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(54) DECORATIVE GLAZING INSERT

EINSATZ FÜR DEKORVERGLASUNG

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Description

[0001] The present invention relates to a decorative glazing insert suitable for receipt of one or more decorative elements and more particularly, but not exclusively, to a decorative glazing insert suitable for receipt of one or more decorative sheets of glass, Perspex or the like.

[0002] The combination of one or more decorative sheets of glass, commonly of different colours, to provide a single pane of glass which can be mounted within a window frame is a popular decorative effect used in the glazing industry. Historically, the sheets of glass have been combined using strips of lead or zinc metal interposed between adjacent edges of the sheets of glass, as in traditional stained glass windows. Making panes of glass in this way requires skill, and is time consuming, to assemble and the materials used, such as lead, are not environmentally friendly.

[0003] Since the use of double-glazing has become more widespread, new ways have been sought to incorporate decoration. Traditional lead or zinc-based techniques are not suitable as the unit cannot be adequately sealed. A technique which is used is to stick a bevelled pattern onto the outside of a standard double-glazing unit. The materials used would be glass, lead or a polymer. Once again, this technique is time consuming to assemble, not very durable and does not accurately reproduce the finish of a traditional stained glass window.

[0004] Other attempts to provide decoration to a double-glazing unit have sought to place decorative inserts between the panes of the double-glazing unit. Decorative inserts may be used to provide a decorative effect in any application to which double-glazing units may be applied, such as doors and windows. One example of a known double-glazing insert is a plastic pattern formed in one piece but which is not capable of supporting sheets of decorative glass. Decorative tinting of the window in this approach is achieved by colouring the double-glazing panes on either side of the plastic insert in order to give the illusion that the insert contains coloured sheets of glass. While this is an inexpensive solution, it is clear that the finish achieved is unlikely to be of a high standard.

Another approach to decorating double-glazing units is to use a decorative insert of small sheets of glass supported by a framework, which comprises a number of standard length bars constructed of extruded aluminium connected together by standard corner joint pieces. Once the sheets of glass have been slid into the framework, the completed insert is then placed between the panes of a double-glazing unit. While this approach provides a support framework for the small sheets of decorative glass within the double-glazing unit, and a higher quality finish than affixing strips of lead or zinc to the external surface of a glazing unit, the framework is heavy and the number of possible configurations is limited. Moreover, the framework tends to rattle against the glass panes of the double-glazing unit during movement or flexure of the unit. The small sheets of decorative glass used in this type of insert must be manufactured to a moderately high level of precision so that the sheets do not shift or rattle in the framework once installed, which raises the cost of glass sheet production.

US5477647A discloses a decorative art glass window system intended for use in a double window pane unit according to the preamble of claim 1. It is an object of the present invention to obviate or mitigate at least one of the problems with existing decorative glazing systems which are outlined above.

The invention is defined in the claims. According to a first aspect of the present invention there is provided a system comprising a decorative glazing insert and a decorative glazing element, the decorative glazing insert defining at least one aperture for receipt of the decorative glazing element, the decorative glazing insert comprising first and second generally planar insert parts, the first generally planar insert part connectable to the second generally planar insert part by engagement of a first engagement portion defined by the first insert part with a second engagement portion defined by the second insert part, wherein at least one of said first and second engagement portions extends substantially transverse to the major plane of the first insert part and wherein the insert further comprises (i) at least one mounting portion arranged to permit mounting of the insert to a frame of a glazing unit between the panes thereof, and (ii) an elongate mounting member (8) connected to the or each mounting portion, said mounting member being arranged, in use, to connect the insert to the frame of the double-glazing unit between the panes thereof, wherein at least one of the first and second engagement portions defines an enlarged head region (28,30), and preferably wherein both of the first and second engagement portions define complementary enlarged head regions which are configured, in use, to overlie one another when the first and second engagement portions are engaged together, so as to optionally define a predetermined clearance between said head regions to accommodate a predetermined range of thicknesses of decorative glazing elements for receipt in said at least one aperture defined by the insert.

[0005] According to a second aspect of the present invention there is provided a glazing unit comprising a frame and at least one glazing panel, said glazing unit incorporating a decorative glazing insert according to the first aspect of the present invention.

[0006] The present invention thus provides a relatively cheap, simple and convenient means for providing a high quality, reproducible decorative effect to a window.

[0007] It will be understood by the skilled person that any object described as "generally planar" will define a major plane, that is, the plane in which the object generally lies.

[0008] The insert may be formed from a relatively cheap, lightweight plastics material, e.g. acrylonitrile butadiene styrene (ABS), or the like and may be constructed by injection moulding. Alternatively, the insert may be formed from any desirable material, including

glass or a metal and may be constructed by any appropriate process.

The decorative glazing insert is inexpensive and efficient to manufacture due, at least in part, to its simple construction. Moreover, the decorative glazing insert is preferably relatively lightweight, particularly when compared to existing inserts made up of extruded aluminium bars and corner joints, and may provide a wide variety of shapes of aperture for receipt of decorative glazing elements.

At least one of the first and second insert parts may incorporate a curved section which defines a curved edge to said at least one aperture for receipt of a decorative glazing element. Prior inserts composed only of interconnected straight bars were not able to provide such decorative features.

[0009] The second insert part is generally planar, which provides advantages in more securely receiving decorative glazing elements which are also typically planar. The at least one aperture is preferably defined by connection of the first and second insert parts.

The at least one of the first and second engagement portions which extends substantially transverse to the major plane of the first insert part preferably extends substantially perpendicular to the major plane of the first insert part.

The at least one of the first and second engagement portions which extends substantially transverse to the major plane of the first insert part is preferably a formation such as a substantially cylindrical or conical projection (e.g. a pin) which is upstanding from a surface of the respective insert part. Conveniently, the other of the first and second engagement portions is a recess such as a bore or the like dimensioned to accommodate the formation. Alternatively, the other of the first and second engagement portions may extend substantially transverse to the major plane of the first insert part. In such a case, the other of the first and second engagement portions which extends substantially transverse to the major plane of the first insert part preferably extends substantially perpendicular to the major plane of the first insert part. The other of the first and second engagement portions which extends substantially transverse to the major plane of the first insert part may be a further formation which is upstanding from a surface of the respective insert part.

[0010] In accordance with the invention, at least one of the first and second engagement portions defines an enlarged head region, which could, for example, provide a snap fitting function to the engagement portions to resist their disengagement. This would provide an advantage in that the decorative glazing insert could be securely assembled and, if desired, disassembled.

[0011] Both of the first and second engagement portions may define complementary enlarged head regions which are configured, in use, to overlie one another when the first and second engagement portions are engaged together.

[0012] In a preferred embodiment, when the first and second engagement portions are engaged together, the enlarged head regions overlie one another so as to define a predetermined clearance between said head regions to accommodate a predetermined range of thicknesses of decorative glazing elements for receipt in said at least one aperture defined by the insert. In this way the clearance can accommodate tolerances in the thickness of the decorative glazing elements used, thereby reducing the need to manufacture the glazing elements to such a high degree of accuracy as might be required when intended for use with prior art inserts.

[0013] The decorative glazing insert may further comprise a securing member configured, in use, to secure the insert to a glazing panel. This provides an advantage in that the insert is less prone to shifting or rattling within the glazing panel.

[0014] The securing member may be arranged to be located in an orifice defined by the insert. The orifice may be defined by the first and second insert parts. The securing member may be configured, in use, to secure the first and second insert parts together, thereby providing a simple and convenient method for holding the insert together.

It will be apparent that the securement member may be formed from any appropriate material, including a fabric such as felt or a polymer. Preferably, the securing member is formed from a rubber material.

The insert comprises at least one mounting portion arranged to permit mounting of the insert to a frame of a glazing unit. The insert may comprise any desirable number of mounting portions, such as one, two, three or more. It is particularly preferred that the insert comprises four mounting portions extending generally laterally of the insert at about 90° to one another. The or each mounting portion may be defined by first and second mounting sections, at least one of said first and second mounting sections defined by one of the first and second insert parts. Preferably, the first insert part defines the first mounting section and the second insert part defines the second mounting section. Advantageously, the first and second mounting sections may, in some embodiments, be used to secure the first and second insert parts together when the insert is mounted to a frame of the glazing unit.

[0015] The insert further comprises an elongate mounting member connected to the or each mounting portion, said mounting member arranged, in use, to connect the insert to the frame of the glazing unit. The mounting member may be configured, in use, to secure the first and second mounting sections together.

The first and second engagement portions may be releasably or non-releasably engageable. Where the engagement portions are releasably engageable, this 67011683-1-JSTAFFORD provides an advantage in that the inserts may be reconfigured or reused more easily and in that broken decorative elements may be replaced more easily.

[0016] It will be appreciated that the insert may define

a plurality of apertures for receipt of decorative glazing elements, which may be of any appropriate size, shape, colour or composition.

[0017] The first and second insert parts may be substantially identical, that is, have the same size, shape and arrangement of complementary first and second engagement portions to provide ease and efficiency of construction and assembly of the insert. This is because only one type of insert part would need to be constructed and the first and second insert parts would not need to be distinguished upon assembly of an insert.

[0018] Embodiments of the present invention are now described, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 is a schematic illustration of a first embodiment of a decorative glazing insert according to the present invention in an assembled form, with mounting arms attached and supporting sheets of decorative glass;

Figure 2 is a schematic illustration of a first part of the double-glazing insert of Figure 1;

Figure 3 is a schematic illustration of a second part of the double-glazing insert of Figure 1;

Figure 4 is a schematic illustration of an upper section of the first part of the insert shown in Figure 2;

Figure 5 is a schematic illustration of a lower section of the second part of the insert of Figure 3;

Figure 6A is a schematic illustration of a pair of complementary clips defined by the first and second parts of the insert shown in Figures 1 to 5 in a disengaged configuration;

Figure 6B is a schematic illustration of the pair of complementary clips shown in Figure 6A in an engaged configuration;

Figure 7 is a schematic illustration of a securing stud for use with the insert of Figures 1 to 6B;

Figure 8 is a schematic illustration of a second embodiment of a decorative glazing insert part of a decorative glazing insert according to the present invention;

Figure 9 is a schematic illustration of a third embodiment of a decorative glazing insert part of a decorative glazing insert according to the present invention;

Figure 10 is a schematic end-view illustration of the decorative glazing insert part shown in Figure 9; and

Figure 11 a schematic illustration of the decorative glazing insert part shown in Figures 9 and 10.

[0019] In Figure 1, an embodiment of a decorative glazing insert 1 in accordance with an aspect of the present invention is shown. The decorative glazing insert 1 is comprised of a first part 2 and a second part 3. The first and second parts 2, 3 are complementary and are interengaged so as to secure and support bevelled regions 4 around the periphery of three sheets of glass 5. The first and second parts 2, 3 are preferably comprised of an injection-moulded polymer, such as acrylonitrile butadiene styrene (ABS), which may be provided with any desirable colour, including gold, silver or black. In place of the sheets of glass 5, the decorative glazing insert 1 may be used to support any other decorative generally planar glazing element constructed from any desirable material including a plastics or other synthetic material. Figures 2 and 3 respectively show the first and second parts 2, 3 of the decorative glazing insert 1 shown in Figure 1.

[0020] The first part 2 of the insert 1 defines laterally extending mounting lips 6 (not visible in Figure 1 but visible in Figures 2 to 5) which may be received by complementary sockets defined by other double-glazing inserts or a double-glazing unit (not shown) into which the decorative glazing insert 1 is mounted. The second part 3 defines a second set of mounting lips 7 (not visible in Figure 1 but visible in Figures 2 to 5) which may be received in complementary sockets defined by other double-glazing inserts or a double-glazing unit (not shown) into which the decorative glazing insert 1 is mounted.

[0021] Four mounting arms 8 each comprise two sockets (not visible in Figure 1) which receive the four pairs of lips 6, 7 defined by the first and second parts 2, 3. It will be appreciated that the first and second parts 2, 3 may define sockets in place of the mounting lips 6, 7, or any desirable combination of lips and sockets, suitable for connection to complementary configurations of lips and sockets in other double-glazing inserts and/or mounting arms 8.

[0022] A stud 9 is positioned so as to pass through a first orifice 10 defined by the first part 2 and an overlying second orifice 11 defined by the second part 3. The stud 9 is comprised of rubber. The stud 9 functions to hold the first and second parts 2, 3 together. When the decorative glazing insert 1 is inserted into a double-glazing unit, the stud 9 also functions to secure the decorative glazing insert 1 relative to the panes of the glass or plastic double-glazing unit. It will be appreciated that any desirable number of orifices 10, 11 may be provided, including 2, 3 or more apertures, and in any desirable location in the first and second parts 2, 3. In some embodiments, the stud or studs may not pass through orifices 10, 11 in the first and second parts 2, 3 but may instead be attached to an exterior surface of one or both of the first and second parts 2, 3. The stud 9 is described in further detail below with reference to Figure 7.

[0023] As shown in Figure 2, the first part 2 comprises an interconnected framework of six frame members 12, each of which has a concave inner facing side 13, which in an assembled configuration, faces towards the second part 3, and a convex outer facing side 14. Each of the members 12 is curved along its length and is connected to one or more other members 12. Each of the members 12 may define any desirable cross-sectional shape, including hemi-cylindrical (as shown), hemi-elliptical, flat or constructed of two or more angled faces. It will be appreciated that there may be any desirable number of members 12 and that they may be curved and connected together in any way to provide the desired pattern.

[0024] Adjacent to each of the four second mounting lips 7 is provided an annular cylindrical formation 15 which defines an internal bore 16. When the insert 1 is in an assembled state, the internal bores 16 receive co-operatively shaped and spaced locating pins 17 formed on the second part 3. During assembly of the insert 1, the pins 17 and bores 16 function to guide the first and second parts 2, 3 together in a desirable configuration. Furthermore, once the insert 1 has been assembled, contact between an inner surface of the internal bores 16 and an outer surface of the pins 17 functions to maintain the first and second parts 2, 3 together in an assembled formation. To this end, the pins 17 and bores 16 may have one or more formations on their contacting surfaces to increase the coefficient of friction between them or to allow the pins 17 and bores 16 to "snap" together. Any of the bores 16 of the first part 2 may be replaced by locating pins as desired, provided that complementary bores are provided on a complementary second part. Any number of co-operating locating pins and bores may be provided on corresponding first and second insert parts.

[0025] The two concave facing sides 13 of the interconnected members 12 of the first part 2 define clips 18 which, when the insert 1 is in an assembled state, co-operate with complementary clips 19 on the first part 2 to maintain the insert 1 in the assembled state. Upstanding guides 20 are formed on the four facing sides 13 of the members 11 of the first part 2. The guides 20 function in conjunction with the clips 18, 19 to define apertures 21 into which the decorative sheets of glass 5 are placed and held in place. It will be appreciated that any desirable number of clips 18, 19 and guides 20 may be provided on the inner facing sides 13 of the interconnected members 12 of the first part 2. The clips 18, 19 are described in detail below with reference to Figures 4 and 5.

[0026] As shown in Figure 3, the second part 3 comprises an interconnected framework of six frame members 22, which generally correspond to the members 12 of the first part 2. Each of the members 22 has a concave inner facing side 23 which, in an assembled configuration, faces towards the first part 2, and a convex outer facing side 24. Each of the members 22 is curved along its length and is connected to at least one or more of the other members 22. Each of the members 22 may define any desirable cross-sectional shape, including being hemi-cylindrical (as shown), hemi-elliptical, flat or constructed of two or more angled faces. It will be appreciated that there may be any desirable number of members 22 and that they may be curved or straight and connected together in any desirable way.

[0027] In a preferred embodiment, all of the features of the first and/or second parts 2, 3 are formed in one piece, for example by injection moulding. In further embodiments, features of the first and/or second parts 2, 3 may not be formed in one piece but rather formed separately and then subsequently assembled into the respective insert part 2, 3.

[0028] Figure 4 shows an enlarged upper section of the first part 2 shown in Figure 2. Each annular formation 15 defines an internal taper 25 which guides the location of each pin 17 within its respective bore 16 to facilitate connection of the first and second parts 2, 3 to form the assembled insert 1.

[0029] Each of the members 12 of the first part 2 shown in Figure 4 defines a centreline 26, which runs the length of the respective member 12. Each clip 18 is located slightly to one side of the centreline 26 of its respective member 12. Each clip 18 comprises an elongate body region 27 of generally regular rectangular cross section and a terminal enlarged head region 28 which incorporates curved and/or ramped surfaces extending outwardly from the body region which define the enlarged head region 28. In some embodiments, the clips may possess curved body and/or head regions extending parallel to the centreline 26 of the member 12 upon which they are formed, while in other embodiments the clips may have a substantially straight body and/or head region.

[0030] Figure 5 shows an enlarged lower section of the second part 3 shown in Figure 3. Each clip 19 comprises an elongated body region 29 of generally regular rectangular cross section and a terminal enlarged head region 30 which incorporates curved and/or ramped surfaces extending outwardly from the body region which define the enlarged head region 30. Each pin 17 formed on the second part 3 of the insert 1 defines a taper 31 corresponding to the taper 25 of each annular formation 15 to facilitate assembly of the insert 1.

[0031] Figures 6A and 6B show clips 18, 19 in an aligned and separated and an inter-engaged state respectively. The function and interaction of the clips 18, 19 shown in Figures 6A and 6B is exemplary of the function and interaction of all other clips 18, 19 on the first and second insert parts 2, 3.

[0032] In Figure 6A, the clips 18, 19 are shown close to inter-engagement where the first and second parts 2, 3 are aligned for engagement and the locating pins 17 (not visible in Figures 6A and 6B) are aligned for insertion and/or partially inserted into their corresponding bores 16.

[0033] When the clips 18, 19 are inter-engaged the head regions 28, 30 overly one another with a part of the curved/ramped section of one head region 28 contacting a complementary curved/ramped section of the other

head region 30 so as to define a distance "X" between the widest part of each head region 28, 30. The distance "X" may be a few millimetres, for example, 1 to 2 mm, up to around 5mm or more. This feature is provided to enable the insert 1 to accommodate a range of thicknesses of the decorative glazing elements to be supported by insert 1. In this way the enlarged head regions 28, 30 can accommodate tolerances in the thickness of the decorative glazing elements used whilst maintaining a satisfactory connection between the insert parts 2, 3.

[0034] As Figure 6A shows, when the first and second insert parts 2, 3 are aligned prior to engagement, the head regions 28, 30 are not able to pass freely by one another when the pins 17 are inserted into the corresponding bores 16. The clips 18, 19 therefore deflect outwards slightly in order to allow the head regions 28, 30 to pass by one another. In one preferred embodiment, the clips 18, 19 remain partially deflected relative to one another while the first and second parts 2, 3 are assembled together. The force required to deflect the head regions 28, 30 past one another contributes to maintain the first and second parts 2, 3 together.

[0035] The stud 9, shown in Figure 7, is formed in one piece from a resilient material, such as rubber, to provide a degree of compressibility and therefore act as a damper to movement of the insert 1 relative to the glass or plastic panes of a glazing unit within which the insert 1 is mounted. The stud 9 comprises an enlarged head 31 a thinner intermediate region 32, a flange 33 and a tail 34.

[0036] When the insert 1 is in an assembled configuration as shown in Figure 1, and the stud 9 is inserted through the orifices 10, 11 defined in the first and second parts 2, 3, the head 31 protrudes from the insert 1 through the first orifice 10 to an exterior face of the insert 1, the flange 33 and the tail 34 protrude through the second orifice 10 to an opposite exterior face of the insert 1, and the intermediate region 32 receives the first and second parts 2, 3 of the insert 1. The head 31 has an inward facing side 35 which, when assembled, is in contact with the opposite exterior of the first part 2 and the flange 33 has an inward facing side 36 which is preferably in contact with the exterior surface of the second part 3. The two inward facing sides 35, 36 function both to hold the stud 9 in position relative to the insert 1 and to hold the first and second parts 2, 3 together. When the insert 1 is inserted into a double-glazing unit (not shown), an outward facing side 37 of the head 31 and an outward facing side 38 of the tail 34 preferably abut the inner surface of the double-glazing panes (not shown) to hold the insert 1 in place relative to the double-glazing unit (not shown) and aids in preventing the insert 1 from moving and rattling.

[0037] During assembly of the insert 1, the sheets of glass 5 are placed between the first and second parts 2, 3 of the insert 1 into the apertures 21 defined by the insert 1. The first and second parts 2, 3 are then brought together by engaging the pins 17 into the bores 16 and so as to inter-engage the clips 18 of the first part 2 with the complementary clips 19 of the second part 3. The stud 9 is be inserted through the orifices 10, 11 defined by the first and second parts 2, 3.

[0038] A second embodiment of a glazing insert according to the present invention is now described with reference to Figure 8. Parts corresponding to those already described in relation to Figures 1 to 6 will be provided with corresponding reference numerals increased by 100 and will not be any further described, save as to describe any differences in structure or function. The assembled insert (not shown) comprises two identical insert parts 102, rather than two different insert parts that are essentially the mirror image of one another as in the first embodiment described above in relation to Figures 1 to 6. This presents a number of advantages over the first embodiment, including the fact that construction and assembly of the insert 101 is cheaper and more straightforward because only one type of insert part is required rather than two different insert parts.

[0039] The insert part 102 of the second embodiment defines lips 106 which are similar in structure and function to the lips 6 of the first insert part 2. The pins 117 and bores 116 of the second embodiment function according to the description above in relation to the locating pins 17 and bores 16 of the insert 1 shown in Figures 1 to 6.

[0040] Struts 139 are provided to strengthen the structure of the insert part 102 in order to prevent splaying of the insert members 111 of the insert part 102.

[0041] It will be apparent that the embodiment of the insert part 102, described above with reference to Figure 8, may be used to provide a double-glazing insert similar to the assembled double-glazing insert 1 shown in Figure 1. Three sheets of glass (not shown) would be placed into three apertures 121 defined by a first insert part 102. A second insert part 102 would then be brought into contact with the first insert part 102 with the locating pins 117 inserted into the corresponding bores 116. An elongate mounting arm 108 (not shown) would then be slid over each pair of laterally extending lips 106, 107 to hold the first and second insert parts 102 together. While not shown in the second embodiment depicted in Figure 8, in an alternative embodiment, each insert part 102 may define an orifice 110 so that when the first and second insert parts 102 are inter-engaged, a stud of the kind shown in Figure 7 may be inserted through the orifice 110 defined by the first and second insert parts 102 to additionally secure the insert parts 102 together.

[0042] Referring now to Figures 9, 10 and 11, there is shown a third embodiment of an insert part 202 of a glazing insert 201 (not shown) according to the first aspect of the present invention. Parts corresponding to those already described in relation to Figures 1 to 6 will be provided with corresponding reference numerals increased by 200 and will not be any further described, save as to describe any differences in structure or function.

[0043] The glazing insert 201 is assembled by engagement of two identical generally planar insert parts 202, only one of which is shown in Figures 9 to 11. Each insert

part 202 is formed in one piece from injection moulded ABS plastic and is composed of a plurality of interconnected members 212, which are curved along their respective lengths to define a plurality of apertures 221 for receipt of appropriately shaped sheets of glass 205 (not shown). Each member 212 defines a plurality of locating pins 217, which are suitably arranged relative to a plurality of corresponding bores 216 defined by each member 212, such that each pin 217 is received within a corresponding bore 216 when two insert parts 202 are overlaid and connected together. While each pin 217 and/or bore 216 may be provided with surface formations to increase the level of friction between an outer surface of each pin 217 and an inner surface of each bore 216, in the present embodiment, these surfaces are substantially smooth and the pins 217 and bores 216 are provided primarily to facilitate correct location of a first insert part 202 with respect to a second insert part 202.

[0044] Each insert part 202 defines a central orifice 210 in such a way that when two insert parts 202 are correctly connected together (by location of each pin 217 in a corresponding bore 216), the orifices 210 defined by each insert part 202 overlie one another to define a single orifice through both insert parts 202 for receipt of a stud 209 (not shown in Figures 9 to 11) which holds the two insert parts 202 together and secures the insert 201 relative to the glazing panes of the glazing unit (not shown). The stud 209 is formed from a rubber material and is therefore slightly compressible. In this way, the stud 209 acts to damp movement of the insert 201 relative to the glazing panes of the glazing unit and therefore avoid undesirable rattling of the insert 201 against the glazing panes.

[0045] Each insert part 202 further defines four laterally extending mounting lips 206, for connection to mounting bars 208 (not shown) to facilitate mounting of the assembled insert 201 within the glazing unit. Each mounting lip 206 defined by one of the insert parts 202 is arranged to overlie a corresponding mounting lip defined by the other insert part 202 when two insert parts 202 are properly connected together. In this way, sockets (not visible in Figures 9 to 11) defined by each mounting bar 208 can receive a pair of overlying mounting lips 206 and thereby hold the two insert parts 202 together as well as securely mounting the assembled insert 1 within the glazing unit.

[0046] It will be understood that numerous modifications can be made to the embodiments of the invention described above without departing from the underlying inventive concept and that these modifications are intended to be included within the scope of the invention as defined by the claims. For example, the nature of the cooperating engagement portions (pins and bores, clips etc) of each insert part may take any appropriate form provided they engage one another in such a way as to correctly locate and, in some embodiments, secure, the two insert parts together. Any desirable number and/or arrangement of engagement portions can be provided depending upon such factors as the size, shape and weight of the insert, and the size, shape and weight of the decorative glazing elements to be held within the insert.

Claims

1. A system comprising a decorative glazing insert (1) and a decorative glazing element adapted for placement between the panes of a double-glazing unit, said decorative glazing insert defining at least one aperture (21) for receipt of the decorative glazing element (5), **characterized in that** the decorative glazing insert comprises first and second generally planar insert parts (2,3), the first generally planar insert part connectable to the second generally planar insert part (3) by engagement of a first engagement portion (15,18) defined by the first insert part with a second engagement portion (17,19) defined by the second insert part, wherein at least one of said first and second engagement portions extends substantially transverse to the major plane of the first insert part, and wherein the insert further comprises (i) at least one mounting portion (6,7) arranged to permit mounting of the insert to a frame of the double-glazing unit between the panes thereof, and (ii) an elongate mounting member (8) connected to the or each mounting portion, said mounting member being arranged, in use, to connect the insert to the frame of the double-glazing unit between the panes thereof, wherein at least one of the first and second engagement portions defines an enlarged head region (28,30), and preferably wherein both of the first and second engagement portions define complementary enlarged head regions which are configured, in use, to overlie one another when the first and second engagement portions are engaged together, so as to optionally define a predetermined clearance between said head regions to accommodate a predetermined range of thicknesses of decorative glazing elements for receipt in said at least one aperture defined by the insert.

2. The system of claim 1, wherein the, or each, mounting portion (6,7) is defined by first and second mounting sections, at least one of said first and second mounting sections defined by one of the first and second insert parts (2,3), said first insert part (2) preferably defining the first mounting section and said second insert part (3) preferably defining the second mounting section.

3. The system of claim 1 or claim 2, wherein the mounting member (8) is configured, in use, to secure the first and second mounting sections together.

4. The system of claim 1, wherein said at least one aperture (21) is defined by connection of the first and

second insert parts (2,3).

5. The system of claim 1, wherein the at least one of the first and second engagement portions (15,17,18,19) which extends substantially transverse to the major plane of the first insert part (2) extends substantially perpendicular to the major plane of the first insert part, and is preferably a formation which is upstanding from a surface of the respective insert part, whilst the other of the first and second engagement portions is preferably a recess dimensioned to accommodate said formation.

6. The system of any preceding claim, wherein the insert further comprises a securing member (9), preferably formed from a rubber material, configured, in use, to secure the insert to a glazing panel, said securing member preferably being arranged to be located in an orifice (10,11) defined by the insert, said orifice preferably being defined by said first and second insert parts (2,3).

7. The system of claim 6, wherein the securing member (9) is configured, in use, to secure the first and second insert parts (2,3) together.

8. The system of any preceding claim, wherein at least one of the first and second insert parts (2,3) incorporates a curved section which defines a curved edge to said at least one aperture (21) for receipt of a decorative glazing element (5).

9. The system of any preceding claim, wherein the first and second engagement portions (15,17,18,19) are releasably engageable.

10. The system of any preceding claim, wherein the insert defines a plurality of apertures (21) for receipt of decorative glazing elements (5), and is preferably formed from a plastics material.

11. The system of any preceding claim, wherein the first and second insert parts (2,3) are substantially identical.

12. A double-glazing unit comprising a frame and two glazing panels, said double-glazing unit incorporating a decorative glazing insert (1) according to any preceding claim between the two glazing panels.

Patentansprüche

1. System, das einen schmückenden Verglasungseinsatz (1) und ein schmückendes Verglasungselement umfasst, die zum Anordnen zwischen den Scheiben einer Doppelverglasungseinheit eingerichtet sind, wobei der schmückende Verglasungseinsatz wenigstens eine Öffnung (21) zum Aufnehmen des schmückenden Verglasungselements (5) definiert, **dadurch gekennzeichnet, dass** der schmückende Verglasungseinsatz einen ersten und einen zweiten im Wesentlichen ebenen Einsatzteil (2, 3) umfasst, wobei der erste im Wesentlichen ebene Einsatzteil mit dem zweiten im Wesentlichen ebenen Einsatzteil (3) verbunden werden kann durch einen Eingriff eines ersten Eingriffsabschnitts (15, 18), der durch den ersten Einsatzteil definiert wird, mit einem zweiten Eingriffsabschnitt (17, 19), der durch den zweiten Einsatzteil definiert wird, wobei sich wenigstens einer von dem ersten und dem zweiten Eingriffsabschnitt im Wesentlichen quer zu der Hauptebene des ersten Einsatzteils erstreckt und wobei der Einsatz ferner (i) wenigstens einen Anbringungsabschnitt (6, 7), der dafür angeordnet ist, das Anbringen des Einsatzes an einem Rahmen der Doppelverglasungseinheit zwischen den Scheiben derselben zu ermöglichen, und (ii) ein längliches Anbringungsglied (8), das mit dem oder jedem Anbringungsabschnitt verbunden ist, umfasst, wobei das Anbringungsglied bei Anwendung dafür angeordnet ist, den Einsatz mit dem zu Rahmen der Doppelverglasungseinheit zwischen den Scheiben derselben verbinden,
wobei wenigstens einer von dem ersten und dem zweiten Eingriffsabschnitt einen vergrößerten Kopfbereich (28, 30) definiert und wobei vorzugsweise sowohl der erste als auch der zweite Eingriffsabschnitt komplementäre vergrößerte Kopfabschnitte definieren, die dafür konfiguriert sind, einander bei Anwendung zu überlagern, wenn der erste und der zweite Eingriffsabschnitt miteinander in Eingriff gebracht werden, um so wahlweise einen vorbestimmten Freiraum zwischen den Kopfabschnitten zu definieren, um sich einem vorbestimmten Bereich von Dicken von schmückenden Verglasungselementen zur Aufnahme in der wenigstens einen Öffnung, die durch den Einsatz definiert wird, anzupassen.

2. System nach Anspruch 1, wobei der oder jeder Anbringungsabschnitt (6, 7) durch eine erste und eine zweite Anbringungssektion definiert wird, wobei wenigstens eine von der ersten und der zweiten Anbringungssektion durch einen von dem ersten und dem zweiten Einsatzteil (2, 3) definiert wird, wobei der erste Einsatzteil (2) vorzugsweise die erste Anbringungssektion definiert und der zweite Einsatzteil (3) vorzugsweise die zweite Anbringungssektion definiert.

3. System nach Anspruch 1 oder Anspruch 2, wobei das Anbringungsglied (8) dafür konfiguriert ist, bei Anwendung die erste und die zweite Anbringungssektion aneinander zu befestigen.

4. System nach Anspruch 1, wobei die wenigstens eine Öffnung (21) durch eine Verbindung des ersten und

des zweiten Einsatzteils (2, 3) definiert wird.

5. System nach Anspruch 1, wobei sich der wenigstens eine von dem ersten und dem zweiten Eingriffsabschnitt (15, 17, 18, 19), der sich im Wesentlichen quer zu der Hauptebene des ersten Einsatzteils (2) erstreckt, im Wesentlichen senkrecht zu der Hauptebene des ersten Einsatzteils erstreckt und vorzugsweise eine Formation ist, die von einer Oberfläche des jeweiligen Einsatzteils hochsteht, während der andere von dem ersten und dem zweiten Eingriffsabschnitt vorzugsweise eine Aussparung ist, die dafür bemessen ist, die Formation aufzunehmen.

6. System nach einem der vorhergehenden Ansprüche, wobei der Einsatz ferner ein Befestigungsglied (9), vorzugsweise aus einem Gummimaterial geformt, umfasst, das dafür konfiguriert ist, bei Anwendung den Einsatz an einer Verglasungstafel zu befestigen, wobei das Befestigungsglied vorzugsweise dafür angeordnet ist, in einer Öffnung (10, 11) angeordnet zu werden, die durch den Einsatz definiert wird, wobei die Öffnung vorzugsweise durch den ersten und den zweiten Einsatzteil (2, 3) definiert wird.

7. System nach Anspruch 6, wobei das Befestigungsglied (9) dafür konfiguriert ist, bei Anwendung den ersten und den zweiten Einsatzteil (2, 3) aneinander zu befestigen.

8. System nach einem der vorhergehenden Ansprüche, wobei wenigstens einer von dem ersten und dem zweiten Einsatzteil (2, 3) eine gekrümmte Sektion einschließt, die eine gekrümmte Kante zu der wenigstens einen Öffnung (21) zur Aufnahme eines schmückenden Verglasungselements (5) definiert.

9. System nach einem der vorhergehenden Ansprüche, wobei der erste und der zweite Eingriffsabschnitt (15, 17, 18, 19) lösbar in Eingriff gebracht werden können.

10. System nach einem der vorhergehenden Ansprüche, wobei der Einsatz mehrere Öffnungen (21) zur Aufnahme der Verglasungselemente (5) definiert und vorzugsweise aus Kunststoffmaterialien geformt ist.

11. System nach einem der vorhergehenden Ansprüche, wobei der erste und der zweite Einsatzteil (2, 3) im Wesentlichen identisch sind.

12. Doppelverglasungseinheit, die einen Rahmen und zwei Verglasungstafeln umfasst, wobei die Doppelverglasungseinheit einen schmückenden Verglasungseinsatz (1) nach einem der vorhergehenden Ansprüche zwischen den zwei Verglasungstafeln einschließt.

Revendications

1. Système comprenant un insert de vitrage décoratif (1) et un élément de vitrage décoratif adaptés pour un placement entre les vitres d'une unité de double vitrage, ledit insert de vitrage décoratif définissant au moins une ouverture (21) pour la réception de l'élément de vitrage décoratif (5), **caractérisé en ce que** l'insert de vitrage décoratif comprend des première et deuxième parties d'insert globalement planaires (2, 3), la première partie d'insert globalement planaire pouvant être raccordée à la deuxième partie d'insert globalement planaire (3) par la mise en prise d'une première partie de mise en prise (15, 18) définie par la première partie d'insert avec une deuxième partie de mise en prise (17, 19) définie par la deuxième partie d'insert, dans lequel au moins l'une desdites première et deuxième parties de mise en prise s'étend sensiblement transversalement par rapport au plan principal de la première partie d'insert, et dans lequel l'insert comprend en outre (i) au moins une partie de montage (6, 7) agencée pour permettre le montage de l'insert sur une armature de l'unité de double vitrage entre les vitres de celle-ci, et (ii) un organe de montage allongé (8) raccordé à la ou à chaque partie de montage, ledit organe de montage étant agencé, lors de son utilisation, pour raccorder l'insert à l'armature de l'unité de double vitrage entre les vitres de celle-ci,
dans lequel au moins une des première et deuxième parties de mise en prise définit une région de tête agrandie (28, 30), et de préférence dans lequel les première et deuxième parties de mise en prise définissent des régions de tête agrandies complémentaires qui sont configurées, lors de leur utilisation, pour se recouvrir l'une l'autre lorsque les première et deuxième parties de mise en prise sont mises en prise ensemble, de manière à définir de manière facultative un dégagement prédéterminé entre lesdites régions de tête pour loger une plage prédéterminée d'épaisseurs d'éléments de vitrage décoratif pour une réception dans ladite au moins une ouverture définie par l'insert.

2. Système selon la revendication 1, dans lequel la, ou chaque, partie de montage (6, 7) est définie par des première et deuxième sections de montage, au moins l'une desdites première et deuxième sections de montage étant définie par l'une des première et deuxième parties d'insert (2, 3), ladite première partie d'insert (2) définissant de préférence la première section de montage et ladite deuxième partie d'insert (3) définissant de préférence la deuxième section de montage.

3. Système selon la revendication 1 ou la revendication 2, dans lequel l'organe de montage (8) est configuré, lors de son utilisation, pour fixer les première et

deuxième sections de montage ensemble.

4. Système selon la revendication 1, dans lequel ladite au moins une ouverture (21) est définie par un raccordement des première et deuxième partie d'insert (2, 3).

5. Système selon la revendication 1, dans lequel l'au moins une des première et deuxième parties de mise en prise (15, 17, 18, 19) qui s'étend sensiblement de manière transversale par rapport au plan principal de la première partie d'insert (2) s'étend sensiblement de manière perpendiculaire au plan principal de la première partie d'insert, et est de préférence une structure qui est verticale à partir d'une surface de la partie d'insert respective, tandis que l'autre des première et deuxième parties de mise en prise est de préférence un évidement dimensionné pour loger ladite structure.

6. Système selon l'une quelconque des revendications précédentes, dans lequel l'insert comprend en outre un organe de fixation (9), formé de préférence à partir d'un matériau en caoutchouc, configuré, lors de son utilisation, pour fixer l'insert à un panneau de vitrage, ledit organe de fixation étant de préférence agencé pour être situé dans un orifice (10, 11) défini par l'insert, ledit orifice étant de préférence défini par lesdites première et deuxième parties d'insert (2, 3).

7. Système selon la revendication 6, dans lequel l'organe de fixation (9) est configuré, lors de son utilisation, pour fixer les première et deuxième parties d'insert (2, 3) ensemble.

8. Système selon l'une quelconque des revendications précédentes, dans lequel au moins l'une des première et deuxième parties d'insert (2, 3) incorpore une section incurvée qui définit un bord incurvé dans ladite au moins une ouverture (21) pour la réception d'un élément de vitrage décoratif (5).

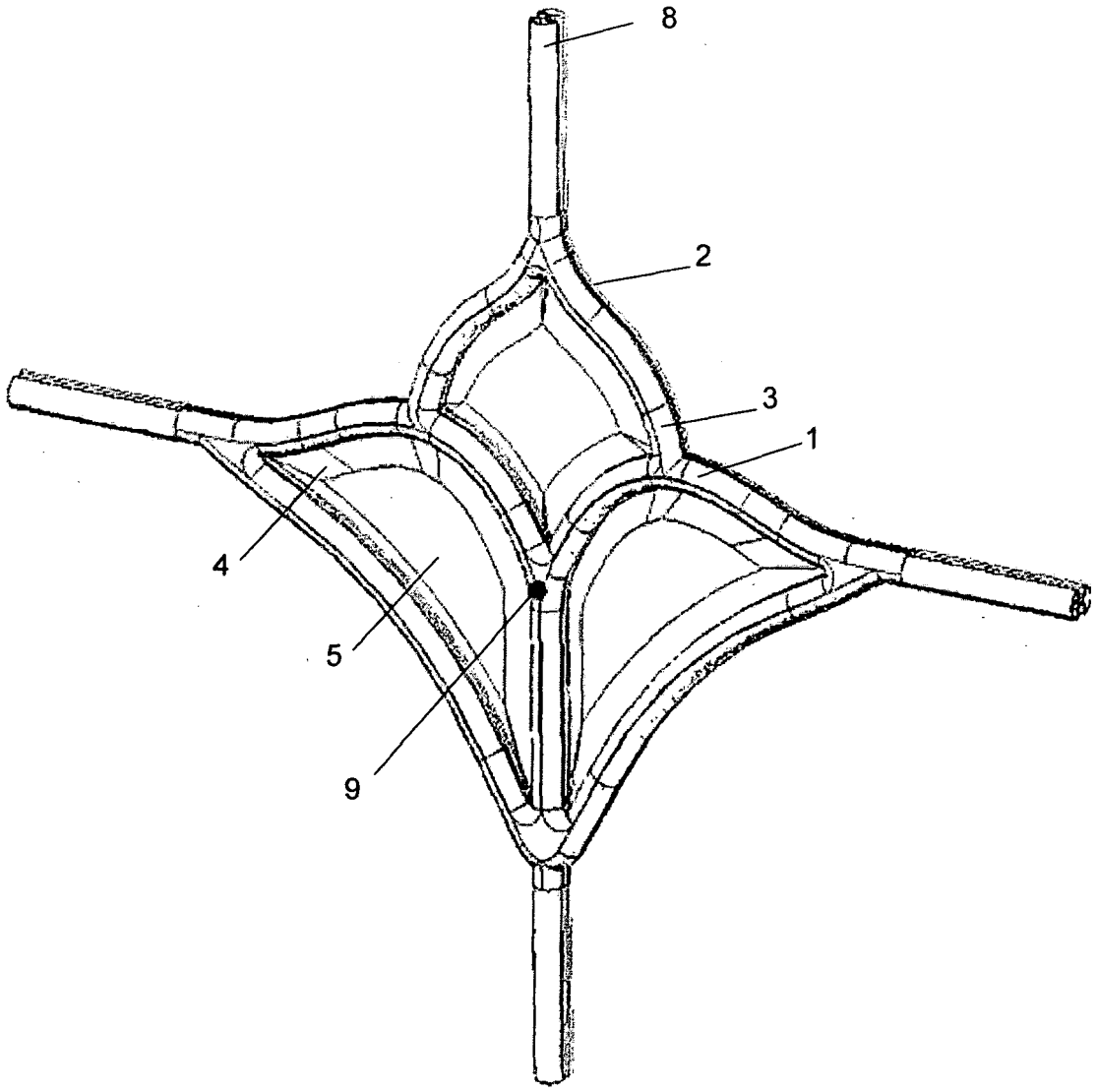
9. Système selon l'une quelconque des revendications précédentes, dans lequel les première et deuxième parties de mise en prise (15, 17, 18, 19) peuvent être mises en prise de manière amovible.

10. Système selon l'une quelconque des revendications précédentes, dans lequel l'insert définit une pluralité d'ouvertures (21) pour la réception d'éléments de vitrage décoratif (5), et est de préférence formé à partir d'une matière plastique.

11. Système selon l'une quelconque des revendications précédentes, dans lequel les première et deuxième parties d'insert (2, 3) sont sensiblement identiques.

12. Unité de double vitrage comprenant une armature et deux panneaux de vitrage, ladite unité de double vitrage incorporant un insert de vitrage décoratif (1) selon l'une quelconque des revendications précédentes entre les deux panneaux de vitrage.

FIG 1



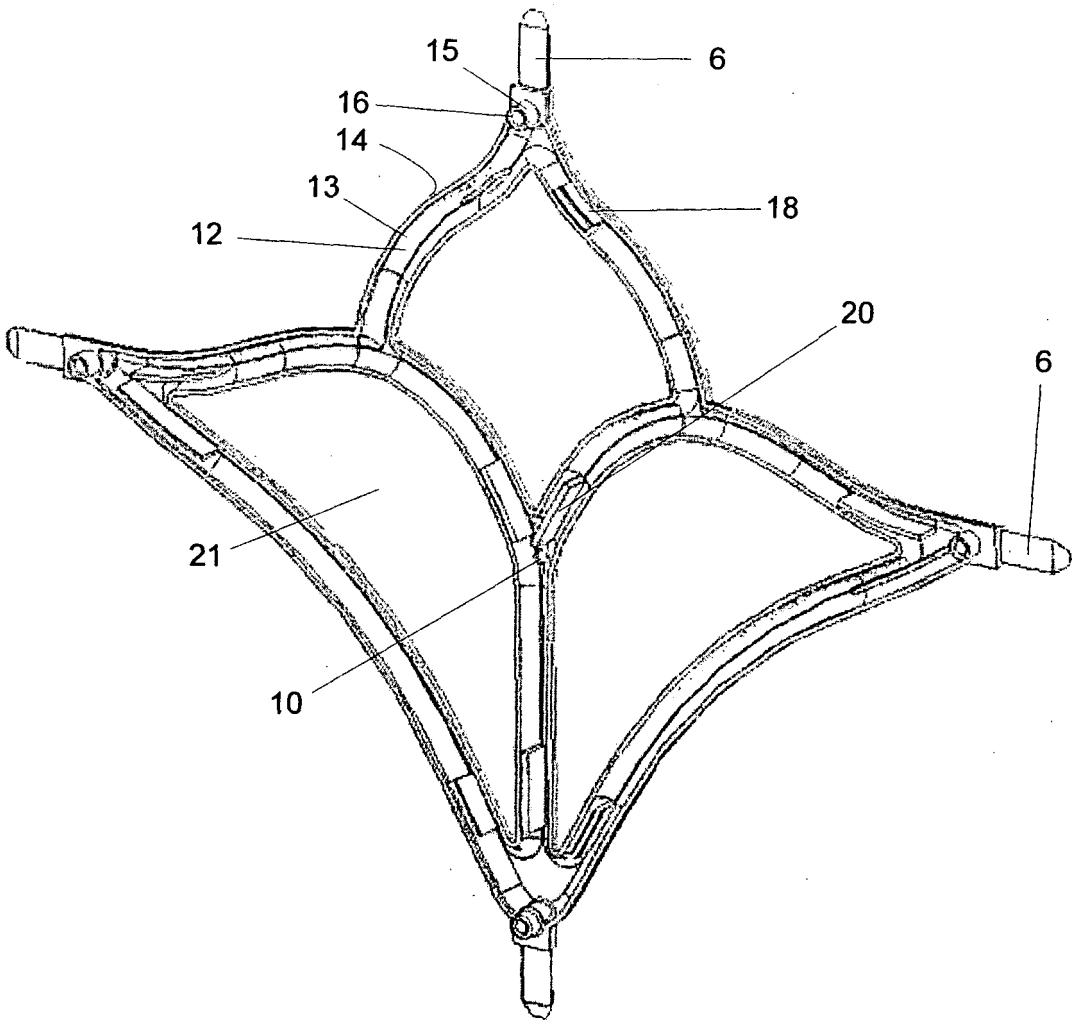


FIG 2

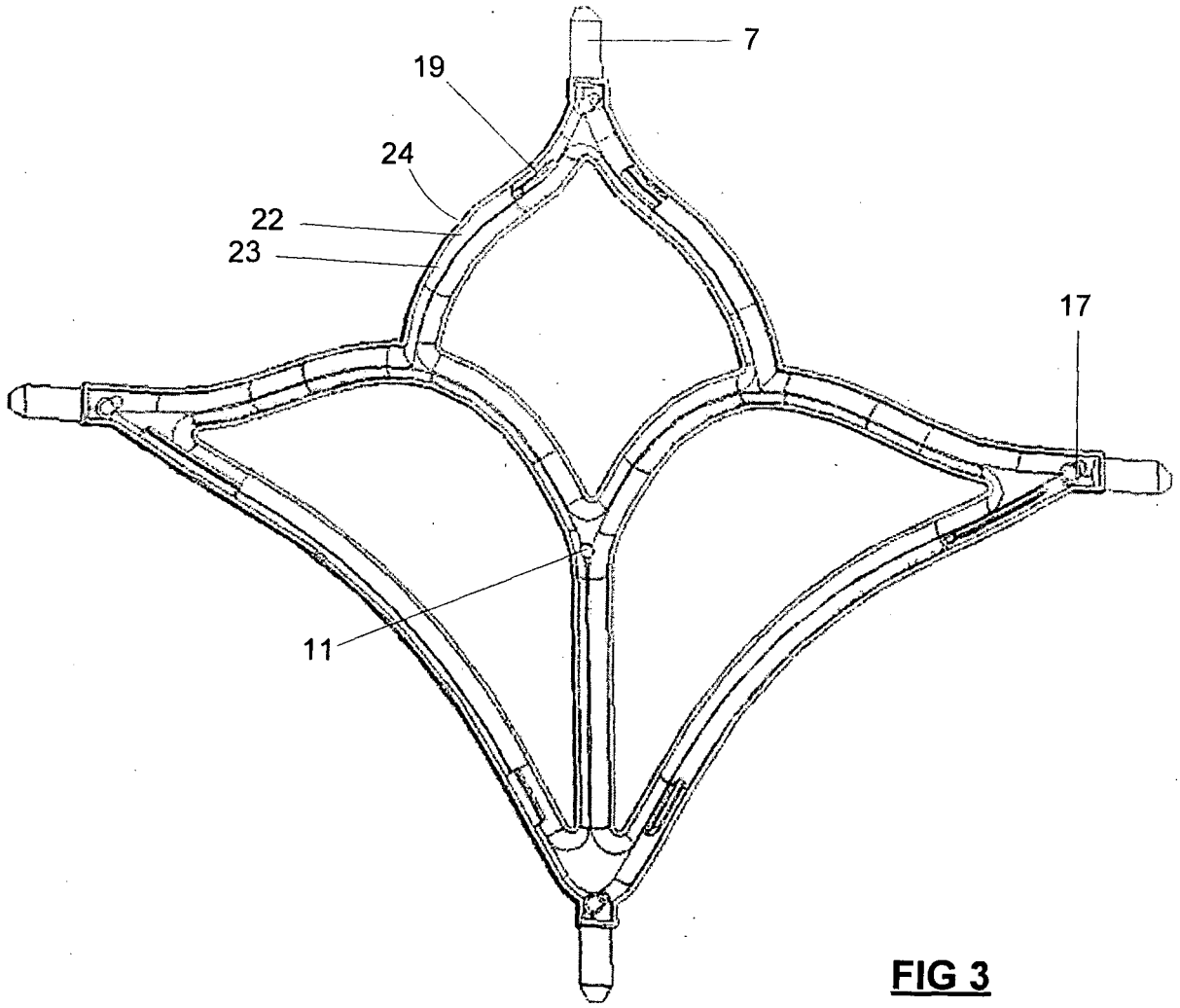


FIG 3

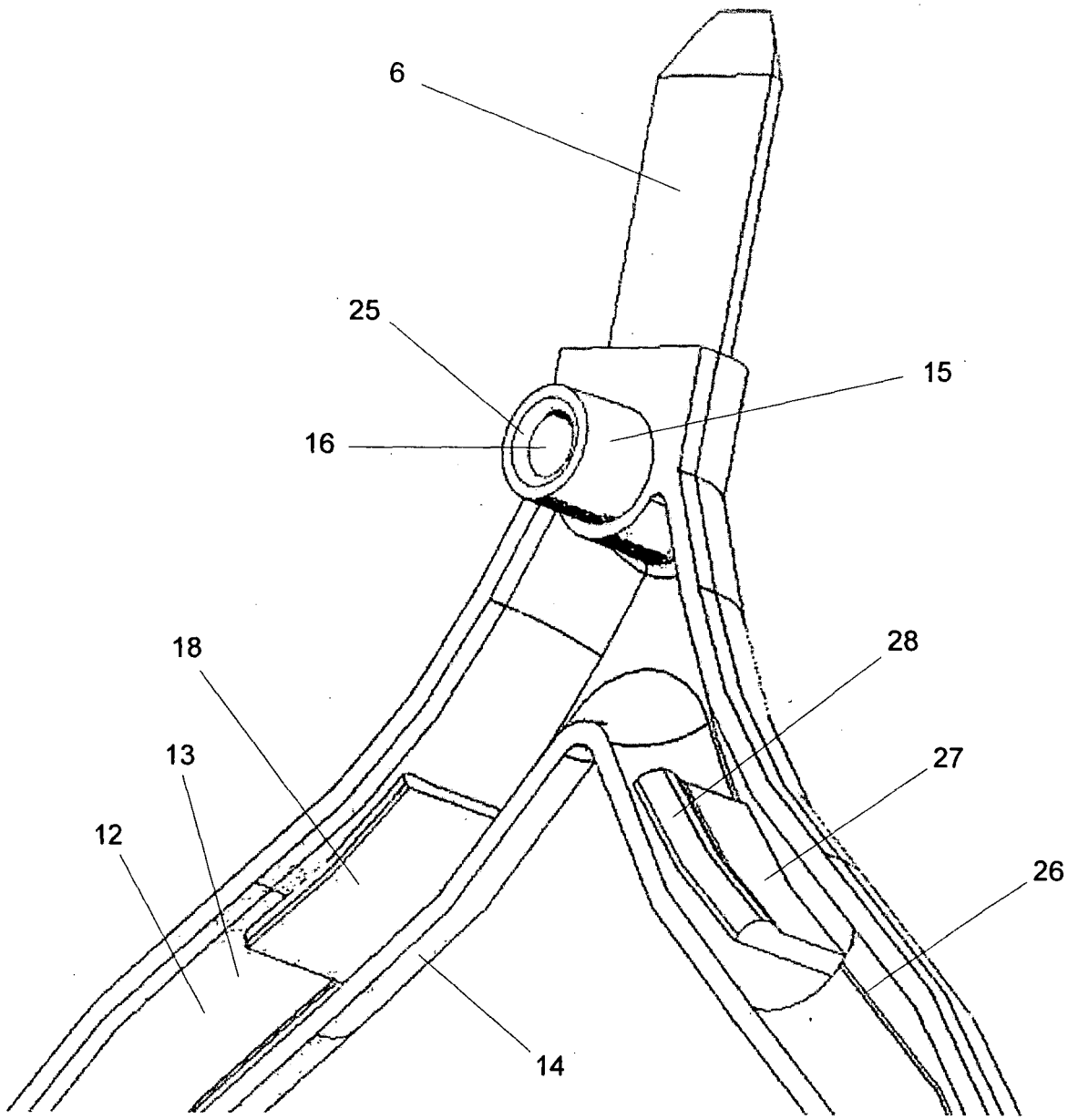


FIG 4

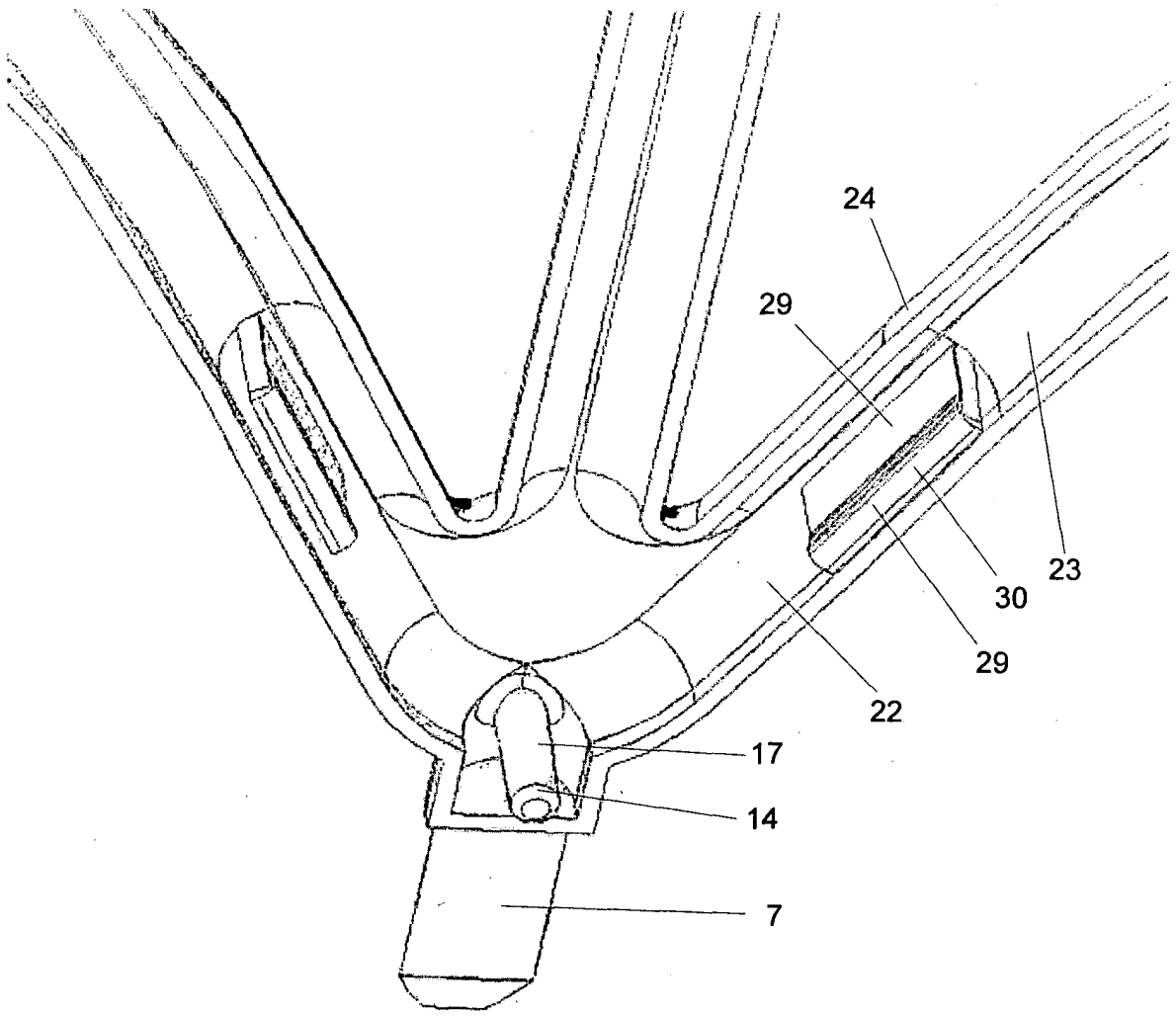


FIG 5

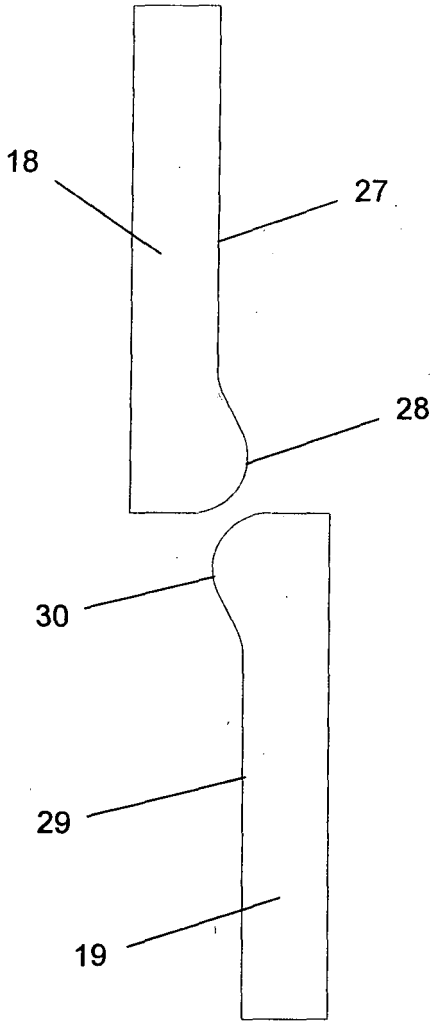


FIG 6A

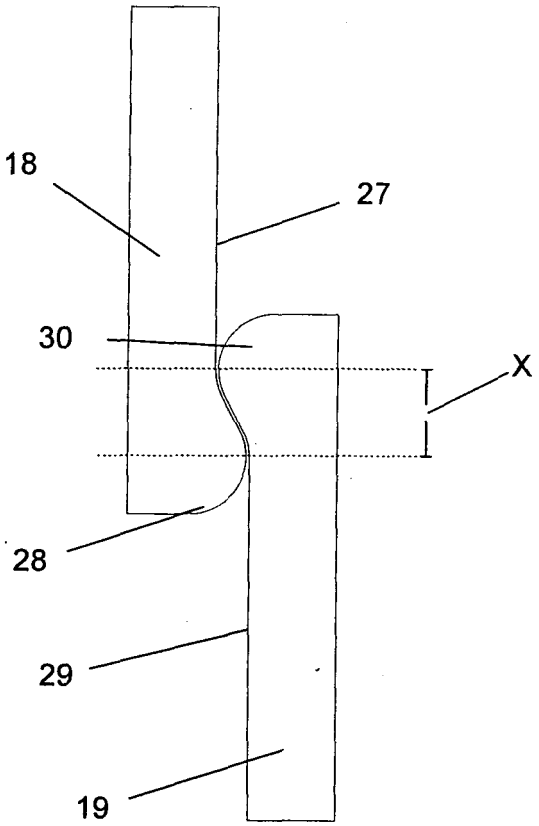


FIG 6B

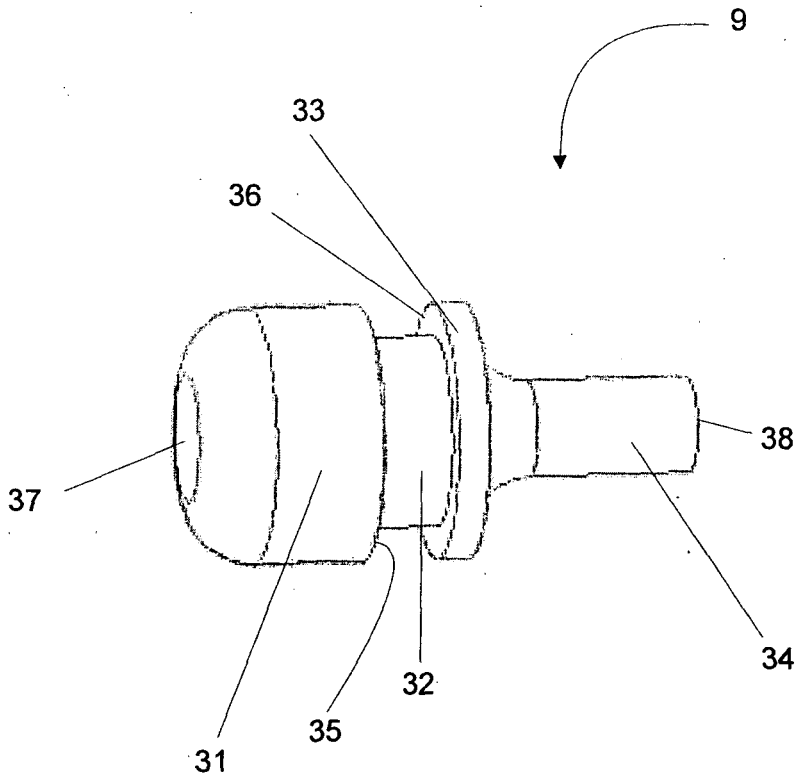


FIG 7

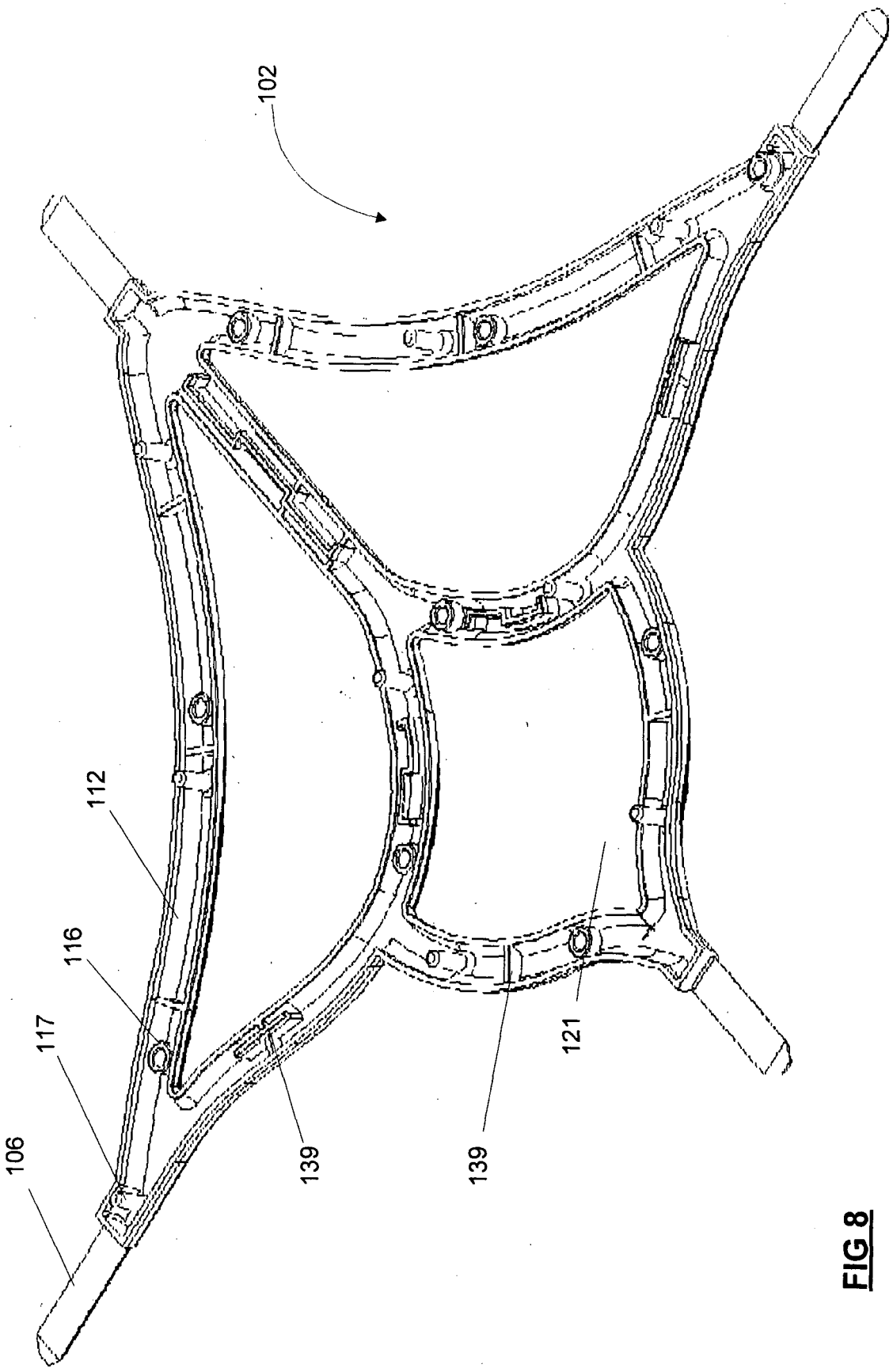


FIG 8

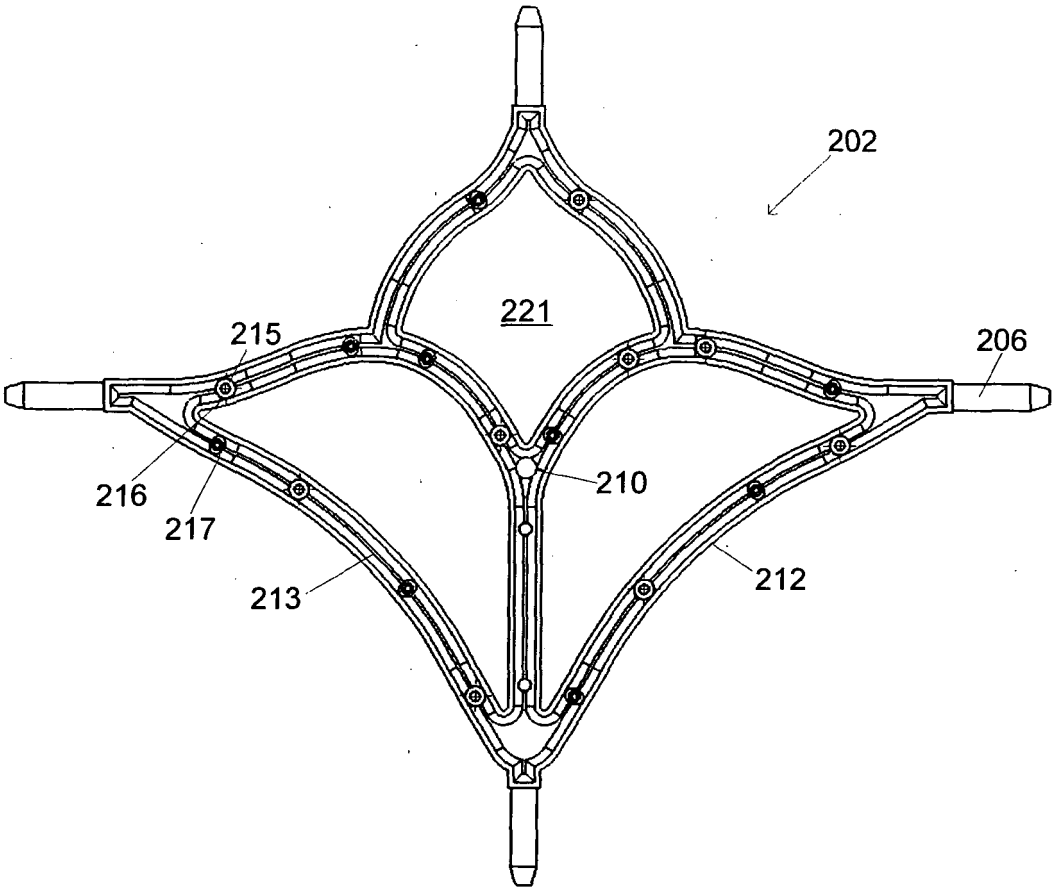


FIG 9

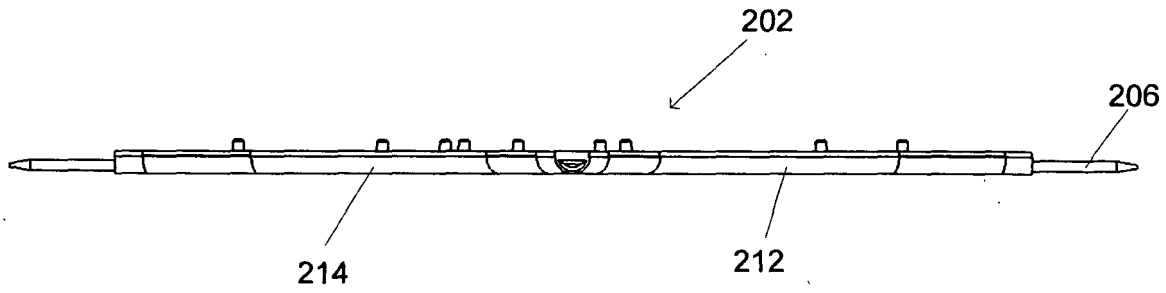


FIG 10

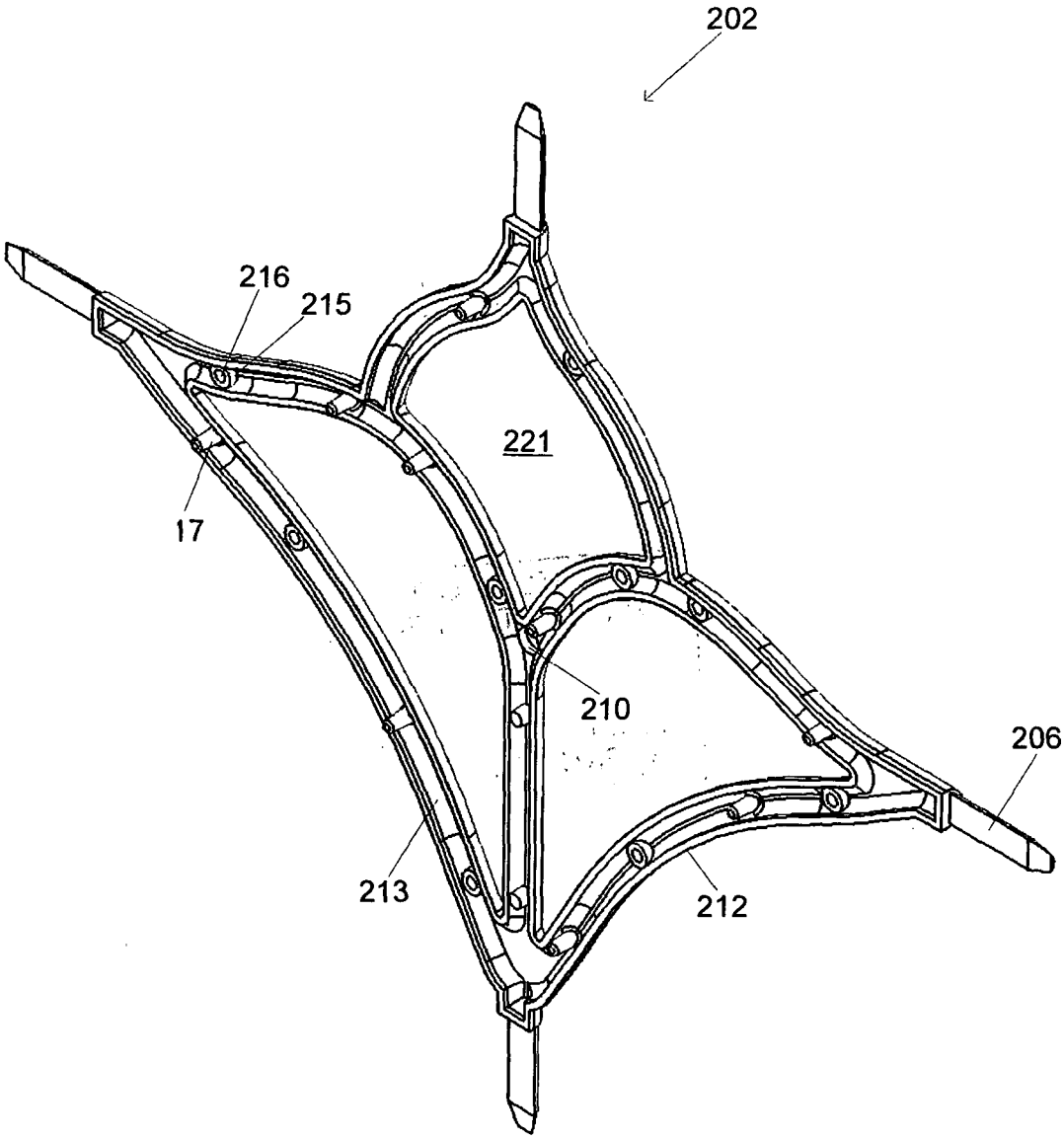


FIG 11

REFERENCES CITED IN THE DESCRIPTION

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