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3,283,345

UPHOLSTERY CUSHION CONSTRUCTION

Filed Jan. 30, 1964

FIG. 1

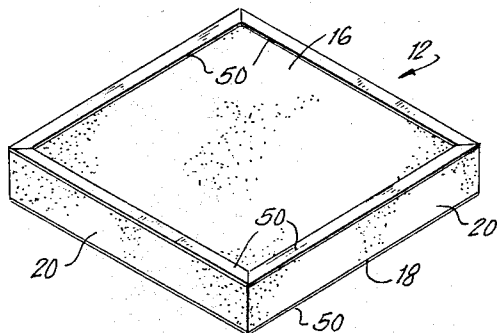


FIG. 2

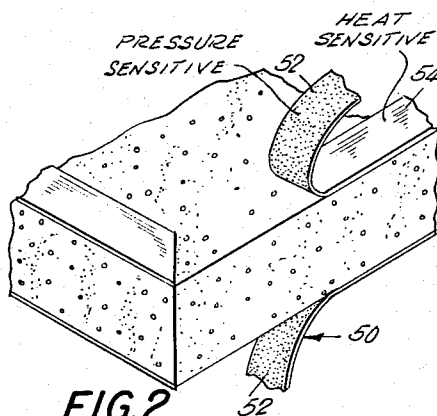


FIG. 3

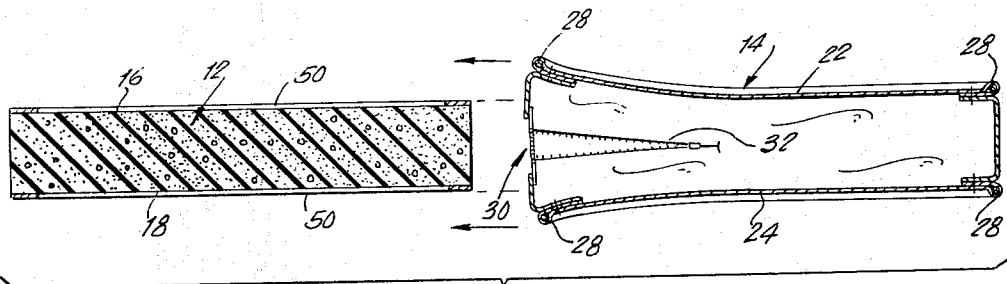


FIG. 4

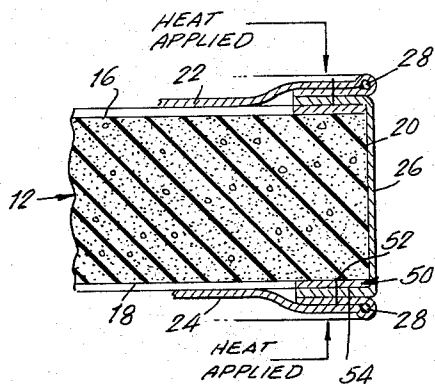
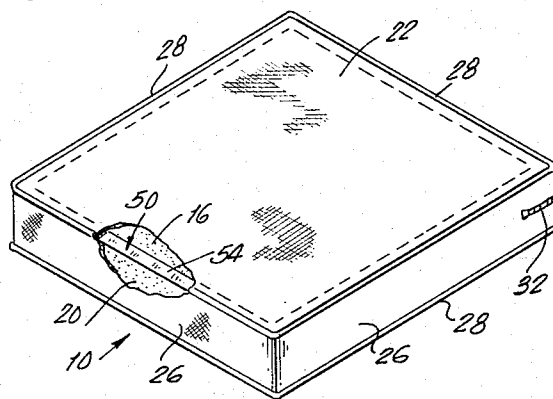


FIG. 5



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UPHOLSTERY CUSHION CONSTRUCTION

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3 Claims. (Cl. 5—345)

The present invention relates generally to upholstery constructions and specifically to an upholstery cushion and cover construction and to a method for maintaining an upholstery cover in position upon a cushion.

One of the most commonly employed upholstery constructions includes the use of a preformed resilient foam cushion and an outer cover shaped to intimately sheath the cushion. Specifically, a cushion of desired shape, having a top face or wall, a bottom wall and side walls is formed from such material as foam rubber, polyurethane foam or the like. An upholstery cover is constructed of suitable upholstery fabric with corresponding top, bottom and side walls. Ordinarily, welting is utilized to form the edges between the respective walls. The cover is fitted about the cushion and an opening is left at one of the edges to insert and remove the cushion. It is common to provide a zipper for this opening; however, permanent or semipermanent stitching may be used to close the cushion.

Although this construction has proved itself to be extremely popular, one persistent problem has heretofore defied solution. There is an undesirable tendency for the cover to shift out of alignment with the inside cushion as a result of repeated movement such as by repeated sitting down upon and getting up from a chair cushion. Although this movement occurs in relatively small steps, after some days or weeks there is a noticeable misalignment of the cover with the cushion. The welting or other edging of the cover moves away from the underlying edge of the cushion and produces an unkempt appearance. Since cushions of this type are utilized primarily in clean-cut, sharp-lined furniture, this misalignment constitutes a noticeable and extremely undesirable flaw.

Several processes and constructions have been proposed and attempted in order to eliminate the misalignment problem but none has yet met with full success. It has been proposed to apply adhesive to the cushion to secure same to the cover. However, if the adhesive is tacky at the time the cushion is to be inserted into the cover, it is virtually impossible to make such insertion since the covers fit quite tightly about the cushions. Accordingly, it has been proposed to utilize an adhesive which dries quickly into a non-tacky state and thereafter can be reactivated by the application of an appropriate solvent. Although the theory of this proposal seemed quite reasonable, the process has not in fact been fruitful. In addition to the problems of getting the adhesive to function as desired, there is the persistent danger of harming the upholstery fabric by the solvent used and the fire danger in heavy applications of solvent in the ordinary upholstery factory environment.

Accordingly, it is an object of the present invention to provide an upholstery construction and method whereby the above described flaw is eliminated. Specifically, it is the object of the present invention to provide an upholstery construction wherein a preformed upholstery cover is restrained from moving out of alignment with its inner cushion.

It is further within the contemplation of the present invention to provide a process for restraining relative movement between an upholstery cover and its respective inner cushion thereby to maintain the edges of the cover

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in alignment with the respective edges of the cushion during use.

In accordance with one illustrative embodiment of the present invention, there is provided an upholstery construction of the type including an inner resilient foam cushion and an outer corresponding cover. The cushion is constructed of a form material and has a top face, a bottom face and respective side faces. The mating cover is constructed of an upholstery fabric and has a top wall, a bottom wall and side walls corresponding to the foam cushion. A cover-positioning adhesive strip is provided having a first, pressure-sensitive adhesive surface on one side thereof and a second, heat-sensitive adhesive surface on the opposite side thereof. The cover-positioning strip is adhesively secured to the cushion by the first adhesive surface along the edges of at least one of the faces of the cushion and is adhesively secured by the second adhesive surface to the inside surface of the corresponding wall of the upholstery cover. The upholstery cover is thereby joined to the cover-positioning strip which serves as a connecting link to adhesively secure the cover to the cushion in order to maintain respective alignment between the cover and the cushion.

In accordance with the method aspects of the present invention, there is provided method for retaining an upholstery cover in position with respect to its foam cushion against the sheer forces which normally tend to move the edges of the cover out of alignment with the corresponding edges of the cushion. The method comprises adhesively securing a strip of material along at least one edge of one face of the cushion and providing a heat-sensitive adhesive on the other or outwardly facing surface of the strip. The process further includes the step of placing the cover about the cushion with the respective walls of the cover in alignment with the faces of the cushion and closing the cushion by the customary means provided. The process further contemplates the application of heat to the outer surface of the cover, at the locations of the retaining strip, to activate the heat-sensitive adhesive and to adhesively secure the cover to the strip of material and, thereby, to the cushion for retaining the walls and edges of the cover in alignment with the respective faces and edges of the cushion.

The above brief description, as well as further objects, features and advantages of the present invention, will be best appreciated by reference to the following detailed description of one presently preferred embodiment of the invention when taken in conjunction with the accompanying drawings wherein:

FIG. 1 is a perspective view of a resilient foam cushion having adhesive retaining strips in accordance with the present invention applied about the edges of the top and bottom faces of the cushion;

FIG. 2 is an enlarged partial perspective view of one corner of the cushion shown in FIG. 1 with portions of the adhesive strip rolled back to show the pressure sensitive adhesive surface on one side and the heat-sensitive adhesive surface on the other;

FIG. 3 is an exploded and sectional view schematically illustrating the placement of the formed upholstery cover about the foam cushion;

FIG. 4 is an enlarged sectional view of one edge of the upholstery construction according to the present invention with the cover placed over the cushion; and

FIG. 5 is a perspective view of an upholstery construction with the cover positioned about the cushion, with a portion broken away and with the location of the adhesive retaining strip indicated by dotted lines.

The upholstery construction in accordance with the present invention is generally designated in the drawings by the numeral 10 and includes a resilient foam cushion

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12, constructed of foam rubber, polyurethane foam, or other like material, and a preformed upholstery cover 14. The cushion illustrated in FIG. 1 includes a top face 16, a bottom face 18 and side faces 20.

The upholstery cover 14 is constructed of any appropriate upholstery material and similarly includes a top wall 22, bottom wall 24 and side walls 26. The walls 22, 24, 26 correspond in size with the faces 16, 18, 20 of the cushion 12 such that the cushion 12 may be intimately received within the cover 14. The edges of the cover 14 between the top and bottom walls 22, 24 and the side walls 26 are formed with welting 28 as is well known in the upholstery art. An entry and exit opening 30 is provided within the side walls 26 and provides access to the interior of the cover 14 such that the cushion 12 may be inserted and removed therefrom. Conveniently, a zipper 32 may be secured to the opposite edges of the opening 30 to provide easy closure means.

The foregoing description recites a construction which is well known in the prior art.

In accordance with present invention, there is provided a cover-retaining adhesive strip generally designated in the drawings by the numeral 50. As may be best seen in FIG. 2, the cover-retaining strip 50 has a first adhesive surface 52 which is provided with a strong, pressure-sensitive adhesive and a second adhesive surface 54 which is provided with a heat-sensitive adhesive. It is well understood that pressure-sensitive adhesives are those which are relatively tacky such that an object will stick to the adhesive upon the application of pressure and that a heat-sensitive adhesive is one which is not normally tacky but becomes tacky and has adhesive properties upon the application of heat. In the particular embodiment of the invention illustrated herein, the cover-positioning strip 50 is secured about each of the four edges of the top face 16 and bottom face 18 of the cushion 12. Specifically, and as shown in FIG. 1, the strip 50 has been cut into appropriate lengths and placed with the pressure-sensitive surface 52 downwardly into engagement with the top and bottom faces 16, 18 of the cushion 12 such that the strip 50 essentially forms a frame about the top face 16 and bottom face 18. Since the upwardly facing surface of the strip 50 is the heat-sensitive surface 54, the cushion 12 with the strip 50 attached may be handled in the normal manner since the upwardly facing surface of the strip 50 is not at all tacky.

After the cushion 12 has been inserted within the cover 14 and the opening 30 has been secured by closing the zipper 32, heat is applied to the outside surfaces of the cover 14 in the area of the cover-retaining strip 50. Specifically, heat is applied in the case illustrated in the drawings along the edges of the top and bottom walls 22, 24 of the cover 14 in sufficient amounts to activate the heat-sensitive surface 54 of the retaining strip 50. With the heat-sensitive material on the surface 54 activated, adhesive engagement is accomplished between the strip 50 and the cover 14 providing a firm bond between the cover 14 and the cushion 12. When the resulting upholstery construction is in use, the forces which tend to move the cover out of alignment with the cushion will be opposed not only by the normal friction between the cover and the cushion but also by the much stronger adhesive forces between the cushion 12 and the strip 50 and the cover 14. Of course, the location of the strip 50 on the construction 10 is not restricted to the position illustrated in the drawings.

In accordance with the method aspects of the invention, it is appropriate to view FIGS. 2, 3 and 4 for an illustration of the process of the present invention. Consideration of the steps of this process will aid to further understanding of the article aspects of the invention. A cover-retaining adhesive strip 50 is applied along the edges of at least one of the faces of a standard upholstery cushion 12 by means of a pressure-sensitive adhesive on one surface of the strip. The process con-

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templates the provision of a pressure-sensitive adhesive surface 52 for the face of the strip 50 positioned against the cushion 12 and a heat-sensitive adhesive surface 54 on the opposite face of the strip 50, i.e., the face of the strip which is outwardly directed. The cushion 12 with the adhesive strips secured thereto, is then inserted through the opening 30 of a standard preformed upholstery cover 14 and the edges of the cover 14, at the welting 28, are aligned with the corresponding edges of the cushion 12. After the opening 30 has been closed, as by the zipper 32, heat is applied according to the present process in the area of the cover 14 which overlies the adhesive retaining strip 50. The heat activates the heat-sensitive surface 54 and the adhesive material contained thereon to adhesively join the cover 14 to the cushion 12 along the area covered by the strip 50.

When it is desired to remove the cover 14 for cleaning, the adhesive attachment of the strip 50 to the cover 14 is disengaged by placing one's hand between the respective faces of the cushion 12 and the cover 14 and stripping the heat-sensitive surface 54 from the cover 14. The cover 14 may then be removed from the cushion and cleaned and, after the cushion 12 has been reinserted, the heat-sensitive surface 54 may be reactivated by a second application of heat in the manner described above.

It will be appreciated that there is provided in accordance with the present invention a construction for foam cushions and preformed upholstery covers whereby the covers are retained in secure alignment with the cushion. Whereas in the past only the friction which existed between the respective outer faces of the cushion and in the faces of the cover prevented the cover from becoming misaligned with the cushion, in accordance with the present invention an extremely simple cover-retaining strip is utilized to provide manifold increases in the forces and which tend to keep the cover in neat alignment. Similarly, it will be appreciated that the process according to the invention is of extremely simple nature, requires relatively little additional time effort or expense over the traditional upholstery processes but which provides substantial benefit in maintaining upholstery covers in neat alignment with the cushions.

Although only one illustrative embodiment to the present invention has been specifically illustrated herein, it will be appreciated that a large number of design variations may be made without departing from the teachings of the present invention. It is quite possible to choose fewer or greater numbers of areas in which to place the cover-retaining material according to the present invention and, to some degree, it is possible to vary the construction of the cover-retaining material without departing from the basic teachings of the use of heat-sensitive adhesive to retain the upholstery cover firmly in alignment with respect to its inner cushion. Accordingly, the following claims should be construed broadly in a manner consistent with the spirit and scope of the invention.

What I claim is:

1. An upholstery construction comprising a resilient foam cushion having a top face, a bottom face and four side faces, a preformed upholstery material cover having corresponding top, bottom and side walls joined together to form an enclosed upholstery envelope, said cover having an access opening for the insertion of said cushion therein and being sized to closely conform to the shape of said cushion and to receive said cushion therein, and a cover-retaining adhesive strip, said retaining strip having a first adhesive surface on one side thereof and a second adhesive surface on the opposite side thereof having a heat-sensitive adhesive thereon, said strip being adhesively secured to said cushion by said first adhesive surface along the edges of at least one of said faces and being adhesively secured by said second adhesive surface to the inside corresponding walls of said cover, said ad-

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hesive strip retaining said cover in position on said cushion.

2. An upholstery construction comprising a resilient foam cushion having a top face, a bottom face and four side faces, a preformed upholstery material cover having corresponding top, bottom and side walls joined together to form an enclosed upholstery envelope, said cover having an access opening for the insertion of said cushion therein and being sized to closely conform to the shape of said cushion and to receive said cushion therein, and a cover-retaining adhesive strip, said retaining strip having a first adhesive surface on one side thereof having a pressure-sensitive adhesive thereon and a second adhesive surface on the opposite side thereof having a heat-sensitive adhesive thereon, said strip being adhesively secured to said cushion by one of said adhesive surfaces along at least one edge of at least one of said faces and being adhesively secured by the other of said adhesive surfaces to the inside corresponding walls of said cover, said adhesive strip retaining said cover in position on said cushion.

3. An upholstery construction comprising a resilient foam cushion having a top face, a bottom face and four side faces, a preformed upholstery material cover having corresponding top, bottom and side walls joined together to form an enclosed upholstery envelope, said cover having an access opening for the insertion of said cushion therein and being sized to closely conform to the shape of said cushion and to receive said cushion therein, and a cover-retaining adhesive strip, said retaining strip having a first adhesive surface on one side thereof having a pressure-sensitive adhesive thereon and a second adhesive surface on the opposite side thereof having a heat-sensitive adhesive thereon, said strip being adhesively secured to said cushion by one of said adhesive surfaces along at least one edge of at least one of said faces and being adhesively secured by the other of said adhesive surfaces to the inside corresponding walls of said cover, said adhesive strip retaining said cover in position on said cushion.

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ion therein and being sized to closely conform to the shape of said cushion and to receive said cushion therein, and a cover-retaining adhesive strip, said retaining strip having a first adhesive surface on one side thereof having a pressure-sensitive adhesive thereon and a second adhesive surface on the opposite side thereof having a heat-sensitive adhesive thereon, said strip being adhesively secured to said cushion by said first adhesive surface along the edges of at least one of said faces and being adhesively secured by said second adhesive surface to the inside corresponding walls of said cover, said adhesive strip retaining said cover in position on said cushion.

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A. M. CALVERT, *Assitant Examiner*.