Exercise mat apparatus

Inventors: Guy Cloutier, Cornwall (CA); Stephen Kingsbury, Cornwall (CA)

Correspondence Address:
PATTERSON, THUENTE, SKAAR & CHRISTENSEN, P.A.
4800 IDS CENTER
80 SOUTH 8TH STREET
MINNEAPOLIS, MN 55402-2100 (US)

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Abstract
An exercise apparatus comprising: a first mat including a resilient outer cover; an inner pad located within the resilient outer cover; and at least one further mat having a resilient outer cover; and an inner pad located within the resilient outer cover of the at least one further mat, wherein the inner pad of the first mat has a different density to the inner pad of the at least one further mat.
Fig 4.

Fig 5.

Fig 6.
EXERCISE MAT APPARATUS

FIELD OF THE INVENTION

[0001] The present invention relates to exercise mats for use in fitness and rehabilitation training, including aerobic, anaerobic and plyometric exercising, and more particularly, to a configuration of mats of different densities and thicknesses such that the user’s body must adjust to the different density mats when moving from one mat to the next.

BACKGROUND OF THE INVENTION

[0002] Conventional exercise mats comprise a firm padding enclosed in a durable material. The mats are of a uniform density and provide no range of instability and no varied density in the surface. A difference in density from one surface to another requires a person travelling from one surface to another to adjust their muscles to maintain balance thereby enhancing proprioception. This induces the use of more muscles throughout the course of an exercise routine.

[0003] Various compositions for mats are known in the prior art. For example, U.S. Pat. No. 4,574,101 to Tricca et al. teaches an exercise mat in which various layers of closed-cell foam of different selected densities are laminated together to form an integral structure. The different densities of foam are laminated together horizontally and the mat provides no vertical variety of densities to a person travelling across the upper surface of the mat.

[0004] U.S. Pat. No. 3,641,601 teaches a device to simulate walking, jogging and running. The invention teaches a jogging or walking exerciser in which the two resilient surfaces are placed side by side and are joined at their bases by a common lower section. Although this patent teaches resilient surfaces that are side by side, it does not teach different density mats.

[0005] Devices used in step benches, such as that taught in Canadian Patent No. 2,063,468 involve the stacking of platforms of “steps” and do provide for a variable height however, the platforms are non-yielding surfaces and do not compress under the user’s weight, and do not allow for more muscles to be conditioned throughout an exercise routine. Also, tripping or falling while using step benching devices causes harmful injuries to the user due to contact with the hard surfaces of the device. The step benching devices also do not allow for different density surfaces.

SUMMARY OF THE INVENTION

[0006] The present invention overcomes the deficiencies in the prior art by providing an exercise apparatus comprising at least two exercise mats each of a different density placed next to each other. By combining at least two mats of varied densities, a person jumping from one mat to the next is forced to adapt his or her muscles to a new density surface thus utilizing and conditioning a greater number of muscles throughout the exercise.

[0007] The invention also provides an elastic compressive surface that cushions the impact of the user when in contact with the mat. This provides the individual with less joint structure impact, as generally occurs in many exercise activities. Less impact reduces the risk of strain and injuries. This makes the invention well suited to uses for rehabilitation and for exercises for children as well as to intense and long training routines for athletes.

[0008] The apparatus also offers a customized workout as the mats can be arranged to suit an individual’s needs. The dimensions of the workout area can be increased or decreased by using a smaller or greater number of the mats. The height, or a variety of heights can be achieved by stacking the mats. Exercise workouts can include stepping on adjoining mats of varied densities where the heights of adjoining mats may be uniform or may be varied by stacking several mats. In this way, bench stepping can be done using the mats where the mats are arranged in a set of increasing heights to simulate steps.

[0009] The present invention therefore provides an exercise apparatus comprising: a first mat including: a resilient outer cover; and an inner pad located within said resilient outer cover; and at least one further mat having: a resilient outer cover; and an inner pad located within said resilient outer cover of said at least one further mat, wherein said inner pad of said first mat has a different density to said inner pad of said at least one further mat.

[0010] The present invention further provides an exercise mat comprising: a durable outer cover; a first pad inserted into said durable outer cover; and a second pad inserted into said durable outer cover laterally of said first pad; wherein said first pad and said second pad are of different densities thereby providing a mat with varied densities.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] Preferred embodiments of the invention will now be described in greater detail and will be better understood when read in conjunction with the following drawings in which:

[0012] FIG. 1 is a perspective view of a preferred embodiment of the present invention;

[0013] FIG. 2 is a sectional view through one of the mats;

[0014] FIG. 3 is a perspective view of one of the mats also showing all three side faces;

[0015] FIG. 4 is a side elevation view of the preferred embodiment in use;

[0016] FIG. 5 is a side elevation view of the mats in a stacked position;

[0017] FIG. 6 is a perspective view of an alternative use for the mats;

[0018] FIG. 7 is a perspective view of one of the mats showing alternate venting means;

[0019] FIG. 8 is a perspective view of one of the mats showing a zipper and elastic material;

DETAILED DESCRIPTION OF THE INVENTION

[0020] Reference is now made to the drawings.

[0021] FIG. 1 illustrates a preferred embodiment of the present invention. In the embodiment of FIG. 1, three mats, labelled 1, 2 and 3, are placed on a side-by-side configuration whereby an exercise system is created. In the embodiment of FIG. 1, mats 1, 2 and 3 are all equilateral triangles.
One skilled in the art will realize that mats 1, 2 and 3 may be any shape and that various shapes will present different advantages.

As illustrated in FIG. 1, a side 10 of the mat system includes a fastening strip 20. Each side of a mat in the present system includes a fastening strip that is either hooks or loops, thereby forming a mat system in which two adjoining mats may be joined together using fastening strip 20. The fastening strip may be Velcro® or Millennium™. One skilled in the art will realize that other methods of fastening the mats together are possible, including straps or laces to tie two mats together.

The mat system of the present invention further includes a ventilation panel 30. Ventilation panel 30 allows air to escape from a mat 1, 2 or 3 when mat 1, 2 or 3 is compressed, thereby allowing the mat to compress properly. As one skilled in the art will realize, without ventilation strip 30, air may remain in mat 1, 2 or 3 and thereby limit the compression of this mat.

Referring now to FIG. 7, one skilled in the art will realize that the venting panel may take other forms, for example, holes in the outer cover that are rimmed with rings 78, among other possibilities.

Reference is now made to FIG. 2. FIG. 2 illustrates a cross-section of a mat 1. Mat 2 and 3 are formed in a similar means, and for ease of reference, the construction of the mats will be referred to with reference to mat 1.

Mat 1 includes an inner pad 50 that is preferably formed of a compressed glue chip foam. The density of the mat is based on the insert 50 that is placed within mat 1 and one skilled in the art will realize that various density inner pads 50 exist in the art and may be utilized for the present mat system.

Mat 1 further includes an outer cover 60. Outer cover 60 is preferably formed of a durable material such as Herculon®, but is not limited to this material. Other durable materials are known in the art.

Reference is now made to FIG. 3. As indicated above, a side of the preferred embodiment includes a fastening strip 20. In the embodiment of FIG. 3, fastening strip 20 includes a hook strip 20a and a loop strip 20b which interact with a loop strip 20b and a hook strip 20a respectively, thereby forming a mat system in which two mats may be affixed to each other. Specifically, in a preferred embodiment, a user orients a mat 1 with the hooks 20a at the top and the loops 20b at the bottom. The loops and hooks are located so that they are equally spaced from the top and bottom. The user may then orient mat 2 such that loops 20b are on the top and hooks 20a are on the bottom, thereby facilitating the adjoinment of mats 1 and 2.

In one preferred embodiment, as illustrated in FIG. 3, a mat 1, 2 or 3 is an equilateral triangle. In this system, two sides include a ventilation panel 30 as described above. The third side has an opening 70 which is sized to admit inner pad 50 into outer covering 60. The opening may be closed by a zipper 71 or other suitable means as would be evident to one skilled in the art.

There may also be included a handle or strap attached to one side of the mat near the fastening strip 20 or the ventilation panel 30 in order for a user to carry or move the mat.

Reference is now made to FIG. 8. The zipper may be attached to the outer cover 60 by stitching 74. If this is the case, when a user jumps on the mat, the fabric of the outer cover is subjected to wear and tear over time. To prevent the stitching 74 between the zipper and the outer cover from tearing, an elastic material 76 can be affixed between the zipper 71 and the resilient outer cover 60 to lessen the wear and tear of stitching 74 between the zipper and the resilient outer cover.

In other systems in which an equilateral triangle is not used, venting panels may be included on all sides but one. The last side may be used for inserting the inner pad. Alternatively, venting does not need to be on all sides if providing vents in only a limited number of sides permits enough air to escape to allow the mat to deform properly.

Reference is now made to FIG. 4. FIG. 4 shows the use of the invention in one preferred form. In this embodiment, a user 75 may move from a mat with a first density 80 to a mat with a second density 90 or to a mat with a third density 100. The various densities allow the user to tailor his or her exercises to suit the user’s needs. For example, if proprioception is needed to correct a user’s balance, the movement from a first density pad 80 to a pad of a second density 90 requires the user 75 to adjust his or her muscles in order to balance properly on this new density mat.

In the embodiment of FIG. 4, if density 80 is less than density 90, and density 90 is in turn less than density 100, a user will sink deepest when he or she steps on the mat with density 80. By moving to mat 90, the user will sink less, and will further sink less when moving to mat 100. As indicated above, this requires the user to adjust his or her muscles to accommodate this density, thereby providing an improved workout.

Reference is now made to FIG. 5. As illustrated in FIG. 5, mats 1, 2 and 3 may further be stacked on each other using various configurations. In the embodiment of FIG. 5, mats 2 and 3 are stacked on top of each other, thereby providing a mat system in which mat 1 is of the first height and mats 2 and 3 are combined to form a mat system of a second height. The varied heights may also be complemented by having mats of various densities next to each other.

A user may use mats 1, 2 and 3 as described above to create a step benching device. By having a mat as a step bench rather than the solid benches as described in the prior art, a user is free to jump onto the mat without risk of injury if the user does not land properly on a mat 1. Further, the movement from a solid ground to step up to a mat 1 requires different muscles than to spring from a mat 1, which is a different density than the ground. This further improves the workout that a user may obtain.

By creating various heights, a further variation of the workout system is created whereby the user can jump from the ground to a first height mat and thereafter to a second height mat. The user may further jump from the ground to the second height mat and alternate between jumping between various heights. The above can create an improved anaerobic workout for a user 75.

Mats 2 and 3 may simply stack on each other and use friction to hold them in place. Alternatively, an attach-
ment strip, such as one made of Velcro® or Millennium™, may be affixed between the fastening strips 20 on the sides of mats 2 and 3, or an attachment strip may be used on the top and bottom of mats 2 and 3. Other attachment means would be evident to those skilled in the art.

[0039] Reference is now made to FIG. 6. FIG. 6 shows an alternative use of a mat 1 of the present system. A mat 1 may be placed on its side and a elastic attachment 101 may be placed under it. A user may lean against the mat 1 and the force of the user’s weight combined with the weight of mat 1 holds elastic 101 in place. The user may grab loops 102 which are separated by elastic 103 and thereby use the device for upper body exercises.

[0040] The versatility of the present invention is only limited by a user’s imagination and other configurations would be evident to a skilled person. In one example, a user may place a barrier between two adjoining mats, thereby creating a hurdle that needs to be cleared when moving from one mat to the next. Adjoining mats may also be of various heights without stacking by using various heights of inner pads 50 and corresponding sized covers 60. Other configurations are also possible.

[0041] A further possibility that will be evident to one skilled in the art is to create a mat with multiple density zones within the mat. This is accomplished by having an outer cover over two or more inner pads that are of different densities. The pads would be placed side by side in this outer cover, creating the various density zones. In this case, the outer cover could include markings to indicate the boundaries between the zones.

[0042] The above described embodiments of the present invention are meant to be illustrative of the preferred embodiment of the present invention and are not intended to limit the scope of the present invention. Various modifications, which would be readily apparent to one skilled in the art, are intended to be within the scope of the present invention. The only limitation to the scope of the present invention are set out in the following claims.

We claim:

1. An exercise apparatus comprising:
   a first mat including:
   a resilient outer cover; and
   an inner pad located within said resilient outer cover;
   and
   at least one further mat having:
   a resilient outer cover; and
   an inner pad located within said resilient outer cover of said at least one further mat,
   wherein said inner pad of said first mat has a different density than said inner pad of said at least one further mat.

2. The exercise apparatus of claim 1, wherein said first mat is of a different height than said at least one further mat.

3. The exercise apparatus of claim 1, wherein said first mat further includes a venting means allowing air to escape from said first mat.

4. The exercise apparatus of claim 3 wherein said venting means comprises at least one hole in said resilient outer cover, said at least one hole having a periphery that is edged by a ring.

5. The exercise apparatus of claim 1, wherein said at least one further mat further includes a venting means allowing air to escape from said at least one further mat.

6. The exercise apparatus of claim 1, wherein said first mat further includes a fastening means on a side of said first mat.

7. The exercise apparatus of claim 6, wherein said at least one further mat includes a fastening means on a side of said at least one further mat.

8. The exercise apparatus of claim 7, wherein said first mat can be connected to said at least one further mat using said fastening means on said first mat and said fastening means on said at least one further mat.

9. The exercise apparatus of claim 1, wherein said first mat further includes a velcro like loop strip located towards a first edge of a side of said first mat and a velcro like hook strip located towards a second edge of a side of said first mat, said first edge being opposite of said second edge.

10. The exercise apparatus of claim 9, wherein said at least one further mat further includes a velcro like hook strip located towards a first edge of a side of said at least one further mat and a velcro like loop strip located towards a second edge of a side of said at least one further mat, said first edge being opposite of said second edge.

11. The exercise apparatus of claim 10, wherein said first mat can be affixed to said at least one further mat using said velcro like loop strip and said velcro like hook strip of said first mat to affix to said velcro like hook strip and said velcro like loop strip of said at least one further mat.

12. The exercise apparatus of claim 10 further comprising an attachment strip, said attachment strip affixing to said velcro like loop strip on said first mat and said velcro like loop strip on said at least one further mat when said first mat is placed on top of said second mat, thereby holding said first mat on top of said at least one further mat.

13. The exercise apparatus of claim 1, wherein said resilient outer cover includes an opening and a zipper, said opening being scalable by said zipper, said opening being of a size to admit said inner into or out of said resilient outer cover, said zipper being sewn to said resilient outer cover by stitching.

14. The exercise apparatus of claim 13, including an elastic material situated between said zipper and said resilient outer cover to lessen the wear and tear of stitching between said zipper and said resilient outer cover.

15. An exercise mat comprising:
   a durable outer cover;
   a first pad inserted into said durable outer cover; and
   a second pad inserted into said durable outer cover laterally of said first pad,
   wherein said first pad and said second pad are of different densities thereby providing a mat with varied densities.

16. The exercise mat of claim 15 wherein said first pad is of a different height than said second pad.

17. The exercise mat of claim 15 further comprising a venting means, said venting means allowing air to escape from said mat.

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