Feb. 26, 1935. W. C. BURGESS 1,992,603

UPHOLSTERY PAD

Filed Sept. 18, 1931 2 Sheets-Sheet 1

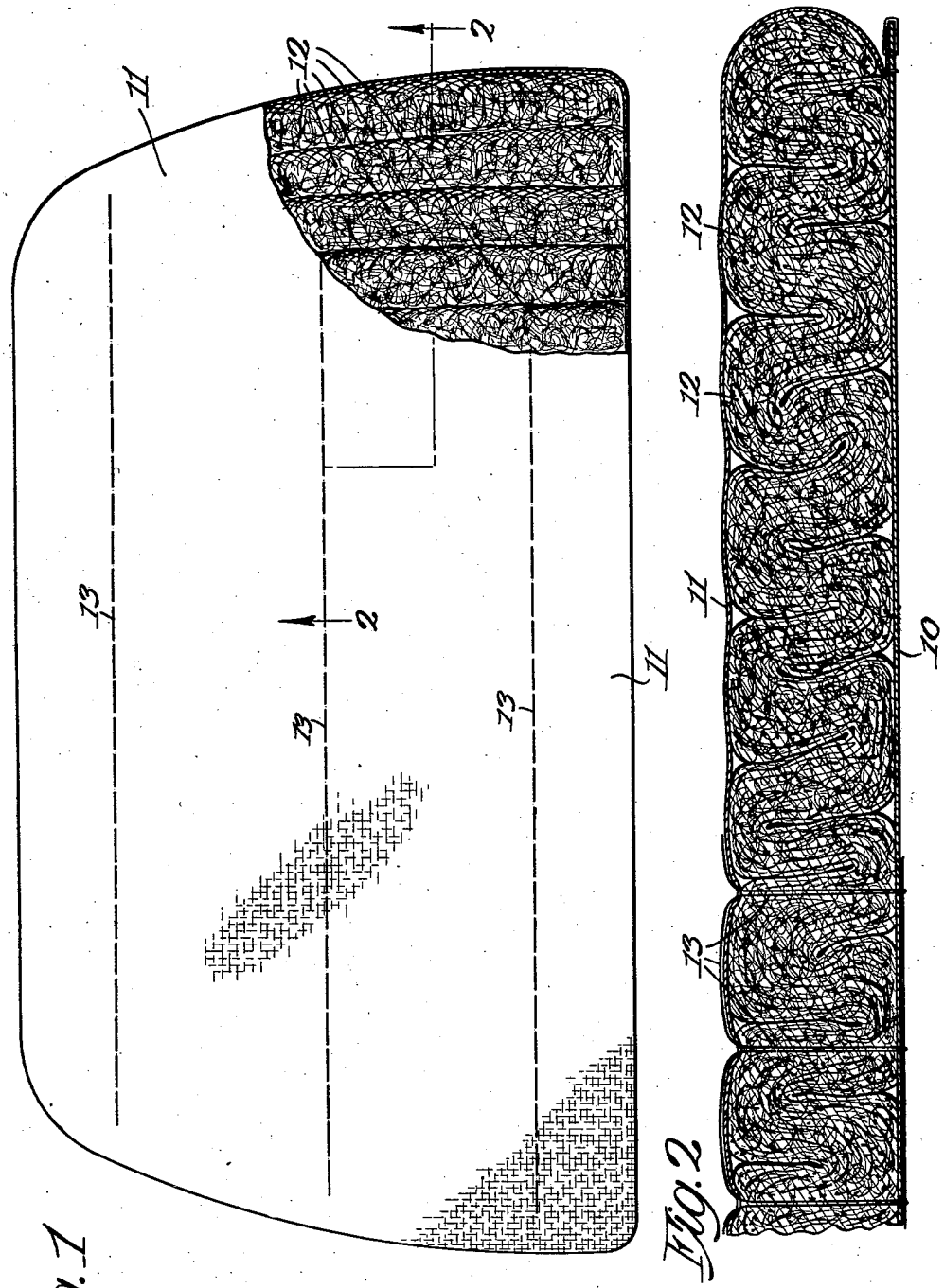


Fig. 1

Fig. 2

Inventor:
Warren C. Burgess,
By Fisher, Clapp, Soans & Pond, Attys.

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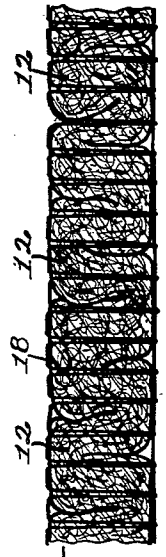


Fig. 5

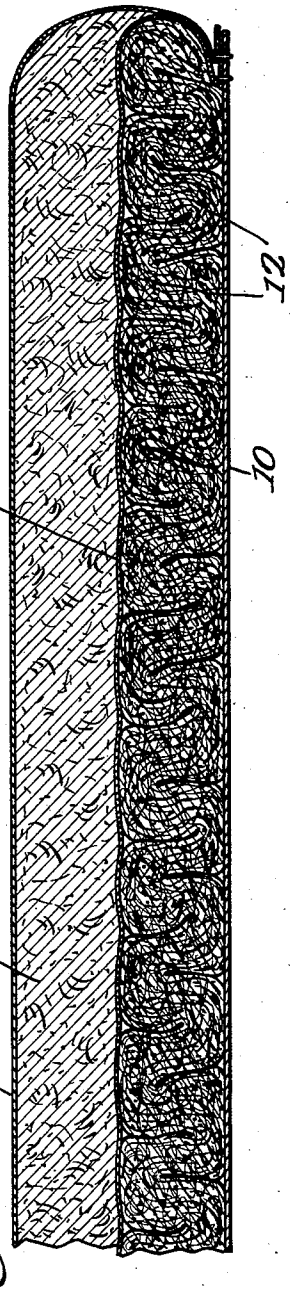


Fig. 4

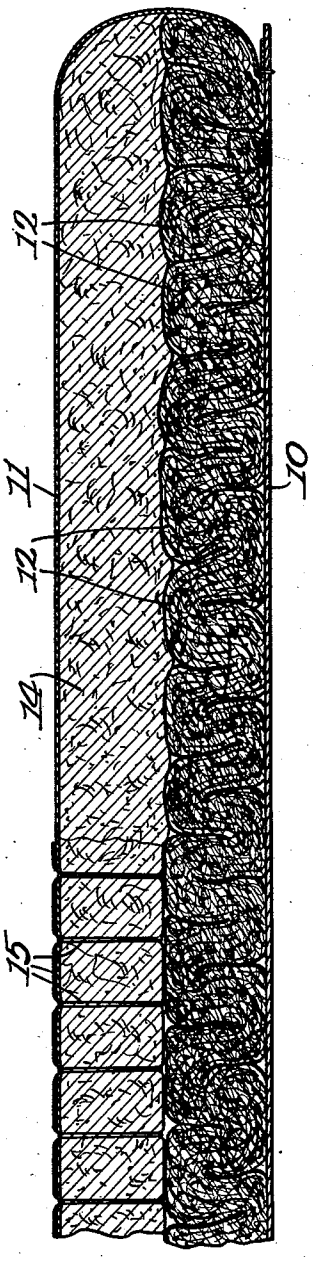


Fig. 3

Inventor:
Warren C. Burgess,
By Fisher, Clapp, Soans & Pond, Attys.

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UNITED STATES PATENT OFFICE

1,992,603

UPHOLSTERY PAD

Warren C. Burgess, La Grange, Ill., assignor, by mesne assignments, to Burton-Dixie Corporation, a corporation of Delaware

Application September 18, 1931, Serial No. 563,499

3 Claims. (Cl. 154—54)

The present invention relates to foundation upholstery pads such as are used in automobile and other upholstery and in spring mattresses to directly overlie an assembly of helical springs. Usually such pads are made of cotton, jute, or like short fibre stock, but such padding lacks resiliency and is not very durable so that the springs tend to punch up through it and the padding itself tends to work into the spaces in the spring structure. Hence, it does not properly hide the feel of the individual springs as it is intended to do.

It has also been proposed to make such pads of long, wavy, sisal fibre by dry carding the fibre into thin veils and superposing a large number of the carded veils or thin layers to build up a pad of the desired thickness. While such padding is strong and durable and fairly resilient, the fibres are for the most part disposed in the plane of the pad and render it somewhat stiff and lacking in flexibility so that it impedes the action of the springs over which it is laid.

In accordance with the present invention, the strength and resiliency of long sisal fibre is utilized, but instead of carding it into thin veils or layers, which tends to break the fibre, a mass or relatively thick sheet of loose, intertwined and indiscriminately disposed sisal fibre is formed into folds or plaits that are closely packed or compressed together with the plaits or folds disposed generally in vertical direction or substantially crosswise of the plane of the pad and also preferably extending transversely or from side to side of the pad. In the preferred form of the finished pad, the closely packed folds or plaits are disposed within a slip or casing comprising a stout fabric backing of burlap or the like and a top covering of thin fabric sheeting such as muslin or the like. Preferably also, the pad is provided with tacking or tufting stitches.

In the drawings:—

Fig. 1 is a top plan view of the improved pad with a portion of the top covering or sheeting removed.

Fig. 2 is an enlarged, substantially full-sized section on the offset line 2—2 of Fig. 1.

Figs. 3, 4 and 5 are views similar to Fig. 2 but illustrating modifications.

In the preferred form shown, the casing or slip for the pad comprises a backing 10 of stout fabric, such as burlap, and a top covering 11 of thin fabric sheeting of muslin or the like, which, in the finished pad is stitched at its side and end edges to the backing 10, but to receive the upholstery stuffing or padding, the slip or casing is left open at one end.

The material employed for the stuffing or padding consists of a loose, intertwined mass of sisal fibre which is tough and resilient and which is preferably shredded so that the fibres are about four to nine inches long or have an average length of about six or seven inches. This stuffing or padding is packed into the slip or casing by a suitable machine having a flat tube-like metal form over which the empty slip is drawn, and a reciprocating toothed feeder which advances the stuffing, step by step, and forces it through the contracted outlet end of the form and into and against the closed rear end of the slip, thereby gradually pushing the latter off the form, stationary toothed bars being provided inside the form to prevent backward movement of the stuffing between successive forward strokes of the feeder. Where, as in the present case, the stock consists of an intertwined mass of indiscriminately disposed, long sisal fibres, the single, relatively thick layer or sheet of stock under the action of the reciprocating feeder or plunger is formed into folds or plaits 12 which are packed and compressed closely together and are disposed substantially vertically or crosswise of the plane of the pad between the backing 10 and the sheeting 11. Preferably also, as shown, the plaits extend transversely between the opposite side edges of the pad.

The long intertwined fibres extend between adjacent folds which are in direct contact so that the folds are not readily separated when pressure is applied locally to the pad. Furthermore, because of the resiliency of the sisal fibres, the folds or plaits act like springs and react when compressed, so that the pad does not wear thin and lumpy in use, but instead remains substantially uniform in thickness. Also, the improved pad is stout and durable and resists the tendency of the individual springs to work into the material of the pad and so effectively hides the feel of the individual springs. At the same time, because of its folded or plaited formation, the pad is quite flexible and yielding as a whole, so that it does not impede the action of the springs upon which the comfort of the finished seat or cushion is chiefly dependent.

After the slip or casing has been stuffed as described and its open end sewed up, it is provided with lines of stitching or tacking 13 which, as shown, extend crosswise of the folds to hold them in closely packed formation and prevent buckling of the pad.

Usually in the finished upholstery the foundation pad is overlaid with a pad stuffed with softer material, such as cotton felt or down. In the form shown in Fig. 3, the foundation and surfacing material are combined in a single pad, the slip or casing comprising the backing 10, and the covering 11 being of sufficient size to receive both the folded or plaited sisal fibre and a superposed thick pad or bat 14 of cotton felt. In the machine manufacture of this form the cotton bat is first placed within the slip or casing and is preferably sewed or tacked to the cover or sheeting 11 by lines of stitching 15. Then the sisal fibre is packed into the slip between the backing 10 and the cotton bat 14 in the manner described in connection with the form shown in Figs. 1 and 2. If desired, the folds 12 may be tacked to the backing 10.

In the form shown in Fig. 4, a foundation pad such as shown in Figs. 1 and 2 is overlaid with a cotton bat 16 having a covering 17 of fabric or other suitable material sewed at its edges to the pad. The sisal fibre is quite stiff and short portions of it will project through the meshes of the sheeting and hold the cotton against displacement so that it is not necessary to provide it with tacking stitches.

A foundation pad well adapted for satisfactory service in the cheaper grades of spring-filled mattresses and cushions to hide the feel of the individual springs may follow the structure illustrated in Figs. 1 and 2, but omitting the cover sheet 11 or both the cover sheet and the backing 10. A pad of this character is illustrated in Fig. 5, wherein the entire slip is dispensed with and the folds or plaits 12 are bonded together by cross seams 18. In this case, to maintain the shape and integrity of the finished pad, a relatively larger number of cross seams set closer together and closer stitches in each seam than indicated in Figs. 1 and 2 will be employed.

The improved padding has been found by repeated comparative tests to be a distinct advance over those now in use in that it is tough and durable, so as to retain its formation in use and resist the tendency of the springs to work up into it, and it is also resilient and flexible so that it aids and does not impede the action of the springs.

While sisal is employed for the foundation padding in the preferred embodiment of the invention, other resilient long fibre stock, such as southern moss may be substituted or used in part. Other changes may be made in the details set forth without departure from the scope of the appended claims.

I claim as my invention:—

1. An upholstery pad comprising an intertwined mass of resilient, uncarded and indiscriminately disposed, long-fibered stock formed into a single, relatively thick, folded or plaited layer, having its folds or plaits vertically disposed, extending generally crosswise of the pad and compressed together in the direction of the plane of the pad with adjacent folds or plaits in direct contact, and lines of stitching extending crosswise of the folds to retain the compact folded formation of the fiber stock, substantially as described.

2. An upholstery pad having a single, relatively thick layer of uncarded, intertwined and indiscriminately disposed, long sisal fiber folded back and forth upon itself with the folds vertically disposed, extending generally crosswise of the pad and compressed together lengthwise of the pad with adjacent folds in direct contact, and lines of stitching extending crosswise of the folds and serving to retain the compact, folded formation of the layer of sisal fiber, substantially as described.

3. An upholstery pad having a fabric backing and a single, relatively thick layer of uncarded and indiscriminately disposed, long sisal fiber folded back and forth upon itself with the folds or plaits vertically disposed, extending generally crosswise of the pad and compressed together in the direction of the plane of the pad with adjacent folds in direct contact, and rows of stitching extending crosswise of the folds and through the latter and the fabric backing, substantially as described.

WARREN C. BURGESS.