June 19, 1934. R. F. WALTERS 1,963,814

JOINT STRIP

Filed Jan. 13, 1930

Fig. 1.

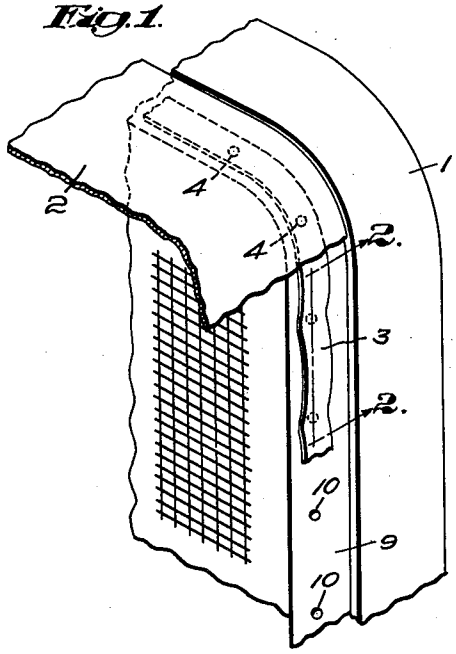


Fig. 2.

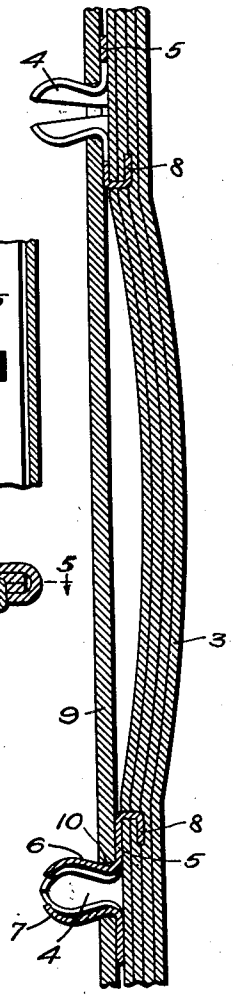


Fig. 5.

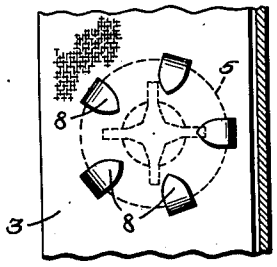


Fig. 3.

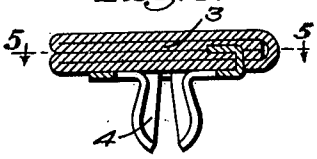


Fig. 4.

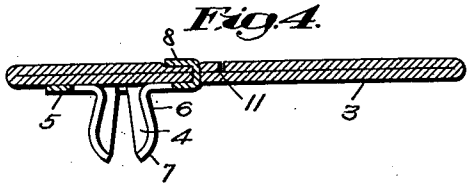


Fig. 6.

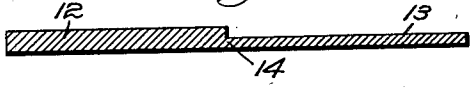


Fig. 7.

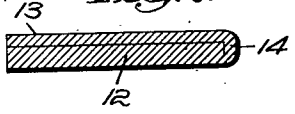


Fig. 8.

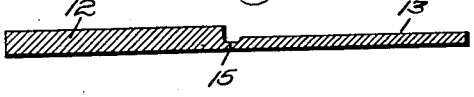


Fig. 9.



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UNITED STATES PATENT OFFICE

1,963,814

JOINT STRIP

Rollo F. Walters, Detroit, Mich., assignor to United-Carr Fastener Corporation, Cambridge, Mass., a corporation of Massachusetts

Application January 13, 1930, Serial No. 420,311

1 Claim. (Cl. 180—69)

My invention aims to provide improvements in anti-rattle and anti-squeak joint strips.

In the drawing which illustrates preferred embodiments of my invention:—

Figure 1 is a perspective view of a portion of an automobile hood and radiator, both of which have been broken away to show the anti-rattle and anti-squeak joint strip;

Fig. 2 is an enlarged section taken on the line 2—2 of Figure 1;

Fig. 3 is a transverse section through the flexible folded strip showing, in cross-section, one of the snap fasteners attached thereto;

Fig. 4 is a section similar to that shown in Fig. 3, but showing the strip in unfolded position;

Fig. 5 is a section taken on the line 5—5 of Fig. 3;

Figs. 6 and 7 show transverse cross-sections (unfolded and folded) of a modified strip structure; and

Figs. 8 and 9 show transverse cross-sections of another form of strip structure.

Referring to my invention, as illustrated by the drawing, I have shown an antirattle and squeak strip particularly, though not exclusively, applicable to motor vehicles. The specific illustration shows (Fig. 1) a joint between the radiator 1 and the hood 2 between which is interposed a soft, flexible strip 3 of cloth, rubber, leather, etc.

The strip 3 is secured in place between the radiator 1 and the hood 2 by means of metallic snap fastener members herein illustrated as studs 4. These studs 4 each has a base 5, a neck 6, a head 7 and attaching prongs 8. The attaching prongs 8 are embedded in the strip material so that no metallic parts are presented by the strip at one face when in use. The head 7 and neck 6 of each stud are resilient, thereby permitting attachment of the strip to the radiator flange 9 by merely providing openings 10 in the flange of slightly smaller diameter than the necks of the studs.

The studs may be attached to the strip at slightly greater spaced distances than is provided between the holes 10. This provides for manufacturing tolerances in making the holes and also "bulges" the strip between fastenings to increase the cushioning and sound deadening effect between the metal parts of the hood 2 and radiator 1 or other joint, as shown in Figs. 1 and 2. These "bulges" are not necessary, however, because there is sufficient elasticity to the strip material to permit proper registry of the studs 4 in the apertures 10.

The strip 3 is folded so that the prongs 8, of the stud members, which are bent over, as shown in Figs. 4 and 5, may be concealed against engagement with the hood 2.

Folding of the strips may be accomplished by various methods, as will be readily understood from Figs. 3 through 9, depending somewhat upon the material used.

In Fig. 4 the material of the strip 3 is of uniform thickness and each edge is folded toward the middle to provide a hinge portion at 11 in the middle of the strip.

In Figs. 6 and 7 the material of the strip 3 is shown thicker for one half than for the other half. The stud-attaching means may be forced through the thick half 12 and upset and the thin half 13 may be folded about the joint or hinge 14 between the two halves, as shown in Fig. 7, to conceal the attaching means.

The strip shown in Figs. 8 and 9 is similar to that shown in Figs. 6 and 7, except that a relatively thinner portion than the rest of the material provides a hinge 15 and assists in permitting the folded portion to lie flat over the attaching means.

My device is a decided improvement over anything for this purpose known to me, because it is simple, durable and effective. The metallic snap fasteners are important, because by their use the strip may be easily attached, whereas with rivets they must be upset. The metallic fasteners are much more desirable than rubber or like fasteners, because they will wear longer and thus hold the strip in place better. Furthermore, the strip with metallic fasteners attached is simple to construct and very inexpensive.

While I have illustrated and described preferred embodiments of my invention, I do not wish to be limited thereby, because the scope of my invention is best defined in the following claim.

I claim:

As an article of manufacture, an anti-noise device for interposition between two superposed metallic members of an automobile, one of which is provided with a spaced series of openings as is known for attachment of such devices; said device comprising a strip of cushioning material, a spaced series of metallic snap-fastener studs preassembled thereon, said studs being spaced from one another by slightly more than the spacing of the openings in the member which is to carry the device, thus providing for tolerances and for slight bulging of the strip between fastenings to increase the cushioning effect when installed, said metallic studs each comprising a resilient metallic attaching element sized to spring

through one of said openings and secure the device in place, said metallic studs each comprising a base portion and clinching means permanently securing the base portion to the strip, said clinching means lying embedded within the body of the strip in substantially spaced relation from the face of the strip opposite to that carrying said fasteners, said clinched construction preventing pulling through or off of said snap fastener studs when said strip is pulled to detach said device, and said embedded construction preventing contact between any part of said metallic snap fastener and the overlying member when it is attached, whereby provision is made for rapid installation of the device, positive metallic securement thereof, and quick complete removal of the device in its entirety.

ROLLO F. WALTERS.