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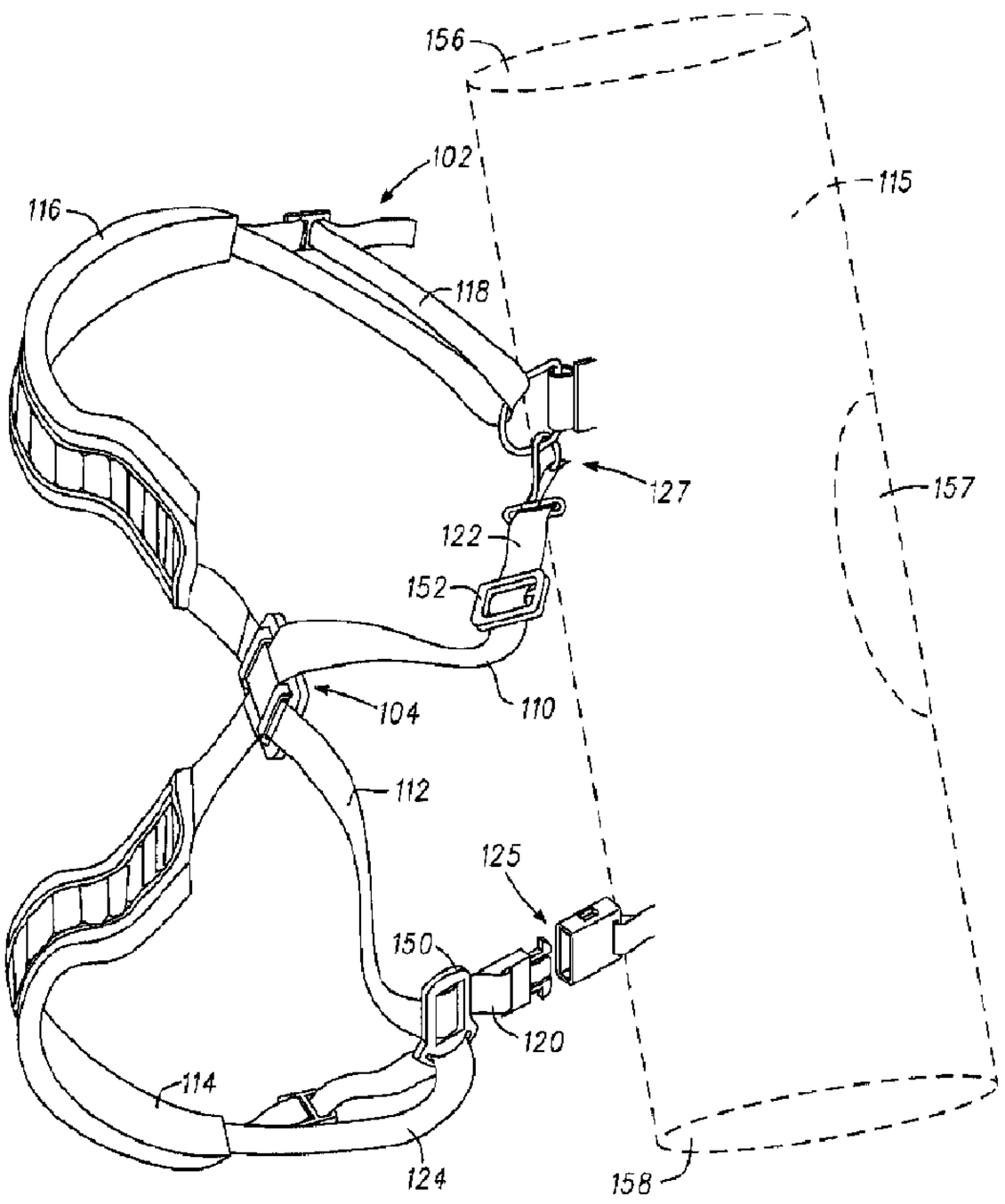
(54) Title: SELF-ADJUSTABLE CARRYING STRAP SYSTEM AND METHODS TO MANUFACTURE SELF-ADJUSTABLE CARRYING STRAP SYSTEM



(57) Abrégé/Abstract:
Embodiments of bag having a self-adjustable carrying strap system and methods to manufacture such a bag are generally described herein. Other embodiments that may be described and claimed include a golf bag having a self-adjustable carrying strap system.

ABSTRACT

Embodiments of bag having a self-adjustable carrying strap system and methods to manufacture such a bag are generally described herein. Other embodiments that may be described and claimed include a golf bag having a self-adjustable carrying strap system.

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SELF-ADJUSTABLE CARRYING STRAP SYSTEM AND METHODS TO MANUFACTURE SELF-ADJUSTABLE CARRYING STRAP SYSTEM

[0001]

FIELD

[0002] The present disclosure relates to an adjustable carrying strap system for bags, and in particular for golf bags.

BACKGROUND

[0003] Most golf bags may be in the form of a tubular fabric or leather container having a generally cylindrical configuration with a closed bottom end and an open top end through which golf clubs are inserted into and removed from the golf bag. Although golf bags are manufactured in a variety of sizes and materials so as to better suit various intended uses, golf bags are conventionally grouped into two basic classes. The first class of golf bags are generally larger and heavier golf bags designed to be carried by a pull cart or transported by a golf cart, while the second class of golf club bags are generally smaller and lighter golf bags designed to be carried by the individual during play.

[0004] In particular, the second class of golf bags are usually referred to as "carry bags" which are carried by the individual using a carrying strap arrangement that may be used to lift and carry the golf bag. Many carrying bags have a carrying strap arrangement consisting of either one or two carrying straps for lifting and carrying the golf bag on the individual's shoulders. In particular, a carrying strap arrangement having a pair of carrying straps may be arranged such that the first carrying strap crosses over the second carrying strap along a buckle that engages both carrying straps in a crossing fashion. This crossing arrangement using the

buckle allows each carrying strap to be engaged to a respective shoulder of the individual when carrying the golf bag. Typically, the buckle defines a plurality of slots arranged to require each carrying strap be threaded through the buckle to permit one carrying strap to cross over the other carrying straps, which restrains, prevents or pinches the carrying straps from moving as the individual carries the golf bag. As such, periodic adjustment of one or more carrying straps may be required when the golf bag shifts as the individual carries the golf bag, thereby requiring the individual to place the golf bag down in order to manually adjust the carrying straps. However, manual adjustment of the carrying straps can be cumbersome and time consuming as the individual may need to place the golf bag down and take the time to make the necessary adjustments to the carrying straps.

[0004a] According to the present invention, there is provided a connector plate comprising: a connector plate body bounded by a perimeter, the connector plate body defining a first surface and a second surface; a first bridge portion extending outwardly from and in substantial parallel orientation relative to the first surface that defines a first plane, the first bridge portion defining a first horizontal portion having a first pair of leg portions that extend from the first surface of the first plane and further defining a first channel on the first surface of the first plane; and a second bridge portion extending outwardly from and in substantial parallel orientation relative to the first surface that defines the first plane, the second bridge portion defining a second horizontal portion having a second pair of leg portions that extend from the first surface of the first plane and further defining a second channel on the first surface of the first plane; wherein the first and second channels define a first pathway configured to receive a first carrying strap of a bag and a transverse space forming a second pathway configured to receive a second carrying strap of the bag such that the first pathway is in transverse orientation relative to the second pathway and wherein the first and second bridge portions extend within the perimeter of the connector plate body and do not form a part of the perimeter of the connector plate body.

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[0004b] According to another aspect of the present invention, there is provided a self-adjustable carrying strap system for a bag comprising: a first carrying strap; a second carrying strap; and a connector plate comprising a connector plate body bounded by a perimeter having a rear surface and a front surface that defines a first plane, the front surface defining a first bridge portion extending outwardly from the front surface and in substantial parallel orientation relative to the front surface that defines the first plane, the first bridge portion defining a first horizontal portion having a first pair of leg portions that extend from the front surface of the first plane and further defines a first channel on the front surface of the first plane; and a second bridge portion, extending outwardly from the front surface and in substantial parallel orientation relative to the front surface that defines the first plane, the second bridge portion defining a second horizontal portion having a second pair of leg portions that extend from the front surface of the first plane and further defines a second channel on the front surface of the first plane, wherein the first bridge portion and the second bridge portion are configured to receive the first carrying strap, and a transverse space defined between the first bridge portion and the second bridge portion which is adjacent or proximate to the first plane, wherein the transverse space is configured to receive the second carrying strap such that the first carrying strap overlaps the second carrying strap, and wherein the first and second bridge portions extend within the perimeter of the connector plate body and do not form a part of the perimeter of the connector plate body.

[0004c] According to a further aspect of the present invention, there is provided a bag comprising: an elongated body having a first upper portion defining an opening in communication with a chamber configured to receive one or more golf clubs therein; a first carrying strap and a second carrying strap having respective first end portions connected to a first portion of the elongated body and respective second end portions connected to a second portion of the elongated body such that the first carrying strap overlaps the second carrying strap; and a connector plate having a body bounded by a perimeter defining a first surface and a second surface, the body including a first bridge portion extending outwardly from and in parallel orientation

relative to the first surface that defines a first plane in which the first bridge portion defines a first horizontal portion having a first pair of leg portions that extend from the first surface of the first plane and further defines a first channel on the first surface of the first plane and a second bridge portion extending outwardly from the first surface and in parallel orientation relative to the first surface that defines the first plane in which the second bridge portion defines a second horizontal portion having a second pair of leg portions that extend from the first surface of the first plane and further defines a second channel on the first surface of the first plane wherein the first bridge portion and the second bridge portion define a first pathway configured to receive the first carrying strap and a transverse space defined between the first and second bridge portions that form a second pathway configured to receive the second carrying strap such that the first pathway is in transverse orientation relative to the second pathway, and wherein the first and second bridge portions extend within the perimeter of the connector plate and do not form a part of the perimeter of the connector plate.

[0004d] According to still another aspect of the present invention, there is provided a method of manufacturing a golf bag having an adjustable carrying strap system comprising: forming a tubular elongated body having an upper portion and a lower portion; forming a first carrying strap defining an elongated strap body having a first proximal portion and a first distal portion; forming a second carrying strap defining a second elongated body having a second proximal portion and a second distal portion; and forming a connector plate having a body bounded by a perimeter defining a first surface and a second surface, the body including a first bridge portion extending outwardly from and in parallel orientation relative to the first surface defining a first plane, the first bridge portion defining a first horizontal portion having a first pair of leg portions that extend from the first surface of the first plane and further defines a first channel on the first surface of the first plane and a second bridge portion extending outwardly from and in parallel orientation relative to the first surface that defines the first plane, the second bridge portion defining a second horizontal portion having a second pair of leg portions that extend from the first surface of the

first plane and further defines a second channel on the first surface of the first plane, such that the first bridge portion and the second bridge portion that collectively define a first pathway configured to receive the first carrying strap and a transverse space defined between the first and second bridge portions that forms a second pathway configured to receive the second carrying strap such that the first pathway is in transverse orientation relative to the second pathway, wherein the first and second carrying straps overlap each other in a transverse orientation, wherein the first and second bridge portions extend within the perimeter of the connector plate and do not form a part of the perimeter of the connector plate.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] FIG. **1** is a perspective view of a bag coupled to a self-adjustable carrying strap system;

[0006] FIG. **2** is a perspective view of the self-adjustable carrying strap system having a first carrying strap, a second carrying strap and a connector plate;

[0007] FIG. **3** is a perspective view of a golf bag coupled to the self-adjustable carrying strap system;

[0008] FIG. **4** is a perspective view of the bag with the self-adjustable carrying strap system engaged to an individual;

[0009] FIG. **5** is a perspective view of the golf bag with the self-adjustable carrying strap system engaged to an individual;

[0010] FIG. **6** is an elevated perspective front view of the connector plate;

[0011] FIG. **7** is a front view of the connector plate;

[0012] FIG. **8** is an elevated perspective rear view of the connector plate;

[0013] FIG. **9** is a rear view of the connector plate;

[0014] FIG. **10** is a side view of the connector plate;

[0015] FIG. **11** is an end view of the connector plate;

[0016] FIG. **12** is a front view of the first carrying strap received between the first and second channels of the connector plate;

[0017] FIG. **13** is a front view of the second carrying strap inserted through the first and second channels and overlapping the first carrying strap along the connector plate;

[0018] FIG. **14** is a flow chart illustrating a method for manufacturing the golf bag having the self-adjustable carrying strap system;

[0019] FIG. **15** is a perspective view of a bag coupled to another embodiment of the self-adjustable carrying strap system;

[0020] FIG. **16** is a perspective view of the self-adjustable carrying strap system of FIG. **15** having a first carrying strap, a second carrying strap and a connector plate;

[0021] FIG. **17** is a perspective view of a golf bag coupled to the self-adjustable carrying strap system of FIG. **15**;

[0022] FIG. **18** is a perspective view of the bag with the self-adjustable carrying strap system engaged to an individual;

[0023] FIG. **19** is a perspective view of the golf bag with the self-adjustable carrying strap system engaged to an individual;

[0024] FIG. **20** is an elevated perspective view of another embodiment of a connector plate;

[0025] FIG. **21** is an elevated opposite perspective view of the connector plate of FIG. **17**;

[0026] FIG. **22** is a front view of the connector plate;

[0027] FIG. **23** is a rear view of the connector plate;

[0028] FIG. **24** is a side view of the connector plate;

[0029] FIG. **25** is an end view of the connector plate;

[0030] FIG. **26** is a front view of the first carrying strap received between the first and second channels of the connector plate;

[0031] FIG. **27** is a front view of the second carrying strap inserted through the first and second channels and overlapping the first carrying strap along the connector plate while also showing the potential degree of swiveling movement of the second carrying strap; and

[0032] FIG. **28** is a flow chart illustrating a method for manufacturing a golf bag having the self-adjustable carrying strap system of FIG. **15**.

[0033] Corresponding reference characters indicate corresponding elements among the various views of the drawings. The headings used in the figures should not be interpreted to limit the scope of the claims.

DETAILED DESCRIPTION

[0034] As described herein, a bag having a self-adjustable carrying strap system and methods of manufacturing such a bag with the self-adjustable carrying strap system is configured and arranged to allow the carrying straps (generally described as a first strap and a second strap) of the bag to automatically adjust without requiring manual intervention by the individual. The self-adjustable carrying strap system contains a connector plate that has two channels configured to receive the first strap and further define a traverse space between the first and second channel for receiving the second strap. The connector plate is configured to avoid pinching or clasping the first and/or second straps. Rather, the first and second straps overlap each other to allow the straps to move freely without hindrance along the connector plate as items shift in the bag or as the bag moves relative to an individual carrying the bag. As a result, the straps may be adjusted without manual intervention. The bag may be any bag attached to the self-adjustable carrying strap system, such as a golf bag for carrying golf clubs.

[0034a] Some embodiments disclosed herein relate to a connector plate comprising: a connector plate body bounded by a perimeter, the connector plate body defining a first surface and a second surface; a first bridge portion extending outwardly from and in substantial parallel orientation relative to the first surface that defines a first plane, the first bridge portion defining a first horizontal portion having a first pair of leg portions that extend from the first surface of the first plane and further defining a first channel on the first surface of the first plane; and a second bridge portion extending outwardly from and in substantial parallel orientation relative to the first surface that defines the first plane, the second bridge portion defining a second horizontal portion having a second pair of leg portions that extend from the first surface of the first plane and further defining a second channel on the first surface of the first plane; wherein the first and second channels define a first pathway configured to receive a first carrying strap of a bag and a transverse space forming a second pathway configured to receive a second carrying strap of the bag such that

the first pathway is in transverse orientation relative to the second pathway and wherein the first and second bridge portions extend within the perimeter of the connector plate body.

[0034b] Some embodiments disclosed herein relate to a connector plate comprising: a connector plate body bounded by a perimeter comprising: a middle portion; a first raised portion extending outwardly from the middle portion that defines a first plane, the first raised portion defining a first outwardly extending portion that extends from the first surface at a first angle and further defining a first slot on the first side of the first plane; and a second raised portion extending outwardly from the middle portion that defines the first plane, the second raised portion defining a second outwardly extending portion that extends from the first surface a the first angle and further defining a second slot on the first side of the first plane; and wherein the first slot and the second slot define a first pathway configured to receive a first carrying strap of a bag and the first raised portion and the second raised portion define a transverse space forming a second pathway configured to receive a second carrying strap of the bag such that the first pathway crosses over the second pathway, wherein the first raised portion and the second raised portion extend from the middle portion within the perimeter.

[0034c] Some embodiments disclosed herein relate to a self-adjustable carrying strap system for a bag comprising: a first carrying strap; a second carrying strap; and a connector plate comprising a connector plate body bounded by a perimeter having a rear surface and a front surface that defines a first plane, the front surface defining a first bridge portion extending outwardly from the front surface and in substantial parallel orientation relative to the front surface that defines the first plane, the first bridge portion defining a first horizontal portion having a first pair of leg portions that extend from the front surface of the first plane and further defines a first channel on the front surface of the first plane; and a second bridge portion extending outwardly from the front surface and in substantial parallel orientation relative to the front surface that defines the first plane, the second bridge portion defining a second

horizontal portion having a second pair of leg portions that extend from the front surface of the first plane and further defines a second channel on the front surface of the first plane, wherein the first bridge portion and the second bridge portion are configured to receive the first carrying strap, and a transverse space defined between the first bridge portion and the second bridge portion which is adjacent or proximate to the first plane, wherein the transverse space is configured to receive the second carrying strap such that the first carrying strap overlaps the second carrying strap, and wherein the first and second bridge portions extend within the perimeter of the connector plate body.

[0034d] Some embodiments disclosed herein relate to a bag comprising: an elongated body having a first upper portion defining an opening in communication with a chamber configured to receive one or more golf clubs therein; a first carrying strap and a second carrying strap having respective first end portions connected to a first portion of the elongated body and respective second end portions connected to a second portion of the elongated body such that the first carrying strap overlaps the second carrying strap; and a connector plate having a body bounded by a perimeter defining a first surface and a second surface, the body including a first bridge portion extending outwardly from and in parallel orientation relative to the first surface that defines a first plane in which the first bridge portion defines a first horizontal portion having a first pair of leg portions that extend from the first surface of the first plane and further defines a first channel on the first surface of the first plane and a second bridge portion extending outwardly from the first surface and in parallel orientation relative to the first surface that defines the first plane in which the second bridge portion defines a second horizontal portion having a second pair of leg portions that extend from the first surface of the first plane and further defines a second channel on the first surface of the first plane wherein the first bridge portion and the second bridge portion define a first pathway configured to receive the first carrying strap and a transverse space defined between the first and second bridge portions that form a second pathway configured to receive the second carrying strap such that the first pathway is in transverse orientation relative to the second pathway,

and wherein the first and second bridge portions extend within the perimeter of the connector plate body.

[0034e] Some embodiments disclosed herein relate to a method of manufacturing a golf bag having an adjustable carrying strap system comprising: forming a tubular elongated body having an upper portion and a lower portion; forming a first carrying strap defining an elongated strap body having a first proximal portion and a first distal portion; forming a second carrying strap defining a second elongated body having a second proximal portion and a second distal portion; and forming a connector plate having a body bounded by a perimeter defining a first surface and a second surface, the body including a first bridge portion extending outwardly from and in parallel orientation relative to the first surface defining a first plane, the first bridge portion defining a first horizontal portion having a first pair of leg portions that extend from the first surface of the first plane and further defines a first channel on the first surface of the first plane and a second bridge portion extending outwardly from and in parallel orientation relative to the first surface that defines the first plane, the second bridge portion defining a second horizontal portion having a second pair of leg portions that extend from the first surface of the first plane and further defines a second channel on the first surface of the first plane, such that the first bridge portion and the second bridge portion that collectively define a first pathway configured to receive the first carrying strap and a transverse space defined between the first and second bridge portions that forms a second pathway configured to receive the second carrying strap such that the first pathway is in transverse orientation relative to the second pathway, wherein the first and second carrying straps overlap each other in a transverse orientation, wherein the first and second bridge portions extend within the perimeter of the connector plane body.

[0035] Referring to the FIG. **1**, an embodiment of the self-adjustable carrying strap system **102** is connected to a bag **115** that may contain weighted objects. The self-adjustable carrying strap system **102** includes a first carrying strap **110** and a second carrying strap **112** that overlap each other in a crossing fashion

along a connector plate **104**. The connector plate **104** is configured to allow the first and second carrying straps **110** and **112** to be self-adjustable relative to each other without any manual adjustment required by the individual such that the first and second carrying straps **110** and **112** freely move relative to each other along either axis **900** for the first carrying strap **110** or axis **902** for the second carrying strap **112** in response to the shifting of the bag **115** as shown in FIG. **4**.

[0036] In some embodiments, the first carrying strap **110** may include a first shoulder pad **114** and the second carrying strap **112** may include a second shoulder pad **116** to provide a cushioning effect as the individual carries the bag **115**. In some embodiments, the first carrying strap **110** may include a first buckle **150** that allows the individual to adjust the length of the first carrying strap **110**, while the second carrying strap **112** may include a second buckle **152** that also allows the individual to adjust the length of the second carrying strap **112**.

[0037] In some embodiments, proximal portions **118** and **122** of the first and second carrying straps **110** and **112**, respectively, may be engaged together at a first connector arrangement **125** to connect the first and second carrying straps **110** and **112** adjacent or proximate to the first end **156** of the bag **115**. Similarly, the distal portions **120** and **124** of the first and second carrying straps **110** and **112**, respectively, may be engaged together at a second connector arrangement **127** to connect the first and second carrying straps **110** and **112** adjacent or proximate to a third portion **158** of the bag **115**. The distal portions **120** and **124** of the first and second carrying straps **110** and **112** may be engaged together at a second connector arrangement **127** to connect the first and second carrying straps **110** and **112** opposite to the second end **157** of the bag **115**. However, in other embodiments the proximal portions **118** and **122** and distal portions **120** and **124** of the first and second carrying straps **110** and **112** may be separately connected to the bag **115** using additional connector arrangements **125** and **127**. In one aspect, the first and second connector arrangements **125** and **127** may be a ring and loop arrangement, an independent buckle, a hook fastener arrangement, and a snap-fit connector arrangement.

[0038] Referring to FIGS. **4, 6-11**, the connector plate **104** is a modular component that may be added after-market to an existing bag **115**. The connector plate **104** is configured to permit the first and second carrying straps **110** and **112** to overlap each other along the connector plate **104** and move relative to each other without manual intervention when the bag **115** shifts as it is being carried or as the bag **115** changes position relative to an individual carrying the bag **115**. The connector plate **110** includes a connector body **105** defined by a front surface **128** and a rear surface **130** having a first side **136**, second side **138**, third side **140** and fourth side **142** that collectively form a generally rectangular shape. In some embodiments, the first and second sides **136** and **138** may have a substantially straight configuration, while the third and fourth sides **140** and **142** may have generally curved or tapered configuration. In some embodiments, first, second third and fourth sides **136**, **138**, **140** and **142** may have a symmetrical configuration, an asymmetrical or tapered configuration, or a combination symmetrical and asymmetrical or tapered configuration, although the apparatus, articles of manufacture, and methods described herein are not limited in this regard. For example, the connector plate body **105** may have a square configuration, a circular

configuration, an oval configuration, and a rectangular configuration. As further shown, the connector plate **104** includes a first bridge portion **132** and a second bridge portion **134** in parallel orientation that define a transverse space **131** in the area of the connector plate body **105** between the first and second bridge portions **132** and **134**. The first and second bridge portions **132** and **134** may be engaged or integral with the connector plate body **105**.

[0039] The first and second bridge portions **132** and **134** define first and second channels **144** and **146**, respectively, above the plane **804** configured to receive the first or second carrying straps **110** or **112** when inserted through the first and second channels **144** and **146**. As shown in FIG. **6**, the first and second channels **144** and **146** are aligned to define a first pathway along a longitudinal axis **800**, while the transverse space **131** is aligned to define a second pathway along a latitudinal axis **802**. The first pathway along longitudinal axis **800** and the second pathway along latitudinal axis **802** may be in transverse orientation to each other in a crossing configuration. In addition, the first pathway along longitudinal axis **800** may be configured to receive the first carrying strap **110**, while the second pathway along latitudinal axis **802** may be configured to receive the second carrying strap **112** so that the first carrying strap **110** crosses over and overlaps the second carrying strap **112** when engaged to the connector plate **104**. In other embodiments, the first pathway along longitudinal axis **800** may receive the second carrying strap **112**, while the second pathway along latitudinal axis **802** may receive the first carrying strap **110**.

[0040] Referring to FIG. **12**, a plane **804** is defined adjacent or proximate to the front surface **128** of the connector plate body **105** and extends in parallel fashion to the first pathway along longitudinal axis **800** and the second pathway along latitudinal axis **802**. When the first carrying strap **110** crosses over the second carrying strap **112** along the connector plate **104**, both the first and second carrying straps **110** and **112** are disposed adjacent or proximate to plane **804** (FIG. **11**).

[0041] As shown in FIGS. **7** and **10**, the connector plate **104** may have an outer length **700** of **60** mm corresponding to the overall length of the connector body **105**, an inner length **702** of approximately **41** mm corresponding to the length of the first and second sides **136** and **138**, a length **704** of approximately **40** mm corresponding to the length of the third and fourth sides **140** and **142**, a length **706** of approximately **23** mm corresponding to the length between the first and second

bridge portions **132** and **134**, and a length **708** of approximately **35** mm corresponding to the length of the first and second raised channels **132** and **134**. In addition, as shown in FIG. **10**, the first bridge portion **132** as well as the second bridge portion **134** may have a height **710** of approximately **7** mm. In some embodiments, the range of dimensions for the connector plate body **105** may include a length **700** between **50** mm to **70** mm, a length **702** between **35** mm to **45** mm, a length **706** between **35** mm and **45** mm, a length **708** between **30** mm to **40** mm, a height **710** of between **5** mm and **10** mm. In Fig. **13**, the dimensions of the first pathway along longitudinal axis **800** and the second pathway along axis **802** are configured to receive the first and second bridge portions **132** and **134**, respectively.

[0042] The bag **115** may be able to carry or transport weighted objects. The weighted objects may be any item that can fit into the bag **115** including, but not limited to, golf clubs including iron-type golf clubs, wood-type golf clubs, and putter-type golf clubs, books, supplies, clothes, carpentry tools, architect tools, bowling ball, survey tools, computers and computer related accessories, papers, documents, art supplies, weapons, shoes, and food supplies. The bag **115** may be in any configuration or shape as long as it is connected to the self adjustment carrying strap system **102**. In some embodiments, the bag **115** may be generally a golf bag, an elongated duffle bag, a backpack, a bowling bag, a backpack, a computer bag, a rucksack, or a suitcase. As illustrated in FIG. **1**, the bag **115** may define an first upper portion **156**, a second middle portion **157**, and a third lower portion **158** relative to the self adjustment carrying strap system **102**.

[0043] The bag **115** may be made from a variety of materials, such as leather, synthetic rubber, neoprene, polyethylene, polyurethane, acrylonitrile butadiene styrene, plastic, fabric material, or combinations thereof. In addition, the first and second carrying straps **110** and **112** may also be made from a variety of materials, such as leather, synthetic rubber, neoprene, polyethylene, polyurethane, acrylonitrile butadiene styrene, plastic, fabric material, or combinations thereof. The apparatus, articles of manufacture, and methods described herein are not limited in this regard.

[0044] An embodiment of the golf bag is illustrated and generally indicated as **100** in FIGS. **3** and **5**. In general, the golf bag **100** includes a generally tubular elongated body **106** defining the first upper portion **156**, a second lower portion **158**, and third middle portion **157**. In one embodiment, the golf bag **100** is a carrying bag

that is adapted to be carried by an individual. The golf bag **100** further includes the self-adjustable carrying strap system **102** having a first carrying strap **110** and a second carrying strap **112** that overlap each other in a crossing fashion along the connector plate **104**. The connector plate **104** of the golf bag is configured to allow the first and second carrying straps **110** and **112** to be self-adjustable without any manual adjustment required by the individual such that the first and second carrying straps **110** and **112** freely move relative to each other along either axis **900** for the first carrying strap **110** or axis **902** for the second carrying strap **112** in response to the shifting of the golf bag **100** as shown in FIG. **5**.

[0045] In some embodiments, the first carrying strap **110** may include a first shoulder pad **114** and the second carrying strap **112** may include a second shoulder pad **116** to provide a cushioning effect as the individual carries the golf bag **100**. In some embodiments, the first carrying strap **110** may include a first buckle **150** that allows the individual to adjust the length of the first carrying strap **110**, while the second carrying strap **112** may include a second buckle **152** that also allows the individual to adjust the length of the second carrying strap **112**.

[0046] In some embodiments, the proximal portions **118** and **122** of the first and second carrying straps **110** and **112**, respectively, may be engaged together at a first connector arrangement **125** to connect the first and second carrying straps **110** and **112** adjacent or proximate to the first upper portion **156** of the golf bag **100**. Similarly, the distal portions **120** and **124** of the first and second carrying straps **110** and **112**, respectively, may be engaged together at a second connector arrangement **127** to connect the first and second carrying straps **110** and **112** adjacent or proximate to the second lower portion **158** of the golf bag **100**. However, in other embodiments the proximal portions **118** and **122** and distal portions **120** and **124** of the first and second carrying straps **110** and **112** may be separately connected to the golf bag **100** using additional connector arrangements **125** and **127**. In one aspect, the first and second connector arrangements **125** and **127** may be a ring and loop arrangement, independent buckle, hook fastener arrangement, and snap-fit connector arrangement. Referring to FIGS. **6-10** as discussed above, the connector plate **104** is configured to permit the first and second carrying straps **110** and **112** to overlap each other along the connector plate **104** and move relative to each other without manual intervention when the golf bag **100** shifts as it is being carried.

[0047] A method of manufacturing the bag **115** with the self-adjustable carrying strap system **102** is also illustrated in FIGS. **12-14**. Referring to FIGS. **1** and **14**, at block **1000** forming the tubular elongated body **106** having a first upper portion **156** and a second lower portion **157**. At block **1002**, forming a first carrying strap **110** having a first proximal portion **122** and a first distal portion **124**. At block **1004**, forming a second carrying strap **112** defining a first proximal portion **118** and a second distal portion **120**. At block **1006**, forming a connector plate **104** having a connector plate body **105** including the first bridge portion **132** defining the first channel **144** and the second bridge portion **134** defining the second channel **146** in which the first and second bridge portions **132** and **134** are in parallel orientation to one another as well as adjacent or proximate to the same plane **804** as the front surface **128** of the connector plate body **105**. In addition, the first and second bridge portions **132** and **134** collectively define a first pathway and a transverse space **131** defined between the first and second bridge portions **132** and **134** that define the second pathway such that the first pathway is in transverse orientation relative to the second pathway. At block **1008**, the second carrying strap **112** is positioned along the first pathway and the first carrying strap **110** is inserted through the first and second channels **144** and **146** and positioned along the second pathway. In this intersecting arrangement, the first carrying strap **110** and the second carrying strap **112** overlap each other in a transverse orientation. At block **1010**, attaching the first proximal portion **122** of the first carrying strap **110** to the upper portion **156** of the bag **115** and attaching the first distal portion **124** to the lower portion **158** of the bag **115**. At block **1012**, attaching the second proximal portion **118** of the second carrying strap **112** to the upper portion **156** of the bag and attaching the second distal portion **120** to the lower portion **158** of the bag **115**. In addition, the first and second carrying straps **110** and **112** may move freely relative to each other such that each respective first and second carrying strap **110** and **112** automatically adjusts without manual intervention by the individual whenever the bag **115** shifts as the individual is carrying the bag **115**. In one embodiment, the connector plate body **105** may be formed using a molding process, a stamping process, a milling process, and a combination thereof. In some embodiments, the connector plate body **105** maybe made from a plastic, metal, or a composite material. The method of manufacture described above may be used to manufacture the golf bag **100** with the self-adjustable carrying strap system **102** as illustrated in FIGS. **12-14.**

[0048] Referring to FIGS. **15-25**, another embodiment of an adjustable carrying strap system, designated **202**, includes a first carrying strap **207** defining a first proximal portion and a first distal portion and a second carrying strap **209** defining a second proximal portion and a second distal portion. The first and second carrying straps **207** and **209** overlap each other in a crossing fashion, such as an "X" formation, along a connector plate **204**. In one embodiment, the first and second carrying straps **207** and **209** remain substantially in the "X" formation such that this overlapping arrangement allows the first and second carrying straps 207 and 209 to freely move relative to each other. This free movement of the first and second carrying straps **207** and **209** relative to each other permits the connector plate 204 to self-center and facilitate an even load-bearing being applied on each shoulder for both single and dual shoulder carrying arrangements by the first and second carrying straps **207** and **209**. As shown in FIGS. **15**, **16** and **18**, the connector plate **204** is configured to allow the first and second carrying straps **207** and **209** to be self-adjustable relative to each other without any manual adjustment required by the individual such that the first and second carrying straps **207** and **209** freely move relative to each other along either axis **904** for the first carrying strap **207** or axis **906** for the second carrying strap **209** in response to the shifting of a bag **215** having an upper portion **256**, middle portion **257** and lower portion **258**. Referring to FIG. **27**, the second carrying strap **209** is also capable of turning about a point **908** in a direction bounded by axes **916** and **918** when an adjustment to the second carrying strap **209** occurs as shall be explained in greater detail below.

[0049] Referring to FIGS. **17** and **19**, the self-adjustable carrying strap system **202** may also be engaged to a golf bag **200** in a manner similar to the bag **115**. In particular, the first carrying strap **207** and the second carrying strap **209** overlap each other at the connector plate **204**, which is configured to allow the first carrying strap **207** and the second carrying strap **209** to move along axis **904** and axis **906**, respectively, when automatic adjustment of the self-adjustable carrying strap system **202** occurs. As noted above, the second carrying strap **209** is allowed to swivel about the point **908** when automatic adjustment of the second carrying strap **209** occurs.

[0050] Referring to FIGS. **20-25**, the connector plate **204** is a modular component that may be added after-market to an existing bag **215**. The connector plate **204** is configured to permit the first and second carrying straps **207** and **209** to

overlap each other along the connector plate **204** and move relative to each other without manual intervention when the bag **215** shifts as it is being carried or as the bag **215** changes position relative to an individual carrying the bag **215**. As shown in FIGS. **21** and **25**, the connector plate **204** includes a connector plate body **206** having a middle portion **208** in communication with opposing first and second raised portions **210** and **212** in parallel orientation that define a transverse space **231** in the area of the connector body **206** between the first and second raised portions **210** and **212**. The connector plate **204** further defines a first transition portion **221** defined between the middle portion **208** and the first raised portion **210** and a second transition portion **223** defined between the middle portion **208** and the second raised portion **212**. The first transition portion **221** is substantially aligned along a plane **920** at an angle **B**, while the second transition portion **223** is substantially aligned along a plane **922** at the same angle **B**. In some embodiments, the angle **B** defined between respective planes **920** or **922** with the plane **910** may be an obtuse angle, an acute angle, or a perpendicular angle. In one embodiment, angle **B** may range between **30** degrees and **130** degrees. The connector plate body **206** defines a front surface **218** and a rear surface **220** having a first side **236**, second side **238**, third side **240** and fourth side **242** that collectively form a generally rectangular shape. In some embodiments, the first, second, third and fourth sides **236**, **238**, **240** and **242** may form curved or sharp edges. In some embodiments, the first, second, third and fourth sides **236**, **238**, **240** and **242** may have a symmetrical configuration, an asymmetrical configuration, an asymmetrical or tapered configuration, although the apparatus, articles of manufacture, and methods described herein are not limited in this regard. For example, the connector plate body **206** may have a square configuration, a circular configuration, an oval configuration, and a rectangular configuration.

[0051] Referring to FIG. **25**, the first and second slots **214** and **216** are defined above a first plane **910** configured to receive the first or second carrying straps **207** or **209** when inserted through the first and second slots **214** and **216**.As used herein, the term “slot” refers to any elongated opening having dimensions sufficient to receive the first carrying strap **207**. As shown in FIG. **21**, the first and second slots **214** and **216** are aligned to define a first pathway along a longitudinal axis **914**, while the transverse space **231** is aligned along a second pathway along a latitudinal axis **915**. The first pathway along axis **914** and the second axis along latitudinal axis **915** may be in transverse orientation to each other in a cross

configuration. In addition, the first pathway along longitudinal axis **914** may be configured to receive the first carrying strap **207**, while the second pathway along latitudinal axis **915** may be configured to receive the second carrying strap **209** so that the first carrying strap **207** crosses over and overlaps the second carrying strap **209** when engaged to the connector plate **204**. In other embodiments, the first pathway along longitudinal axis **914** may receive the second carrying strap **209**, while the second pathway along the latitudinal axis **915** may receive the first carrying strap **207**.

[0052] Referring back to FIG. **25**, plane **910** is defined adjacent or proximate to the front surface **218** of the connector plate body **206** and extends in parallel fashion to the first pathway along longitudinal axis **914** and the second pathway along latitudinal axis **915**. When the first carrying strap **207** crosses over the second carrying strap **209** along the connector plate **204**, both the first and second carrying straps **207** and **209** are disposed adjacent or proximate to plane **910**. Referring to FIGS. **18**, **19** and **27**, the second carrying strap **209** is capable of a turning motion **250** relative to the first carrying strap **207** such that the second carrying strap **209** may self-adjust and move in a direction between axes **916** and **918** at an angle **A** which may range between **+15**-**+20** degrees and **-15**-**20** degrees from normal. In one embodiment, the turning motion of the second carrying strap **209** is created by length of the second pathway being longer than the width of the second carrying strap **209** which allows the second carrying strap **209** to move and turn laterally. As used herein, the term "turning" refers to any type of lateral, transverse, swiveling or rotating motion by the second carrying strap **209** either about a point **908** or relative to the first carrying strap **207** in any direction defined between axes **916** and **918**.

[0053] As shown in FIGS. **21**, **24** and **25**, the connector plate **204** may have a length **1100** of approximately **62** mm corresponding to the overall length of the connector plate body **206**, a length **1102** of approximately **38** mm corresponding to the length of the first and third sides **236** and **240**, a length **1106** of approximately **14** mm corresponding to length of the first and second raised portions **210** and **212**, a length **1108** of approximately **30** mm corresponding to the length of the first and second slots **214** and **216**, a length **1104** of approximately **30** mm corresponding to the length between the first and second slots **214** and **216**, a length **1110** of approximately **3** mm corresponding to the height of the first and second slots **214**

and **216**, and a length **1112** of approximately **6** mm corresponding to the height of the first and second raised portions **210** and **212**. In one embodiment, the length **1104** corresponding to the length between the first and second slots **214** and **216** that define the width of the second pathway is longer than the length **1108** corresponding to the length of the first and second slots **214** and **216** such that the width of the second carrying strap **209** is always shorter than the width of the second pathway, thereby allowing the second carrying strap **209** sufficient room to move laterally. In some embodiments, the range of dimensions for the connector plate body **206** may include a length **1100** between **50** mm to **70** mm, a length **1102** between **36** mm to **42** mm, a length **1104** between **28** mm to **32** mm, a length **1106** between **11** mm to **17** mm, a length **1108** between **29** mm to **32** mm, a length **1110** between **3** mm to **4** mm, and a length **1112** between **5** mm to **7** mm.

[0054] A method of manufacturing the bag **215** with the self-adjustable carrying strap system **202** is also illustrated in FIGS. **26-28**. Referring to FIG. **28**, at block **1200** forming the bag **215** having an upper portion **256** and lower portion **258**. At block **1202** forming a first carrying strap **207** having a first proximal portion 284 and a first distal portion **286** At block **1204**, forming a second carrying strap **209** having a second proximal portion **280** and a second distal portion **282**. At block **1206**, forming a connector plate **204** having a connector plate body **206** defining a middle portion **208** in communication with a first raised portion **210** that defines a first channel **214** and a second raised portion **212** that defines a second channel **216** with the first and second raised channels **210** and **212** being aligned along a first pathway and a transverse space defined between the first and second raised portions **210** and **212** that define a second pathway such that the first pathway is in transverse orientation relative to the second pathway. At block **1208**, positioning the second carrying strap **209** along the second pathway and positioning the first carrying strap **207** along the first pathway such that the first carrying strap **207** overlaps the second carrying strap **209**. In this intersecting arrangement, the first carrying strap **207** and the second carrying strap **209** overlap each other in a transverse orientation. At block **1210**, attaching the first proximal portion **284** of the first carrying strap **207** to the upper portion **256** of the bag **215** and attaching the first distal portion **286** to the lower portion **258** of the bag **215**. At block **1212**, attaching the second proximal portion **280** of the second carrying strap **209** to the upper portion **256** of the bag and attaching the second distal portion **282** to the lower portion **258** of the bag **215**. In

addition, the first and second carrying straps **207** and **209** may move freely relative to each other such that each respective first and second carrying strap **207** and **209** automatically adjusts without manual intervention by the individual whenever the bag **215** shifts as the individual is carrying the bag **215**. In one embodiment, the connector plate body **206** may be formed using a molding process, a stamping process, a milling process, and a combination thereof. In some embodiments, the connector plate body **206** maybe made from a plastic, metal, or a composite material. In addition, the first and second raised portions **210** and **212** may be attached or otherwise affixed to the middle portion **208** during manufacture or the connector body plate **206** may be formed such that the middle portion **208** and the first and second raised portions **210** and **212** are formed as a single unitary body; however, the apparatus, articles of manufacture, and methods described herein are not limited in this regard. The method of manufacture described above may be used to manufacture the golf bag **200** with the self-adjustable carrying strap system **202** as illustrated in FIGS. **26-28.**

[0055] Similar to bag **115**, bag **215** may be able to carry or transport weighted objects. The weighted objects may be any item that can fit in the bag **215** including, but not limited to, golf clubs including iron-type golf clubs, wood-type golf clubs, and putter-type golf clubs, as well as other objects as described above for golf bag **115**. In addition, the bag **215** may be in any configuration or shape as long as it is connected to the self adjustment carrying strap system **202**. In some embodiments, the bag **215** may be generally a golf bag, a rucksack, a duffel bag, or a suitcase.

[0056] The golf bags **100** and **200** may be made from a variety of materials, such as leather, synthetic rubber, neoprene, polyethylene, polyurethane, acrylonitrile butadiene styrene, plastic, fabric material, or combinations thereof. In addition, the first and second carrying straps **110**, **112, 207, and 209** may also be made from a variety of materials, such as leather, synthetic rubber, neoprene, polyethylene, polyurethane, acrylonitrile butadiene styrene, plastic, fabric material, or combinations thereof. The apparatus, articles of manufacture, and methods described herein are not limited in this regard.

[0057] It should be understood from the foregoing that, while particular embodiments have been illustrated and described, various modifications can be made without departing from the scope of the invention as will be apparent

to those skilled in the art. Such changes and modifications are within the scope and teachings of this invention as defined in the claims appended hereto.

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CLAIMS:

1. A connector plate comprising:

a connector plate body bounded by a perimeter, the connector plate body defining a first surface and a second surface;

a first bridge portion extending outwardly from and in substantial parallel orientation relative to the first surface that defines a first plane, the first bridge portion defining a first horizontal portion having a first pair of leg portions that extend from the first surface of the first plane and further defining a first channel on the first surface of the first plane; and

a second bridge portion extending outwardly from and in substantial parallel orientation relative to the first surface that defines the first plane, the second bridge portion defining a second horizontal portion having a second pair of leg portions that extend from the first surface of the first plane and further defining a second channel on the first surface of the first plane;

wherein the first and second channels define a first pathway configured to receive a first carrying strap of a bag and a transverse space forming a second pathway configured to receive a second carrying strap of the bag such that the first pathway is in transverse orientation relative to the second pathway and wherein the first and second bridge portions extend within the perimeter of the connector plate body and do not form a part of the perimeter of the connector plate body.

2. The connector plate of claim 1, wherein the first pathway defines a longitudinal axis along the connector plate, and the second pathway defines a latitudinal axis along the connector plate in which the longitudinal axis is in transverse orientation relative to the latitudinal axis.

3. The connector plate of claim 1, wherein the first and second bridge portions are substantially parallel to each other.

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4. A self-adjustable carrying strap system for a bag comprising:

a first carrying strap;

a second carrying strap; and

a connector plate comprising a connector plate body bounded by a perimeter having a rear surface and a front surface that defines a first plane, the front surface defining a first bridge portion extending outwardly from the front surface and in substantial parallel orientation relative to the front surface that defines the first plane, the first bridge portion defining a first horizontal portion having a first pair of leg portions that extend from the front surface of the first plane and further defines a first channel on the front surface of the first plane; and a second bridge portion, extending outwardly from the front surface and in substantial parallel orientation relative to the front surface that defines the first plane, the second bridge portion defining a second horizontal portion having a second pair of leg portions that extend from the front surface of the first plane and further defines a second channel on the front surface of the first plane, wherein the first bridge portion and the second bridge portion are configured to receive the first carrying strap, and a transverse space defined between the first bridge portion and the second bridge portion which is adjacent or proximate to the first plane, wherein the transverse space is configured to receive the second carrying strap such that the first carrying strap overlaps the second carrying strap, and wherein the first and second bridge portions extend within the perimeter of the connector plate body and do not form a part of the perimeter of the connector plate body.

5. The system of claim 4, wherein the first carrying strap is inserted through the first channel and the second channel when engaged to the connector plate.

6. The system of claim 4 wherein the first carrying strap is inserted through the first channel and the second channel when engaged to the connector plate, wherein the first and second channels are aligned to define a first pathway

along a longitudinal axis for receiving the first carrying strap, and the traverse space defines a second pathway along a latitudinal axis for receiving the second carrying strap.

7. The system of claim 4, wherein the bag comprises at least one of a golf bag, a tool bag, a book bag, a backpack, a duffel bag, a computer bag, a suitcase, or a rucksack.

8. The system of claim 4, wherein the first and second carrying straps overlap each other along the connector plate and move relative to each other without manual intervention when the bag shifts as it is being carried.

9. The system of claim 4, wherein the connector plate defines a first side, second side, third side and fourth side, wherein the first side and second side are substantially equal in length and the third side and fourth side are substantially equal in length.

10. The system of claim 4, wherein the connector plate defines a first side, second side, third side and fourth side, wherein the first side and second side are substantially equal in length and the third side and fourth side are substantially equal in length wherein the first side and second side are greater in length relative to the third side and fourth side, respectively.

11. A bag comprising:

an elongated body having a first upper portion defining an opening in communication with a chamber configured to receive one or more golf clubs therein;

a first carrying strap and a second carrying strap having respective first end portions connected to a first portion of the elongated body and respective second end portions connected to a second portion of the elongated body such that the first carrying strap overlaps the second carrying strap; and

a connector plate having a body bounded by a perimeter defining a first surface and a second surface, the body including a first bridge portion extending outwardly from and in parallel orientation relative to the first surface that defines a first plane in which the first bridge portion defines a first horizontal portion having a first pair of leg portions that extend from the first surface of the first plane and further defines a first channel on the first surface of the first plane and a second bridge portion extending outwardly from the first surface and in parallel orientation relative to the first surface that defines the first plane in which the second bridge portion defines a second horizontal portion having a second pair of leg portions that extend from the first surface of the first plane and further defines a second channel on the first surface of the first plane wherein the first bridge portion and the second bridge portion define a first pathway configured to receive the first carrying strap and a transverse space defined between the first and second bridge portions that form a second pathway configured to receive the second carrying strap such that the first pathway is in transverse orientation relative to the second pathway, and wherein the first and second bridge portions extend within the perimeter of the connector plate and do not form a part of the perimeter of the connector plate.

12. The bag of claim 11, wherein the first carrying strap overlaps the second carrying strap in a transverse orientation relative to each other.

13. The bag of claim 11, wherein the first pathway defines a longitudinal axis along the connector plate, and the second pathway defines a latitudinal axis along the connector plate in which the longitudinal axis is in transverse orientation relative to the latitudinal axis.

14. The bag of claim 11, wherein the first pathway and the second pathway are adjacent or proximate to a first plane defined by the body of the connector plate.

15. The bag of claim 11, wherein the first carrying strap and the second carrying strap move relative to each other in a transverse orientation such that the

first carrying strap and the second carrying strap are automatically adjustable without manual intervention.

16. The bag of claim 11, wherein the first bridge portion and the second bridge portion each define a first length that is substantially the same as a second length defined between the first bridge portion and the second bridge portion.

17. The bag of claim 11, wherein the first length and second length are each in a range between 35 to 45 mm.

18. The bag of claim 11, wherein the connector plate comprises a first channel in communication with the first bridge portion and a second channel in communication with the second bridge portion.

19. The bag of claim 11, wherein the first and second bridge portions are substantially parallel to each other.

20. The bag of claim 11, wherein the first channel and the second channel are aligned along a longitudinal axis.

21. The bag of claim 11, wherein at least one of the first carrying strap or the second carrying strap is configured to automatically adjust in response to movement of the elongated body.

22. The bag of claim 11, wherein at least one of the first carrying strap or the second carrying strap comprises a shoulder pad.

23. The bag of claim 11, wherein the first carrying strap defines a proximal portion engaged to a first portion of the elongated body and a distal portion engaged to a second portion of the elongated body, and wherein the second carrying strap defines a proximal portion engaged to the first portion of the elongated body and a distal portion engaged to the second portion of the elongated body such that the first carrying strap overlaps the second carrying strap.

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24. The bag of claim 11, wherein the first carrying strap disposed within the first bridge portion and the second bridge portion.

25. A method of manufacturing a golf bag having an adjustable carrying strap system comprising:

forming a tubular elongated body having an upper portion and a lower portion;

forming a first carrying strap defining an elongated strap body having a first proximal portion and a first distal portion;

forming a second carrying strap defining a second elongated body having a second proximal portion and a second distal portion; and

forming a connector plate having a body bounded by a perimeter defining a first surface and a second surface, the body including a first bridge portion extending outwardly from and in parallel orientation relative to the first surface defining a first plane, the first bridge portion defining a first horizontal portion having a first pair of leg portions that extend from the first surface of the first plane and further defines a first channel on the first surface of the first plane and a second bridge portion extending outwardly from and in parallel orientation relative to the first surface that defines the first plane, the second bridge portion defining a second horizontal portion having a second pair of leg portions that extend from the first surface of the first plane and further defines a second channel on the first surface of the first plane, such that the first bridge portion and the second bridge portion that collectively define a first pathway configured to receive the first carrying strap and a transverse space defined between the first and second bridge portions that forms a second pathway configured to receive the second carrying strap such that the first pathway is in transverse orientation relative to the second pathway, wherein the first and second carrying straps overlap each other in a transverse orientation, wherein the first and second bridge portions extend within the perimeter of the connector plate and do not form a part of the perimeter of the connector plate.

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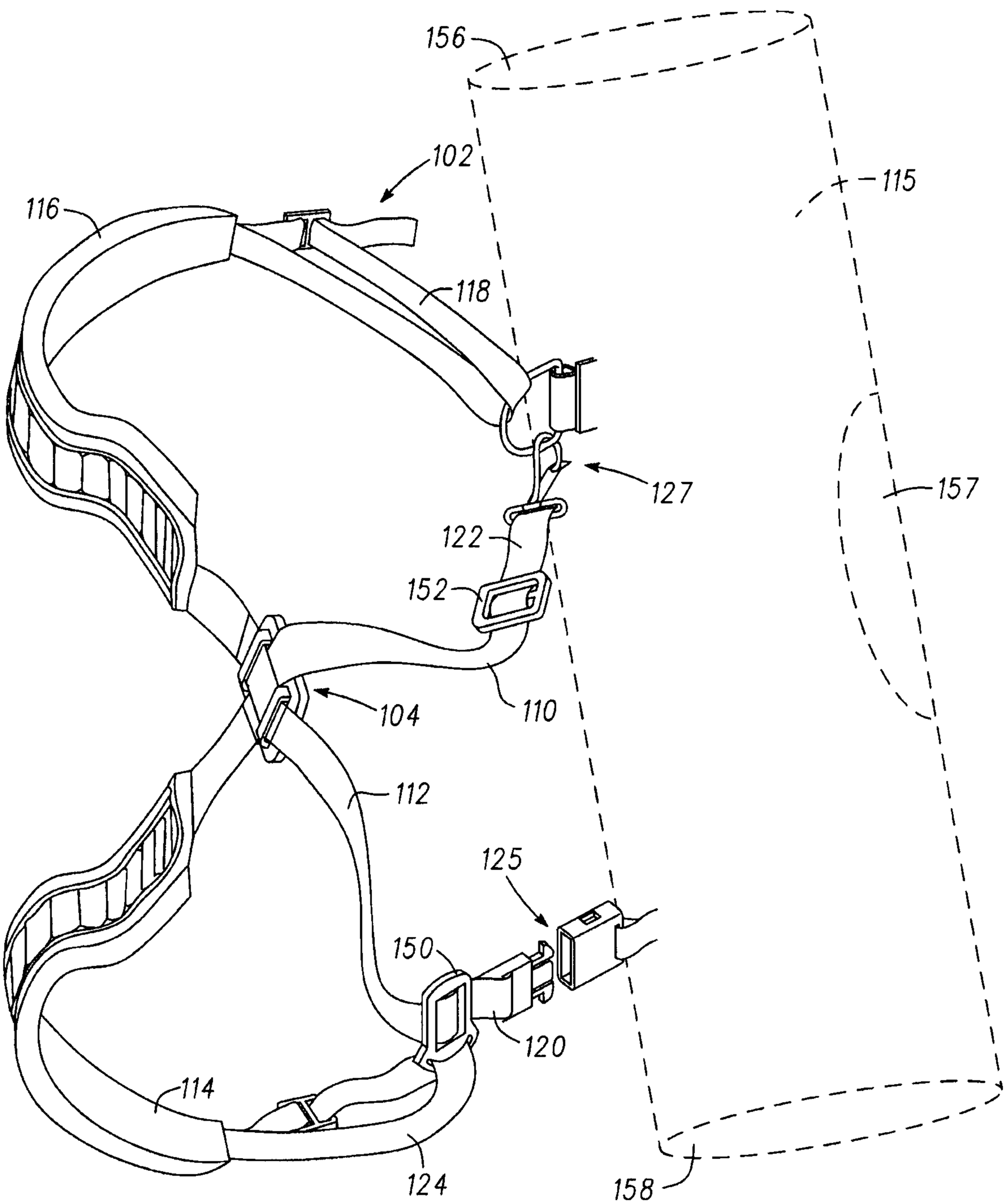
26. The method of claim 25, wherein forming the connector plate comprises forming the first and second bridge portions so that the first and second bridge portions are substantially parallel to each other.

27. The method of claim 25, further comprising positioning the second carrying strap along the first pathway and inserting the first carrying strap through the first and second channels such that the first carrying strap is positioned along the second pathway.

28. The method of claim 25, further comprising attaching the first proximal portion of the first carrying strap to the upper portion of the tubular elongated body and the first distal portion to the lower portion of the tubular elongated body.

29. The method of claim 25, further comprising attaching the second proximal portion of the second carrying strap to the upper portion of the tubular elongated body and the second distal portion to the lower portion of the tubular elongated body.


156
102
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104
110
112
125
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120
114
124
158

Fig. 1

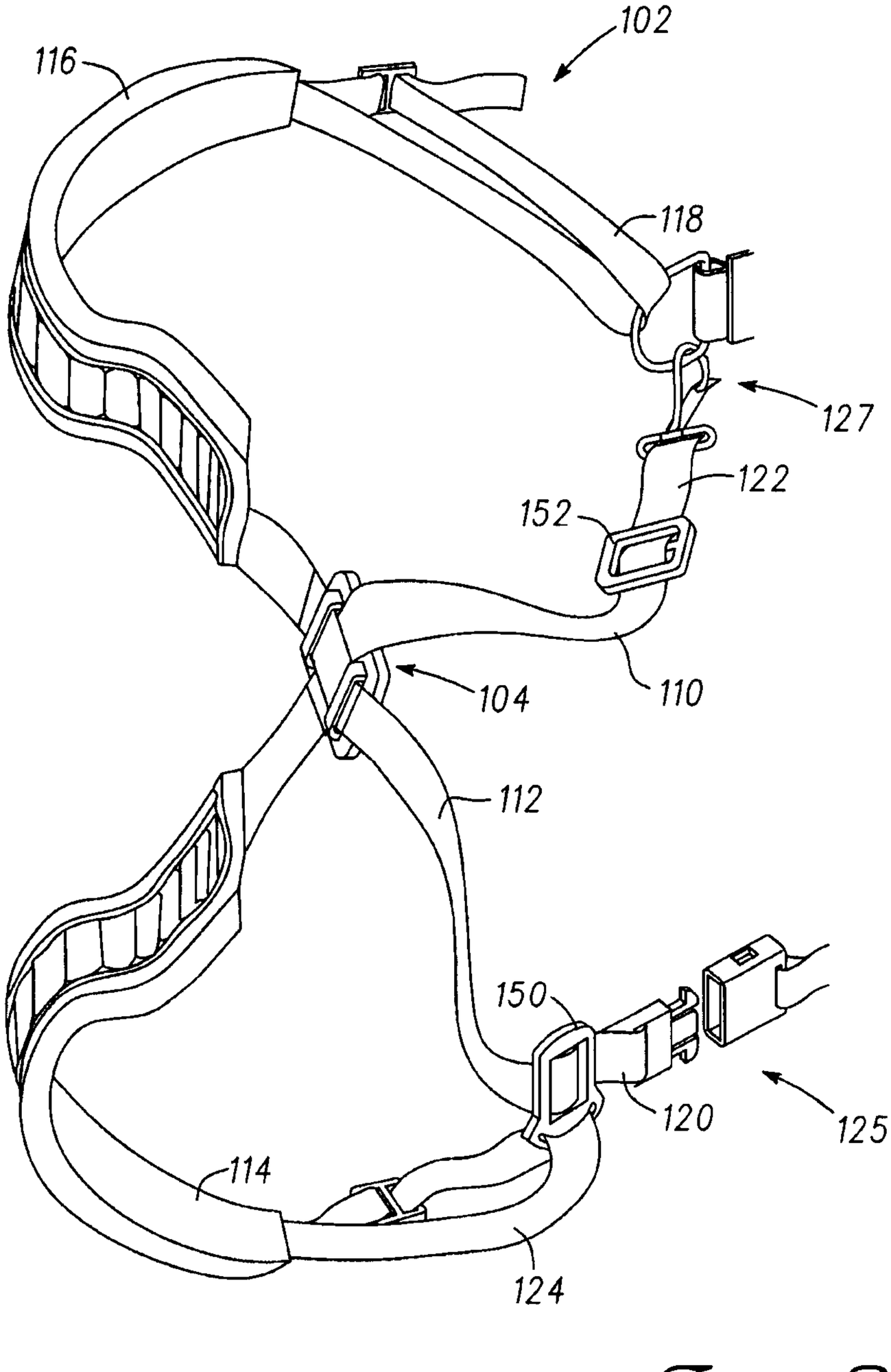


Fig. 2

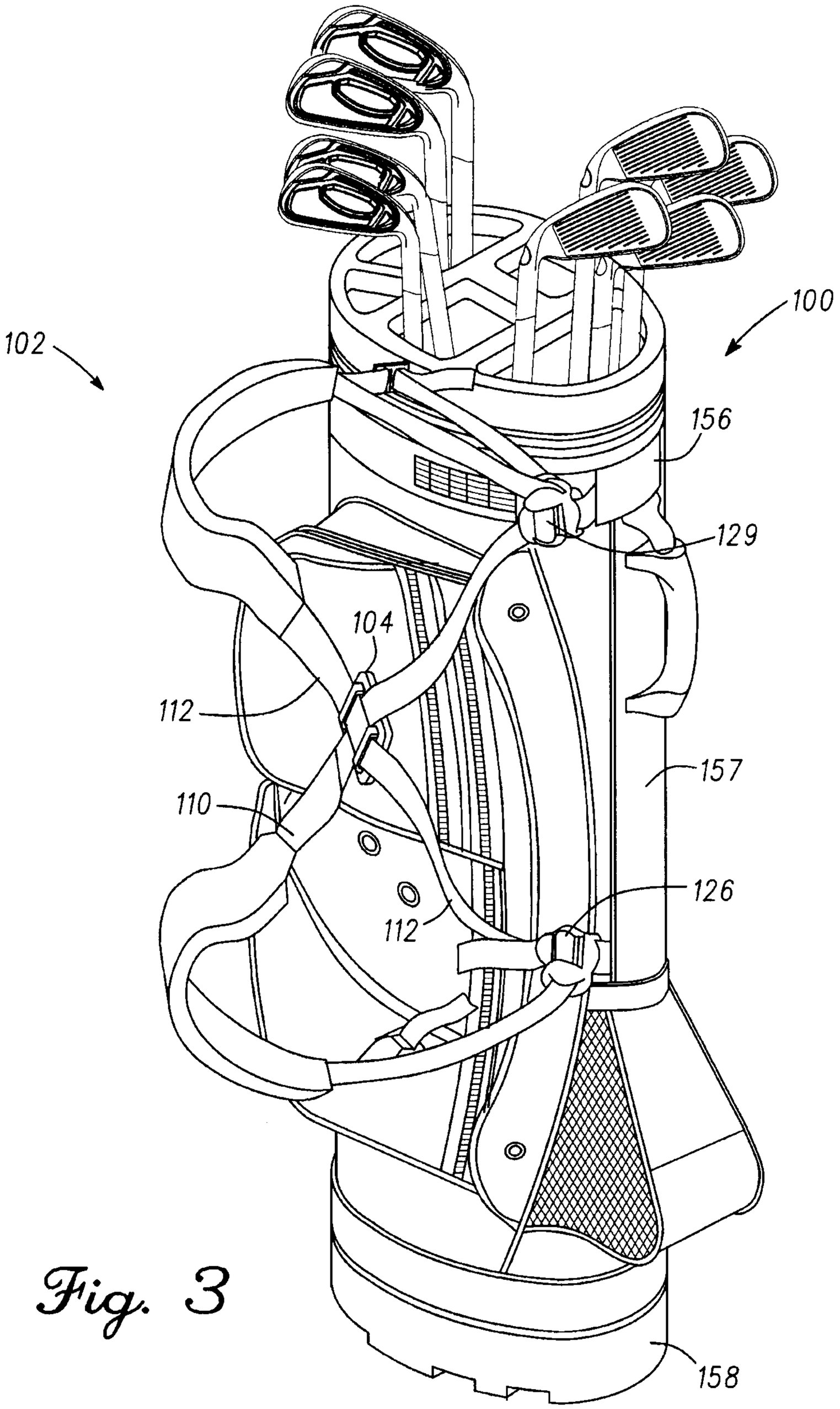


Fig. 3

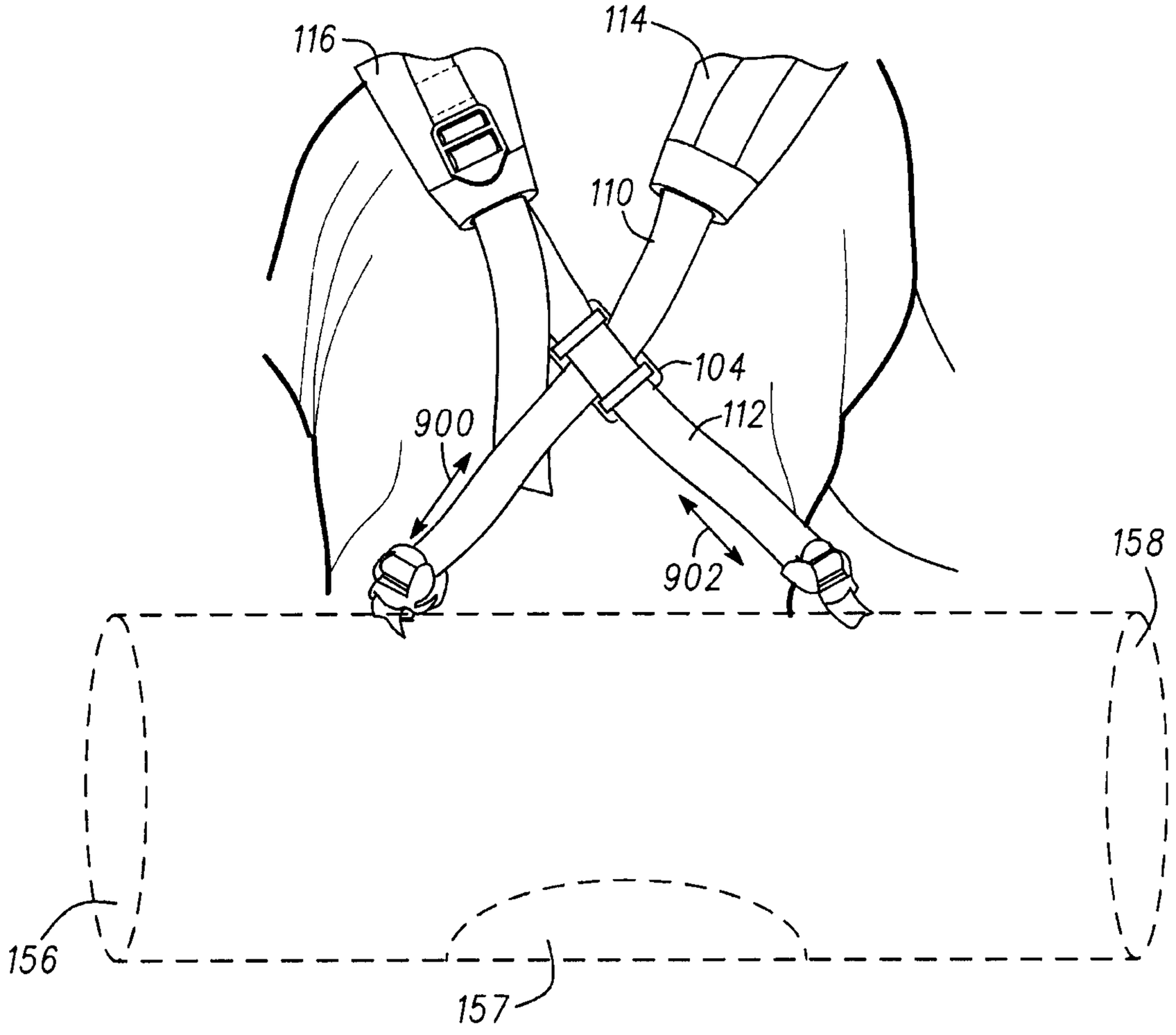


Fig. 4

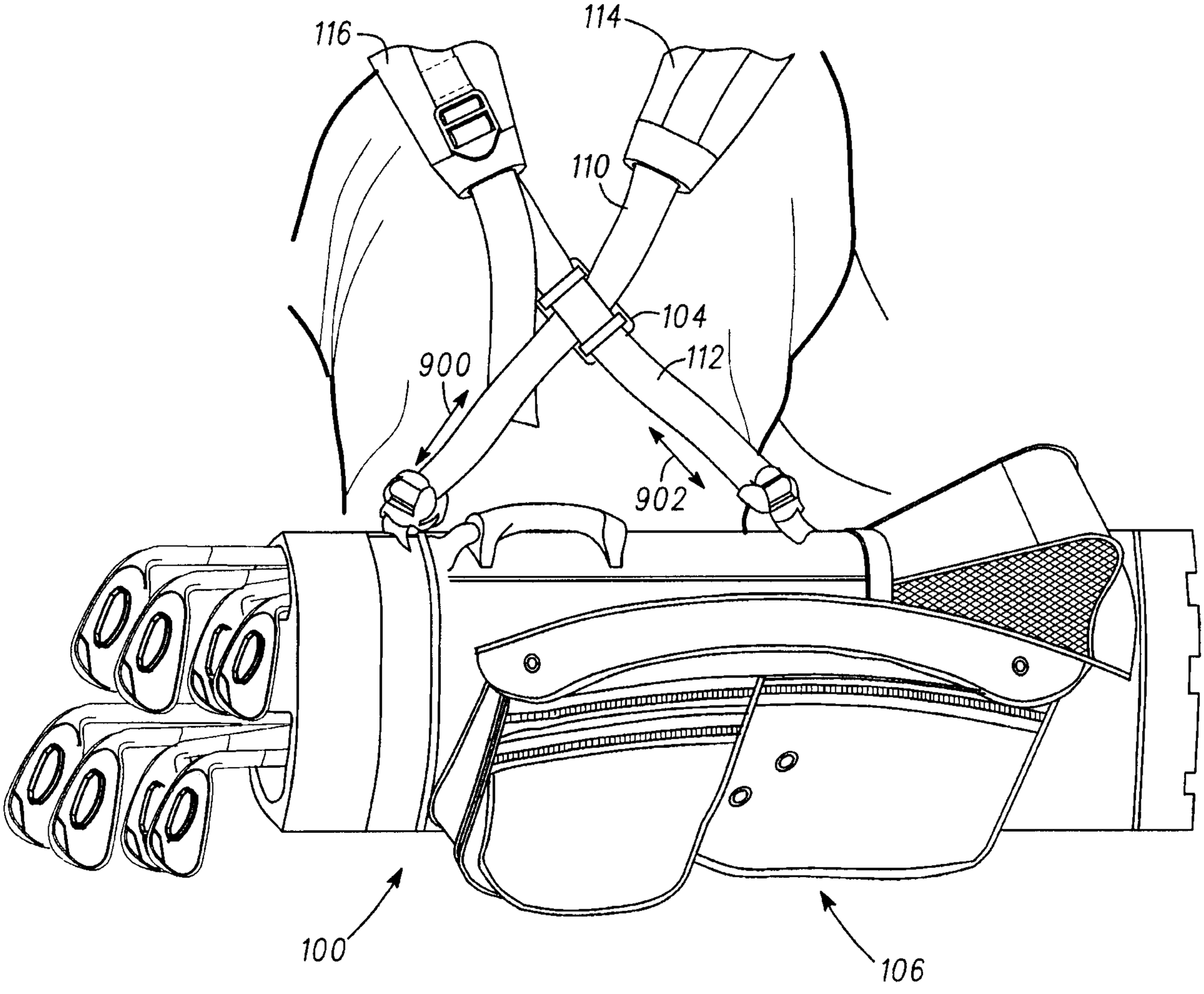
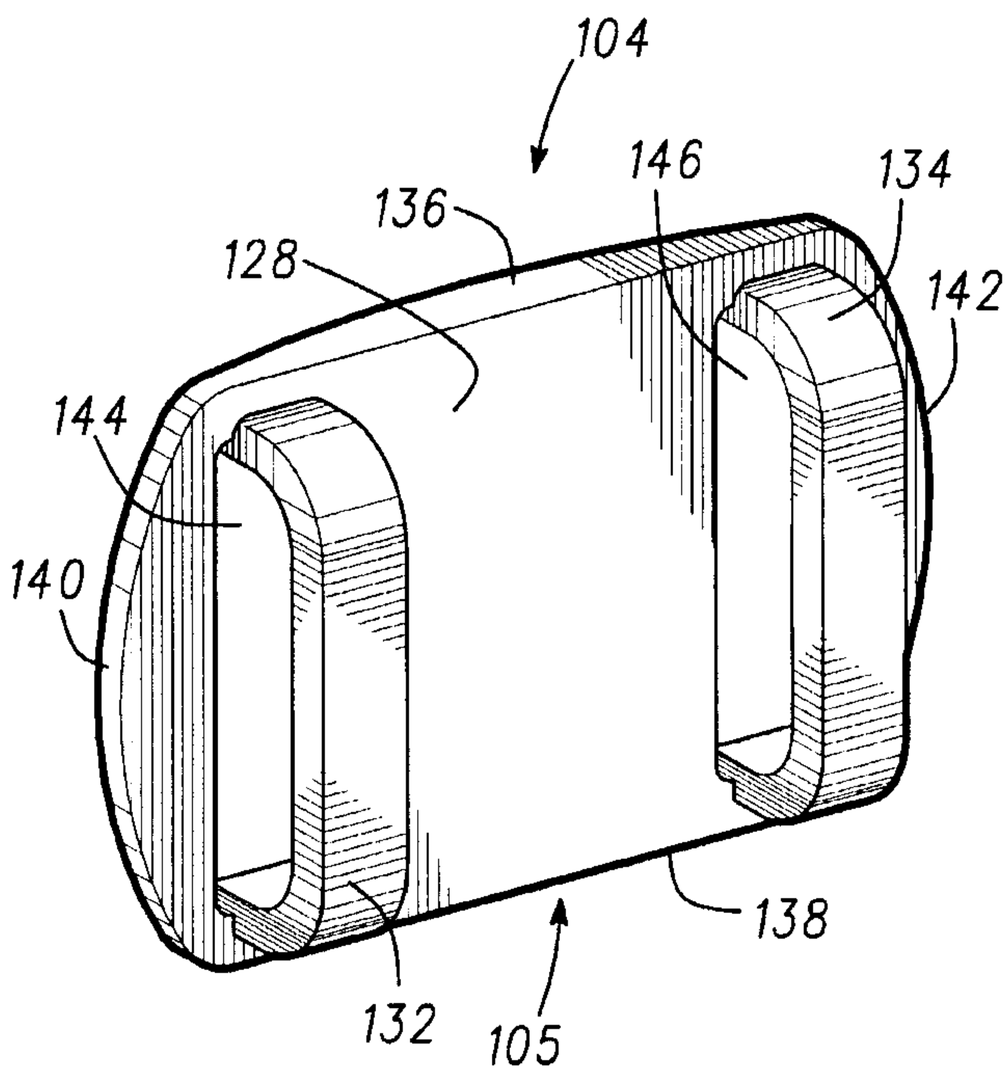


Fig. 5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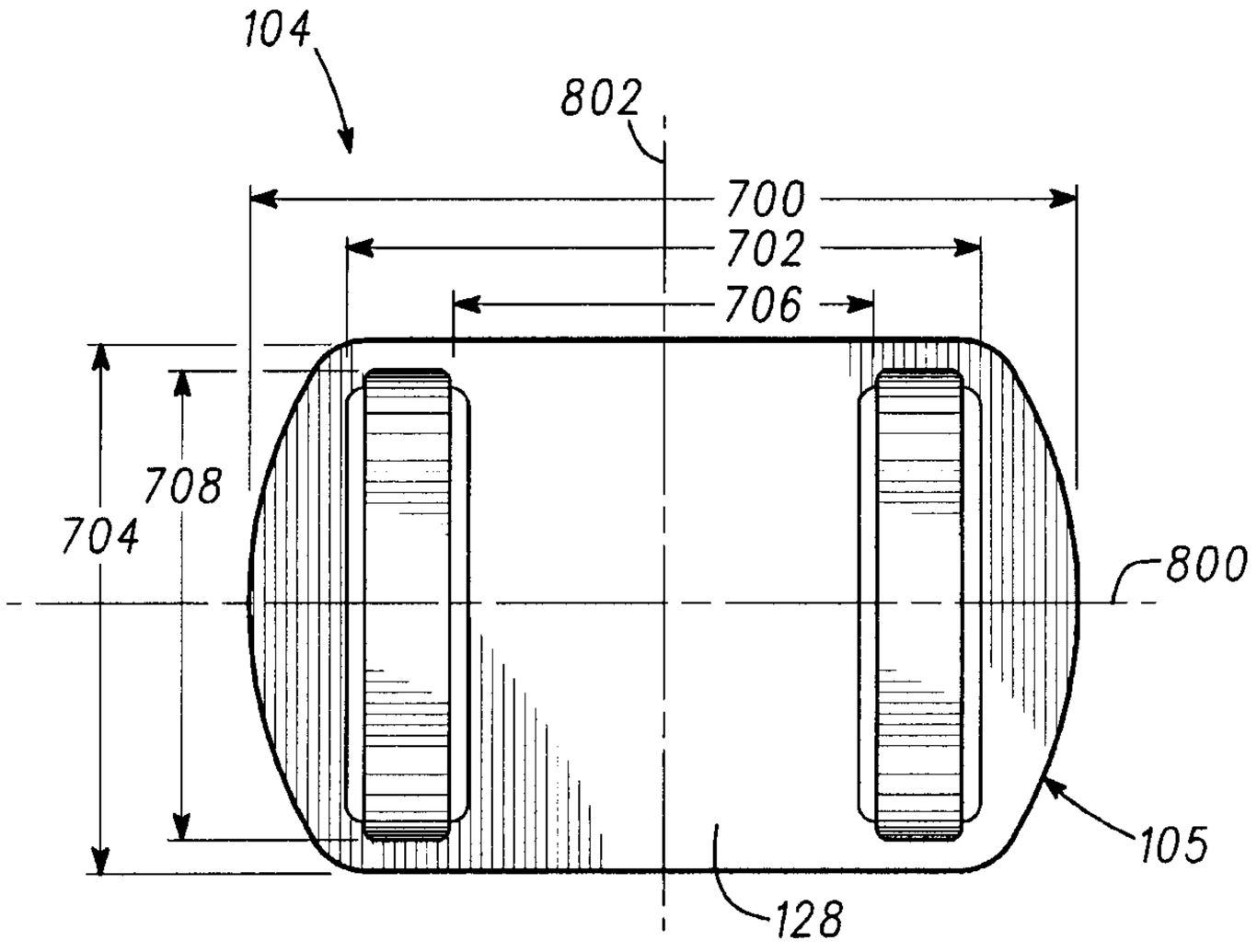
142
144
140
138
132
105

Fig. 6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706
708
704
800
105
128

Fig. 7

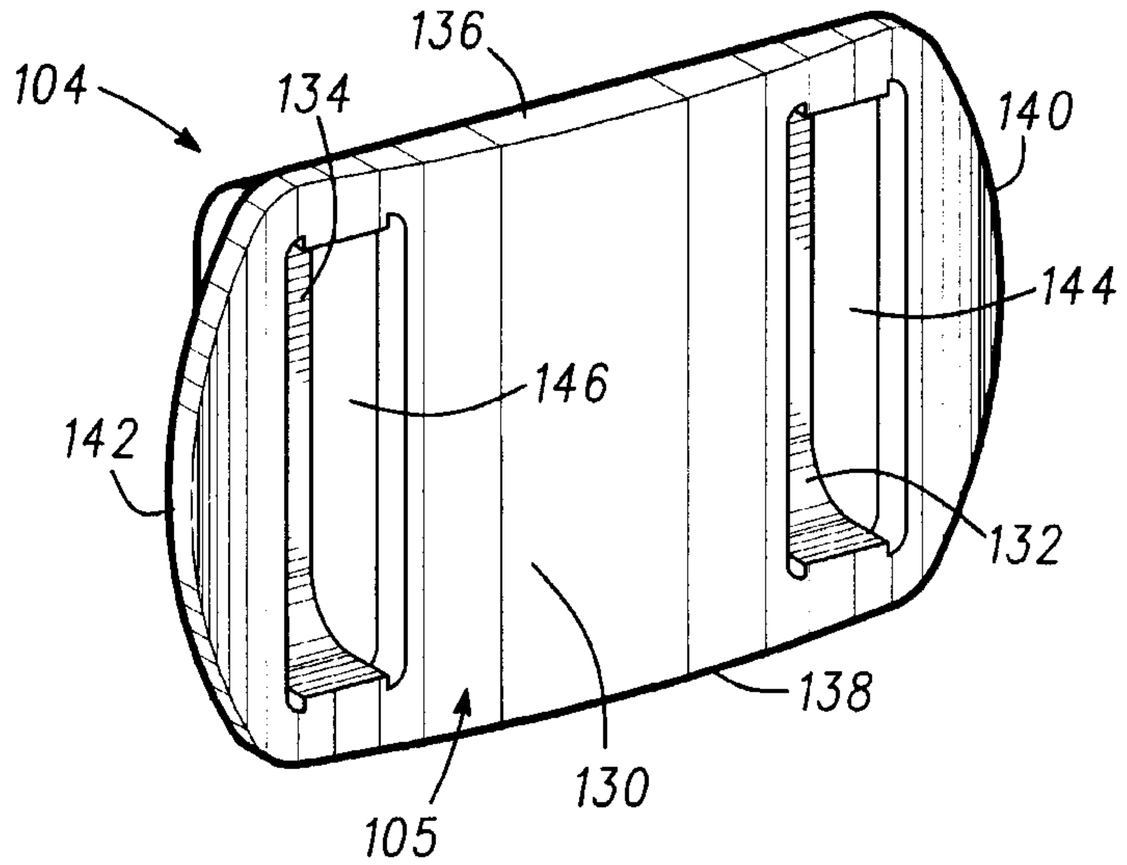

Fig. 8

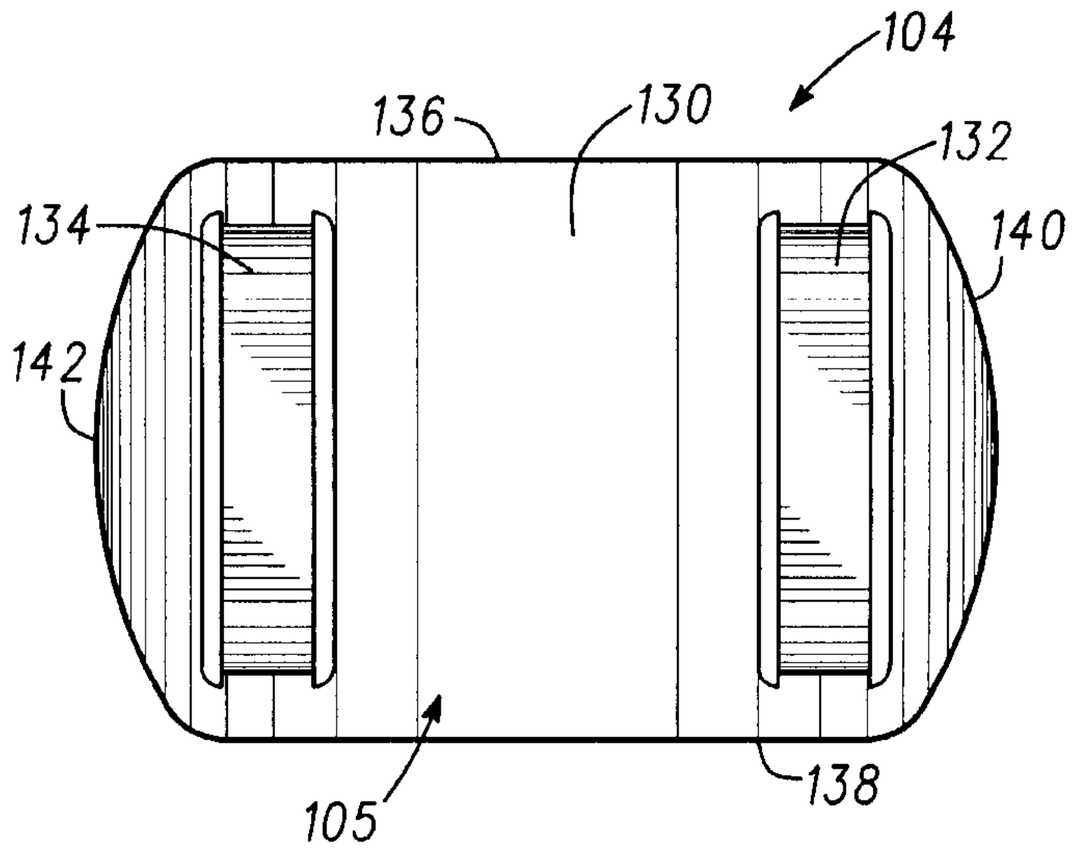

Fig. 9

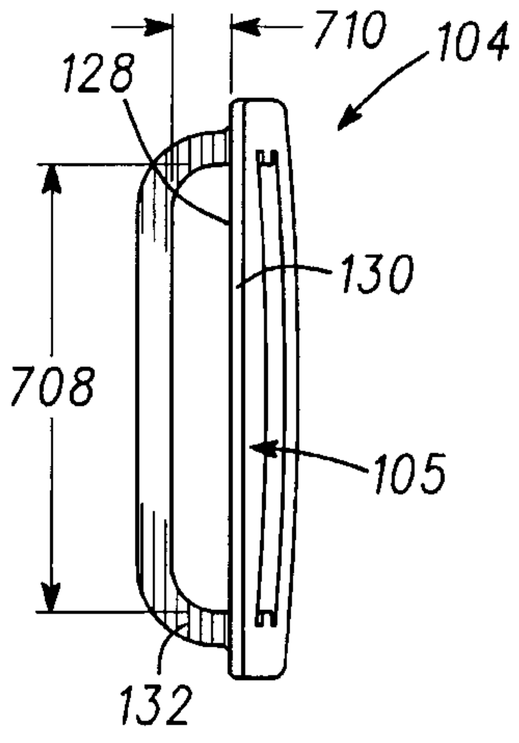

Fig. 10

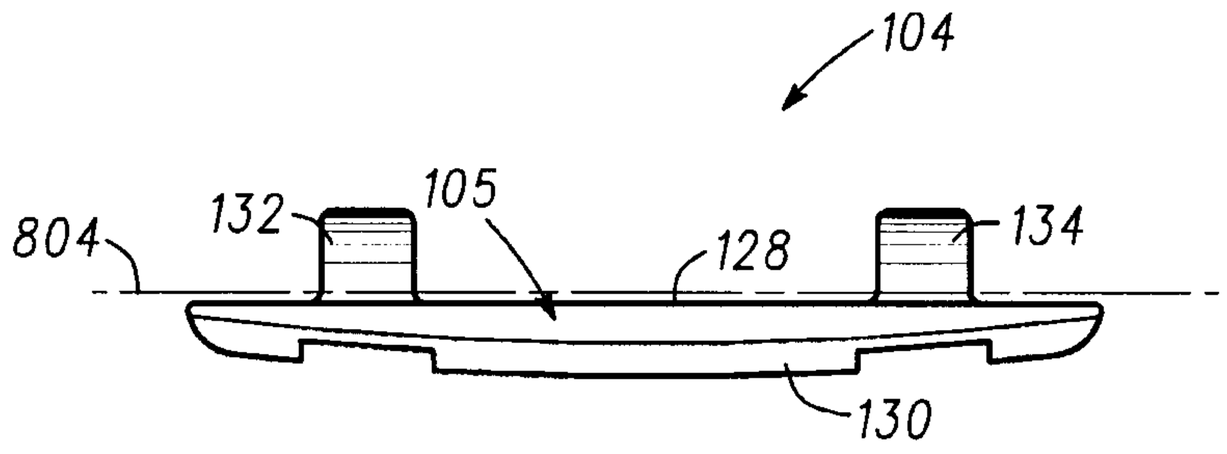

Fig. 11

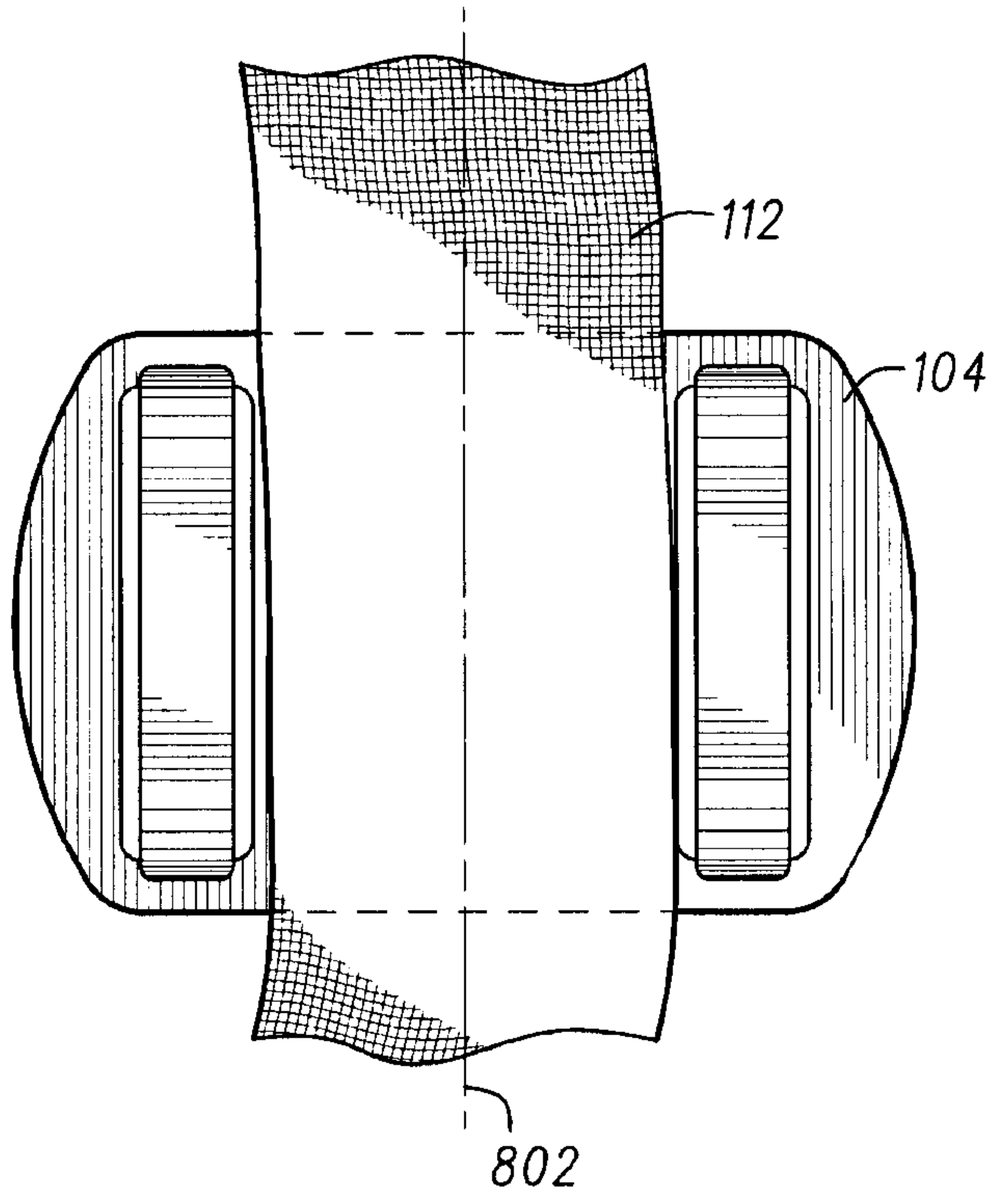

Fig. 12

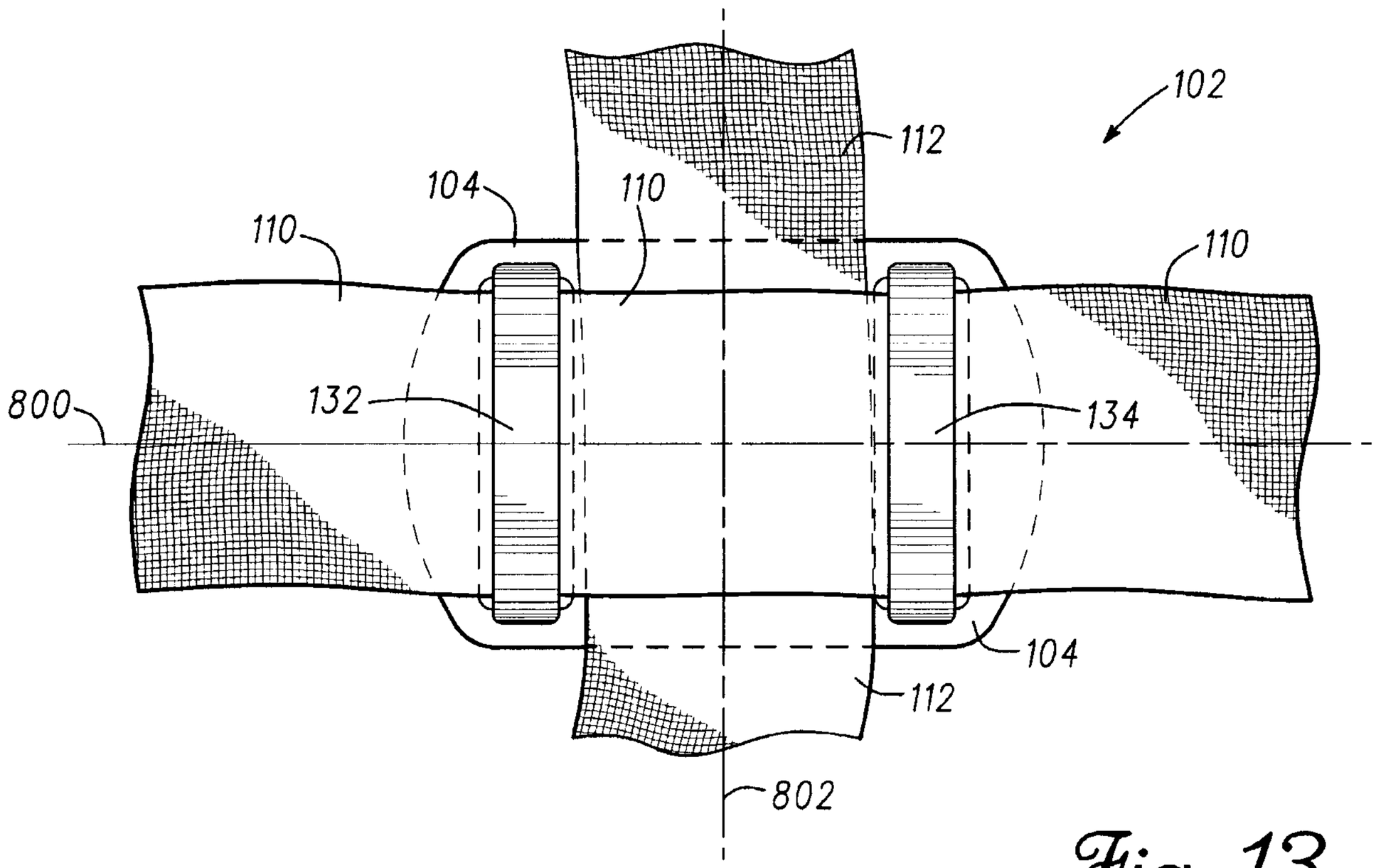

Fig. 13

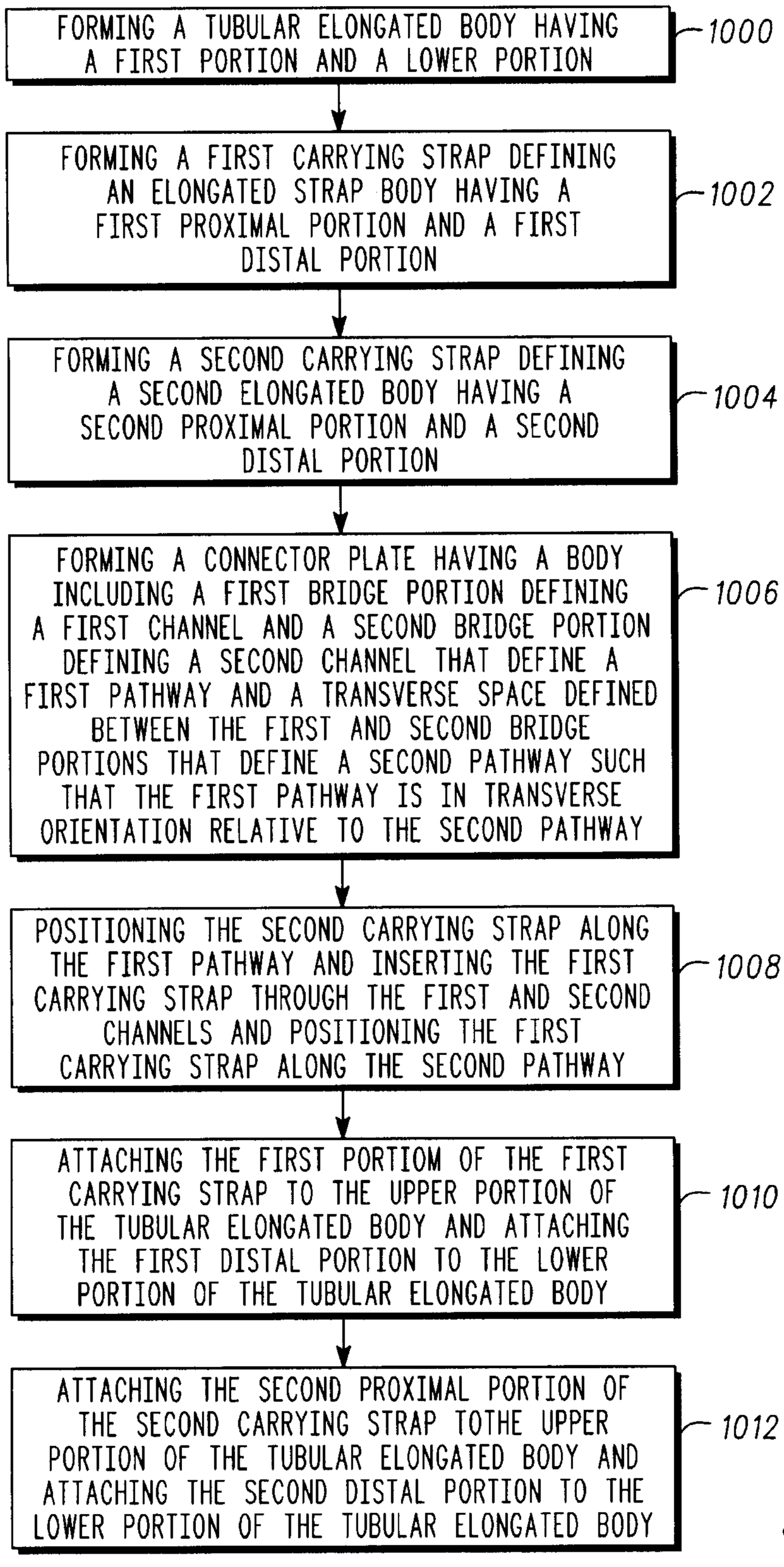
FORMING A TUBULAR ELONGATED BODY HAVING A FIRST PORTION AND A LOWER PORTION
1000
FORMING A FIRST CARRYING STRAP DEFINING AN ELONGATED STRAP BODY HAVING A FIRST PROXIMAL PORTION AND A FIRST DISTAL PORTION
1002
FORMING A SECOND CARRYING STRAP DEFINING A SECOND ELONGATED BODY HAVING A SECOND PROXIMAL PORTION AND A SECOND DISTAL PORTION
1004
FORMING A CONNECTOR PLATE HAVING A BODY INCLUDING A FIRST BRIDGE PORTION DEFINING A FIRST CHANNEL AND A SECOND BRIDGE PORTION DEFINING A SECOND CHANNEL THAT DEFINE A FIRST PATHWAY AND A TRANSVERSE SPACE DEFINED BETWEEN THE FIRST AND SECOND BRIDGE PORTIONS THAT DEFINE A SECOND PATHWAY SUCH THAT THE FIRST PATHWAY IS IN TRANSVERSE ORIENTATION RELATIVE TO THE SECOND PATHWAY
1006
POSITIONING THE SECOND CARRYING STRAP ALONG THE FIRST PATHWAY AND INSERTING THE FIRST CARRYING STRAP THROUGH THE FIRST AND SECOND CHANNELS AND POSITIONING THE FIRST CARRYING STRAP ALONG THE SECOND PATHWAY
1008
ATTACHING THE FIRST PORTIOM OF THE FIRST CARRYING STRAP TO THE UPPER PORTION OF THE TUBULAR ELONGATED BODY AND ATTACHING THE FIRST DISTAL PORTION TO THE LOWER PORTION OF THE TUBULAR ELONGATED BODY
1010
ATTACHING THE SECOND PROXIMAL PORTION OF THE SECOND CARRYING STRAP TOTHE UPPER PORTION OF THE TUBULAR ELONGATED BODY AND ATTACHING THE SECOND DISTAL PORTION TO THE LOWER PORTION OF THE TUBULAR ELONGATED BODY
1012

Fig. 14

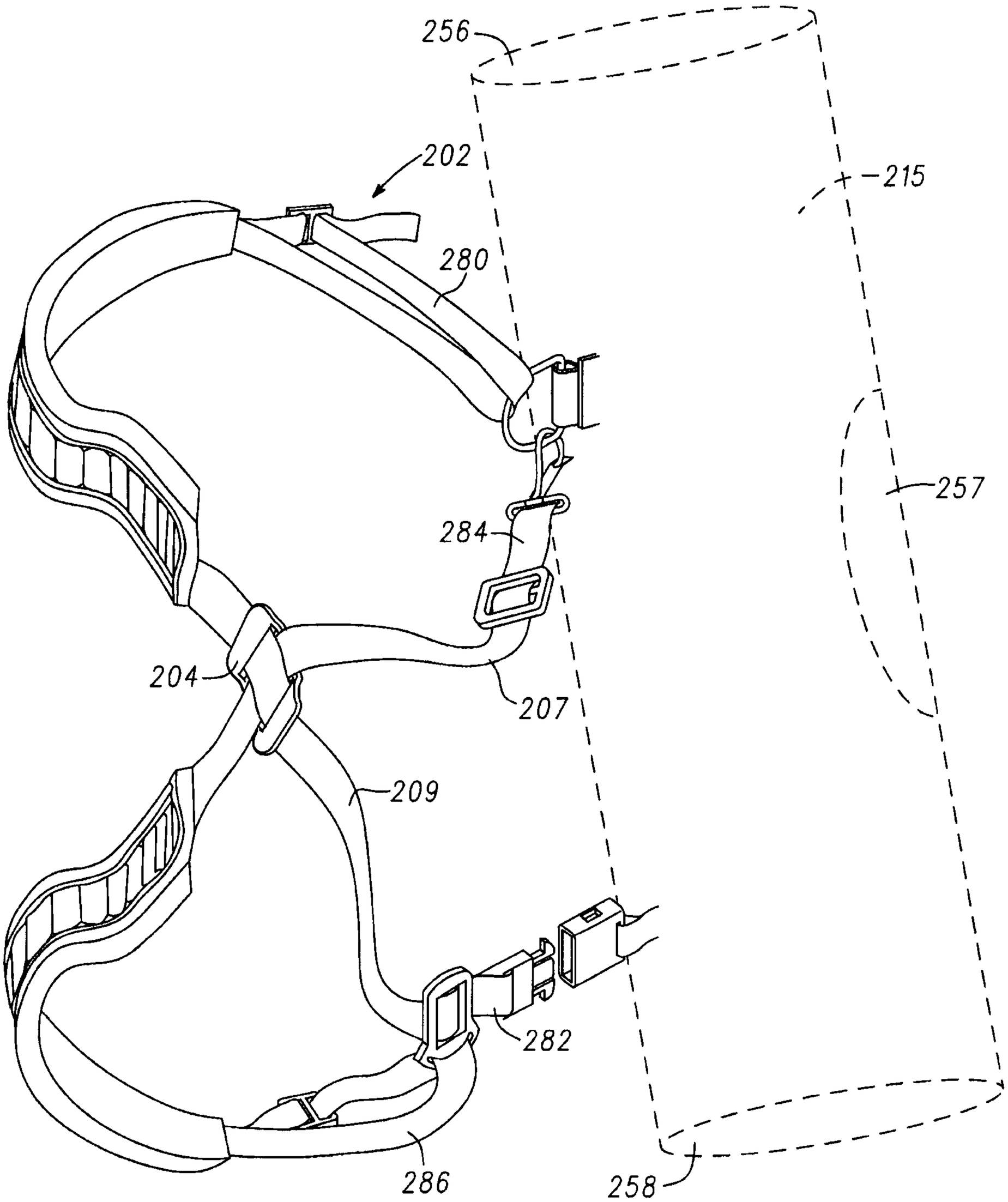

Fig. 15

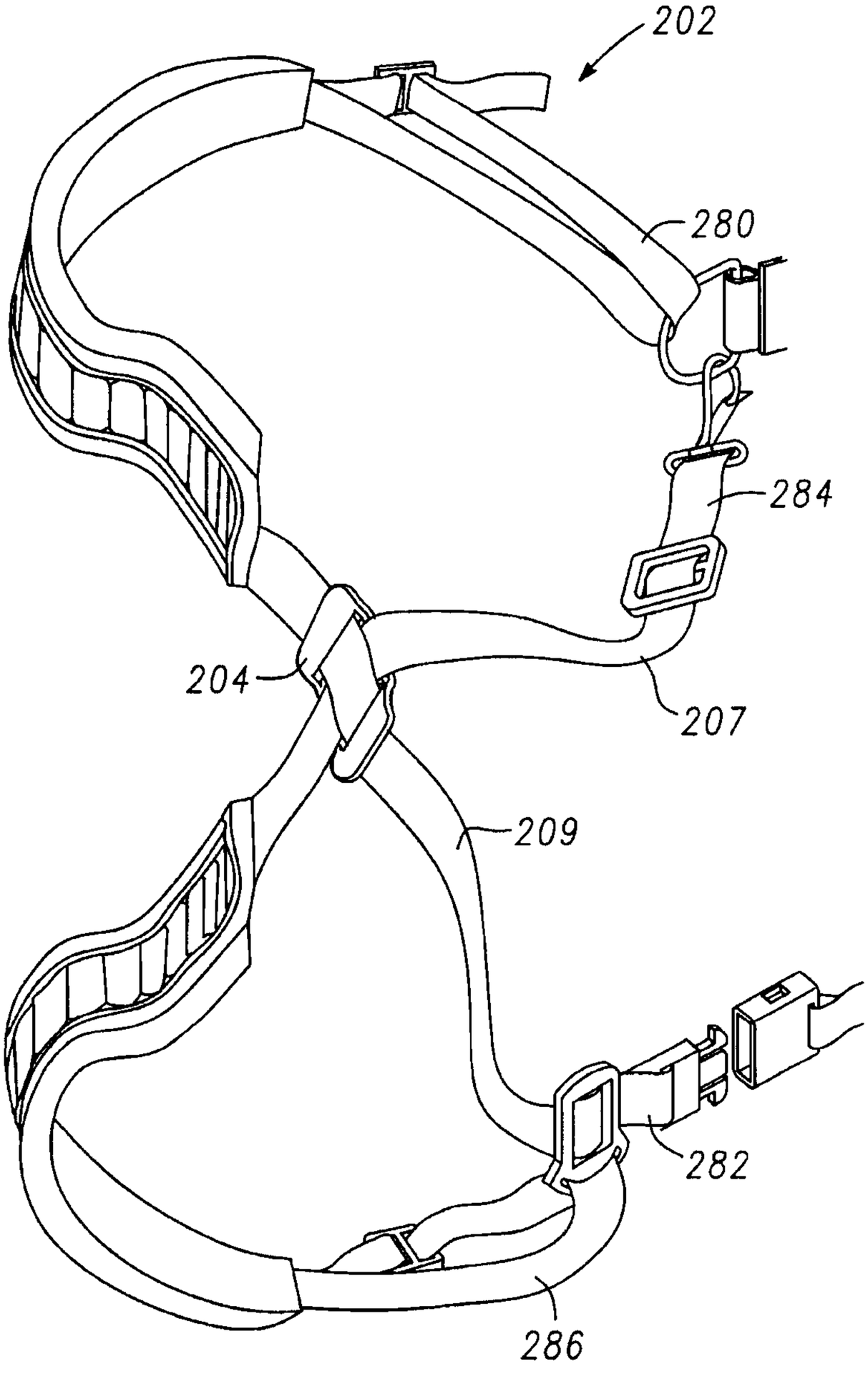

Fig. 16

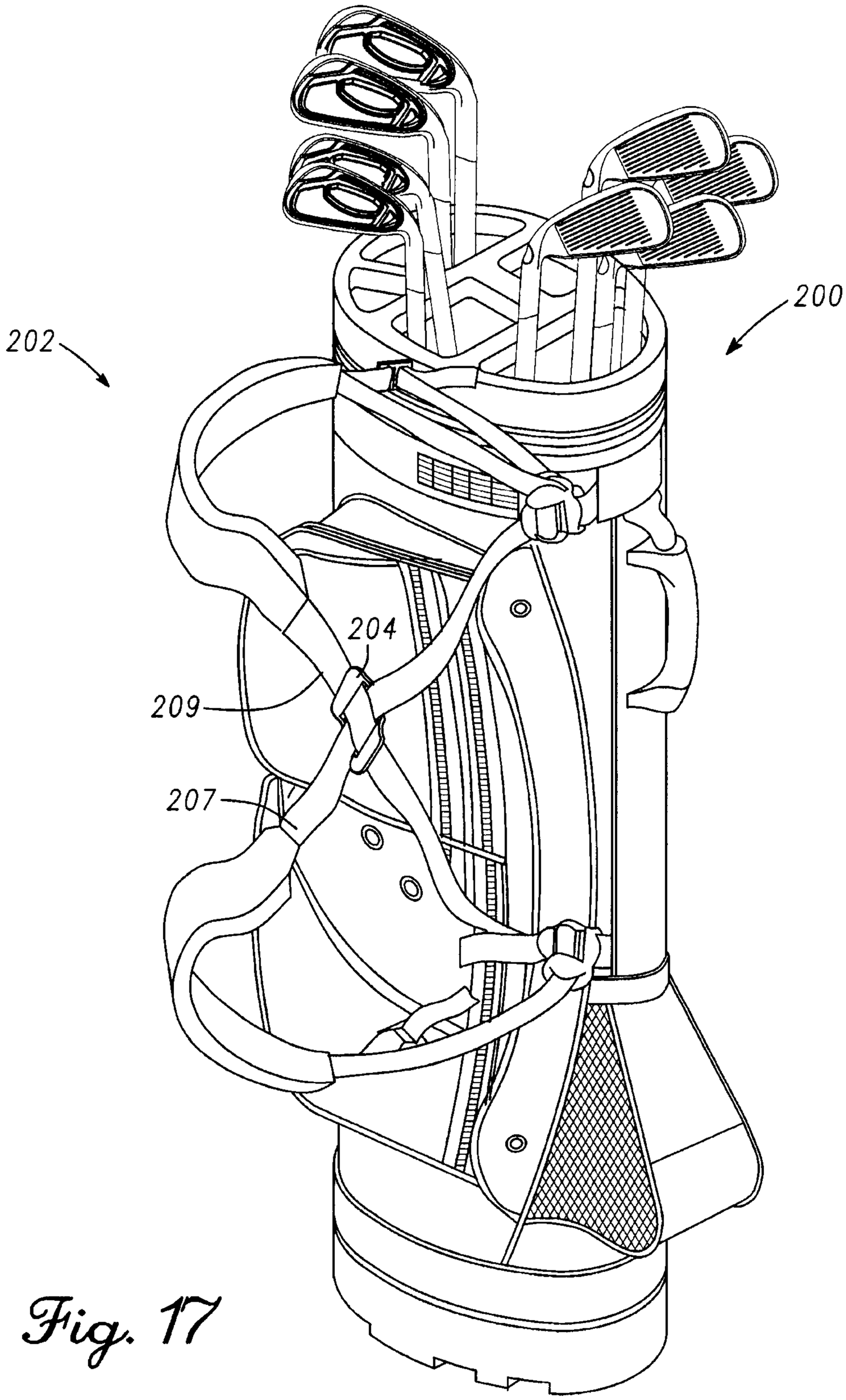

Fig. 17

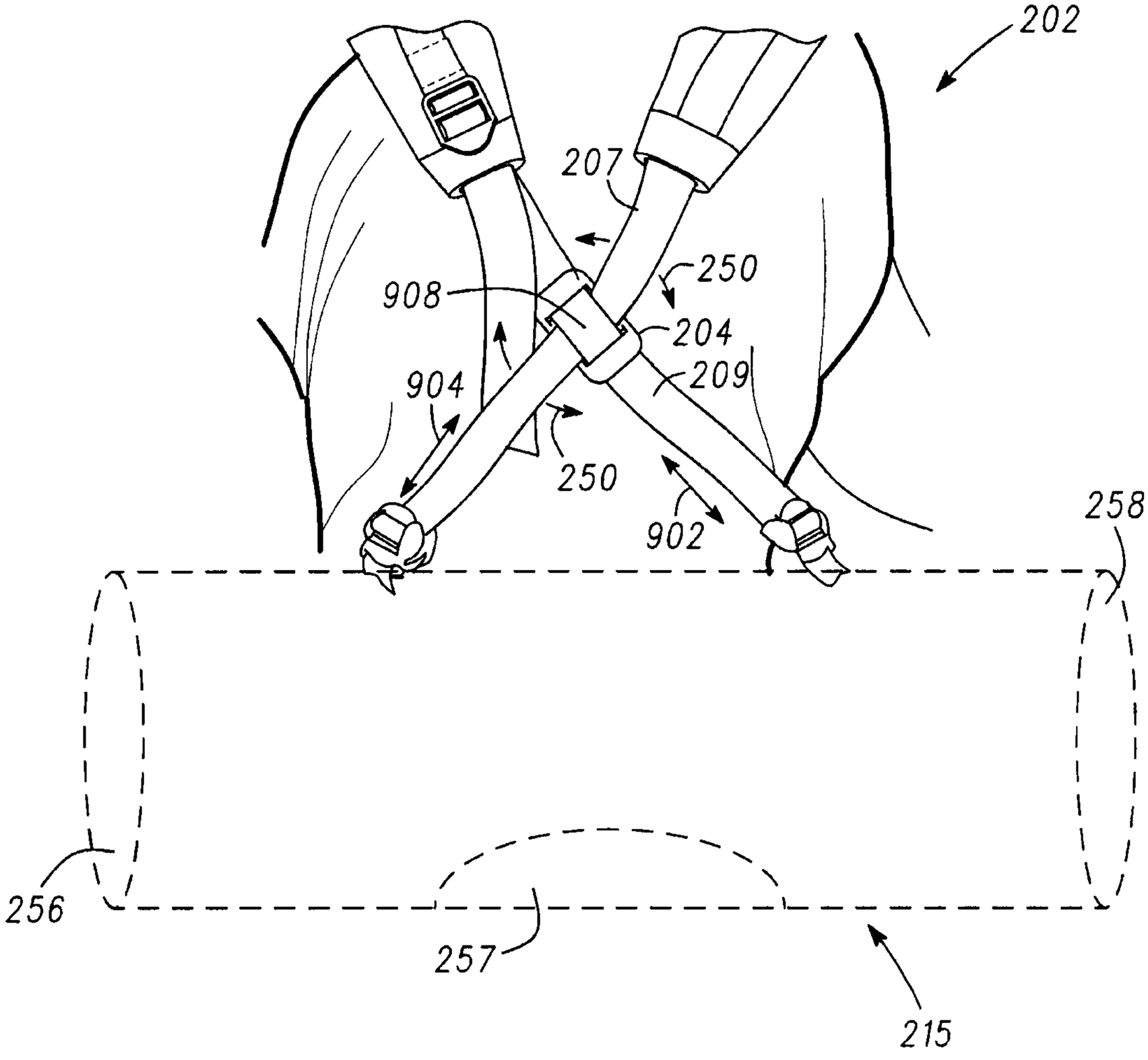

Fig. 18

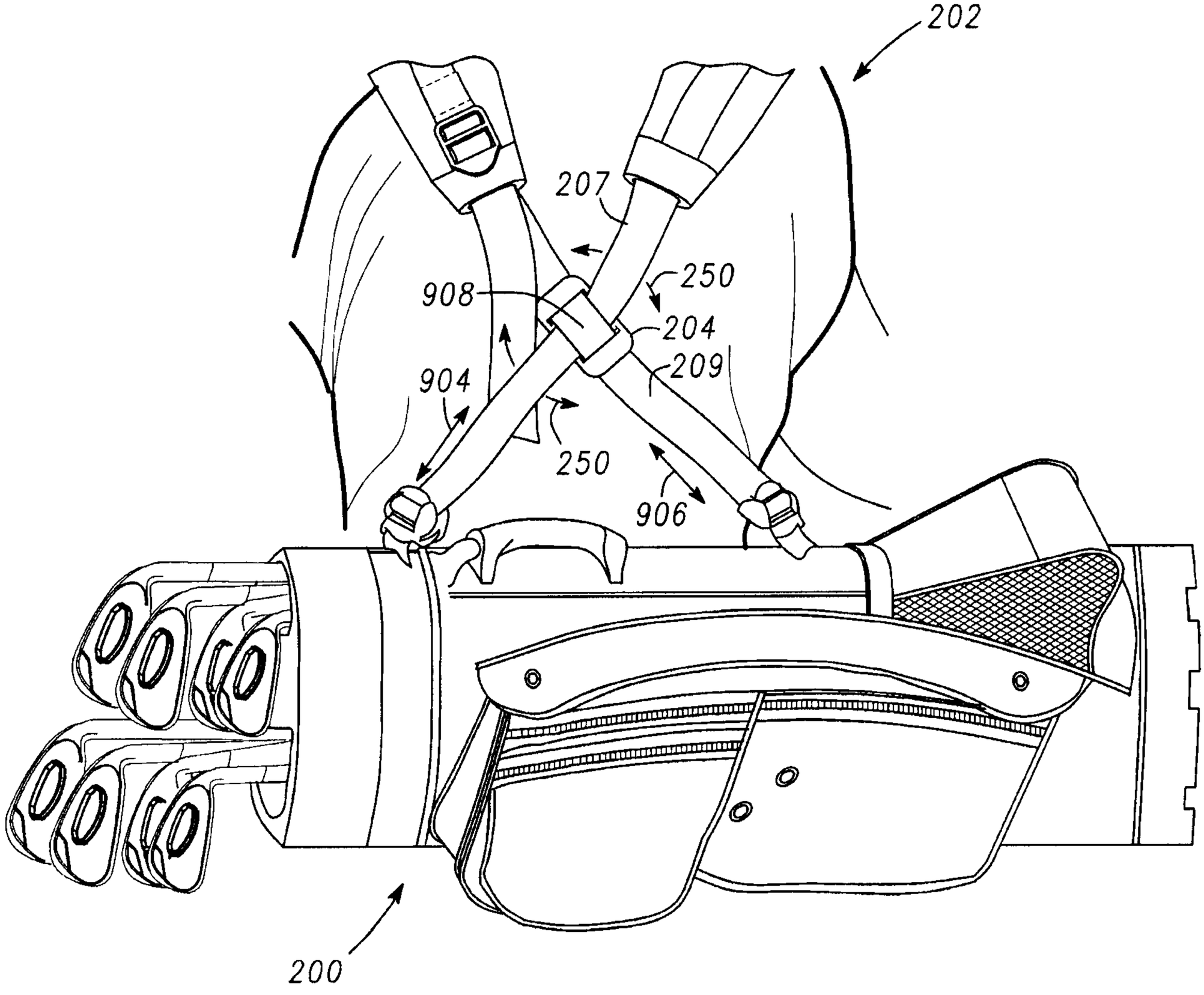

Fig. 19

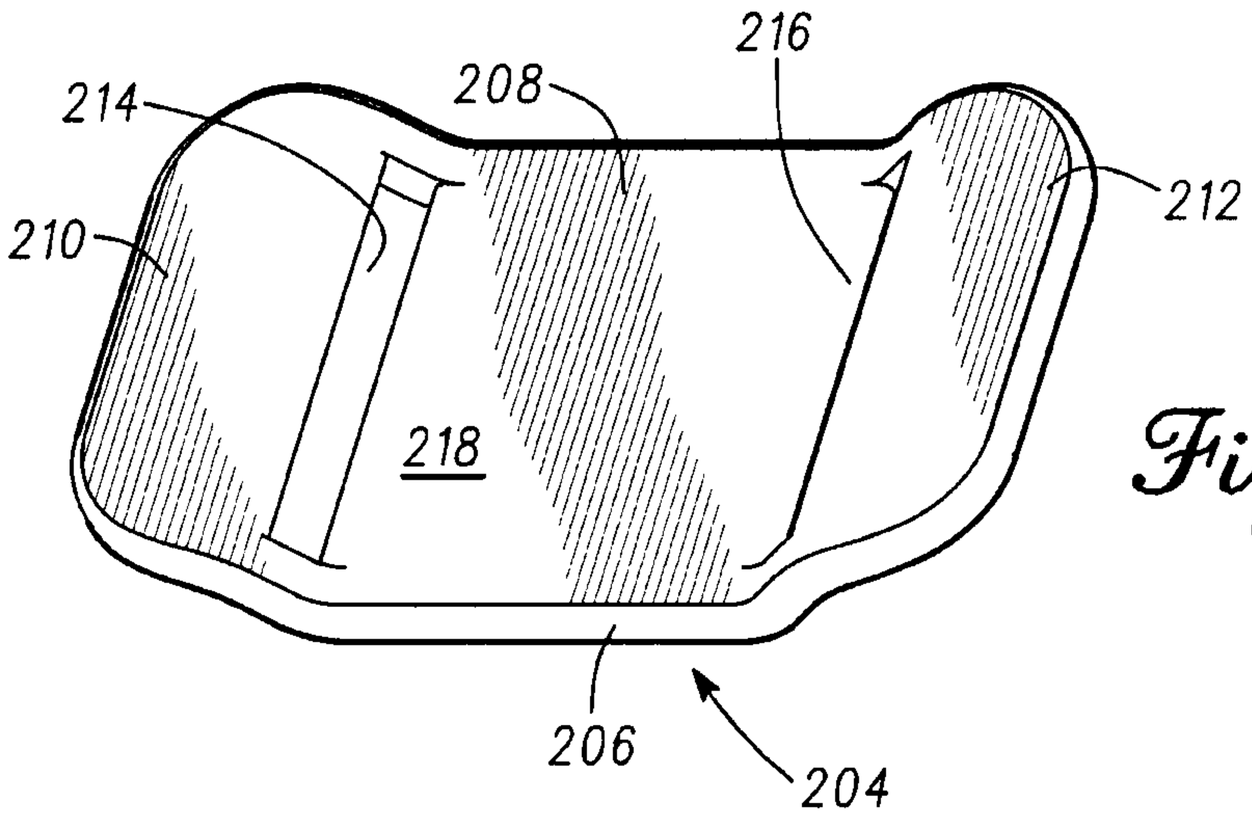

Fig. 20

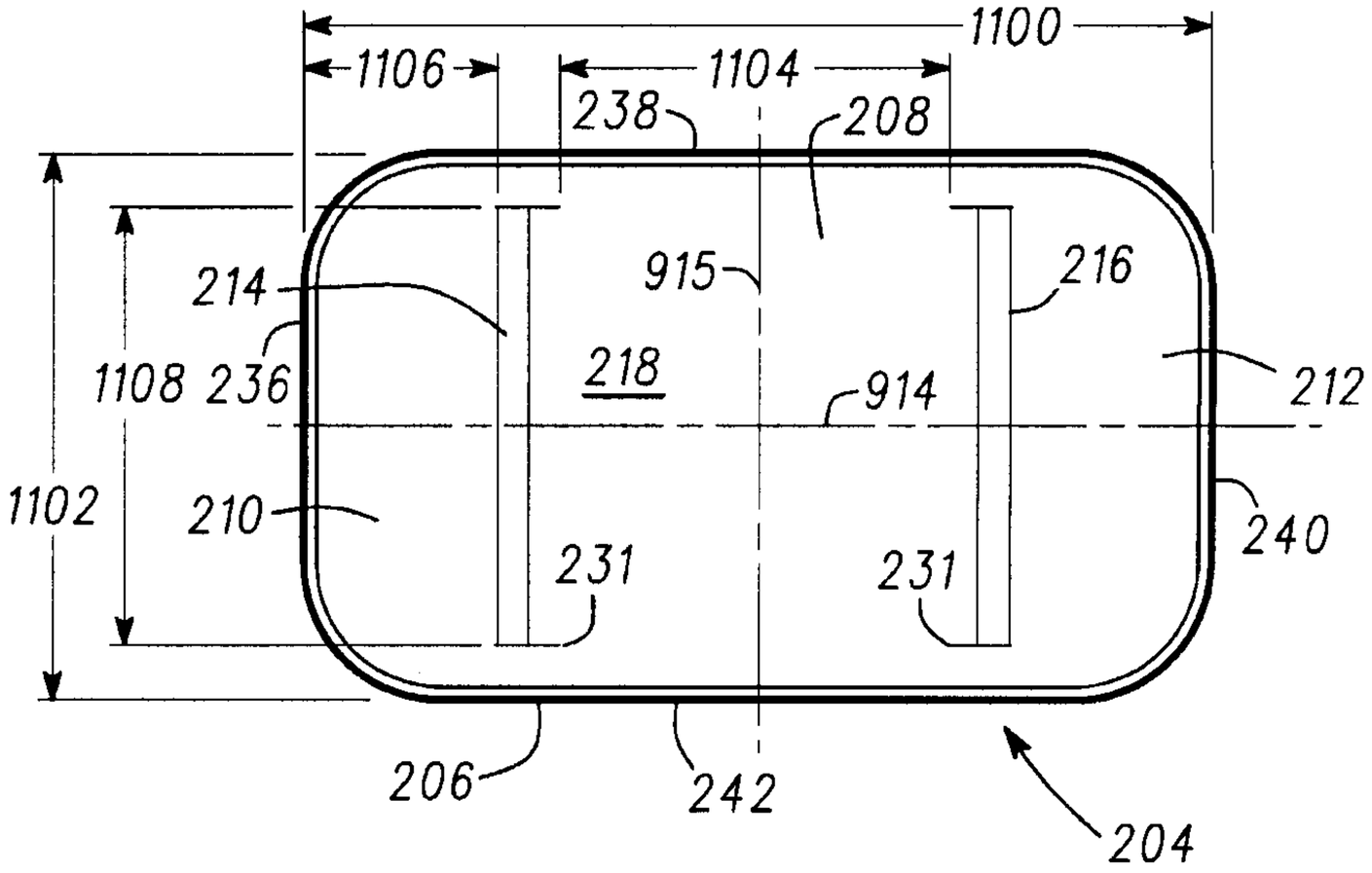

Fig. 21

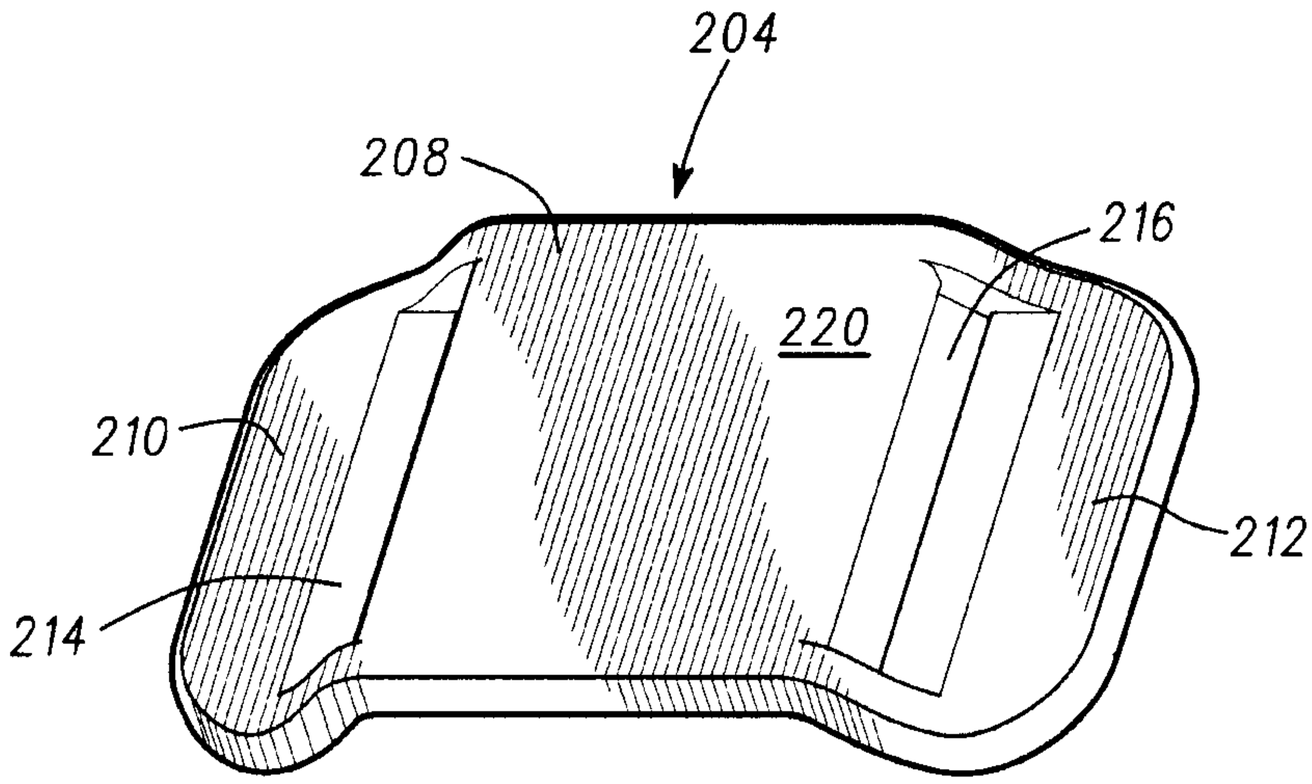

Fig. 22

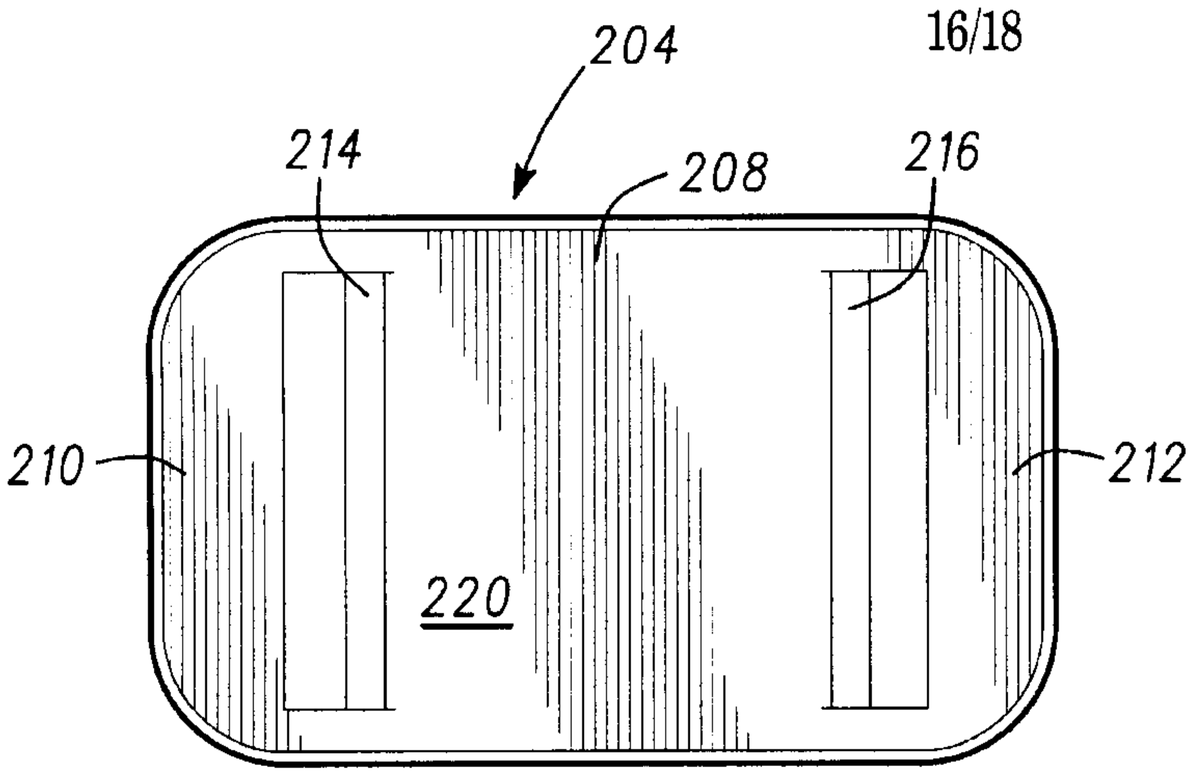

Fig. 23

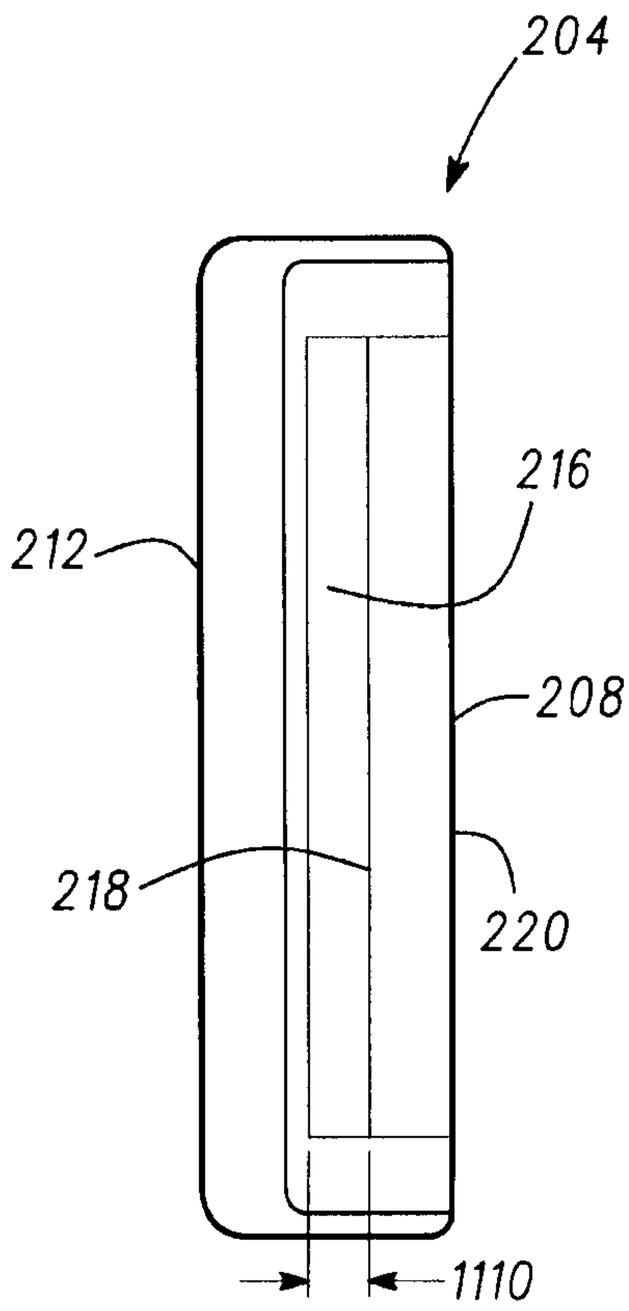

Fig. 24

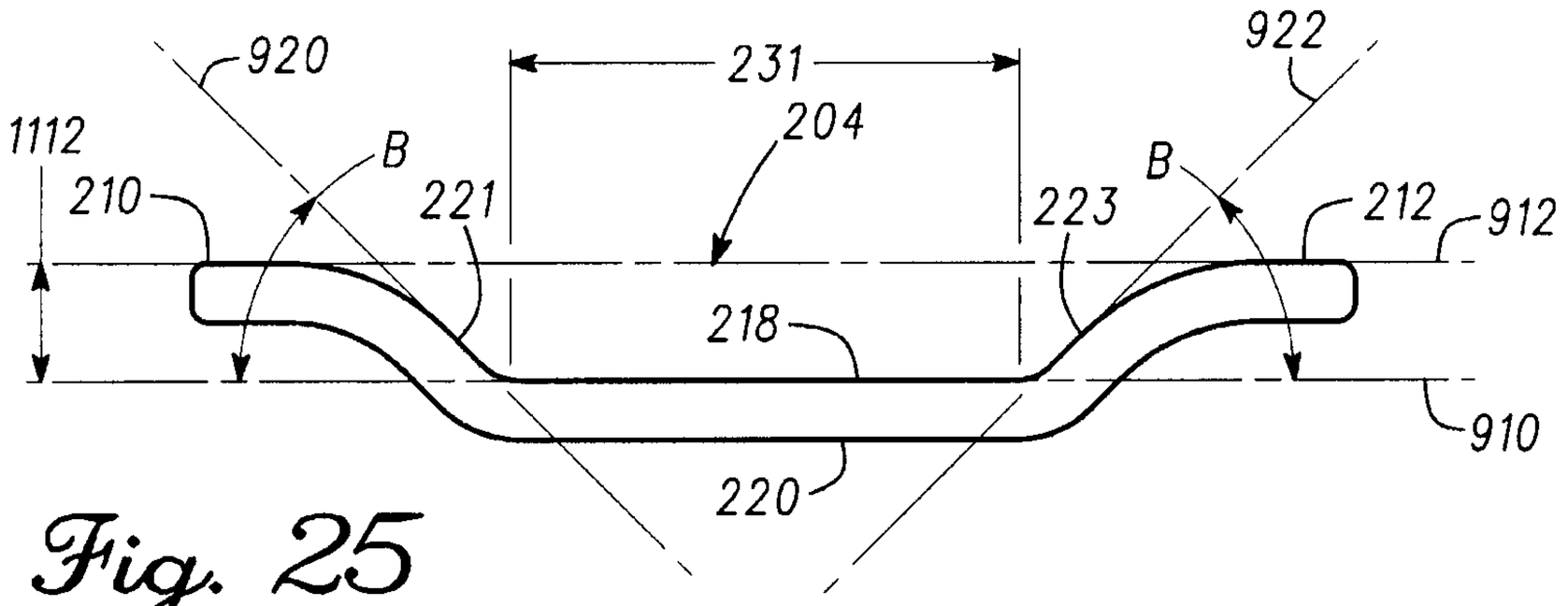

Fig. 25

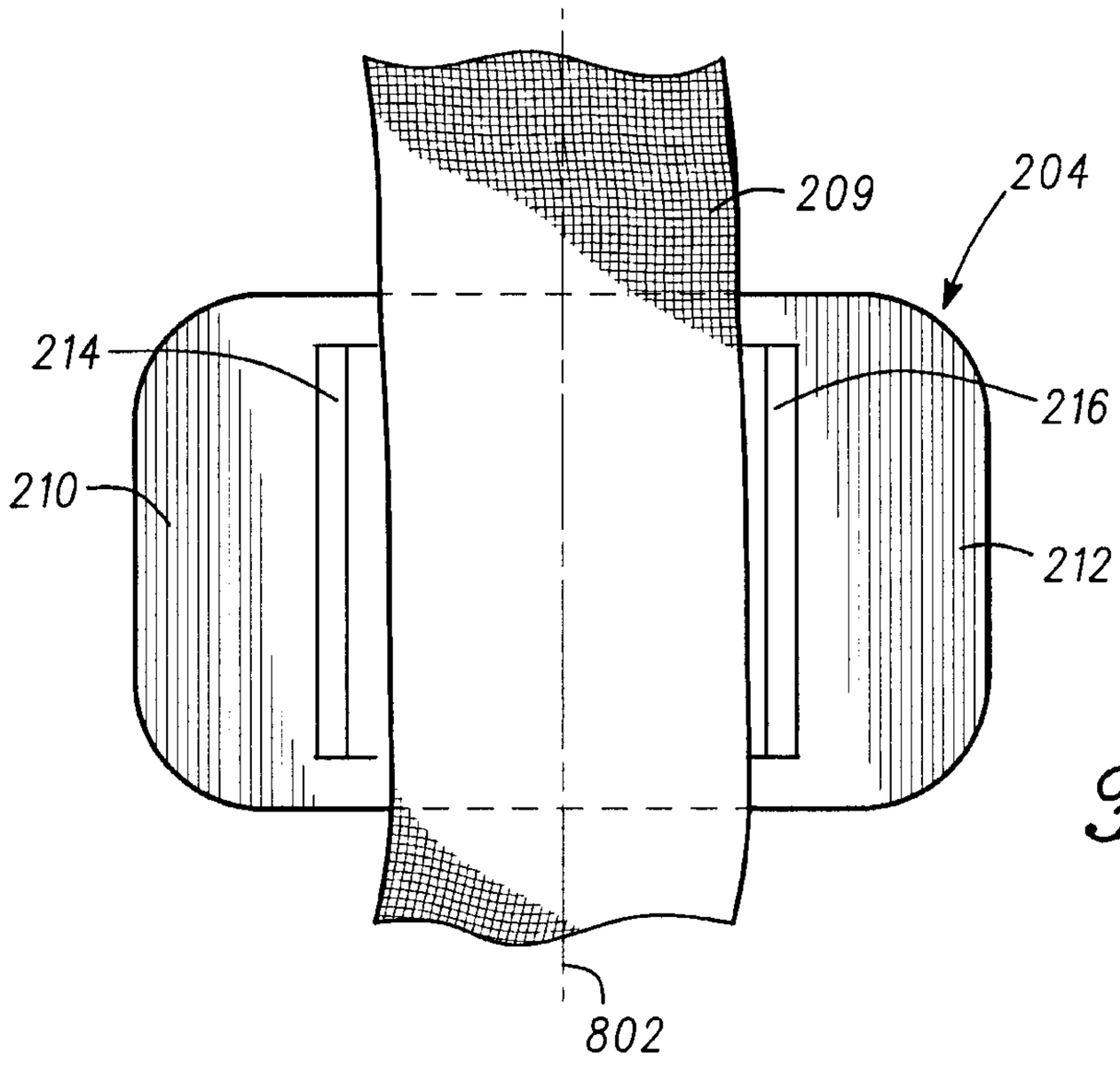
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Fig. 26

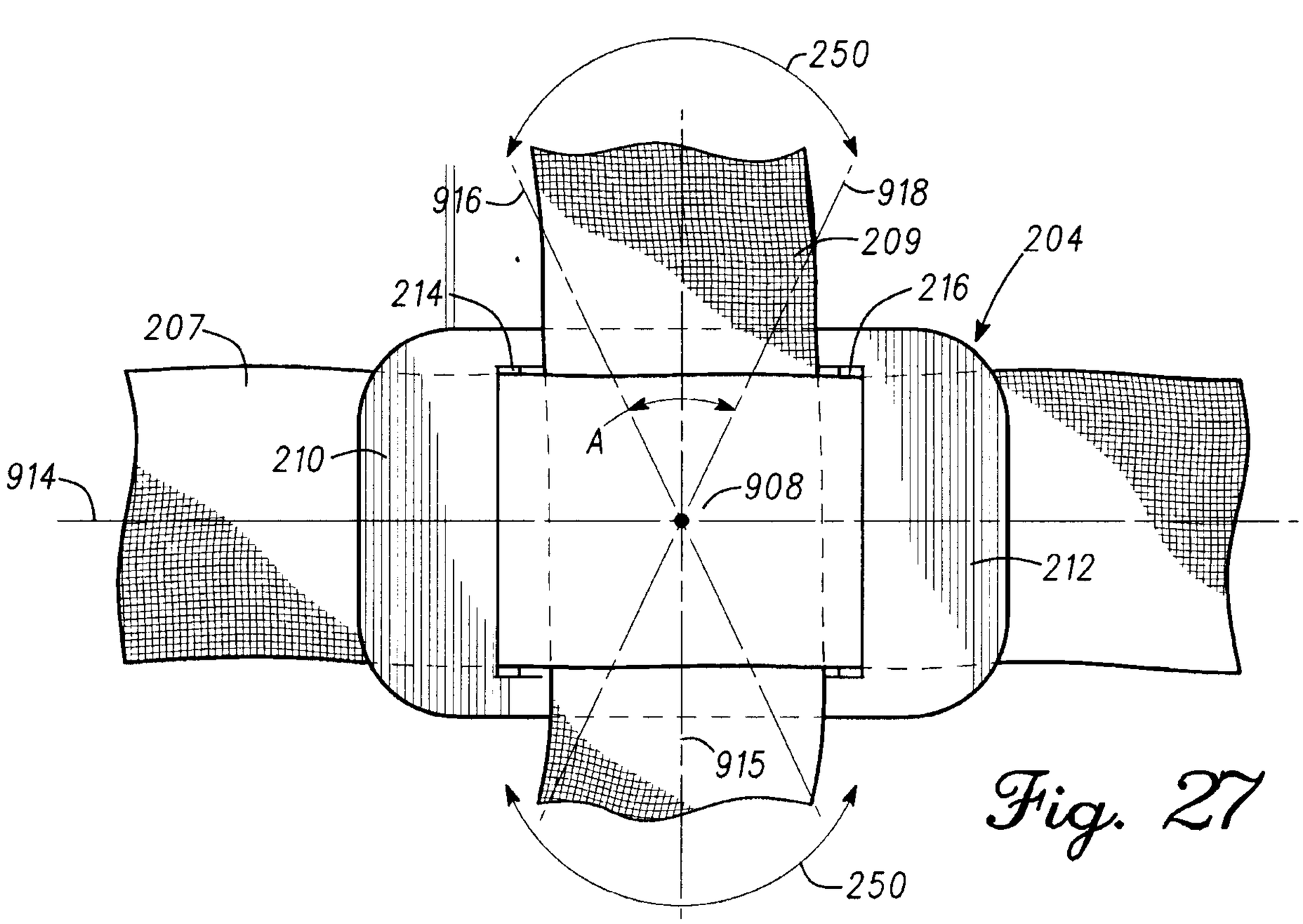
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Fig. 27

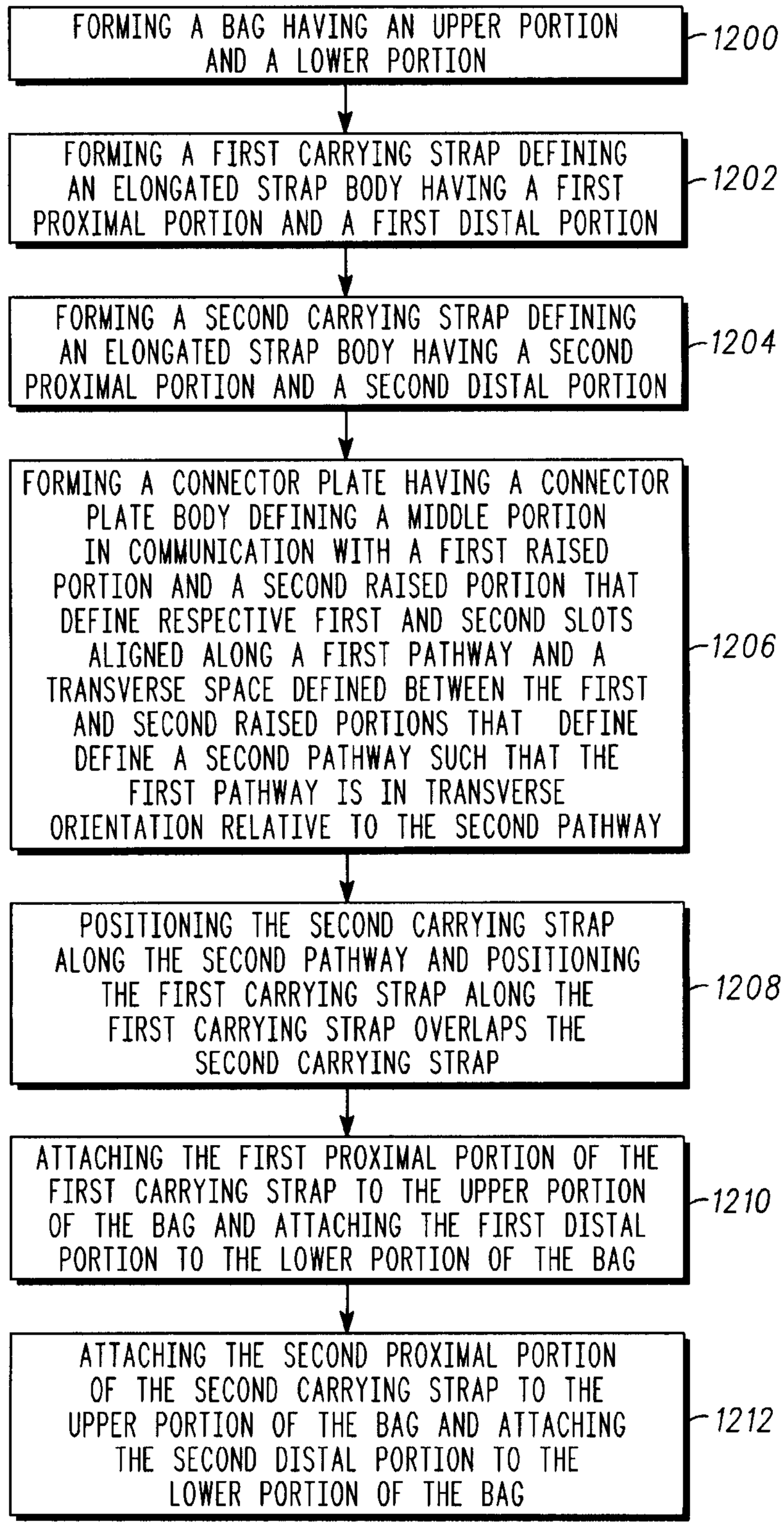
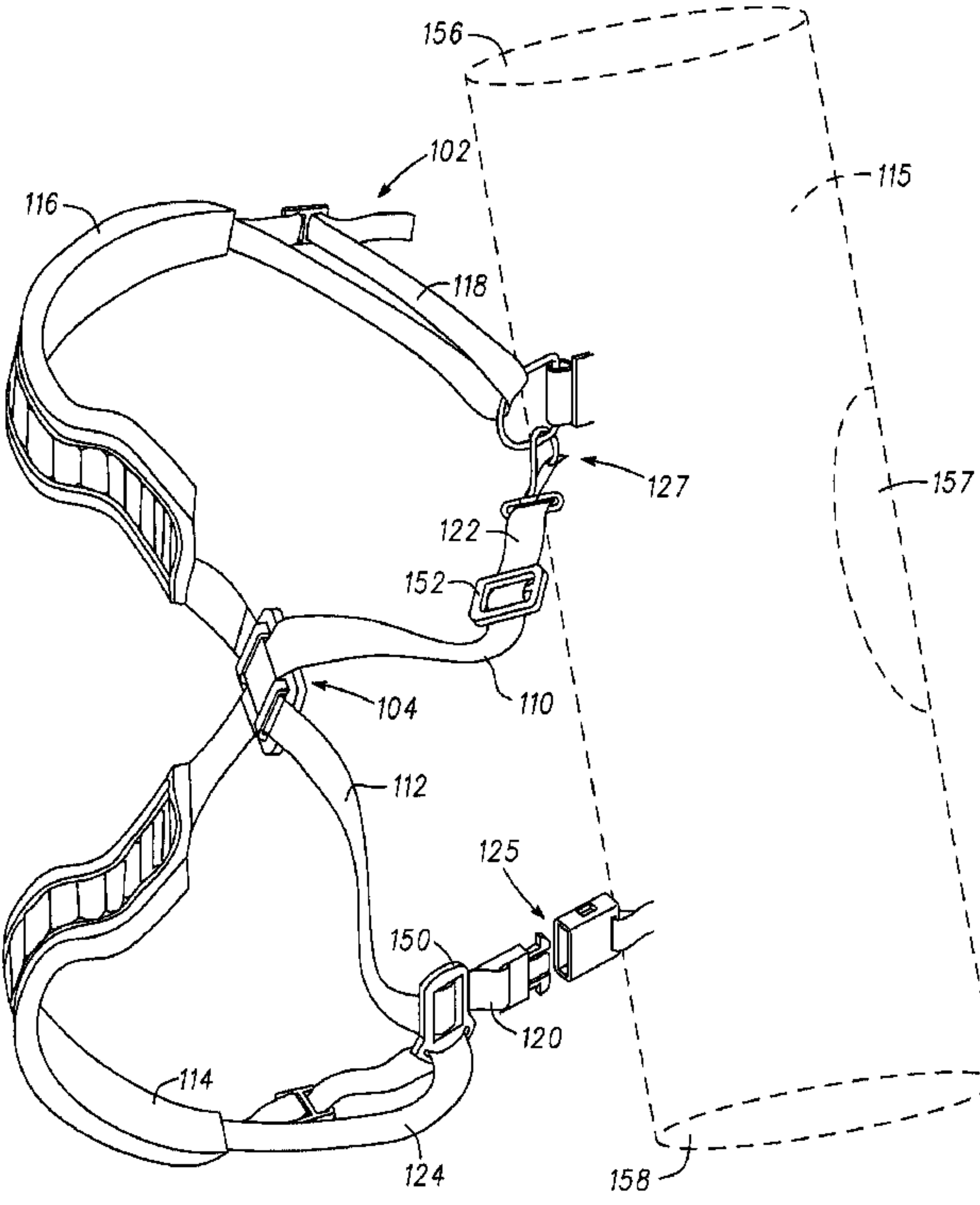

FORMING A BAG HAVING AN UPPER PORTION AND A LOWER PORTION
1200
FORMING A FIRST CARRYING STRAP DEFINING AN ELONGATED STRAP BODY HAVING A FIRST PROXIMAL PORTION AND A FIRST DISTAL PORTION
1202
FORMING A SECOND CARRYING STRAP DEFINING AN ELONGATED STRAP BODY HAVING A SECOND PROXIMAL PORTION AND A SECOND DISTAL PORTION
1204
FORMING A CONNECTOR PLATE HAVING A CONNECTOR PLATE BODY DEFINING A MIDDLE PORTION IN COMMUNICATION WITH A FIRST RAISED PORTION AND A SECOND RAISED PORTION THAT DEFINE RESPECTIVE FIRST AND SECOND SLOTS ALIGNED ALONG A FIRST PATHWAY AND A TRANSVERSE SPACE DEFINED BETWEEN THE FIRST AND SECOND RAISED PORTIONS THAT DEFINE DEFINE A SECOND PATHWAY SUCH THAT THE FIRST PATHWAY IS IN TRANSVERSE ORIENTATION RELATIVE TO THE SECOND PATHWAY
1206
POSITIONING THE SECOND CARRYING STRAP ALONG THE SECOND PATHWAY AND POSITIONING THE FIRST CARRYING STRAP ALONG THE FIRST CARRYING STRAP OVERLAPS THE SECOND CARRYING STRAP
1208
ATTACHING THE FIRST PROXIMAL PORTION OF THE FIRST CARRYING STRAP TO THE UPPER PORTION OF THE BAG AND ATTACHING THE FIRST DISTAL PORTION TO THE LOWER PORTION OF THE BAG
1210
ATTACHING THE SECOND PROXIMAL PORTION OF THE SECOND CARRYING STRAP TO THE UPPER PORTION OF THE BAG AND ATTACHING THE SECOND DISTAL PORTION TO THE LOWER PORTION OF THE BAG
1212

Fig. 28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