Dec. 6, 1955 J. FEINERMAN 2,725,927

ARTICLE OF UPHOLSTERY AND METHOD OF MAKING THE SAME

Filed June 18, 1951

FIG. 1.

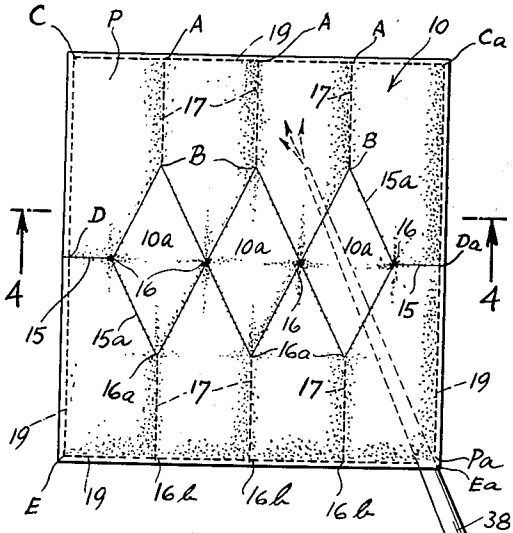


FIG. 2.

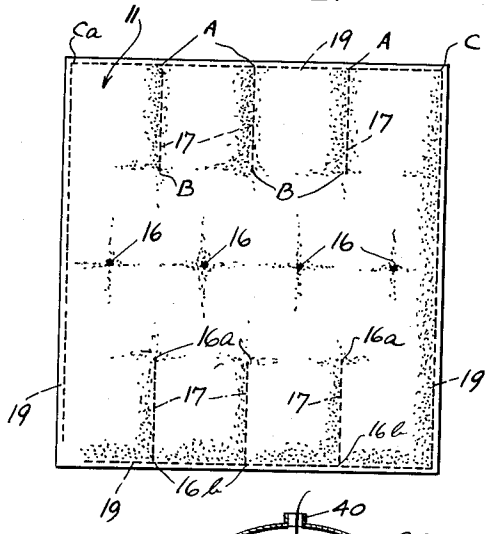
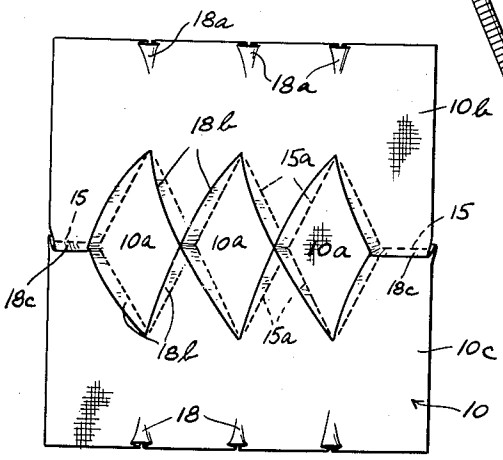
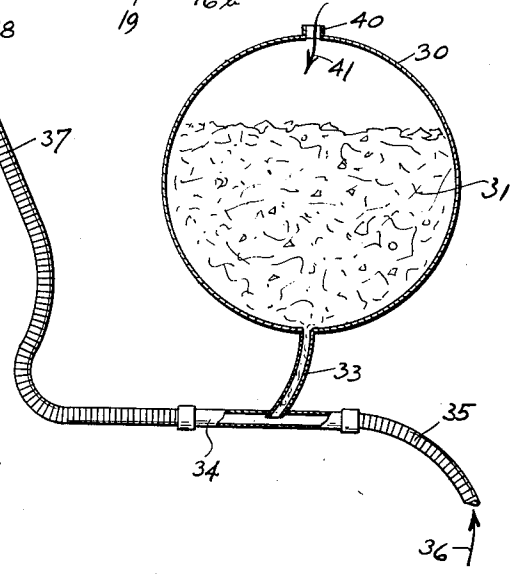


FIG. 3.





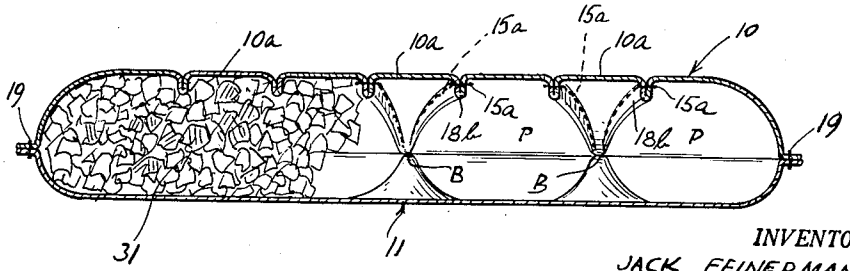


FIG. 4.

INVENTOR.
JACK FEINERMAN
BY Mock & Blum
ATTORNEYS

United States Patent Office 2,725,927 Patented Dec. 6, 1955

2,725,927

ARTICLE OF UPHOLSTERY AND METHOD OF MAKING THE SAME

Jack Feinerman, New York, N. Y.

Application June 18, 1951, Serial No. 232,205

5 Claims. (Cl. 155—184)

My invention relates to a new and improved article of upholstery and a new and improved method of making the same.

My invention relates particularly to an upholstery cushion which comprises a stuffed envelope, in which the front and back panels of the envelope are fixed to each other at their edges, and also at regular intervals, inwardly of the corners or edges of such envelope. The points at which said panels are fixed to each other inwardly of their edges are usually provided with tufts or buttons or other decoration, and such cushions are generally designated in the trade as tufted upholstery. Such cushions are extensively used in the backs of chairs, couches, etc., and for other purposes.

Although this type of upholstery has been known and extensively used for at least four hundred years, it always has been and now is being made by hand, and it has required and now requires slow and highly skilled and expensive labor. The stuffing materials have been fibres of various types, such as animal hair, kapok, etc.

The annexed drawings and description illustrate a cushion of square outline which has sides whose respective lengths are fifteen inches and whose front and rear panels are connected to each other at the edges of said cushion, and at inner tacking points.

By using hand work according to the old method which is still in use, it requires approximately two hours of highly skilled and experienced labor to stuff an old-type cushion of this size. Even then, the work is often imperfect.

According to my invention, the same work can be done in five minutes.

Also, I can utilize waste spongy or cellular latex rubber. It is well-known to make pillows and cushions with the use of resilient vulcanized foamed latex, which has a spongy or cellular structure. In making such articles, there is a large amount of scrap or waste rubber which has such cellular structure. It has heretofore not been possible to utilize such material as stuffing or filling material in upholstery.

Other objects and elements and features and advantages of my invention are stated in the annexed description and drawings which illustrate one embodiment of my invention.

Fig. 1 is a face or front elevation of a cushion which has front and rear panels which are connected to each other at their edges, and also inwardly of their edges at inner points. The cushion may be of any size or shape, and its panels may be connected at any number of inner points. Fig. 1 also illustrates the method of manufacture. This cushion has various improvements of construction over the old-type cushion and it does not illustrate the old-style cushion.

Fig. 2 is a rear elevation of Fig. 1;

Fig. 3 is a front elevation of the improved front panel of the envelope of the cushion, showing how this front panel is shaped and finished, before said improved front

panel is assembled with the rear panel of the envelope to make the improved empty envelope; and

Fig. 4 is a section on the line 4—4 of Fig. 1.

The invention is not limited to any material or materials for the envelope or its stuffing. As one example, the front panel **10** of the envelope is made of muslin, and the rear panel **11** of the envelope is made of burlap, which is much thicker than said muslin. The thin front muslin panel **10** is pervious to air. The thick rear burlap panel **11** may be pervious or impervious to air. In any event, the rear panel **11** is optionally and preferably less pervious to air than the front panel **10**. In this example, the stuffing or filling material is cured or vulcanized scrap rubber which is resilient and which has the spongy or cellular structure of foamed latex rubber which has been vulcanized or cured.

Old method

In making the cushion by the old method, which is still in use, the front and rear panels **10** and **11** are tacked to each other at the corners C and C*a*, also at the three intermediate top edge-points A, also at the three laterally alined inner points B, and also at the laterally alined median points D and D*a*. The front and rear panels **10** and **11** are thus connected to each other only at said separated points C, C*a*, A, B, D and D*a*, either by tacking stitches or other permanent or detachable fastening means. The panels **10** and **11** are unconnected to each other, save at said points C, C*a*, A, B, D and D*a*. The front panel **10** is of larger area than the rear panel **11**, in order to provide space for the stuffing. In the finished cushion, the rear burlap panel **11** remains substantially flat and the front muslin panel **10** is bulged outwardly, in order to provide space for the filling.

The tacking operations result in four top pockets P, which are defined only by these separated tacks. These four top pockets are stuffed by hand. The operator must carefully estimate the amount of stuffing and use the proper stuffing pressure and distribute the stuffing evenly, in order to avoid lumps and ridges.

The panels **10** and **11** are then tacked to each other at the four points **16** and the stuffing is continued.

The panels **10** and **11** are then tacked to each other at the three points **16***a*, and also at the corners E and E*a* and at the three points **16***b*, and the stuffing is continued by hand. The last operation is to form the edge-stitches **19**.

New method

The pattern blank of the front muslin panel **10** is of a greater area than the blank of the rear burlap panel **11**.

The blank of the front muslin panel **10** is shaped and finished to provide three diamond-shaped sub-areas **10***a*, which have interior flaps or pleats **18***b*, and also to provide lateral pleats or flaps **18***c*, before said front panel **10** is stitched or otherwise connected to rear panel **11**.

For this purpose, tapered pleats are formed in the pattern blank of muslin panel **10**, in order to provide inner inclined lap pleats or flaps **18***b*, which are stitched to the body of panel **10** along the stitch lines **15***a*. The diamond-shaped sub-areas or subpanels **10***a* of the panel **10** are located laterally between the interior lap pleats or flaps **18***c*. Laterally alined stitches **15** are formed, in order to sew interior pleats **18***c* to the body of panel **10**.

The pattern blank or piece for muslin panel **10** is provided with accurate markings, so that the operator can easily and accurately form the pleats or flaps **18***b* and **18***c*. These flaps **18***b* and **18***c* may be formed and sewed to the body of panel **10** in any sequence. Ordinarily, the inclined flaps **18***b* are formed and sewed to the body of panel **10** before forming lateral flaps **18***c* and sewing them to the body of panel **10**, but this sequence may be reversed or otherwise changed.

The pre-shaped panel **10** which is shown in Fig. 3 is then applied to the flat planar rear burlap panel **11**, which is flat in the final cushion, save where the rows of stitches **17** and the tacking stitches **16** are provided. The area of pre-shaped panel **10** exceeds the area of panel **11**, and is less than the area of the blank of panel **10**.

The operator may start to sew panels **10** and **11** to each other at the upper left corner C. In such case, the top edge stitches **19** are first made to connect panels **10** and **11** between upper left corner C, and the next-adjacent left point A. The left vertical edge stitches **19** may next be formed along the entire left vertical edge of the envelope, in order to connect panels **10** and **11** at said edge. The first or left vertical or longitudinal stitches **17** are then formed between the left points A and B, in order to connect panels **10** and **11**.

The left longitudinal box pleat **18***a* is then formed in panel **10** at the left stitches **17**. This box pleat **18***a* and the other box pleats **18***a* are short. Their length is illustrated in Fig. 3. They are not stitched to either panel **10** or **11**, save by stitches **19**.

The top stitches **19** are then formed between left top point C and the intermediate top point A, and the intermediate line of stitches **17** is formed between the intermediate points A and B. The intermediate top box pleat **18***a* is then formed in top panel **10**, and top stitches **19** are then formed between intermediate point A and the right point A. The right row of longitudinal stitches **17** is then formed. The right box pleat **18***a* is then formed, and the top edge stitches **19** are then finished between right point A and right corner C*a*. The stitches **17** do not pass through the top layers of box pleats **18***a*.

The bottom stitches **19** and **17** and the bottom box pleats **18***a* are formed as above mentioned, and the stitches **19** are then formed along the right vertical edge of the envelope between corners C*a* and E*a*, save that a space P*a* is left in bottom stitches **19** at right corner E*a*, in order to permit the insertion of nozzle **38**.

The end point D of left stitches **15** is midway between left corners C and E, and the other end point D*a* is laterally alined with point D, to be midway between right corners C*a* and E*a*.

Tacking stitches are formed at the four points **16**, after the top stitches **17** have been made.

All this work can be done easily and accurately on the empty envelope with a sewing machine, with the use of suitable guide pattern markings.

The three bottom vertical lines of stitches **17** have respective inner end points **16***a* and bottom end points **16***b*.

The panels **10** and **11** of the finished empty envelope are connected to each other only at edge-stitches **19**, at the six longitudinal lines of stitches **17**, and by the four tacking stitches **16**.

Said panels **10** and **11** are not connected to each other between point D and left tacking stitch **16**, or between point D*a* and right tacking stitch **16**, or by means of stitches **15***a*. The four tacking stitches **16** are laterally alined with points D and D*a*.

Eight finished and empty end top and bottom pockets P are thus formed in longitudinally alined pairs, and these pockets P are defined by longitudinal and lateral edge-stitches **19** and inner stitches **17**.

The median portion of the empty envelope, which comprises the parts **10***a* of sub-panels **10***b* and **10***c* which are directly above and below the median points D and D*a*, has connections between panels **10** and **11**, only at the four tacking points **16**.

This method of manufacture can be used to make an empty envelope of square or rectangular or circular outline, or of any other outline, and with any number of pockets.

If desired, box pleats **18***a* can be formed at the corners C, C*a*, E and E*a*.

The filling or stuffing material **31**, which may be animal or vegetable fibre or stuffing material of any kind which can be blown into position in suitable lengths or in pieces of suitable size, is located in a rigid container **30**, which is made of metal or other material, and which has an air inlet **40** and an outlet tube **33**.

Said outlet tube **33** is connected to a blower or aspirating tube **34**, whose front end is connected by flexible hose **37** to nozzle **38**, and whose rear end is connected by hose **35** to a blower or tank of compressed air, so as to force a current of air at selected velocity, in the direction of arrow **36**, through the tube **34**, thus aspirating the filling material **31** out of receptacle **30**, into which air flows in the direction of arrow **41**.

The above conventionally illustrates an injector of a well-known type. Various other well-known details may be added to such injectors for forcing material **31** into pipe **34**, regulating the feed of material **31** into pipe **34**, etc.

Fig. 1 shows the tip of nozzle **38** in the third top pocket P from the left vertical edge. The operator may begin by filling the left top pocket P and successively fill the other top pockets P from left to right. The envelope may thus be half-filled up to the lateral line D—D*a*.

While keeping the nozzle **38** extending through opening P*a*, the half-filled flexible envelope can be turned 180° relative to the tip of nozzle **38**, and the second half of the envelope is filled in the same way. During the filling, the air escapes freely through the interstices of the flexible muslin.

The nozzle **38** is then withdrawn from the envelope and the small opening P*a* is closed by finishing the stitches **19**.

The stuffing is thus tightly and uniformly distributed in the finished cushion and it remains thus distributed to provide a resilient and flexible cushion. The resilient rubber filling is not compressed in the finished cushion.

The pre-formed empty envelope which I use, thus has panels **10** and **11** which are stitched to each other substantially continuously at their edges by edge stitches **19**. The panels **10** and **11** of said pre-formed empty envelope are also connected by additional inner stitches **17** which are located inwardly of said edges of the panels. The inner ends of said inner stitches **17** are spaced from each other by an intermediate zone in which the sub-panels **10***a* are located, and in which the panels **10** and **11** are connected to each other only by spaced tacking stitches **16**. The front panel **10** is pre-shaped in said intermediate zone, by providing pleats **18***b* which are stitched to said front panel **10**, said pleats **18***b* being inclined to said inner stitches **17**, each pleat **18***b* extending from an inner end B or **16***a* of a respective line of inner stitches **17** to a respective tacking stitch **16**.

I also pre-shape said front panel **10** by means of additional pleats **18***c* which extend from respective tacks **16** to the edge-stitches **19**.

Whenever I specify a stitch or stitches, I can use other fastening means.

The finished cushion is covered with fabric in the usual manner. For convenience, the direction of stitches **17** is designated as the longitudinal direction. The tufts or buttons are provided at the tacking points **16** and the inner ends of the rows of stitches **17**.

The claims for the finished article are not limited to any method of manufacture.

The above is an example of a complete and preferred embodiment of my invention, but numerous changes and omissions and additions and substitutions can be made without departing from the scope of my invention. The invention also includes the sub-combinations and elements disclosed herein.

I claim:

1. A method of making a stuffed upholstery envelope which has a pre-shaped front panel and a rear panel; which consists in pre-shaping said front panel by forming therein a series of internal stitched pleats which are spaced from the edges of said front panel, said internal

stitched pleats being formed at the edges of a succession of diamond-shaped sub-areas of said front panel, said sub-areas having abutting corners on the same straight line and having two outer and non-abutting corners on said straight line and having intermediate offset corners which are offset in respective opposed directions relative to said straight line, said offset corners being arranged in offset pairs relative to said straight line; also forming additional internal stitched pleats in the direction of said straight line from each said outer corner to the respective edge of said front panel; substantially limiting the pleat formation in said front panel to the above-mentioned pleats to leave said front panel substantially unpleated save at the abovementioned pleats; stitching the edges of said pre-shaped front panel to the edges of said rear panel by edge-stitches along the edges of said panels save at a filling opening, to connect the edges of said panels to each other by said edge-stitches independently of the connection of said panels to an article of furniture; also stitching said panels to each other by pocket-forming stitches along pocket-forming lines which are perpendicular to said straight line and which extend from respective offset corners to the respective adjacent edges of said panels; also stitching said panels to each other at said abutting corners and outer corners by tack stitches which are limited to said abutting and outer corners, thus forming pockets between said panels which communicate with said filling opening; each said pocket being formed only by edge-stitches and two lines of pocket-forming stitches and said tack stitches; and blowing filling material into the entire space between said panels through said filling opening.

2. A method of making a stuffed upholstery panel which has a rectangular pre-shaped front panel and a rectangular rear panel; said panels having lateral edges and transverse edges which consists in pre-shaped said front panel by forming therein a series of internal lap pleats which are stitched to said front panel, said internal pleats being formed at the edges of diamond-shaped sub-areas of said front panel, said sub-areas having abutting corners on the same straight lateral line and having two outer and non-abutting corners on said straight lateral line and having intermediate offset corners which are offset transversely in respective opposed directions relative to said straight lateral line, said offset corners being arranged in transverse offset pairs relative to said straight line; also forming additional lateral internal lap pleats which are stitched to said front panel, in the direction of said straight lateral line from each said outer corner to the respective lateral edges of said front panel; keeping the rest of said front panel substantially unpleated and smooth; sewing the edges of said panels to each other by edge-stitches save at a filling opening to connect said edges independently of the connection of said panels to an article of furniture; also stitching said panels to each other by pocket-forming stitches along transverse pocket-forming lines; each pocket-forming line extending from a respective offset corner to the respective adjacent lateral edges of said panels and of said envelope, also forming internal transverse pleats in said front panel at the said pocket-forming lines at said

edges while sewing said edges to each other and sewing said transverse pleats to said edges by said edge-stitches, said transverse pleats being spaced from the respective offset corners; also tacking said panels to each other at said abutting corners and outer corners by tacking stitches which are limited to said abutting and outer corners; thus forming pockets between said panels which communicate with said filling opening; each said pocket being formed only by said edge-stitches and two lines of pocket-forming stitches and said tack stitches; and blowing filling material into the entire space between said panels through said filling opening.

3. A stuffed upholstery envelope, said envelope having a front panel and a rear panel, the edges of said panels being connected to each other by edge-stitches, the front panel having a series of internal sewed pleats, said pleats being arranged at the edges of a plurality of diamond-shaped sub-areas of said front panel, said sub areas having abutting corners which are on a common straight line and also having two outer corners on said straight line and also having pairs of offset corners which are offset in respective opposed directions from said straight line, said panels being fixed to each other at said abutting corners, and said outer corners, by tack stitches which are confined to said corners, said panels being also stitched to each other to form pockets by pocket-forming stitches along respective pocket-forming lines, each pocket-forming line extending from a respective outer corner to respective adjacent abutting edges of said envelope, the interior space of said envelope being substantially unobstructed save for said tacking stitches and said pocket-forming stitches, each pocket being in free communication with the part of the interior space of said envelope in which said front panel has said diamond-shaped sub-areas, said interior space having a continuous filling, said front panel being unpleated between said offset corners and the edge of the envelope.

4. An envelope according to claim 3, in which said front panel has two additional pleats on said straight line, each additional pleat extending from a respective outer corner to the respective edge of said envelope, said front panel being substantially unpleated save at the above-mentioned pleats, the rear panel being unpleated, the wall of the envelope consisting solely of said front panel and said rear panel.

5. An envelope according to claim 4 in which said front panel has an internal end-pleat at the junction of each said pocket-forming line and the edge of the envelope, said end-pleats being held in pleat-form by the edge-stitches, said end-pleats being spaced from said offset corners.

References Cited in the file of this patent

UNITED STATES PATENTS

841,538	Kelly	Jan. 15, 1907
1,282,687	Graves	Oct. 22, 1918
1,671,840	Puglisi	May 29, 1928
2,064,213	McJoynt	Dec. 15, 1936
2,256,939	Copeland	Sept. 23, 1941
2,524,640	Strickler	Oct. 3, 1950