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G. R. CUNNINGTON

2,282,170

UPHOLSTERY

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FIG. 1.

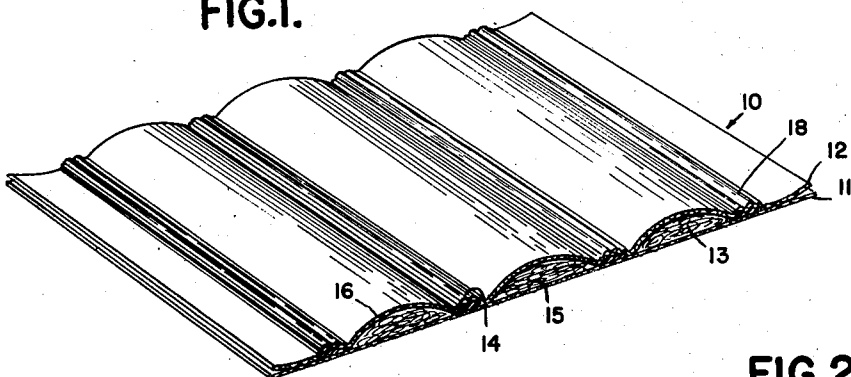


FIG. 2.

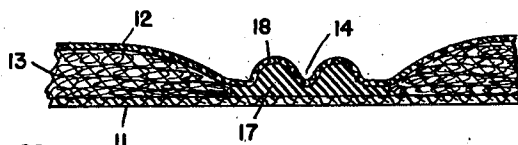


FIG. 3.

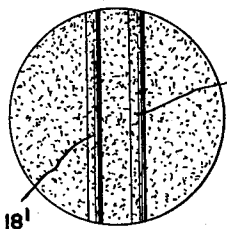


FIG. 4.

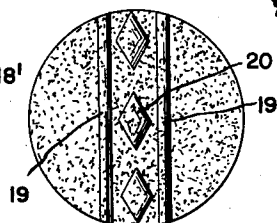


FIG. 5.

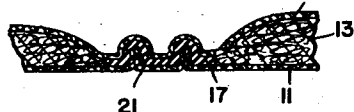


FIG. 7.

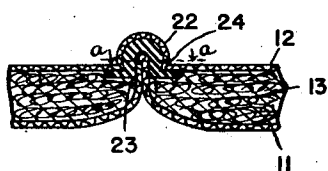
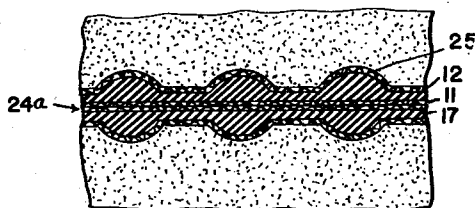


FIG. 6.

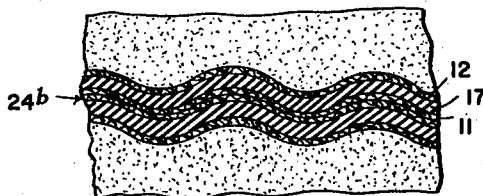


FIG. 8.

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2,282,170

UPHOLSTERY

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2 Claims. (Cl. 154—54)

The present invention relates to upholstery, and more particularly to stuffed pleated upholstery provided with decorative seams.

The novel upholstery disclosed in the present application has wide utility, but for simplicity in disclosing the invention the upholstery material illustrated and described herein is particularly adapted for use in automotive vehicles. For example, the upholstery material illustrated may be used for seat or back cushions in automotive vehicles. It will be understood that the upholstery material may cooperate with coil springs, leaf springs, or cushions and backs formed of various resilient materials, such for example as rubber. The upholstery material may also be employed in combination with panel elements if desired, the padding material imparting an exceptionally rich appearance thereto.

In the past, it has been the practice to provide upholstery material for covering the seats and backs of automotive vehicles by interposing a layer of padding material, such as cotton, between two fabrics. For this use, one of these fabrics was normally a backing or sheeting of inexpensive material, and the other fabric was an upholstery fabric of any desired character. It will be appreciated that in certain circumstances, such for example as where a cushion is to be employed in a manner which may expose either side thereof, that both fabrics may have a pleasing appearance.

Originally upholstery of this nature was manufactured by providing pleat fullness in an upholstery material and stitching the upholstery material to a backing material along lines so as to form pipes intermediate the lines of stitching. These pipes were subsequently filled with padding material, such as cotton, by various methods. Subsequently manufacture of such upholstery material was improved by the development of machines for simultaneously feeding padding material between continuously advancing sheets of fabric and stitching the sheets of fabric together along lines intermediate the padding material as applied.

It has long been desirable to render the seams formed as attractive in appearance as possible, and various efforts were made to provide seams which would present a pleasing and attractive appearance. Due, however, to the inherent limitation resulting from a sewing process, these efforts were not particularly fruitful. In addition, the sewing operation has been an expensive and troublesome process and, as will be readily recognized, the lines of stitching tend to weaken

the fabrics. This weakening of the fabrics is particularly noticeable in certain types of fabric which are otherwise well adapted for upholstering purposes, such for example as artificial leather or the like.

I have found that it is possible to manufacture upholstery material by interposing a strip of uncured rubberous material between the sheets of fabric or other material along the lines of the proposed seams. It is then possible to vulcanize the two fabrics to the strip of rubberous material and thus provide a permanent bond therebetween. Extensive tests have revealed that this bond is permanent in use, even where the upholstery material is employed as a seat cushion and is subjected to constant destructive wear. It is possible to provide this seam of substantial width, thus simultaneously increasing the strength of the bond and providing a relatively large area for decoration.

It is accordingly an object of my invention to provide as a new article of manufacture, upholstery material in which proposed fabrics are bonded together by vulcanization.

It is a further object of my invention to provide stuffed pleated upholstery material in which the seams intermediate the pleat fullness are formed by bonding together the fabrics without sewing.

It is a further object of my invention to provide a seam for uniting a pair of fabrics which is formed by a strip of vulcanized material.

It is a further object of my invention to provide a decorative seam between two fabrics, the seam being of substantial width, formed by vulcanizing the two fabrics together, and characterized by a design in relief displayed in the surface of at least one of said fabrics.

It is a further object of the invention to provide an interlocked seam between two fabrics of particular configuration.

Other objects of the invention will be apparent as the description proceeds, and when taken in conjunction with the accompanying drawing in which—

Fig. 1 is a perspective of an upholstery material adapted to be employed as a seat or back covering in an automotive vehicle;

Fig. 2 is an enlarged fragmentary section through one of the seams;

Figs. 3 and 4 are fragmentary top views of decorative seams embodying the present invention;

Fig. 5 is a fragmentary section illustrating a somewhat different form of seam;

Fig. 6 is a fragmentary section through a somewhat different form of seam; and

Figs. 7 and 8 are sectional views corresponding to the section *a-a*, Fig. 6, and illustrating two specifically different bonded seams.

In Fig. 1 I have illustrated an upholstery assembly generally indicated at 10, which comprises a sheet of backing material 11, a sheet of covering material or upholstery material 12, and intermediate padding material 13. The padding material may be any resilient fibrous material, or other material having similar characteristics, and, by way of example, I have found that cotton forms an excellent material for this purpose.

As illustrated, the backing fabric 11 and the cover fabric 12 are united along seams 14, the arrangement being such that intermediate pipes 15, filled with the padding material 13, are formed. Preferably pleat fullness is provided in padding material 12 so that when the backing material 11 is tensioned as indicated in Fig. 1, the fullness will appear as at 16 in the upholstery material. The seams 14, as best illustrated in the enlarged view of Fig. 2, are formed by providing a layer or ply of rubberous material 17 intermediate the backing material 11 and upholstery material 12. Preferably the rubberous material is inserted in an uncured condition and is then deformed so as to provide a pleasing ornamental design, such as the beads 18. This deformation may be provided by applying heat and pressure through the medium of heated die members, the application of heat and pressure being continued for a sufficient period to insure efficient vulcanization of the rubberous material 17 in a manner to provide a permanent bond between fabrics 11 and 12. I have found that this operation may be carried out in such a manner as to provide a bond, which is for all intents and purposes permanent and at the same time such that rubberous material will not substantially penetrate the cover fabric 12 or at least will not penetrate cover fabric 12 to an extent sufficient to discolor the forward or exposed face thereof.

As will be observed from Figure 2 and the other figures later to be described, the vulcanized rubber is in the form of a body of appreciable thickness, and the backing and cover fabrics are vulcanized to this body of rubber at opposite surfaces thereof. The vulcanized bond thus provided between the cover fabric and the rubber, and between the backing fabric and the rubber, is of substantial width in order to strengthen the same. In addition, where the rubber and cover fabric are decorated to form a relief design, as indicated for example in Figure 2, it will be apparent that an increased area of contact is provided between the rubber and the cover fabric, thus further increasing the total strength of the vulcanized bond therebetween.

In Fig. 3 I have illustrated a fragmentary enlarged view of a seam embodying my present invention which is formed to provide a pair of parallel beads 18'. These beads, it will be understood, are similar to the beads 18 shown in Fig. 2, and differ therefrom only in size and spacing.

In order to illustrate the wide choice in design possible in my improved cushions, I have shown in Fig. 4 a second design embodying parallel beads 19 and a row of raised diamond shaped members 20. It will, of course, be apparent that the design shown in Figs. 3 and 4 are merely illustrative and that designs of any desired characteristics may be employed.

It is desired to point out at this time the wide difference between designs possible in the present cushions over those possible with previously known sewing operations. As will be evident, it is possible to form the so-called seams in the present cushion along straight lines, diagonal lines, irregular lines, curved lines, irregularly sinuously curved lines, and in fact the seams may be provided in any arrangement and with any desired decoration.

In Fig. 5 I have illustrated a seam which differs from that shown in Fig. 2 only in that the lower sheeting 11 is formed upwardly, as indicated at 21, into the bead provided in the upholstery material 12. As in the previous example, padding material 13 fills the pipe intermediate the seams and comes up in close proximity to the vulcanized seam. By this construction a seam exhibiting a somewhat superior strength is provided.

In Fig. 6 I have illustrated a slightly different seam in which a single bead 22 is formed in the upholstery material 12, and the backing material or sheeting 11 is forced upwardly, as indicated at 23, into the bead. In this modification, the bead 22 is somewhat reduced, as indicated at 24, to form what may be termed a neck portion.

In Figs. 7 and 8 I have illustrated slightly different forms in which the neck portion 24 may be provided.

In Fig. 7 the neck portion 24a, corresponding to the neck portion 24 illustrated in Fig. 6, may be provided with enlarged portions 25, the rubberous material 17 being formed by a suitable die process to provide the enlargements 25 and to form the upholstery fabric 12 thereabout. The backing fabric 11 is formed upwardly into the neck portion, as seen in Fig. 7. This particular formation of the neck portion of bead 22 shown in Fig. 6 provides a somewhat stronger bond between the upholstery fabric and the backing material.

A similar arrangement is shown in Fig. 8 in which a neck portion 24b, corresponding to the neck portion 24 illustrated in Fig. 6, is formed in a sinuous curve. In this modification both the backing material or sheeting 11 and the cover fabric or upholstery material 12 may be deformed into a sinuous curve and will be permanently bonded together by a vulcanized rubberous material 17.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible in view of the prior art.

What I claim as my invention is:

1. A stuffed pleated cushion comprising a backing fabric, a plurality of spaced, relatively wide strips of bulky padding material on said backing fabric, relatively narrow strips of soft cured rubber in the spaces between said strips of padding material, a cover fabric overlying said strips of padding material and said strips of rubber, said backing fabric and said cover fabric having vulcanized bonds of substantial width with said strips of rubber, whereby to form pipes receiving said strips of padding material, said cover fabric and said strips of rubber being shaped into a relief design providing increased area of contact therebetween.
2. A stuffed pleated cushion comprising a backing fabric, a plurality of spaced, relatively wide strips of padding material on said backing

fabric, a cover fabric overlying said backing fabric and said strips of padding material, strips of rubber located in the spaces between said strips of padding material, said cover fabric having inwardly concave folds extending 5 along said rubber strips, said rubber strips being received in said folds, said backing fabric having similar folds at least partly received in said first mentioned folds, and embedded in said rubber strips, said rubber strips being vulcanized and having a vulcanized bond with said backing and cover fabrics.

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