

Jan. 11, 1949.

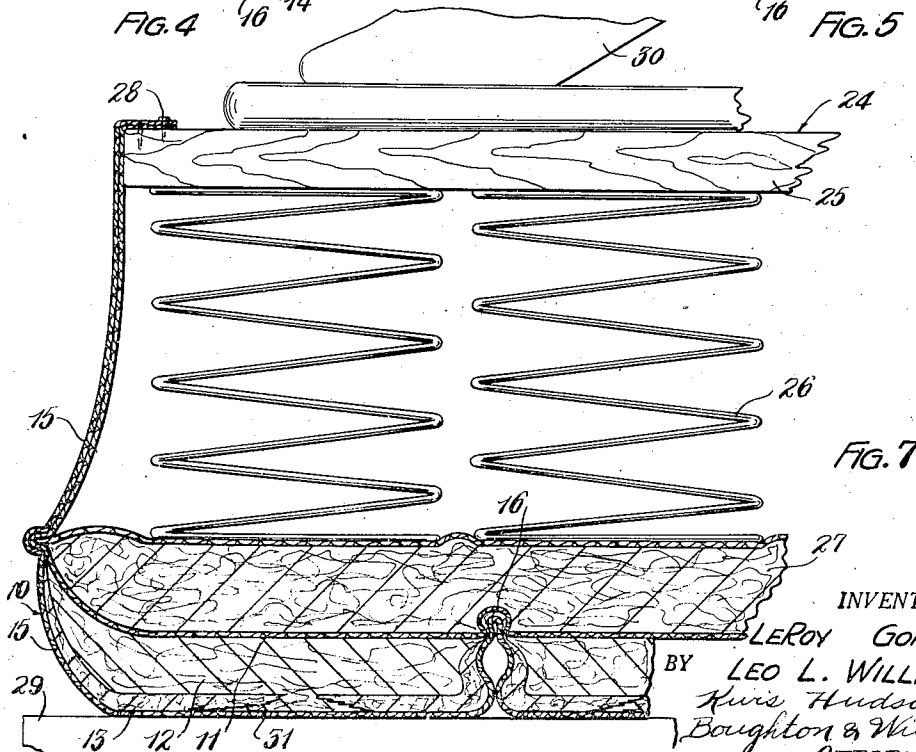
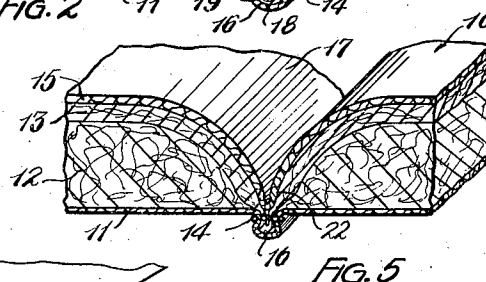
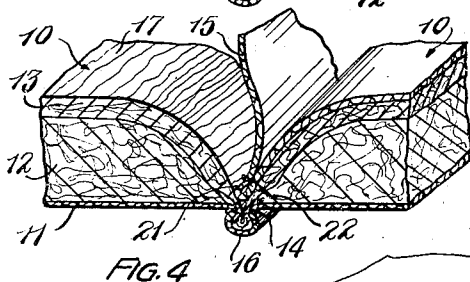
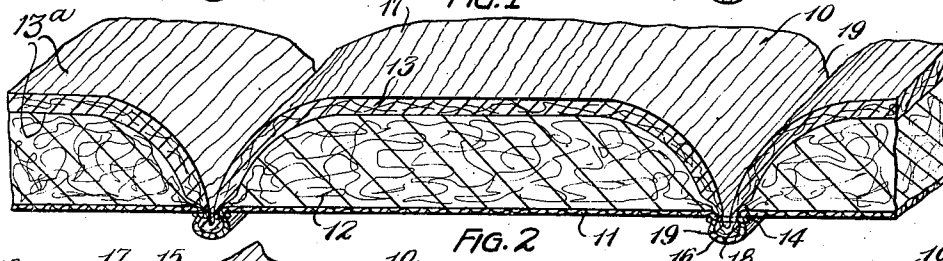
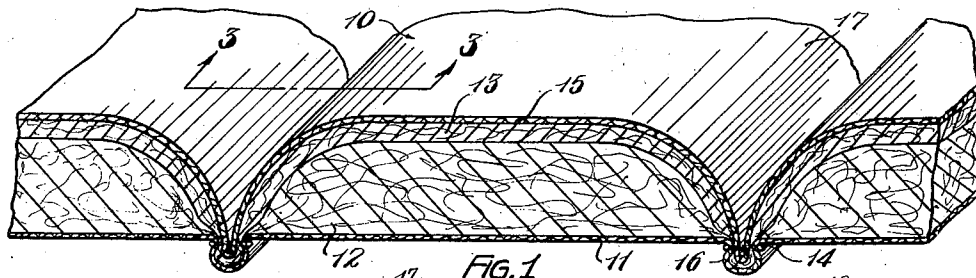
LE ROY GORDON ET AL

2,458,588

UPHOLSTERY PAD

Filed Nov. 10, 1945

2 Sheets-Sheet 1



INVENTORS

LE ROY GORDON

BY LEO L. WILLIAMS

Kris Hudson

Boughton & Williams
ATTORNEYS

Jan. 11, 1949.

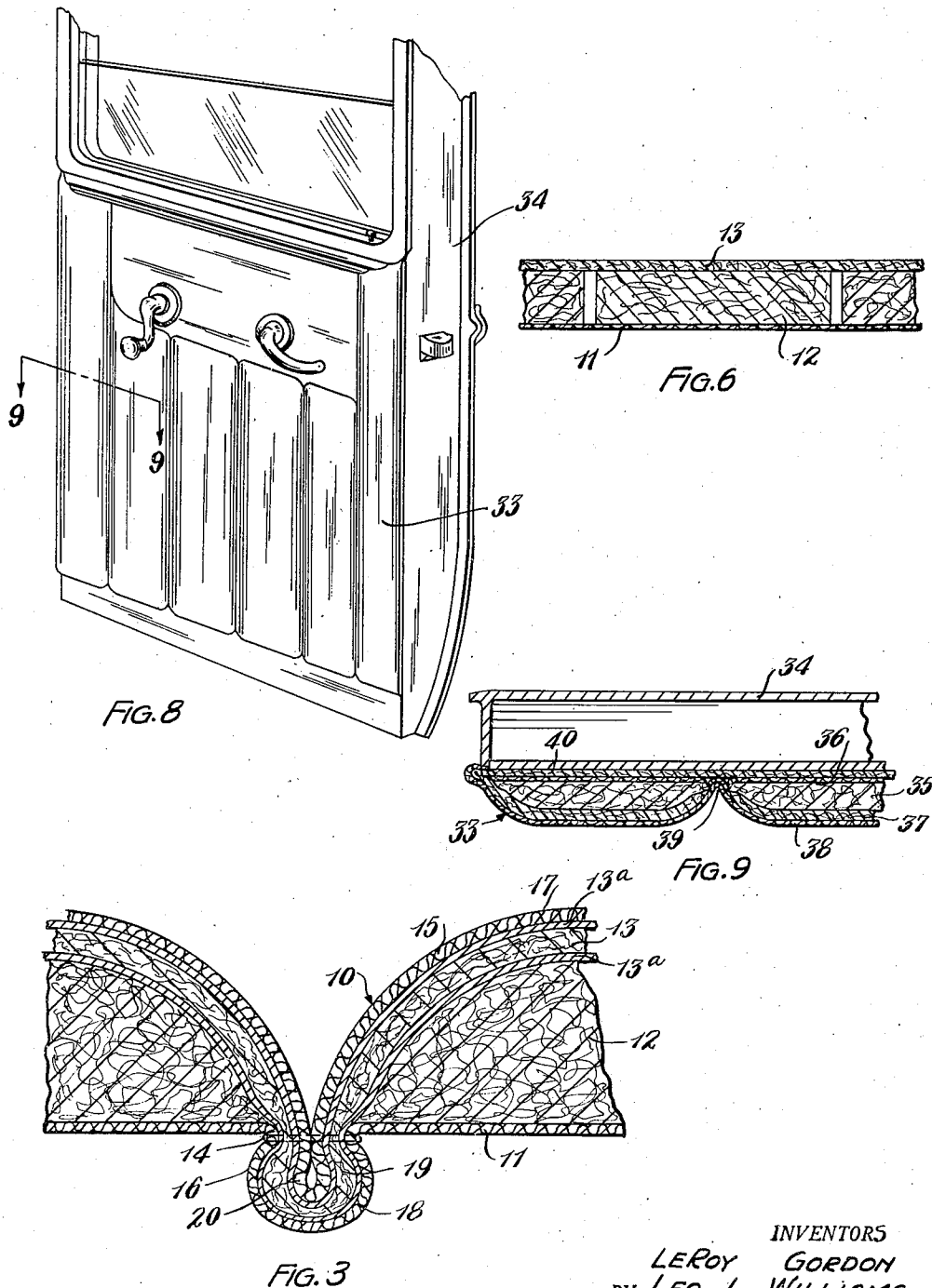
LE ROY GORDON ET AL

2,458,588

UPHOLSTERY PAD

Filed Nov. 10, 1945

2 Sheets-Sheet 2



INVENTORS
LEROY GORDON
BY LEO L. WILLIAMS
Kivis Hudson Boughton & Williams
ATTORNEYS

UNITED STATES PATENT OFFICE

2,458,588

UPHOLSTERY PAD

Le Roy Gordon, Richmond, Mich., and Leo L.
Williams, Cleveland Heights, Ohio

Application November 10, 1945, Serial No. 627,876

6 Claims. (Cl. 154-54)

1

This invention relates to pads of the kind embodied in various upholstered structures and, as one of its objects, aims to provide an improved construction for a pad of this kind which will enable the pad to retain its shape and integrity during handling and installation and to also retain its cushioning and decorative value during the subsequent use of the structure in which the pad is embodied.

Another object of the present invention is to provide an improved construction for a pleated upholstery pad of the kind embodying a layer of coextending batts, which will enable the pad to be more economically manufactured and shipped and which will facilitate the installation of the pad as well as improve the quality and durability of the upholstered structure in which the pad is used.

A further object of this invention is to provide an improved construction for an upholstery pad of this kind, in which glazed wadding is used as a cover sheet for the batts and contributes to the pad certain desirable characteristics which are important in the handling and installation thereof as well as to the quality and durability of the upholstered structure.

Still another object of the invention is to provide an improved upholstery pad of this character, in which the backing and cover sheets are connected by rows of stitching between the batts and in which the glazed wadding forming the cover sheet has a tensile strength such that it provides a retaining means for the batts during handling and installation but is thereafter subject to tearing or separation at points between the rows of stitching for obtaining the full available resiliency and cushioning value in the pad.

Yet another object of the invention is to provide an improved upholstery pad of the character mentioned, in which the cover and backing sheets have gathers therein for forming pleats between the contiguous batts which further strengthen the pad and enable it to retain its shape.

Other objects and advantages of the invention will become apparent in the following detailed description.

The present invention is an improvement over our earlier patent No. 1,903,424 granted April 11, 1933.

In the accompanying sheets of drawings,

Fig. 1 is a perspective sectional view taken through an upholstery pad embodying the present invention, the pad having the finish cloth or wear sheet extending over the top thereof.

Fig. 2 is a similar perspective sectional view

2

showing the pad with the wear sheet omitted therefrom.

Fig. 3 is a transverse sectional detail view on an enlarged scale, taken as indicated by line 3-3 of Fig. 1 and further illustrating the construction of the pad and the stitching used in the pleats thereof.

Figs. 4 and 5 are perspective sectional detail views illustrating another form of stitching which can be used in the pleats of the pad shown in Fig. 1.

Fig. 6 is a partial transverse sectional view showing the parts of the pad of Fig. 2 in their assembled relation and prior to the stitching operation.

Fig. 7 is a partial transverse sectional view taken through an upholstered structure embodying the improved pad and illustrating one step in the upholstering operation by which the tearing of the glazed wadding cover sheet can be effected.

Fig. 8 is a partial perspective view showing an automobile door on which a modified form of the improved upholstery pad is used as a covering, and.

Fig. 9 is a partial transverse sectional view taken through the modified pad of Fig. 8 substantially as indicated by section line 9-9.

The upholstery pads herein disclosed are of a type generally similar to the pads disclosed in our earlier patent mentioned above but constitute an important improvement thereover. In Figs. 1 and 2 of the accompanying drawings the pad is shown as having a continuous backing sheet on which is arranged a plurality of coextending contiguous batts in strip form and which batts form the major portion of the cushioning material or filling of the pad. The pad also includes a cover sheet which extends in continuous relation over a plurality of the batts and is connected with the backing sheet along spaced lines extending longitudinally between the batts, as by rows of stitching. Fig. 1 shows the same pad as Fig. 2 but with a continuous finish cloth cover or wear sheet extending over the cover sheet and also connected with the backing sheet by the stitching.

The backing sheet is preferably a loosely woven fabric sheet such as scrim, muslin, cheesecloth, tobacco cloth, or the like. The batts are in the form of continuous strips made of resilient fibrous material such as cotton, hair, jute, wood wool or various combinations of these materials. These batts are arranged on the backing sheet in a relatively close or contiguous coextending re-

3

lation to each other and form a layer of cushioning material between the cover sheet 13 and the backing sheet. The batts are held in place by the cover sheet which extends continuously thereover and is stitched to the backing sheet so as to form pleats or seams 16 extending longitudinally between the pairs of contiguous batts. The cover sheet and backing sheet thus form elongated pockets which are filled by the respective batts 12 and the top surface of the pad presents the appearance of a plurality of parallel rounded cushion sections or tufts 17 separated by the pleats 16.

The batts 12 and the backing and cover sheets 11 and 13 can be assembled into a desired relative arrangement by any suitable apparatus, such as that shown in our earlier patent and which need not be described here. Fig. 6 of the drawings shows the batts assembled in contiguous relation between the backing and cover sheets and illustrates the condition of the pad just prior to the stitching operation. It will be noted that in this preliminary assembly the batts 12 are of a substantially rectangular cross-section and that when the cover sheet 13 has been stitched to the backing sheet 11 as shown in Figs. 1 and 2, the batts have been somewhat compressed or compacted to a rounded contour to which they are held by the cover sheet. The pleats 16 are formed during this stitching operation.

The cover sheet 13 is an important feature of the improved pad 10 and has certain characteristics which produce important new results in the improved construction. This cover sheet comprises a sheet of glazed cotton wadding of a size or length to extend in continuous relation over a plurality of the batts 12. The cover sheet is relatively thin in comparison with the depth or thickness of the batts 12 and, in the completed structure, forms a relatively smaller part of the cushioning material or filling of the pad. The cover sheet is formed of a layer or sheet of matted cotton fibers and in which the fibers on one or both surfaces thereof are connected or bonded together by an adhesive substance or sizing, such as starch or other suitable material. The glazed surface or surfaces 13a of the cover sheet 13 are of a smooth and paper-like characteristic and these surface portions have a considerably greater tensile strength than the untreated portions lying inwardly of the glazed surface or surfaces. In this glazed wadding the fibers are arranged so that, in the main, they extend in the same general direction which, in the pad 10, can be either in a direction substantially parallel to the rows of stitching 14 or in a direction substantially normal to such rows of stitching.

In forming the pad 10 from the assembled batts 12 and the backing and cover sheets 11 and 13 as shown in Fig. 6, portions of the backing and cover sheets are gathered as indicated at 18 and 19 and these gathered portions when connected by the rows of stitching 14 form the pleats or seams 16. The gathers 18 and 19 are formed in the backing and cover sheets at spaced points corresponding with the spaces between the contiguous batts and these gathers are formed during or just prior to the stitching operation. In forming the pleats 16, the gathers 19 of the cover sheet 13 are carried down into the gathers 18 of the backing sheet 12. The stitching 14 can be performed by suitable apparatus such as a gang-type sewing machine of an appropriate construction. In these rows of stitching 14 the individual

4

stitches extend across the pleats 16 and through the gathers 18 and 19 thereof, thereby forming strongly sewn seams and relatively firm ribs lying at or adjacent the back of the pad.

An important characteristic of the cover sheet 13 is that the glazed wadding of which it is made has sufficient tensile strength to confine and hold the batts 12 in their assembled condition on the backing sheet 11 during handling, shipping and installation of the pad. Because of this tensile strength in the cover sheet 13 it is unnecessary to provide the pad with any additional retaining sheet on the top thereof for enabling it to satisfactorily withstand handling, shipping or installation stresses. It will thus be seen that the cover sheet 13, which ultimately forms a part of the desired cushioning depth or filling material of the pad, initially or temporarily forms the retaining means for the batts and temporarily gives the pad a smooth and reinforced top surface which will enable it to be handled, shipped and installed without fraying or loosening of the batts and without having the pad lose its contoured and pleated shape or otherwise becoming loose or irregular in character.

As mentioned above, the cover sheet 13 can be glazed on one or both of its surfaces and Fig. 2 shows this sheet with the glazing 13a on both its top and bottom surfaces. It is important that the cover sheet 13 always be glazed on its upper or exposed surface so as to provide the above described protective and retaining function, but if desired, the glazing can be omitted from its lower surface. In some cases this is an advantage because when the glazing is omitted from the lower surface the fibers of the cover sheet have a greater tendency to adhere to the fibers of the batts 12, thereby causing the cover sheet and the batts to become more or less amalgamated into a homogeneous filling between the glazed upper surface and the backing sheet 11.

As previously mentioned above, Fig. 1 of the drawings shows the pad 10 as having a finish cloth or wear sheet 15 extending over the cover sheet 13. This wear sheet can be any suitable upholstery cloth, fabric, or other covering material of the character desired for the exposed surface of the upholstered structure in which the pad 10 is to be embodied. The wear sheet 15 can be applied to the pad 10 either during the operation of making the pad or can be applied after the pad has been completed. In many instances the wear sheet will be omitted from the pad as initially constructed so that a wear sheet of leather or other special form or pattern can be subsequently selected and applied to suit the customers' requirements. This procedure can be safely followed because of the tensile strength and ability of the glazed wadding cover sheet to retain the batts in shape and protect them from fraying.

When the wear sheet 15 is embodied in the pad 10 during the construction of the latter the wear sheet is folded or gathered as indicated at 20 in Fig. 3 and these gathers are carried downwardly into the gathered portions 18 and 19 of the backing and cover sheets 11 and 13. In this particular construction the rows of stitching 14 are formed so that the stitches will extend across the pleats and through the wear sheet 15 as well as through the backing and cover sheets 11 and 13.

When the wear sheet 15 is applied to the pad 10 subsequent to the formation of the pad, the gathers 21 of the wear sheet (see Figs. 4 and 5) are carried downwardly as far as possible into the previously formed pleats 16 of the pad, that

5

is to say, as far as is permitted by the previously formed rows of stitching 14. The gathers 21 of the wear sheet are then stitched to the pad by a separate row of stitching 22 with the stitches thereof extending through the backing and cover sheets and through the gathered portion of the wear sheet. Fig. 4 illustrates this operation of applying the wear sheet to the previously formed pad 10 and shows the wear sheet in the process of being connected to the pad by the stitching 22. After each row of the stitching 22 has been done the wear sheet is drawn down smoothly over the next adjacent rounded portion of the pad. The completed pad will have an appearance very similar to the pad of Fig. 1 and the separate stitching 22 of the cover sheet will be concealed in the pleats.

As mentioned above, the cover sheet 13 of the pad 10 has a relatively increased tensile strength and during installation this enables the pad to be drawn tightly over the structure to which the pad is being applied so that the edges of the pad can be fastened to the structure while in such a taut condition. Because of this increased tensile strength, it is possible to draw the pad into a sufficiently taut condition that the pad will have a smooth and regular surface characteristic and will be held securely in the desired position on the structure. Fig. 7 of the drawings illustrates an upholstered structure 24, such as an automobile seat cushion, in which the pad 10 is being used. The structure 24, which is here shown in an inverted position, has a wood frame or base 25 on which the wire springs 26 are supported. A spring pad 27 extends over the springs and forms a protective covering to which the upholstery pad 10 can be applied. When the pad 10 is applied to the spring pad 27 it is drawn tautly over the latter by means of the wear sheet 15 which is extended beyond the layer of batts and is attached to the frame 25, as by means of the tacks 28.

When the pad 10 has been thus embodied in an upholstered structure as just described above, the feature of the relatively increased tensile strength of the cover sheet 13 has served its main purpose and it is then desirable to destroy this tensile strength and cause or enable the cover sheet to become more or less amalgamated with the batts 12 so as to augment the cushion thickness provided by the latter. This can be accomplished by tearing or stretching the cover sheet 13 between each pair of pleats 16. It is important that the cover sheet be torn at points spaced from the pleats because if it is torn too close to the stitching 14, it will result in the stitching being loosened and in the pleats losing their rounded shape and fullness and becoming irregular.

The tearing of the cover sheet can be accomplished in various ways such as by the upholsterer striking the cushion sections of the finished structure with his hand or with a paddle, or in the manner illustrated in Fig. 7, in which the upholstered structure 24 is placed in inverted position on a flat supporting member 29 and subjected to pressure by a loading or pressure applying device 30. If this tearing has not been previously effected, it will take place during the ordinary use of the upholstered structure. When the device 30 is used the pressure thereof causes the cushion sections of the pad 10 to be compressed or compacted against the support 29 and this results in a tearing or stretching of the cover sheet 13 along longitudinal lines located at

6

points intermediate the pleats 16. The tearing of the cover sheet is indicated in a somewhat exaggerated manner in Fig. 7 by the reference character 31. When the cover sheet 13 has been thus torn or stretched it releases its holding or compressive action on the batts 12 to the extent that the latter are free to yield with compressive and expansive actions thus making the full cushioning effect of the batts available. This likewise results in the wear sheet 15 being fully and smoothly filled out to the stitch lines and in the cushioning thickness of the cover sheet 13 being added to the batts.

The improved upholstery pad 10 can be applied to various other uses and, in Figs. 8 and 9, a modified form of this pad is shown as being used as a lining or upholstery covering 33 for the inside of the automobile door 34. When used for this purpose the pad comprises a layer of contiguous batts 35 disposed between a fabric backing sheet 36 and a cover sheet 37 formed on the glazed cotton wadding mentioned above. A wear sheet or finished cloth covering 38 of the desired characteristics extends over the cover sheet 37 and the backing and cover sheets are connected together between the contiguous batts by rows of stitching which form pleats 39 in the pad similar to the pleats described above. To impart to the pad 33 a desired stiffness and strength, a relatively stiff backing sheet 40 formed of cardboard or other similar fibrous material is attached to the pad. The stiff backing sheet 40 is connected to the fabric backing sheet 36 by being glued thereto, or if desired, this backing sheet can be stitched to the pad. The pad 33 including the stiff backing sheet 40 constitutes a prefabricated upholstery covering or pad which can be readily attached to the structure of the vehicle door 34 to form an attractive upholstered inner lining or covering thereon.

From the foregoing description and the accompanying drawings, it will now be readily understood that the present invention provides an improved upholstery pad having important desirable qualities and characteristics over similar pads heretofore constructed. It will also be seen that the improved pad construction above described in detail enables a pad of this kind to be handled, shipped and installed with greater facility than the previously constructed pads and that the improved pad is better able to retain its shape, is not subject to fraying and the upholstered structure in which it is embodied has greater durability and a more satisfactory appearance.

Although the improved upholstery pads have been illustrated and described herein in considerable detail, it will be understood, of course, that the invention is not to be regarded as correspondingly limited but includes all changes and modifications coming within the spirit of the invention and the scope of the appended claims.

Having thus described our invention, we claim:

1. Upholstery padding comprising, a continuous backing sheet, a row of batts disposed in co-extending contiguous relation to each other on said backing sheet and forming a layer of padding thereon, a continuous cover sheet extending over the batts, a continuous wear sheet extending over the cover sheet, and rows of stitching connecting said sheets between said batts, said cover sheet being a sheet of glazed wadding of a thickness to form a top layer of padding extending over said batts and having its fibers extending mainly in the direction of said rows of stitching and having a tensile strength sufficient to retain said

batts in place and also protect the same from fraying and loosening during handling and installation of the padding but being subject to tearing at points located between and spaced from the rows of stitching after installation of the padding and in response to pressure applied thereto.

2. Upholstery padding comprising, a backing sheet, a layer of batts on said backing sheet and disposed in coextending contiguous relation to each other, a cover sheet extending over the batts, said cover and backing sheets having gathers therein forming pleats at points between and coextensive with said batts, and rows of stitching connecting said sheets between said batts with the stitches of said rows extending transversely of the pleats.

3. Upholstery padding comprising, a backing sheet, a layer of batts on said backing sheet and disposed in coextending contiguous relation to each other, a cover sheet extending over the batts, said cover and backing sheets having gathers therein forming pleats at points between and coextensive with said batts, the gathers of said cover sheet extending downwardly into the gathers of said backing sheet, and rows of stitching connecting said sheets between said batts with the stitches of said rows extending across the pleats and through the gathers of said cover and backing sheets.

4. Upholstery padding comprising, a backing sheet, a layer of batts on said backing sheet and disposed in coextending contiguous relation to each other, a cover sheet extending over the batts, a wear sheet extending over said cover sheet, said backing sheet, cover sheet and wear sheet having gathers therein forming pleats at points between and coextensive with said batts, the gathers of said cover sheet and wear sheet extending downwardly into the gathers of said backing sheet, and rows of stitching connecting said sheets between said batts with the stitches of said rows extending across the pleats and through the gathers of said wear, cover and backing sheets.

5. Upholstery padding comprising, a backing sheet, a layer of batts on said backing sheet and disposed in coextending contiguous relation to each other, a cover sheet extending over the batts, a wear sheet extending over the cover sheet, said

wear sheet, cover sheet and backing sheet having gathers therein forming pleats at points between and coextensive with said batts, and rows of stitching connecting said sheets between said batts with the stitches of said rows extending transversely to the direction of the pleats, said cover sheet being a sheet of glazed wadding having its fibers extending mainly in a given direction and having a tensile strength sufficient to retain said batts in place during handling and installation of the padding but being subject to tearing at points located between and spaced from the rows of stitching after installation of the padding and in response to pressure applied thereto.

6. A tufted upholstery pad comprising, a backing sheet, a plurality of batts in strip form disposed in coextending relation to each other on said backing sheet and forming a layer of padding thereon, the contiguous batts of said layer having their adjacent edges extending in relatively close substantially parallel relation to each other but being separable to afford access therebetween to the backing sheet, a cover sheet extending in continuous relation over said batts and having spaced coextending substantially parallel gathers formed therein and extending down between said adjacent edges of the contiguous batts and into engagement with said backing sheet, and rows of stitching connecting said gathers with said backing sheet between the batts, said cover sheet being a sheet of glazed wadding of a thickness to form a top layer of padding extending over said batts and having a tensile strength sufficient to confine said batts and protect the same from fraying and loosening during handling of the pad.

LE ROY GORDON.
LEO L. WILLIAMS.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
292,187	Tyler	Jan. 22, 1884
1,331,562	Foster	Feb. 24, 1920
1,903,424	Gordon et al.	Apr. 11, 1933
2,144,544	Osborn	Jan. 17, 1939