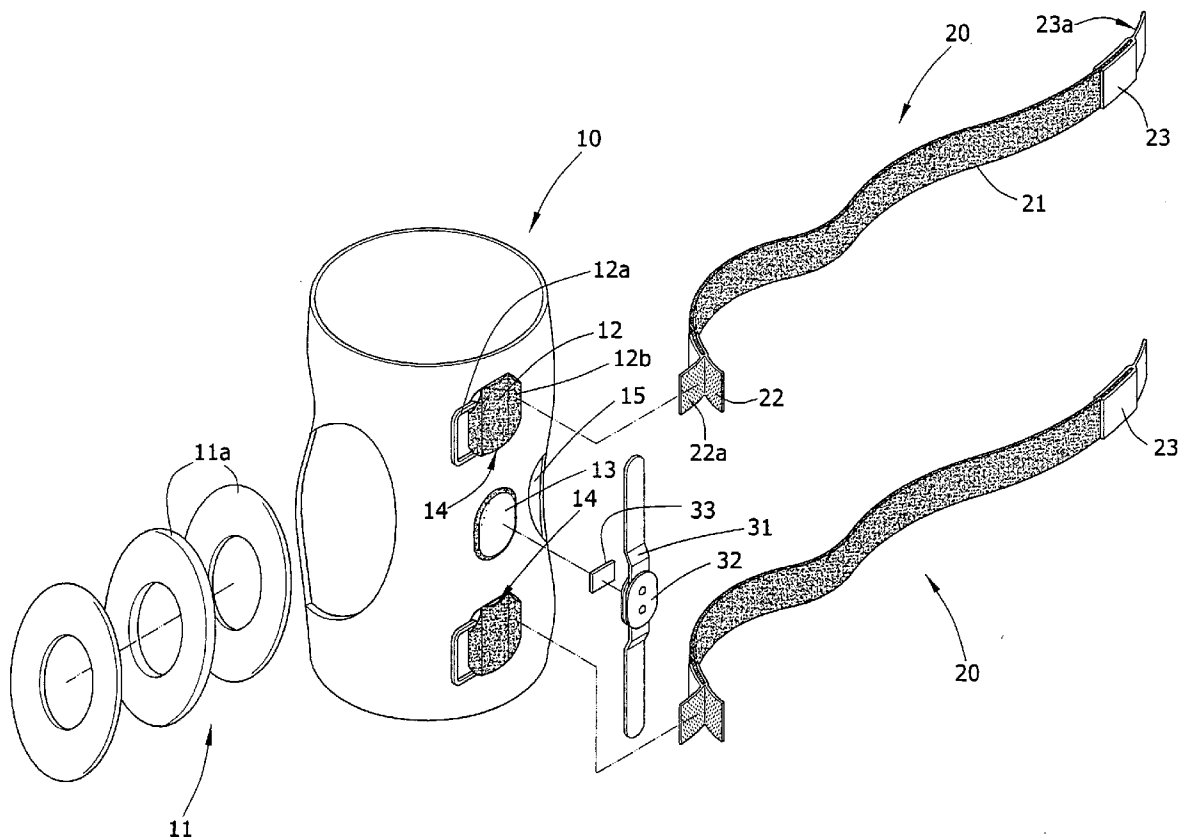


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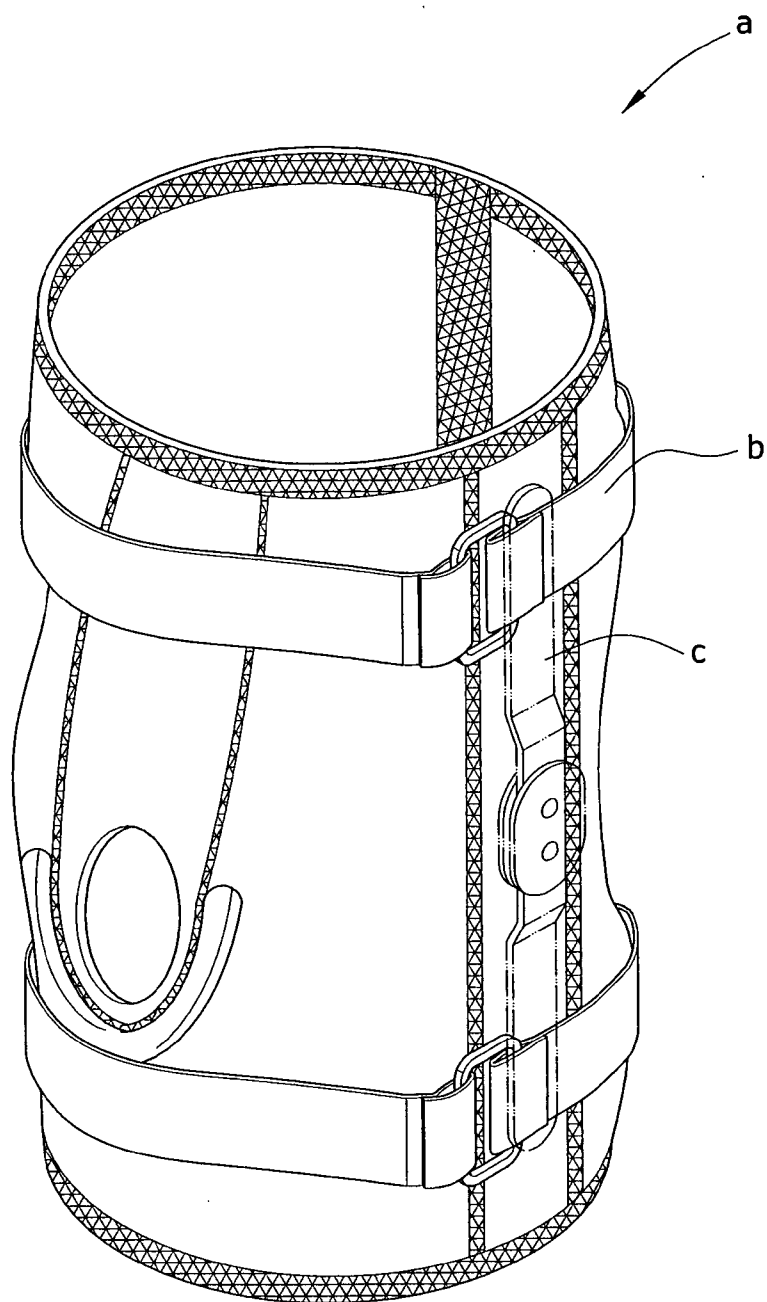
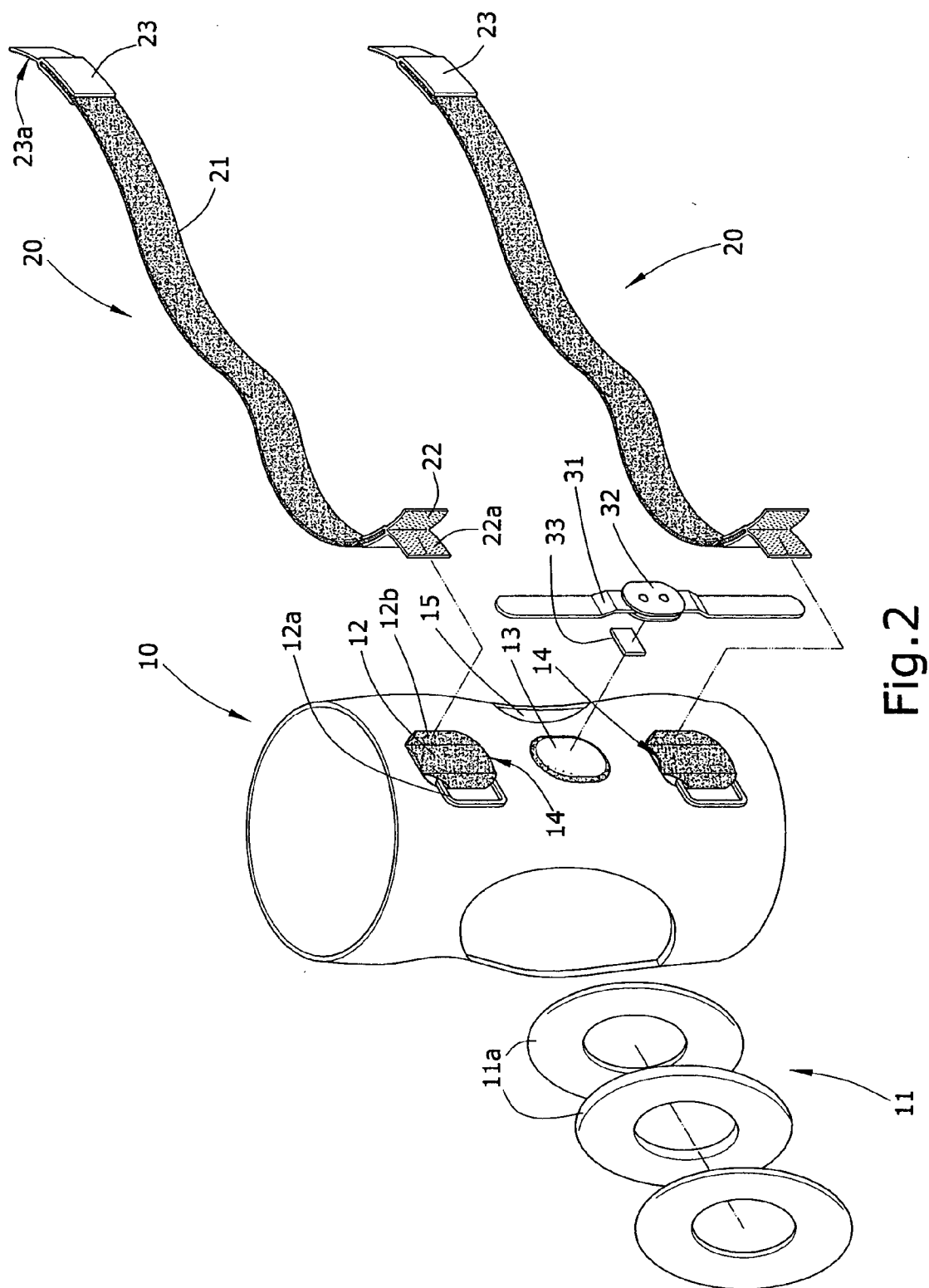


Fig.1(PRIOR ART)



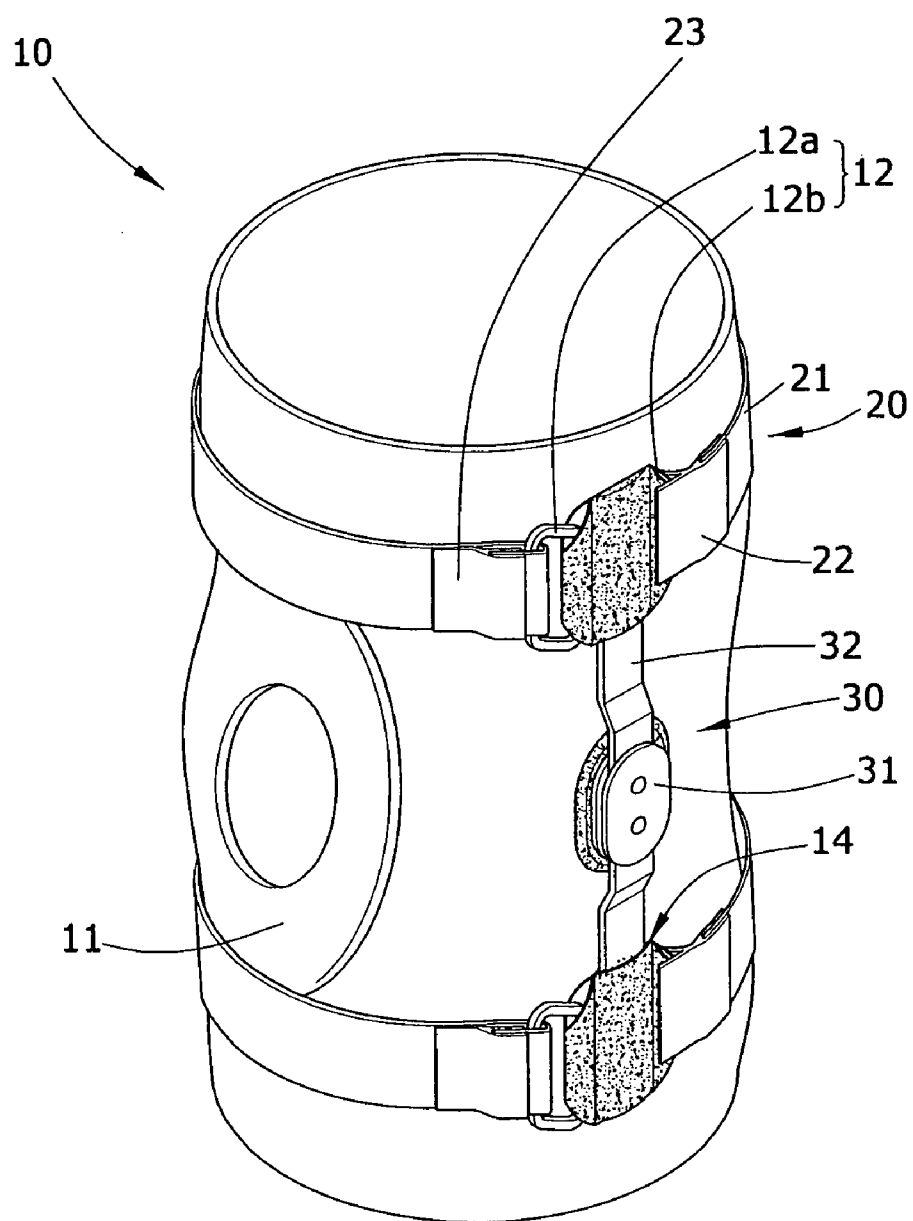


Fig.3

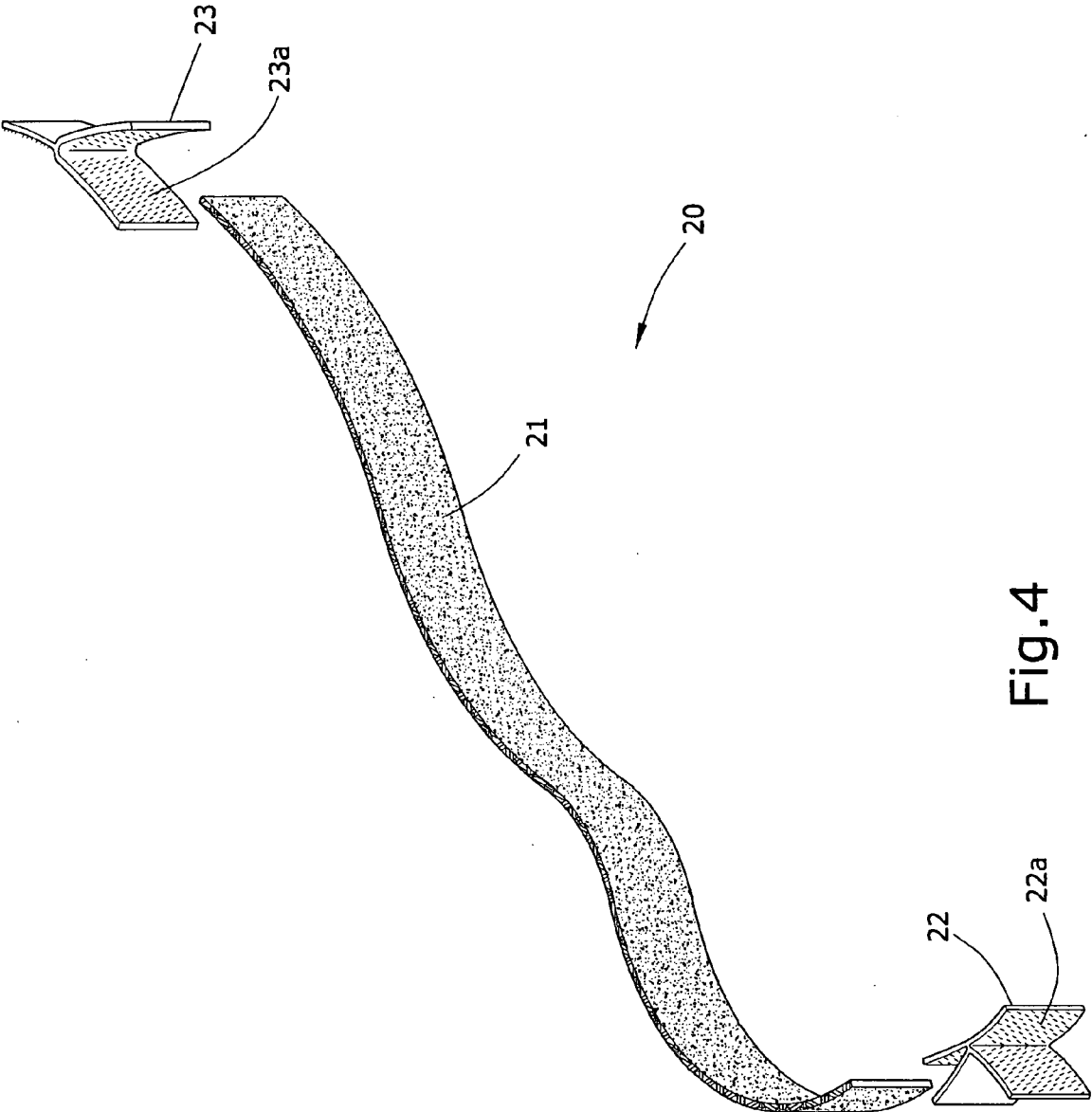


Fig. 4

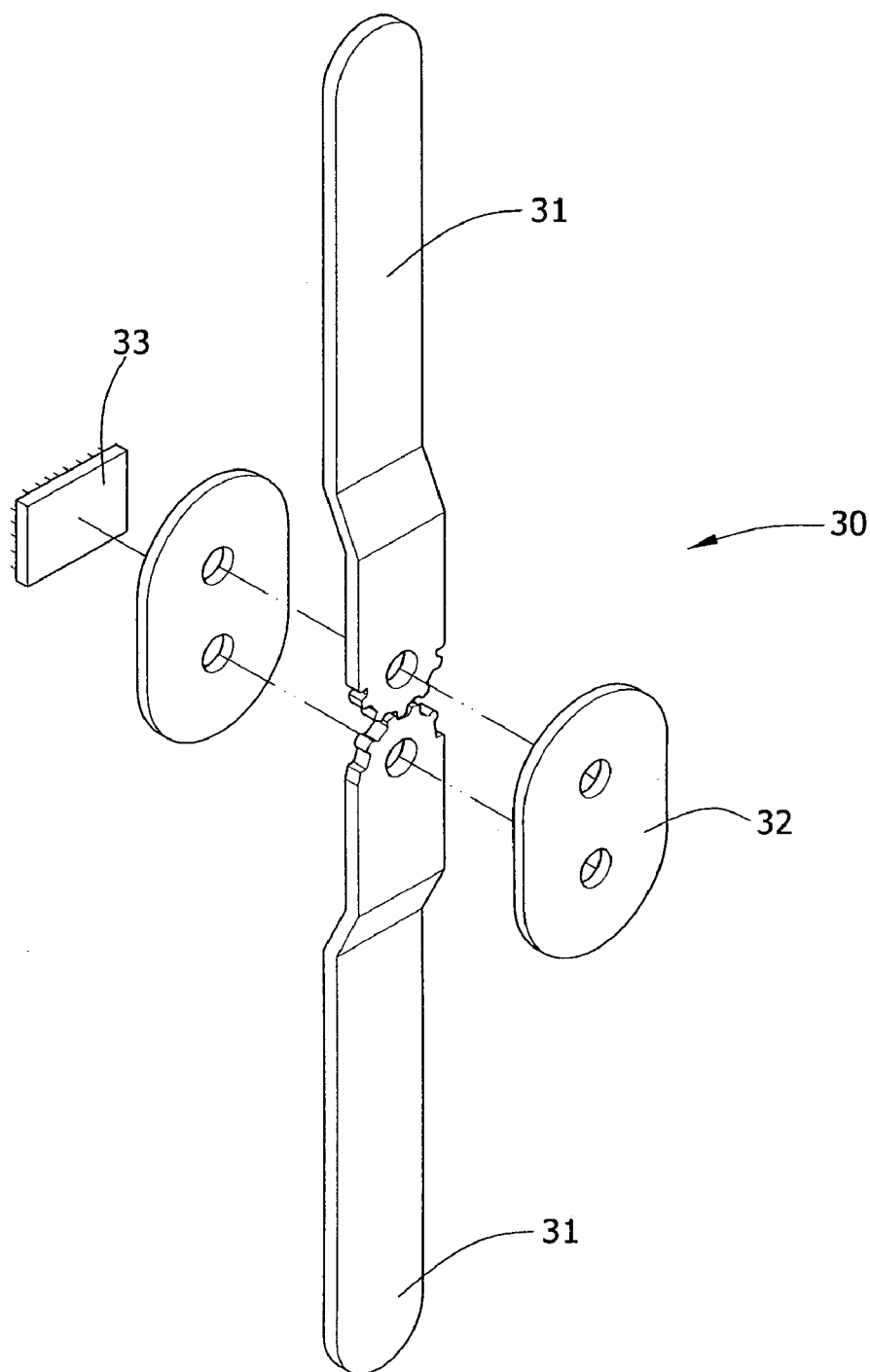


Fig.5

SEAMLESS KNEEPAD STRUCTURE

BACKGROUND OF THE INVENTION

[0001] (a) Field of the Invention

[0002] The present invention relates to a seamless kneepad structure, and more particularly to a kneepad structure made completely by adhering with a high frequency or a hot melt adhesive film. The structure is primarily used in fixing for rehabilitation and a remedy, which can lessen an inferior quality of a conventional sewing method and facilitate assembling and implementing.

[0003] (b) Description of the Prior Art

[0004] It is known that a joint structure of a human is very complicated; therefore, a sprain, an arthroncus, a phlebectasia, and a pain will usually occur in the joint part of limbs by a careless rotation of limbs due to an exercise, a long standing and sitting, or moving and carrying at work, in a daily life, thereby bringing a lot of inconvenience in life and relying on a medicine, a surgery, or a long-term rehabilitation frequently. To prevent the diseased part from spreading again and to adjust a surface subjected to an abnormal force for uniformly regulating the force, all kinds of orthomelic products, which are among the most advanced medical treatment products internationally, arise in the market to serve as necessary appliances for rehabilitation. During the course of treatment to arthritis or an injury to ligaments with a conventional medical science, a diseased part of a patient will be spreading or difficult to be cured successfully, due to a motion linked to a joint. However, a satisfying result will usually be achieved after using an orthomelic product; the orthopaedics is to remedy and adjust a surface subjected to an abnormal force, with an effect confirmed by a general public. However, most of the kneepads in the market as shown in FIG. 1 includes a sheath a made by sewing a plurality of elastic material, and a plurality of fixing bands b sewed on proper positions of the sheath. By using an elasticity of the material of sheath a to tightly wrap on the diseased part, and sewing two support pieces c on proper positions at two sides in an interior of the sheath a, a better supportability is provided. Accordingly, the manufacturing procedure will be even more complicated, thereby increasing the manufacturing cost. Therefore, it is necessary to make an improvement.

SUMMARY OF THE INVENTION

[0005] The primary object of the present invention is to provide a kneepad structure made by adhering with a high frequency or a hot melt adhesive film, which will reduce a waste in manpower of a conventional sewing work, and can facilitate assembling and a fine tuning in usage.

[0006] Accordingly, the present invention comprises primarily a sheath, adjusting bands, and support pieces, wherein the sheath is in a shape of sleeve made by adhering with a high frequency or a hot melt adhesive film on an intersection of two edges of an elastic fabric, and a protection part wrapped with rings of protection pad is installed in a front face of an external surface. The protection pad is made by an inner layer of soft silicone or PU material, and an outer layer of a harder rubber or plastic material, and a plurality of connection parts and stick parts for fixing the adjusting bands are located at two sides of the sheath

respectively, with a ring located at one side of the connection part and a stick part at the other side. Moreover, an opening is kept when sticking the connection part, so as to form a shape of a bag. In addition, the openings of two opposite connection parts are installed opposed to each other, and a stick part for fixing the support pieces is located at a center of the two opposite connection parts, whereas an extension hole is located at an opposite surface of the protection part. Furthermore, the adjusting band is composed of a main body, a fixing piece, and an adjusting piece, wherein two surfaces of the main body are an elastic fabric without stickiness, and the fixing piece and the adjusting piece are fixed on two ends of the main body respectively. Hook layers with two sides opposite to each other are located at two ends of the fixing piece, whereas a hook layer with two sides opposite to each other is located at one end of the adjusting piece and an exposed hook layer is located at the other end of the adjusting piece. The support piece is composed of two iron pieces connected to a connection part whose back surface is provided with a stick piece corresponding to the stick part. Moreover, the aforementioned elastic fabric is made by pasting at least one layer of elastic cloth with other elastic material.

[0007] Upon assembling according to the aforementioned structure, the two adjusting bands are first installed at proper positions of an upper and a lower side of the sheath. The end of the main body having the fixing piece is fixed on the connection part without the ring, and the main body is surrounded the entire sheath, followed by passing through the ring at the other end of the connection part. Next, the hook layer which is exposed at one end of the adjusting piece is pasted on a surface of the main body, followed by installing two ends of the two support pieces in a bag structure formed with the connection part whose two sides are opposite to each other, along with pasting the stick pieces at the back surfaces of the connection parts of support pieces on the stick parts at two sides of the sheath. In usage, a position having one end of the adjusting piece of the adjusting band can be moved freely on demand, so as to adjust a tightness of the sheath. Moreover, other support piece can be added to enhance a supporting force of the kneepad structure, which is fixed on three points with a surface of the sheath. Therefore, other than to provide an enough supporting force, there will be no fall-off upon moving by a user. Accordingly, the present invention can reduce a waste in manpower of a conventional sewing method and cost, and can facilitate assembling and a fine tuning in usage.

[0008] To enable a further understanding of the said objectives and the technological methods of the invention herein, the brief description of the drawings below is followed by the detailed description of the preferred embodiments.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIG. 1 shows a perspective view of a conventional structure.

[0010] FIG. 2 shows a perspective view of compartments of the present invention.

[0011] FIG. 3 shows a perspective view upon assembling the present invention.

[0012] FIG. 4 shows a perspective view of compartments of an adjusting band of the present invention.

[0013] FIG. 5 shows a perspective view of compartments of a support piece of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0014] Referring to FIG. 2, FIG. 3, FIG. 4, and FIG. 5, the present invention comprises primarily an sheath 10, adjusting bands 20, and support pieces 30, wherein the sheath 10 is in a shape of sleeve made by adhering with a high frequency or a hot melt adhesive film on an intersection of two edges of an elastic fabric, and a protection part 11 wrapped with rings of protection pad 11a is installed in a front face of an external surface. The protection pad 11a is made by an inner layer of soft silicone or PU material, and an outer layer of a harder rubber or plastic material, and a plurality of connection parts 12 and stick parts 13 for fixing the adjusting bands 20 are located at two sides of the sheath 10 respectively, with a ring 12a located at one side of the connection part 12 and a stick part 12b at the other side. Moreover, an opening 14 is kept when sticking the connection part 12, so as to form a shape of a bag. In addition, the openings 14 of two opposite connection parts 12 are installed opposed to each other, and a stick part 13 for fixing the support piece 30 is located at a center of the two opposite connection parts 12, whereas an extension hole 15 is located at an opposite surface of the protection part 11.

[0015] The adjusting band 20 is composed of a main body 21, a fixing piece 22, and an adjusting piece 23, wherein two surfaces of the main body 21 are an elastic fabric without stickiness, and the fixing piece 22 and the adjusting piece 23 are fixed on two ends of the main body respectively. Hook layers 22a with two sides opposite to each other are located at two ends of the fixing piece 22, whereas a hook layer 23a with two sides opposite to each other is located at one end of the adjusting piece 23 and an exposed hook layer 23a is located at the other end of the adjusting piece 23.

[0016] The support piece 30 is composed of two iron pieces 31 connected to a connection part 32 whose back surface is provided with a stick piece 33 corresponding to the stick part 13. Ends of the iron pieces 31 connected to the connection part 32 are made into a shape of a gear and are geared to each other.

[0017] Upon assembling, the two adjusting bands 20 are first installed at proper positions of an upper and a lower side of the sheath 10. The end of the main body 21 having the fixing piece 22 is fixed on the connection part 12 without the ring 12a, and the main body 21 is surrounded the entire sheath 10, followed by passing through the ring 12a at the other end of the connection part 12. Next, the hook layer 23a which is exposed at one end of the adjusting piece 23 is pasted on a surface of the main body 21, followed by installing two ends of the two support pieces 30 in a bag structure formed with the connection part 12 whose two sides are opposite to each other, along with pasting the stick

pieces 33 at the back surfaces of the connection parts 32 of support pieces 30 on the stick parts 13 at two sides of the sheath 10.

[0018] Accordingly, the present invention is composed of the sheath, the adjusting bands, and the supporting pieces, which are all made by adhering with the high frequency or the hot melt adhesive film, so as to reduce the waste in manpower of the conventional sewing method and the cost, and to facilitate assembling and the fine tuning in usage.

[0019] It is of course to be understood that the embodiments described herein is merely illustrative of the principles of the invention and that a wide variety of modifications thereto may be effected by persons skilled in the art without departing from the spirit and scope of the invention as set forth in the following claims.

What is claimed is:

1. A seamless kneepad structure comprising a sheath, adjusting bands, and support pieces, wherein the sheath is in a shape of a sleeve made by an elastic fabric whose front face of an exterior surface is provided with a protection part, and whose two sides are provided with a plurality of connection parts and stick parts for fixing the adjusting bands; an extension hole being located at an opposite surface of the protection part and the adjusting band being composed of a main body, a fixing piece, and an adjusting piece which is made by connecting two iron pieces to a connection part whose back surface is provided with a stick piece.

2. The seamless kneepad structure according to claim 1, wherein the sheath is made by adhering with a high frequency on intersections of two edges of an elastic fabric.

3. The seamless kneepad structure according to claim 1, wherein the sheath is made by adhering with a hot melt adhesive film on intersections of two edges of an elastic fabric.

4. The seamless kneepad structure according to claim 1, wherein the adjusting band is constituted by a main body, a fixing piece, and an adjusting piece, wherein the two sides of main body are an elastic fabric without stickiness, the fixing piece and the adjusting piece are located at two ends of the main body respectively, hook layers which are opposite to each other are located at two ends of the fixing piece, and a hook layer whose two sides are opposite to each other is located one end of the adjusting piece, whereas an exposed hook layer is located at the other end of the adjusting piece.

5. The seamless kneepad structure according to claim 1, wherein the support piece is composed of two iron pieces connected to a connection part whose back surface is provided with a stick piece corresponding to the stick part, and ends of iron pieces connected to the connection part are made into a gear shape and are geared together.

6. The seamless kneepad structure according to claim 1, wherein the elastic fabric is made by pasting at least one layer of an elastic cloth with other elastic material.

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