

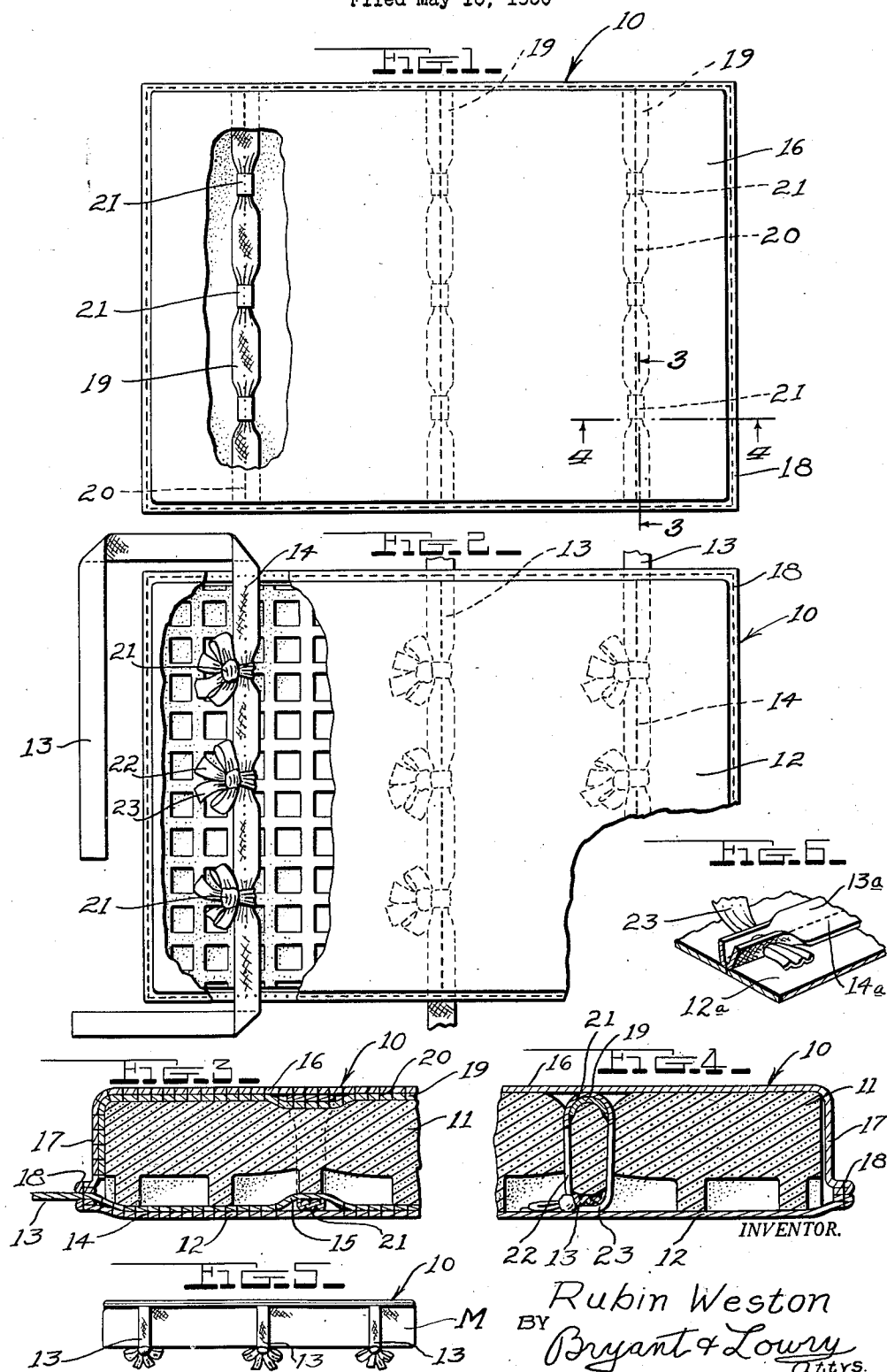
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R. WESTON

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AUXILIARY MATTRESS PAD

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AUXILIARY MATTRESS PAD

Rubin Weston, Los Angeles, Calif.

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5 Claims. (Cl. 5—354)

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This invention relates to improvements in auxiliary pads for mattresses and to the method of assembly of said pads during the manufacture thereof.

With the development of foam rubber it was found that a sleeping surface made from the rubber has very desirable qualities, these properties not being available in any other prior known material.

However, in designing mattresses of foam rubber, several difficulties or limitations have become apparent. In mattress design, a thickness of six to eight inches has been generally found most desirable and bed constructions and bed heights are set accordingly. A body of foam rubber of that thickness has been found to be unstable and to deform to a greater degree than desirable. If the body of the mattress is braced or trussed to overcome this disadvantage, proper action of the rubber is impeded or prevented, since the foam rubber depends upon what is known as "breathing" for proper action. This consists in the absorption and expulsion of air by the pores of the rubber as pressure is exerted on or released from the body of the rubber.

A further problem of the use of foam rubber in forming a sleeping surface is that the rubber has extremely low tensile strength and is easily ruptured if stretched or distorted beyond a critical point, and this critical point is easily reached in normal use. Thus, it is necessary, in forming a pad from a body of foam rubber, to devise a method of tufting said body wherein the rubber is constrained against extreme distortion while at the same time avoiding any undesirable compression of the rubber body except that caused by compression from use. It is to be emphasized that the rubber is of such softness that some compression may be caused by only moderate pressure of a tying or tufting tape.

It is an object of the present invention to provide an auxiliary pad for mattresses by means of which any standard mattress may be given the sleeping qualities of foam rubber while at the same time use is made of the thickness or height of such standard innerspring or felt mattress.

It is a further object of the present invention to provide an auxiliary pad for mattresses which may be readily attached to any type of mattress and as quickly detached therefrom.

Still another object of the invention is to provide a means of covering a foam rubber auxiliary mattress pad and securely attaching it to a mattress so as to prevent slipping and displacement of the pad during handling and use of the mattress.

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A further object of the invention is to provide an attachable pad for mattresses with tufting so designed that the smooth sleeping surface of the pad may be maintained without undesirable distortion or pre-compression of the foam rubber filler.

Another object of the invention is to provide an attachable mattress pad so formed that the strain placed on the body of the pad by the securing tapes is distributed over said pad at spaced points, reducing wear on the elements and localized failure, and particularly preventing tearing of the foam rubber filler due to distortion from use.

A further object of the invention is to provide a pad so designed that the tufting tapes may be exactly and individually adjusted so as to constrain the foam rubber filler without pre-compression thereof.

Still another object of the invention is to provide a novel and improved method of assembly of the various elements of the pad, resulting in a simplified assembly process and reduced manufacturing costs.

With the above and other objects in view, as will be presently apparent, the invention consists in general of certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings and particularly claimed.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and

Figure 1 is a top plan view, partly broken away, of the mattress pad, the broken away portions showing the looped lower ends of the tufting tapes;

Figure 2 is a bottom plan view, partly broken away, particularly showing the elongated pad fastening tape and the relation of the tied ends of the tufting tapes thereto;

Figure 3 is a partial cross-sectional view taken on the line 3—3 of Figure 1;

Figure 4 is a partial cross-sectional view taken on the line 4—4 of Figure 1;

Figure 5 is a side elevational view of the mattress pad as attached to a standard mattress; and

Figure 6 is a sectional detail view of a modification in the means for securing a free end of one of the tufting tapes to the lower tying tape.

In the preferred form shown herein, the reference numeral 10 designates the mattress pad of the present invention. As shown in the drawings, the filler for the pad is formed of a unitary rectangular block 11 of standard foam rubber,

and in the type of the foam rubber filler shown herein, the lower face of the block is provided with a plurality of shallow, rectangular pockets.

The foam rubber filler has a surrounding cover envelope of any desired material. The lower wall of said envelope is formed of a lower panel 12 which is slightly larger than the rubber filler 11. Running transversely of the lower panel 12 are any number of elongated securing tapes 13, these tapes being fastened to the panel by a single longitudinal row of stitching 14 and of such length that they will extend on either side of the panel and complete encirclement of a mattress to which the pad is attached and permit the outer ends being tied as shown in Figure 5. In the preferred form of the invention the stitching 14 is interrupted at spaced intervals to form the loops 15 which permit passage of the tufting tapes which are later to be described. In the form of the invention as shown in Figure 6, the stitching 14a is unbroken for the length of the panel.

The cover is completed by a top panel 16 which is slightly larger than the lower panel 12 so that it may be turned downwardly on all four sides to form the side walls 17. The two panels are joined at their peripheral edges in any desired manner, preferably by the stitching 18.

On the inside face of the top panel 16 and running transversely thereof are the tapes 19, these tapes directly overlying the corresponding securing tapes 13 on the lower panel 12. These tapes 19 terminate slightly inwardly of the peripheral edge of the top panel 16 and are secured preferably by a single, elongated row of stitching 20.

Running transversely of the tapes 19 and lying between the tapes 19 and top panel 16 are a plurality of spaced tufting tapes 21. In the preferred form of the invention the spacing of these tufting tapes 21 along the tapes 19 corresponds to the position of spaced loops 15 in the securing tapes 13. These tufting tapes are placed beneath the tape 19 prior to the stitching thereof to the top panel 16 and are held at approximately their midpoint by the elongated row of stitching 20, forming outer legs 22 and 23. It is thus seen that the tufting tapes 21 and upper transverse tapes 19 are secured by a single operation.

In the preferred form of the invention the method of assembly of the mattress pad is as follows: The rubber filler 11 is centered upon the lower panel 12, and the upper panel 16 is turned placed upon the filler, so that the tufting tapes 21 overlie the loops 15. By means of a suitable instrument, the ends 22 and 23 of the tufting tapes 21 are pushed through the porous rubber filler. The end 21 of each tape is then drawn through the loop 15 and the exact tension placed thereon, the ends 21 and 22 then being tied in any suitable knot. It will thus be seen that each tufting point is individually and fixedly set at the exact tension, and without any possibility of the strain being shifted or distributed unequally to other points. It will also be seen that the tufting is applied entirely from the interior faces of the upper and lower panels without any evidence thereof appearing on the outside. The tufting is completed row by row, and the four outer edges of the two panels are then secured by the stitching 18. The pad 10 is then ready for application to a mattress M as shown in Figure 5.

In the modified form of the invention shown in Figure 6, the securing tapes 13a are fastened to the lower panel 12a by an uninterrupted row of stitching 14a. After the legs 22 and 23 are

drawn through the rubber filler 11, the leg 23 is then drawn by a suitable tool, such as an upholstery needle, directly through the loose edges of the tape 13a, and the ends 22 and 23 are tensioned and tied as before described. This form of the invention simplifies the manufacturing process by elimination of the need of measuring and providing for the spaced loops, and results in lower manufacturing costs.

While there is herein shown and described the preferred embodiment of the invention, it is nevertheless to be understood that minor changes may be made therein without departing from the spirit and scope of the invention as claimed.

What is claimed is:

1. An auxiliary pad for mattresses, comprising a resilient filler, a cover therefor, and a plurality of elongated unitary securing tapes extending transversely of said cover and being attached thereto, the outer ends of said tapes extending beyond the edges of said cover and being of such length as to complete the encirclement of a mattress to which said pad may be attached.

2. An auxiliary pad for mattresses including a resilient filler, a cover formed of upper and lower panel sections, said upper panel section being slightly larger than said lower panel section, to thereby cover the side and end walls of said pad, a plurality of elongated unitary securing tapes extending transversely of said cover and being attached to said lower panel section, the outer ends of said tapes extending beyond the edges of said cover and being of such length as to complete the encirclement of a mattress to which said pad may be attached.

3. An auxiliary pad for mattresses including a resilient filler, a cover formed of upper and lower panel sections, a plurality of spaced tape elements extending transversely of the inner face of said lower panel section and attached thereto, a plurality of tape elements extending transversely of the inner face of the upper panel section and being attached thereto and each positioned so as to overlie a lower spaced tape element, and a plurality of individual tufting tapes extending through said filler and each having their ends engaging the lower and overlying tapes respectively, each said tuft tape being separately tensioned and fixedly secured at such selected tension by tying.

4. An auxiliary pad for mattresses as set forth in claim 3 wherein the plurality of spaced tape elements attached to the lower panel section have their outer ends extending beyond the edges of said lower panel section, said outer ends being of such length as to complete the encirclement of a mattress and permit tying of such ends.

5. An auxiliary pad for mattresses including a resilient filler, a cover formed of upper and lower panel sections, said upper panel section being slightly larger than the lower panel section, said panel sections being attached at their corresponding outer edges, a plurality of elongated securing tapes extending transversely of said cover and being attached to the inner face of said lower panel section by stitching, said stitching being omitted at spaced intervals along said securing tapes to form loops on said tapes, the outer ends of said securing tapes extending beyond the edges of said lower panel section so as to complete the encirclement of a mattress to which said pad may be attached, a plurality of elongated tapes extending transversely of the inner face of said upper panel section and being attached thereto, a plurality of spaced tufting tapes attached at

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their midpoints to said elongated upper tapes, the legs of said tufting tapes extending through said filler, one leg of each tufting tape being drawn under tension through a corresponding loop on said lower securing tape and tied to said other leg, the tension on each tufting point being thereby separately set.

RUBIN WESTON.

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

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