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(54) BRASSIERES

(57) The present invention relates to an improved brassiere 10. The brassiere 10 comprises first and second cups 18, 20 and a bridge 22 between the first and second cups. Each of the first and second cups 18, 20 extends in a first direction towards an apex of the cup. The bridge 22 has a first surface which, in use, is directed away from the body of a wearer of the brassiere. The bridge 22 comprises a protrusion 24 which is integral with the bridge. The protrusion 24 extends away from the first surface in a second direction opposite the first direction whereby the protrusion is received between the breasts when the brassiere is worn.

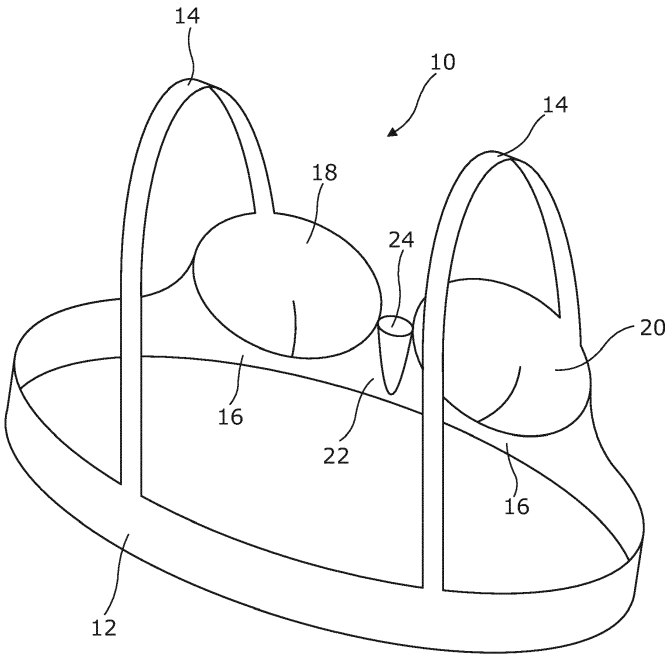

Figure 1

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Description

Field of the Invention

[0001] The present invention relates to brassieres and to garments comprising a brassiere.

Background Art

[0002] Brassieres of varying form and material composition are known. Despite such variety of form and material composition, the present inventor has become appreciative of shortcomings of known brassieres in particular in respect of the support they afford.

[0003] The present invention has been devised in light of the inventor's appreciation of such shortcomings. It is therefore an object for the present invention to provide an improved brassiere.

Statement of Invention

[0004] According to a first aspect of the present invention there is provided a brassiere comprising:

first and second cups each extending in a first direction towards an apex of the cup; and
a bridge between the first and second cups, the bridge having a first surface which, in use, is directed away from the body of a wearer of the brassiere,
the bridge comprising a protrusion which is integral with the bridge, the protrusion extending away from the first surface in a second direction opposite the first direction whereby the protrusion is received between the breasts when the brassiere is worn.

[0005] In common with known brassieres, the brassiere of the present invention comprises first and second cups and a bridge between the first and second cups. The bridge may secure together an inner edge of a first cup and an inner edge of the second cup. The first cup may be attached to a first edge of the bridge and the second cup may be attached to a second, opposite edge of the bridge. Each of the first and second cups extends in a first direction towards an apex of the cup. More specifically, each of the first and second cups may extend in a first direction from a plane in which an edge of the cup lies to an apex of the cup. The bridge has a first surface which, in use, is directed away from the body of a wearer of the brassiere. The bridge comprises a protrusion which is integral with the bridge. The protrusion extends away from the first surface in a second direction opposite the first direction whereby the protrusion is received between the breasts when the brassiere is worn. The protrusion may provide for improved support over presently known brassieres.

[0006] The bridge may comprise a first layer of material, the first surface being defined by one side of the first layer of material and a second surface being defined by the other side of the first layer of material. The bridge may further comprise a second layer of material defining: a third surface, which is oriented towards the second surface, on one side of the second layer of material; and a fourth surface, which is oriented away from the first surface whereby, in use, the fourth surface is directed towards the body of the wearer of the brassiere. The fourth surface may define a profile of the protrusion. Each of the first and second layers of material may be of sheet form. Each of the first and second layers may be a textile formed, for example, from bamboo fibres.

[0007] The bridge may comprise a third layer or body between the first and second layers of the bridge. The third layer or body may determine the shape of the protrusion. The bridge may be configured such that the height of the protrusion increases in a direction between the first and second cups whereby the protrusion is higher towards its middle than edges of the protrusion closest to respective cups. A shape of the protrusion may be defined by a change in thickness of the third layer. The thickness of the third layer may increase from an edge of the third layer closest to one of the first and second cups towards a middle of the third layer. More specifically, the thickness of the third layer may increase towards a middle of the third layer from an edge closest to the first cup and from an edge closest to the second cup.

[0008] Alternatively or in addition, the thickness of the third layer may increase towards the middle of the third layer from: an edge of the third layer, the edge being towards an upper edge of the bridge; and an edge of the third layer, the edge being towards a lower edge of the bridge.

[0009] The third layer may be formed of resilient material. The protrusion may therefore be resilient. The third layer may comprise wadding. The wadding may be formed from bamboo fibres. Alternatively or in addition, the third layer may comprise material having a cell structure. The material may, for example, be foam rubber.

[0010] The first and second layers may be attached to each other, such as by stitching, around the third layer whereby the third layer is held in place between the first and second layers.

[0011] According to a first embodiment, the protrusion may be of generally and more specifically substantially circular cross section. The protrusion may therefore be cylindrical with a longitudinal axis of the cylindrical protrusion extending orthogonally to a direction of disposition of the first and second cups in relation to each other. The longitudinal axis of the cylindrical protrusion may therefore extend in a direction between an upper edge of the bridge and a lower edge of the bridge. As mentioned above, the shape of the protrusion may be defined by the shape of the third layer or body. In the present embodiment, the third layer is of the form of a body rather than a stratum. The protrusion may be attached to the bridge at one side of the cylinder. A diameter of the cylindrical protrusion may change along its length. More specifically, the diameter of the cylindrical protrusion may

reduce progressively towards an end of the protrusion closest to a lower edge of the bridge. The cylindrical protrusion may therefore be tapered. The diameter of the cylindrical protrusion may be substantially constant along a part of the protrusion between opposing edges of the first and second cups. Furthermore, the diameter of the cylindrical protrusion may reduce progressively along another part of the protrusion aligned with parts of the edges of the first and second cups which curve away from each other towards a lower edge of the brassiere. An end of the protrusion towards an upper end of the bridge may be convex. More specifically, the end of the protrusion towards the upper end of the bridge may be generally and more specifically substantially hemispherical.

[0012] According to a second embodiment, an extent of the protrusion (i.e. its width) in a direction between the first and second cups may be less towards an upper edge of the brassiere when worn than towards a lower edge of the brassiere when worn. The protrusion may have first and second edges which are each near a respective cup. Each of the first and second edges may be curved whereby the extent of the resilient protrusion in a direction between the first and second cups increases progressively away from the upper edge of the brassiere. Each of the first and second edges may be adjacent a respective cup and may at least in part have substantially the same radius of curvature as the radius of curvature of a periphery of the respective cup. The protrusion, including a seam around edges of the protrusion where such is provided, may therefore have the same shape as the bridge and may also be of substantially the same extent as the bridge.

[0013] Each of the first and second edges of the protrusion may be curved along a first part of the resilient protrusion and may be substantially straight along a second part of the resilient protrusion, the first part being closer than the second part to the upper edge of the brassiere. An edge of the protrusion towards an upper edge of the brassiere when worn may be substantially straight. An edge of the protrusion towards a lower edge of the brassiere may be substantially straight.

[0014] The brassiere may comprise a frame. The frame and the bridge may define a substrate from which the first and second cups extend in the first direction and the protrusion extends in the second, opposite direction. The bridge may be comprised in the frame. More specifically the bridge may be an integrally formed part of the frame whereby the bridge is an area of the frame rather than the bridge and frame being separately formed and joined parts.

[0015] According to a second aspect of the present invention there is provided a garment comprising a brassiere according to the first aspect of the present invention. The garment may be an article of underwear. Alternatively, the garment may be an article of outerwear. The garment may comprise plural separate components, such as a brassiere and briefs which together form a two-piece bathing costume. Alternatively, the brassiere may be integrally formed with the rest of the garment, such as in a one-piece swimming costume.

[0016] Further embodiments of the second aspect of the present invention may comprise one or more features of the first or further aspect of the present invention.

[0017] According to a further aspect of the present invention, there is provided a brassiere comprising: first and second cups each extending in a first direction from a base of the cup to an apex of the cup; and a bridge between the first and second cups. The bridge may have a first surface which, in use, is directed away from the body of a wearer of the brassiere. The brassiere may further comprise a protrusion. The protrusion may be integral with the brassiere and more specifically integral with the bridge. The protrusion may extend away from the first surface in a second direction opposite the first direction whereby the protrusion is received between the breasts when the brassiere is worn. Further embodiments of the further aspect of the present invention may comprise one or more features of the first aspect of the present invention.

Brief Description of Drawings

[0018] Further features and advantages of the present invention will become apparent from the following specific description, which is given by way of example only and with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a brassiere according to an embodiment of the present invention;
Figure 2 is a detailed view of an embodiment of the bridge and protrusion of the brassiere of Figure 1; and
Figure 3 is a detailed view of another embodiment of the bridge and protrusion of the brassiere of Figure 1.

Description of Embodiments

[0019] A brassiere 10 according to an embodiment of the present invention is shown in Figure 1. In accordance with brassieres of known form, the brassiere 10 comprises a band 12, which is secured at the back by way of a releasable fastener (not shown), two straps 14, which fit over a respective shoulder, and a frame 16 which supports first and second cups 18, 20. The brassiere 10 further comprises a bridge 22. The bridge is located between the two parts of the frame which support the first and second cups 18, 20 and extends upwards between the first and second cups. The bridge comprises a protrusion 24 which extends towards the wearer when the brassiere 10 is worn. The form and composition of the bridge 22 and the protrusion 24 are described in more detail below with reference to Figure 2.

[0020] Figure 2 is a detailed view of the bridge 22 and the protrusion 24 according to an embodiment when

viewed from inside the brassiere 10 such that the view of Figure 2 is presented towards the wearer when the brassiere is worn. As can be seen from Figure 2, the extent of the protrusion 24 is such that it is nearly as extensive as the bridge 22. The bridge 22 is formed from two overlying layers of textile formed from bamboo fibres. The protrusion 24 is formed by way of a layer of foam rubber which is received between the two layers of textile with the two layers of fabric being attached to each other around the layer of foam rubber to thereby hold the layer of foam rubber in place. A first edge 32 of the layer of foam rubber towards the upper edge of the brassiere is substantially straight. A second edge 34 curves down from a first end of the first edge 32 with a radius of curvature substantially the same as the radius of curvature as the adjacent periphery of the first cup 18. When the second edge 34 reaches the lower part of the first cup, the second edge then follows a substantially straight path towards the lower edge of the brassiere. A third edge 36 curves down from a second end of the first edge 32 with a radius of curvature substantially the same as the radius of curvature as the adjacent periphery of the second cup 20. When the third edge 36 reaches the lower part of the second cup, the third edge then follows a substantially straight path towards the lower edge of the brassiere. A fourth edge 38 extends in a direction between the two cups 18, 20 along the lower edge of the brassiere between the end of the second edge 34 and the end of the third edge 36. The layer of foam rubber therefore generally has the shape of an inverted T with each of the two corners between the crossbar and the upright of the T defining a concave arc. The layer of foam rubber increases in thickness from the edges of the layer of foam rubber towards the middle of the layer of foam rubber. The layer of foam rubber therefore defines a protrusion which extends towards the wearer when the brassiere is worn to thereby provide for improved support.

[0021] Figure 3 is a detailed view of the bridge 22 and the protrusion 42 according to another embodiment when viewed from inside the brassiere 10 such that the view of Figure 3 is presented towards the wearer when the brassiere is worn. As can be seen from Figure 3, the protrusion 42 is of generally cylindrical form with the protrusion tapering to a point at the end of the protrusion 44 towards the lower edge of the bridge 22. The bridge 22 is formed from two overlying layers of textile formed from bamboo fibres. The protrusion 42 is formed by way of a body of bamboo wadding which is covered by textile fabric. Bamboo wadding of suitable composition for use herein is readily obtained from suppliers of wadding material. The body of bamboo wadding is of tapered cylindrical form and thus defines the shape of the protrusion 42. In one form, the protrusion 42 is formed by defining a body of bamboo wadding such that it is of the desired shape and enclosing the body of bamboo wadding in textile fabric. The protrusion 42 is then attached to the inside surface of the bridge 22 by stitching. In another form, a body of bamboo fibre of the desired shape is received between the two layers of textile of the bridge 22 and the inner layer of textile is wrapped tightly around a substantial part of the circumference of the body of bamboo fibre before being attached to the outer layer of textile, such as by stitching, where the inner layer of textile forms two folds against the body of bamboo fibre.

[0022] Considering the protrusion 42 of Figure 3 further, the diameter of the cylindrical protrusion is substantially constant along a first part 46 of the protrusion between opposing edges of the first and second cups 18, 20 towards an upper end of the brassiere 10. As mentioned above, the diameter of the cylindrical protrusion reduces progressively along a second part 48 of the protrusion which is aligned with parts 50 of the edges of the first and second cups 18, 20 which curve away from each other towards a lower edge of the brassiere 10. An end of the protrusion 52 towards the upper end of the bridge 22 is generally hemispherical.

Claims

1. A brassiere comprising:

   first and second cups each extending in a first direction towards an apex of the cup; and
   a bridge between the first and second cups, the bridge having a first surface which, in use, is directed away from the body of a wearer of the brassiere,
   the bridge comprising a protrusion which is integral with the bridge, the protrusion extending away from the first surface in a second direction opposite the first direction whereby the protrusion is received between the breasts when the brassiere is worn.

2. The brassiere according to claim 1, wherein each of the first and second cups extends in the first direction from a plane in which an edge of the cup lies to the apex of the cup.

3. The brassiere according to claim 1 or 2, wherein the bridge comprises first and second layers of material, each of the first and second layers of material being of sheet form, the first surface defined by one side of the first layer of material and a second surface defined by the other side of the first layer of material, the second layer of material defining on opposite sides third and fourth surfaces, the third surface facing the second surface, the fourth surface directed towards the body of the wearer of the brassiere, the fourth surface defining a profile of the protrusion.

4. The brassiere according to claim 3, wherein the bridge comprises a third layer between the first and second layers, change in thickness of the third layer determining the profile of the protrusion.

5. The brassiere according to claim 4, wherein the thickness of the third layer increases towards a middle of the third layer from each of a first edge closest to the first cup and a second edge closest to the second cup.

6. The brassiere according to claim 4 or 5, wherein the thickness of the third layer increases towards a middle of the third layer from: a third edge of the third layer, the third edge towards an upper edge of the bridge; and a fourth edge of the third layer, the fourth edge towards a lower edge of the bridge.

7. The brassiere according to any one of claims 4 to 6, wherein the third layer is formed of resilient material whereby the protrusion is resilient.

8. The brassiere according to claim 7, wherein the third layer comprises wadding.

9. The brassiere according to claim 7 or 8, wherein the third layer comprises material having a cell structure.

10. The brassiere according to any one of claims 4 to 9, wherein the first and second layers are attached to each other around the third layer whereby the third layer is held in place between the first and second layers.

11. The brassiere according to any one of the preceding claims, wherein the protrusion is of generally circular cross section, a longitudinal axis of the protrusion extending substantially orthogonally to a direction of disposition of the first and second cups in relation to each other when in use.

12. The brassiere according to claim 11, wherein a diameter of the protrusion is substantially constant along a part of the protrusion between opposing edges of the first and second cups before the diameter of the protrusion reduces progressively towards an end of the protrusion closest to a lower edge of the bridge.

13. The brassiere according to any one of claims 1 to 10, wherein an extent of the protrusion in a direction between the first and second cups is less towards an upper edge of the brassiere when worn than towards a lower edge of the brassiere when worn, the protrusion having first and second edges which are each near a respective cup, each of the first and second edges being curved whereby the extent of the protrusion in the direction between the first and second cups increases progressively as one moves away from the upper edge of the brassiere.

14. The brassiere according to claim 13, wherein each of the first and second edges of the protrusion is curved along a first part of the protrusion and is substantially straight along a second part of the protrusion, the first part being closer than the second part to the upper edge of the brassiere.

15. A garment comprising a brassiere according to any one of the preceding claims.

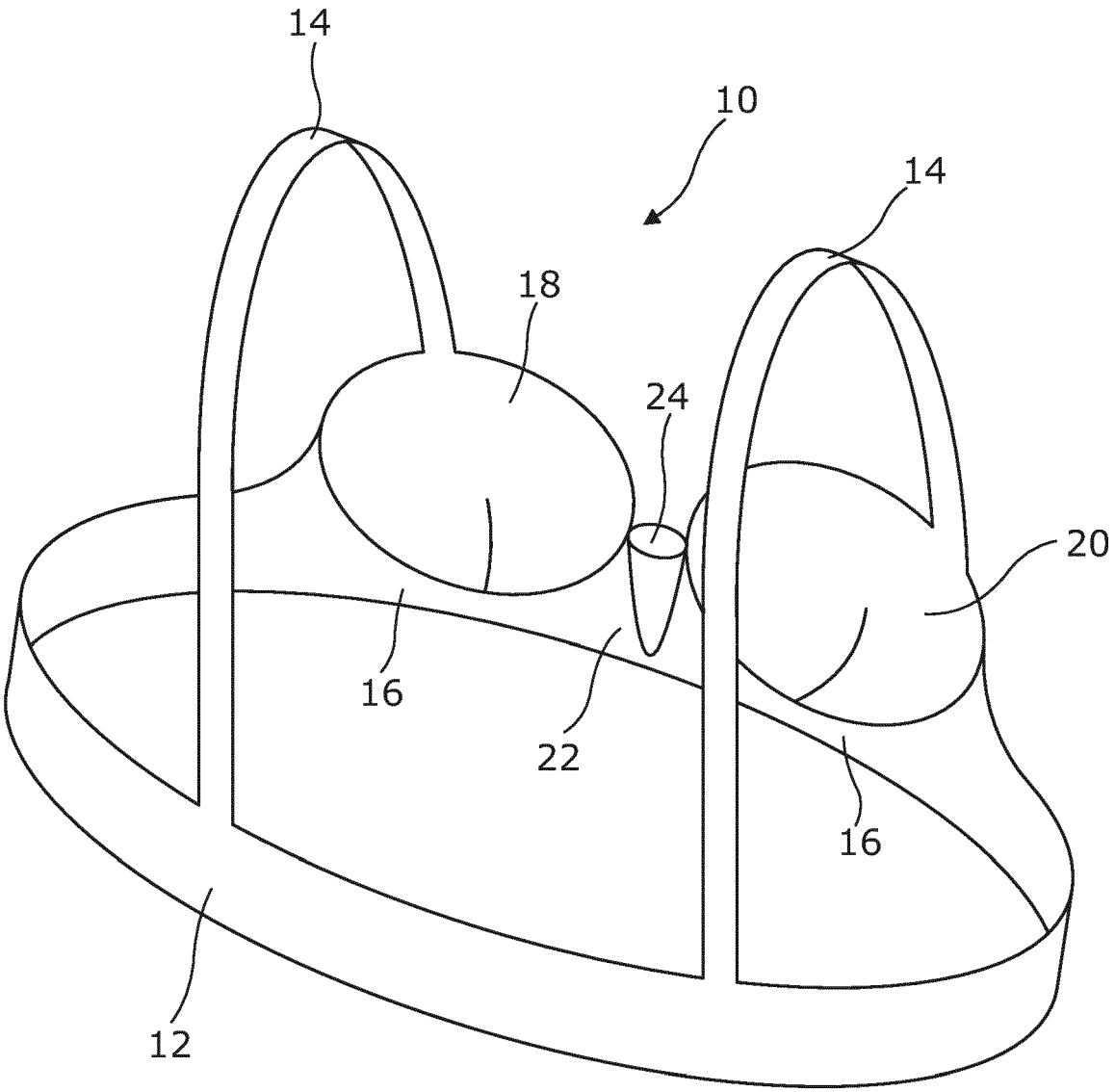

Figure 1

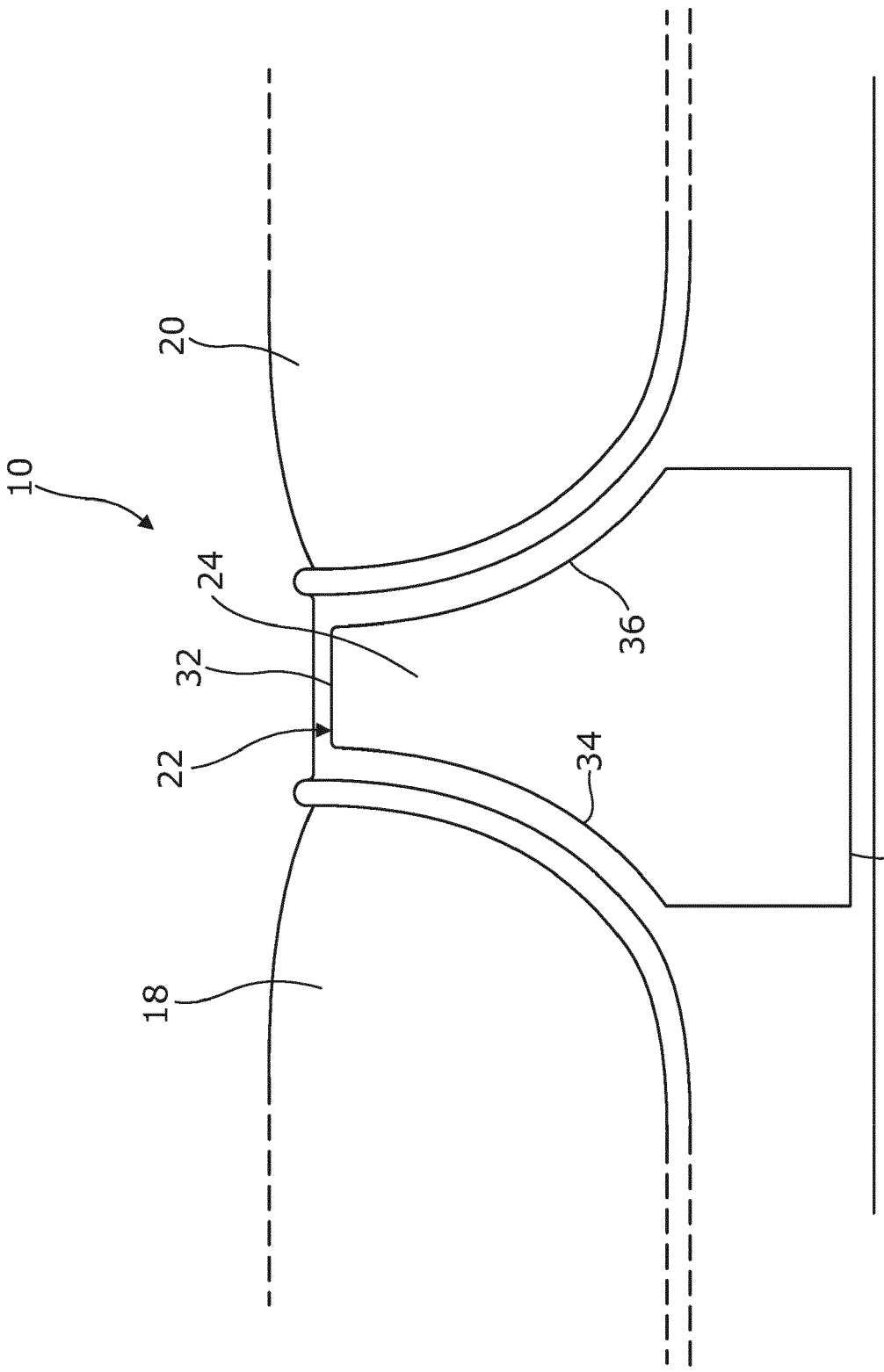

Figure 2

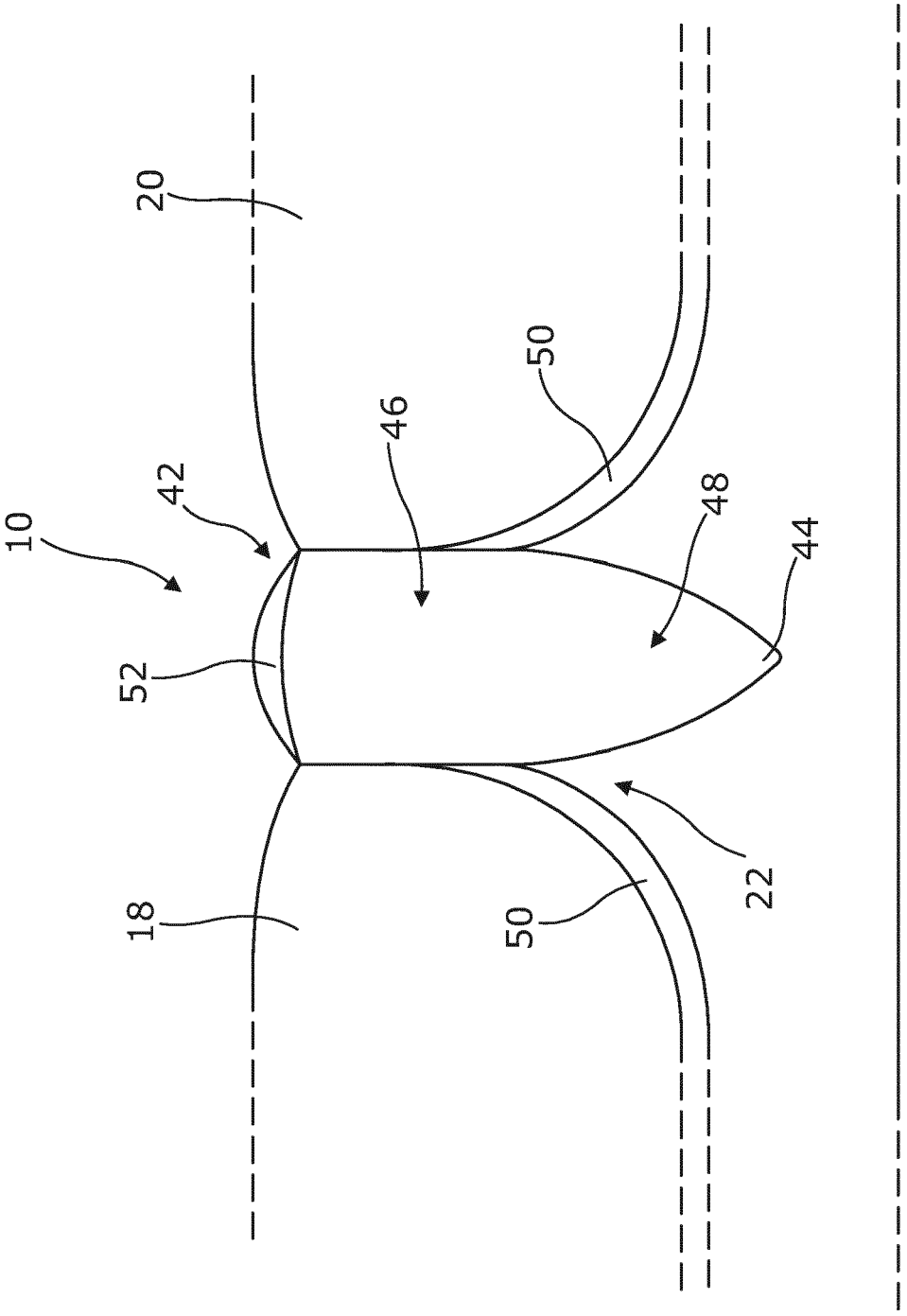

Figure 3

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EUROPEAN SEARCH REPORT

Application Number
EP 20 18 0911

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	7 October 2020	Thielgen, Robert

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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