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Glaser

(54) YOGA MAT

(75) Inventor: **William Glaser**, New York, NY (US)

Correspondence Address:
FULWIDER PATTON LLP
HOWARD HUGHES CENTER
6060 CENTER DRIVE, TENTH FLOOR
LOS ANGELES, CA 90045 (US)

(73) Assignee: **UKARMA CORPORATION (a NV corp)**, New York, NY

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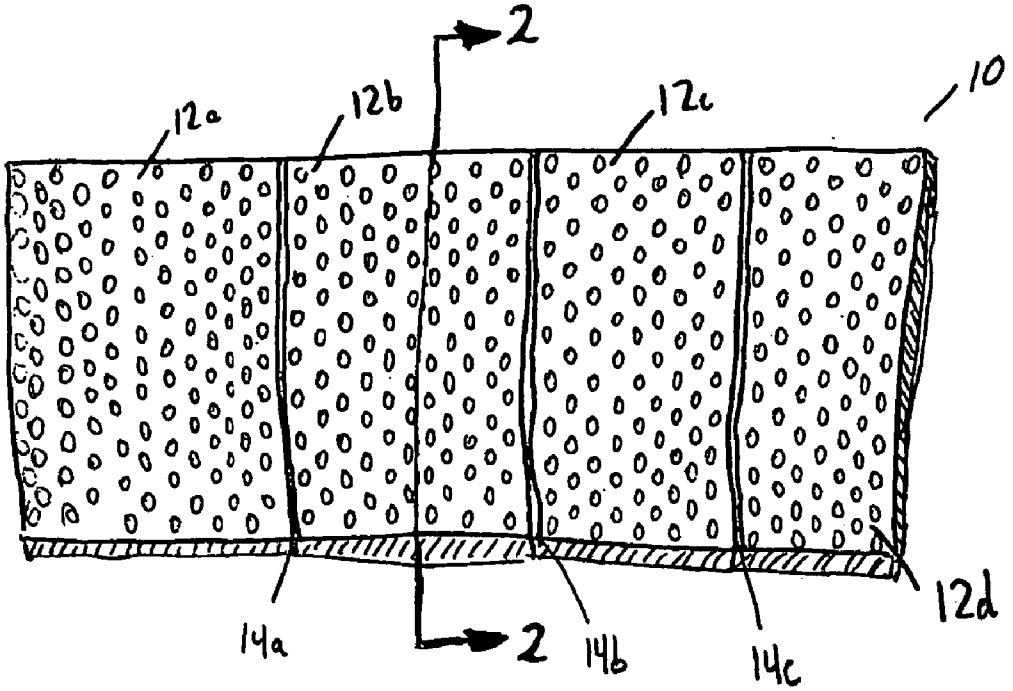
(57) **ABSTRACT**

Improvements on mats for practicing yoga are presented. The mats typically provide improved balance, stability, relief of joint and knee pain, and/or improved grip, among other advantages. One particular mat has an upper surface with protrusions, such as knobs, to provide a feeling of acupressure massage to the user. The mat may be continuous and rolled up for storage, or may be divided into sections and folded. A layer of foam may be provided for cushioning, and the foam may optionally be a memory foam. Alternative embodiments include a mat without the protrusions on the upper surface, a mat with cushioning that has an undulating or otherwise irregular surface, and a mat that has no central foam but which is made of a single material.



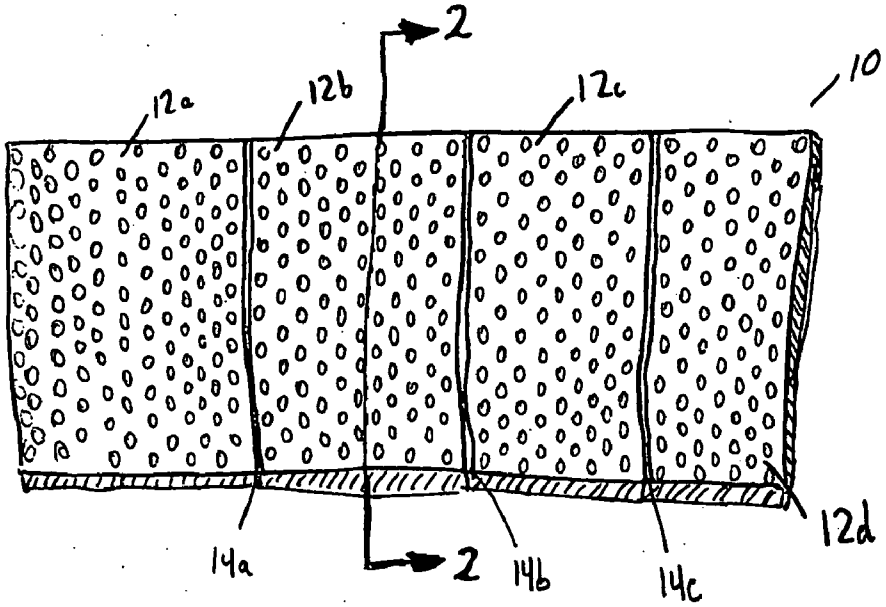


Fig. 1

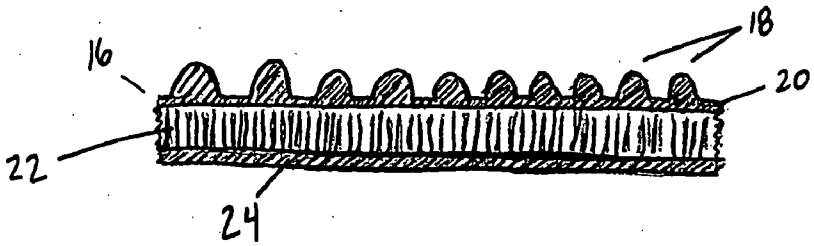


Fig. 2

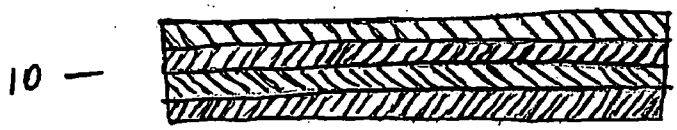


Fig. 3

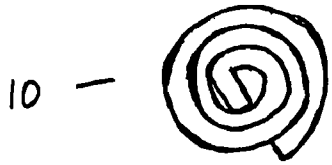


Fig. 4

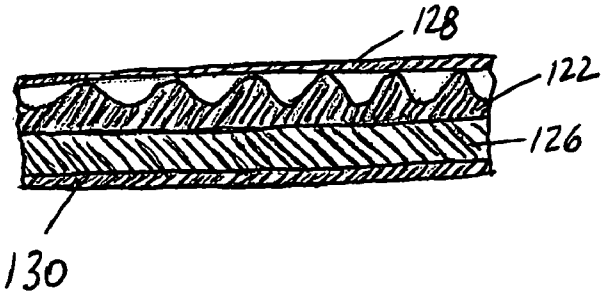


Fig. 5

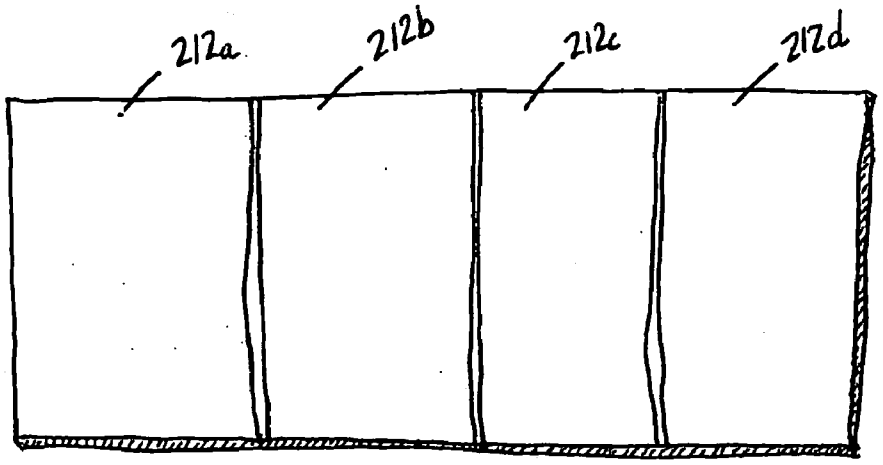


Fig. 6

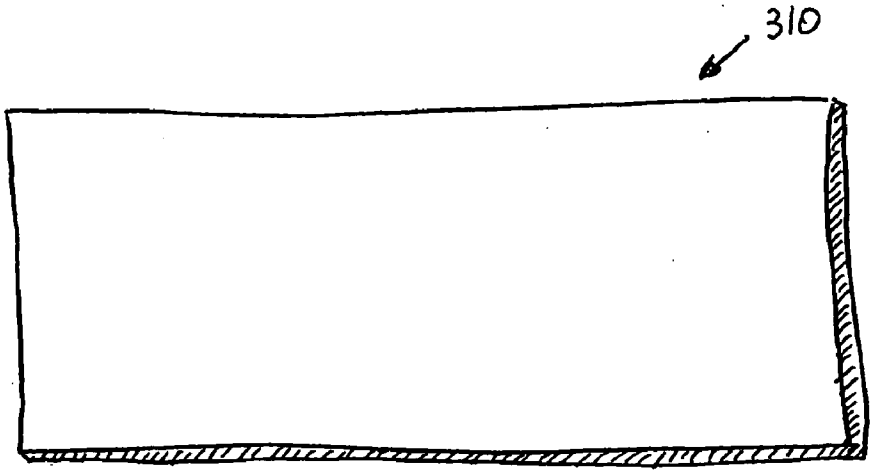


Fig. 7

YOGA MAT

FIELD OF THE INVENTION

[0001] The present invention relates to exercise mats and, in particular, to exercise mats that are particularly well-suited to yoga.

BACKGROUND OF THE INVENTION

[0002] Yoga is practiced worldwide as both a form of spiritual and physical development. In the West, Yoga is most often practiced as a form of exercise that develops and tones the muscles, increases flexibility and strength, improves balance and promotes overall health and well-being. Circulation is also increased and the nerves are ensured a supply of nutrients and oxygen.

[0003] The Yogic physical exercises are called Asanas, a term which means "steady pose." By way of example, in one form of yoga some basic postures include: headstand, shoulderstand, plough, fish, forward bend, cobra, locust, bow, spinal twist, crow pose, and peacock pose, standing forward bend, and triangle. The names of these poses indicate that much bending and stretching is involved.

[0004] The routine is typically done on a floor, and poses are normally held for some time. It is therefore common to use a yoga mat or rug during a yoga routine. However, many of the yoga mats currently in use do not provide optimal support to the user, or do not provide optimal comfort. Consequently, it would be desirable to have improved mat options for the yoga practitioner.

SUMMARY OF THE INVENTION

[0005] In one embodiment, an exercise mat for yoga has a lower non-slip layer, a middle cushion layer, and an upper layer. The upper layer has knobs on its outer surface to provide acupressure support to a user. Side layers are interconnected with the upper and lower layers to encompass the middle cushion layer.

[0006] In accordance with optional aspects of the embodiment, the middle cushion layer may be made of foam. The foam may be any type of foam known in the art for mats, or may be a specialized foam such as memory foam. As an alternative to foam, the cushion layer may be formed from cotton batting, hulls, or other cushioning material. The upper layer may be molded rubber. The knobs may be integral to the upper layer, or may be separately attached.

[0007] In one embodiment, the mat is divided into foldable sections. The sections may be divided by seams, such as sewn seems, interlocking seems, or other seems known in the art.

[0008] Considering another embodiment, an exercise mat for yoga may have a lower non-slip layer, a middle cushion layer, an upper layer, and side layers interconnected with the upper and lower layers to encompass the middle cushion layer. In all of the embodiments, the lower, upper and side layers may be one continuous sheet of material, if desired, that is welded or otherwise connected together.

[0009] In another embodiment, an exercise mat for yoga has a lower non-slip layer, at least one foam middle cushion layer, and an upper layer that has integral knobs on its outer surface, to provide acupressure support to a user. Side layers are interconnected with the upper and lower layers to encompass the middle cushion layer. The exercise mat also has foldable sections.

[0010] Generally, the present invention encompasses a variety of improved mat designs, including sectioned mats that fold, mats that are cushioned with memory foam, mats that have knobs or similar protrusions on (or beneath) the upper surface in order to provide acupressure, and/or any combination of these elements.

[0011] Other variations are possible, including providing a foam layer that has a pattern on its surface, such as a wave pattern, an undulating pattern, an egg crate pattern, or the like, to provide a specialized cushioning to the user.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] FIG. **1** is a top view of one version of a yoga mat having an upper surface that has protrusions such as knobs, and which may optionally have sections so as to be foldable;

[0013] FIG. **2** is a cross-section of the mat in FIG. **1**, illustrating the top outer portion formed from a material having knobs, and a central layer of resilient foam, which could optionally be a memory foam;

[0014] FIG. **3** is a simplified drawing showing that the mat can be folded;

[0015] FIG. **4** shows that the mat, alternatively, can be rolled up;

[0016] FIG. **5** is a cross-section of an alternative embodiment in which the foam layer has an "egg crate" or similar pattern;

[0017] FIG. **6** is an alternative embodiment in which there are no knobs on the upper surface but which has sections so that the mat may be folded for storage; and

[0018] FIG. **7** is another alternative configuration in which the mat does not have separate sections.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0019] The present invention relates to various embodiments of optimal yoga mats for improved balance, stability, relief of joint and knee pain, and/or improved grip. Certain embodiments also provide specific advantages, such as providing acupressure to the exerciser, and/or utilizing memory foam, and/or dividing the mat into hinged sections so as to be foldable.

[0020] Considering now a first embodiment, FIG. **1** illustrates yoga mat **10** having four sections: **12***a*, **12***b*, **12***c*, and **12***d*. Although this mat is shown having four sections, it is possible to have any other number of sections, such as three, four, six, or eight sections. Consequently, the specific number of sections in the mat can be varied depending upon the desired characteristics of the mat.

[0021] The sections are divided by joints **14***a*, **14***b*, and **14***c*. These joints may be any of the number of different forms. The joints may be, for example, seams formed by sewing the top and bottom layers together. Alternatively, the top and bottom layers may be fused together at the fold seams, as by heat welding or other type of welding, or with

an adhesive. The seams may also be hinged, as by an interlocking hinge or by other hinges suitable for use on a folding mat.

[0022] FIG. **2** is a cross-section taken about line **2-2** in FIG. **1**. FIG. **2** shows that the upper surface **16** of the mat **10** includes various knobs or "bumps"**18**. The knobs **18** may be an integral part of a top layer **20**, which may be made out of any of a number of materials. For example, the upper layer **20** may be made of rubber, latex, plastic, or other moldable material.

[0023] Alternatively, the upper layer **20** may be a composite formed from an upper sheet having knobs attached thereto, such as by sewing, gluing, or other attachment method known in the art. For example, the knobs **18** may be made, in one embodiment, from metal, which is attached to an upper layer (for example, rubber) by way of an adhesive or other known means.

[0024] Most typically, the upper surface **16** will be formed of an integral layer of molded material, which may be made with standard injection molding equipment or other equipment known in the art. The knobs may be circular in shape, elliptical, square, rectangular, pointed, or a mixture of different shapes. In one embodiment, the knobs are a uniform height across the upper surface. In another embodiment, however, the knobs vary in height to provide a non-uniform upper surface.

[0025] Also, the knobs may be arranged in patterns atop the surface, so as to support certain portions of the anatomy during use. That is, there may be knobs concentrated in a central portion of the mat, for example, with fewer knobs elsewhere on the mat. Also, the density or size of the knobs may increase in certain areas of the mat, to improve the function of the mat. Other patterns of knobs may be made, as desired.

[0026] FIG. **2** also shows a central layer **22**, which typically provides the primary cushioning of the mat. Layer **22** may be made from any of a variety of materials, most commonly foam. In one embodiment, the layer **22** may be a memory foam, which is known in the art as a special foam that provides specialized comfort and support.

[0027] Memory foam is made from polyurethane with additional chemicals that add to its viscosity level, thereby increasing the density of the foam. It is often referred to as visco-elastic polyurethane foam. Memory foam is available commercially under the name Tempur-Pedic®. A variety of different densities may be used, such as the 4 pound density memory foam. In one embodiment, the memory foam is up to two inches thick, although thinner layers may be used.

[0028] The foam layer **22** may be provided as a single layer, or may be provided as multiple layers stacked atop one another. The foam layer may also be, for example, a bonded foam. As a further alternative, the layer **22** may be a material other than foam, such as cotton.

[0029] A bottom layer **24** is typically made from a material known in the art for yoga mats, particularly a material that has non-slip and/or sticky properties. The material **24** may be, for instance, a sticky material that temporarily adheres to the floor during exercise in order to prevent movement of the mat during exercise. Non-slip materials for yoga mats are known in the art.

[0030] Considering now FIG. **3**, and taking into consideration the embodiment of FIG. **1**, the mat **10** may be folded when not in use so as to store the mat. FIG. **3** shows the mat **10** in a folded configuration in which the four sections of the mat are stacked atop one another. FIG. **3** is somewhat simplified, although it clearly shows the sections folded atop one another. FIG. **3** is simplified in the sense that any of a variety of different types of joints **14***a*, **14***b*, or **14***c* may be used.

[0031] FIG. **4** illustrates an alternative method of storing a yoga mat according to the present invention. In FIG. **4**, the mat is rolled rather than folded. This type of storage would most commonly be used in embodiments in which the mat is not divided into sections. That is, the mat may be provided with knobs **20** as shown in FIGS. **1** and **2**, but not have the joints **14***a*, **14***b*, or **14***c*. With that configuration, it is most convenient to store the mat by simply rolling it up.

[0032] FIG. **5** illustrates a second alternative embodiment, in which the knobs or protrusions are formed within a mat **110** rather than on the upper surface. In FIG. **5**, an upper cushioning layer **122** has an undulating pattern **124** in order to provide an uneven upper surface to the foam. This undulating pattern may be in the form of multiple waves, or may be in the form of an egg crate pattern.

[0033] The foam layer **122** may be a resilient foam known in the art, or may be a special memory foam, when desired. In the embodiment of FIG. **5**, a second layer of foam **126** underlies the upper layer of foam **122**. The lower layer of foam **126** may be a solid foam sheet, of standard resilient foam known in the art and/or memory foam. In one configuration, either the upper or lower layer of foam **122** is not a memory foam, but is rather another type of foam known in the art. However, the lower layer **126** may be a special foam, such as memory foam, in order to improve the function of the mat. Alternatively, standard foams known in the art may be used for both layers.

[0034] In the embodiment of FIG. **5**, the outer layer **128** on the top and layer **130** on the bottom may be made of any standard material known in the art for yoga mats. For example, layers **128** and **130** may be made of a non-slip material, for example. Alternatively, the bottom layer **130** may be made of a non-slip material, while the upper layer **128** may be a particularly thin and compliant material such as fabric, in order to improve the function of the undulating pattern atop the upper layer of foam **122**. As a further alternative, both the upper layer **122** and the bottom layer **126** of foam may both have an undulating or other type of uneven surface, when desired.

[0035] FIG. **6** is an embodiment in which the upper surface has no knobs or irregularities, and is generally flat, although the surface may have some slight texture, if desired. In FIG. **6**, there are multiple sections as in the embodiment of FIG. **1**. However, these multiple sections **212***a*, **212***b*, **212***c*, and **212***d* may be filled with pieces of foam having flat upper and lower surfaces, and/or with multiple layers of foam stacked atop one another. This foam may be any of the foams known in the yoga mat art, and may be of standard thicknesses, as desired. An advantage of the specific embodiment of FIG. **6** is that the sections may fold atop one another for storage, to create a configuration such as that shown in FIG. **3**.

[0036] As a further embodiment, FIG. **7** illustrates a yoga mat **310** having no separate sections, but rather having one

continuous sheet of foam therein. The foam may be of memory foam, or of other foam known in the art of yoga mats. The embodiment of FIG. **7** may alternatively have multiple knobs on the upper surface, as in FIG. **2**, in order to provide specialized acupressure. Typically in this arrangement the upper layer will be made of rubber or latex or other covering known in the art of yoga mats.

[**0037**] As a further alternative, FIG. **7** may illustrate a mat having no central layer of foam but, rather, being a single solid material such as latex or rubber. The mat may have no outer cover or, alternatively, may be provided with any mat cover known in the art.

[**0038**] Those skilled in the art will recognize a variety of different materials that can be employed. For the cushioning, materials such as memory foam, closed-cell PVC vinyl material, open cell foam, neoprene, rubber, latex, microfiber cushion, cotton batting, kapok and hull filling and/or a variety of other materials known in the art may be employed. The outer surface of the mat may be a known material that provides a high-tack surface, such as latex for example, particularly for the lower covering to prevent slipping on the floor. Alternatively, other covering materials—including natural materials such as cotton, a jute fabric/rubber mix or many other materials—may be employed.

[**0039**] As further alternatives, the yoga mat may have built-in carrying handles to eliminate the need for a separate mat bag. Also, the mat may be covered in a waterproof material for outdoor use. The mat may come in any of a wide variety of colors.

[**0040**] As a matter of terminology, "knob" as used in the claim means a protrusion of any shape or size. In specific embodiments, the knobs may be fairly tall, such as ¼", ½", 1", or 2" high, for example, and ⅛" to 2" in width. In one embodiment, the knobs are ½" wide by **/1**;**2**" tall, which provides an acupressure effect that mere surface roughness could never approximate.

[**0041**] It will be apparent from the foregoing that the present invention provides new and improved embodiments of yoga mats, providing balance, stability, relief of joint pain, and/or acupressure. The folding feature of the mat offers convenience to carry or transport the mat, as well as to travel with it. While the invention has been illustrated and described herein in terms of its use relative to yoga, it will be apparent to those skilled in the art that the invention can be used in other endeavors, such as stretching exercises.

[**0042**] While particular forms of the invention have been illustrated and described, various modifications can be made without departing from the spirit and scope of the invention. Accordingly, it is not intended that the invention be limited, except as by the appended claims.

1. An exercise mat for yoga comprising:

a lower non-slip layer;

a middle cushion layer; and

an upper layer having a plurality of knobs on the outer surface of the upper layer, to provide acupressure support to a user;

wherein the lower and upper layers are interconnected to encompass the middle cushion layer.

2. An exercise mat as described in claim 1, wherein the middle cushion layer comprises foam.

3. An exercise mat as described in claim 1, wherein the middle cushion layer comprises memory foam.

4. An exercise mat as described in claim 1, wherein the upper layer is molded rubber.

5. An exercise mat as described in claim 1, wherein the knobs are integral to the upper layer.

6. An exercise mat as described in claim 1, wherein the knobs are separately attached to the upper layer.

7. An exercise mat as described in claim 1, wherein the knobs comprise metal.

8. An exercise mat as described in claim 1, wherein the exercise mat has sections.

9. An exercise mat as described in claim 8, wherein sections are divided by seams.

10. An exercise mat as described in claim 1, wherein the seams are sewn.

11. An exercise mat for yoga comprising:

a lower non-slip layer;

a middle cushion layer; and

an upper layer;

wherein the upper and lower layers are interconnected to encompass the middle cushion layer; and

wherein the middle cushion layer comprises memory foam and the exercise mat has foldable sections.

12. (canceled)

13. An exercise mat as described in claim 11, wherein the upper layer comprises knobs.

14. (canceled)

15. An exercise mat as described in claim 11, wherein the middle cushion layer has a patterned upper surface.

16. An exercise mat as described in claim 15, wherein the middle cushion layer has an egg crate upper surface.

17. An exercise mat for yoga comprising:

a lower non-slip layer;

at least one middle cushion layer; and

an upper layer having a plurality of integral knobs on the outer surface of the upper layer, to provide acupressure support to a user;

wherein the upper and lower layers are interconnected to encompass the middle cushion layer; and

wherein the exercise mat comprises foldable sections that can be folded together to fold the exercise mat.

18. An exercise mat as described in claim 17, wherein the middle cushion layer comprises memory foam.

19. An exercise mat as described in claim 17, wherein the upper layer is molded rubber.

20. An exercise mat as described in claim 17, wherein at least one of the lower and upper layers comprises latex.

21. An exercise mat as described in claim 17, wherein the upper, middle and lower layers are formed from one, continuous piece of material.

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