Oct. 22, 1940. J. F. DUFFY 2,218,814

SCUFF PLATE

Filed Aug. 1, 1938

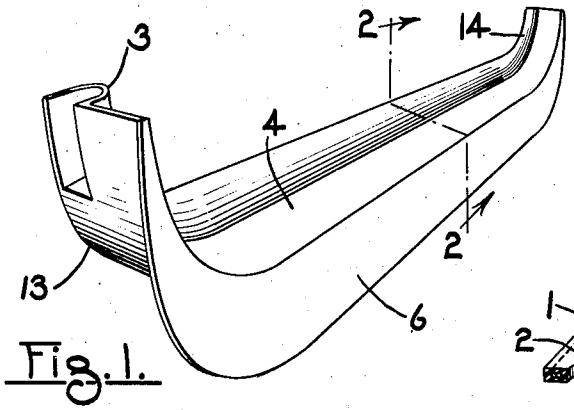


Fig. 1.

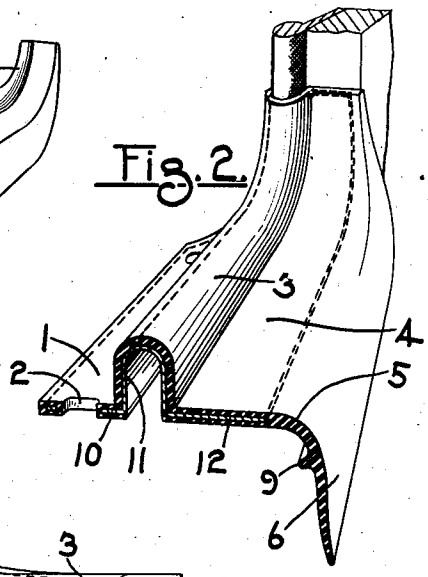


Fig. 2.

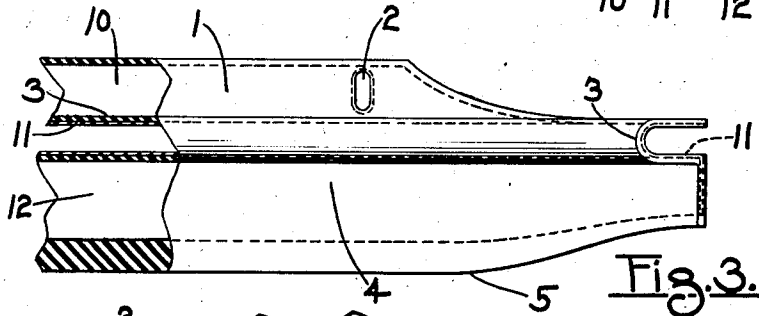


Fig. 3.

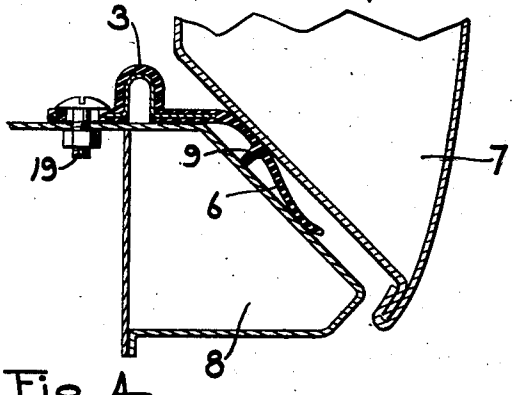


Fig. 4.

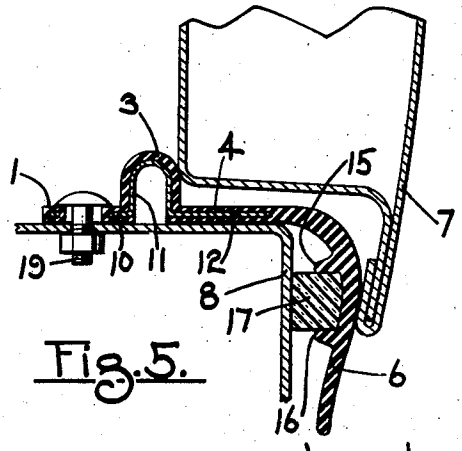


Fig. 5.

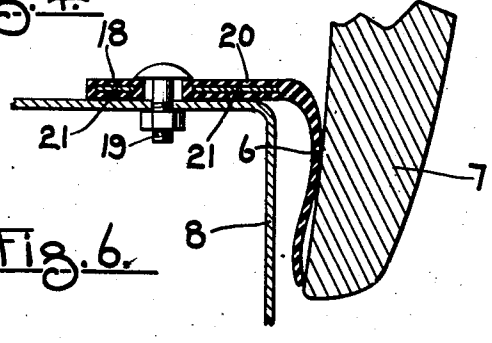


Fig. 6.

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SCUFF PLATE

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Application August 1, 1938, Serial No. 222,437

7 Claims. (Cl. 296—28)

This invention relates, as indicated, to scuff plates, and the plate of my invention is more particularly adapted to be used along the lower sill of vehicle door openings.

Although I have particularly described my invention as a scuff plate to be used on the lower sill of vehicle doors, it is to be understood that any article having the general characteristics of the one here described could be used for the top of the door, or even the sides, as well as along the bottom. Also the design may permit the plate to be placed on the door instead of the sill. My invention is intended to be used for any of the above described purposes.

My invention is adapted to be economically manufactured and I prefer to mold the plate of rubber and provide certain portions thereof with reinforcing means, although it is to be understood that materials other than rubber may be used without departing in any way from the spirit of my invention, provided, however, that a material is used which has a certain amount of flexibility.

Present day automobiles are provided with doors which usually have a portion of the outer face extending below the lower edge thereof and I have therefore provided an apron, which may be either integral with or secured to the remaining portion of the plate, and which is adapted to extend between this lower extension of the door and the outer portion of the sill whereby a snug fit is secured between the door and the sill.

One of the prime objects of my invention is to provide a scuff plate which has a portion adapted to lie across the floor of the car whereby it may be secured thereto and the securing means may be concealed by the edge of the carpet which lies on the floor.

A further object of my invention is to provide in the scuff plate a bead which may or may not be reinforced and have the same general design thereon as is provided in the upholstery beading which extends around the frame of the door opening, and the ends of the plate are intended to blend with the upholstery beading.

Fig. 1 of the drawing discloses the ends of the plate curved upwardly, but it is intended to be within the purview of my invention that these upwardly curved ends may be omitted in view of the fact that a great many cars have cord trimming which terminate at right angles to the sill. Also a great many sills on present day cars are perfectly flat and there would be no necessity for curving the ends of the plate upwardly. The drawing indicates only a preferred embodiment of the invention, and the scope thereof is intended to include the omission of said curved ends.

The reinforcing construction which I have provided allows the plate to fit snugly over the door sill. Since the plate is adapted to cover completely the door sill, it will be obvious that this portion of the sill need not be painted and therein lies one of the particular advantages of my invention. A further advantage is the fact that the apron which extends outwardly and downwardly from the horizontal portion of the plate and which covers the outer side of the sill forms a seal against the door.

Inasmuch as the various manufacturers of vehicles prefer to vary the door and sill designs, I have shown a number of modifications of my device which, while still embodying the prime features, may be adapted for use on the various types of automobiles.

In one of the modifications which I have shown I provide the underside of the apron with two or more ribs and place between these ribs a strip of soft or spongy material, preferably sponge rubber, for the purpose of effecting a seal between the door and the sill. This particular modification is especially adapted for use where no running board is provided.

It may be here noted that in certain of the claims the terms "partially resilient" or flexible, and "completly resilient" or flexible, have been used. As an explanation of these terms used in the claims it is to be here pointed out that, since the plate is generally formed of rubber or other resilient or flexible material, by the placing in certain portions of the plate a rigid reinforcing element, the resiliency or flexibility of this portion of the plate will be considerably reduced and I have preferred to designate this reinforced portion as being "partially flexible" or resilient. The remainder of the plate, usually the apron portion, has no reinforcing element therein and therefore remains "completely resilient" or flexible.

Although it is very desirable that a metal reinforcement be used which has a U-shaped section therein for use in the bead of the plate, it is to be understood that in certain instances this U-shaped reinforcement may be omitted for economical purposes. It is to be considered within the scope of my invention to provide a plate of the character described without reinforcing the bead portion thereof. Also it is to be considered within the scope of my invention

that the bead may have a configuration other than U-shaped and any reinforcement which is to be used in the bead may obviously be of any shape which is desired to meet the conditions.

To the accomplishment of the foregoing and related ends said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawing and following description set forth in detail certain means for carrying out my invention, said means constituting, however, but a few of the various ways in which the principle of my invention may be employed.

In said annexed drawing, wherein like reference numerals refer to like parts throughout the various views:

Fig. 1 is a perspective view of the scuff plate comprising my invention.

Fig. 2 is a sectional perspective view taken substantially on the plane of line 2—2 of Fig. 1.

Fig. 3 is a fragmentary part sectional top plan view of the structure shown in Fig. 2.

Fig. 4 is a section through a modification of the scuff plate showing a portion of the door and sill.

Fig. 5 is a still further modification of the scuff plate showing the type which is particularly adapted for use in vehicles having no running board.

Fig. 6 is a view similar to Figs. 4 and 5 but embodying a still further modification of the plate.

It is to be noted that in certain of the figures of the drawing a rib 9 is shown. Although this rib is very desirable it may be economically advantageous in certain instances to omit this rib entirely. For example the modifications shown in Figs. 2 and 4 may serve the same purpose if the ribs are omitted therefrom, but the principle of my invention will remain the same whether the rib 9 is included or omitted.

Referring now more particularly to the drawing it will be seen that along the inner edge of the plate I have provided a horizontally disposed flat portion 1 which has therein a plurality of elongated openings 2. Since the portion 1 is adapted to lie along the floor board of the car screws 19 may be placed in the slots 2 for the purpose of securing the plate to the floor boards and over the sill. These holes are made of elongated formation so that the plate may be adjusted to various types of vehicles so that a snug fit will be obtained at all times.

Extending from the outermost edge of the flat portion 1 is a portion extending upwardly and again downwardly to form a substantially U-shaped bead 3. From the outer edge of the bead 3 extends a second horizontally disposed flat portion 4 which is curved as at 5 and extends outwardly and downwardly to form the apron 6.

In Figs. 4, 5 and 6 the lower portion of the door is indicated by the numeral 7 and the sill by the numeral 8 and in these figures it will be clearly seen in what manner the apron 6 is adapted to be disposed between the door and the sill for the purpose of effecting a seal therebetween. To obviate the necessity of providing an apron of undue thickness, a saving of material is effected by the provision longitudinally along the underside of the apron of a rib 9. As will be seen in Fig. 4, the rib 9 is adapted to contact the outer side of the sill 8 and aids in effecting a cushioned seal between the door and the sill.

If the entire construction were to be made solely of rubber or any other completely flexible material, such flexibility would defeat the very purpose of the plate and it is therefore necessary to place reinforcing means in portions of the plate wherein complete flexibility is neither desirable nor necessary.

The portions of the plate which it is not desired to be too flexible will obviously be the horizontal portions 1 and 4 and the bead 3. I have therefore provided a metallic plate which has a horizontal flat portion 10, is curved upwardly and again downwardly to form a U-shaped portion 11 and then continues outwardly in a horizontal flat portion 12, in order to conform to the similar contour of that portion of the scuff plate. I have preferred to imbed the flat portions of reinforcing plate within the corresponding portions of the scuff plate but it is necessary to provide the bead portion of the plate only with reinforcing means to cover the underside thereof. Obviously, however, the U-shaped portion of the reinforcing plate could also be imbedded within the corresponding portion of the scuff plate without departing in any way from the spirit of my invention. This is not necessary, however, and provides another means for economizing in the manufacture of the scuff plate by obviating any necessity for use of a rubber material completely around the reinforcing plate at this point.

In the forms of my invention which are illustrated here, I curve each end upwardly as at 13 and 14 of Fig. 1. These upwardly curved ends are adapted to have the beaded portion thereof blend with the cord trimming on the upholstery of the car and thereby provide a very neat appearance. Although, as above explained, if the sill were flat, these corners could be omitted.

The apron 6 is preferably formed integral with the remaining portion of the scuff plate and, being completely flexible, that is, devoid of any reinforcing means, it may adapt itself to a sill similar to that shown in Fig. 4. It is to be noted that the sill extends outwardly from the body of the vehicle at an angle and corresponds with a similar angle at the lower portion of the door. The apron 6, being completely flexible, will adapt itself well to any angular disposition of the sill but if desired may be deliberately formed at an angle corresponding to the angle of the sill, and the same result will be had.

Fig. 5 shows a modification of my scuff plate which is particularly adapted for use on vehicles having no running board. In this modification, instead of the single rib 9 of Figs. 2 and 4, I provide a double rib such as 15 and 16 which extend from the underside of the apron 6 and longitudinally thereof. Between these ribs is placed either a single elongated piece of sponge rubber 17 or a plurality of shorter pieces. This aids in cushioning the seal between the door and the sill. Obviously this modification need not be used solely on those vehicles having no running boards but may be used with equal efficiency on all types of vehicles.

It will be seen that in other modifications of my invention the bead 3 has been present in each case. Fig. 6, however, shows a modification which eliminates the bead and provides a somewhat larger flat portion 18 extending inwardly of the screws 19 as compared with that portion of member 1 which extends within the screw portions in other modifications. The scuff plate of Fig. 6 then continues outwardly in a flat portion 20 and continues downwardly and outwardly to form the usual apron 6. Again I prefer to place therein reinforcing means 21, which reinforcing plate will extend within the entire horizontal

portion of the plate and will also be provided with openings wherein the screws 13 may be placed and secured to the floor board of the car. It is to be understood that the apron of the modification in Fig. 6 may also be provided with a single rib as at 9 in Figs. 2 and 4, or may be provided with the ribs and sponge rubber member of Fig. 5. Likewise the beads of Figs. 2, 4 and 5 may be omitted to form a scuff plate similar to that of Fig. 6, or the rib 9 may be omitted in any or all forms.

From the foregoing it will be apparent that I have provided a scuff plate which may be easily manufactured by molding a rubber composition into the desired form, and if a metallic reinforcing plate is desired, it may be molded in with the rubber simultaneously so that portions thereof may be imbedded within the desired portions of the complete plate.

Other forms of my invention may be used instead of the ones here explained, change being made with regard to the elements herein described, provided however, that the means stated by any of the following claims or the equivalent of such stated means be employed.

I, therefore, particularly point out and distinctly claim as my invention:

1. A device of the class described for use on vehicle door sills comprising, spaced apart horizontally disposed flat portions, an apron disposed outwardly and downwardly from one of said flat portions, a plurality of ribs extending longitudinally on the under side of said apron in substantial parallel relation to each other, and a strip of sponge material disposed between said ribs, for the purpose specified.

2. The combination with a vehicle having a door opening, a sill along the bottom edge thereof and a strip of upholstery beading extending along the vertical edges thereof, of a scuff plate for use on said sill having upturned ends and a bead integral with said plate and ends whereby the bead on said plate will blend with the upholstery beading to form a continuous bead around said door opening.

3. A device of the class described for use on door sills comprising, a horizontal flat portion, a bead extending upwardly from and longitudinally of the outer edge of said portion, a second horizontal flat portion extending from the outer lower edge of said bead, an apron extending outwardly and downwardly from said second portion to cover the outer side of said sill, and a metallic reinforcing member extending within said flat portions and below and in contact with the under side of said bead.

4. A scuff plate for use on vehicle door sills comprising, spaced apart horizontally disposed flat portions, a bead member extending longitudinally of said plate connecting said flat portions, an apron disposed outwardly and downwardly from one of said flat portions to cover the outer side of said sill, a rib integral with and extending from the under side of said apron, and metallic reinforcing means surrounded by said flat portions and in contact with the under side of said bead.

5. The combination with a door opening having a horizontal sill at its bottom edge and upholstery beading extending along its vertical edges and a door to close said opening, of a scuff plate having a horizontal portion attached to said sill, a bead on said horizontal portion having its ends blending with said upholstery beading and a flexible portion extending outwardly and downwardly from said horizontal portion engaged and flexed by said door when in closed position.

6. A device of the class described for use on vehicle door sills comprising, spaced apart horizontally disposed flat portions, means connecting said portions, an apron disposed outwardly and downwardly from one of said flat portions, and a strip of sponge material disposed along the underside of said apron, for the purpose specified.

7. The combination with a door opening having a horizontal sill at its bottom edge and upholstery beading extending along its vertical edges and a door to close said opening, of a scuff plate having a horizontal portion attached to said sill, a bead extending longitudinally of the sill and having its ends blending with said upholstery beading and a flexible portion extending outwardly and downwardly from said sill and engaged and flexed by said door when in closed position, said horizontal portion, bead and flexible portion all being integrally formed.

JAMES FRANCIS DUFFY.