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(54) **DEVICE CAPABLE OF GENERATING SUPERPOSED SHOCK WAVE**

(57) A device capable of generating superposed shock waves, which is applied in a racket having a racket frame and having a racket string with warp strings and weft strings mutually woven to compose a string bed, and includes: at least one first main body formed as a hard medium, a lateral wall member is convexly formed at one side or two sides thereof, a first string slot having an opening at a top end is formed at an inner side of the lateral wall member or the center of the two lateral wall members, a recess is formed at the bottom end of the first string slot; and at least one soft medium, disposed in the first string slot and allowing the racket string to be fastened. As such, the shock wave can be returned for being backwardly transferred to increase the striking force for a ball member.

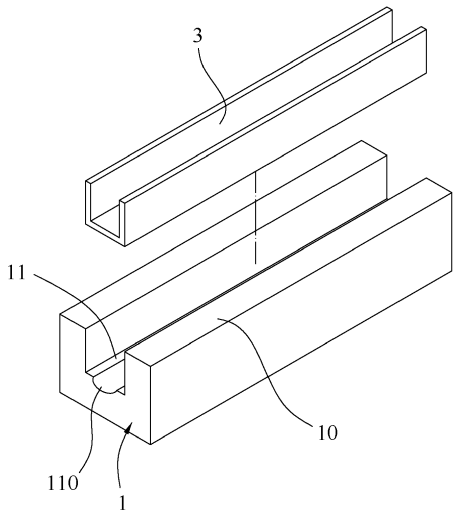

FIG.1

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Description

BACKGROUND OF THE INVENTION

1. Field of the Invention:

[0001] The present invention relates to a device, especially to a device capable of generating superposed shock waves which is able to generate a shock wave which can be returned for being backwardly transferred when a string bed of a racket strikes a ball member.

2. Description of Related Art:

[0002] In a convention racket allowing a ball member to be struck, a racket frame of the racket is provided with racket strings arranged in the warp and the weft means for being woven as a string bed, when the ball member strikes the string bed, a strong shock wave is generated on the string bed, and the shock wave is transferred in all directions, when the shock wave is transferred to the racket frame, the racket frame may be deformed and an extreme torque would be generated when the ball member is struck, so that the racket frame may be broken. The reasons are the conventional racket is not provided with a structure capable of generating a force to against the impact force generated while the ball member is struck; accordingly, the practicability is very much limited; as such, the above-mentioned shortages shall be improved by the skilled people in the art.

SUMMARY OF THE INVENTION

[0003] For solving the shortages existed in the prior art, one primary objective of the present invention is to provide a device capable of generating superposed shock waves, in which with a first main body having a lateral wall member, a first string slot and a recess and a second main body arranged in an opposite direction and having a lateral wall member, a second string slot and a recess and a soft medium being respectively disposed thereon, or the first main body and/or the second main body are respectively disposed with a first node plate and a second node plate, or the first main body and the second main body are covered through an external soft medium, thereby solving the shortages existed in the prior art

[0004] Another objective of the present invention is to provide a shock absorbing device, in which with one or more than one of the devices are disposed at a periphery of a ball/racket frame to generate weights in different phases, and a string passing an inner tubular wall is disposed in an adjacent string hole of the ball/racket frame, thereby providing interferences at different timings and bearing shock waves of a counter shock force generated while a ball being struck via the string, and effects of absorbing shock and damping are achieved.

[0005] One another objective of the present invention is to provide a device capable of generating superposed shock waves, in which a racket string of a racket frame forms a striking zone of a ball member (in other words a shock wave generating zone), the shock wave is able to firstly strike a first main body or/and a second main body or nodes formed by a first node plate or/and a second node plate before striking the racket frame, so that the shock wave can be returned for being backwardly transferred, and the returning time of the shock wave can be shortened, the frequency thereof can be increased for generating an effect of superposing the shock waves, and the force for striking the ball member can be increased.

[0006] The problem to be solved by the present invention is that: In a convention racket allowing a ball member to be struck, a racket frame of the racket is provided with racket strings arranged in the warp and the weft means for being woven as a string bed, when the ball member strikes the string bed, a strong shock wave is generated on the string bed, and the shock wave is transferred in all directions, when the shock wave is transferred to the racket frame, the racket frame may be deformed and an extreme torque would be generated when the ball member is struck, so that the racket frame may be broken. The reasons are the conventional racket is not provided with a structure capable of generating a force to against the impact generated while the ball member is struck; accordingly, the practicability is very much limited.

[0007] For achieving the aforesaid objectives, one technical solution provided by the present invention is to provide a device capable of generating superposed shock waves, which is applied in a racket having a racket frame and having a racket string with a plurality of warp strings and a plurality of weft strings mutually woven to compose a string bed, and characterized in including: at least one first main body, which is a hard medium and a lateral wall member is convexly formed at one side or two sides thereof, wherein a first string slot having an opening at a top end is formed at an inner side of the lateral wall member or the center of the two lateral wall members, a recess is formed at the bottom end of the first string slot, the arrangement of the lateral wall member and the two lateral wall members includes, but not limits to, a full segment or a middle segment of the first main body or a front segment and a rear segment in a staggering status or a rear segment and a front segment in a staggering status; and at least one soft medium, disposed in the first string slot of the first main body and allowing the racket string to be fastened.

[0008] Wherein, according to the present invention, the bottom end of the first main body is disposed with a second main body which is a hard medium and arranged in an opposite direction, and a lateral wall member is convexly formed at one side or two sides thereof, a second string slot having an opening at a bottom end is formed at an inner side of the lateral wall member or the center of the two lateral wall members, a recess is formed at the bottom end of the second string slot, the second string

slot is provided with the soft medium allowing the racket string to be fastened; an angle defined between the first main body and the second main body is able to be adjusted from 0 degree to positive or negative 180 degrees with respect to the racket string being staggered, the arrangement of the lateral wall member and the two lateral wall members includes, but not limits to, a full segment or a middle segment of the second main body or a front segment and a rear segment in a staggering status or a rear segment and a front segment in a staggering status.

[0009] Wherein, according to the present invention, the second main body arranged in the opposite direction and formed at the bottom end of the first main body is integrally formed.

[0010] Wherein, according to the present invention, the bottom end of the first main body is disposed with a first node plate having, but not limiting to, a round shape.

[0011] Wherein, according to the present invention, the bottom end of the second main body is disposed with a second node plate having, but not limiting to, a round shape, and the second node plate and the first node plate are not integrally formed.

[0012] Wherein, according to the present invention, four corners of the first node plate of the first main body are formed with notches.

[0013] Wherein, according to the present invention, four corners of the first node plate of the first main body are formed with notches, and four corners of the second node plate of the second main body are formed with notches.

[0014] Wherein, according to the present invention, at least one middle medium used for mutually fastening is provided between the first main body and the second main body or between the first node plate and the second node plate, the middle medium includes, but not limits to, the soft medium in a planar status or an adhesive, a fabric, a leather or particle glue for increasing the friction force and reaching a function of prohibiting shock waves generated through the warp strings and the weft warps which are top/down and horizontally/vertically arranged so as to be mutually isolated for avoiding mutual interferences.

[0015] Wherein, according to the present invention, an external soft medium connected to the soft medium is respectively disposed on the first node plate and the second node plate together with a lateral surface and a top surface of the first main body and the second main body; or the at least one external soft medium is disposed and used for covering the first node plate and the second node plate; or the at least one external soft medium is disposed and used for covering two sides of the first node plate and the second node plate.

[0016] For achieving the aforesaid objectives, one technical solution provided by the present invention is to provide a device capable of generating superposed shock waves, which is applied in a racket having a racket frame and having a racket string with a plurality of warp strings and a plurality of weft strings mutually woven to compose a string bed, and characterized in including: at least one first main body, which is formed in a square shape or a rectangular shape and is a hard medium, and top ends defined at two sides are respectively and convexly formed with a first string slot allowing the racket string to pass; and at least one soft medium, formed in a circular status and disposed in the first string hole of the first main body and allowing the racket string to be fastened.

[0017] Wherein, according to the present invention, the bottom end of the first main body is disposed with at least one second main body which is a hard medium and arranged in an opposite direction and formed in a square shape or a rectangular shape, bottom ends defined at two sides of the second main body are respectively and convexly formed with a second string slot allowing the racket string to pass, the soft medium formed in a circular status and allowing the racket string to be fastened is disposed in the second string slot; and an angle defined between the first main body and the second main body is able to be adjusted from 0 degree to positive or negative 180 degrees with respect to the racket string being staggered.

[0018] Advantages achieved by the present invention are as follows: with the first main body having the lateral wall member, the first string slot and the recess and the second main body arranged in the opposite direction and having the lateral wall member, the second string slot and the recess and the soft medium being respectively disposed thereon, or the first main body and/or the second main body are respectively disposed with the first node plate and the second node plate, or the first main body and the second main body are covered through the external soft medium; as such, the racket string of the racket frame forms the striking zone of the ball member (in other words the shock wave generating zone), the shock wave is able to firstly strike the first main body or/and the second main body or the nodes formed by the first node plate or/and the second node plate before striking the racket frame, so that the shock wave can be returned for being backwardly transferred, and the returning time of the shock wave can be shortened, the frequency thereof can be increased for generating an effect of superposing the shock waves, and the force for striking the ball member can be increased; the control of the formation of the racket frame and the torque of the racket frame can be more effective for preventing the racket frame from being broken. Accordingly, the present invention is novel and more practical in use, and can be suitable to be applied in related industries.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019]

FIG. 1 is a perspective exploded view showing the first main body according to the present invention;
FIG. 2 is a perspective view showing the assembly

of the first main body according to the present invention;

FIG. 3 is a cross sectional view showing the assembly of the first main body according to the present invention;

FIG. 4 is a cross sectional view showing the racket string being disposed the first main body according to the present invention;

FIG. 5 is a perspective view showing the bottom end of the first main body being disposed with the second main body arranged in an opposite direction according to the present invention;

FIG. 6 is a perspective exploded view showing the first main body being disposed with the first node plate according to the present invention;

FIG. 7 is a perspective view showing the second main body being disposed in FIG. 6 according to the present invention;

FIG. 8 is a perspective view showing the notches being formed in FIG. 7 according to the present invention;

FIG. 9 is a perspective view showing the second main body being disposed with the second node plate and the notches according to the present invention;

FIG. 10 is a perspective exploded view showing the first main body being disposed with the first node plate and the second main body being disposed with the second node plate and the middle medium being disposed therebetween according to the present invention;

FIG. 11 is a cross sectional view showing the assembly of FIG. 10 according to the present invention;

FIG. 12 is a schematic view showing the staggering angle between the first main body and the second main body being 90 degrees according to one embodiment of the present invention;

FIG. 13 is a schematic view showing the staggering angle between the first main body and the second main body being 45 degrees according to one embodiment of the present invention;

FIG. 14 is a schematic view showing the staggering angle between the first main body and the second main body being 45 degrees arranged in another direction according to one embodiment of the present invention;

FIG. 15 is a schematic view showing the present invention being applied in the string bed of the racket according to one embodiment of the present invention;

FIG. 16 is a schematic view showing the string bed of the racket striking the ball member for generating the shock waves being superposed according to one embodiment of the present invention;

FIG. 17 is a schematic view showing the first main body and the first node plate or the second main body and the second node plate being disposed with the external soft medium according to one embodiment of the present invention;

FIG. 18 is another schematic view showing the first main body and the first node plate or the second main body and the second node plate being disposed with the external soft medium according to one embodiment of the present invention;

FIG. 19 is one another schematic view showing the first main body and the first node plate or the second main body and the second node plate being disposed with the external soft medium according to one embodiment of the present invention;

FIG. 20 is a schematic view showing the lateral wall member of the first main body and the second main body being arranged at the full segment of the first main body and the second main body according to one embodiment of the present invention;

FIG. 21, FIG. 22 and FIG. 23 are schematic views showing the two lateral wall members of the first main body and the second main body being arranged at the middle segment of the first main body and the second main body, the front segment and the rear segment in a staggering status and the rear segment and the front segment in a staggering status according to one embodiment of the present invention;

FIG. 24 is a perspective view showing the assembly of the first main body according another embodiment of the present invention; and

FIG. 25 is a perspective view showing the bottom end of the first main body being disposed with a second main body arranged in an opposite direction according to another embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0020] One preferred embodiment of the present invention will be described with reference to the drawings for illustrating the structural assembly, the technical means and the functions to be achieved by the present invention; and the actual ratios and the arrangement of components shall not be limited by the ratios and the arrangement of components in the provided figures.

[0021] Please refer from FIG. 1 to FIG. 25, the present invention provides a device capable of generating superposed shock waves, which is applied in a racket 4 having a racket frame 41 and having a racket string 42 having a plurality of warp strings 421 and a plurality of weft strings 422 composing a string bed (as shown in FIG. 15 and FIG. 16). According to one preferred embodiment of the present invention, the device capable of generating superposed shock waves includes at least one first main body 1 and at least one soft medium 3.

[0022] The at least one first main body 1 is a hard medium and a lateral wall member 10 is convexly formed at one side or two sides thereof. A first string slot 11 having an opening at the top end is formed at an inner side of the lateral wall member 10 or the center of the two lateral

wall members 10. A recess 110 is formed at the bottom end of the first string slot 11. The arrangement of the lateral wall member 10 and the two lateral wall members 10 includes, but not limits to, a full segment or a middle segment of the first main body 1 or a front segment and a rear segment in a staggering status or a rear segment and a front segment in a staggering status (as shown in FIG. 1, FIG. 2, FIG. 3, FIG. 4, FIG. 20, FIG. 21, FIG. 22 and FIG. 23).

[0023] The at least one soft medium 3 is disposed in the first string slot 11 of the first main body 1 and allows the racket string 42 to be fastened (as shown in FIG. 1, FIG. 2, FIG. 3 and FIG. 4).

[0024] Please refer to FIG. 5, according to the present invention, the bottom end of the first main body 1 is disposed with a second main body 2 which is a hard medium and arranged in an opposite direction, and a lateral wall member 20 is convexly formed at one side or two sides thereof. A second string slot 21 having an opening at the bottom end is formed at an inner side of the lateral wall member 20 or the center of the two lateral wall members 20. A recess 210 is formed at the bottom end of the second string slot 21. The second string slot 21 is provided with the soft medium 3 allowing the racket string 42 to be fastened. An angle defined between the first main body 1 and the second main body 2 can be adjusted from 0 degree to positive or negative 180 degrees with respect to the racket string 42 being staggered. The arrangement of the lateral wall member 20 (as shown in FIG. 20) and the two lateral wall members 20 (as shown in FIG. 1 and FIG. 7) includes, but not limits to, a full segment or a middle segment of the second main body 2 (as shown in FIG. 21) or a front segment and a rear segment in a staggering status (FIG. 22) or a rear segment and a front segment in a staggering status (FIG. 23). The second string slot 21 is provided with the soft medium 3 allowing the racket string 42 to be fastened, and the second main body 2 arranged in the opposite direction and formed at the bottom end of the first main body 1 can be integrally formed.

[0025] Please refer to FIG. 5, FIG. 12, FIG. 13 and FIG. 14, the angle defined between the first main body 1 and the second main body 2 can be adjusted from 0 degree to positive or negative 180 degrees with respect to the racket string 42 being staggered; according to this embodiment, the angle can be properly adjusted with respect to the staggering angle of the racket string 42. According to the embodiment disclosed in FIG. 5, the angle defined between the first main body 1 and the second main body 2 is 90 degrees to form a staggering crossed shape for lowering the wind resistance.

[0026] Please refer to FIG. 6, FIG. 7, FIG. 10, FIG. 11, FIG. 8 and FIG. 9, the bottom end of the first main body 1 is disposed with a first node plate 12 having, but not limiting to, a round shape, or/and the bottom end of the second main body 2 is disposed with a second node plate 22 having, but not limiting to, a round shape, and the second node plate 22 and the first node plate 12 are not integrally formed (as shown in FIG. 6, FIG. 7, FIG. 10 and FIG. 11). Four corners of the first node plate 12 of the first main body 1 are formed with notches 121 for the purpose of saving material, more importantly for reducing the wind resistance when being used (as shown in FIG. 8); and according to the present invention, four corners of the second node plate 22 of the second main body 2 are formed with notches 221 (as shown in FIG. 9).

[0027] Please refer to FIG. 10 and FIG. 11, according to the present invention, at least one middle medium 13 used for mutually fastening is provided between the first main body 1 and the second main body 2 or between the first node plate 12 and the second node plate 22, the middle medium 13 includes, but not limits to, the soft medium 3 in a planar status or an adhesive, a fabric, a leather or particle glue for increasing the friction force and reaching a function of prohibiting shock waves generated through the warp strings 421 and the weft warps 422 which are top/down and horizontally/vertically arranged so as to be mutually isolated for avoiding mutual interferences, so that the fastening status can be kept between the first main body 1 and the second main body 2 or between the first node plate 12 and the second node plate 22 for preventing from being loosened or displaced.

[0028] Please refer to FIG. 17, FIG. 18 and FIG. 19, according to the present invention, an external soft medium 31 connected to the soft medium 3 is respectively disposed on the first node plate 12 and the second node plate 22 together with a lateral surface and a top surface of the first main body 1 and the second main body 2 (as shown in FIG. 17); or the at least one external soft medium 31 is disposed and used for covering the first node plate 12 and the second node plate 22 according to the present invention (as shown in FIG. 18); or the at least one external soft medium 31 is disposed and used for covering two sides of the first node plate 12 and the second node plate 22 according to the present invention (as shown in FIG. 19).

[0029] Please refer to FIG. 15 and FIG. 16, according to the present invention, the racket string 42 of any of the vertical warp strings 421 or the horizontal weft strings 422 of the string bed can practice for being used to control the shock waves; when being used, two sides of the string bed composed of the vertical warp strings 421 and the horizontal weft strings 422 of the racket string 42 of the racket 4 are respectively disposed with the first main body 1 and/or the second main body 2, and the warp strings 421 and the weft strings 422 of the racket string 42 are respectively disposed in the first string slot 11 of the first main body 1 having the soft medium 3 and the second string slot 21 of the second main body 2 having the soft medium 3; the first main body 1 or/and the second main body 2 or the first main body 1 having the first node plate 12 or/and the second main body 2 having the second node plate 22 forms a striking zone of a ball member 5 (in other words the shock wave generating zone and as shown in FIG. 15); please refer to FIG. 16, according to the present invention, the string bed is disposed on the

racket 4, so that the deformation of the racket frame 41 and the torque of the racket frame 41 can be controlled, and the racket frame 41 can be prevented from being broken meanwhile the shock wave can be altered to firstly strike the node (in other words the first main body 1 and/or the second main body 2) before striking the racket frame 41, so that the shock wave can be returned for being backwardly transferred, and the returning time of the shock wave can be shortened, the frequency thereof can be increased for generating an effect of superposing the shock waves, the force for striking the ball member 5 can be increased, wherein within the range where the shock wave is generated through striking the ball member 5, the shock wave is respectively and outwardly transferred from the striking point to the racket frame 41 or/and the shock wave generated through the nodes according to the present invention; and when the shock wave reaches the nodes of the present invention or the racket frame 41, the shock wave can be returned for being backwardly transferred (as shown in FIG. 16).

[0030] Please refer to FIG. 24 and FIG. 25, wherein FIG. 24 is a perspective view showing the assembly of the first main body according another embodiment of the present invention and FIG. 25 is a perspective view showing the bottom end of the first main body being disposed with a second main body arranged in an opposite direction according to another embodiment of the present invention. The present invention provides a device capable of generating superposed shock waves, which is applied in a racket 4 having a racket frame 41 and having a racket string 42 having a plurality of warp strings 421 and a plurality of weft strings 422 mutually woven for composing a string bed. According to another preferred embodiment of the present invention, the device capable of generating superposed shock waves includes at least one first main body 1 and at least one soft medium 3.

[0031] The at least one first main body 1 is formed in a square shape or a rectangular shape and is a hard medium, and the top ends defined at two sides are respectively and convexly formed with a first string slot 1100 allowing the racket string 42 to pass.

[0032] The at least one soft medium 3 is formed in a circular status and disposed in the first string hole 1100 of the first main body 1 and allows the racket string 42 to be fastened.

[0033] The bottom end of the first main body 1 is disposed with at least one second main body 2 which is a hard medium and arranged in an opposite direction and formed in a square shape or a rectangular shape, the bottom ends defined at two sides of the second main body 2 are respectively and convexly formed with a second string slot 2100 allowing the racket string 42 to pass, the soft medium 3 formed in the circular status and allowing the racket string 42 to be fastened is disposed in the second string slot 2100; and an angle defined between the first main body 1 and the second main body 2 can be adjusted from 0 degree to positive or negative 180 degrees with respect to the racket string 42 being staggered.

[0034] According to the present invention, with the first main body 1 having the lateral wall member 10, the first string slot 11 and the recess 110 and the second main body 2 arranged in the opposite direction and having the lateral wall member 20, the second string slot 21 and the recess 210 and the soft medium 3 bring respectively disposed thereon, or the first main body 1 and/or the second main body 2 are respectively disposed with the first node plate 12 and the second node plate 22, or the first main body 1 and the second main body 2 are covered through the external soft medium 31; as such, the racket string 42 of the racket frame 41 forms the striking zone of the ball member 5 (in other words the shock wave generating zone), the shock wave is able to firstly strike the first main body 1 or/and the second main body 2 or the nodes formed by the first node plate 12 or/and the second node plate 22 before striking the racket frame 41, so that the shock wave can be returned for being backwardly transferred, and the returning time of the shock wave can be shortened, the frequency thereof can be increased for generating an effect of superposing the shock waves, the force for striking the ball member 5 can be increased; the control of the formation of the racket frame 41 and the torque of the racket frame 41 can be more effective for preventing the racket frame 41 from being broken. Accordingly, the present invention is novel and more practical in use, and can be suitable to be applied in related industries.

Claims

1. A device capable of generating superposed shock waves, applied in a racket having a racket frame and having a racket string with a plurality of warp strings and a plurality of weft strings mutually woven to compose a string bed, and **characterized in** including:

   at least one first main body, formed as a hard medium, wherein a lateral wall member is convexly formed at one side or two sides thereof, a first string slot having an opening at a top end is formed at an inner side of the lateral wall member or the center of the two lateral wall members, a recess is formed at the bottom end of the first string slot, an arrangement of the lateral wall member and the two lateral wall members includes, but not limits to, a full segment or a middle segment of the first main body or a front segment and a rear segment in a staggering status or a rear segment and a front segment in a staggering status; and
   at least one soft medium, disposed in the first string slot of the first main body and allowing the racket string to be fastened.

2. The device capable of generating superposed shock

waves as claimed in claim 1, wherein the bottom end of the first main body is disposed with a second main body which is a hard medium and arranged in an opposite direction, and a lateral wall member is convexly formed at one side or two sides thereof., a second string slot having an opening at a bottom end is formed at an inner side of the lateral wall member or the center of the two lateral wall members, a recess is formed at the bottom end of the second string slot, the second string slot is provided with the soft medium allowing the racket string to be fastened; an angle defined between the first main body and the second main body is able to be adjusted from 0 degree to positive or negative 180 degrees with respect to the racket string being staggered, an arrangement of the lateral wall member and the two lateral wall members includes, but not limits to, a full segment or a middle segment of the second main body or a front segment and a rear segment in a staggering status or a rear segment and a front segment in a staggering status.

3. The device capable of generating superposed shock waves as claimed in claim 2, wherein the second main body arranged in the opposite direction and formed at the bottom end of the first main body is integrally formed.

4. The device capable of generating superposed shock waves as claimed in claim 1, wherein the bottom end of the first main body is disposed with a first node plate having, but not limiting to, a round shape.

5. The device capable of generating superposed shock waves as claimed in claim 2, wherein the bottom end of the first main body is disposed with a first node plate having, but not limiting to, a round shape.

6. The device capable of generating superposed shock waves as claimed in claim 5 , wherein the bottom end of the second main body is disposed with a second node plate having, but not limiting to, a round shape, and the second node plate and the first node plate are not integrally formed.

7. The device capable of generating superposed shock waves as claimed in claim 5, wherein four corners of the first node plate of the first main body are formed with notches.

8. The device capable of generating superposed shock waves as claimed in claim 6, four corners of the first node plate of the first main body are formed with notches, and four corners of the second node plate of the second main body are formed with notches.

9. The device capable of generating superposed shock waves as claimed in claim 6, wherein at least one middle medium used for mutually fastening is provided between the first main body and the second main body or between the first node plate and the second node plate, the middle medium includes, but not limits to, the soft medium in a planar status or an adhesive, a fabric, a leather or particle glue for increasing the friction force and reaching a function of prohibiting shock waves generated through the warp strings and the weft warps which are top/down and horizontally/vertically arranged so as to be mutually isolated for avoiding mutual interferences.

10. The device capable of generating superposed shock waves as claimed in claim 6 or 8, wherein an external soft medium connected to the soft medium is respectively disposed on the first node plate and the second node plate together with a lateral surface and a top surface of the first main body and the second main body; or the at least one external soft medium is disposed and used for covering the first node plate and the second node plate; or the at least one external soft medium is disposed and used for covering two sides of the first node plate and the second node plate.

11. A device capable of generating superposed shock waves, applied in a racket having a racket frame and having a racket string with a plurality of warp strings and a plurality of weft strings mutually woven to compose a string bed, and **characterized in** including:

at least one first main body, formed in a square shape or a rectangular shape and as a hard medium, wherein top ends defined at two sides thereof are respectively and convexly formed with a first string slot allowing the racket string to pass; and
at least one soft medium, formed in a circular status and disposed in the first string hole of the first main body and allowing the racket string to be fastened.

12. The device capable of generating superposed shock waves as claimed in claim 11, wherein the bottom end of the first main body is disposed with at least one second main body which is a hard medium and arranged in an opposite direction and formed in a square shape or a rectangular shape, bottom ends defined at two sides of the second main body are respectively and convexly formed with a second string slot allowing the racket string to pass, the soft medium formed in a circular status and allowing the racket string to be fastened is disposed in the second string slot; and an angle defined between the first main body and the second main body is able to be adjusted from 0 degree to positive or negative 180 degrees with respect to the racket string being staggered.

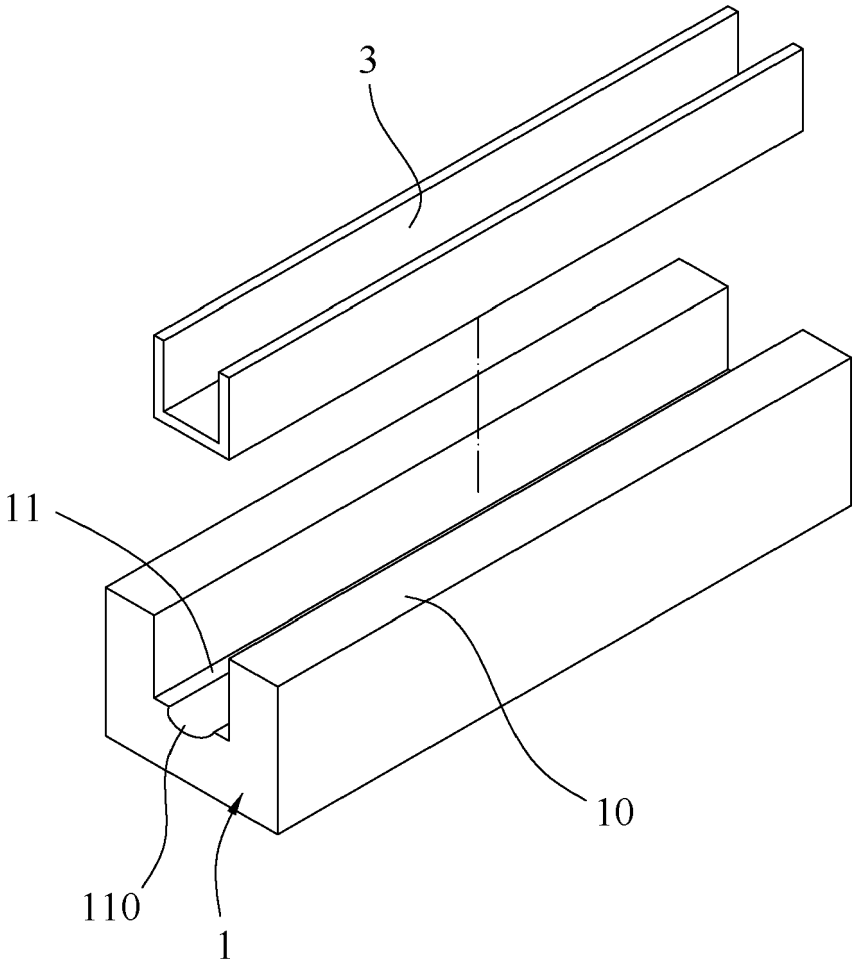

FIG.1

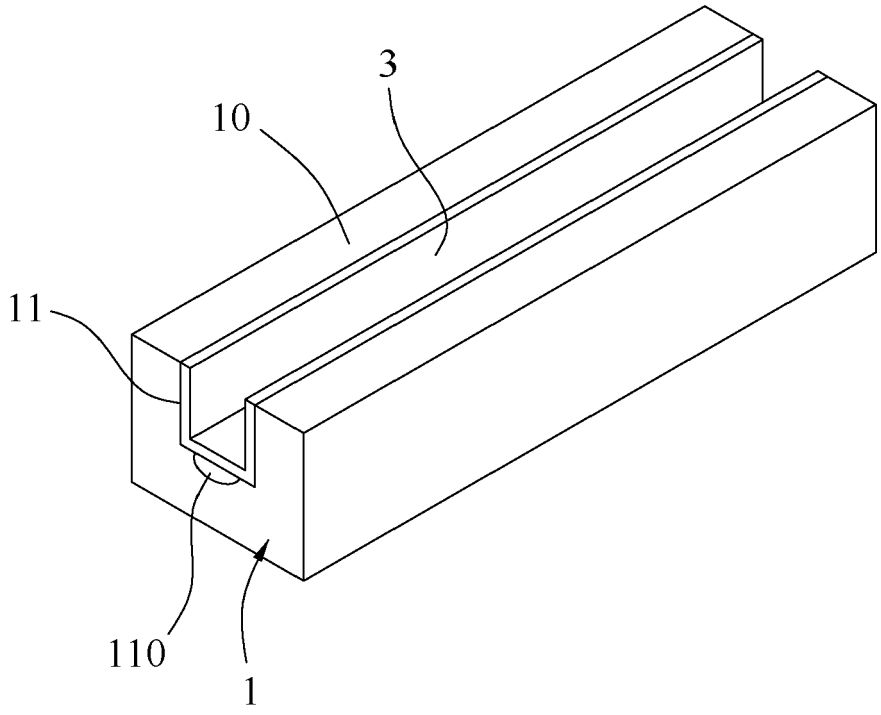

FIG.2

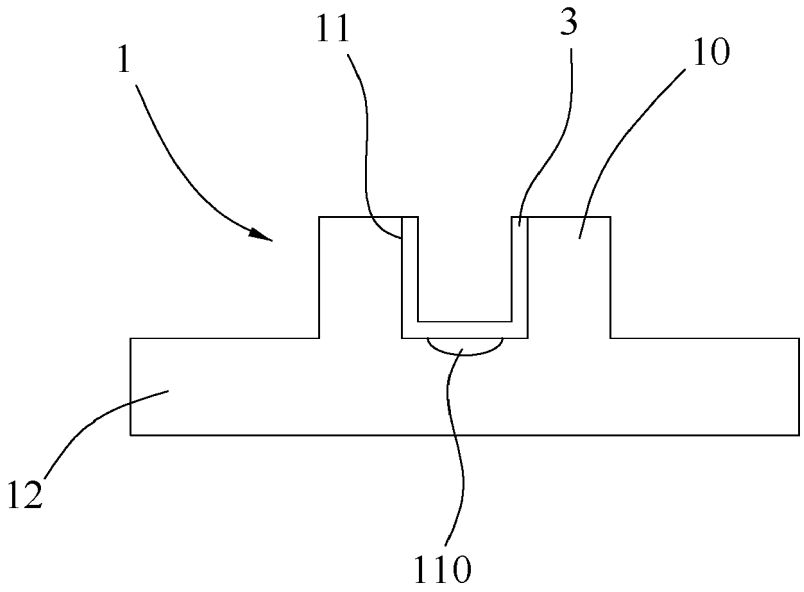

FIG.3

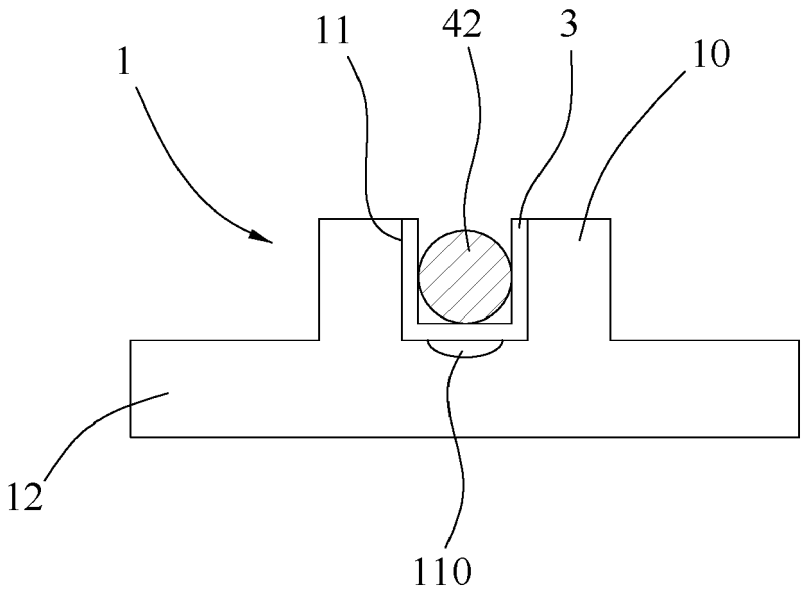

FIG.4

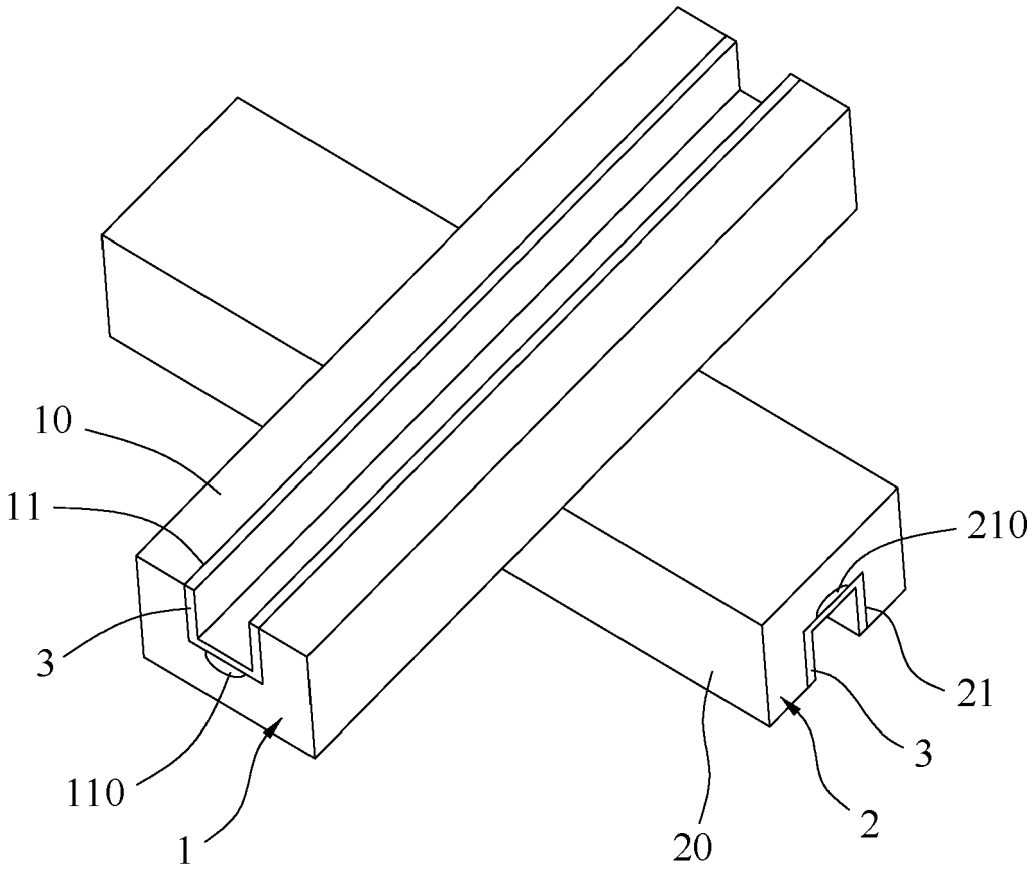

FIG.5

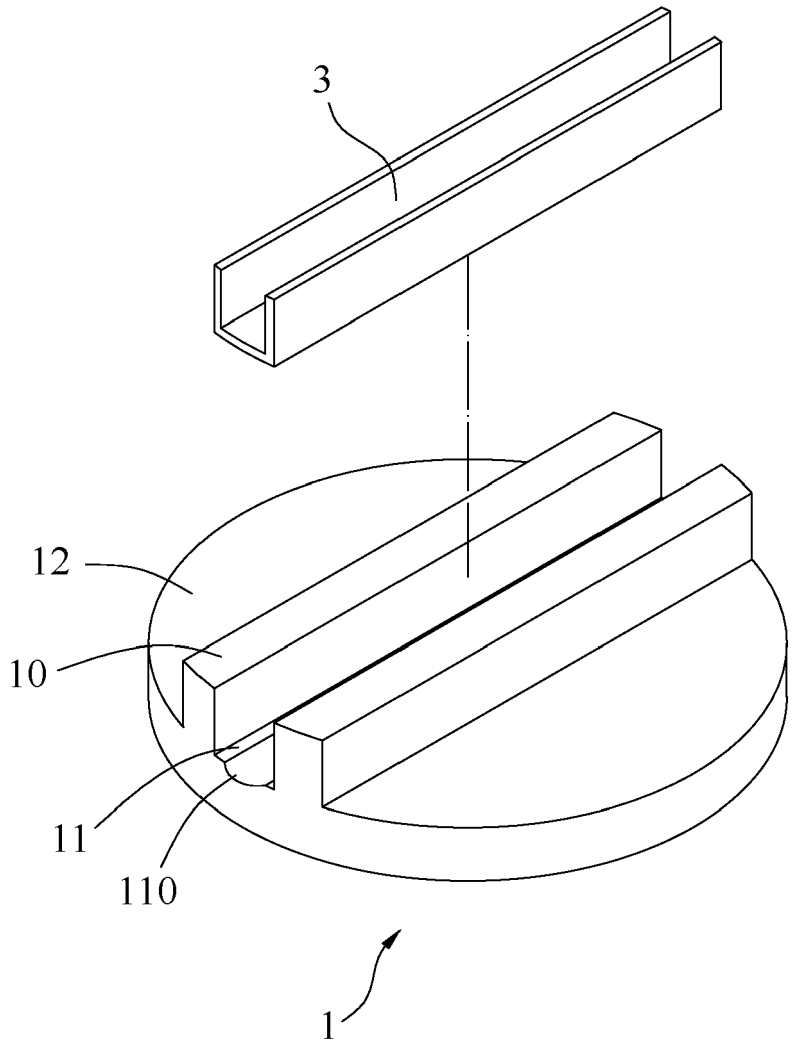

FIG.6

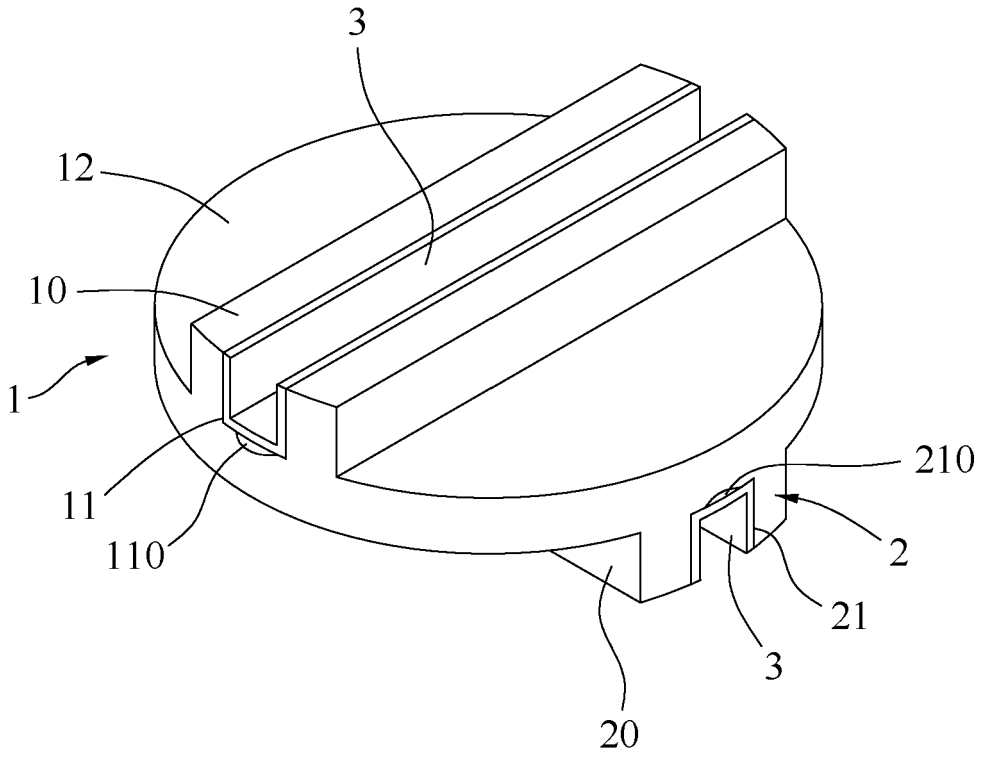

FIG.7

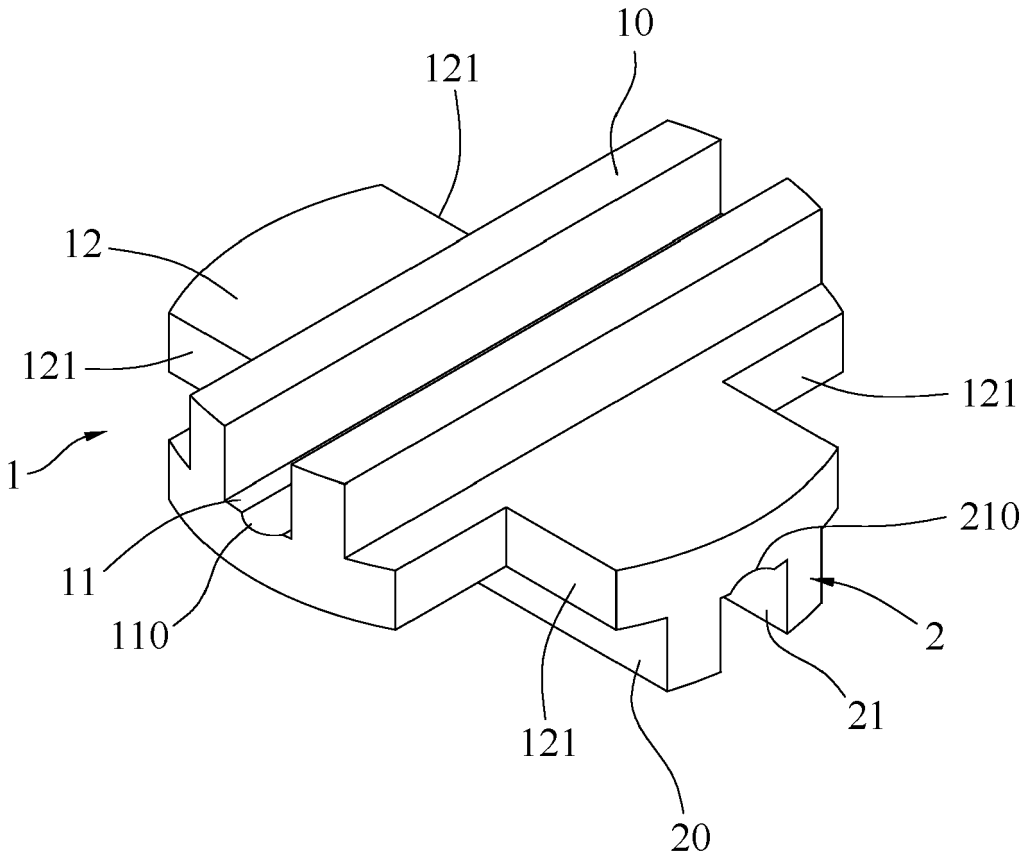

FIG.8

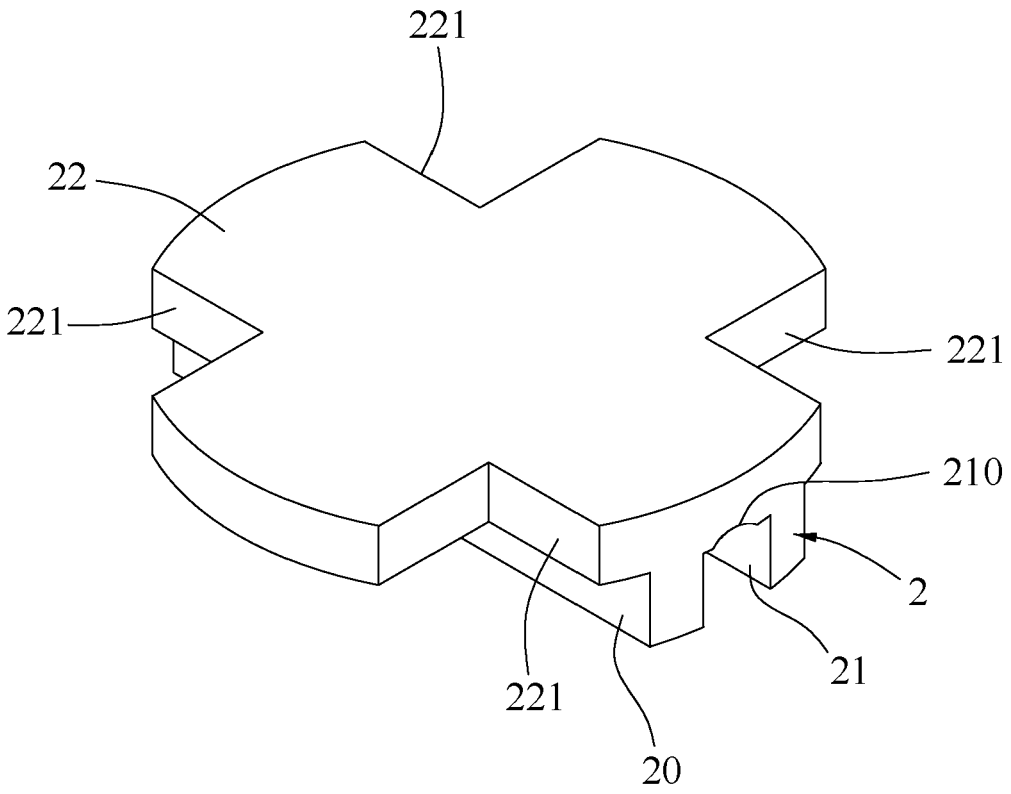

FIG.9

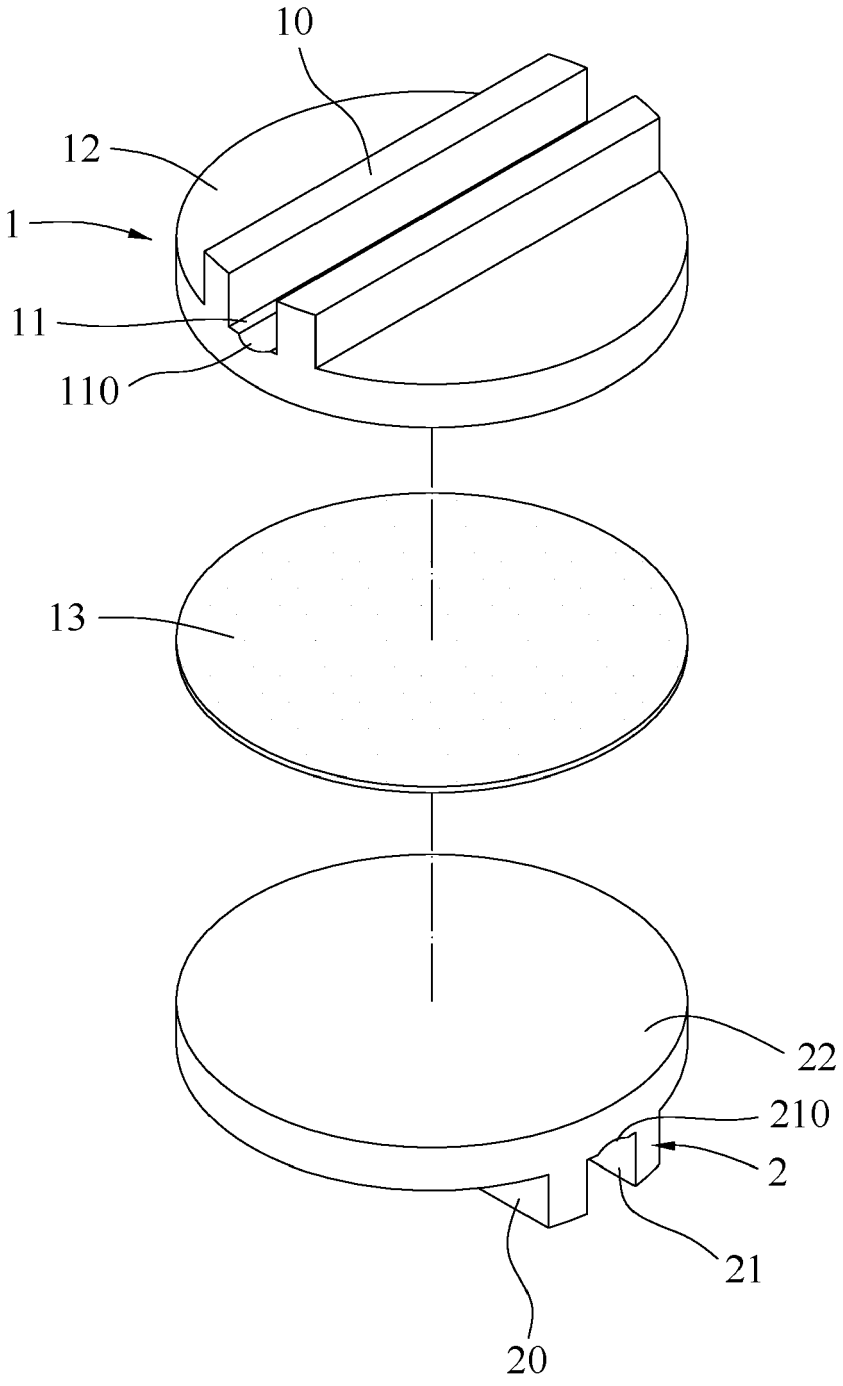

FIG.10

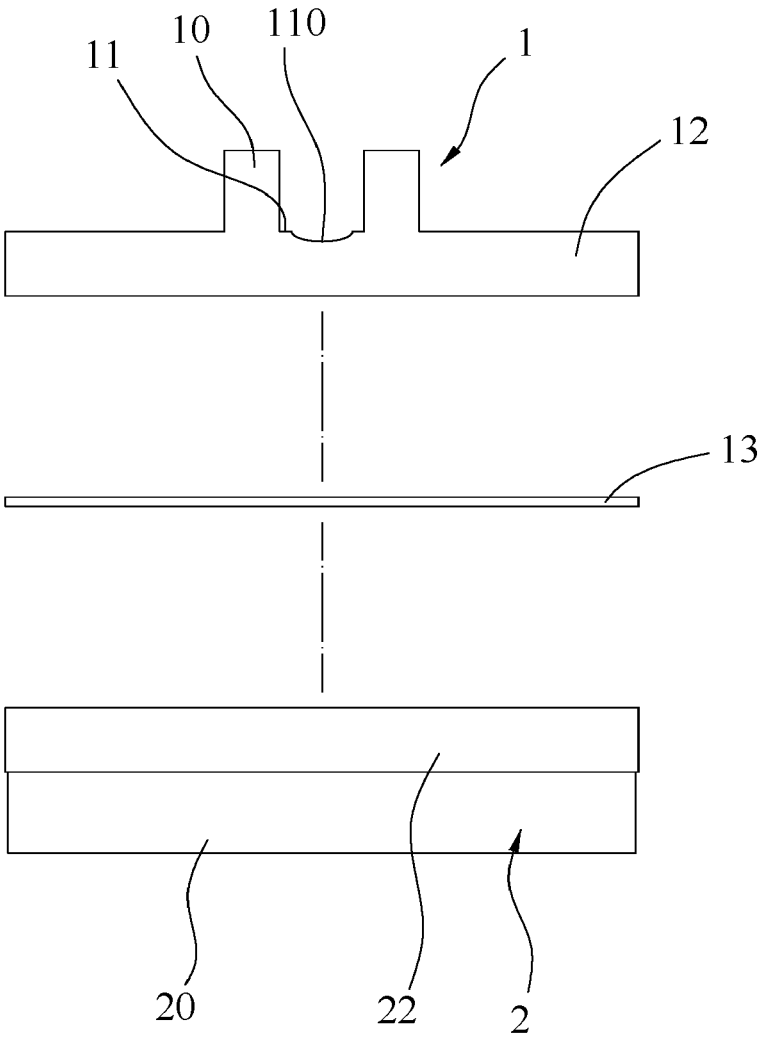

FIG.11

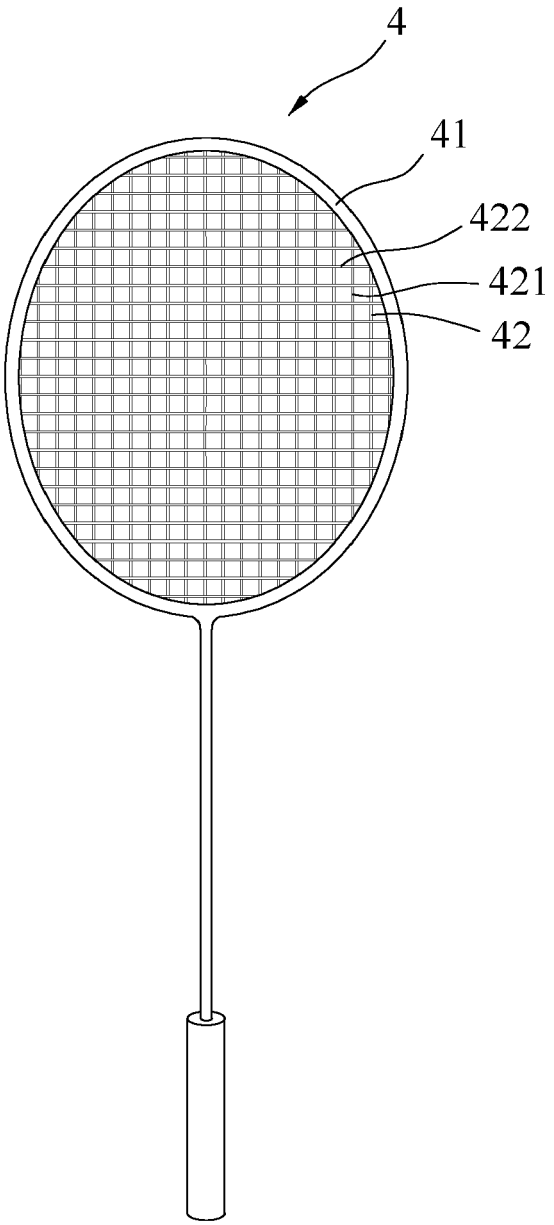

FIG.12

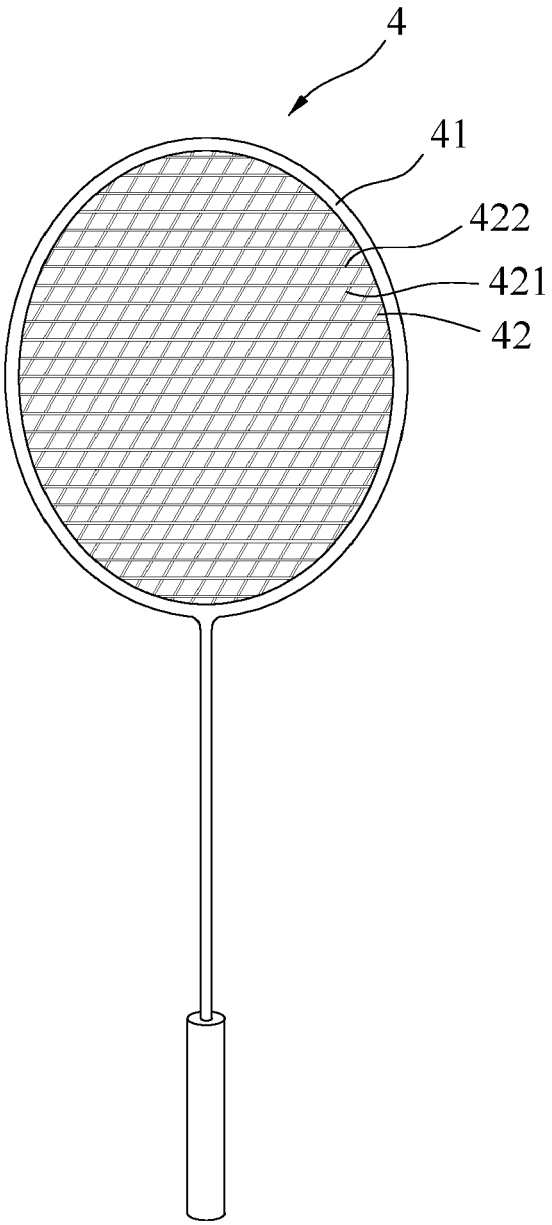

FIG.13

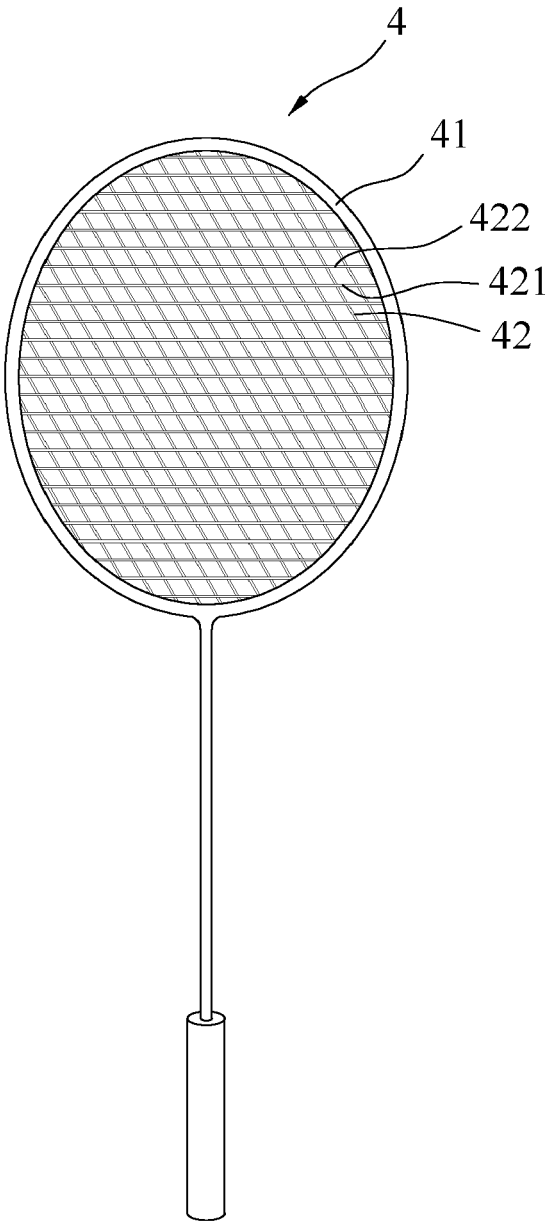

FIG.14

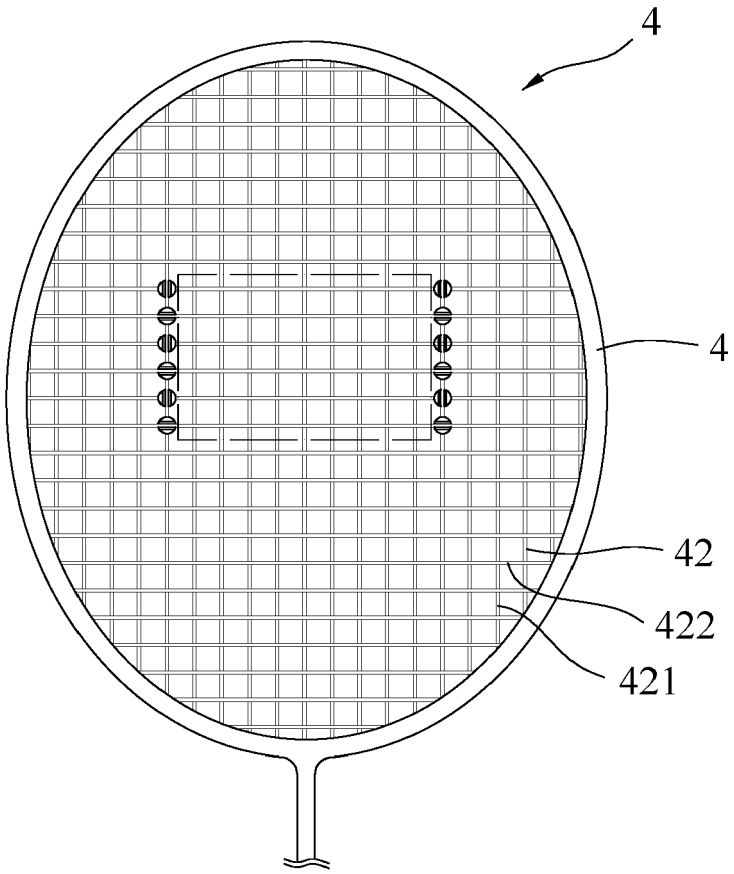

FIG.15

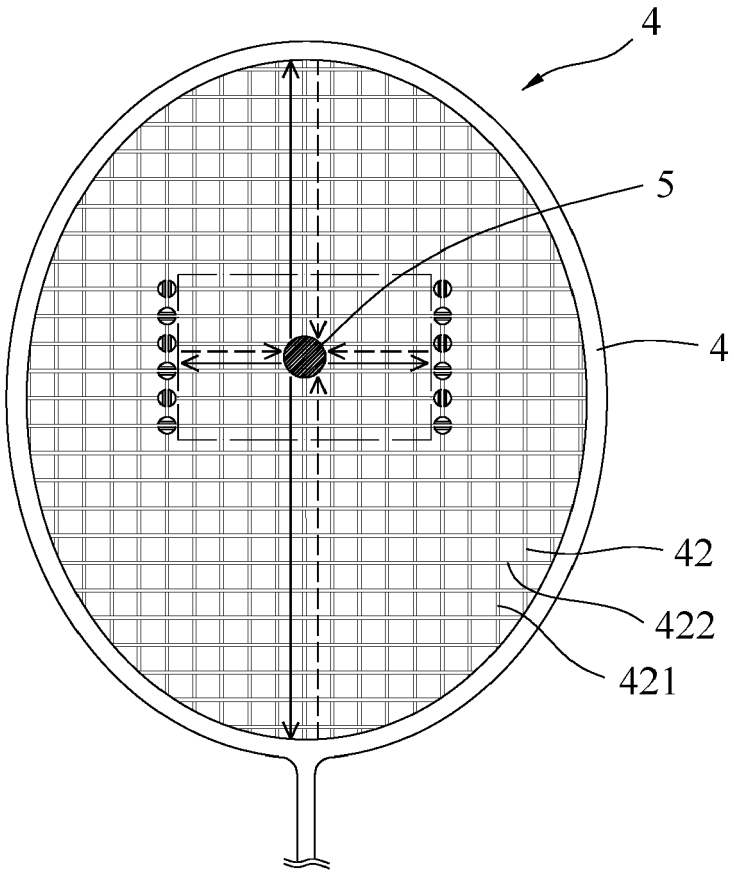

FIG.16

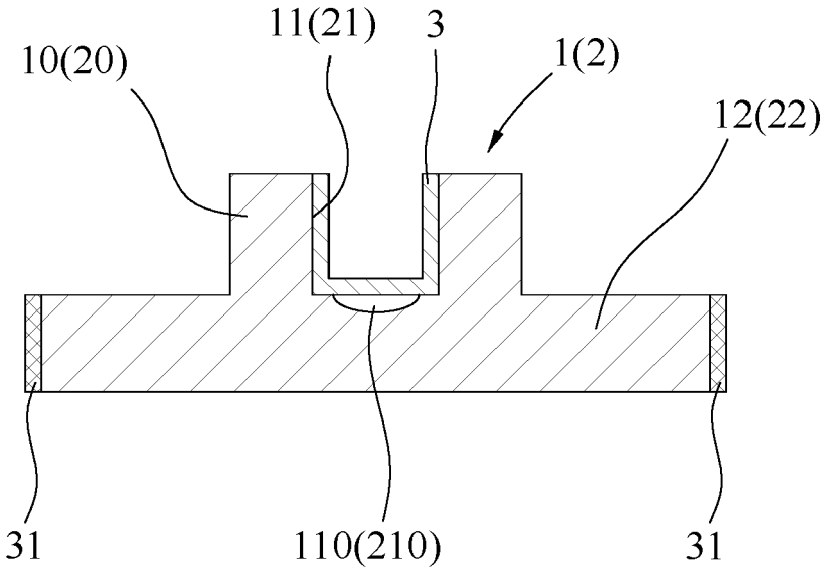

FIG.17

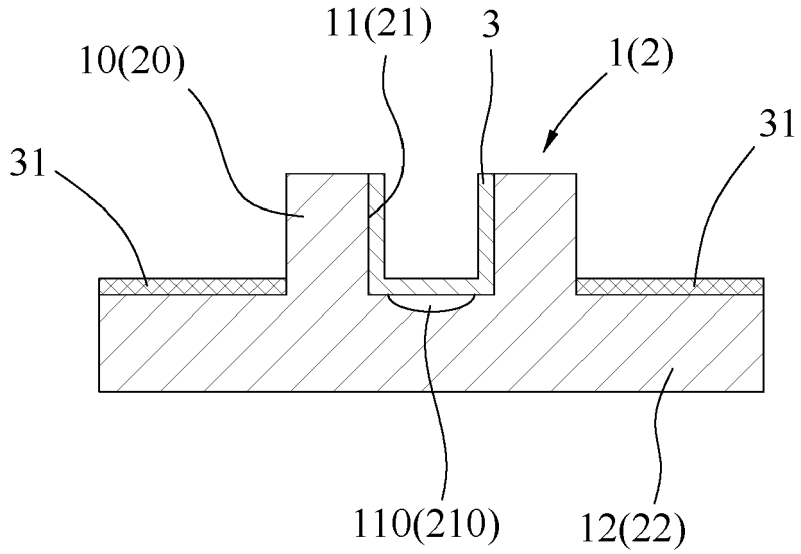

FIG.18

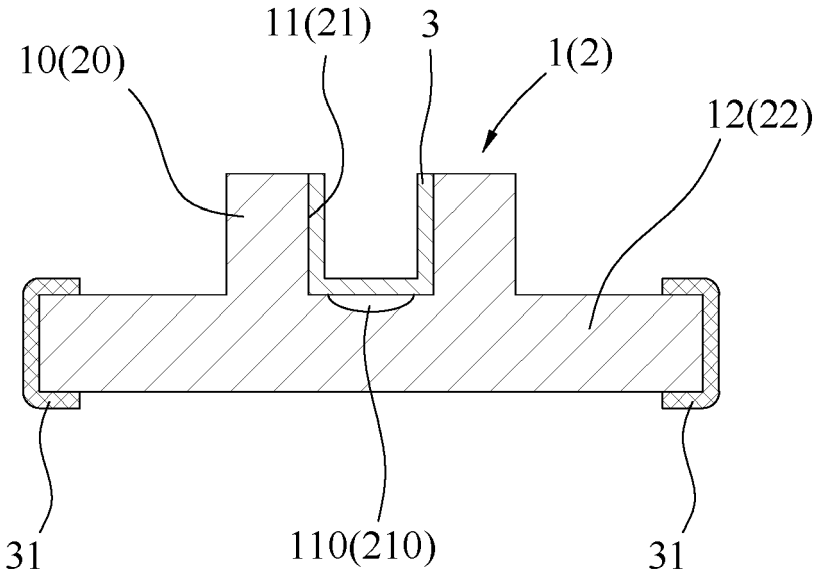

FIG.19

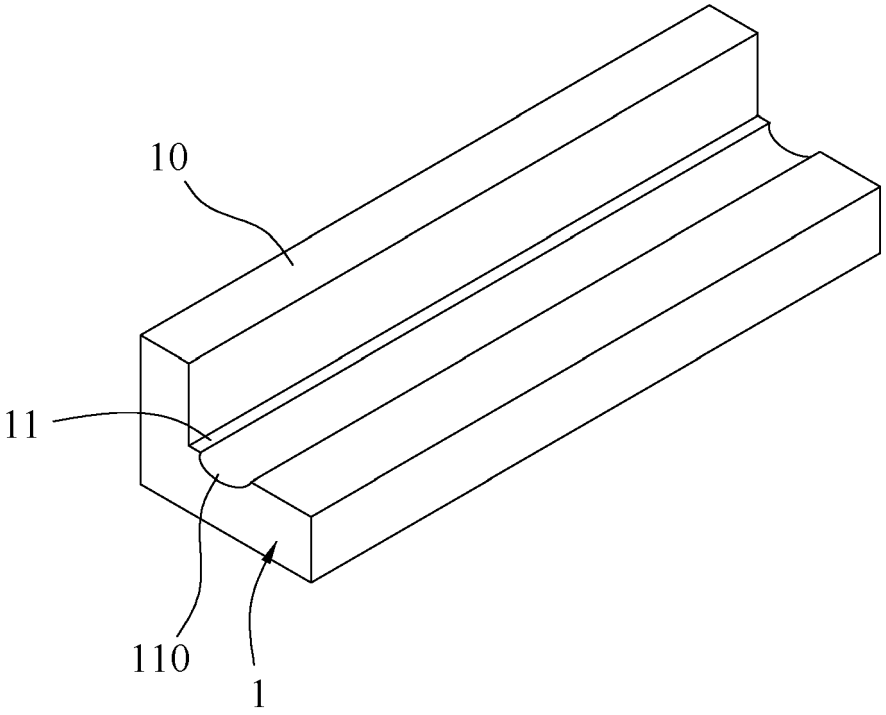

FIG.20

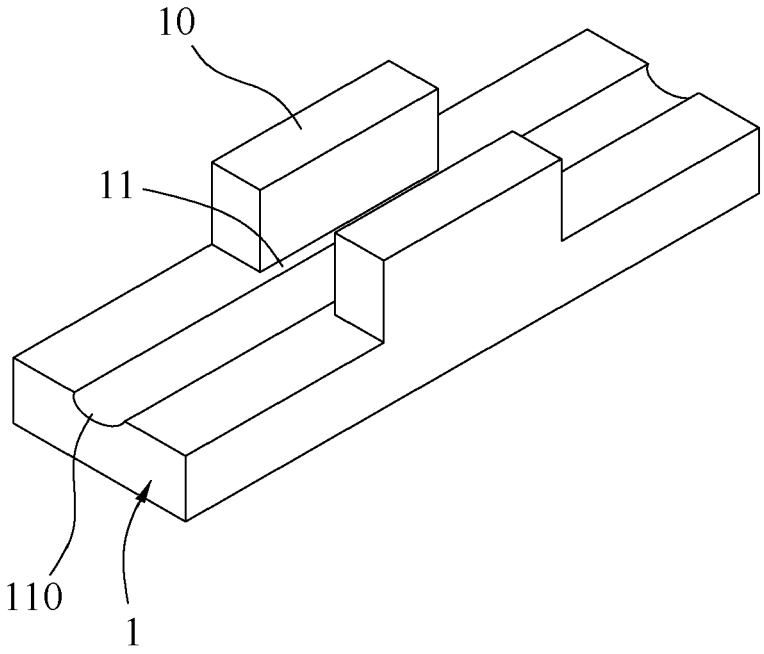

FIG.21

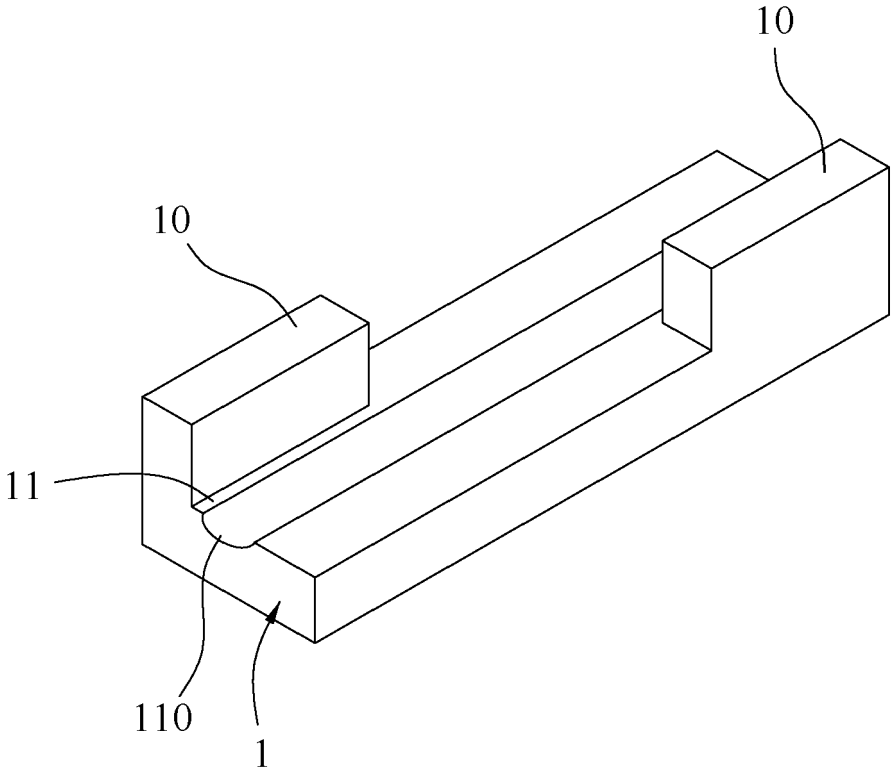

FIG.22

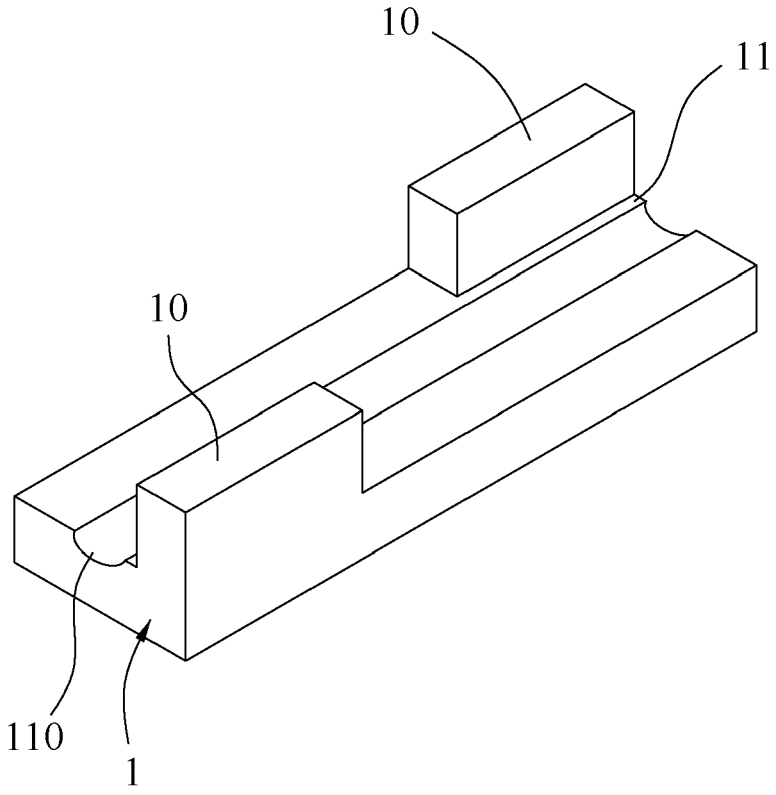

FIG.23

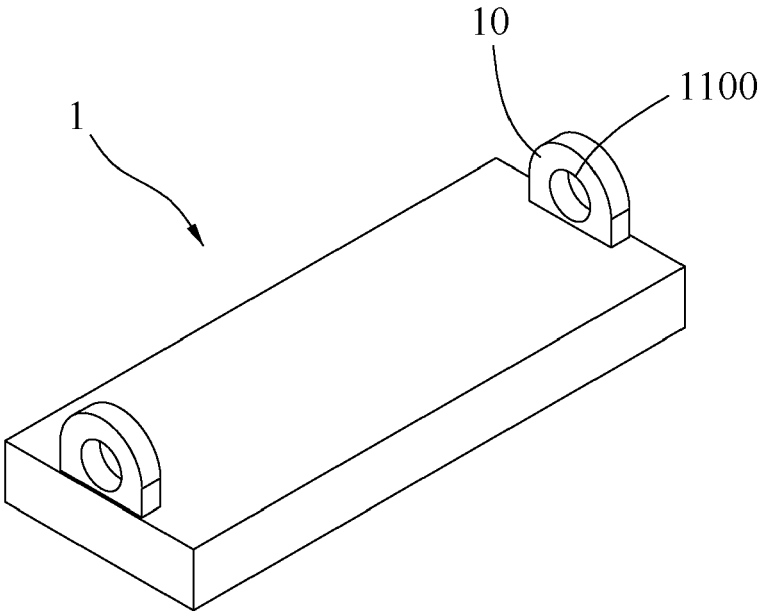

FIG.24

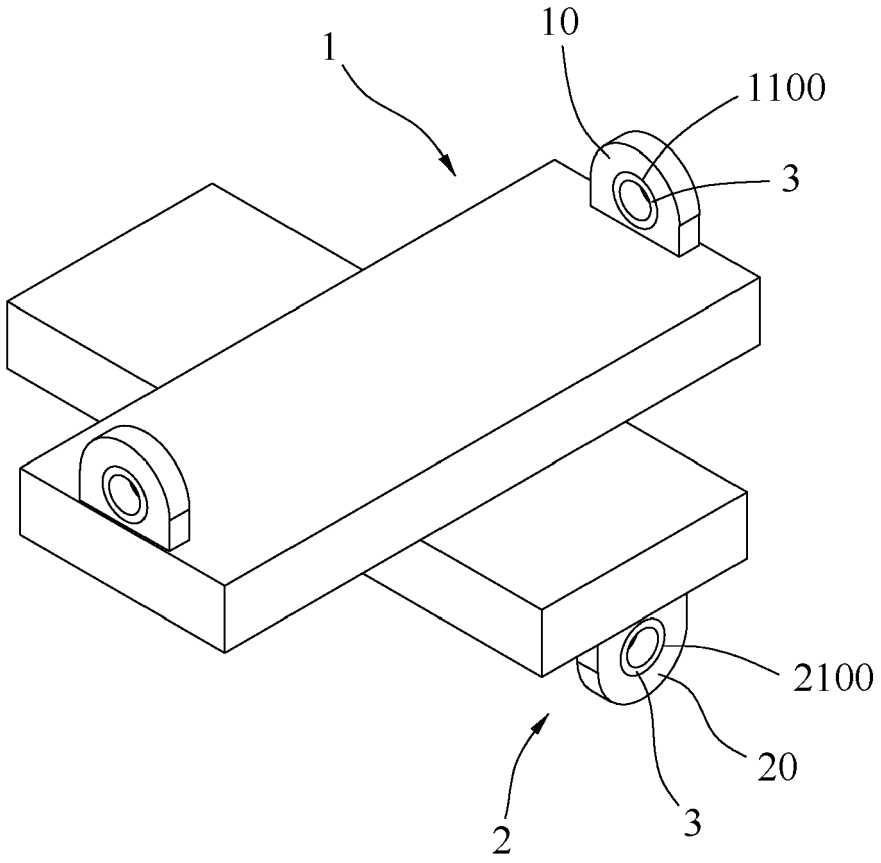

FIG.25

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EUROPEAN SEARCH REPORT

Application Number
EP 23 16 6132

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 26 42 978 A1 (SOMMER REINHOLD) 30 March 1978 (1978-03-30) * page 5, paragraph 2; figures 1-3 *	1-8, 10-12	INV. A63B51/00 A63B60/52 A63B51/11
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A63B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	1 September 2023	Vesin, Stéphane

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