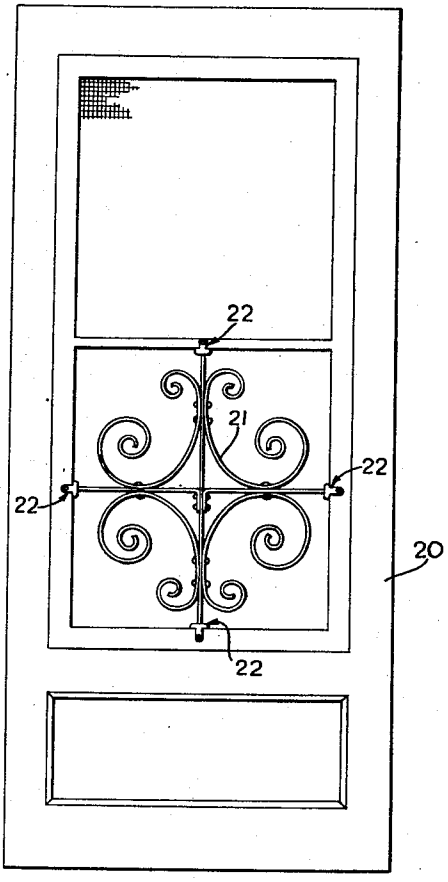


Fig. 2

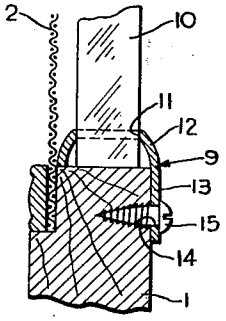


Fig. 3

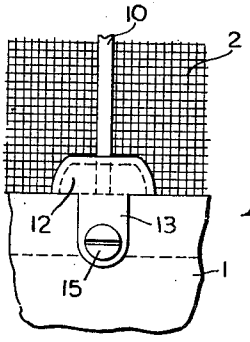


Fig. 4

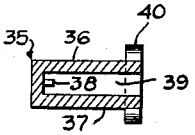


Fig. 10

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SCREEN DOOR GRILLE MOUNTING

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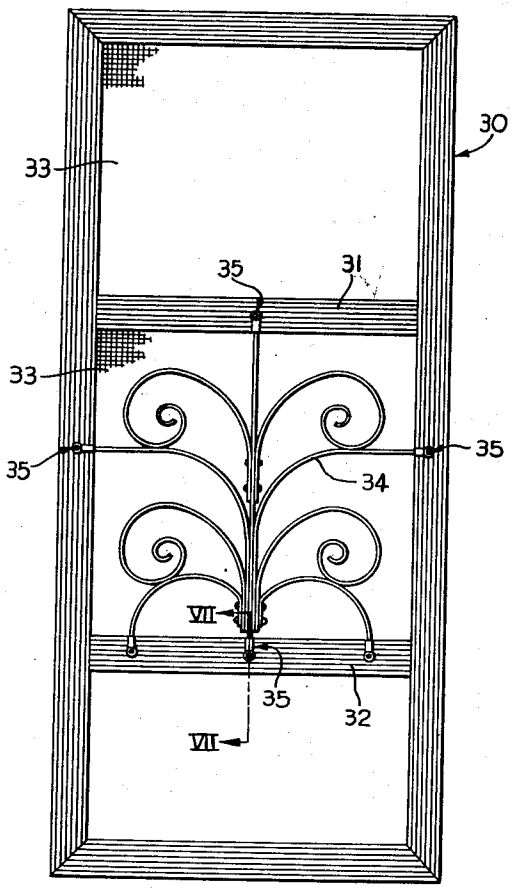


Fig. 5

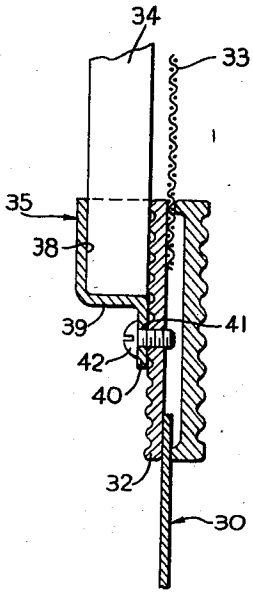


Fig. 7

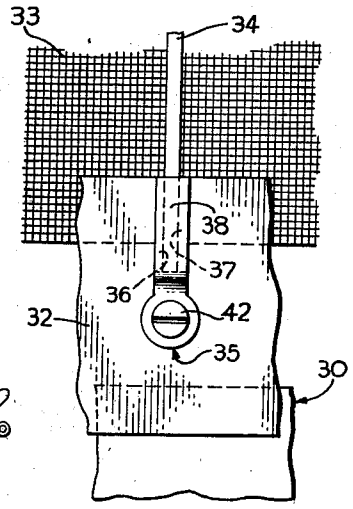


Fig. 8

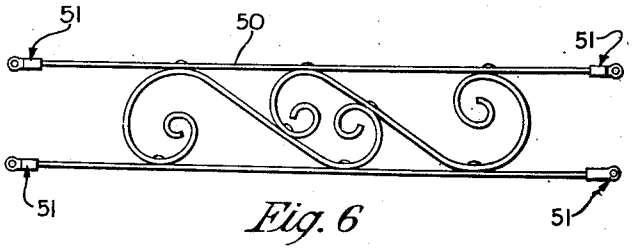


Fig. 6

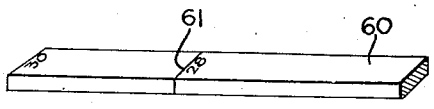


Fig. 9

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SCREEN DOOR GRILLE MOUNTING

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10 Claims. (Cl. 160—104)

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This invention relates to articles such as screen door grilles, and especially to means used for mounting such articles on screen doors or the like.

It is a well known fact that screen doors are constructed in at least four different sizes all of which may be considered to be standard. Such so-called "standard" screen doors likewise have a large number of different width openings therein for receiving screens, and obviously have a large variety of different height openings therein intermediate reinforcing cross bars or other portions of the door. Screen door grilles usually have heretofore been made from some type of metal strap or strip with some of such strap lying in a plane extending normally to the plane of the screen door. At the edges of such ornamental grille, the metal strap usually would be bent through 90° to provide a flat portion used for securing the grille to the screen door. Thus the grilles would be adapted to be used in only one or two particular sizes of screen doors and would not be adaptable for alteration to fit other screen doors having different sized openings therein. Hence, when one wishes to position an ornamental grille in a screen door, it is necessary to find a grille of the approximate size for application to a specific screen door.

Furthermore, such previous types of screen door grilles have been somewhat objectionable in that some of their ornamental value or beauty is destroyed, due to the fact that the entire appearance of the grille is materially altered in some instances by the turned over edge portions of the grille.

Since screen door grilles normally could be used in only one or two particular sizes of a screen door and then may fit such door poorly, obviously retail organizations selling such articles would be required to stock the grille in a variety of sizes and shapes so that the grille would be available for most so-called "standard" screen doors, and this would necessitate a relatively large inventory of different sizes and shapes of grilles, but even then only limited selections of grilles for any one door size would usually be available.

The general object of the present invention is to provide an ornamental grille for a screen door or the like, which grille is characterized by its ability to be used in any of a plurality of sizes of screen doors.

Another object of the invention is to position an ornamental grille in a screen door by means of positioning means that do not detract from

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the over-all ornamental appearance of the screen door and grille.

A further object of the invention is to provide relatively low cost, easily applied brackets that can be used to secure articles such as grilles to screen doors or the like.

Another object of the invention is to provide an ornamental grille for a screen door or the like which is of a maximum size and can easily be altered to fit in screen doors of smaller sizes.

A further object of the invention is to provide an ornamental grille of the class described which can be positioned on either the inner or outer surfaces of a screen door and which is likewise applicable for use either with wooden or metal doors.

The foregoing and other objects and advantages of the invention will be made apparent as the specification proceeds.

For a better understanding of the invention, reference is directed to the accompanying specification and to the drawings which illustrate two presently best known embodiments of the invention, and wherein:

Fig. 1 is a front elevation of a screen door having a grille of the invention positioned therein;

Fig. 2 is an elevation, similar to Fig. 1, of a different grille of the invention;

Fig. 3 is an enlarged fragmentary vertical section taken on line 3—3 of Fig. 1;

Fig. 4 is a front elevation of the structure shown in Fig. 3;

Fig. 5 is a front elevation of a different type of grille of the invention and positioning means therefor securing such grille on a metal door;

Fig. 6 is an elevation of yet a further type of grille of the invention with positioning means therefor;

Fig. 7 is a fragmentary enlarged vertical section taken on line 7—7 of Fig. 5;

Fig. 8 is an elevation of the structure shown in Fig. 7;

Fig. 9 is a fragmentary perspective view of a portion of a grille of the invention; and

Fig. 10 is a horizontal section through the channel bracket of Figs. 7 and 8.

The present invention, broadly speaking, relates to the positioning of a member such as an ornamental grille which is made from flat metal strip bent into desired ornamental shape and wherein the metal strip lies normally in the plane of the door or other article to which the grille is secured and with at least some metal strip ends forming part of the marginal portions of the grille. The invention covers the combination of

bracket means with a door and engaging the marginal metal strip ends of the grille to position it on the door. A novel bracket is provided by the invention and it includes apertured tab means for being secured to a door, and means, such as an apertured portion, for engaging with the exposed end of a metal strip to position the grille.

Attention now is directed to the details of the construction shown in the accompanying drawings, and a screen door 1 is shown which is of conventional wooden construction. This screen door 1 positions a screen 2 therein within an opening formed in the door and such openings are of variable vertical and horizontal dimensions in screens commercially produced and sold today. The screen door 1 may be divided into vertically spaced openings 3 and 4 by means of a horizontally extending member 5. Fig. 1 shows two ornamental grilles 6 and 7 that are positioned on the screen door 1 in the openings 3 and 4, respectively, provided therein. The grilles 6 and 7 lie immediately adjacent the screen 2 provided in the screen door. These grilles 6 and 7 are made from flat metal strip which is bent into desired curves or arcs and with different portions or lengths of metal strips being secured together in a conventional manner, as by the use of rivets 8, but in all events, marginal portions of the grilles 6 and 7 are formed on exposed ends of the metal strip used in making the grilles 6 and 7.

As an important feature of the invention, the grilles 6 and 7 are positioned on or secured to the screen door 1 solely by the use of brackets 9 that engage with opposed ends of a vertically extending strip 10 shown in the grille 7. An enlarged view of the bracket 9 is best shown in Fig. 3 and it is shown as receiving the lower end of the strip 10 in a slot 11 that is formed in a flat upper surface of a substantially semi-spherical portion 12 that is provided at one end of the bracket 9. The bracket 9 also normally has a tab portion 13 usually extending therefrom substantially tangentially to the semi-spherical portion 12 and an aperture 14 is provided in this tab portion 13 for receiving a screw 15 or similar member used to position the brackets 9 in engagement with the screen door 1. Fig. 1 clearly shows that only a pair of the brackets 9 are required to mount the grille 7 in the screen door 1 and usually the grilles are of such size as to extend through the semi-spherical portions 12 of the brackets being threadedly engaged therewith and extend down to contact the adjacent exposed surface of the frame of the screen door. Fig. 4 nicely shows that the longitudinally extending strip 10 remains normal to the screen door, even though a portion of such strip engages one of the brackets 9 so that the ornamental appearance of a grille is not altered in any manner by the means used to secure it in position.

In many instances, the grilles 6 and 7 may be made from metal and be of normal metal color in appearance. Thus, the grilles may be made from aluminum strips and the brackets 9 likewise may be made from aluminum so that the positioning means for the grilles are of the same color as the grilles and do not detract from the ornamental grilles' appearance.

Fig. 2 shows a screen door 20 of slightly different construction wherein a different ornamental grille 21 is secured to such screen door 20 and by the use of four brackets 22, all of which are of the same construction as the brackets 9 referred to hereinbefore. It will be noted that both the grilles 6 and 7 and the grille 21 are positioned, usually, on the inside of the wooden screen doors as shown in Figs. 1 and 2 of the drawing.

Fig. 5 of the drawings shows one typical type of a metal screen door 30, which door has a pair of horizontally extending reinforcing bars 31 and 32 extending between spaced vertical portions thereof. A screen 33 is positioned on or suitably secured to the metal door 30 at the portion thereof intermediate the bars 31 and 32. An ornamental grille 34 of yet a different shape but of the same general construction as the grilles referred to hereinbefore is shown secured to the metal door 30. A different type of a bracket 35 is used for securing this grille 34 in position. In this instance, the bracket 35 is formed from a suitable material, usually metal, and it may be produced by stamping the bracket from a metal sheet so that the various portions of the bracket are of integral construction. Thus the bracket 35 includes a channel section including two opposed channel sides 36 and 37 which are secured together by an integral base or web portion 38. One end of the channel portion of the bracket 35 is closed by a section 39 that protrudes from the channel piece 38 and an integral tab 40 extends from such section 39 and has an aperture 41 therein for receipt of conventional means such as screws 42 for securing the brackets 35 and thus the grille 34 to the door 30. Fig. 7 best shows that the brackets 35 are adapted to be secured to the frame of the metal door 30 with the open portion of the brackets bearing against the surface of the metal door and tightly securing the exposed end of the grille 34 against the surface of the door. Usually such ornamental grille 34 is positioned on the outside portion of the door and the number of brackets used for positioning a grille depends upon the size and shape of the grille and the number of exposed positioning strip ends provided therefor.

Fig. 6 shows yet another type of an ornamental grille 50 which would be secured to a conventional member, such as a door, by the use of a plurality of brackets 51 engaging the exposed strip ends provided in the grille and being adapted to engage the member on which the grille is to be positioned. These brackets 51 would be identical to the brackets 9 or 35, as desired.

Fig. 9 shows a perspective view of the end portion of a metal strap 60 like those used in forming the ornamental grilles of the invention. This metal strap 60 preferably has some type of marking lines or scores, such as the line 61, marked thereon so that the ornamental grille in which such strap 60 is embodied can be given variable dimensions by cutting or breaking the metal strap at the marker 61. The over-all dimension of the grille may be located on the strip 60, as shown in the drawing, and an opposite portion of the grille may be similarly marked, if desired, as usually opposed parts of a grille must both be cut or reduced in length for any size adjustment. Thus all exposed metal strap ends in a given grille may be marked similarly to the strap 60 and this would provide for adjustment in the vertical or lateral dimensions of a grille. Thus a retailer selling ornamental grilles adapted to be positioned in accordance with the invention need only stock a relatively few grilles of major size but yet by the convenient adjustment provided for the width and/or the height of the grilles, a large number of grilles would be available for use in almost any given door. Accurate sizing of the cut-down grilles is greatly facilitated

by the marking indicia provided on the edge portions of the grilles and the fracture of the metal as such points may be facilitated by the scoring provided.

From the foregoing, it will be apparent that applicant has provided an ornamental type of a grille and bracket support means and which grille and bracket means are of desirable construction and which can be produced by conventional operations at low cost. Convenient adjustment in size of the metal grilles has been provided so that a large number of sizes of grilles can be made from a relatively small inventory of grilles whereby the objects of the invention are submitted to be achieved.

While two complete embodiments of the invention have been disclosed herein, it will be appreciated that modification of these particular embodiments of the invention may be resorted to without departing from the scope of the invention as defined by the appended claims.

Having thus described my invention, what I claim is:

1. In combination, a screen door, a grille made primarily from a metal strip positioned adjacent the screen in said door with the plane of substantially all of said strip lying normal to said screen, said grille having ends of metal strip protruding therefrom and extending substantially perpendicularly into approximate contact with portions of the door, and a plurality of spot-type metal bracket means forming no part of the grille secured to said door, each bracket means engaging only one of the metal strip ends to support said grille.

2. In combination, a screen door, a grille made primarily from flat metal strip positioned adjacent the screen in said door, at least some metal strip ends forming marginal portions of the grille and directed substantially perpendicularly toward the door, and a separate bracket means for each strip end and secured to said door to position said grille.

3. A combination as in claim 2 wherein each of said bracket means includes a substantially semi-spherical portion having a slot therein intermediate the margins thereof for receipt of a metal strip end, and an apertured tab portion for receipt of means for securing said bracket to said door.

4. A combination as in claim 2 wherein said bracket means includes a substantially semi-spherical portion having an elongate slot therein for receipt of a metal strip end, and an integral apertured tab portion extending substantially tangentially from said semi-spherical portion for receipt of means for securing said bracket means to said door.

5. A combination as in claim 2 wherein each of said bracket means includes a channel section open at one end and the inner side thereof for engaging a marginal end of the metal strip to secure it to said door, and an apertured tab portion for receipt of means for securing said bracket to said door.

6. A combination as in claim 2 wherein said bracket means includes a channel section open at one end only and the inner side thereof for engaging a marginal end of a metal strip forming part of said grille to secure it to said door and retained against said screen, and an apertured tab portion for receipt of means for securing said bracket means to said door, said tab portion being integral with the portion of said bracket means forming the closed end of said channel section.

7. A bracket for positioning a grille on a member, which bracket includes a substantially semi-spherical portion having a flat surface with an elongate slot therein for receipt of a metal strip end, and an integral apertured tab portion extends substantially tangentially from said semi-spherical portion for receipt of means for securing the bracket to a member.

8. A bracket for positioning a grille on a member, which bracket includes a channel section open at one end only and the inner side thereof for engaging a marginal end of a metal strip forming part of a grille to secure it to a member, and an apertured tab portion for receipt of means for securing the bracket to the member, said tab portion being integral with the portion of the bracket means forming the closed end of said channel section.

9. An ornamental grille comprising a metal strip bent to a desired shape and with the grille lying in a plane, said metal strip being of flat cross section, such flat sections of the strip all lying normal to the plane of the grille, the grille having marginal portions thereof formed by ends of said metal strip, said ends having scoring on opposed similarly positioned portions thereof.

10. In combination, a screen door having a screen closing an opening therein, a metal grille constructed to substantially fit in the opening and to be substantially against the screen to protect it, the grille having metal strip ends forming marginal portions of the grille, a separate bracket for receiving each strip end, and screw means directed perpendicularly of the plane of the door for securing each bracket in position on the door.

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