Jan. 27, 1959 J. POSNANSKY 2,870,833

BUG SCREEN BRACING MEANS

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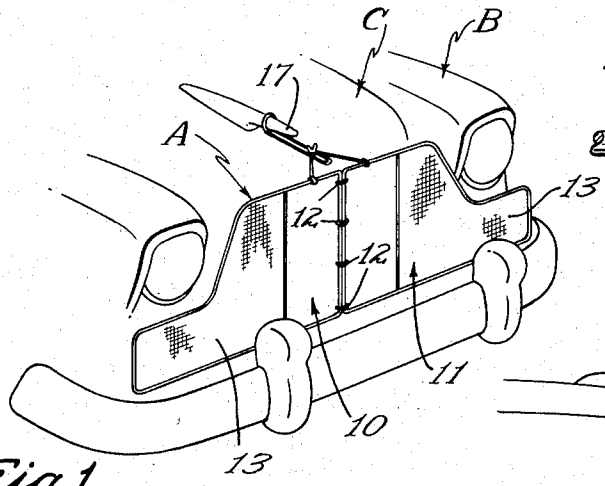

Fig. 1

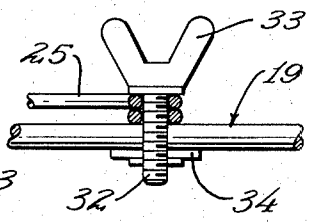

Fig. 6

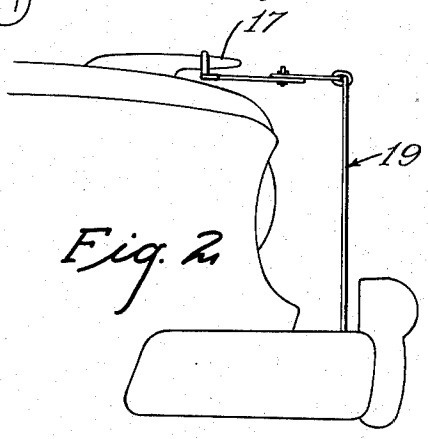

Fig. 2

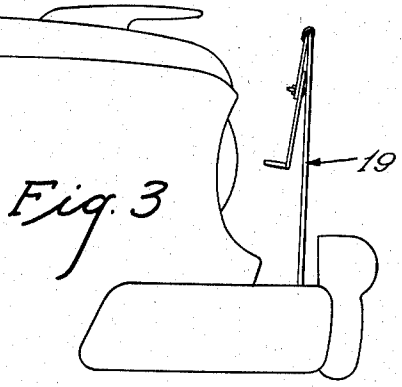

Fig. 3

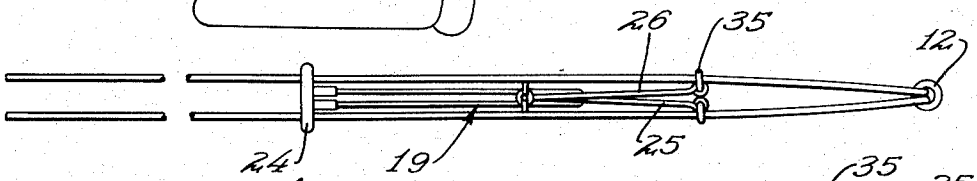

Fig. 4

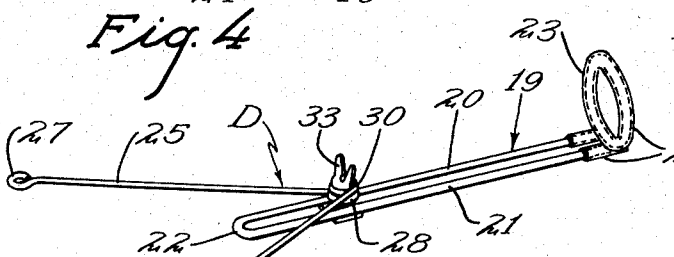

Fig. 5

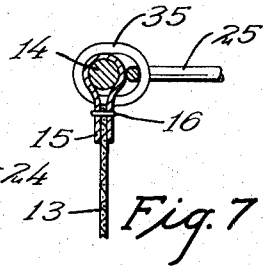

Fig. 7

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BUG SCREEN BRACING MEANS

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5 Claims. (Cl. 160—369)

This invention relates to an improvement in bug screen bracing means and deals particularly with a means of holding a bug screen in vertical position forwardly of the hood and fenders of an automobile.

During recent years, it has become common practice to mount bug screens forwardly of the hood and fenders of pleasure vehicles. These screens prevent bugs from striking the forward part of the vehicle as it moves along the highway and greatly simplifies the task of cleaning the car. The screens also prevent the bugs from filling the core of the radiator and thus impairing the operation of the cooling system.

It is common practice to mount such bug screens by connecting them to the body of the car adjoining the bumper so that the lower portion of the screen is securely fastened to hold the screen in an upright position. As the vehicle moves over the highway at high rates of speed, the air striking the bug screen has a tendency to flex it rearwardly and in some instances, the mounting is such that portions of the screen can contact the painted portions of the hood or body. Continued engagement between the screen and the painted portions of the vehicle tend to scratch or mar the finish or to wear the paint from the painted surface. In order to prevent this difficulty, a brace may be provided attached to the upper edge of the screen, the brace being engageable against a fixed portion of the body such as the ornament usually found at the forward end of the hood. This brace prevents the rearward flexing of the top of the screen and thus prevents injury to the painted surfaces or to the plated portions such as the grill and the like.

In the past, these braces have been made of one part including a pair of normally diverging arms with hooks at the ends of the arms so that these arms may be hooked over the upper edge of the screen. The rear end of the brace is provided with a hump or loop which may fit over the ornament at the forward end of the hood and thus brace the upper end of the screen. Such devices have certain difficulties. In the first place, the only way of adjusting the length of the brace is to spread the diverging arms either farther apart or closer together so as to vary the distance between the upper edge of the screen and the ornament. When these arms are bent to a certain angle, the pressure of the air against the screen tends to bend them to a greater degree. Furthermore, such spacing means are normally disconnectable at both ends so that when it is desired to open the hood, the brace is removed and placed aside. In many instances, the brace is not replaced when the hood is lowered and in such a case the brace is lost and either must be replaced or its value destroyed.

A purpose of the present invention resides in the provision of a brace which is hingedly connected to the upper edge of the screen. The other end of the brace is designed to fit against the ornament at the forward end of the vehicle hood. When the hood is open, it is only necessary to pull the upper edge of the screen forwardly. This action disengages the rear end of the brace from the

ornament and permits the brace to swing down against the screen, thus remaining attached to the screen. If after lowering the hood, the brace is not replaced, it at least remains attached to the screen so that it can be later put into place.

A further feature of the present invention lies in the provision of a brace which is of adjustable length so that the distance between the screen and the radiator ornament may be regulated to accommodate different makes and models of cars. The brace includes a part which engages about the ornament and projects forwardly therefrom.

A pair of arms are adjustably connected to the forwardly extending part of the first member and the forward ends of these arms are hingedly connected to the upper edge of the screen. By loosening a single clamping nut, the length of the brace can be adjusted. In the event the hood projects substantially in front of the ornament, the adjustment may also be used to shorten the brace so that it may swing down out of contact with the hood and so that the hood may be easily raised.

An added feature of the present invention resides in the fact that part or all of the brace may be attached to the screen during transportation and storage. Screens of the type in question are usually of considerable size and the present screen is centrally hinged so that the body of the screen may be formed in two parts. In colder climates, the screen is removed in the fall of the year and stored in any convenient place until warm weather arrives. With the present type of brace, the entire brace may remain attached to the screen so that it will not be separated therefrom, and get lost or thrown away. Furthermore, during the initial packaging and shipment of the screens, the arms which are hingedly connected to the screen do not require any additional space and may be merely folded between the two parts of the screen during shipment. The ornament engaging portion of the brace and the clamping bolt, may, if desired, also remain attached and be folded flat against the screen or this part may be detached and contained in the same container. Screens of the type in question are ordinarily not individually packed in containers due to the size of the screens, and usually six or twelve of the screens are packed in the same shipping container. The shipping container required to contain the screens and braces require no more room than the screens alone.

A further feature of the present invention resides in the fact that the brace may be economically constructed and may be considerably stronger than a brace of the prior type made of the same weight of material. The portion of the brace which is attached to the ornament comprises a wire rod which is centrally bent to provide parallel spaced arms to which a ring is welded or otherwise secured. The clamping means comprises a bolt having a wing head and a die stamp clamping plate into which the bolt is threaded. The arms are relatively short lengths of wire rod bent to provide loops at opposite ends. Due to the fact that these arms extend only a portion of the entire length of the brace, they are stronger than would be longer arms of the same weight material. These and other objects and novel features of the present invention will be more clearly and fully set forth in the following specification and claims.

In the drawings forming a part of the specification:

Figure 1 is a perspective view of a bug screen in place upon a vehicle showing the general arrangement of parts.

Figure 2 is a side elevational view of the screen attached to the automobile.

Figure 3 is a view similar to Figure 2 showing the brace swung down to permit the hood of the automobile to be raised.

Figure 4 is a top view of the screen in folded position

showing the manner in which the brace can be folded over the screen for storage or transportation.

Figure 5 is a perspective view of the brace separated from the remaining elements.

Figure 6 is a sectional view through the brace showing the means in which the clamping arms are connected to the portion of the brace extending forwardly from the ornament.

Figure 7 is a sectional view through a top of the screen showing the manner in which the brace arms are connected to the screen.

The bug screen is illustrated in general by the letter A in Figure 1 of the drawings. This bug screen is made in two sections illustrated by the numerals **10** and **11** which are hingedly connected together by rings such as **12** so that the two parts of the screen may be folded into side by side relation. The screen A includes a screen body **13** which is completely encircled by a frame consisting of a metal rod such as **14** (see Figure 7 of the drawings) about which the marginal edge of the screen is bent, and secured by stitching. A binding strip such as **15** encircles the bent edge of the screen and is shown in Figure 7 as stitched to the screen as indicated by the numeral **16**.

The manner in which the lower edge of the screen is attached to the vehicle is not of importance in the present application and is therefore not illustrated in detail. However, it should be stated that the screen is secured by suitable wires or flat connecting members so as to extend upwardly from the pan usually provided between the front bumper and the body of the vehicle. As this arrangement differs in various cars, the particular arrangement is not shown in detail and fastening means are provided to hold the lower end of the screen in forwardly spaced relation to the front of the vehicle, illustrated in general by the letter B, and the front of the hood of the vehicle which is illustrated in general by the letter C.

The hood C is ordinarily provided with an ornament such as **17** which is normally located midway between the sides of the vehicle and near the front end of the hood. This ornament is provided not only to add to the appearance of the vehicle, but also to provide a means by which to raise the hood into an elevated position. As all of this structure is conventional, it is not shown in detail.

The brace itself, which forms the important part of the present invention is illustrated in general by the letter C and is best illustrated in Figure 5 of the drawings. In general, the brace C includes a member **19** which is secured to the ornament **17** or which engages against this ornament and brace arms which will be later described in detail. The member **19** comprises a U-shaped member including a pair of arms **20** and **21** of wire rod or the like which are connected by a curved connection **22**. A wire loop **23** is welded or otherwise secured to the free ends of the arms **20** and **21** and extends in generally right angular relation thereto. In actual practice, the ring **23** and the adjoining ends of the arms **20** and **21** are coated with a resilient coating shown by the numeral **24** which prevents the loop **23** and the adjoining parts of the arms **20** and **21** from engaging the surface of the vehicle and from marring the appearance thereof.

As the arms **20** and **21** are in parallel relation, they provide a slide along which the arms of the brace can be secured. These arms are indicated at **25** and **26** and both of these arms are identical in form. The arms **25** and **26** are provided with a looped end indicated at **27** and **29** at the forward end thereof and are also provided with a similar loop end **29** and **30** at the opposite end thereof. As is indicated in Figure 6 of the drawings, a bolt **32** having a winged head **33** is designed to extend through the loops **29** and **30** in the arms **25** and **26** and through a clamping plate **34** which straddles the arms **20** and **21** of the member **19**. The plate **34** may comprise a washer and a nut. For the purpose of economy, the member **34** comprises a stamp plate of sheet material having an aperture therethrough and having ears on opposite sides of the bolt

shank **32** with which the shank of the bolt is engageable. In other words, the plate **34** comprises a clamping plate which is threaded upon the shank of the clamping bolt **32** in which holds the arms **25** and **26** in a predetermined angular relation with the member **19**.

The manner in which the hooped ends **27** and **29** of the rods **25** and **26** are connected to the screen is best illustrated in Figure 7 of the drawings. This figure illustrates the marginal binding member **14** of the screen which is encircled by the screen body **13** and also by a binding strip **15**. The binding strip is provided for the purpose of reinforcing and also improving the appearance of the marginal edge of the screen.

Loops **35** encircle the marginal binding member **14** and extend rearwardly therefrom. The loop ends **27** and **29** of the arms **25** and **26** are engaged in the rings **35** and thus the entire supporting member can pivot in a vertical plane about the member **14**. In usual constructions, the screen A may be flexed forwardly sufficiently to disengage the brace D from the ornament **17**. When the brace is disengaged from the ornament, the entire brace D may pivot about the horizontal axis defined by the spaced rings **35** and may swing down against the screen as illustrated in Figure 3 of the drawings. When the brace is in this position, the hood of the vehicle may be raised for any desired purpose. When the hood is lowered, the screen may be flexed forwardly, the brace swung upwardly, and the brace may be engaged with the ornament **17** as illustrated in Figures 1 and 2 of the drawings.

There are certain advantages in the particular construction which has been described. In the first place, in most vehicles, the ornament **17** is located very near the forward end of the hood of the vehicle and accordingly by flexing the screen A forwardly at its upper end, the brace may be entirely disengaged from the ornament and will therefore swing down into a position against the inner surface of the screen. However, in the event the ornament **17** is located at a point on the hood which is too far to permit the brace to be disengaged therefrom, the bolt **33** may be loosened to permit the member **19** to be moved forwardly so that the ring **23** may be disengaged from the ornament. In any event, the entire brace may be swung down against the spring before the hood is opened and will remain attached to the screen so that when the hood is lowered into closed position, the brace may again be attached to the ornament to provide a spacing means for spacing the screen from the upper portion of the vehicle.

In accordance with the patent statutes, I have described the principles of construction and operation of my bug screen bracing means, and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that obvious changes can be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A bug screen brace in combination with a bug screen and a vehicle having a hood provided near its forward end with an ornament, means connecting the lower end of the screen to the vehicle to extend upwardly forwardly of the hood, the brace including a pair of arms, an elongated slide, means adjustably connecting one end of each arm to said slide, means on one end of said slide engageable with said ornament, and means on the other ends of said arms for connecting the same to said screen.

2. The structure described in claim 1 and in which the other ends of the arms are pivotally connected to said screen on an axis substantially parallel to the upper edge of said screen.

3. A brace for use in connecting a bug screen and a vehicle hood ornament, the brace including an elongated slide comprising a pair of parallel wire rods connected at one end and spaced to provide a slot therebetween, a pair of arms having loop ends, a clamping member extending through said slot and adjustably con-

necting said arms and said slide, and ring means arranged on a plane at right angles to the other end of said rods forming said slide.

4. A bug screen brace for use in combination with a bug screen and a motor vehicle having a hood at its forward end and an ornament mounted on the forward portion of said hood, the bug screen extending to substantially the same height as said ornament, the brace including a pair of arms hingedly secured to the upper edge of said screen along substantially aligned pivots, means connecting said arms, and means connected to said arms and engageable with said ornament, said last named means comprising an elongated member having an ornament engaging member at one end thereof, said arm connecting means extending through said elongated member.

5. The structure of claim 1 and in which said last named means includes loop ends on said arms with the axes of the loops normal to a common plane through the loops, and including a ring extending through each loop end and extending through the upper edge of said screen, the axes of the rings being substantialjy aligned.

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