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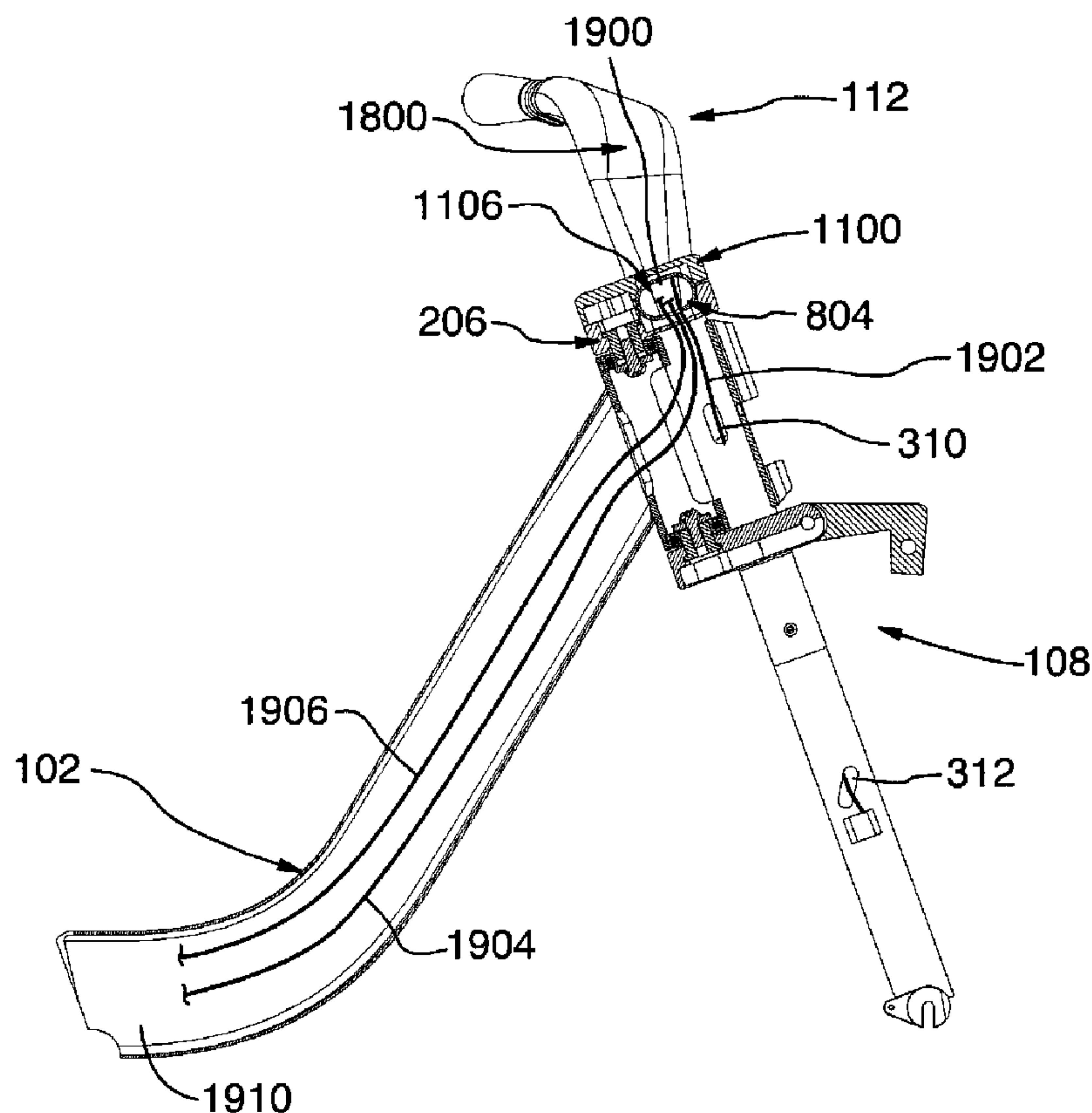


FIG.19

(57) **Abrégé/Abstract:**

A fork assembly for a bicycle comprising a pair of spaced-apart blade operatively connected to one another by at least one of a crown plate and a stem plate. The fork assembly comprises a steer assembly for connecting the fork assembly to a head tube of a



(57) **Abrégé(suite)/Abstract(continued):**

frame of a bicycle. The head tube of the bicycle comprises openings for allowing routing control cables from a handlebar through the frame of the bicycle. A method for routing the control cables from a handlebar through the frame of the bicycle is also provided.

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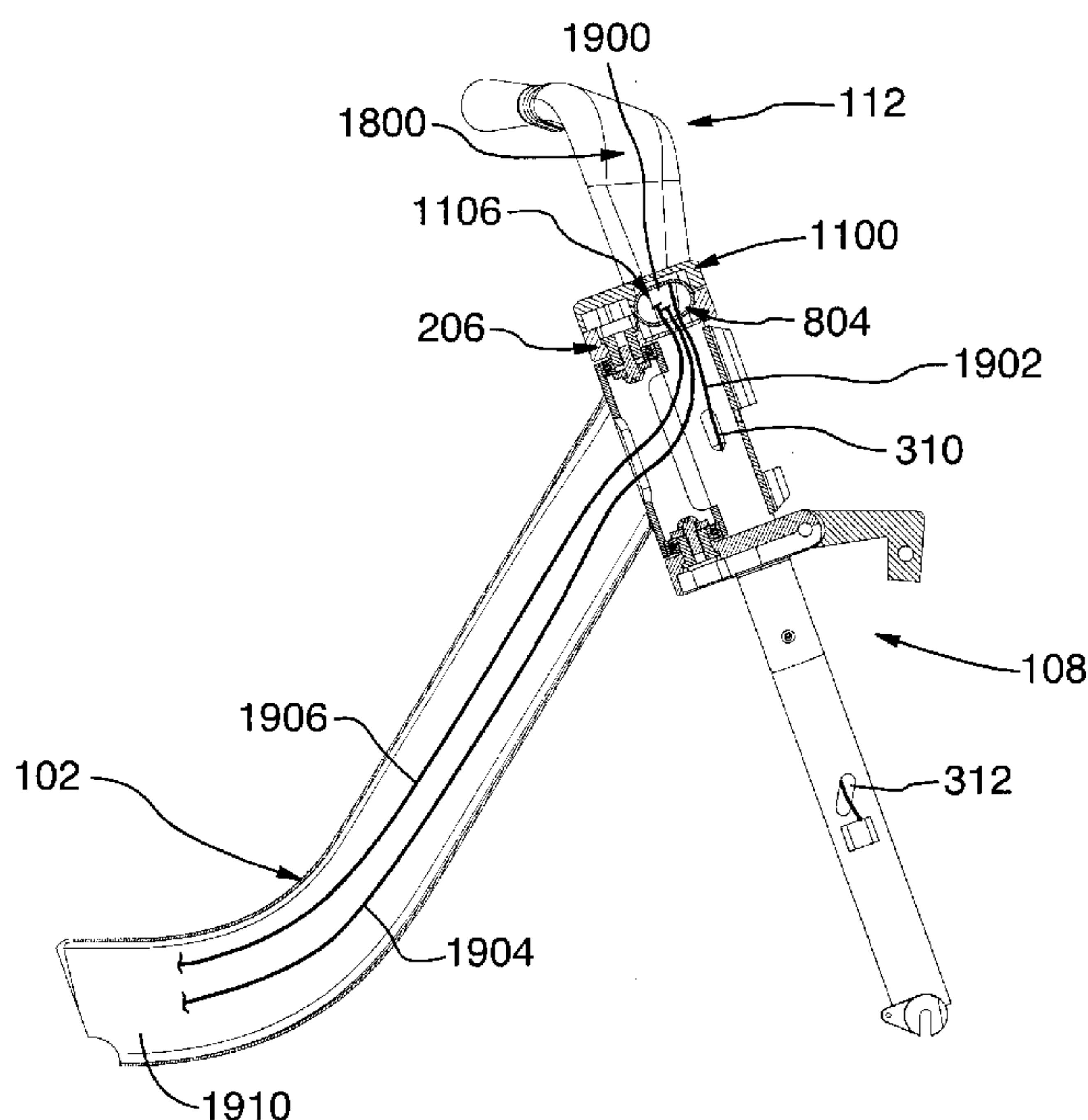


FIG. 19

(57) Abstract: A fork assembly for a bicycle comprising a pair of spaced-apart blade operatively connected to one another by at least one of a crown plate and a stem plate. The fork assembly comprises a steer assembly for connecting the fork assembly to a head tube of a frame of a bicycle. The head tube of the bicycle comprises openings for allowing routing control cables from a handlebar through the frame of the bicycle. A method for routing the control cables from a handlebar through the frame of the bicycle is also provided.

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FORK ASSEMBLY FOR A BICYCLE

CROSS REFERENCE TO RELATED APPLICATIONS

This application claims priority of US Provisional Patent Application serial number
5 61/059,413 filed on June 6, 2008 and entitled FORK ASSEMBLY FOR A BICYCLE, the
specification of which is hereby incorporated by reference.

This application is related to US Provisional Patent Application serial number
61/059,387 filed on June 6, 2008 and entitled BICYCLE FRAME AND CASING FOR
INTERNALLY ROUTED CABLES, the specification of which is hereby incorporated by
10 reference.

This application is related to US Provisional Patent Application serial number
61/059,404 filed on June 6, 2008 and entitled HANDLEBAR FOR A BICYCLE, the
specification of which is hereby incorporated by reference.

This application is related to US Provisional Patent Application serial number
15 61/059,421 filed on June 6, 2008 and entitled SADDLE ANTI-THEFT DEVICE, the
specification of which is hereby incorporated by reference.

FIELD OF THE INVENTION

The present invention generally relates to a fork assembly for a bicycle. More
specifically, the present invention relates to a fork assembly comprising a pair of
20 spaced-apart blade members operatively connected to one another by a crown
plate and a stem plate. The invention also relates to a method for routing control
cables from a handlebar through the frame of the bicycle.

BACKGROUND OF THE INVENTION

Bicycles have been utilized as means of transportation for over a hundred years.
25 Modern bicycles generally include control cables which are used to control front
and rear wheel braking systems, and front and rear shifting mechanisms.
Typically, the cables are routed from brake and shift levers to the braking

systems and derailleur. The bicycle may also have wires for an odometer and front and rear lights. Those cables and wires are generally mounted along the outside of the bicycle frame with various attachments such as clips.

5 Cables and wires can interfere with either the rider or other components of the bicycles (e.g. tool compartment attached to the frame). Externally located cables and wires are susceptible to damage from the surrounding environment (e.g. tree, branches) and also from vandalism. The cables may also detract from the aesthetic appearance of the frame by covering art or graphic logos.

10 For different reasons, many cities have inaugurated in the recent years bicycle sharing programs whereby citizens can easily have access to bicycles for inner-city transportation. Although very popular, those programs have to struggle against theft and vandalism. There is therefore a need for new bikes with a frame design preventing vandalism or disassembly of the parts of the bike.

15 Prior attempts have been made to conceal bicycle cables and wires by extending the cables through the inside of the bicycle frame components. Examples are disclosed in US Patent No. 7,114,738 and US Patent Publications Nos. 2004/0188976 and 2006/0145446. However, those frames do not address many of the above-identified problems, either because they maintain some exposed segments of cables, because they are too complex, because the configuration of
20 the frame is such that cables wear prematurely due to continuous scrubbing against the frame, or because they are not adaptable to bikes designed to be used in bicycle sharing programs.

25 Therefore, it would be desirable to be provided with an assembly for a bicycle, where the assembly would contribute to reduce at least one of the above-mentioned drawbacks.

BRIEF SUMMARY

Accordingly, there is provided a fork assembly for a bicycle having a frame. The fork assembly comprises a first blade and a second spaced-apart blade, each of the first blade and the second blade comprising a lower wheel portion and an
30 upper steer portion defining a junction therebetween. The fork assembly

- comprises a crown plate mounted to the steer portion of the first blade and the steer portion of the second blade, and a stem plate mounted to the steer portion of the first blade and to the steer portion of the second blade above the crown plate. The stem plate and the crown plate are adapted for holding the blades in a position for receiving a wheel of the bicycle between the wheel portion of the first blade and the wheel portion of the second blade and for defining a space between the steer portion of the first blade and the steer portion of the second blade. The fork assembly comprises a steer assembly for operatively connecting at least one of the crown plate and the stem plate to the frame of the bicycle.
- 10 The fork assembly may help increasing the robustness of the bicycle against vandalism, which is of great advantage.

In one embodiment, the upper steer portion of the first blade and the upper steer portion of the second blade are straight and parallel to each other, the lower wheel portion of the first blade and the lower wheel portion of the second blade bending outwardly proximal the corresponding junction for providing a wheel space adapted to receive the wheel of the bicycle therebetween.

In one embodiment, at least one of the crown plate and the stem plate is secured to the first blade and the second blade using a welding technique.

20 In one embodiment, the steer assembly comprises pivoting means for pivotally connecting at least one of the crown plate and the stem plate to the frame of the bicycle.

In one embodiment, each of the first and second blades comprises a lower end, an opposed top end and a dropout mounted at the lower end for mounting the wheel of the bicycle thereto.

25 In a further embodiment, the stem plate is mounted at the top end of the first blade and at the top end of the second blade.

In one embodiment, the stem plate comprises a top face for mounting a handlebar of the bicycle thereto and an opposed bottom face.

In a further embodiment, the stem plate comprises a handlebar recess defined on

the top face thereof for receiving therein the handlebar.

In still a further embodiment, the stem plate comprises a first recess and a second recess extending on the bottom face thereof, each of the first recess and the second recess being adapted for receiving therein a corresponding top end of
5 a corresponding blade.

In another embodiment, the stem plate further comprises a hole extending from the top face to the bottom face, the hole being adapted for providing a passageway for at least one control cable therethrough.

In another embodiment, the fork assembly further comprises a stem cover
10 adapted for mounting with the stem plate to secure the handlebar received in the handlebar recess of the stem plate between the stem cover and the stem plate.

In a further embodiment, the handlebar comprises at least one control cable selected from a group consisting of a brake cable and a gear-shifter cable, the at least one control cable extending inside the handlebar and further extending
15 through the hole of the stem plate towards the space defined between the steer portion of the first blade and the steer portion of the second blade when the handlebar is mounted to the stem plate.

In one embodiment, the crown plate is mounted at the junctions of the lower wheel portion and the upper steer portion of the first blade and the second blade.

20 In one embodiment, the frame of the bicycle comprises a head tube for mounting the fork assembly thereto.

In a further embodiment, the frame comprises a hollow passageway therein. The head tube comprises a first front opening and a second back opening adjacent to the passageway of the frame, the first front opening and the second back
25 opening being adapted for providing a communication channel between the space defined between the steer portions of the first and second blades and the passageway of the frame.

This arrangement may help concealing the control cables of the bicycle inside the frame thereof, which is of great advantage for protecting the cables from

vandalism and from damages from the surrounding environment.

In still a further embodiment, the head tube comprises at least one of a top open end and an opposed bottom open end. The steer assembly comprises at least one of a corresponding upper steer set and a corresponding lower steer set, the
5 corresponding steer set comprising a bearing mounted in the head tube at a corresponding end thereof, a knob lying against and extending through a corresponding one of the crown plate and the stem plate and through the corresponding bearing, and a fastener for securing the knob to the head tube.

In one embodiment, the crown plate comprises a front end adapted for mounting
10 a bicycle locking assembly to secure the bicycle to a fixed structure.

In one embodiment, the crown plate comprises a pair of holes extending therethrough, each of the holes being configured for receiving a respective one of the first blade and the second blade therethrough.

In one embodiment, at least one of the first blade and the second blade
15 comprises a hollow passageway therealong, a first upper cable hole located in the steer portion and a second lower cable hole located in the wheel receiving portion for concealing a control cable in the hollow passageway of the corresponding blade.

This arrangement may further help protecting the control cables from vandalism
20 and from damages from the surrounding environment, which is of great advantage.

In another embodiment, the fork assembly further comprises a space cover mounted against the steer portion of the first blade and the steer portion of the second blade between the bottom face of the stem plate and the top face of the
25 crown plate for closing the space between the steer portion of the first blade and the steer portion of the second blade.

This arrangement may further contribute to the protection of the control cables, which is of great advantage.

In a further embodiment, the space cover is U-shaped and comprises a first leg

and an opposed second leg, each of the first leg and the second leg overlapping a corresponding steer portion.

In another further embodiment, the space cover comprises at least one mounting bracket for mounting a rack thereto.

- 5 According to another aspect, there is also provided a bicycle comprising a frame and a fork assembly. The fork assembly comprises a first blade and a second spaced-apart blade, each of the first blade and the second blade comprising a lower wheel portion and an upper steer portion defining a junction therebetween. The fork assembly comprises a crown plate mounted to the steer portion of the
- 10 first blade and the steer portion of the second blade. The fork assembly comprises a stem plate mounted to the steer portion of the first blade and to the steer portion of the second blade above the crown plate. The stem plate and the crown plate are adapted for holding the blades in a position for receiving a wheel of the bicycle between the wheel portion of the first blade and the wheel portion
- 15 of the second blade and for defining a space between the steer portion of the first blade and the steer portion of the second blade. The fork assembly comprises a steer assembly for operatively connecting at least one of the crown plate and the stem plate to the frame of the bicycle. The bicycle also comprises a handlebar mounted to the stem plate.
- 20 According to another aspect, there is also provided a fork assembly kit for a bicycle having a frame. The fork assembly kit comprises a first blade and a second blade, each of the first blade and the second blade comprising a lower wheel portion and an upper steer portion defining a junction therebetween. The fork assembly kit comprises a crown plate mountable to the steer portion of the
- 25 first blade and the steer portion of the second blade and a stem plate mountable to the steer portion of the first blade and to the steer portion of the second blade above the crown plate. The stem plate and the crown plate are adapted for holding the blades in a position for receiving a wheel of the bicycle between the wheel portion of the first blade and the wheel portion of the second blade and for
- 30 defining a space between the steer portion of the first blade and the steer portion of the second blade when the stem plate is mounted to the steer portion of the first blade and to the steer portion of the second blade. The fork assembly kit

comprises a steer assembly for operatively connecting at least one of the crown plate and the stem plate to the frame of the bicycle.

According to another aspect, there is also provided a method for routing at least one control cable of a bicycle having a frame. The method comprises providing a
5 fork assembly, the fork assembly comprising a first blade and a second spaced-apart blade, each of the first blade and the second blade comprising a lower wheel portion and an upper steer portion defining a junction therebetween. The fork assembly comprises a crown plate mounted to the steer portion of the first blade and the steer portion of the second blade. The fork assembly comprises a
10 stem plate mounted to the steer portion of the first blade and to the steer portion of the second blade above the crown plate, the stem plate and the crown plate being adapted for holding the blades in a position for receiving a front wheel of the bicycle between the wheel portion of the first blade and the wheel portion of the second blade and for defining a space between the steer portion of the first
15 blade and the steer portion of the second blade, the stem plate of the fork assembly comprising a hole extending through a top face and a bottom face thereof. The fork assembly comprises a steer assembly for operatively connecting at least one of the crown plate and the stem plate to the frame of the bicycle. The method further comprises mounting the fork assembly to the frame
20 of the bicycle; providing a handlebar comprising the at least one control cable, the at least one control cable being internally routed inside the handlebar towards a lower opening defined in the handlebar; and mounting the handlebar to the stem plate of the fork assembly such that the control cable of the handlebar runs through the lower opening thereof towards the space defined between the steer
25 portion of the first blade and the steer portion of the second blade and further towards at least one of the frame and the front wheel of the bicycle.

In one embodiment, the method further comprises providing a stem cover adapted for mounting with the stem plate to secure the handlebar between the stem cover and the stem plate; and mounting the cover plate to the stem plate for
30 securing the handlebar therebetween.

In another embodiment, the method further comprises providing, in at least one of the first blade and the second blade, a hollow passageway, a first upper cable

hole located in the steer portion and a second lower cable hole located in the wheel receiving portion for concealing one of the control cables in the hollow passageway of the corresponding blade; and running the corresponding control cable from the space defined between the steer portion of the first blade and the
5 steer portion of the second blade towards the second lower cable hole located in the wheel receiving portion.

These and other objects, advantages and features of the present invention will become more apparent to those skilled in the art upon reading the details of the invention more fully set forth below.

10 **BRIEF DESCRIPTION OF THE DRAWINGS**

Having thus generally described the nature of the invention, reference will now be made to the accompanying drawings, showing by way of illustration of an illustrative embodiment thereof, and in which:

FIGURE 1 is a front perspective view of a bicycle comprising a fork assembly in
15 accordance with one embodiment of the present invention.

FIGURE 2 is an enlarged front left perspective view of the fork assembly of the bicycle shown in FIGURE 1, with the stem cover removed for showing the space between the blades.

FIGURE 3 is a back left perspective view of a blade in accordance with one
20 embodiment of the present invention.

FIGURE 4 is a front elevation view of the fork assembly shown in FIGURE 2.

FIGURE 5 is a back right perspective view of a crown plate in accordance with one embodiment of the present invention.

FIGURE 6 is a top plan view of the crown plate shown in FIGURE 5.

25 FIGURE 7 is a bottom plan view of the crown plate shown in FIGURE 5.

FIGURE 8 is a front right perspective view of a stem plate in accordance with one embodiment of the present invention.

FIGURE 9 is a top plan view of the stem plate shown in FIGURE 8.

FIGURE 10 is a bottom plan view of the stem plate shown in FIGURE 8.

FIGURE 11 is a front right perspective view of a stem cover in accordance with one embodiment of the present invention.

5 FIGURE 12 is a top plan view of the stem cover shown in FIGURE 11.

FIGURE 13 is a bottom plan view of the stem cover shown in FIGURE 11.

FIGURE 14 is a back right exploded view of the fork assembly shown in FIGURE 2, with a handlebar, according to one embodiment of the present invention.

10 FIGURE 15 is a right side exploded view of the fork assembly shown in FIGURE 14.

FIGURE 16 is a front right perspective view of a space cover, with a rack, in accordance with one embodiment of the present invention.

FIGURE 17 a front elevation view of the space cover shown in FIGURE 16.

FIGURE 18 is a partial top plan view of the bicycle shown in FIGURE 1.

15 FIGURE 19 is a cross-section view of the bicycle shown in FIGURE 18, taken along line 19-19.

FIGURE 20 is a back right perspective view of a crown plate in accordance with another embodiment of the present invention.

20 FIGURE 21 is a front right perspective view of a stem plate in accordance with another embodiment of the present invention.

FIGURE 22 is a front right perspective view of a stem cover in accordance with another embodiment of the present invention.

FIGURE 23 is a bottom plan view of the stem cover shown in FIGURE 22.

25 FIGURE 24 is a right side exploded view of a fork assembly, according to another embodiment.

FIGURE 25 is a cross-section view of the fork assembly shown in FIGURE 24.

FIGURE 26 is a front right perspective view of a space cover, with a rack, in accordance with another embodiment of the present invention.

FIGURE 27 is an exploded perspective view of the space cover and the rack
5 shown in FIGURE 26.

DETAILED DESCRIPTION

The description which follows, and the embodiments described therein are provided by way of illustration of an example, or examples of particular
10 embodiments of principles and aspects of the present invention. These examples are provided for the purpose of explanation and not of limitation. In the description that follows, like parts are marked throughout the specification and the drawings with the same respective reference numerals.

With reference to Figure 1, a bicycle will be described in accordance with one embodiment, using the reference numeral **100**. The bicycle **100** comprises a
15 frame **102**, a seat assembly **104** mounted to the frame **102** for a user to sit on the bicycle **100** and a rear wheel **106** rotatably mounted to the frame **102**. The bicycle further comprises a fork assembly **108** operatively mounted to the frame **102** and a front wheel **110** rotatably mounted to the fork assembly **108**. Mounted on the fork assembly **108** is a handlebar **112** for allowing the user to control the
20 direction of the bicycle **100**, as it will become apparent below.

Turning to Figure 2, the fork assembly **108** comprises a pair of spaced-apart blades **200**, **202** assembled to one another in a side-by-side relation by a crown plate **204** and a spaced-apart stem plate **206**. The fork assembly **108** further
25 comprises a steer assembly **208** operatively mounted to at least one of the crown plate **204** and the stem plate **206**, the two of them in the illustrated case, for operatively mounting the fork assembly **108** to the frame **102** of the bicycle **100**, as best described below.

The blades **200** and **202** being mirror images of one another, only blade **200** will be described, with reference to Figures 3 and 4. A person skilled in the art will

appreciate that a similar description also applies to blade **202**, with appropriate modifications. In the illustrated embodiment, the blade **200** has an oval cross-section and comprises a lower, dropout end **300** for rotatably mounting the front wheel **110** to the fork assembly **108** and an opposed top end **302**, received in the stem plate **206**, as best described below. The blade **200** defines a wheel receiving portion **304** extending from the lower, dropout end **300** to an intermediate region **306** located between the dropout end **300** and the top end **302**, and a steer portion **308**. The steer portion **308** of the blade **200** extends from the intermediate region **306** to the upper end **302**.

As best shown in Figure 4, in one embodiment, the steer portion **308** of the blade **200** is generally straight, the steer portions **308** of the blades **200** and **202** running generally parallel to one another when the fork assembly **108** is assembled. In this embodiment, the wheel receiving portion **304** gently bents outwardly proximal to the intermediate region **306** for providing sufficient wheel space **400** between the wheel receiving portions **308** of the blades **200** and **202** to receive the front wheel **110** therebetween. In other words, the wheel receiving portions **308** of the blades **200** and **202** extend slightly away from one another to increase the distance separating the blades **200** and **202** at this location, for mounting the front wheel **110** to the dropout ends **300** of the blades **200** and **202**.

The skilled addressee will appreciate that other cross-sectional shapes and overall shapes may be considered for the blades **200**, **202**. For example, the blades **200**, **202** may have a circular or rectangular cross-section. Moreover, the overall shape of the blades may slightly differ from the one that is illustrated, as long as the blades **200**, **202** are adapted for providing the wheel space **400** between the wheel receiving portions **308** of the blades to receive the front wheel **110** therebetween, and for defining a space **402** between the steer portions **308** of the blades **200**, **202**, as it will be more clearly detailed below.

As best shown in Figure 3, in one embodiment, the blade **200** is provided with a hollow passageway **314** therealong, a first cable hole **310** located in the steer portion **308** thereof and a second cable hole **312** defined in the wheel receiving portion **304**, each of the cable holes **310**, **312** being in communication with the hollow passageway **314**. As it will become apparent below with reference to

Figures 18 and 19, the first and second cable holes **310**, **312** of the blade **200** enable running a front brake cable **1902** from a left brake lever assembly **1806** to the front brake (not shown), inside the handlebar **112** and the blade **200** of the fork assembly **108**. In one embodiment, the first cable hole **310** and the second
5 cable hole **312** are located on the inner side of the blade **200** facing the wheel space **400** receiving the front wheel of the bicycle. The skilled addressee will however appreciate that other arrangements may be considered.

As illustrated in Figures 2 and 4, the blades **200** and **202** are hold in position relative to one another by the crown plate **204** and the stem plate **206**, which will
10 now be described.

With reference to Figures 5 to 7, in one embodiment, the crown plate **204** is generally diamond-shaped or lozenge-shaped and comprises a top face **500**, an opposed bottom face **502** and a pair of side faces **600**, **602** extending between the top and bottom faces **500**, **502**. The crown plate **204** also comprises a V-
15 shaped back face **504**, extending between the bottom and top faces **500**, **502** and a front end **506**. The back face **504** connects the side faces **600**, **602** to one another and terminates in a tip **508** at the very back of the crown plate **204**.

In one embodiment, the front end **506** is generally T-shaped and is adapted for mounting a bicycle locking assembly **210** (shown in Figure 2) to the crown plate
20 **204**. Such a locking assembly **210** is described in co-pending US Patent Application entitled METHOD AND APPARATUS FOR SECURING A MOVABLE ITEM TO A STRUCTURE, that was filed on April 23, 2008 and which is incorporated herein by reference. The locking assembly **210** is adapted to cooperate with an element (not shown) mounted to a structure (not shown) in order to secure the bicycle **100**
25 to the structure.

In the embodiment illustrated in Figures 5 to 7, the crown plate **204** comprises a pair of concave faces **604**, **606** extending toward each other from the side faces **600**, **602**, respectively. More specifically, the concave face **604** comprises a first, external edge **608** adjacent to the side face **600**, an opposed internal edge **610**
30 and an inwardly curving recess **518** defined therebetween. Similarly, the concave face **606** comprises an external edge **614** adjacent to the side face **602**, an

opposed internal edge **616** and an inwardly curving recess **618** defined therebetween. Extending between the internal edges **610** and **616** of the concave faces **604**, **606** respectively is frontwardly extending a protrusion **700**. The protrusion **700** comprises a front face **702** extending between the bottom and top
5 faces **500**, **502** and having a pair of side edges **704**, **706**. The protrusion **700** further comprises a pair of spaced-apart side faces **708**, **710**, extending between the front face **702** and the concave faces **604**, **606**, respectively. More specifically, the side face **708** extends between the internal edge **610** of the concave face **604** and the side edge **704** of the front face **702**, perpendicular
10 thereto. Similarly, the side face **710** extends between the internal edge **616** of the concave face **606** and the side edge **706** of the front face **702**, perpendicularly thereto.

As best shown in Figure 5, in one embodiment, the protrusion **700** of the crown plate **204** is further provided with a circular hole **510** extending between the side
15 faces **708** and **710**, perpendicular thereto, for mounting the bicycle locking assembly **210**.

Still referring to Figures 5 to 7, proximal to each side face **600**, **602** of the crown plate **204** is an oval hole **512**, **514**, respectively, extending between the top face **500** and the bottom face **502**. Each of the oval holes **512**, **514** is adapted for
20 receiving therein a respective blade **200**, **202**, as best described below. In one embodiment, the crown plate **204** also comprises a circular steer hole **516** extending between the top and bottom faces **500**, **502**, proximal to the tip **508** of the V-shaped back face **504**, for mounting the steer assembly **208** thereto. As best shown in Figure 7, in one embodiment, the steer hole **516** is provided with a
25 generally square recess **712** defined on the bottom face **502** of the crown plate **204**, as best described below.

Now turning to Figures 8 to 10, the stem plate **206** will be described. In the illustrated embodiment, the stem plate **206** is generally diamond-shaped and comprises a top face **800**, an opposed bottom face **1000** and a front face **802**.
30 The stem plate **206** further comprises a pair of side faces **900** and **902**, each side face **900**, **902** comprising a curved front end **904**, **906**, respectively, connected to the front face **802** and a back end **908**, **910**. The back ends **908** and **910** of the

side faces **900** and **902** converge toward one another to terminate into a curved tip **912**.

As best shown in Figure 8, in one embodiment, the stem plate **206** is further provided with a handlebar recess **804** for mounting the handlebar **112** to the stem plate **206**, as it will become apparent below. The handlebar recess **804** is defined on the top face **800** of the stem plate **206** and extends between the side faces **900** and **902**, proximal to the front face **802** and parallel thereto. The recess **804** has a semi-oblong cross-section (best shown in Figure 19) which is adapted to receive the handlebar **112** therein. Defined at the bottom of the recess **804** are a generally rectangular recess **806** and a square hole **808** extending from the rectangular recess **806** to the bottom face **1000** for allowing the passage of the front brake, rear brake and gear shifter cables **1902**, **1904** and **1906** shown in Figure 19 therethrough, as best described thereafter.

In the illustrated embodiment, the stem plate **206** further comprises a circular steer hole **914** extending between the bottom and top faces **800**, **1000** for mounting the steer assembly **208** thereto, and a square recess **810** defined on the top face **800** and vertically aligned with the steer hole **914**.

In the illustrated embodiment, the steer assembly **208** is operatively mounted to each of the crown plate **204** and the stem plate **206**. The skilled addressee will however appreciate that the steer assembly **208** may be mounted to a single one of the crown plate **204** and the stem plate **206**, as long as it enables to operatively connect the fork assembly **108** to the frame **102** of the bicycle **100**.

Referring again to Figure 10, in one embodiment, defined on the bottom face **1000**, proximal to the front ends **904** and **906** of the side faces **900** and **902**, respectively, are oval recesses **1002**, **1004**. The oval recesses **1002**, **1004** are adapted for respectively receiving therein the top ends **302** of the blades **200** and **202**. In a further embodiment, fastening holes **1006a**, **1006b**, **1008a** and **1008b** extend from the top face **800** to the bottom face **1000** for fastening a stem cover **1100**, as it will become apparent below.

The skilled addressee will appreciate that the crown plate **204** and the stem plate **206** may be differently shaped as long as they are adapted for holding the blades

200, 202 in the appropriate position, as it will become more apparent upon the reading of the present description. For example, projecting members (not shown) defining a receiving area for the blades **200, 202** may be used in place of the oval recesses **1002, 1004** of the stem plate **206**.

5 Referring now to Figures 11 to 13, in one embodiment, the fork assembly **108** may be further provided with a stem cover **1100** for mounting with the stem plate **206**. In one embodiment, the stem cover **1100** comprises a diamond-shaped top face **1102** and a diamond-shaped bottom face **1300**, the top and bottom faces **1102** and **1300** being sized similarly to the top and bottom faces **800** and **1000** of
10 the stem plate **206**. The stem cover **1100** further comprises a front face **1104** and a pair of side faces **1200** and **1202**, each side face **1200, 1202** comprising a curved front end **1204, 1206**, respectively, connected to the front face **1104** and a back end **1208, 1210**. The back ends **1208, 1210** of the side faces **1200** and **1202** converge toward one another to terminate into a curved tip **1212**.

15 As best shown in Figure 11, in one embodiment, the stem cover **1100** is further provided with a handlebar recess **1106** defined on the bottom face **1300** and extending between the side faces **1200, 1202** thereof for partially receiving therein the handlebar **112**, as best described below. As such, in one embodiment, the recess **1106** has a semi-oblong cross-section, as best shown in
20 Figure 19.

Defined on the bottom face **1300** of the stem cover **1100** are two pairs of threaded holes **1302a, 1302b** and **1304a, 1304b**. The threaded holes **1302a, 1302b** and **1304a, 1304b** can be aligned with the fastening holes **1006a, 1006b** and **1008a, 1008b** of the stem plate **206** for receiving therein threaded fasteners
25 (not shown) for securing the stem cover **1100** to the stem plate **206**, as it will become apparent below.

Referring now to Figures 14 and 15, the mounting of the fork assembly **108** will now be described in accordance with one embodiment. The blades **200** and **202** are positioned in a side-by-side relation. The steer portion **308** of the blades **200**
30 and **202** is slid in the oval holes **512** and **514** of the crown plate **204**, respectively, until the intermediate location **306**. The blades **200** and **202** are then secured to

the crown plate **204** by welding (not shown). The skilled addressee will appreciate that the blades **200** and **202** could be secured differently such as, for instance, by press fit, gluing or by using fasteners such as nuts and bolts. The oval recesses **1002** and **1004** of the stem plate **206** are aligned with the oval
5 holes **512** and **514** of the crown plate **204** and the top end **302** of the blades **200** and **202** are forced therein. The stem plate **206** is then welded or otherwise fastened to the blades **200** and **202**.

In the illustrated embodiment, the steer portions **308** of the blades **200** and **202** being generally straight and the oval holes **512** and **514** of the crown plate **204**
10 being aligned with the corresponding recesses **1002** and **1004** of the stem plate **206**, the steer portions **308** of the blades **200**, **202** are parallel to one another once the fork assembly **108** is assembled, while the wheel portions **304** thereof extend downwardly from the bottom face **502** of the crown plate **204**, gently away from one another. Further, the bottom face **1000** of the stem plate **206** and the
15 top face **500** of the crown plate **204** are parallel to one another, thereby defining a space **402** therebetween, as best shown in Figure 4. The space **402** is adapted for receiving a head tube **1400** mounted to one end of the bicycle frame **102**, as detailed below.

In accordance with one embodiment, as better shown in Figure 19, the frame **102**
20 of the bicycle **100** comprises a hollow passageway **1910** therein devised to receive at least a portion of at least one control cable, as detailed below. As best shown in Figures 14 and 15, the head tube **1400** is generally cylindrical and comprises a top, open end **1500**, an opposed, bottom end **1502** and a curved face **1504** extending therebetween. The head tube **1400** further comprises a back
25 opening **404** (shown in Figure 4) in communication with the hollow passageway **1910** of the frame **102** and a front opening **1506**. As it will become apparent below, the front and back openings **1506** and **404** of the head tube **1400** are adapted for providing a communication channel between the space **402** defined between the steer portions **308** of the blades **200**, **202** and the hollow
30 passageway of the frame **102**, thereby enabling the passage of a rear brake cable **1904** and a gear shifter cable **1906** therethrough towards the hollow

passageway of the frame **102**, as best shown in Figure 19. Furthermore, the front opening **1506** allows mounting the fork assembly **108** to the bicycle frame **102**.

More specifically, the fork assembly **108** is mounted to the head tube **1400** of the bicycle **100** with the steer assembly **208**. In one embodiment, the steer assembly **208** comprises pivoting means for pivotally connecting the frame **102** of the bicycle **100** to the fork assembly **108**. In the illustrated embodiment, the pivoting means of the steer assembly **208** comprises a lower steer set **1402** and an upper steer set **1404**. In one embodiment, the lower steer set **1402** comprises a knob **1406**, a ball bearing **1407**, a washer **1520**, a stop washer **1522** and a bolt **1524**.

10 In one embodiment, the knob **1406** of the lower steer set **1402** comprises a cylindrical portion **1508** receivable in the cylindrical hole **516** of the crown plate **204** and a square head **1510**. The square head **1510** is adapted to be received in the square recess **712** of the crown plate **204** once the knob **1406** is properly positioned. A threaded hole **1414** is provided in the cylindrical portion **1508** for receiving therein the bolt **1524** of the lower steer set **1402**.

In one embodiment, the ball bearing **1407** has an annular configuration and comprises an outer diameter adapted for placing the ball bearing in the head tube **1400**, at the lower end **1502** thereof, and also comprises a circular hole **1416**. The circular hole **1416** is adapted for receiving therein a section of the cylindrical portion **1508** of the knob **1406** once the fork assembly **108** is secured to the head tube **1400**.

Similarly to the lower steer set **1402**, in one embodiment, the upper steer set **1404** comprises a knob **1418**, a ball bearing **1420**, a washer **1526**, a stop washer **1528** and a bolt **1530**. The knob **1418** of the upper steer set **1404** comprises a cylindrical portion **1512** receivable in the circular hole **914** of the stem plate **206** and a square head **1514**. The square head **1514** is adapted to be received in the square recess **810** of the stem plate **206** once the knob **1418** is properly positioned. A threaded hole **1428** extends through the cylindrical portion **1512** for receiving therein the bolt **1530** of the upper steer set **1404**.

30 In one embodiment, the ball bearing **1420** has an annular configuration and comprises an outer diameter adapted for placing the ball bearing **1420** in the

head tube **1400**, at the upper end **1500** thereof, and also comprises a circular hole **1430**. The circular hole **1430** is adapted for receiving therein a section of the cylindrical portion **1512** of the knob **1418** once the fork assembly **108** is secured to the head tube **1400**.

- 5 In order to mount the fork assembly **108** and the head tube **1400** together, the ball bearings **1406** and **1420** are positioned in the head tube **1400** at the bottom and top ends **1500**, **1502** thereof. The fork assembly **108** is then positioned over the head tube **1400**, the bottom and top ends **1502**, **1500** thereof being adjacent to the top face **500** of the crown plate **204** and to the bottom face **1000** of the
10 stem plate **206**, respectively. The circular holes **516** and **914** of the crown and stem plates **204** and **206**, respectively, are aligned with the holes **1416** and **1430** of the bearings **1406**, **1420** mounted in the head tube **1400**.

- The knob **1418** of the upper steer set **1404** is slid in the circular hole **914** of the stem plate **206**, until the square head **1514** thereof engages the square recess
15 **810**. In this position, the cylindrical portion **1512** of the knob **1418** extends through the hole **914** of the stem plate **206** and the circular hole **1430** of the bearing **1420**. The washer **1422** and the stop washer **1424** are then placed in the head tube **1400**, through the front opening **1506** and aligned with the threaded hole **1428** of the knob **1418**. The bolt **1530** is also placed in the head tube **1400**,
20 through the front opening **1506**, and is fastened into the threaded hole **1428** of the knob **1418**.

- Similarly, the knob **1406** of the lower steer set **1402** is slid in the circular hole **516** of the crown plate **204**, until the square head **1510** thereof engages the square recess **712**. In this position, the cylindrical portion **1508** of the knob **1406** extends
25 through the hole **516** of the crown plate **204** and the circular hole **1416** of the bearing **1407**. The washer **1408** and the stop washer **1410** are then placed in the head tube **1400**, through the front opening **1506** and aligned with the threaded hole **1414** of the knob **1406**. The bolt **1524** is also placed in the head tube **1400**, through the front opening **1506**, and is fastened into the threaded hole **1414** of
30 the knob **1406**.

A person skilled in the art will thus appreciate that the front opening **1506** of the head tube **1400** is sized and shaped to enable the introduction of the steer assembly **208** parts in the head tube **1400** for fastening the fork assembly **108** to the frame **102** of the bicycle **100**.

- 5 The steer assembly **208** is adapted for enabling the fork assembly **108** to pivot relatively to the frame **102** about a generally vertical rotation axis R-R (shown in Figure 2). As such, the cylindrical holes **516** and **914** of the crown and stem plates **204**, **206**, as well as the upper and lower steer sets **1404**, **1402** are aligned to one another so as to permit pivoting of the fork assembly **108** relative to the
10 frame **102**.

In the previously described illustrated embodiment, the steer assembly **208** is connected to each of the crown plate **204** and the stem plate **206** with the corresponding upper steer set **1404** and lower steer set **1402**. The skilled addressee will however appreciate that the steer assembly **208** may be
15 connected to a single one of the crown plate **204** and the stem plate **206** with a single corresponding steer set, as long as it enables a pivoting of the fork assembly **108** relative to the frame **102**. Moreover, other arrangements for the steer set may be considered, as well known to a person skilled in the art of the invention.

- 20 As it will be appreciated by a person skilled in the art, and as previously mentioned, the configuration of the fork assembly **108** provides a space **402** between the steer portions **308** of the blades **200**, **202**, the crown plate **204** and the stem plate **206**. This space **402** is adapted for allowing the passage of the rear brake cable **1904** and of the gear shifter cable **1906** (shown in Figure 19)
25 from the hole **808** of the stem plate **206** to the front and back openings **1506** and **404** of the head tube **1400**, thereby allowing running the control cable through the hollow passageway **1910** of the frame **102** of the bicycle **100**. Such a configuration of the fork assembly **108**, together with the configuration of the head tube **1400** (i.e. the presence of the front and back openings **1506** and **404**)
30 contributes to minimize scrubbing of the control cables against the frame **102** of the bicycle when the fork assembly **108** is pivoted about the axis R-R for

controlling the direction of the bicycle, thereby reducing wear and damages to control cables.

Referring now to Figures 14 to 17, for closing the space **402** and avoiding the control cables to be exposed, in one embodiment, the fork assembly **108** also comprises a space cover **1432**. According to one embodiment, the space cover **1432** has a U-shaped cross-section and comprises a front face **1600** having a top end **1602**, a bottom end **1604** and a pair of side ends **1606**, **1608**. Extending backwardly from each side end **1606**, **1608** of the front face **1600**, between the top and bottom ends **1602**, **1604** are spaced-apart side face **1610**, **1612**. The cover **1432** is sized to be received between the bottom face **1000** of the stem plate **206** and the top face **500** of the crown plate **204**. Upon assembly of the cover **1432** to the fork assembly **108**, the top end **1602** of the front face **1600** is located adjacent to the bottom face **1000** of the stem plate **206**, proximal to the front face **802** thereof, while the bottom end **1604** of the front face **1600** is located adjacent to the top face **500** of the crown plate **204**, proximal to the front faces **604** and **606** thereof. As such, the protrusion **506** of the crown plate **204** extends frontwardly from the cover **1432**. Because the side faces **1610**, **1612** of the cover **1432** extend backwardly from the front face **1600**, each side face **1610**, **1612** covers or overlaps the steer portion **308** of one corresponding blades **200**, **202**.

In one embodiment, the side faces **1610**, **1612** of the space cover **1432** are configured to snaply engage the steer portion **308** of the blades **200**, **202** for mounting the same to the fork assembly **208**. In another embodiment, the side faces **1610**, **1612** may be provided with holes (not shown) that can be aligned with corresponding holes (not shown) on the blades **200**, **202** for receiving fasteners therethrough, such as, for instance, bolts, screws and rivets.

According to one embodiment, and as illustrated in Figure 16, the space cover **1432** is adapted for mounting a rack **1614** thereto. In this embodiment, the space cover **1432** is provided with a plurality of mounting brackets **1616a**, **1616b** and **1618a**, **1618b** extending frontwardly from the front face **1600**. The rack **1614** is provided with a corresponding plurality of legs **1620a**, **1620b** and **1622a**, **1622b** adapted for engaging the brackets **1616a**, **1616b** and **1618a**, **1618b**, respectively.

Referring now to Figures 18 and 19, according to one embodiment, the handlebar **112** comprises a hollow, curvilinear upright handlebar mounted to the stem plate **206** for a user to control the bicycle **100** and fitted to accommodate control cables in its structure. In this embodiment, the upright handlebar **112** comprises a
5 generally V-shaped hollow body **1800** provided with a central, stem portion **1801** comprising an opening **1900**. Mounted to the V-shaped hollow body **1800** are left and right handle grips **1802**, **1804** and left and right break lever assemblies **1806**, **1808** for a user to grip the handlebar **112** and control the speed of the bicycle **100**. The handlebar **112** is further provided with a gear shifter **1810** operatively
10 mounted to the hollow body **1800** for allowing the user to select a gear ratio. Such a handlebar is described in co-pending US Patent Application entitled "HANDLEBAR FOR A BICYCLE", that was filed on June 6, 2008 and which is incorporated herein by reference. Once the handlebar **112** is properly mounted to the fork assembly **108**, the opening **1900** of the central stem portion **1801** is
15 aligned with the square hole **808** of the stem plate **206** for allowing the passage of the front brake cable **1902**, the rear brake cable **1904** and the gear shifter cable **1906** from the handlebar **112** to the space **402** between the crown plate **204** and the stem plate **206**.

For mounting the handlebar **112** to the fork assembly **108**, the stem cover **1100** is
20 removed from the stem plate **206** to provide access to the handlebar recess **804** and positioning the handlebar **112** therein. The central portion **1801** of the V-shaped hollow body **1800** is properly positioned in the handlebar recess **804** of the stem plate **206** and the control cables, i.e. the front brake cable **1902**, the rear brake cable **1904** and the gear shifter cable **1906**, are passed through the
25 opening **1900** towards the space **402**. The stem cover **1100** is then positioned on the stem plate **206**, over the central portion **1801**. In this position, the central portion **1801** of the V-shaped hollow body **1800** is received in the handlebar recess **1106** of the stem cover **1100**, as best shown in Figure 19. The cross-sections of the recesses **804** and **1106** of stem plate **206** and the stem cover
30 **1100** are preferably sized slightly smaller than the cross-section of the central portion **1801** of the hollow body, the bottom face **1300** of the stem cover **1100** being thus prevented from adjoining the top face **800** of the stem plate **206**. The threaded fasteners (not shown) are then inserted in the fastening holes **1006a**,

1006b and **1008a**, **1008b** of the stem plate **206**, aligned with the treaded holes **1302a**, **1302b** and **1304a**, **1304b** of the stem cover **1100** and are screwed with sufficient torque to cause the stem cover **1100** to move downwardly, toward the top face **800** of the stem plate **206**. As the stem cover **1100** is moved downwardly
5 by the threaded fasteners (not shown), the central portion **1801** of the V-shaped hollow body **1800** becomes squeezed or sandwiched in the handlebar recesses **804** and **1106** of the stem plate **206** and of the stem cover **1100**, thereby securing the handlebar **112** to the fork assembly **108**.

As it will be appreciated by a person skilled in the art, the configuration of the fork
10 assembly **108**, together with the handlebar **112** and the head tube **1400** of the frame **102** enables running the front brake cable **1902**, the rear brake cable **1904** and the gear shifter cable **1906** inside the components of the bicycle **100**. More specifically, the front brake cable **1902**, the rear brake cable **1904** and the gear shifter cable **1906** run from the left brake lever assembly **1806**, the right brake
15 lever assembly **1808** and the gear shifter **1810** through the V-shaped hollow body **1800**, to pass through the opening **1900** of the central stem portion **1801** and the square hole **808** of the stem plate **206**. The front brake cable **1902** then enters the blade **200** by the first hole **310**, runs downwardly toward the dropout end **300** and exits the blade **200** through the second hole **312** and connect the front brake
20 (not shown). The rear brake cable **1904** and the gear shifter cable **1906** are directed toward the back of the bicycle **100** and pass through the front opening **1506** and the back opening **404** of the head tube **1400** to run inside the frame **102**, toward the rear brake (not shown) and the derailleur (not shown), respectively.

25 According to a further embodiment, the bicycle **100** may be provided with electronic or electric systems and other accessories such as, for instance, an electronic speedometer as well as front and back headlights. Therefore, the bicycle **100** may comprise a battery or other electric sources (not shown) mounted to the bicycle **100** and electric cables (not shown) running from the
30 electric source to the various accessories requiring electric power. A person skilled in the art will appreciate that, similarly to the front brake cable **1902**, the rear brake cable **1904** and the gear shifter cable **1906**, such electronic or electric

cables may be routed inside the frame **102**, the fork assembly **108** and the V-shaped hollow body **1800** of the handlebar **112**, as the case may be.

Referring to Figures 20 to 25, another embodiment of the fork assembly will now be described.

5 Figure 20 shows a crown plate **2000** according to another embodiment while Figure 21 shows a stem plate **2100** according to another embodiment. Figures 24 and 25 partially show another embodiment of a fork assembly which embeds the crown plate **2000** and the stem plate **2100**. In this embodiment, the steer assembly **208** comprises an elongated inner tube **2400** adapted to be mounted
10 inside the head tube **1400**. In this embodiment, the elongated inner tube **2400** is generally cylindrical and comprises a top, open end **2402**, an opposed, bottom end **2404** and a curved face **2406** extending therebetween. The elongated inner tube **2400** further comprises a back opening (not shown) facing the back opening **404** of the head tube **1400** and in communication with the hollow passageway
15 **1910** of the frame **102** when the inner tube **2400** is mounted inside the head tube **1400**, as detailed below. The inner tube **2400** also comprises a front opening **2410** facing the front opening **1506** of the head tube **1400** when the inner tube **2400** is mounted therein. The skilled addressee will appreciate that the inner tube **2400**, thanks to its back opening and its front opening **2410**, still enables the
20 passage of a rear brake cable **1904** (not shown) and a gear shifter cable **1906** (not shown) therethrough towards the hollow passageway **1910** of the frame **102**. Moreover, the front opening **2410** still allows mounting the fork assembly **108** to the bicycle frame **102**, as previously detailed.

In the embodiment illustrated through Figures 24 and 25, the head tube **1400** is
25 slightly different from the head tube illustrated in Figures 14 and 15 in that it comprises a lower projection **2412** extending downwardly proximate the bottom end **1504**.

Referring to Figure 20, the crown plate **2000** is similar to the crown plate **204** and further comprises a recess **2002** adapted to receive the lower projection **2412** of
30 the head tube **1400**. In the illustrated embodiment, the recess **2002** has a semi-

circular shape and is located around the steer hole **516**, between the steer hole **516** and the two oval holes **512**, **514**.

Referring now to Figure 21, similarly to the stem plate **206**, the stem plate **2100** also comprises a circular steer hole **914** for mounting the steer assembly **208** thereto. In place of the square recess **810** of the stem plate **206**, the stem plate **2100** comprises a circular recess **2102** adapted for receiving a circular head of a knob. The skilled addressee will appreciate that various other arrangements may be considered, as previously mentioned.

Figures 22 and 23 show a stem cover **2200** adapted for mounting with the stem plate **2100** illustrated in Figure 21.

Referring to Figure 27, there is shown another embodiment of a space cover. In the illustrated embodiment, the space cover **2700** comprises a hole **2702** extending through the front face **2704** and the back face **2706** of the space cover **2700** for receiving a front light system **2414** (shown in Figures 24 and 25) therein.

In the case a front light system is mounted on the front of the bicycle, a direct-current generator (not shown), also called a dynamo, may be mounted with one of the wheels of the bicycle, as well known in the art. It may be advantageous to mount the direct-current generator on the front wheel since the electric cable connecting the direct-current generator to the front light system may be concealed inside one of the blades **200 202**, through the cables holes **310**, **312**, similarly to the front brake cable **1902**. The skilled addressee will however appreciate that the dynamo may be mounted on the rear wheel of the bicycle.

The skilled addressee will also appreciate that a rear light system (not shown) may be mounted on the rear of the bicycle. In this case, the electric cable connecting the dynamo to the rear light system may be concealing inside one of the blades **200**, **202** and directed towards the back of the bicycle, similarly to the rear brake cable **1904** and as detailed above.

Referring to Figures 26 and 27, another embodiment of a rack for mounting on the front of the bicycle is illustrated. In the illustrated case, the rack **2600** is welded on the front face **2704** of the space cover **2700**. Moreover, as illustrated,

the rack is further provided with a resilient cable **2602** having a first end **2604** and a second end **2606** attached to the space cover **2700** through the holes **2708**, **2710**. This resilient cable **2602** may be particularly useful since it enables to hold correctly things disposed in the rack **2600**. The skilled addressee will however appreciate that many other arrangement may be considered.

According to another aspect, there is also provided a fork assembly kit for a bicycle having a frame. The kit comprises a first blade and a second blade, each of the first blade and the second blade comprising a lower wheel portion and an upper steer portion defining a junction therebetween. The fork assembly kit also comprises a crown plate mountable to the steer portion of the first blade and the steer portion of the second blade. The fork assembly kit also comprises a stem plate mountable to the steer portion of the first blade and to the steer portion of the second blade above the crown plate. The stem plate and the crown plate are adapted for holding the blades in a position for receiving a wheel of the bicycle between the wheel portion of the first blade and the wheel portion of the second blade and for defining a space between the steer portion of the first blade and the steer portion of the second blade when the stem plate is mounted to the steer portion of the first blade and to the steer portion of the second blade. The fork assembly kit also comprises a steer assembly for operatively connecting at least one of the crown plate and the stem plate to the frame of the bicycle.

According to another aspect, a method for routing at least one control cable of a bicycle having a frame is also disclosed. The method comprises providing a fork assembly as previously described; mounting the fork assembly to the frame of the bicycle; providing a handlebar comprising the at least one control cable, the at least one control cable being internally routed inside the handlebar towards a lower opening defined in the handlebar; and mounting the handlebar to the stem plate of the fork assembly such that the control cable of the handlebar runs through the lower opening thereof towards the space defined between the steer portion of the first blade and the steer portion of the second blade and further towards at least one of the frame and the front wheel of the bicycle.

In one embodiment, the method further comprises providing a stem cover adapted for mounting with the stem plate to secure the handlebar between the

stem cover and the stem plate; and mounting the cover plate to the stem plate for securing the handlebar therebetween.

In a further embodiment, the method further comprises providing, in at least one of the first blade and the second blade, a hollow passageway, a first upper cable
5 hole located in the steer portion and a second lower cable hole located in the wheel receiving portion for concealing one of the control cables in the hollow passageway of the corresponding blade; and running the corresponding control cable from the space defined between the steer portion of the first blade and the steer portion of the second blade towards the second lower cable hole located in
10 the wheel receiving portion.

Although the foregoing description and accompanying drawings relate to specific preferred embodiments of the present invention as presently contemplated by the inventor, it will be understood that various changes, modifications and adaptations, may be made.

AMENDED CLAIMS

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WHAT IS CLAIMED IS:

1. A fork assembly for a bicycle having a frame, said fork assembly comprising:

a first blade and a second spaced-apart blade, each of the first blade and the second blade comprising a lower wheel portion and an upper steer portion defining a junction therebetween, at least one of the first blade and the second blade comprising a hollow passageway therealong for concealing a control cable therein;

a crown plate mounted to the steer portion of the first blade and the steer portion of the second blade;

a stem plate mounted to the steer portion of the first blade and to the steer portion of the second blade above the crown plate, the stem plate and the crown plate being adapted for holding the blades in a position for receiving a wheel of the bicycle between the wheel portion of the first blade and the wheel portion of the second blade and for defining a space between the steer portion of the first blade and the steer portion of the second blade; and

a steer assembly for operatively connecting at least one of the crown plate and the stem plate to the frame of the bicycle.

2. The fork assembly as claimed in claim 1, wherein the upper steer portion of the first blade and the upper steer portion of the second blade are straight and parallel to each other, the lower wheel portion of the first blade and the lower wheel portion of the second blade bending outwardly proximal the corresponding junction for providing a wheel space adapted to receive the wheel of the bicycle therebetween.

3. The fork assembly as claimed in any one of claims 1 to 2, wherein at least one of the crown plate and the stem plate is secured to the first blade and the second blade using a welding technique.

4. The fork assembly as claimed in any one of claims 1 to 3, wherein the steer assembly comprises pivoting means for pivotally connecting at least one of the crown plate and the stem plate to the frame of the bicycle.

5. The fork assembly as claimed in any one of claims 1 to 4, wherein each of the first and second blades comprises a lower end, an opposed top end and a dropout mounted at the lower end for mounting the wheel of the bicycle thereto.
6. The fork assembly as claimed in claim 5, wherein the stem plate is mounted at the top end of the first blade and at the top end of the second blade.
7. The fork assembly as claimed in any one of claims 1 to 6, wherein the stem plate comprises a top face for mounting a handlebar of the bicycle thereto and an opposed bottom face.
8. The fork assembly as claimed in claim 7, wherein the stem plate comprises a handlebar recess defined on the top face thereof for receiving therein the handlebar.
9. The fork assembly as claimed in claim 8, wherein the stem plate comprises a first recess and a second recess extending on the bottom face thereof, each of the first recess and the second recess being adapted for receiving therein a corresponding top end of one of the corresponding blades.
10. The fork assembly as claimed in any one of claims 8 to 9, wherein the stem plate further comprises a hole extending from the top face to the bottom face, the hole being adapted for providing a passageway for at least one control cable therethrough.
11. The fork assembly as claimed in any one of claims 8 to 10, further comprising a stem cover adapted for mounting with the stem plate to secure the handlebar received in the handlebar recess of the stem plate between the stem cover and the stem plate.
12. The fork assembly as claimed in claim 10, wherein said at least one control cable is selected from a group consisting of a brake cable and a gear-shifter cable, the at least one control cable extending inside the handlebar and further extending through the hole of the stem plate towards the space defined between the steer portion of the first blade and the steer portion of the second blade when the handlebar is mounted to the stem plate.

13. The fork assembly as claimed in any one of claims 1 to 12, wherein the crown plate is mounted at the junctions of the lower wheel portion and the upper steer portion of the first blade and the second blade.

14. The fork assembly as claimed in any one of claims 1 to 13, wherein the frame of the bicycle comprises a head tube for mounting the fork assembly thereto.

15. The fork assembly as claimed in claim 14, wherein the frame comprises a hollow passageway therein, the head tube comprising a front opening and a back opening adjacent to the passageway of the frame, the front opening and the back opening being adapted for providing a communication channel between the space defined between the steer portions of the first and second blades and the passageway of the frame.

16. The fork assembly as claimed in claim 15, wherein the head tube comprises at least one of a top open end and an opposed bottom open end, the steer assembly comprising at least one of an upper steer set and a lower steer set, each of said steer sets comprising a bearing mounted in the head tube at a corresponding end thereof, a knob lying against and extending through a corresponding one of the crown plate and the stem plate and through the corresponding bearing, and a fastener for securing the knob to the head tube.

17. The fork assembly as claimed in any one of claims 1 to 16, wherein at least one of the crown plate and the stem plate has a diamond-shape.

18. The fork assembly as claimed in any one of claims 1 to 17, wherein the crown plate comprises a front end adapted for mounting a bicycle locking assembly to secure the bicycle to a fixed structure.

19. The fork assembly as claimed in any one of claims 1 to 18, wherein the crown plate comprises a pair of holes extending therethrough, each of the holes being configured for receiving a respective one of the first blade and the second blade therethrough.

20. The fork assembly as claimed in any one of claims 1 to 19, wherein said at least one of the first blade and the second blade comprising said hollow passageway therealong further comprises a first upper cable hole located in the steer portion and a second lower cable hole located in the wheel receiving portion.

21. The fork assembly as claimed in any one of claims 1 to 20, further comprising a space cover mounted against the steer portion of the first blade and the steer portion of the second blade between the stem plate and the crown plate for closing the space between the steer portion of the first blade and the steer portion of the second blade.

22. The fork assembly as claimed in claim 21, wherein the space cover is U-shaped and comprises a first leg and an opposed second leg, each of the first leg and the second leg overlapping a corresponding steer portion.

23. The fork assembly as claimed in any one of claims 21 to 22, wherein the space cover comprises at least one mounting bracket for mounting a rack thereto.

24. A bicycle comprising:

- a frame;

- a fork assembly comprising:

- a first blade and a second spaced-apart blade, each of the first blade and the second blade comprising a lower wheel portion and an upper steer portion defining a junction therebetween, at least one of the first blade and the second blade comprising a hollow passageway therealong for concealing a control cable therein;

- a crown plate mounted to the steer portion of the first blade and the steer portion of the second blade;

- a stem plate mounted to the steer portion of the first blade and to the steer portion of the second blade above the crown plate, the stem plate and the crown plate being adapted for holding the blades in a position for receiving a wheel of the bicycle between the wheel portion of the first blade and the wheel portion of the second blade and for defining a

space between the steer portion of the first blade and the steer portion of the second blade; and

a steer assembly for operatively connecting at least one of the crown plate and the stem plate to the frame of the bicycle; and
a handlebar mounted to the stem plate.

25. A fork assembly kit for a bicycle having a frame, said kit comprising:

a first blade and a second blade, each of the first blade and the second blade comprising a lower wheel portion and an upper steer portion defining a junction therebetween, at least one of the first blade and the second blade comprising a hollow passageway therealong for concealing a control cable therein;

a crown plate mountable to the steer portion of the first blade and the steer portion of the second blade;

a stem plate mountable to the steer portion of the first blade and to the steer portion of the second blade above the crown plate, the stem plate and the crown plate being adapted for holding the blades in a position for receiving a wheel of the bicycle between the wheel portion of the first blade and the wheel portion of the second blade and for defining a space between the steer portion of the first blade and the steer portion of the second blade when the stem plate is mounted to the steer portion of the first blade and to the steer portion of the second blade; and

a steer assembly for operatively connecting at least one of the crown plate and the stem plate to the frame of the bicycle.

26. A method for routing at least one control cable of a bicycle having a frame, the method comprising:

providing a fork assembly, said fork assembly comprising:

a first blade and a second spaced-apart blade, each of the first blade and the second blade comprising a lower wheel portion and an upper steer portion defining a junction therebetween, at least one of the first blade and the second blade comprising a hollow passageway therealong for concealing a control cable therein;

a crown plate mounted to the steer portion of the first blade and the steer portion of the second blade;

a stem plate mounted to the steer portion of the first blade and to the steer portion of the second blade above the crown plate, the stem plate and the crown plate being adapted for holding the blades in a position for receiving a front wheel of the bicycle between the wheel portion of the first blade and the wheel portion of the second blade and for defining a space between the steer portion of the first blade and the steer portion of the second blade, the stem plate of the fork assembly comprising a hole extending through a top face and a bottom face thereof; and

a steer assembly for operatively connecting at least one of the crown plate and the stem plate to the frame of the bicycle;

mounting the fork assembly to the frame of the bicycle;

providing a handlebar comprising said at least one control cable, said at least one control cable being internally routed inside the handlebar towards a lower opening defined in the handlebar; and

mounting the handlebar to the stem plate of the fork assembly such that the control cable of the handlebar runs through the lower opening thereof towards the space defined between the steer portion of the first blade and the steer portion of the second blade and further towards at least one of the frame and the front wheel of the bicycle.

27. The method for routing at least one control cable of a bicycle as claimed in claim 26, further comprising:

providing a stem cover adapted for mounting with the stem plate to secure the handlebar between the stem cover and the stem plate; and

mounting the cover plate to the stem plate for securing the handlebar therebetween.

28. The method for routing at least one control cable of a bicycle as claimed in any one of claims 26 to 27, further comprising:

providing, in said at least one of the first blade and the second blade comprising said hollow passageway therealong, a first upper cable hole located

in the steer portion and a second lower cable hole located in the wheel receiving portion; and

running the corresponding control cable from the space defined between the steer portion of the first blade and the steer portion of the second blade towards the second lower cable hole located in the wheel receiving portion.

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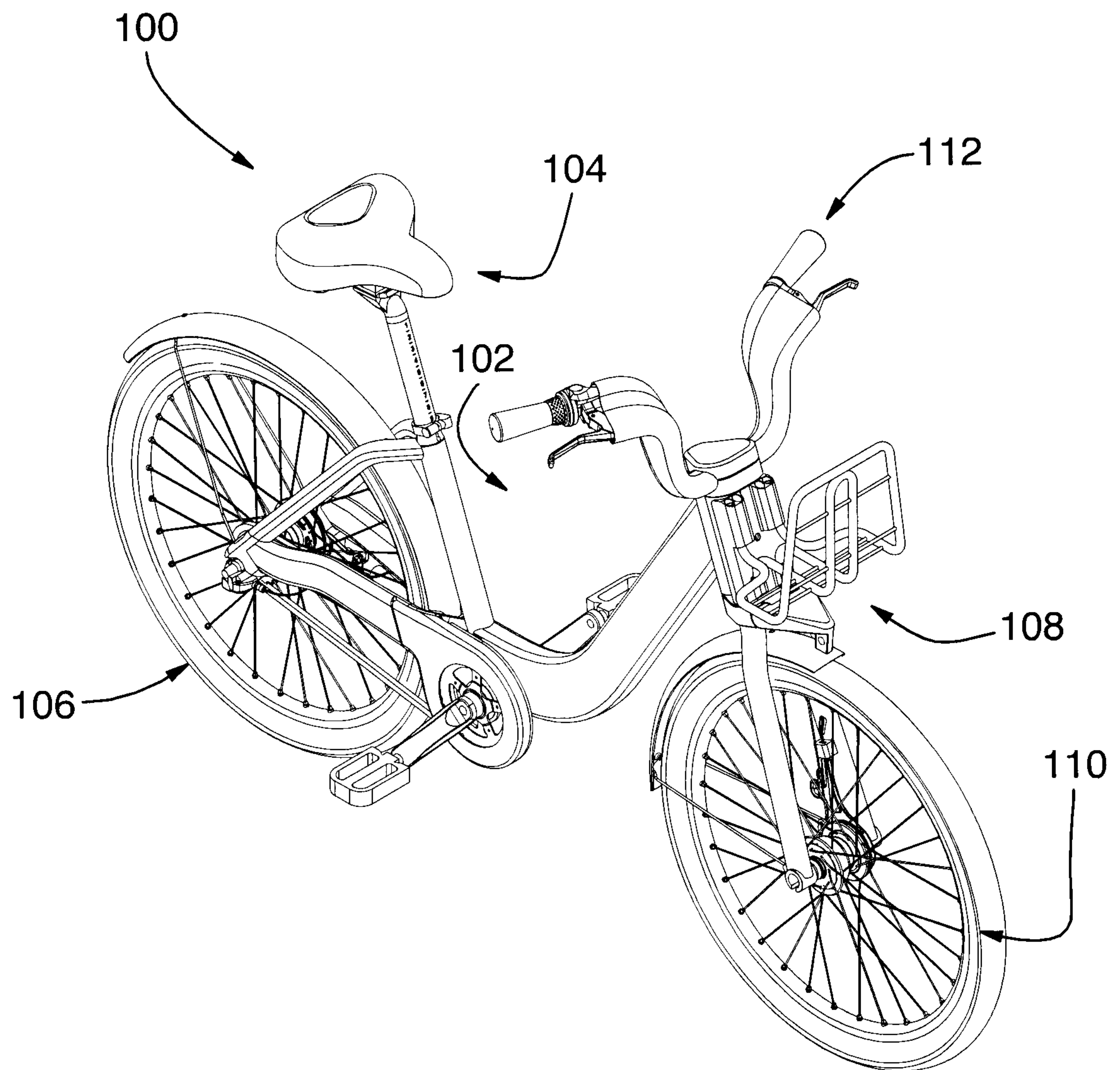


FIG.1

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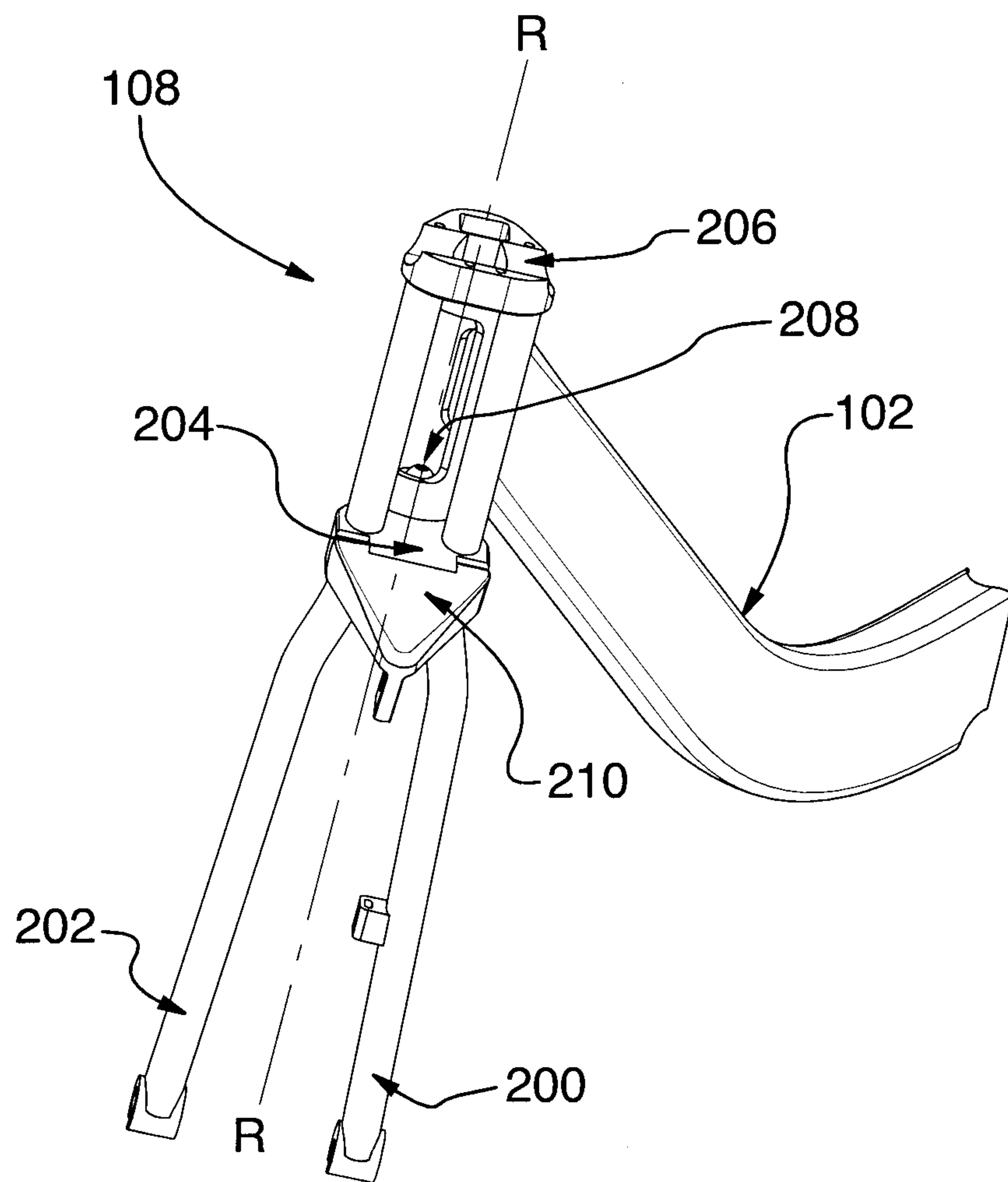


FIG.2

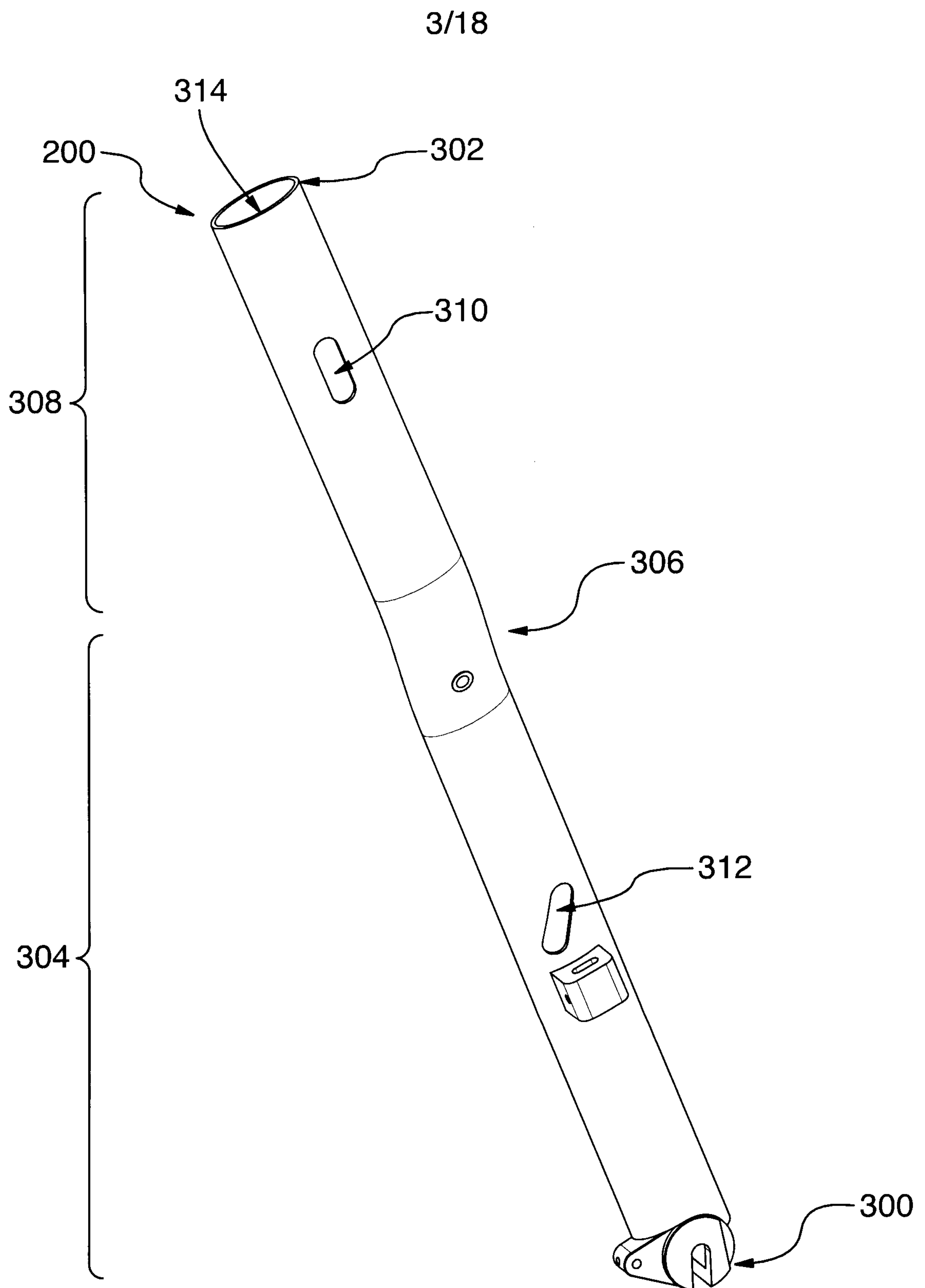


FIG.3

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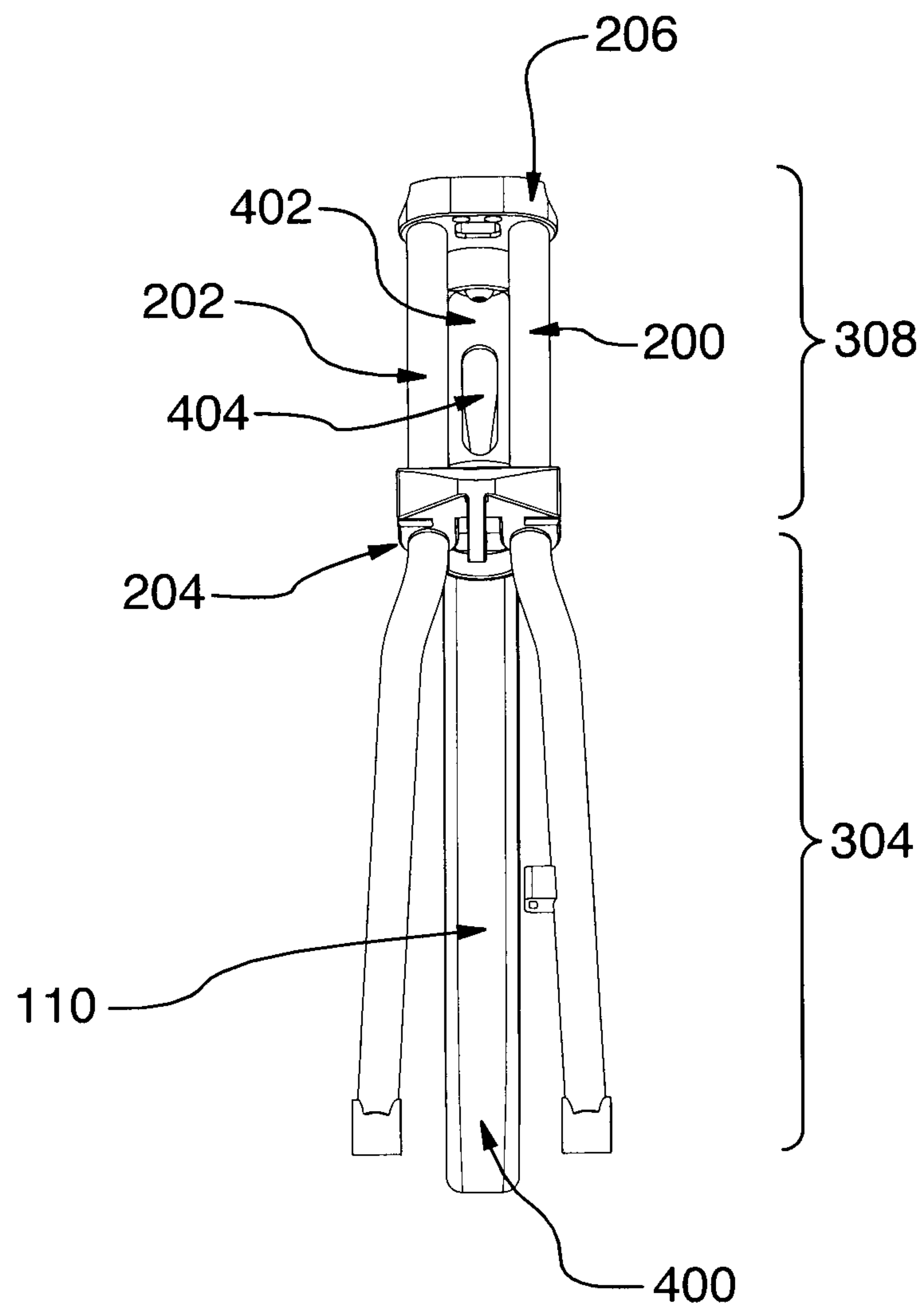


FIG.4

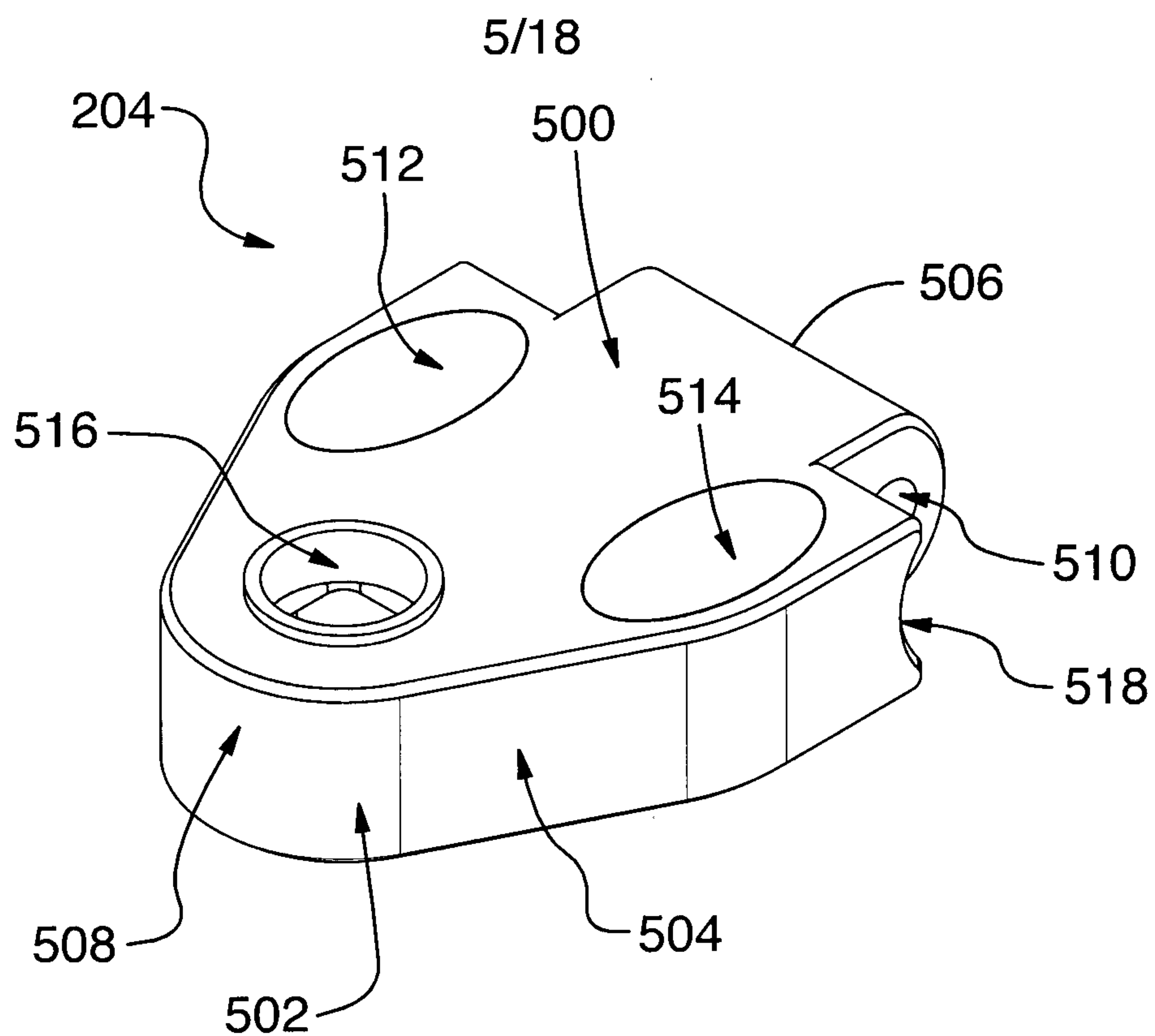


FIG. 5

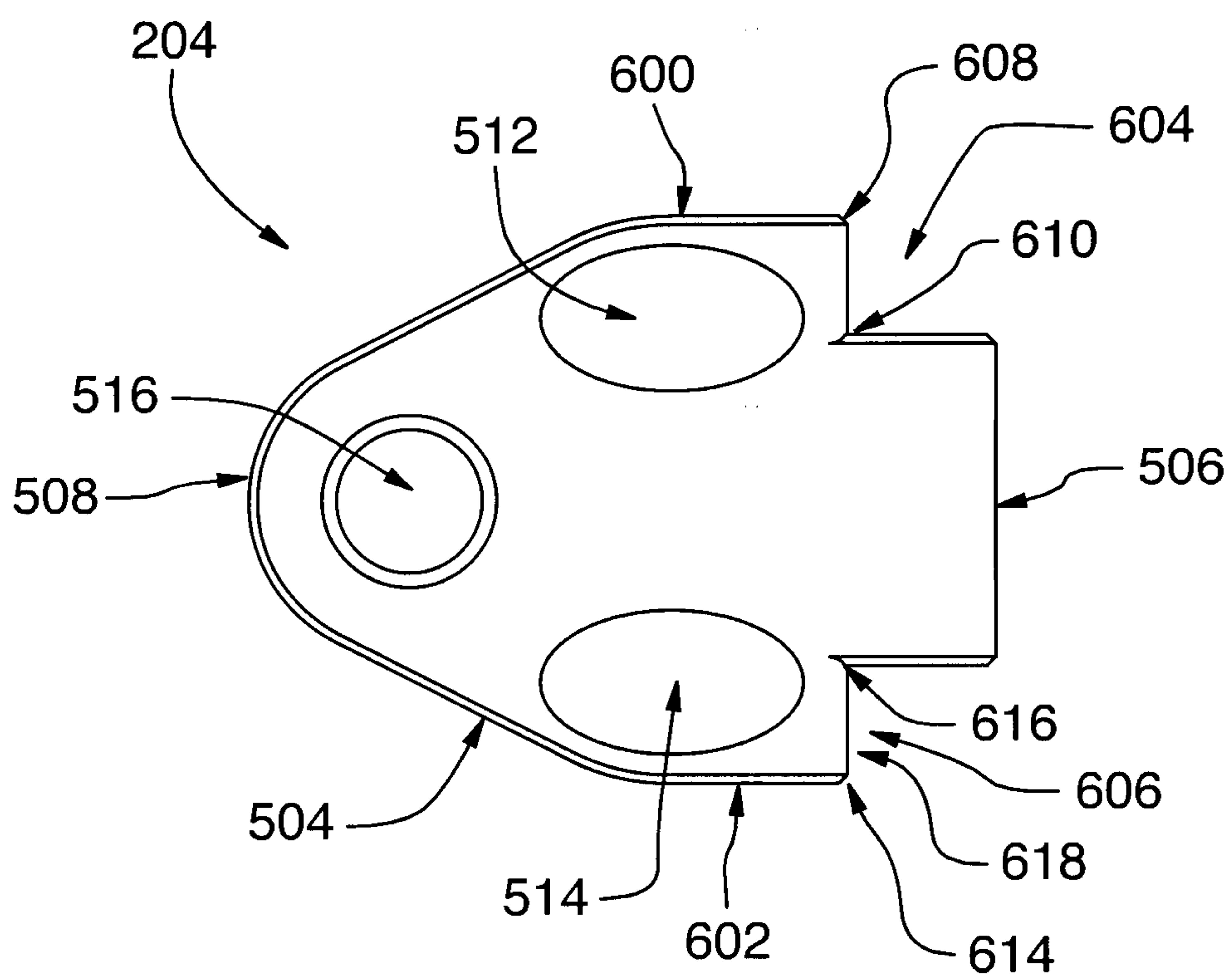


FIG. 6

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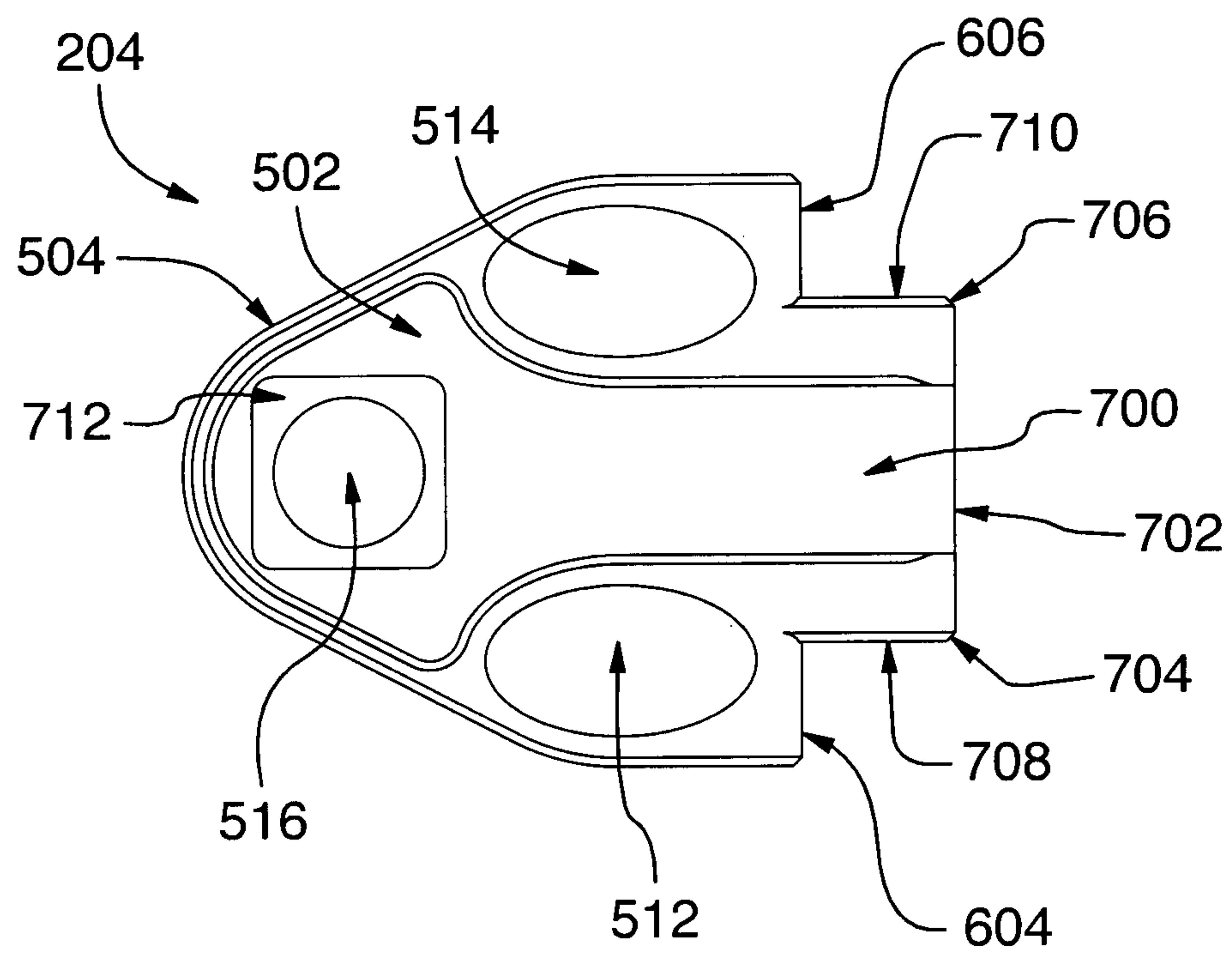


FIG. 7

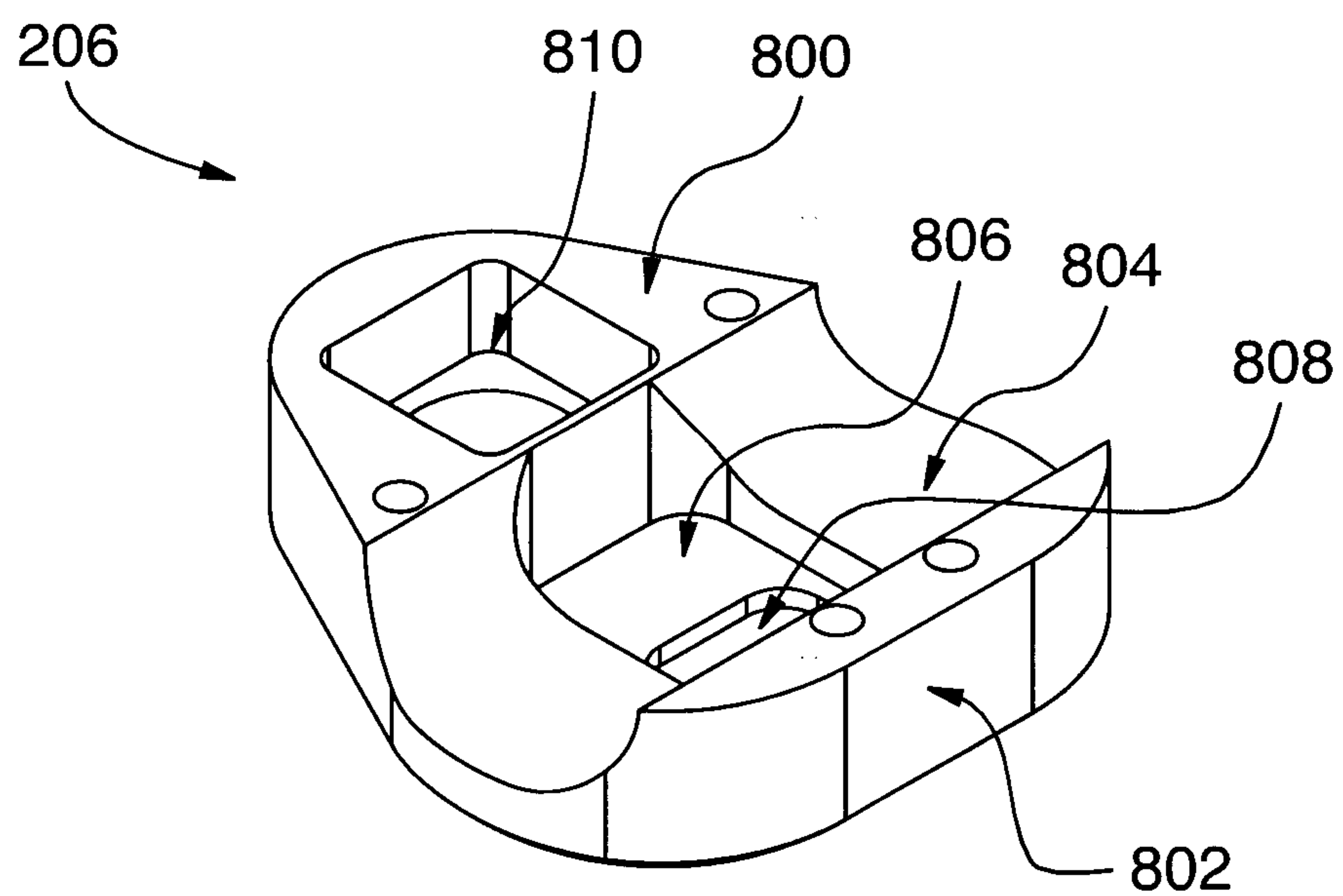


FIG. 8

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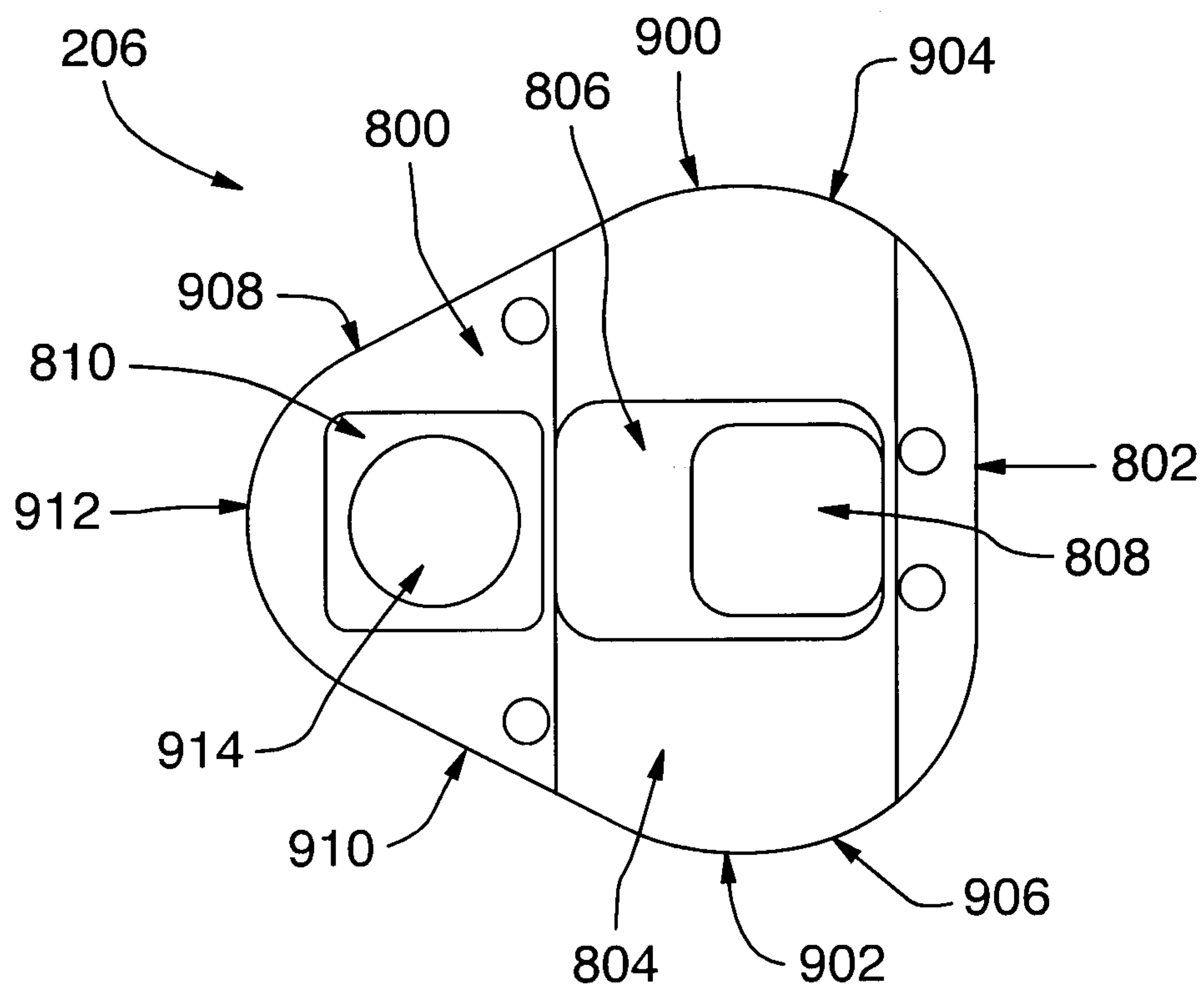


FIG. 9

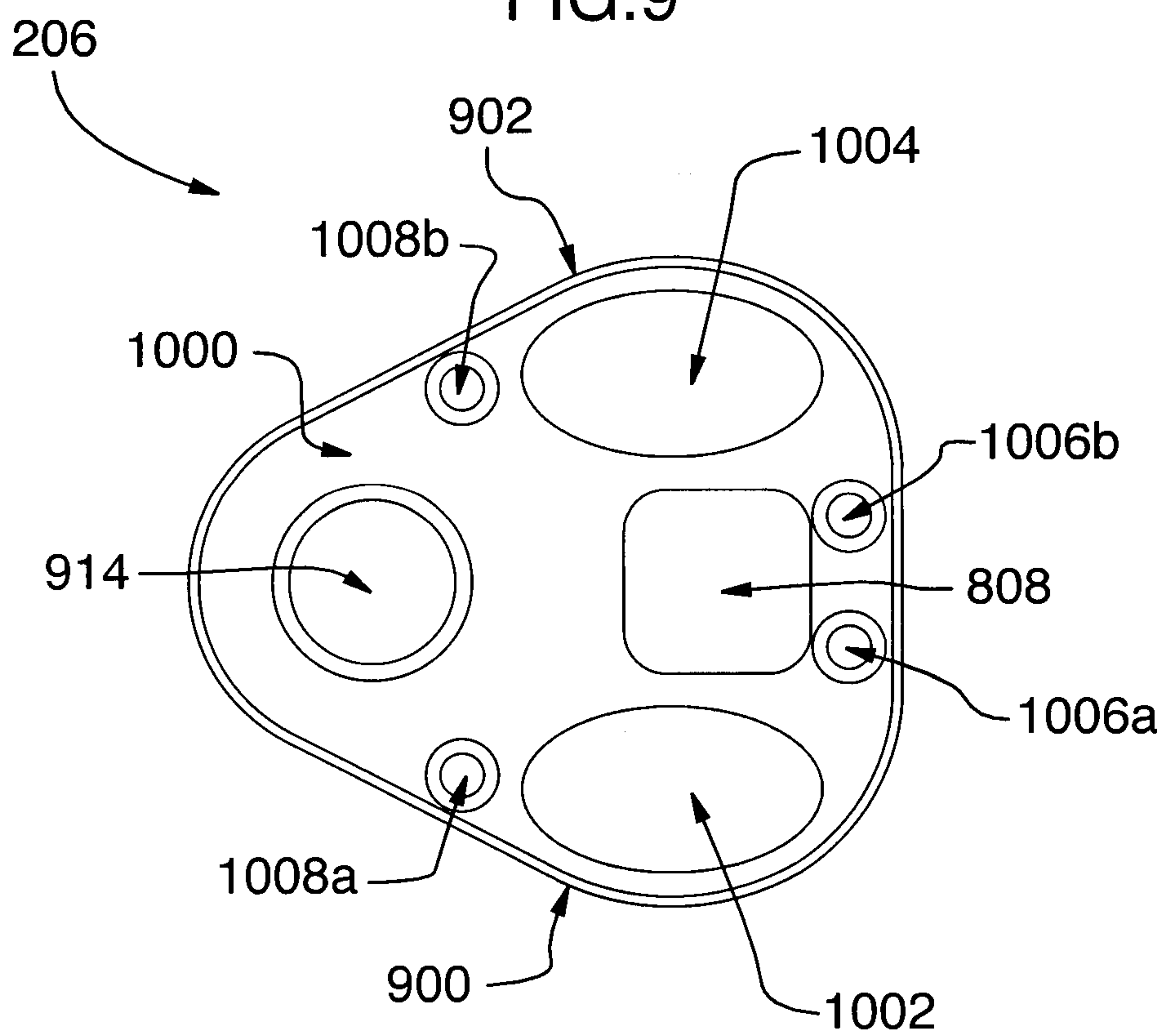
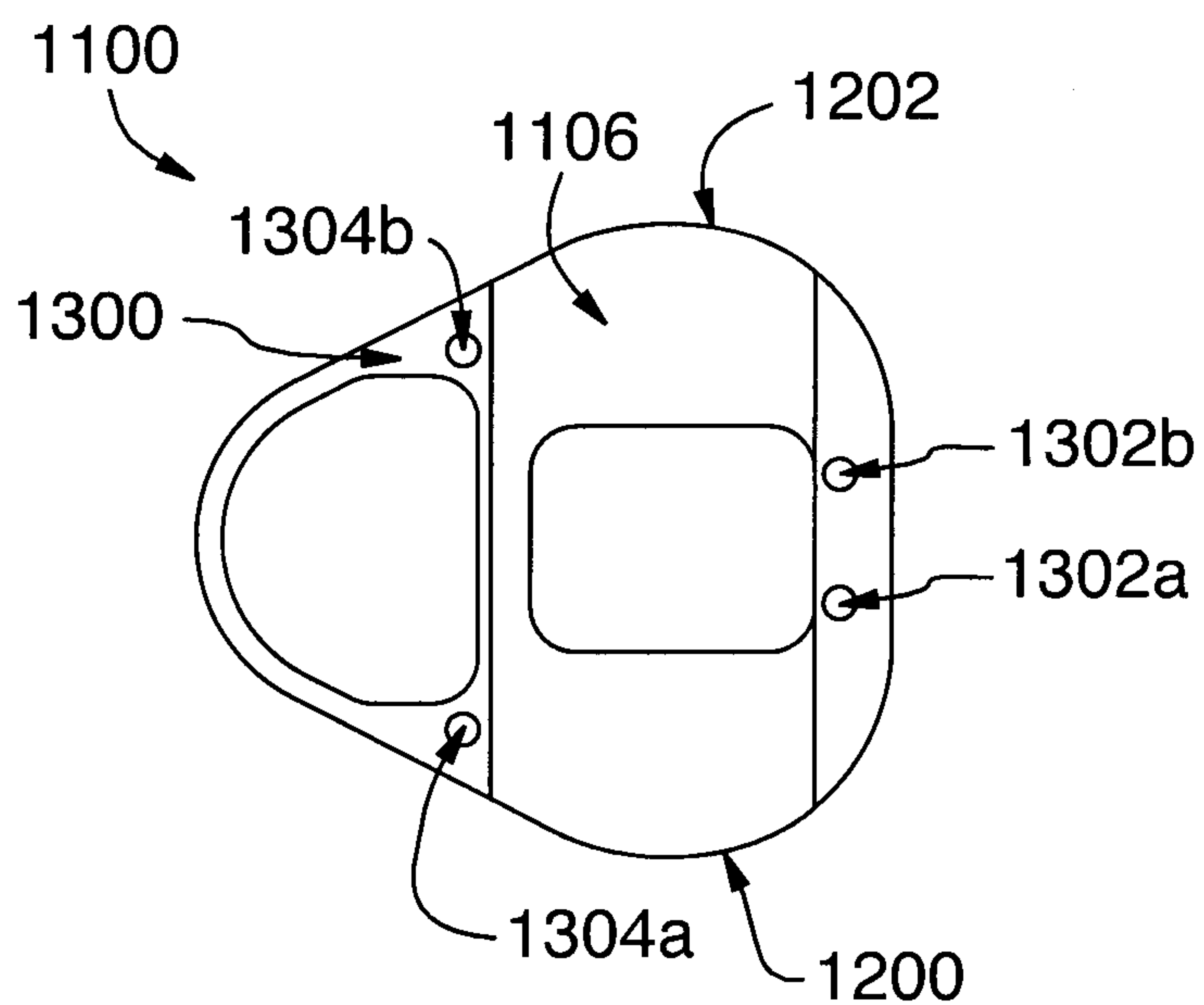
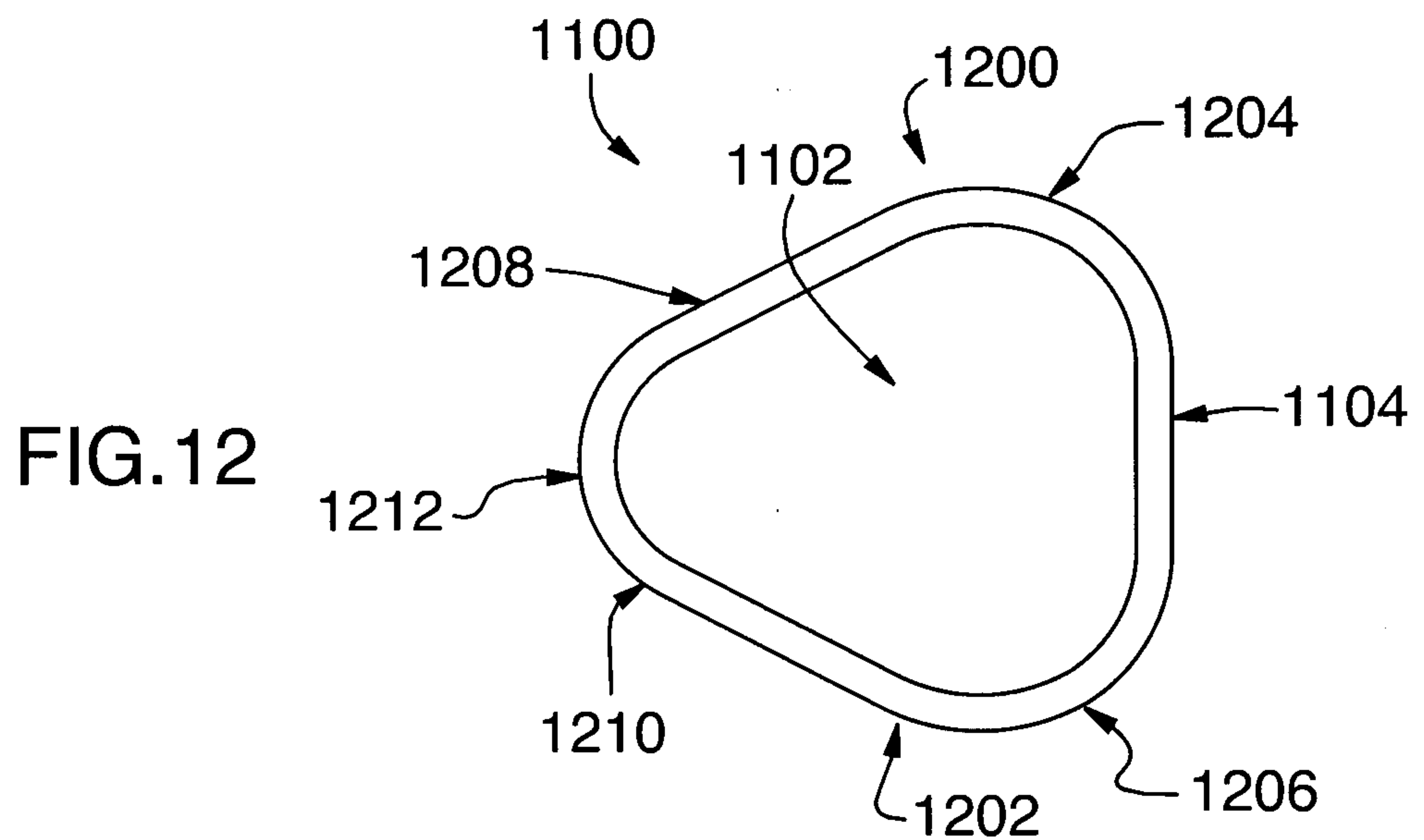
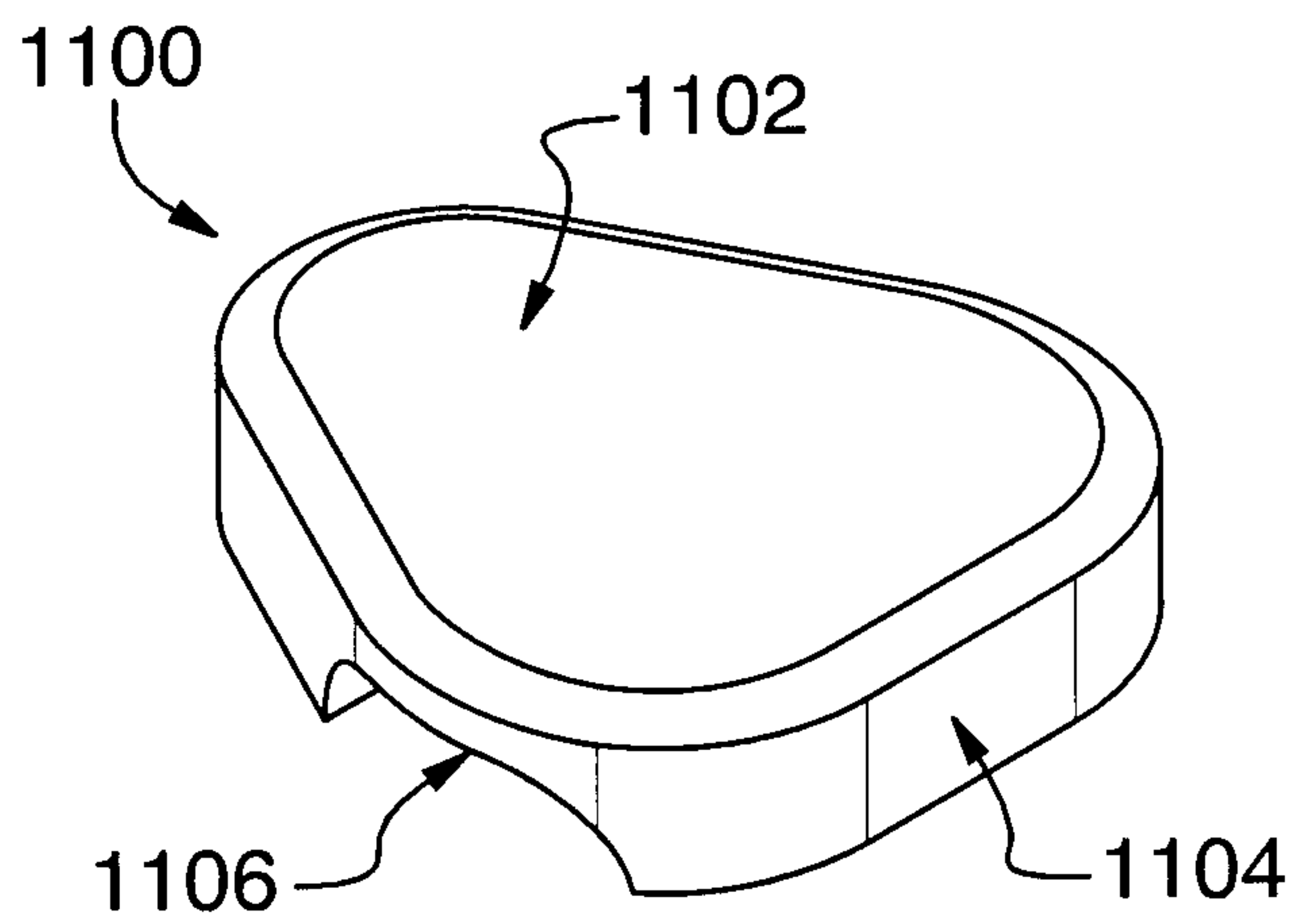


FIG. 10

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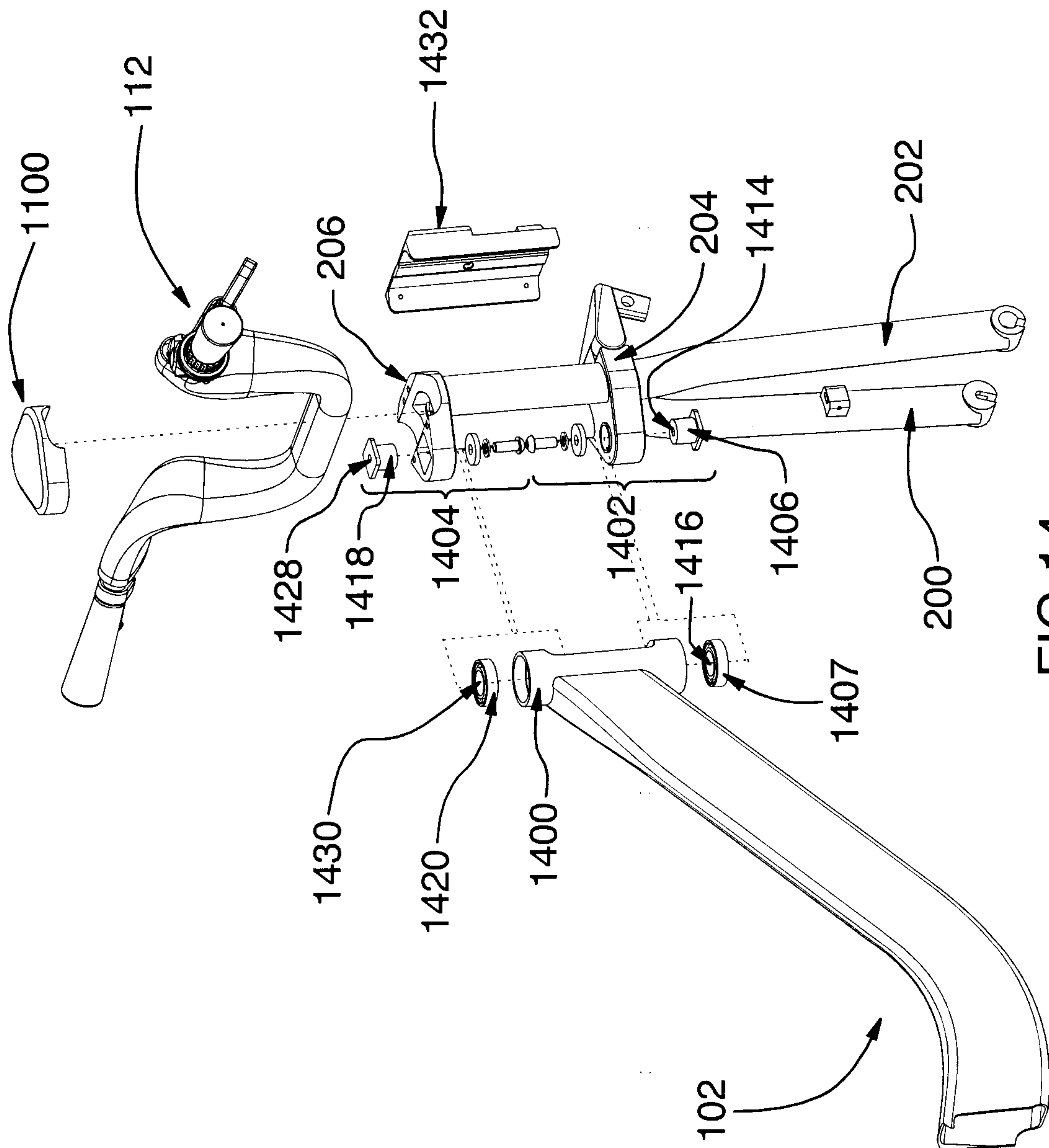
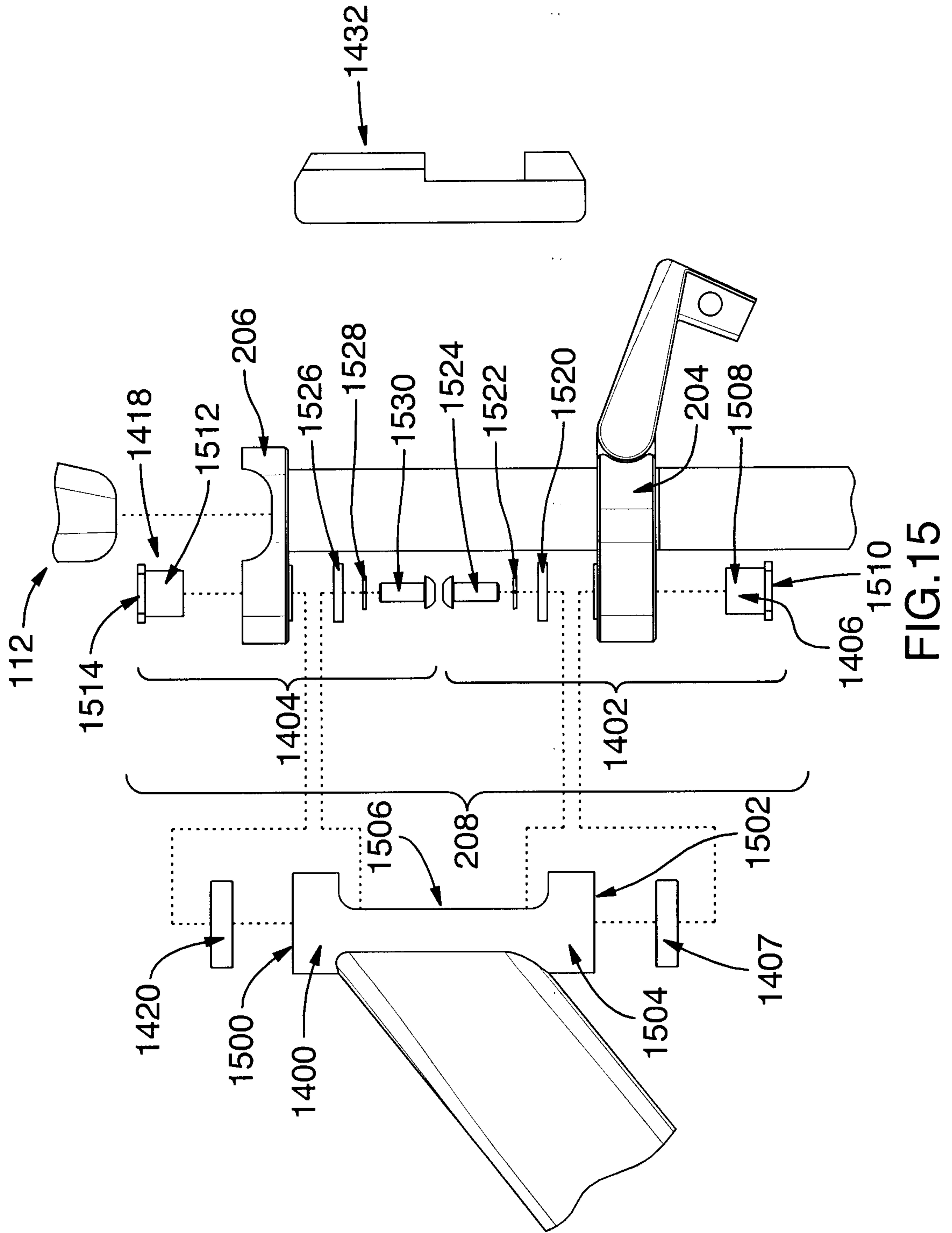


FIG. 14

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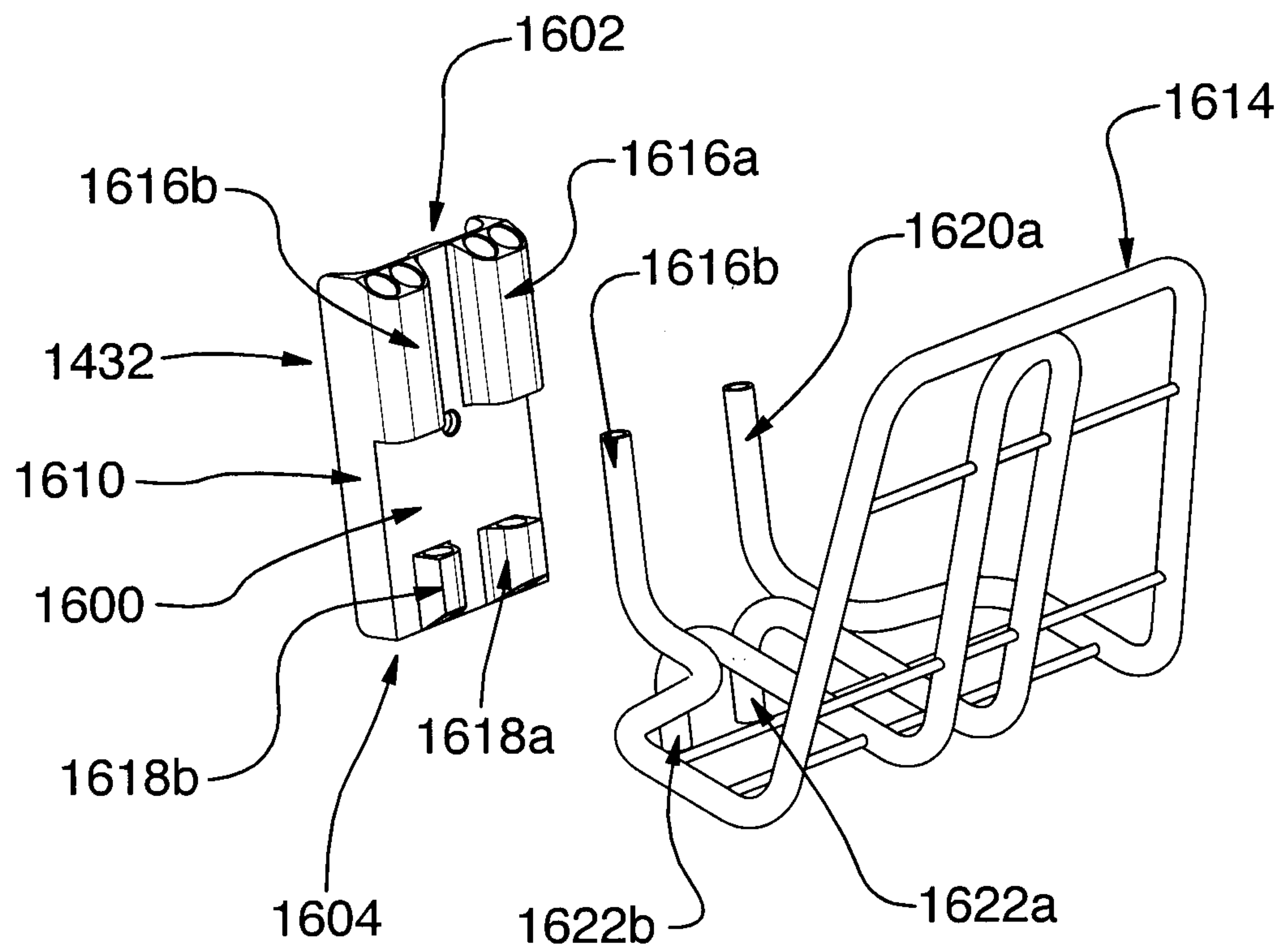


FIG. 16

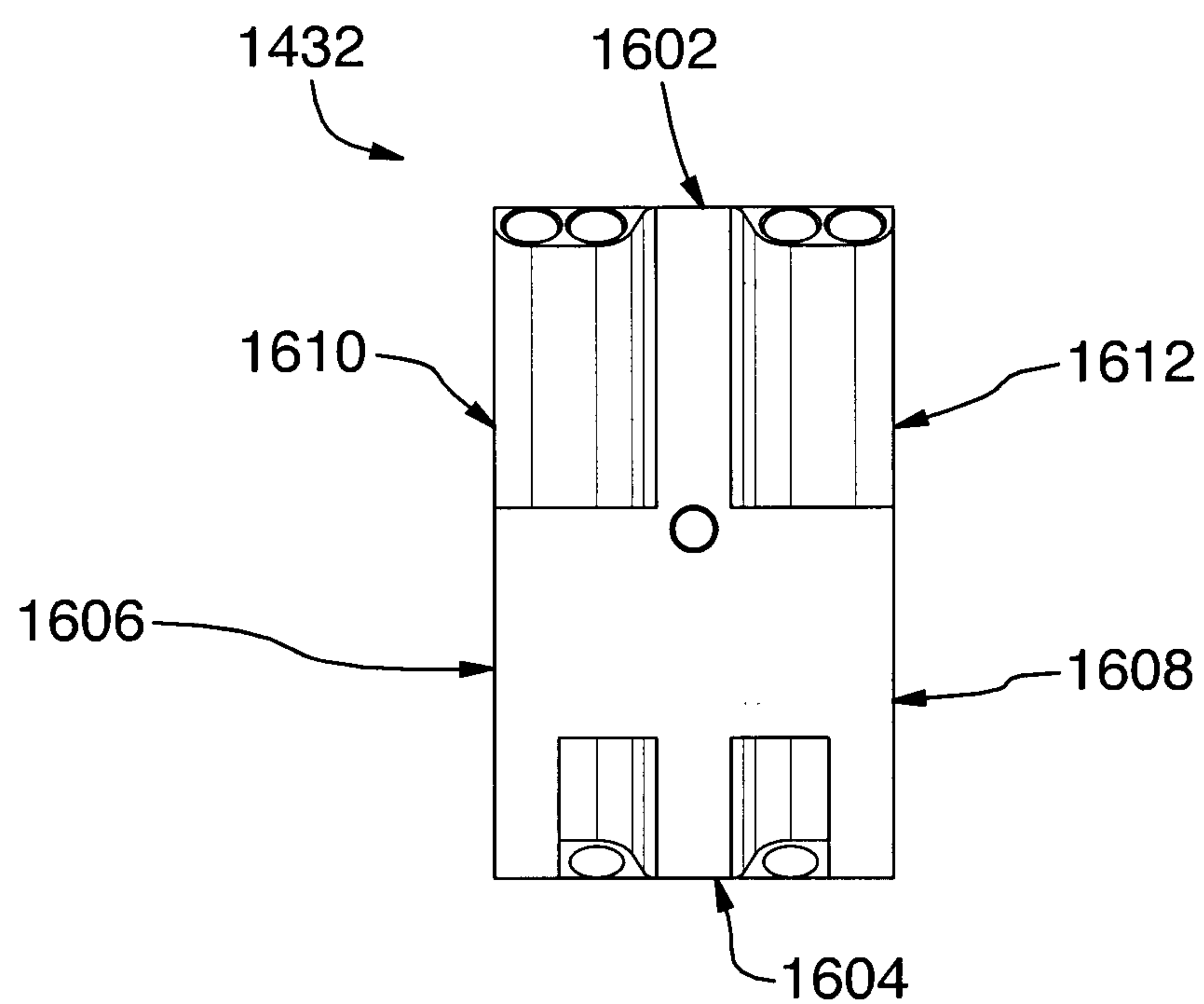


FIG. 17

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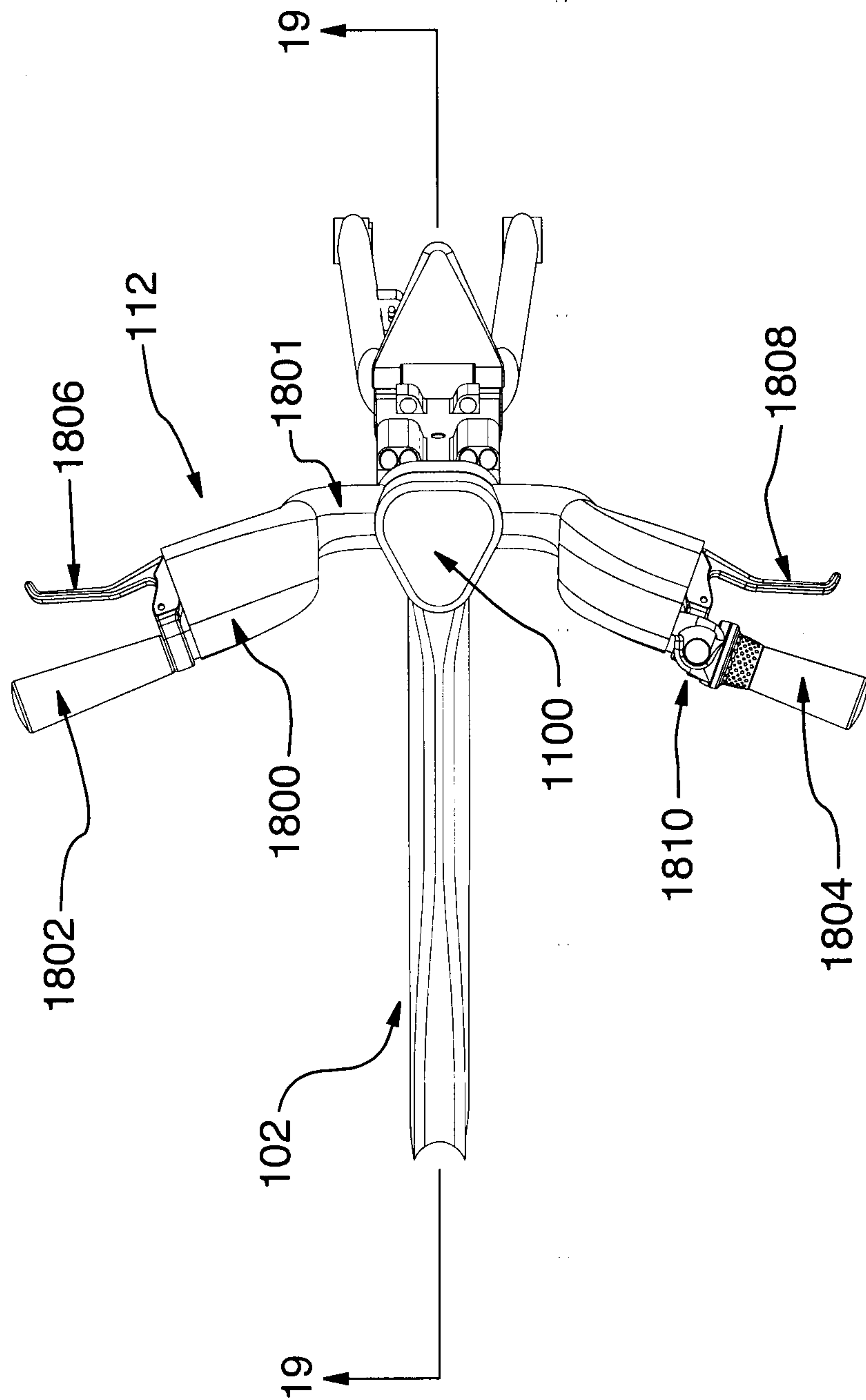


FIG. 18

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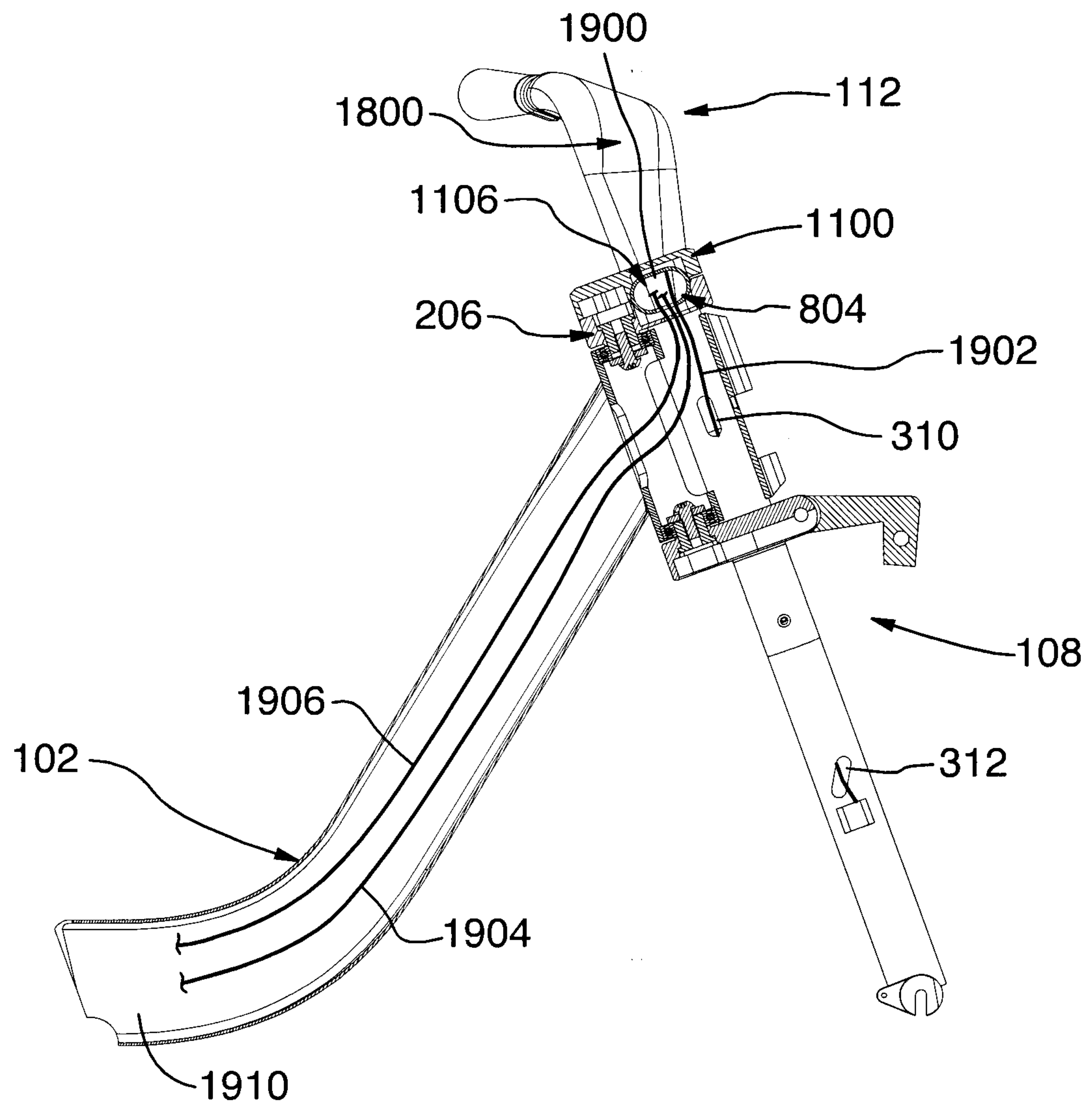


FIG. 19

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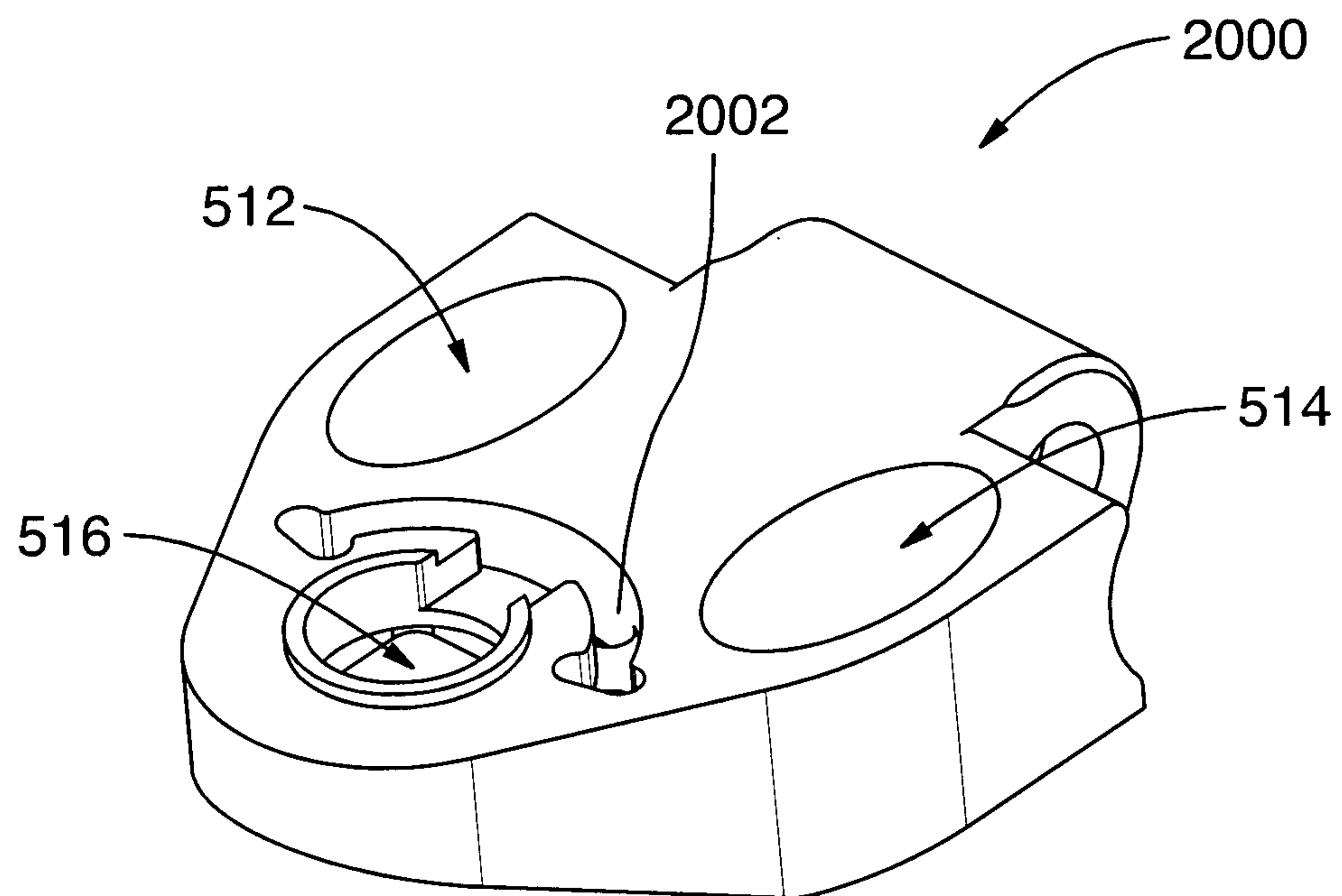


FIG. 20

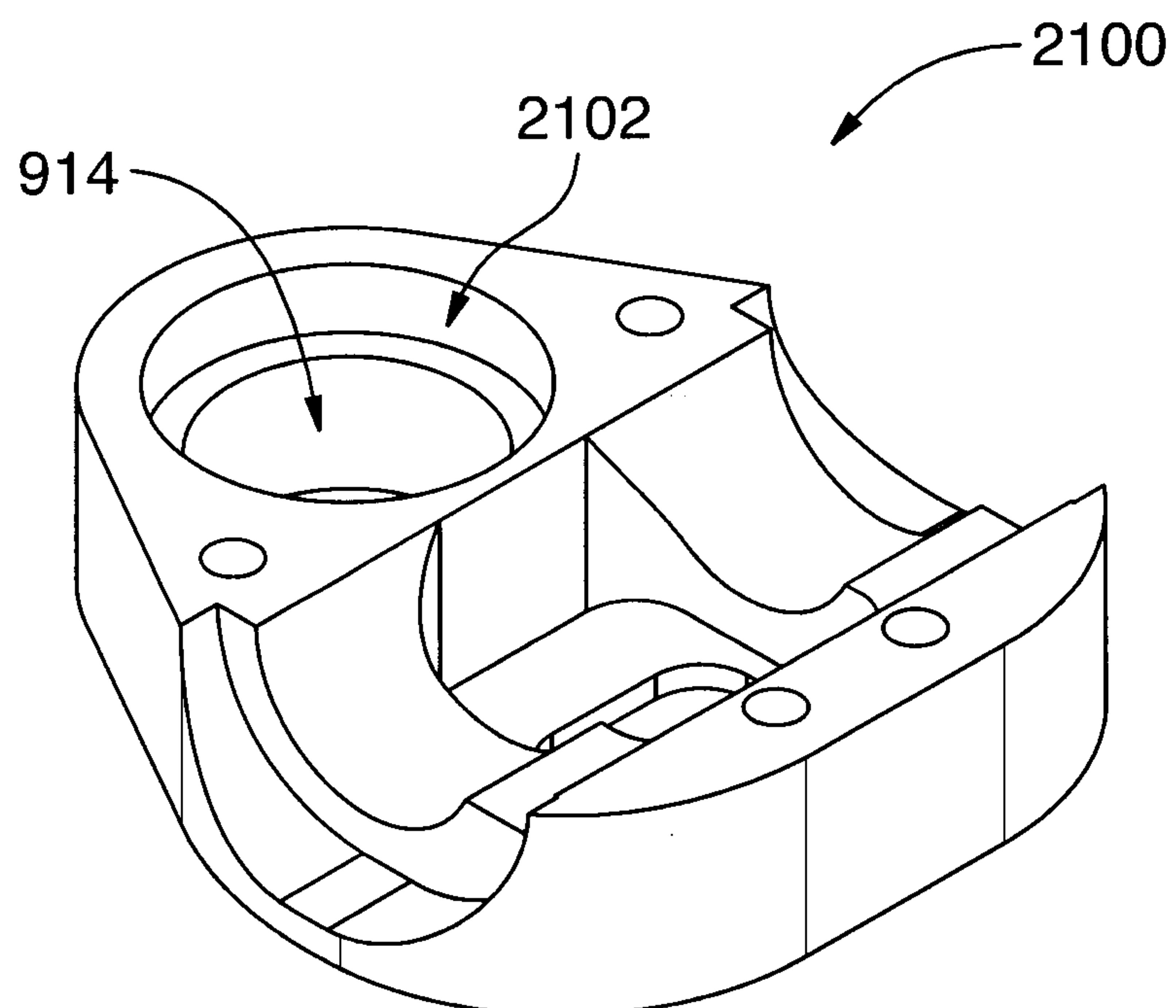


FIG. 21

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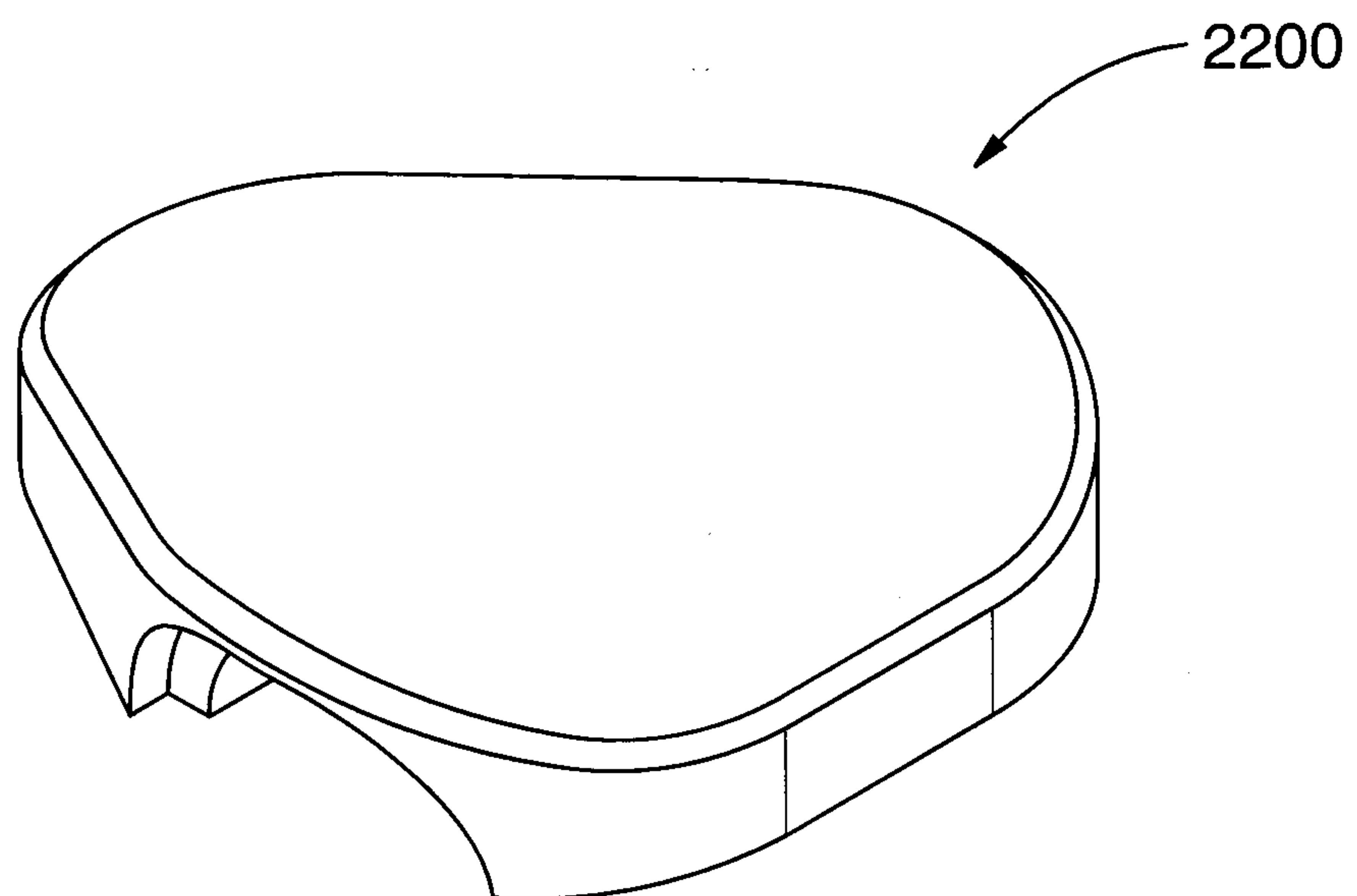


FIG. 22

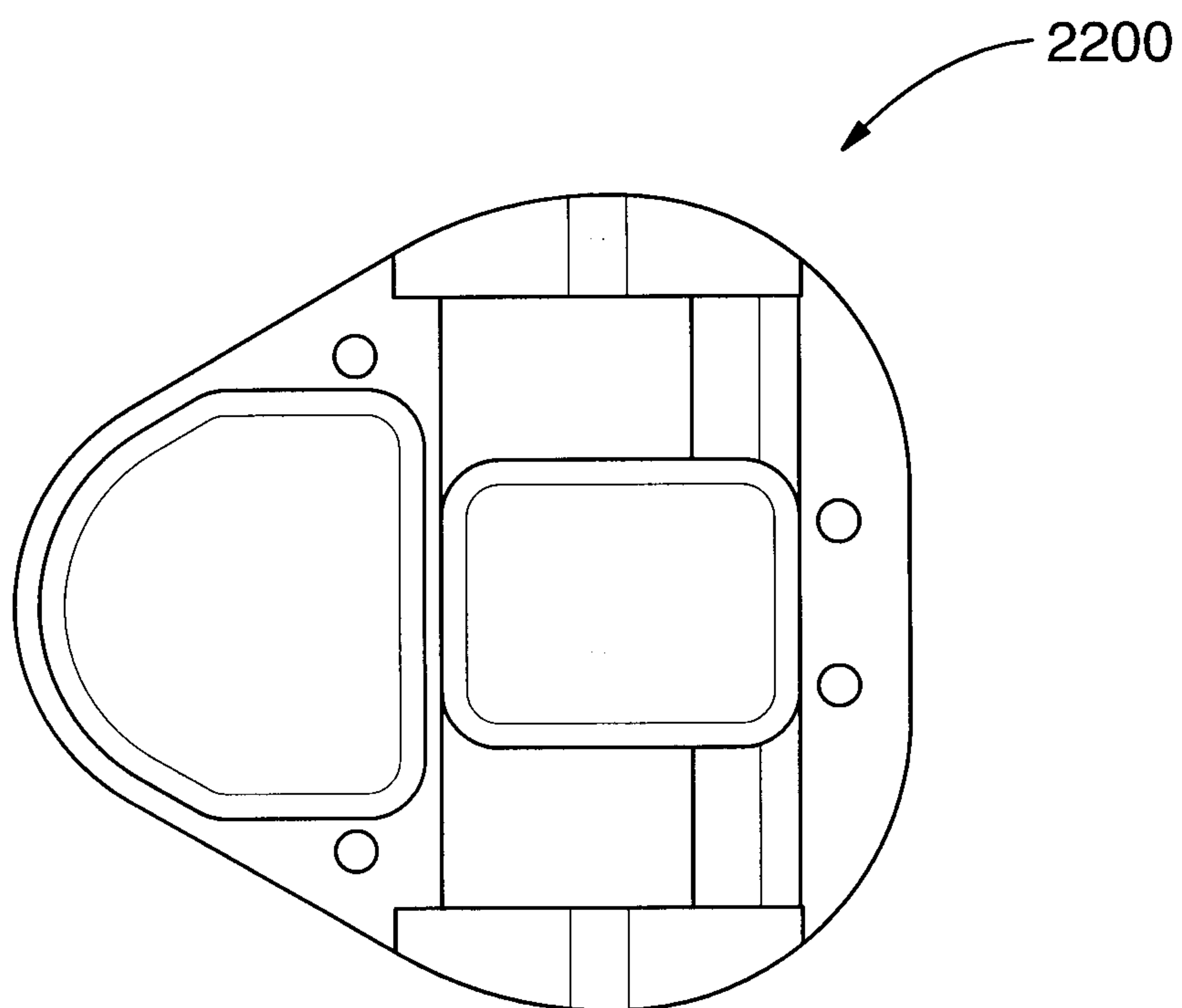


FIG. 23

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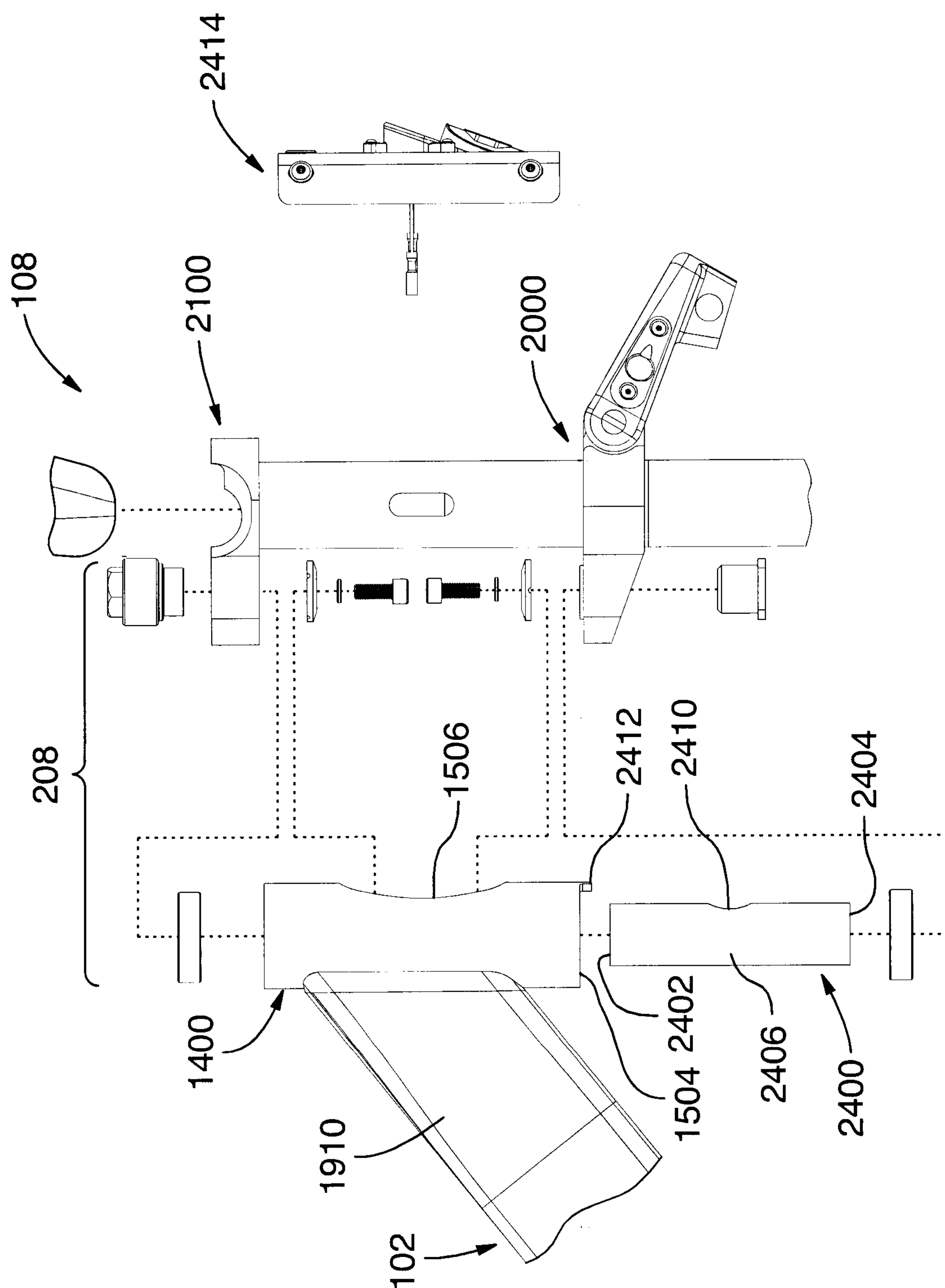


FIG. 24

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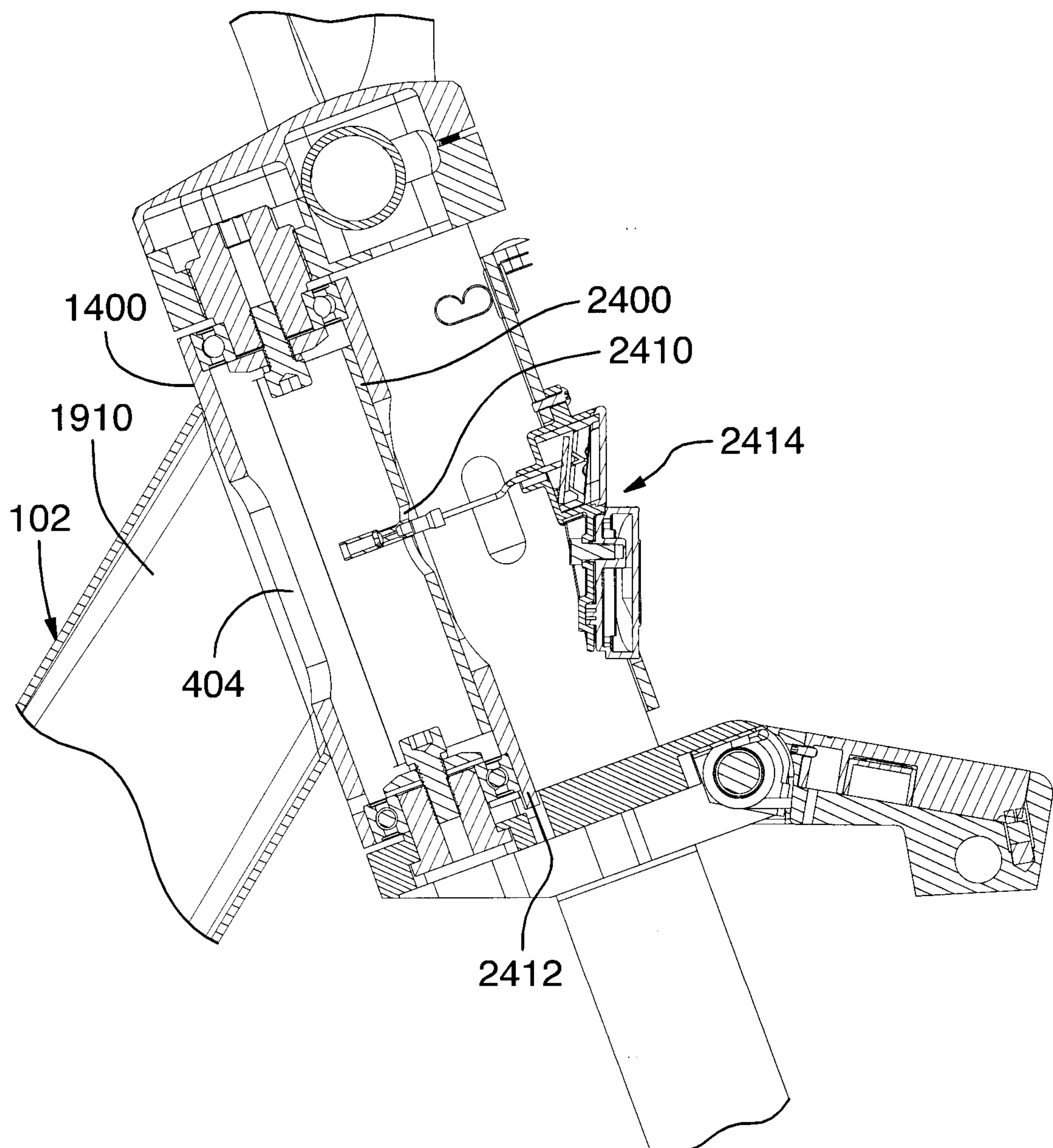


FIG.25

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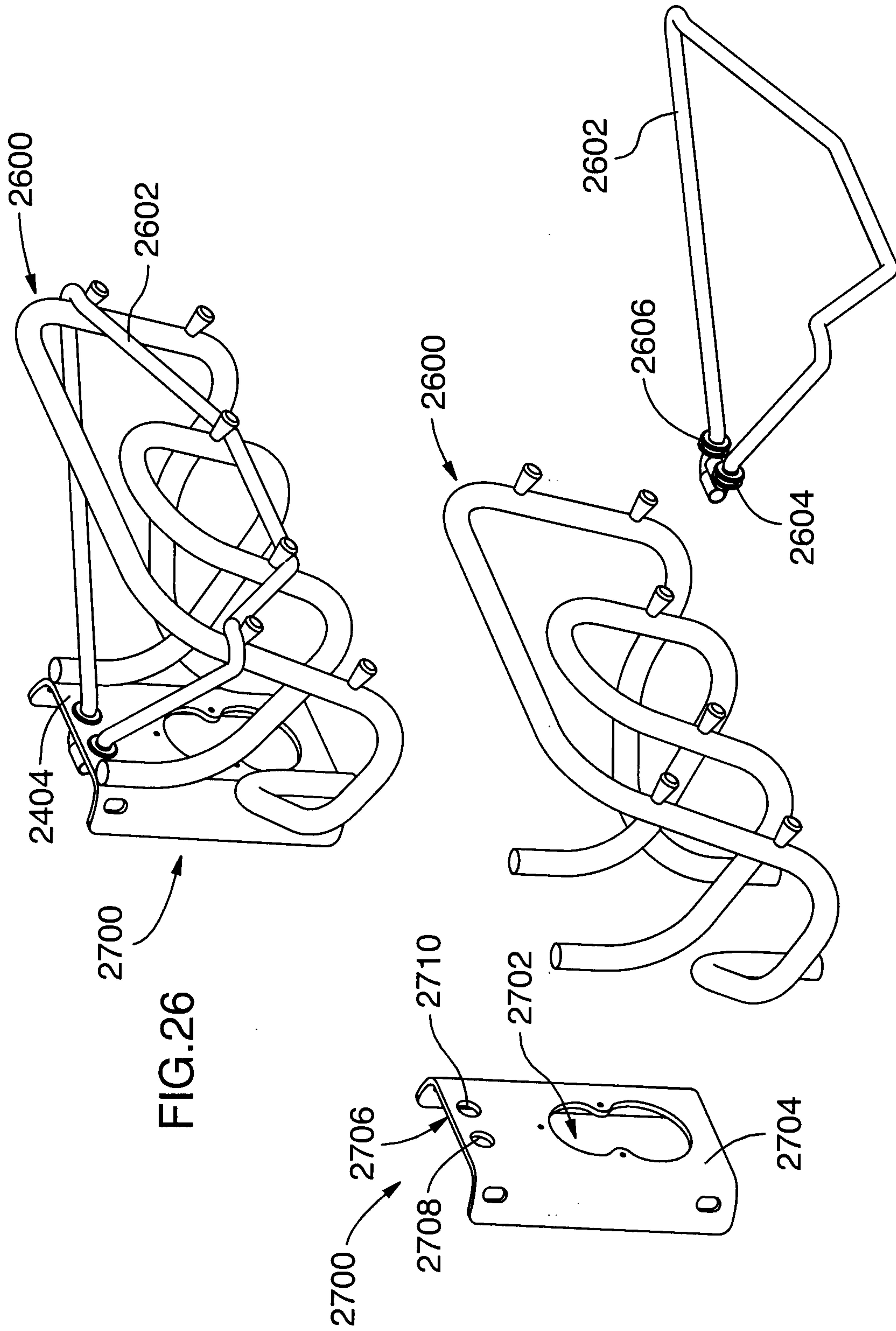


FIG. 27

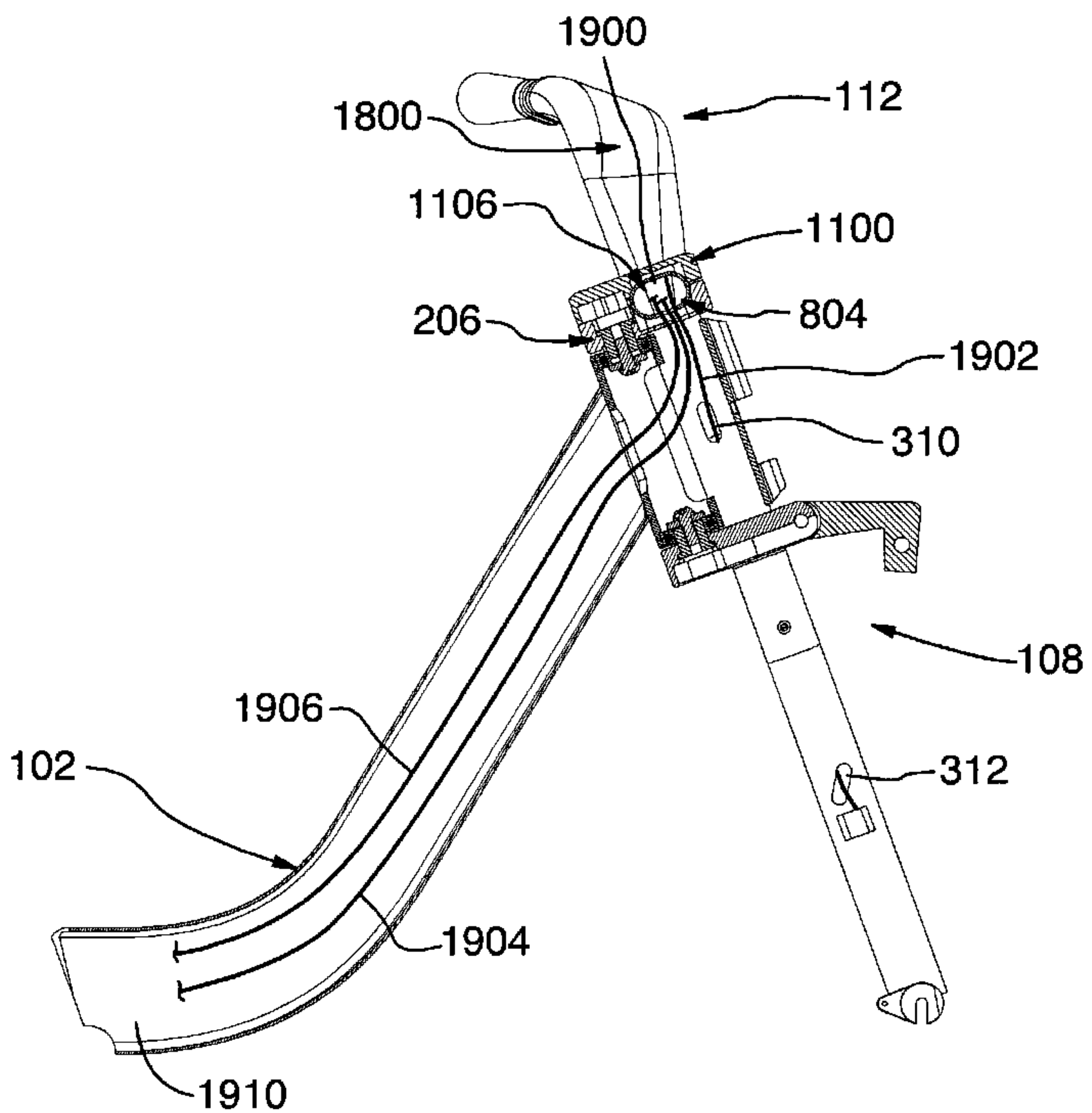


FIG.19