March 7, 1933. G. W. GILMER 1,900,280

PAD OR PACKING WITH FASTENING MEANS

Original Filed May. 15, 1926

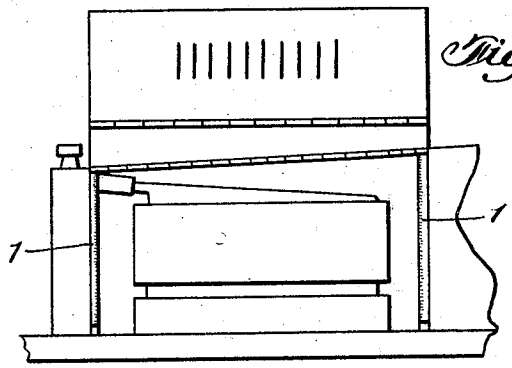


Fig. 1.

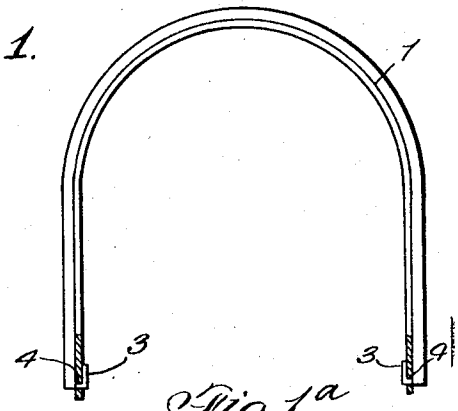


Fig. 1a

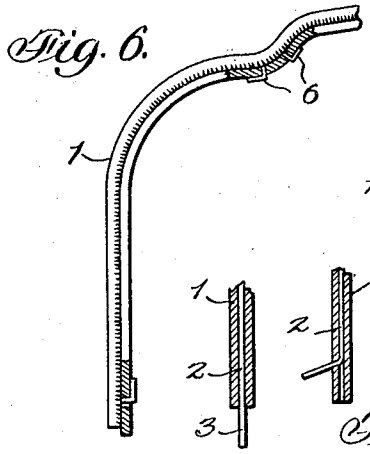


Fig. 6.



Fig. 12.

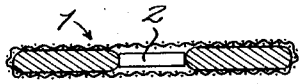


Fig. 3.



Fig. 13

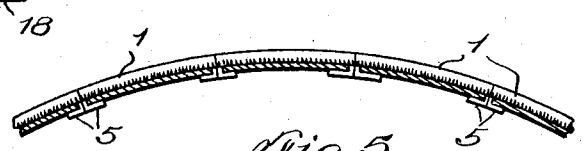


Fig. 5.

Fig. 4.

Fig. 2.

Fig. 8.

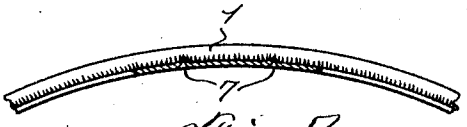
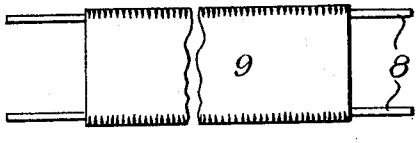


Fig. 7.



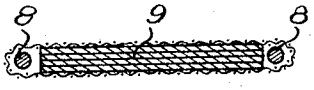


Fig. 9.

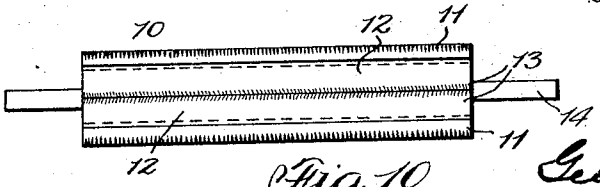
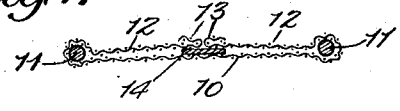


Fig. 10

Fig. 11



Inventor

George Walker Gilmer

By Edwin S. Clarkson

Attorney

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UNITED STATES PATENT OFFICE

GEORGE WALKER GILMER, OF TACONY, PENNSYLVANIA

PAD OR PACKING WITH FASTENING MEANS

Original application filed May 15, 1926, Serial No. 109,281. Divided and this application filed November 8, 1930. Serial No. 494,435.

This application is a division of my prior application filed May 15, 1926, Serial No. 109,281.

In attaching radiator and hood lace to the radiator and hood ledges, and in fastening similar anti-squeak parts, in the assembling of automobiles or motor vehicles, it has been customary to rivet these parts to the ledges or base member, or by the use of holes large enough to permit the lacing or drawing of the lace of anti-squeak, through from the face to back of the ledge or base member.

I have devised a new lace which has inserted longitudinally therein one or more stiffening members which also function for fastening purposes, which lace is used as a spacer or separator between metal parts which do not bear a fixed relation to each other.

Prior to my invention it has been necessary to attach the lace at regular intervals throughout its length, whereas my improved lace is designed to be fastened at each end only with consequent economy in time, and material, and the advantage of greater efficiency.

The object of radiator or hood lace is to serve as a cushion or pad between the hood and radiator, and between the hood and cowl, preventing metal to metal contact, squeaking and rattling. Even where the greatest care, and the very best methods have been used where the lace is fixed with rivets, the rivet heads are often allowed to come in contact with the metal hood, therefore, as the rivet is clinched through lace to a metal strip, the object of the lace is nullified. Where the anti-squeak or pad material is laced through the base member, it is not possible to give uniform contact throughout the length, nor to make a neat job, also the lace tends to wear excessively where drawn through the holes in the metal base, allowing it to present an unsightly appearance.

In my invention, the stiffening members longitudinally inserted in the lace or pad material do not appear on either surface of said material, but extend beyond the ends of pads, or to a point near the ends, to furnish fastening means for fixing the individual pads in place, thus furnishing a continuous unbroken pad surface to the ledge or base member to which the pad is fastened, and, to the hood, or top member, resting in unfixed relation on the pad. As my invention necessitates the fastening only at each end the time of assembling shows considerable saving over either the riveted, or laced methods, at present in vogue. It makes unnecessary the punching of holes for lacing or riveting. There is an additional saving over the usual riveted type of fastening by the elimination of a large number of rivets. Using my lace or pad there is less chance of errors which would permit of an unsightly job, the lace wears longer, performs its purpose under better conditions, is more pleasing in appearance, and is readily replaced.

My invention contemplates changes in the construction of the lace and several variations in type of stiffening members which would apply to the different methods of making the pad material, or meet manufacturing conditions on different jobs, some of which are herein shown.

My improved packing is also adapted for use in glass window runners on automobiles.

The primary object of the metal insert in my improved packing is to hold the packing in position conforming to the shape of the object to which it is applied.

In the drawing:

Figure 1 is a side elevation of the forward part of an automobile showing my invention applied.

Figure 1[a] is a sectional view of a part of an automobile showing my invention applied.

Figure 2 is a detail sectional view of my packing.

Figure 3 is a transverse sectional view of one form of my packing.

Figure 4 is a detail sectional view of my packing with the fastening means projecting from the pad short of its end.

Figure 5 is a side elevation of another form of packing.

Figures 6 and 7 are front elevations of other adaptations of my packing.

Figure 8 is a top plan view of another embodiment of my invention.

Figure 9 is a transverse section of Figure 8.

Figure 10 is a top plan view of another embodiment of my invention.

Figure 11 is a cross sectional view of the same.

Figure 12 is a sectional view of my invention embodied in a window glass runner.

Figure 13 is a similar view showing my invention embodied in a wind shield weather strip.

In one type of my invention the pad or lace 1 is a woven narrow strip in which a flexible, preferably metal, strip 2 is woven, that is to say, the metal strip 2 is positioned in the woven strip as it is being woven; or if preferred, the strip may be woven with a tube in the center thereof through which the flat strip 2 may be drawn. The metal fastening strip 2 is longer than the woven strip 1 so that the ends 3 thereof may be passed through openings 4 in the part to which the strip is to be secured, the ends 3 being passed through the holes 4 and bent to form hooks as shown in the drawing.

In some instances I prefer that the metal strip 2 extend through the woven lace or pad 1 at a point short of the end of the lace, or pad 1, as shown in Figure 4, whereby the extreme end portions of the woven strip 1 is free from attachment to the article to which the balance of the strip 1 is secured.

In some instances it may be desirable to have the lace or pad material in comparatively short strips as shown in Figure 5, and at its ends provided with the projecting portions of the metal strip 2 whereby these sections are secured firmly on the base or article 5.

As illustrated in Figure 6, my improved lace or pad may be provided with projecting ends 6 of the lace or pad whereby the lace or pad may be fitted snugly to any irregular surface design of the part to which it is desired to secure the lace or pad.

Again in some instances, especially in the cowl of automobiles which have an abrupt slope toward the front of the machine I form tits 7 on the edge of the cowl (see Figure 7), which tits extend up just far enough to engage the lace or pad without tending to chafe it. In original manufacture the edge of the cowl may be slightly turned up or beaded to prevent the lace slipping off of the sloped surface, but this is a matter for the manufacturer of the automobile to decide.

As shown in Figure 8 the lace or pad 9 is woven to the required width or thickness and has one or more strands of wire 8, and additional fibers will be woven in also as stuffers, to raise the face of the fabric above the wire, thus cutting down friction between the wire and the face of the material. Another way of weaving this type of lace or pad would be to weave the lace or pad with the necessary fiber stuffer yarns omitting stuffer yarns, from one or more dents, leaving a tube, longitudinally through the weave or lace so that the necessary stiffening members 8 may be inserted after the lace strips are cut to correct length.

In Figure 10 I have shown in cross section another type of lace in which 10 is a central web having enlarged side edges which are formed by adding a suitable number of stuffer yarns 11. The fabric from which the central portion of web 10 is formed is continued over the stuffer yarns 11 toward the center of the web, as shown at 12, but the portions 12 are not woven to the web 10, said portions 12 terminating in edges 13. A stiffening member 14 is placed on the upper face of the web 10 loosely and the portions 12 folded thereover whereby the metal strip 14 is thoroughly covered with the edges 13 and the extensions 12 overlying the same and preventing the metal strip 14 from coming in contact with the metal part which rests on the lace. The top of the edges 13, when superposed over the metal 14, are in substantially the same plane as the top of the beaded edges 11 of the strip or lace.

The bending of the ends of the metal strip 14, or otherwise securing them to the part to which the lace is attached, prevents the strip 14 from becoming displaced from the lace or pad.

In all embodiments of my invention the metal fastening strip or wire functions not only to secure the pad or lace securely in position on an article to which it is secured, but also rigidifies the lace from end to end, and a lace so constructed is capable of receiving and maintaining its proper shape and position in fulfilling the functions for which it is designed.

The lace or pad material may be woven of the desired width or may be made from wide goods cut in strips, and folded to the required thickness. Where woven to the required width or thickness one or more strands of wire, or other stiffening and fastening means may be woven in the goods preferably as a stuffer, with additional fibers woven in also as stuffers, to raise the face fabric above the wire, thus cutting down friction between the wire and the face of the material. Another way of weaving this material would be to weave the lace with the necessary fiber stuffer yarns, omitting stuffer yarns from one or more dents, leaving a tube or tubes longitudinally through the web, so that necessary stiffening member or members may be inserted after the strips are cut to correct length. Where the pad or lace is cut from wide goods and folded and sewed or fastened it may be folded around the stiffening member or members, or it may be so folded as to leave space for insertion of stiffening members; where the pad material is either woven or folded with the stiffening member inserted

in long lengths it will be necessary when cutting to slightly gather the lace or compress the pad material lengthwise so as to expose the fastening member. The method of attaching the stiffening or fastening member to the ledge or base member may be done by twisting the wires together in holes made in the part to which the pad is to be secured, in the case of the flat metal strip this may be bent over the ends of the part to which it is to be secured or bent through holes, or riveted, or clamped. It is not my intention to specifically define or limit the method of fastening this reinforced lace or pad material, as this will naturally be done in the manner best suited to the job as designed.

As shown in Figure 12, my invention is equally efficient when embodied in a window glass runner 15 and in this connection it will be understood that the metal element 16 functions as the fastening element as heretofore described.

In Figure 13 I have shown my invention embodied in a wind shield weather strip 17 having the fastening element 18 which latter has been fully described in connection with the other embodiments herein.

My invention may be embodied in a brake lining.

My improved pads may be woven, folded or pressed into form and they serve somewhat to retard movement, furnishing a friction surface, which, held in proper contact against the movable parts, acts as a retarding element.

It will be seen from the foregoing that the member or strip 2, 8 or 14, arranged within the pad and having fastening ends or portions protruding therefrom serves as a pliable reinforcing means adapting the normally flexible buffer pad to assume and retain the shape of the supporting ledge to which it is applied, as a fastening means for securing the pad directly to the ledge without the use of auxiliary fastening means, and as a binder adapted to be applied with the pad to draw the pad, and particularly that part thereof extending over the arched crown of the ledge, tightly into engagement with the ledge to prevent it from shifting longitudinally or laterally on the ledge under hood movements. While it is preferred, wherever possible, to employ a single-piece pad secured at its ends only by its bent extremities or hooks 3 to the ledge, which construction adapts the pad to be applied with great ease and facility under a desired degree of tension, provision may be made for connecting the pad with the ledge at intermediate points to prevent lateral displacement of the pad on or from the ledge which might be liable to occur, particularly under certain conditions, as where the ledge slopes between the cowl or radiator and the free edge of the ledge, as will be readily understood. Figure 5 shows one means of obtaining this result by the use of a sectional pad and engagement of projecting ends of the reinforcing wire at the ends of the pad sections with keeper openings in the ledge. Figure 6 shows another way of securing an intermediate portion of the pad against shifting in which fastening ends of adjacent reinforcing wires or strips in the pad are engaged with keeper openings in the supporting ledge, whereby also a portion of the pad is drawn into an engaging depression or recess formed in the ledge wall. These methods of securing a portion of the pad between its fastened ends to the ledge require, of course, special forms of pads or special arrangement of the pad on the reinforcing wires. Figure 7 shows a method of securing an intermediate portion of the pad against shifting in the ledge without requiring any special construction of the pad or change in structure from the simple type particularly shown in Figure 1. In this case, as stated, the ledge is provided with a retaining portion or surface formed by serrations or struck-up retaining teeth, tits or projections. When the pad 1 is drawn by the reinforcing and binding wire down against the surface of the ledge, these projections are forced sufficiently into the body of the pad to hold it against displacement without injury. These and other equivalent means may be employed in practice, without departing from my invention, for engaging and holding against displacement at an intermediate point a pad fastened at its ends to the ledge, so as to avoid any possibility of the pad shifting out of proper working condition.

What I claim is:—

In an automobile engine hood support, a cowl or radiator member having a hood supporting ledge provided with a deflected portion, a metal reinforced buffer strip extending along said ledge and fastened at its ends to the ledge, and means intermediate the length of the strip between the fastened ends thereof for drawing the strip into the deflected portion of the ledge and securing the same thereto.

In testimony whereof I affix my signature.

GEORGE WALKER GILMER.