

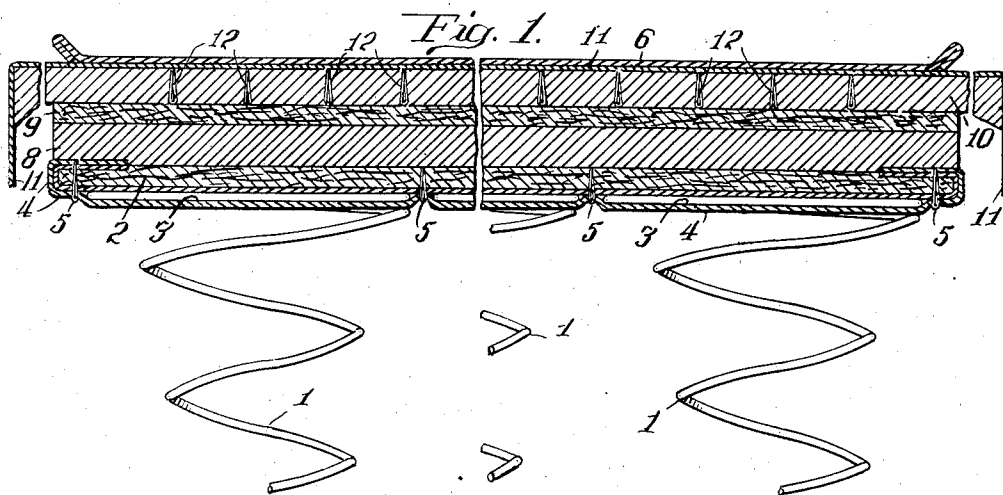
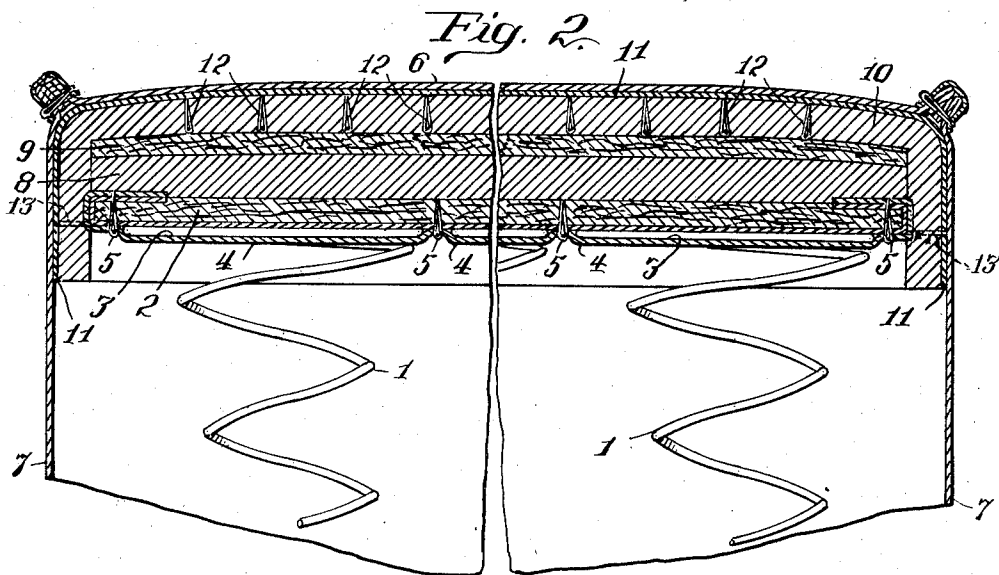
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MATTRESS

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MATTRESS

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The present invention relates to improvements in mattresses of the type known as "tuftless" mattresses and "inner tufted" structures of this type, and has for its main object to overcome certain objections to the aforesaid types of mattresses resulting from gradual compaction of the fibre batts overlying the spring assemblies of spring-filled mattresses and other types of said structures devoid of spring cores.

The said tuftless mattresses have attained great popularity because they present smooth surfaces when new, and are devoid of the hollows and exposed tufting buttons or other tufts which interfere greatly with proper cleansing of the outer surfaces by brushing, etc. By reason of the gradual compaction of the fibre batts, as aforesaid, the cover fabrics, which are originally maintained taut by the superficial portions of the fibre batts, are gradually relieved of the resulting tension to such an extent that the said cover fabrics wrinkle and present the equivalent of pleats which not only detract from the appearance of the mattress, but are very objectionable from the standpoint of discomfort and annoyance to occupants of beds equipped with such tuftless structures.

The foregoing objections are more pronounced, generally, in the inner-tufted mattresses than in the type wholly devoid of tufts, because of hollows in the superficial parts of the padding of the structures, although the inner-tufted (sometimes referred to as "invisible" tufts) mattresses are less liable to deformity than those wholly devoid of the tuft because the liability to separation of the outer padding layers is greatly decreased.

A further object of the present invention is, therefore, to employ superficial batts so constructed as to overcome the liability to parting of the component fibres thereof without resort to the use of inner tufts or other means tending to produce superficial hollows in the outer batt portions and to so associate said batts with the top and bottom cover fabrics of the mattress as to maintain the latter permanently smooth and devoid of wrinkles or other distortions and prevent movement of said outer batts relative to said cover fabrics. The stitched muslin and felt batts lessen the tendency of body impressions in new mattresses.

Other objects and advantages of the present invention are either specifically set forth in or will be readily understood from the following specification.

A suitable embodiment of the invention is illustrated in the accompanying drawing, wherein:

Fig. 1 is a fragmentary sectional view illustrating the top portion of a mattress embodying the invention in process of construction.

Fig. 2 is a view similar to Fig. 1 showing the finished mattress.

In constructing the mattress of this invention, it is preferred to employ a conventional type of spring assembly 1, having fibre batts 2 disposed over its top and bottom faces and firmly secured to the same.

In the instance illustrated the spring assembly 1 is of the type illustrated and described in U. S. Patent to Suekoff No. 1,053,675, the terminal coils of the springs being disposed in square flat pockets 3 formed between two sheets 4 of fabric secured together by means of stitch chains 5 extending transversely of each other, but any other suitable type of spring assembly may be used in place thereof.

It has been demonstrated that the thicker the entire padding disposed between the faces of the spring assembly 1 and the top and bottom fabric walls 6 of the mattress casing 7, the less will be the ultimate degree of compaction of such padding due to loads thereon particularly if said padding is of a superior quality which retains its resiliency for a long period of time.

Preferably, the padding layers 2 consist of sisal fibre batts of conventional type which, due to the coarseness of the fibres, present relatively rough surfaces.

Also, preferably, batts 8 of relatively long fibre cotton are disposed over the batts 2 and between the latter and sisal fibre batts 9, the batts 8 being held frictionally by the batts 2 and 9 against all lateral displacement due to the rough surfaces of the latter and the tendency of loose ends of the sisal fibres becoming inturned with cotton fibres.

Between the batts 9 and the top and bottom fabric walls 6 of the casing there are interposed batts 10 of soft long fibre material, such as cotton. Each batt 10 includes a cover sheet 11 of a thin, light fabric, such as cheese cloth or muslin, which is secured in place by means of stitch chains 12 which extend entirely through said batts 10, but so loosely as not to form biscuit formations on the batt surfaces. The stitch-chains 12 are sufficiently closely spaced and of such number as will serve to prevent the breaking up of the batt 10 as by parting thereof along lines that commonly extend longitudinally of the

batt and result from occupants of the mattress rolling from side to side of the latter.

The batts 10 are of appreciably greater width and length than the casing 7 and have their marginal edge portions turned inwardly into embracing relation to the batts 8 and 9 and may extend, as shown, to project beyond the batts 2, if desired, and are compressed against the peripheries of the batts embraced thereby, by the peripheral wall or boxing strip of the casing 7. Stitch chains 13 may be employed to secure the depending marginal edge portions of the batt 10 to the cover fabric of the spring assembly as shown in Fig. 2.

The top and bottom walls 6 of the casing 7 are cemented throughout their area to the fabric cover sheet 11 of the batt 10, by means of an adhesive substance that will remain permanently flexible and which will permeate the said sheet 11 and the superficially disposed fibres of the batt 10 adjacent said cover sheet. This cementing operation is performed before the batt 10 is disposed over the batt 9 in the manner shown in Fig. 1 and after being so placed the marginal edge portions of the batt 10 are turned to substantially the position shown in Fig. 2, and thereupon, the boxing strip of the casing is secured to the peripheral edges of the fabric walls 6 in the modern conventional manner to complete the mattress.

Obviously, the rough outer surfaces of the batts 9 cooperate with the walls 6 of the casing to hold the batts 10 in place, this being further accomplished by the cooperation of the marginal edge portions of the batts 10 with the peripheral edges of the batts 9 or the latter and the batts 8 and 2.

Obviously, the batts 8 and 9 may be omitted and thicker batts 2 and 10 used, if desired, and especially so if the height of the spring assembly 1 is greater than that partly shown in the drawing.

The adhesive may be first applied to the cover fabric sheet 11, over the whole surface of same, to constitute a primary coating which will permeate the adjacent portion of the batt 10 and said coating may be allowed to dry before the cover sheet 11 is cemented to the wall 6 of the casing, a coating of said adhesive being then applied to the latter and the same disposed over the sheet 11 or vice versa.

Obviously, the superficial fibres of the batt 10 opposed to the sheet 11 serve to cooperate with said sheet to constitute the substantial equivalent of a layer of quilting interposed between the body of the batt 10 and the wall 6 which is held against movement relative to the latter and prevents any wrinkling of the latter even though the entire mass of padding becomes compacted in whole or in part. Due to the permanent flexibility of the adhesive, the load supporting surfaces of the mattress shape themselves readily to the occupant without the slightest discomfort.

Obviously, the adhesive serves also to secure the stitch chains to the wall 6 and this serves to some extent, at least, to prevent any breaking apart of the batt 10.

I claim as my invention:

1. In a mattress, a batt of fibrous material equipped with a cover fabric disposed over one face of said batt, series of relatively closely spaced stitch-chains securing said cover fabric to said batt and extending through the latter for preventing separation of the body portion of said batt, an outer cover fabric of said mattress being cemented to the cover fabric of said batt through-

out the area of the cover fabric of said mattress by means of a permanently elastic adhesive substance.

2. In a mattress, an outer batt of fibrous material underlying a cover fabric of a face portion of the mattress and including a cover fabric overlying a face of said batt and secured to the latter by a plurality of stitch-chains extending through the batt in relatively closely spaced relation to each other and traversing the same from edge to edge, said respective cover fabrics being cemented to each other over the entire area of said cover fabric of said mattress by means of a permanently flexible adhesive substance engaged with the portions of said stitch-chains directly opposed to the cover fabric of the mattress.

3. In a mattress, a batt of fibrous material of greater length and width than the said mattress disposed in surface contact with a fabric wall of said mattress over the entire area of said wall, series of relatively closely associated stitch-chains extending through said batt throughout substantially its entire area, said batt and wall of said mattress cemented by means of a permanently flexible adhesive substance engaging the stitch chain portions immediately opposed to said wall, a filler for the body of the mattress underlying the other face of said batt, the marginal edge portions of the latter disposed about the peripheral edge of said filler.

4. In a mattress, a batt of fibrous material of greater length and width than the said mattress disposed in surface contact with a fabric wall of said mattress over the entire area of said wall, series of relatively closely associated stitch-chains extending through said batt throughout substantially its entire area, a cover fabric overlying the face of said batt opposed to said wall and secured to said batt by means of stitch-chains, said wall of said mattress and said cover fabric of said batt cemented together by means of a permanently flexible adhesive substance engaging the stitch chain portions immediately opposed to said wall, a filler for the body of the mattress underlying the other face of said batt, the marginal edge portions of the latter disposed about the peripheral edge of said filler.

5. In a mattress equipped with a spring assembly and batts of relatively coarse fibre batts overlying the faces of said assembly, batts of relatively fine fibred material, such as cotton, disposed over said first-named batts, said last-named batts equipped with series of relatively closely associated stitch-chains extending through said batt throughout substantially its entire area and disposed between said first-named batts and the top and bottom fabric walls of the mattress casing and cemented to the latter over the entire areas thereof by means of a substantially permanently elastic adhesive substance engaging said stitch-chains.

6. In a mattress equipped with a spring assembly and batts of relatively coarse fibre overlying the faces of said assembly, batts of relatively fine fibred material, such as cotton, disposed over said first-named batts and having marginal edge portions embracing the periphery of each of said first-named batts, cover fabrics extending over the entire outer faces of each of said second-named batts and secured to the latter by series of relatively closely associated stitch-chains extending through each of said second-named batts throughout substantially the entire area thereof, said second-named batts having their fabric coverings opposed directly to the top and bottom

walls of the mattress casing and secured thereto over the entire area of said top and bottom walls by means of a substantially permanently flexible adhesive substance.

5 7. A mattress comprising a resilient core portion, a conventional casing, preformed unitary self-restoring resilient pads interposed between the top and bottom walls of the casing and the said pore portion, and a film of a permanently
10 flexible adhesive material connecting the said top and bottom walls of the casing with the opposed surfaces of said pads.

8. A mattress comprising a resilient core portion, a conventional casing, preformed unitary self-restoring resilient pads interposed between the top and bottom walls of the casing and the said pore portion, and a film of a permanently
5 flexible adhesive material connecting the said top and bottom walls of the casing with the opposed surfaces of said pads, the latter including marginal portions partly enveloping said core portion.
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