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(54) **Double-sided anti-slip towel mat**

(57) A double-sided anti-slip towel mat (10)(40)(70) includes a fabric layer (11)(41)(71), a first anti-slip layer (21)(51)(81) made in a predetermined pattern and bonded to the top face of the fabric layer (11)(41)(71) and defining therein a plurality of first openings (12) through which a part of the top face of the fabric layer (11)(41)(71) is exposed to the outside, and a second anti-slip layer (31)(61) made in a predetermined pattern and

bonded to the bottom face of the fabric layer (11)(41)(71) and defining a plurality of second openings (13) through which a part of the top face of the fabric layer (11)(41)(71) is exposed to the outside. Thus, the double-sided anti-slip towel mat (10)(40)(70) can be used on both sides, can provide sweat absorbing and anti-slip effects, and can be folded up to facilitate convenient storage.

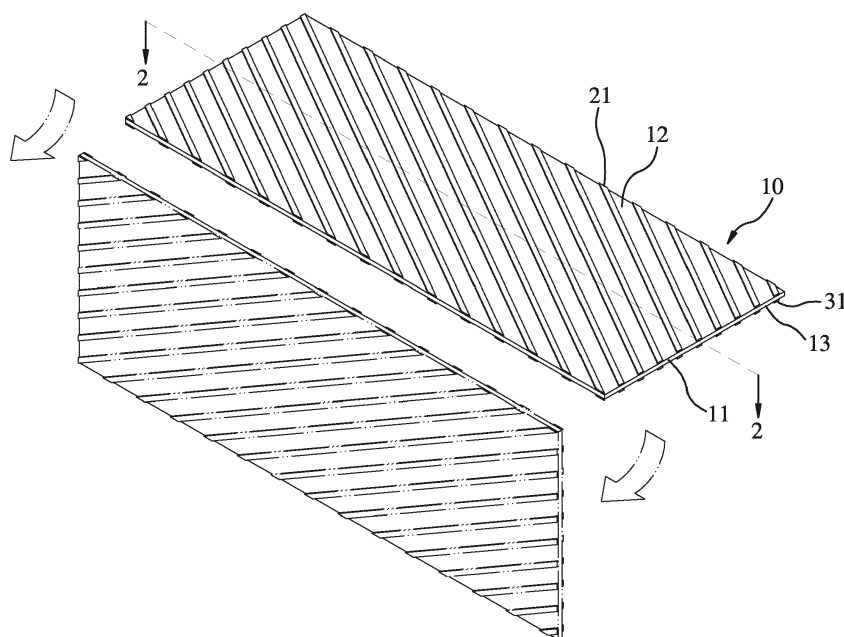


FIG.1

Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to mats and more particularly, to a double-sided anti-slip towel mat that can be used on either of two opposite sides thereof.

2. Description of the Related Art

[0002] Taiwan Utility M387689 discloses a sports mat, entitled "Yoga mat" that teaches the arrangement of an anti-slip index on the top face of the mat body to achieve an anti-slip effect when the user's body touches the mat body in the exercise. Taiwan Utility M425694 discloses another design of sports mat, entitled "Improved structure of Yoga mat" that teaches the arrangement of an anti-slip elastomer on the top face of the mat body to achieve an anti-slip effect when the user's body touches the mat body in the exercise. Taiwan Utility M434610 discloses still another design of sports mat, entitled "Yoga mat with sweat absorption ability" that teaches alternative arrangement of a sweat absorbing layer (fabric material) and an anti-slip layer on the top face of the mat body to achieve sweat absorbing and anti-slip effects. Further, "Yoga mat" of Taiwan Utility M394169 discloses the technique of the arrangement of anti-slip protrusions on the bottom face of the mat body to prohibit displacement of the mat body relative to the floor during application. It is to be noted that the commercially available towel could only provide the anti-slip effect for the wet condition and the commercially available mat could only provide the anti-slip effect for the dry condition; besides, the towel needs to work with mat underneath. However, none of any product available in the market has the anti-slip effect for both dry and wet conditions at the same time and capable of being independently used, being conveniently foldably portable, and being easily washable in the laundry machine.

[0003] By means of utilizing the characteristic that the human skin can move easily when touched a dry cloth or can be stopped from displacement when touched a wet cloth, the characteristic that the human skin can be stopped when touched a dry anti-slip component or can move easily when touched a wet anti-slip component, the above-described various sports mats achieve anti-slip effects regardless if the user is sweating or not.

[0004] However, the aforesaid prior art designs do not teach the arrangement of anti-slip devices on the both sides of the mat body, i.e., these prior art designs cannot be used on both sides for the same function. Further, some of the aforesaid prior art designs are based on a foam body and cannot be folded up or rolled up to reduce the size for storage and or to be easily washed. The towels in the markets must be used together with a mat underneath otherwise it would be slippery on the floor when

the mat is not applied.

[0005] Thus, conventional sports mats have the drawbacks of being not usable on both sides, having greater restrictions on folding, and requiring much storage space.

5 Besides, the conventional sports mats or towel neither have the anti-slip for dry and wet conditions at the same time nor cannot be conveniently foldably portable.

[0006] Therefore, it is desirable to provide a sports towel mat that can be used on both sides, can provide sweat absorbing and both dry and wet anti-slip effects at the same time, and can be easily machine-washed and folded up to facilitate convenient storage.

SUMMARY OF THE INVENTION

15 [0007] The present invention has been accomplished under the circumstances in view. It is the main object of the present invention to provide a double-sided anti-slip towel mat that can be used on both sides, can provide sweat absorbing and both dry and wet anti-slip effects at the same time, and can be easily machine-washed and folded up to facilitate convenient storage.

[0008] To achieve this and other objects of the present invention, a double-sided anti-slip towel mat in accordance with the present invention comprises a fabric layer, a first anti-slip layer made in a predetermined pattern and bonded to the top face of the fabric layer and defining therein a plurality of first openings through which a part of the top face of the fabric layer is exposed to the outside, and a second anti-slip layer made in a predetermined pattern and bonded to the bottom face of the fabric layer and defining a plurality of second openings through which a part of the top face of the fabric layer is exposed to the outside.

35 [0009] Other advantages and features of the present invention will be fully understood by reference to the following specification in conjunction with the accompanying drawings, in which like reference signs denote like components of structure.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010]

45 FIG. 1 illustrates a double-sided anti-slip towel mat in accordance with a first embodiment of the present invention.

FIG. 2 is a sectional view taken along line 2-2 of FIG. 1.

50 FIG. 3 is an applied view of the first embodiment of the present invention, illustrating a status of use of the double-sided anti-slip towel mat.

FIG. 4 illustrates a double-sided anti-slip towel mat in accordance with a second embodiment of the present invention.

55 FIG. 5 is a sectional view taken along line 5-5 of FIG. 4.

FIG. 6 is a top plain view of a double-sided anti-slip

towel mat in accordance with a third embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0011] Referring to FIGS. 1-3, a double-sided anti-slip towel mat in accordance with a first embodiment of the present invention is shown. As illustrated, the double-sided anti-slip towel mat **10** comprises a fabric layer **11**, a first anti-slip layer **21**, and a second anti-slip layer **31**.

[0012] It is to be noted that, in the annexed drawings, the fabric layer **11** is illustrated in a relatively larger thickness ratio to facilitate explanation of the first anti-slip layer **21** and the second anti-slip layer **31**; actually the fabric layer **11** is relatively thinner.

[0013] The fabric layer **11** is a flexible woven material consisting of a network of fibers capable of absorbing sweat.

[0014] The first anti-slip layer **21** is bonded to a top face of the fabric layer **11** to exhibit a predetermined design, defining a plurality of first openings **12** through which the top face of the fabric layer **11** is exposed to the outside.

[0015] The second anti-slip layer **31** is bonded to an opposing bottom face of the fabric layer **11** to exhibit a predetermined design, defining a plurality of second openings **13** through which the bottom face of the fabric layer **11** is exposed to the outside.

[0016] In this embodiment, the first anti-slip layer **21** and the second anti-slip layer **31** are selected from plastics or rubbers, for example PVC, TPU, polyurethane (PU), natural rubber, latex, silicone, polymethylmethacrylate (PMMA) or synthetic rubber, and respectively partially embedded in the open spaces between the fibers of the opposing top and bottom faces of the fabric layer **11** to enhance bonding tightness between the first anti-slip layer **21** and second anti-slip layer **31** and the fabric layer **11**. However, simply bonding the first anti-slip layer **21** and the second anti-slip layer **31** to the opposing top and bottom faces of the fabric layer **11** without being partially embedded in the open spaces between the fibers of the opposing top and bottom faces of the fabric layer **11** can achieve the same effects without departing from the spirit and scope of the present invention. Further, the first anti-slip layer **21** and the second anti-slip layer **31** are symmetrically disposed corresponding to each other and superimposed on each other through the fabric layer **11**.

[0017] Further, in this embodiment, the first anti-slip layer **21** protrudes from the top face of the fabric layer **11** at a height smaller than 2mm; the second anti-slip layer **31** protrudes from the bottom face of the fabric layer **11** at a height smaller than 2mm. These protrusions enable the user to feel the touch of the first anti-slip layer **21** or second anti-slip layer **31** when using the double-sided anti-slip towel mat, assuring the anti-slip effect, and thus, the user can feel at ease. Further, the protruding height cannot be too high, otherwise it may affect the

comfort of using the double-sided anti-slip towel mat. The protruding height is required to be smaller than 2mm, preferably about 1mm.

[0018] Further, the first anti-slip layer **21** is designed and arranged on the fabric layer **11** in such a manner that in every surface area of the top face of the fabric layer **11** corresponding to the size of the palm area of a human hand, a part of the top face of the fabric layer **11** and a part of the first anti-slip layer **21** are exposed to the outside; the second anti-slip layer **31** is designed and arranged on the fabric layer **11** in such a manner that in every surface area of the bottom face of the fabric layer **11** corresponding to the size of the palm area of a human hand, a part of the bottom face of the fabric layer **11** and a part of the second anti-slip layer **31** are exposed to the outside. Thus, when a user uses the double-sided anti-slip towel mat **10** to perform an action in an exercise, the palm of the user's hand can touch a part of the fabric layer **11** and a part of the first anti-slip layer **21** or second anti-slip layer **31**, thereby absolutely achieving an effective anti-slip effect. The size of the palm area of a human hand is the size of the palm area of an adult. However, this size can be adjusted to fit different consumer groups. For example, for children under 12 years old, the aforesaid predetermined surface area must be relatively smaller than the size of the palm area of an adult, i.e., the aforesaid predetermined surface area can be adjusted to fit the average size of the palm areas of the respective age group. Further, because the size of the sole of an ordinary person is larger than the size of the palm, the aforesaid palm-based design concept enables the user's soles to touch a part of the fabric layer **11** and a part of the first anti-slip layer **21** or second anti-slip layer **31**, achieving an effective anti-slip effect.

[0019] Referring to FIGS. 1-3, when using the double-sided anti-slip towel mat **10**, place the double-sided anti-slip towel mat **10** on the floor with the top side up, and then perform the exercises on the double-sided anti-slip towel mat **10**. In the exercise, the part of the fabric layer **11** that is exposed to the outside through the first openings **12** and the first anti-slip layer **21** can provide sweat absorbing and anti-slip effects to the touched skin of the user. At this time, the second anti-slip layer **31** that is kept in contact with the floor prohibits the double-sided anti-slip towel mat **10** from displacement relative to the floor. Because the first anti-slip layer **21** and the second anti-slip layer **31** are symmetrically disposed corresponding to each other and superimposed on each other through the fabric layer **11**, when the user touches a part of the first anti-slip layer **21**, a corresponding part of the second anti-slip layer **31** is forced against the floor, and thus, the user can clearly know that the second anti-slip layer **31** is positively stopped at the floor against displacement, and can feel at ease.

[0020] In light of the above, the fabric layer **11** can provide an effect of perspiration absorption to further provide an anti-slip effect for the human skin when the perspiration is available. Each of the first anti-slip layer **21** and

the second anti-slip layer **31** can provide the anti-slip effect for the human skin when the perspiration is not available, so the present invention can provide the anti-slip effect no matter whether it is dry or wet.

[0021] Thus, the bottom side of the double-sided anti-slip towel mat **10** is prohibited from displacement relative to the floor during the application, providing an effective anti-slip effect to the user and preventing the occurrence of unexpected situations.

[0022] When turned the double-sided anti-slip towel mat **10** upside down, the same anti-slip effects are provided. Thus, the double-sided anti-slip towel mat **10** can be used on both sides.

[0023] Further, because the fabric layer **11** is not a foam layer, the double-sided anti-slip towel mat **10** can be folded up to reduce the size for storage, eliminating the storage problem of the prior art mat designs.

[0024] Referring to FIGS. 4 and 5, a double-sided anti-slip towel mat **40** in accordance with a second embodiment of the present invention is shown. This second embodiment is substantially similar to the aforesaid first embodiment with the exception that the design of the first anti-slip layer **51** and the design of the second anti-slip layer **61** are not symmetrically superimposed on each other through the fabric layer **41**.

[0025] When using the double-sided anti-slip towel mat **40**, the user cannot so positively feel the presence of the second anti-slip layer **61** under the first anti-slip layer **51** when touched the first anti-slip layer **51** like the use of the double-sided anti-slip towel mat **10** of the aforesaid first embodiment, however, the second anti-slip layer **61** can still effectively prohibit the double-sided anti-slip towel mat **40** from displacement relative to the floor. When turned the double-sided anti-slip towel mat **40** upside down, the first anti-slip layer **51** can still effectively prohibit the double-sided anti-slip towel mat **40** from displacement relative to the floor.

[0026] The remaining structure of this second embodiment and the effect this second embodiment can achieve are same as the aforesaid first embodiment, and therefore, no further detailed description in this regard will be necessary.

[0027] Referring to FIG. 6, a double-sided anti-slip towel mat **70** in accordance with a third embodiment of the present invention is shown. This third embodiment is substantially similar to the aforesaid first embodiment with the exceptions described as follows:

The first anti-slip layer **81** is arranged on multiple selected areas **A** of the top face of the fabric layer **71** such that a part of the top face of the fabric layer **71** and a part of the first anti-slip layer **81** exist in any part of every selected area of the top face of the fabric layer **71** corresponding to the size of the palm area of a human hand.

The second anti-slip layer (not shown) is arranged on multiple selected areas **A** of the bottom face of the fabric layer **71** such that a part of the bottom face

of the fabric layer **71** and a part of the second anti-slip layer exist in any part of every selected area of the bottom face of the fabric layer **71** corresponding to the size of the palm area of a human hand.

[0028] Thus, the design and arrangement of the first anti-slip layer **81** and second anti-slip layer of this third embodiment cannot allow the palm of the user's hand to touch a part of the fabric layer **71** and a part of the first anti-slip layer **81** or second anti-slip layer at any part of the top side of the double-sided anti-slip towel mat **70** like the design of the aforesaid first embodiment, however, when the palm of the user's hand touches any selected area **A** of the top or bottom face of the fabric layer **71**, the palm of the user's hand can simultaneously touch a part of the fabric layer **71** and a part of the first anti-slip layer **81** or second anti-slip layer. The arrangement of the first anti-slip layer **81** and second anti-slip layer of this third embodiment contributes to variation in pattern design. For example, the pattern of the first anti-slip layer **81** provides the visual effects of a specific totem while achieving sweat absorbing and anti-slip effects.

[0029] The remaining structure of this third embodiment and the effect this third embodiment can achieve are same as the aforesaid first embodiment, and therefore, no further detailed description in this regard will be necessary.

[0030] Although particular embodiments of the invention have been described in detail for purposes of illustration, various modifications and enhancements may be made without departing from the spirit and scope of the invention. Accordingly, the invention is not to be limited except as by the appended claims.

Claims

1. A double-sided anti-slip towel mat (10)(40)(70) being **characterized in that** the double-sided anti-slip towel mat (10)(40)(70) comprises:

a fabric layer (11)(41)(71) defining opposing top face and bottom face;
a first anti-slip layer (21)(51)(81) made in a pre-determined pattern and bonded to the top face of said fabric layer (11)(41)(71), said first anti-slip layer (21)(51)(81) comprising a plurality of first openings (12) to expose a part of the top face of said fabric layer (11)(41)(71); and
a second anti-slip layer (31)(61) made in a pre-determined pattern and bonded to the bottom face of said fabric layer (11)(41)(71), said second anti-slip layer (31)(61) comprising a plurality of second openings (13) to expose a part of the top face of said fabric layer (11)(41)(71).

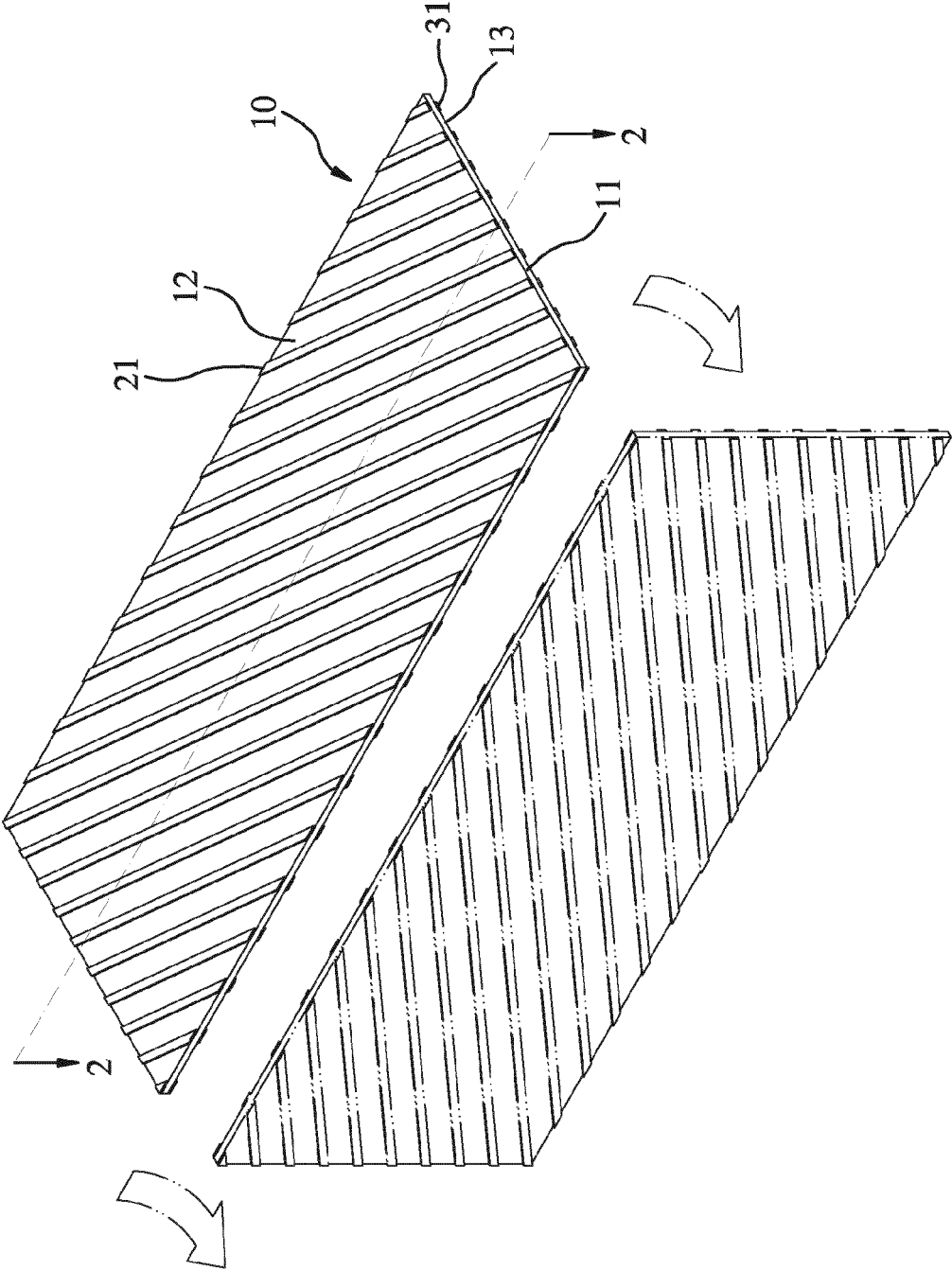
2. The double-sided anti-slip towel mat (10)(40)(70) as claimed in claim 1, wherein said first anti-slip layer

(21)(51)(81) and said second anti-slip layer (31)(61) are selected from plastics or rubbers, for example PVC, TPU, polyurethane (PU), natural rubber, latex, silicone, polymethylmethacrylate (PMMA) or synthetic rubber.

3. The double-sided anti-slip towel mat (10)(40)(70) as claimed in claim 1, wherein said first anti-slip layer (21)(51)(81) protrudes from the top face of said fabric layer (11)(41)(71); said second anti-slip layer (31)(61) protrudes from the bottom face of said fabric layer (11)(41)(71). 5
4. The double-sided anti-slip towel mat (10)(40)(70) as claimed in claim 3, wherein the protruding height of said first anti-slip layer (21)(51)(81) from the top face of said fabric layer (11)(41)(71) is smaller than 2mm; the protruding height of said second anti-slip layer (31)(61) from the bottom face of said fabric layer (11)(41)(71) is smaller than 2mm. 10 15 20
5. The double-sided anti-slip towel mat (10)(70) as claimed in claim 1, wherein said first anti-slip layer (21)(81) and said second anti-slip layer (31) are symmetrically superimposed on each other through said fabric layer (11)(71). 25
6. The double-sided anti-slip towel mat (40) as claimed in claim 1, wherein the pattern of said first anti-slip layer (51) and the pattern of said second anti-slip layer (61) are disposed in an asymmetric manner at two opposite sides relative to said fabric layer (41). 30
7. The double-sided anti-slip towel mat (10)(40)(70) as claimed in claim 1, wherein said first anti-slip layer (21)(51)(81) is designed and arranged on said fabric layer (11)(41)(71) in such a manner that in every surface area of the top face of said fabric layer (11)(41)(71) corresponding to the size of the palm area of a human hand, a part of the top face of said fabric layer (11)(41)(71) and a part of said first anti-slip layer (21)(51)(81) are exposed to the outside; said second anti-slip layer (31)(61) is designed and arranged on said fabric layer (11)(41)(71) in such a manner that in every surface area of the bottom face of said fabric layer (11)(41)(71) corresponding to the size of the palm area of a human hand, a part of the bottom face of said fabric layer (11)(41)(71) and a part of said second anti-slip layer (31)(61) are exposed to the outside. 35 40 45 50
8. The double-sided anti-slip towel mat (70) as claimed in claim 1, wherein said first anti-slip layer (81) is designed and arranged on a plurality of selected areas (A) of the top face of said fabric layer (71) such that a part of the top face of said fabric layer (71) and a part of said first anti-slip layer (81) exist in every part of every said selected area of the top face of 55

said fabric layer (71) corresponding to the size of the palm area of a human hand; said second anti-slip layer is designed and arranged on a plurality of selected areas of the bottom face of said fabric layer (71) such that a part of the bottom face of said fabric layer (71) and a part of said second anti-slip layer exist in every part of every said selected area of the bottom face of said fabric layer (11) corresponding to the size of the palm area of a human hand.

9. The double-sided anti-slip towel mat (10)(40)(70) as claimed in claim 1, wherein said first anti-slip layer (21)(51)(81) is partially embedded in open spaces between fibers of the top face of said fabric layer (11)(41)(71); said second anti-slip layer (31)(61) is engaged into open spaces between fibers of the bottom face of said fabric layer (11)(41)(71).



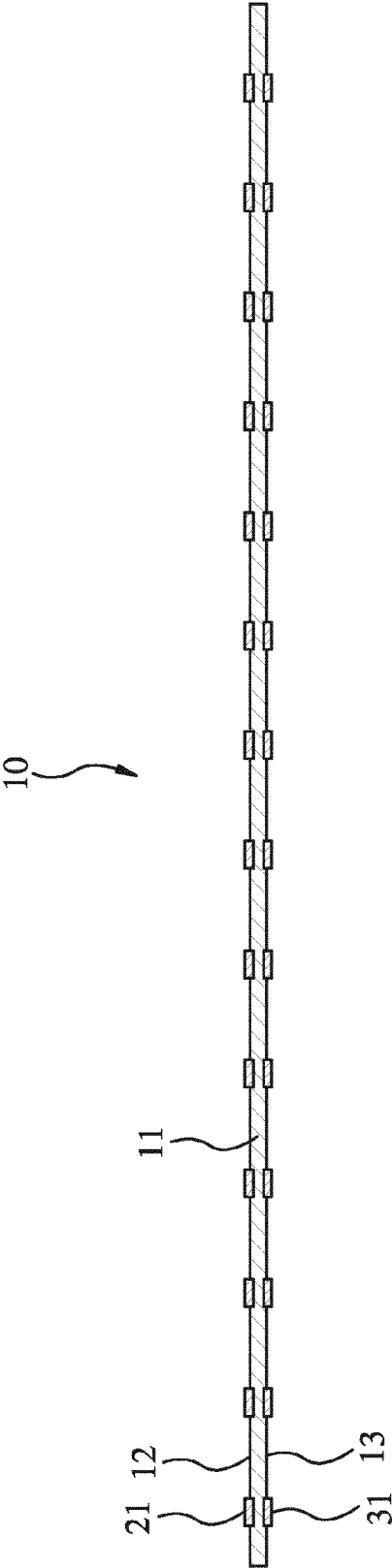


FIG.2

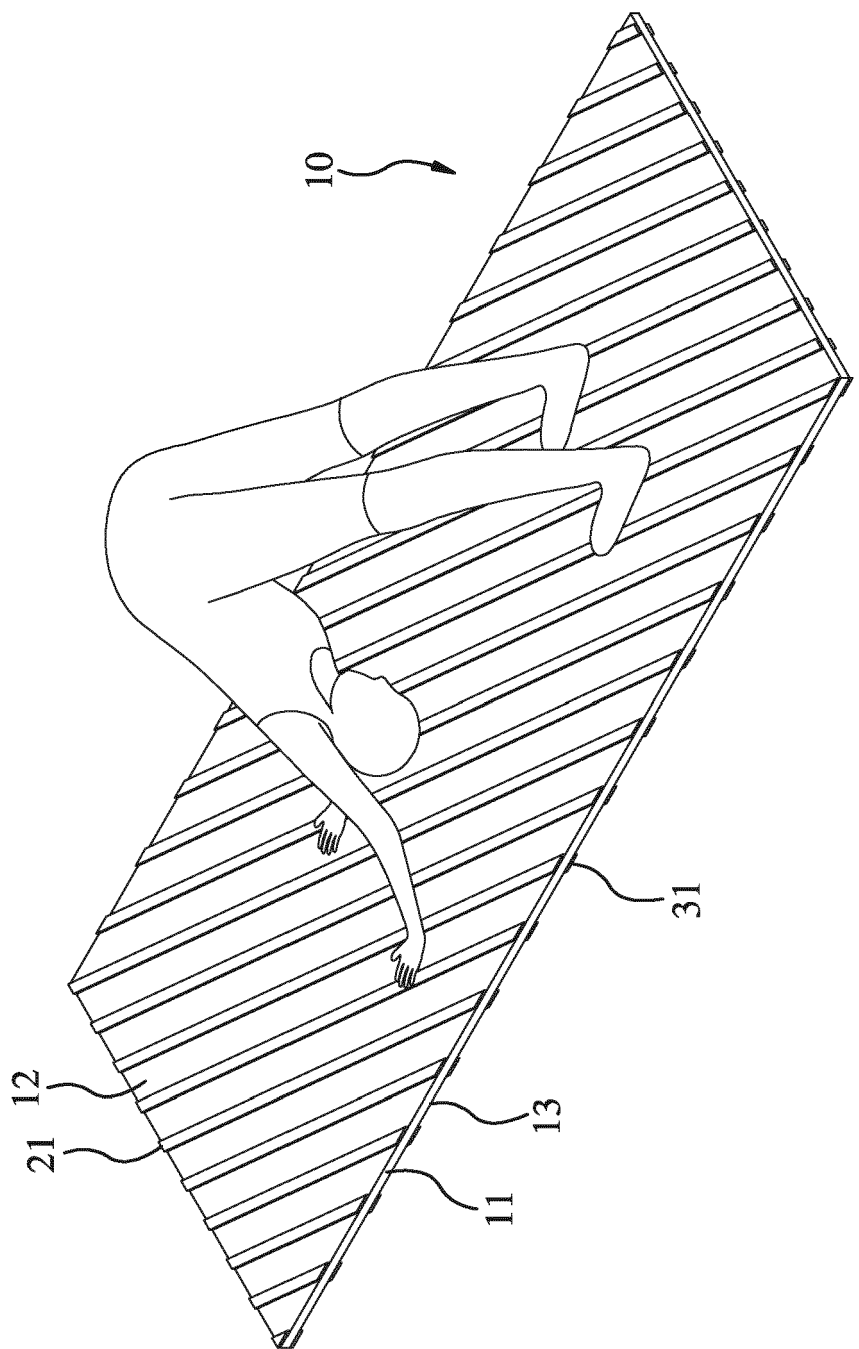


FIG.3

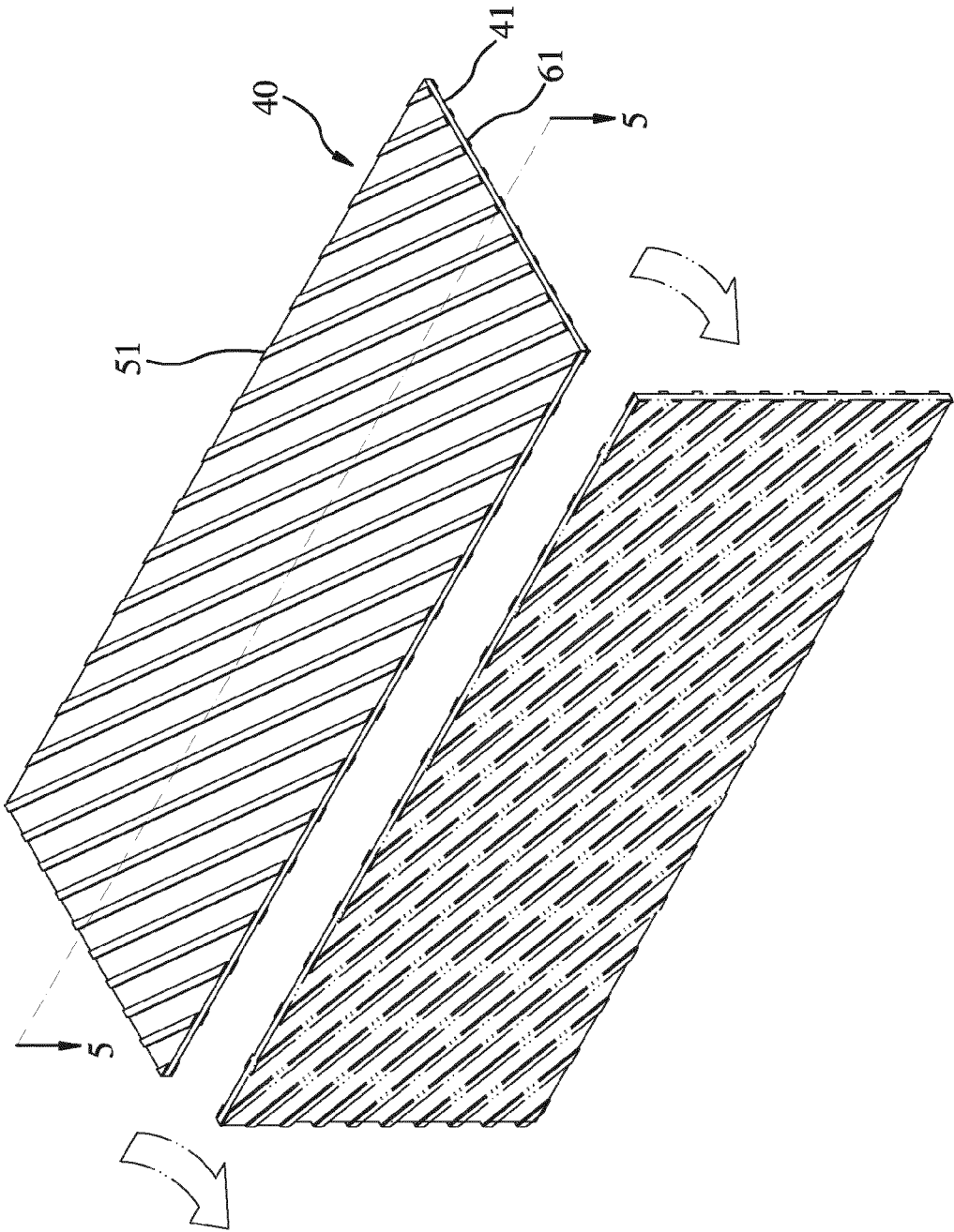


FIG.4

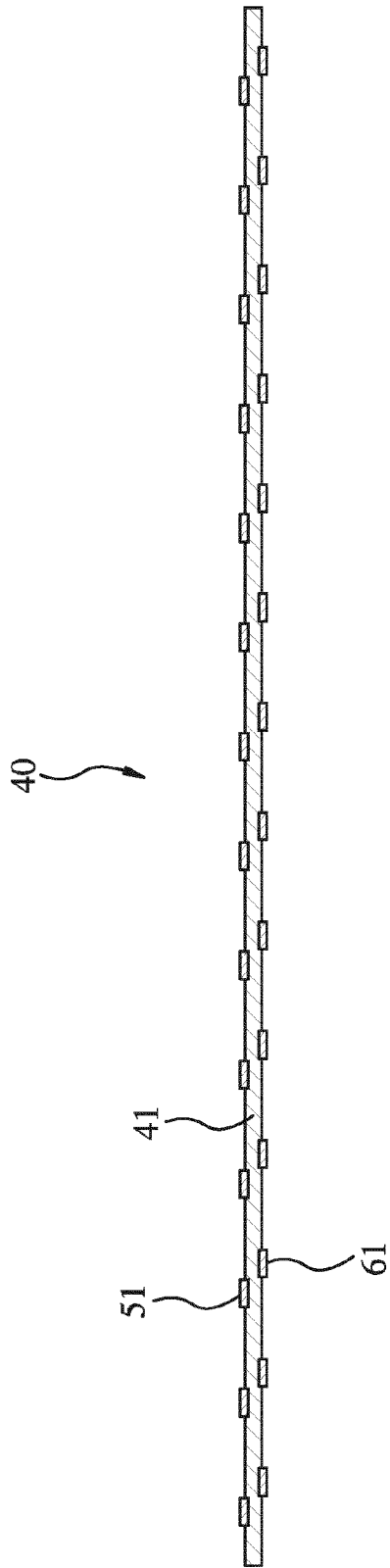


FIG.5

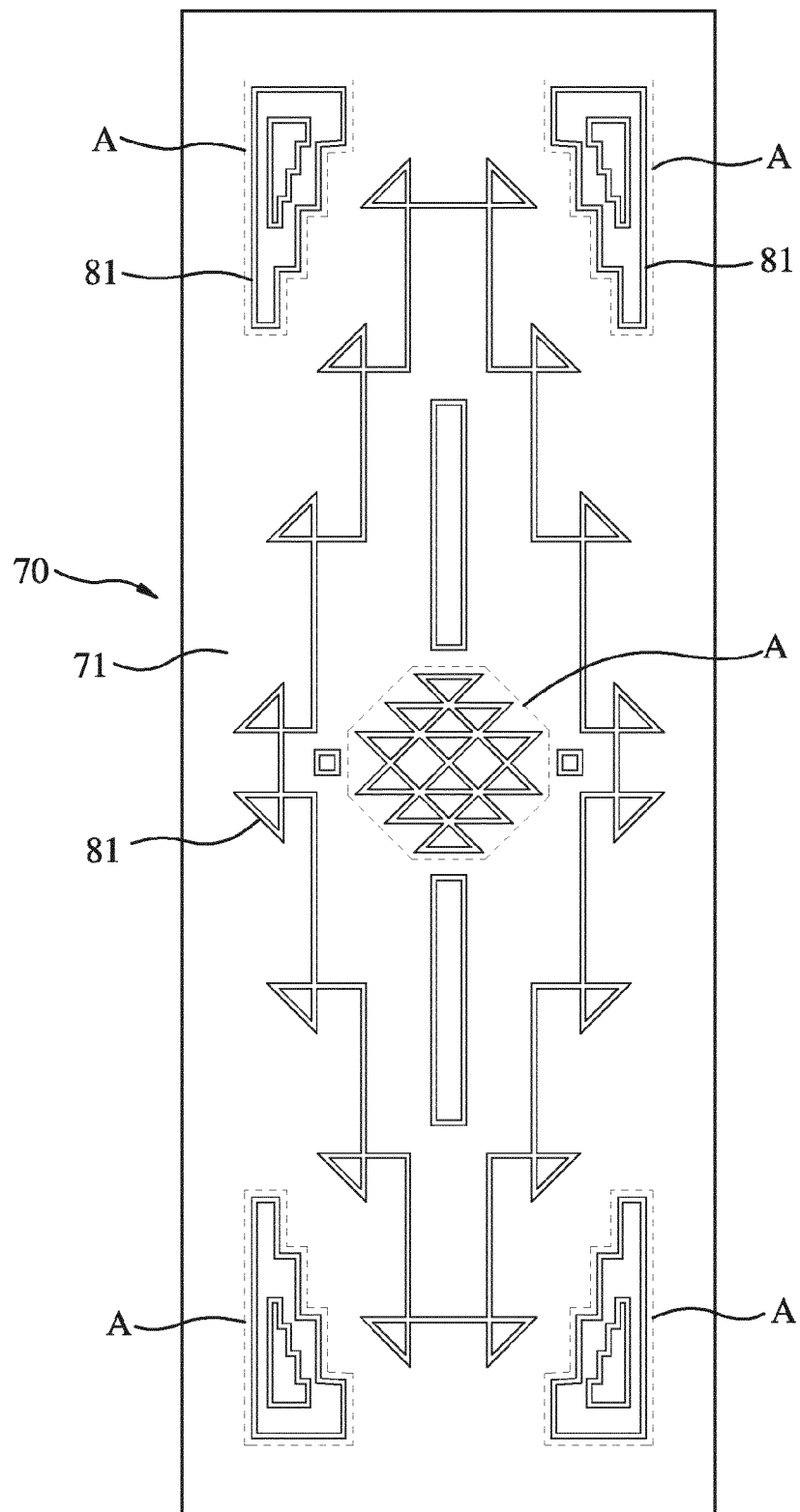


FIG.6



EUROPEAN SEARCH REPORT

Application Number
EP 14 16 6984

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DOCUMENTS CONSIDERED TO BE RELEVANT			
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X	US 2007/220673 A1 (NICHOLS SUSAN [US]) 27 September 2007 (2007-09-27) * paragraphs [0004], [0020], [0025] - [0044]; figures *	1-9	INV. A63B21/00
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			A63B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 27 October 2014	Examiner Teissier, Sara
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ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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