

(19) **DANMARK**



Patent- og  
Varemærkestyrelsen

(12) Oversættelse af  
europæisk patentskrift

(10) **DK/EP 3592637 T3**

- 
- (51) Int.Cl.: **B 62 K 21/04 (2006.01)** **B 62 J 45/00 (2020.01)** **B 62 J 45/41 (2020.01)**  
**B 62 J 45/42 (2020.01)** **B 62 J 11/00 (2020.01)** **B 62 J 45/10 (2020.01)**
- (45) Oversættelsen bekendtgjort den: **2021-03-01**
- (80) Dato for Den Europæiske Patentmyndigheds  
bekendtgørelse om meddelelse af patentet: **2020-12-02**
- (86) Europæisk ansøgning nr.: **18709709.2**
- (86) Europæisk indleveringsdag: **2018-02-27**
- (87) Den europæiske ansøgnings publiceringsdag: **2020-01-15**
- (86) International ansøgning nr.: **FR2018050462**
- (87) Internationalt publikationsnr.: **WO2018162820**
- (30) Prioritet: **2017-03-06 FR 1751802**
- (84) Designerede stater: **AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV  
MC MK MT NL NO PL PT RO RS SE SI SK SM TR**
- (73) Patenthaver: **Irider, 70 rue des Marais, 72000 Le Mans, Frankrig**
- (72) Opfinder: **SIMON, Jean-François, 50 bis Route de Ruaudin, 72230 Arnage, Frankrig**
- (74) Fuldmægtig i Danmark: **Zacco Denmark A/S, Arne Jacobsens Allé 15, 2300 København S, Danmark**
- (54) Benævnelse: **Motoriseret køretøj med en tilsluttet gaffelkrone**
- (56) Fremdragne publikationer:  
**EP-A1- 1 439 101**  
**CN-A- 101 200 212**  
**US-A1- 2008 246 250**  
**US-B1- 6 976 691**



## Description

The field of the invention is that of the design and manufacture of motorised vehicle equipment. More particularly, the invention relates to the integration of an  
5 electronic system on a motorised vehicle comprising a fork crown.

A motorised vehicle comprising a fork crown corresponds to a motorcycle (motorbike or scooter), a personal watercraft or also a snowmobile.

A motorcycle is a motorised vehicle, without bodywork, with two wheels. According to a conventional design, a motorcycle comprises a frame on which are  
10 coupled at least one front wheel and at least one rear wheel by means of suspension and/or steering systems.

At the front portion of the motorcycle, the front wheel is coupled to a fork connected to the frame of the motorcycle by a steering shaft and a steering column.

The front fork of the motorcycle comprises two fork tubes maintained in  
15 position against one another by means of two fork crowns, the fork crowns being secured to the steering shaft positioned centrally on the fork crowns. This steering shaft is intended to be able to rotate inside the steering column which is secured to the frame of the motorcycle. Document US 6 976 691 B1 discloses a motorised vehicle according to the preamble of claim 1.

20 In accordance with various technological advances, the equipment and the functionalities of motorcycles have developed.

For example, the braking devices of motorcycles are provided with braking assistance systems, and in particular wheel anti-locking systems.

According to another example, motorcycles may also be provided with  
25 diagnostic sockets coupled to an embedded computerised unit. These diagnostic sockets make it possible to electronically control the operation of the motorcycle, and, if necessary, to modify the behaviour of the members of the motorcycle.

On another level, new information and digital technologies have made it possible to create vehicles integrating computerised systems that bring new  
30 functionalities and information to drivers and/or to occupants of these vehicles.

According to this approach, these technologies make it possible to obtain so-called "connected" vehicles.

For example, a connected vehicle may be provided with an electronic system being coupled to communication networks as well as to the smartphone of the driver so as to be able to extend the capacities of the car and to improve the driving experience of the driver.

5 By considering these technological advances, motorcycle drivers may thus have an expectation concerning the integration of these new information technologies in their motorcycle.

The expectation of integrating these new technologies may however clash with the absence of bodywork of motorcycles, as well as the desire of motorcycle drivers  
10 to have vehicles that are pleasant to look at. Consequently, adding unsightly external elements to a motorcycle, for example a casing intended to include electronic elements would constitute a disadvantage likely to limit the adoption of new technologies.

In particular, the invention aims to meet this expectation.

More specifically, one aim of the invention is to propose a solution making it  
15 possible to dispose of a motorised vehicle with a fork crown, which integrates new electronic technologies, in particular in view of the communication or the receipt of navigation information.

Another aim of the invention is to propose such a solution that does not impact or has little impact on the appearance of the motorised vehicle.

20 These aims, as well as others that will subsequently become apparent, are achieved by the invention that has for subject matter a motorised vehicle comprising:

- a front fork;
- a steering shaft capable of rotating inside a steering column;
- at least one fork crown coupled to the steering shaft and to the front fork;
- 25 - at least one electronic component intended to collect and/or transmit data relating to the operation of the motorised vehicle,

where the fork crown has a body in which there is formed a cavity closed by a cover,

where an electronic board is housed in the cavity and able to centralise and/or  
30 process the data supplied by said electronic components,

where the electronic board comprises control means coupled to at least one member of the motorised vehicle, the control means being able to start, and/or stop

and/or modify the behaviour of the member from the electronic board, and where the electronic board also comprises means for exchanging data with an external computerised unit.

Preferably, the motorised vehicle is a motorcycle. The invention may also  
5 apply to a personal watercraft or also to a snowmobile.

Such a motorised vehicle according to the invention makes it possible to meet the expectation of integrating new electronic technologies on a motorised vehicle, while offering a solution that does not impact or has little impact on the appearance of the motorised vehicle.

10 Indeed, thanks to the fork crown that houses an electronic board, the motorised vehicle may benefit from new technologies thanks to the functionalities offered by the electronic board that will centralise and/or process the data supplied by one or more electronic components located on the motorised vehicle, these electronic components making it possible to collect and/or transmit data relating to the operation of the  
15 motorised vehicle.

In the case where the motorised vehicle is a motorcycle, the integration of the electronic board inside a cavity arranged in the body of the fork crown makes it possible to avoid adding to the motorcycle an additional casing that would be located on an external portion of the motorcycle, and that could be unsightly to the eyes of the  
20 owner of the motorcycle and other people.

The control means confer to the electronic board the capacity to trigger certain functions of the motorised vehicle.

For example, within the scope of an instruction sent by the owner of the motorised vehicle to the electronic board, the latter may trigger the starting of the  
25 motorised vehicle.

These control means may also, according to another example of application where the motorised vehicle is a motorcycle, make it possible to trigger other members of the motorcycle, such as the headlights, the hazard lights, etc.

According to the invention, the electronic board comprises means for  
30 exchanging data with an external computerised unit.

Such means for exchanging data with the external information unit may take the form of communication modules of the type:

- using a communication standard (Bluetooth) making it possible for a bidirectional exchange of data at very short range;
- using one or more broadband mobile telephone networks to exchange data;
- using a narrowband energy-saving, cellular network, of the type used to constitute "the Internet of Things" (technology developed under the brand "SIGFOX").

These modules thus make it possible for the electronic board to exchange data, for example over a narrowband cellular network with a computerised server, or via a very short-range connection with a smartphone that could be that of the driver of the motorised vehicle.

Thanks to the invention, the driver of the motorised vehicle benefits from data processed and centralised by the electronic board that would be collected by one of the electronic components of the motorised vehicle.

Advantageously, the electronic board comprises geolocation means.

Thanks to such geolocation means, the electronic board may centralise and/or process the geolocation data and thus enrich the functionalities offered by the electronic board.

For example, within the scope of a solution where the electronic board includes an alarm function, and combined with the means for exchanging data with an external computerised unit, the electronic board may act as a silent alarm. For this function, the electronic board may transmit geolocation data of the motorised vehicle following the detection of certain pre-programmed events associated with an attempt of theft or damage.

According to an advantageous feature, the electronic board comprises an accelerometer.

Thanks to the accelerometer, the electronic board makes it possible to centralise and process the data relating to position changes of the motorised vehicle and/or to vibrations and/or to impacts.

The accelerometer makes it possible to enrich the data processed by the electronic board. It also makes it possible to improve an alarm function of the electronic board. In other terms and for example in the case where the motorised

vehicle is a motorcycle, the accelerometer may detected a fall of the motorcycle, the movement thereof, or also the lifting thereof.

Advantageously, the motorised vehicle comprises means for electrically connecting the electronic board to an electrical supply circuit of the motorised vehicle.

5        These electrical connection means make it possible to supply the electronic board from the battery and/or from the alternator of the motorised vehicle.

According to one preferable feature, the motorised vehicle comprises an emergency battery housed in the cavity, the emergency battery being intended to electrically supply the electronic board.

10        Such an emergency battery electrically supplying the electronic board makes it possible to eliminate the need, at least temporarily, of a supply from the battery of the motorised vehicle.

In the case where the electronic board housed in the cavity includes an alarm function, the electronic board is thus independent from the electrical supply circuit of the motorised vehicle. In other terms, if people desiring to steal the motorised vehicle disconnect the battery from the motorised vehicle in order to try to deactivate the alarm, the alarm (formed as a minimum by the joining of the electronic board and of the emergency battery housed in the cavity) will not be impacted by the action of these people.

20        Preferably, the electronic component belongs to the following group:

- speed sensor;
- petrol level sensor;
- sensor on neutral contactor;
- connector to a diagnostic socket of an embedded computerised unit of the motorised vehicle.

25

According to a preferred embodiment of the invention, the body of the fork crown is single-piece, the body having two housings for coupling and clamping fork tubes, the cavity being located between the coupling and clamping housings.

Such a design of the fork crown makes it possible to optimise the placement of the cavity and to limit the visual modifications resulting from adding the cavity in the fork crown in relation to a conventional fork crown.

30

Advantageously, the motorised vehicle includes a camera integrated in the fork crown and coupled to the electronic board.

Such a camera advantageously enriches the functionalities offered by the fork crown of the motorised vehicle according to the invention.

5        Other features and advantages of the invention will become more apparent upon reading the following description of two preferable embodiments of the invention, given by way of illustrative and non-limiting examples, and the appended drawings wherein:

- 10        - Figure 1 shows a schematic representation of a motorised vehicle (a motorcycle) according to the invention;
- Figures 2 and 3 are schematic representations according to perspective views of the body of a fork crown according to a first embodiment;
- Figure 4 is a schematic representation according to a perspective view of a fork crown, according to the first embodiment, with the cover closing the cavity
- 15        of the body;
- Figure 5 is a schematic representation according to a bottom view of the body of the fork crown, according to the first embodiment, housing the electronic board;
- Figure 6 is a schematic representation according to a perspective view of the
- 20        body of the fork crown, according to the first embodiment, illustrating the front face of the fork crown;
- Figures 7 and 8 are schematic representations according to perspective views of the body of a fork crown according to a second embodiment;
- Figures 9 and 10 are schematic representations according to exploded views
- 25        of the body of a fork crown according to the second embodiment.

With reference to Figure 1, the motorised vehicle 1 is a motorcycle. This motorised vehicle comprises:

- a frame 12 supporting members of the motorcycle such as, inter alia, the engine, the tank 13, or also the seat;
- 30        - a front fork 10 coupling the front wheel 101 to the frame 12;
- a rear wheel 14.

More specifically, the front fork 10 couples the front wheel 101 to the frame 12 by means of two fork tubes 100 secured together by means of a fork crown system (of which a lower fork crown and an upper fork crown 2). The fork crowns surround and hold in place a steering shaft positioned centrally in relation to the crown. This steering shaft is mounted capable of rotating inside the steering column 11 which is secured to the frame 12.

According to the principle of the invention and such as illustrated by Figures 1, 2, 3 and 5, the upper fork crown 2 has a body 20 in which a cavity 21 is arranged. With reference to Figure 4, the cavity of the body 20 is intended to be closed by a cover 22.

Such as is subsequently explained in more detail, the cavity 21 houses an electronic board able to centralise and/or process the data supplied by at least one electronic component intended to collect and/or transmit data relating to the operation of the motorised vehicle.

Indeed, such as illustrated by Figure 1, the motorised vehicle (the motorcycle) comprises electronic components that collect and/or that transmit the data relating to the operation of the motorcycle. The motorised vehicle 1 in particular comprises as electronic components:

- a speed sensor 30;
- a petrol level sensor 31, coupled to the tank 13;
- a sensor on neutral contactor 32;
- a connector 33 to a diagnostic socket of an embedded computerised unit of the motorised vehicle.

With reference to Figures 2, 3 and 4, the fork crown 2 according to the invention includes two elements of which a body 20 that is single-piece and a cover 22. The body and the cover are preferably made of aluminium.

The body 20 has two coupling and clamping housings 23 intended to receive the fork tubes 100.

With reference to Figure 3 and according to the first embodiment, the cavity 21 is located between these coupling and clamping housings.

With reference to Figures 2, 3 and 4, the fork crown 2 also has a means for coupling 24 to the steering shaft. This coupling means 24 is formed by the joining of the body 20 and of the cover 22.

According to Figures 2 and 3, the body 20, in addition to the coupling and clamping housings 23, has two clamping pads 230 each intended to be re-clamped on the body by means of additional screws of two tapped holes 231 located on these clamping pads. By screwing the additional screws into the two tapped holes, the fork tubes previously inserted into the coupling and clamping housings 23 are held tightly.

Such as illustrated by Figures 2, 3 and 6, the body 20 also has:

- 10 - a first communication space 25 with a space located in front of and above the fork crown, the fork crown comprising, at this first communication space, an excrescence with means for fastening 250 to an additional member;
- a second communication passage 26 with a space located above the body 20 of the fork crown 2;
- 15 - a third communication space 27 with a space located in front of and below the fork crown, the fork crown comprising, at this third communication space, a camera 270 intended to film towards the front of the motorised vehicle.

The additional member, intended to be coupled to the fastening means 250 located on the excrescence, may for example correspond to a rev counter, a front headlight or also a motorcycle bubble.

Such as illustrated by Figures 3 and 4, the cover 22 is coupled on the body 20 with the aid of additional screws 220 of tapped holes located on fastening pads 221 of the body 20 of the fork crown 2.

With reference to Figure 4, the cover 22 has a communication opening 222 in particular able to let connection cables intended to connect the electronic board to the electronic components located on the motorised vehicle pass through.

According to Figure 5 and such as previously stated, the motorised vehicle comprises an electronic board 4 that is housed in the cavity 21 arranged in the body 20 of the fork crown 2.

30 This electronic board 4 is intended to centralise and/or process the data supplied by the electronic components previously cited.

The electronic board 4 comprises:

- means for exchanging data with an external computerised unit;
- geolocation means 41;
- an accelerometer 42;
- control means 43 coupled to members of the motorised vehicle.

5 The data exchange means correspond to:

- a broadband communication module 401 connecting to broadband cellular networks;
- a narrowband and low consumption communication module 402 connecting to a narrowband cellular network;
- 10 - a radio wave, short-range communication module 403;
- a wireless communication module 404 able to create a computerised network between external computerised units (smartphone, computer, etc.).

The control means 43 make it possible for the electronic board 4 to start, stop or modify the behaviour of a member of the motorised vehicle. According to one  
15 example of application, following an instruction to preheat the engine sent to the electronic board 4, the latter may trigger the starting of the motorised vehicle.

With reference to Figure 1, the motorised vehicle 1 (the motorcycle) may comprise means for electrically connecting 60 the electronic board 4 to an electrical supply circuit 6 of the motorised vehicle. This electrical supply circuit of the motorised  
20 vehicle integrates for example a battery and an alternator.

According to Figure 5, the motorised vehicle comprises an emergency battery 5 that is housed in the cavity 21 of the fork crown 2. This battery is intended to electrically supply the electronic board 4 by means of a power transformer 50.

In the event of an electricity provision failure from the electrical supply circuit  
25 of the motorised vehicle, the emergency battery 5 may take over and continue to supply the electronic board located in the cavity of the body of the fork crown.

Thanks to these components and according to this embodiment where the motorised vehicle is a motorcycle, the electronic board may achieve a geolocation of the motorcycle. This geolocation makes it possible to achieve a monitoring of the  
30 motorbike in real time. In case of suspecting a theft of the motorbike, an alert is sent to the driver, and a silent monitoring of the motorcycle may be achieved thanks to the emission of a signal over the narrowband cellular network.

The electronic board located in the fork crown may also achieve an automatic detection of the status of the motorised vehicle (stopped, started, or moving, etc.) and makes it possible to adapt, in accordance with pre-set parameters, the functionalities available to the driver of the motorised vehicle.

5        Thanks to the wireless communication module able to create a computerised network, the driver may also connect this computerised equipment to a private Wi-Fi network generated by the electronic board located in the fork crown.

10        The electronic board located in the fork crown may also act as a virtual key with the aid of the control means thereof. Indeed, the driver may start and stop the motorised vehicle from:

- an application present on their telephone;
- by voice (detected for example by their telephone);
- from a connected watch.

15        With reference to Figure 5, the cavity 21 may also comprise a memory 45. This memory makes it possible to store data collected and/or transmitted by the electronic components.

Such as previously stated, the motorised vehicle also comprises a camera 270. With reference to Figure 5, this camera 270 is integrated in the fork crown 2.

20        More specifically, a camera lens that passes through the third communication passage presented by the fork crown is observed, and the electronic board 4 includes a camera controller 271 coupled to this camera lens.

According to one example of application, the camera and the memory make it possible to store photos or videos of a journey of the motorised vehicle.

25        Finally, such as previously stated, the accelerometer also makes it possible for the fork crown and for the electronic board to possess fall and/or theft detection functions. More specifically, dangerous events for the motorised vehicle may be detected namely:

- a fall;
- a movement of the motorcycle;
- 30        - a lifting of the motorcycle;

With reference to Figures 7 to 10, a second embodiment of the fork crown is described hereafter.

The upper fork crown 2 has a body 20.

This body 20 has a cavity 21. The cavity is closed by a cover 22.

The body 20 also comprises:

- coupling and clamping housings 23 intended to receive the fork tubes 100;
- 5        - a means for coupling 24 to the steering shaft.

Unlike the first embodiment, the body 20 has a cavity 21 that is not located between the coupling and clamping housings 23.

Indeed, the cavity 21 is positioned eccentrically in relation to a central portion 200 of the fork crown 2.

10        More specifically, according to this embodiment the body 20 of the fork crown 2 comprises:

- a central portion 200, having the coupling and clamping housings 23 as well as the means for coupling 24 to the steering shaft;
- a remote portion 201, having the cavity 21;
- 15        - an arm 202 coupling the remote portion 201 to the central portion 200.

Preferably, the central portion 200, the remote portion 201 and the arm 202 form a single-piece assembly.

This body 20 is advantageously made of aluminium.

The remote portion 201 is intended to be located in front of the fork crown 2.

20        According to the present embodiment illustrated by Figures 7 to 10, the cover 22 takes a vessel shape. In this way, the cavity arranged in the body 20 of the fork crown, and more specifically in the remote portion 201 of the body 20, has a significant volume when the cover 22 closes the cavity 21.

With reference to Figure 10, the remote portion 201 of the body 20 of the fork crown 2 has an additional lower peripheral edge 2010 of the cover 22.

25        During the installation of the cover, the latter must be attached on this lower peripheral edge 2010, then, such as illustrated by Figure 9, additional screws 220 of tapped holes 2200 located on the cover 22 are used to fasten the cover to the body 20 of the fork crown. These screws are in particular screwed from an upper face of the remote portion 201 of the fork crown 2.

30        According to the principle of the invention, an electronic board (not shown) is housed in the cavity. This electronic board is able to centralise and/or process the data

supplied by said electronic components, and comprises control means coupled to at least one member of the motorised vehicle, the control means being able to start, and/or stop and/or modify the behaviour of the member from the electronic board.

Such as illustrated by Figures 9 and 10, the remote portion 201 of the body 20  
5 has a second communication passage 26 between the cavity 21 and a space located above the body 20 of the fork crown 2.

With reference to Figures 7 and 10, the fork crown 2 has a communication  
opening 222 in particular able to let connection cables intended to connect the  
electronic board to the electronic components located on the motorised vehicle pass  
10 through. Unlike the first embodiment, this communication opening 222 is presented  
by the remote portion 201 of the body 20 and not by the cover 22.

According to Figures 8 to 10, the fork crown 2 comprises means for integrating  
an external computerised unit 7, in particular mobile and communicating, such as a  
smartphone (telephone). This external computerised unit is intended to cooperate with  
15 the electronic board housed in the cavity, and to be used to display information relating  
to the motorised vehicle by way of the screen of the external computerised unit.

This external computerised unit 7 may for example be used to serve as a digital  
speedometer.

These means for integrating the external computerised unit 7 comprise:

- 20
- an upper face of the remote portion 201 of the body 20 of the fork crown;
  - a support for receiving 70 the external computerised unit 7;
  - a lid 71.

The upper face of the remote portion 201 of the body 20 has an additional upper  
peripheral edge 2011 of the lid 71.

25 Such as illustrated by Figure 10, additional assembly screws 710 of holes 711  
located on the lid 71 make it possible to assemble the lid on the remote portion 201 of  
the body 20 of the fork crown 2.

The receiving support 70 is received in a reinforcement presented by the upper  
face of the remote portion 201, this reinforcement being more specifically delimited  
30 by the upper peripheral edge 2011.

The receiving support 70 is specific to the external computerised unit 7 and has  
to this end an additional imprint of the shape of the external computerised unit 7.

According to another embodiment not illustrated, the receiving support could be able to receive external computerised units of different shapes by having a sufficiently significant deformation capacity.

Such as illustrated in Figure 8, the receiving support 70 has indentations 700 making it possible to facilitate the removal of the external computerised unit 7 from the receiving support 70.

According to the present embodiment, the receiving support 70 has an elastic deformation capacity. The receiving support 70 is in particular made of silicone.

This elastic deformation capacity makes it possible to slot the external computerised unit 7 inside the imprint.

The elastic deformation capacity of the receiving support 70 as well as the imprint presented by said receiving support form means for holding the external computerised unit 7 in the receiving support 70.

According to a preferable feature not illustrated, the fork crown comprises an electric induction charger. To this end, the receiving support comprises a housing able to receive an induction recharging antenna. This recharging antenna is coupled to the electronic board located inside the cavity by means of the second communication passage 26 (illustrated in Figures 9 and 10).

The housing is located below the imprint and intended to make it possible for induction recharging of the external computerised unit 7.

The lid 71 is hollowed out. Thus, it makes it possible to insert the external computerised unit into the imprint of the receiving support 70, to access the external computerised unit 7 in order to interact with, or finally in order to remove it from the imprint.

During the assembly of the lid 71 on the remote portion 201, the lid encloses the receiving support 70 in order to hold it in position. By enclosing the receiving support 70, the lid 71 also makes it possible to limit the possible deformations of the receiving support 70 and thus improve the capacity of the receiving support to hold the external computerised unit 7 inside the imprint.

The lid may be made of aluminium or plastic.

According to the present embodiment illustrated by Figure 8, the remote portion 201 of the body 20 is essentially located in the same plane as the portion 200

of the body 20. The orientation of the screen intended to be presented by the external computerised unit is thus dependent on the orientation of the fork tubes on which the fork crown is assembled.

According to another embodiment not illustrated, the fork crown may comprise  
5 means for modifying the inclination of the screen. To this end, the arm coupling the remote portion to the central portion may have an articulation, or an adaptor able to modify the inclination of the screen may be positioned on the upper face of the remote portion, below the receiving support and the lid.

Although this is not described, the first embodiment and the second  
10 embodiment may be at least partially combined together.

For example, the cover 22 of the remote portion 201 of the fork crown 2 of the second embodiment (illustrated Figure 8) may have a third communication passage 27 with a space located in front of and below the fork crown 2 as for the body 20 of the fork crown 2 of the first embodiment (illustrated Figure 6). The fork crown then being  
15 able to comprise, at this third communication space, a camera intended to film towards the front of the motorised vehicle.

**P a t e n t k r a v**

1. Motoriseret køretøj (1), omfattende:

- en forgaffel (10);
- 5     - en styreaksel, der er i stand til at rotere inde i en ratstamme (11);
- mindst én gaffelkrone (2), der er koblet til styreakslen og til forgaflen;
- mindst én elektronisk komponent, der er beregnet til at indsamle og/eller transmittere data vedrørende oplysninger om driften af det motoriserede køretøj,
- 10    hvor gaffelkronen har et legeme (20), hvori der er dannet et hulrum (21), som er lukket af et låg (22), **kendetegnet ved, at** det omfatter et elektronisk kort (4), der er anbragt i hulrummet og kan centralisere og/eller behandle de data, der leveres af det eller de elektroniske komponenter, og **ved, at** det elektroniske kort (4) omfatter:
- 15    - styremidler (43), der er koblet til mindst ét element af det motoriserede køretøj, hvor styremidlerne er i stand til at starte og/eller stoppe og/eller ændre elementets adfærd ud fra det elektroniske kort;
- midler til udveksling af data med en ekstern it-enhed.

20    **2.** Motoriseret køretøj (1) ifølge det foregående krav, **kendetegnet ved, at** det elektroniske kort (4) omfatter geolokaliseringsmidler (41).

25    **3.** Motoriseret køretøj (1) ifølge et hvilket som helst af de foregående krav, **kendetegnet ved, at** det elektroniske kort (4) omfatter en accelerationsmåler (42).

**4.** Motoriseret køretøj (1) ifølge et hvilket som helst af de foregående krav, **kendetegnet ved, at** det omfatter midler til elektrisk forbindelse (60) til

det elektroniske kort (4) til et elektrisk forsyningskredsløb (6) til det motoriserede køretøj.

5       **5.** Motoriseret køretøj (1) ifølge et hvilket som helst af de foregående krav, **kendetegnet ved, at** det omfatter et nød batteri (5), der er anbragt i hulrummet (21), hvor nød batteriet er beregnet til elektrisk forsyning af det elektroniske kort (4).

10       **6.** Motoriseret køretøj (1) ifølge et hvilket som helst af de foregående krav, **kendetegnet ved, at** den elektroniske komponent tilhører følgende gruppe:

- hastighedssensor (30);
- benzinniveausensor (31);
- sensor på frigearskontakt (32);
- 15       - konektor (33) til en diagnostisk stikkontakt på en indlejret it-enhed i det motoriserede køretøj.

20       **7.** Motoriseret køretøj (1) ifølge et hvilket som helst af de foregående krav, **kendetegnet ved, at** legemet (20) af gaffelkronen (2) er i ét stykke, hvor legemet har to huse til kobling og fastspænding (23) af gaffelrør (100), hvor hulrummet (21) er anbragt mellem koblings- og fastspændingshusene.

25       **8.** Motoriseret køretøj (1) ifølge et hvilket som helst af de foregående krav, **kendetegnet ved, at** det omfatter et kamera (270), der er integreret i gaffelkronen (2) og koblet til det elektroniske kort (4).

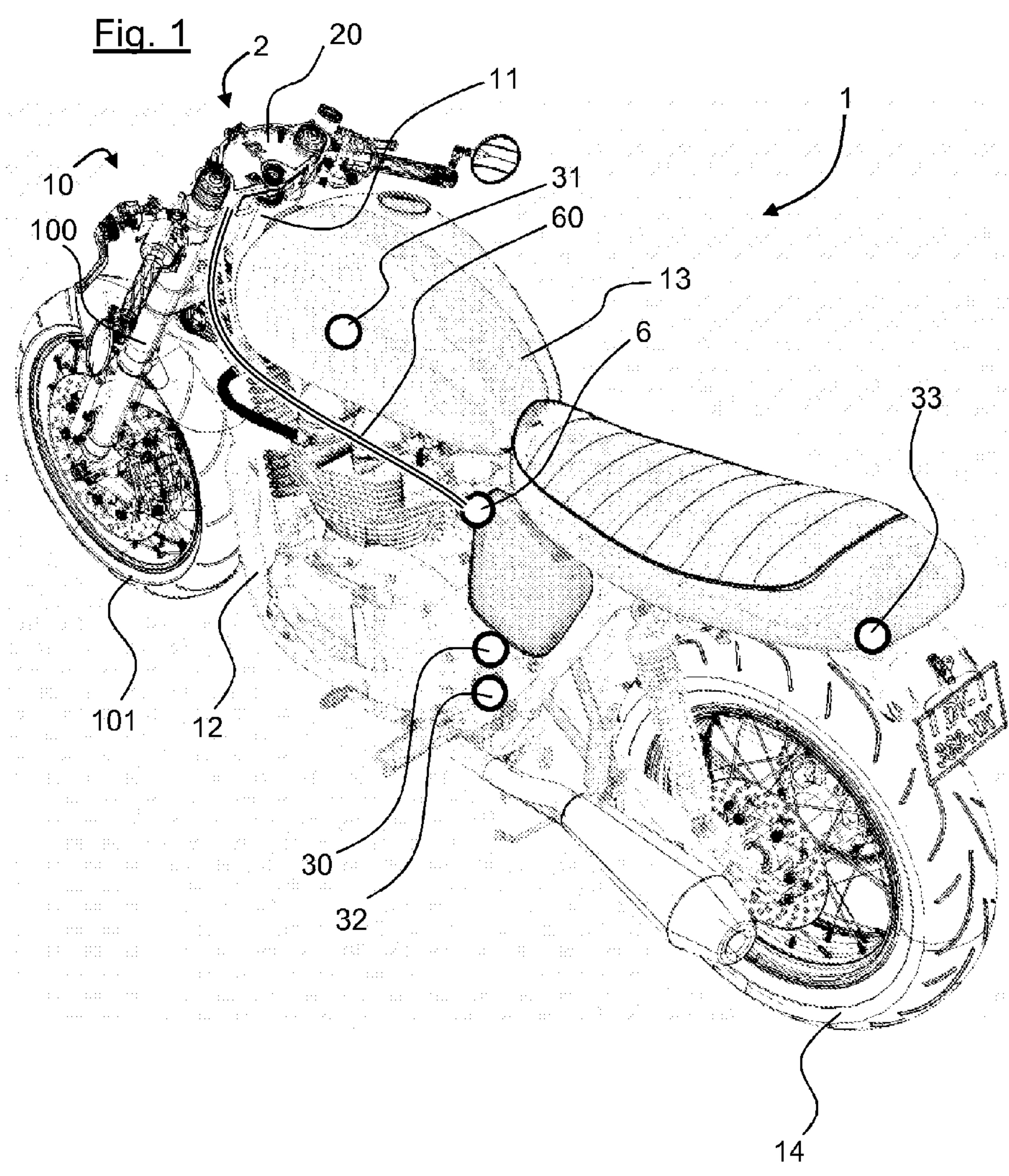


Fig. 2

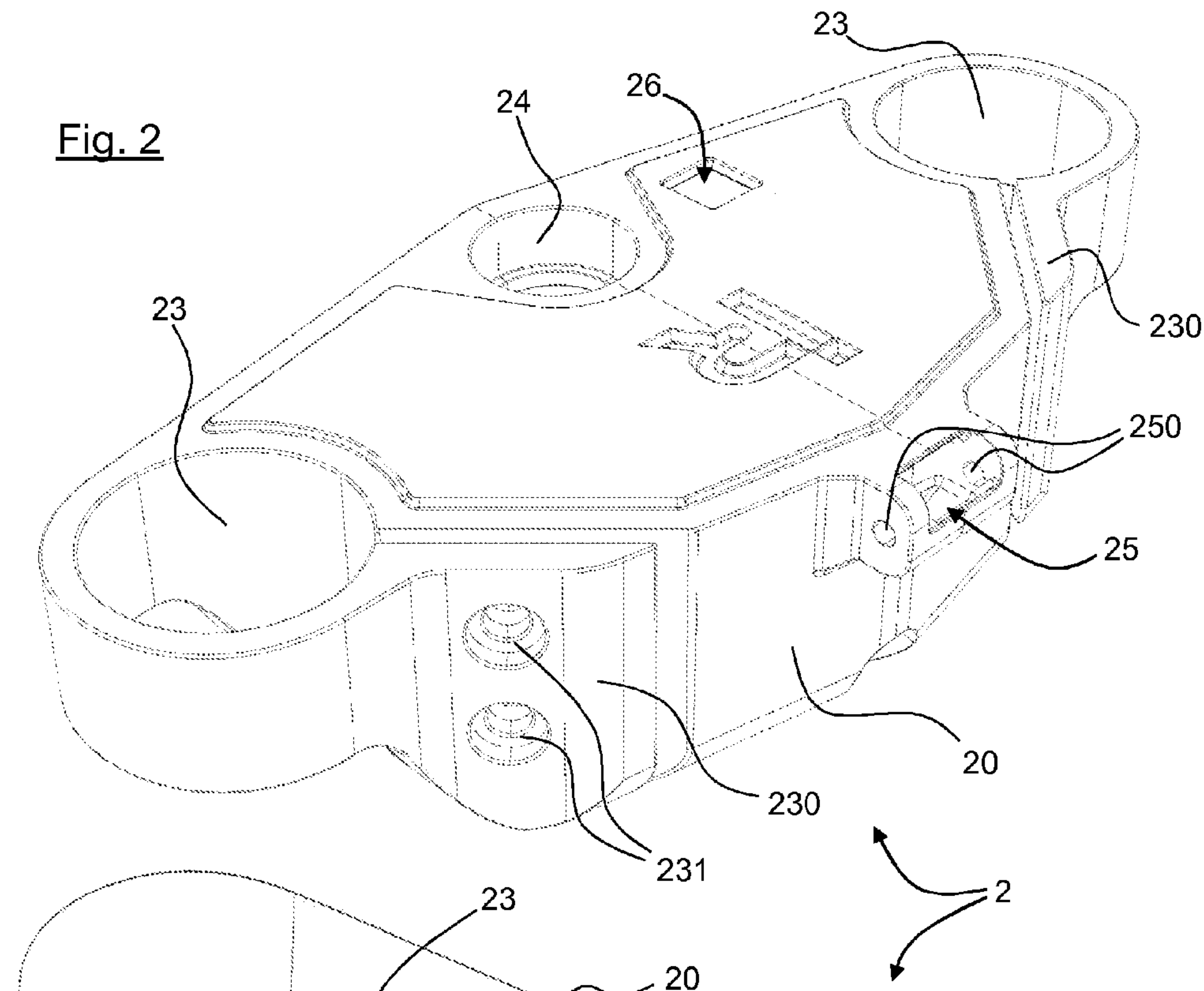
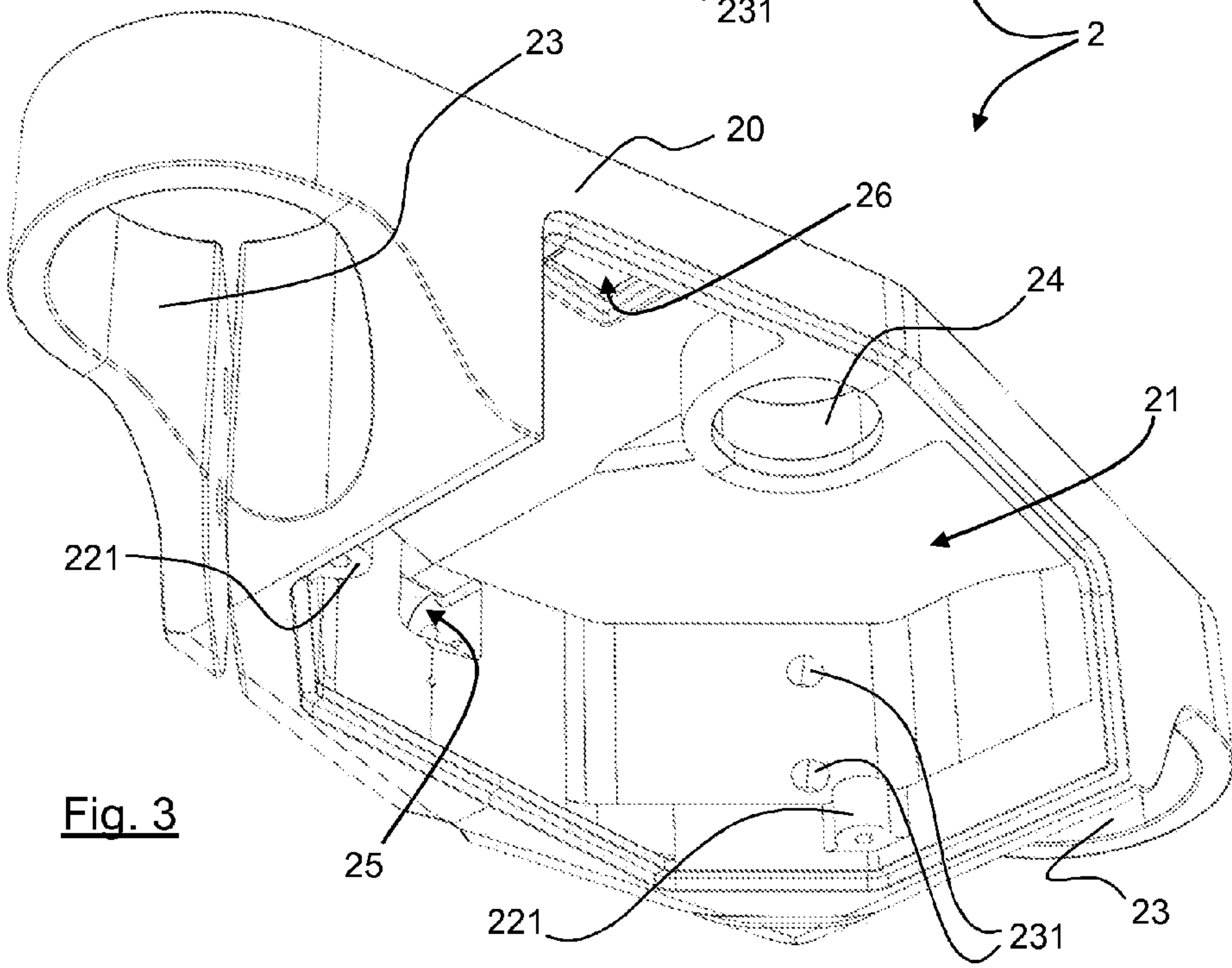


Fig. 3



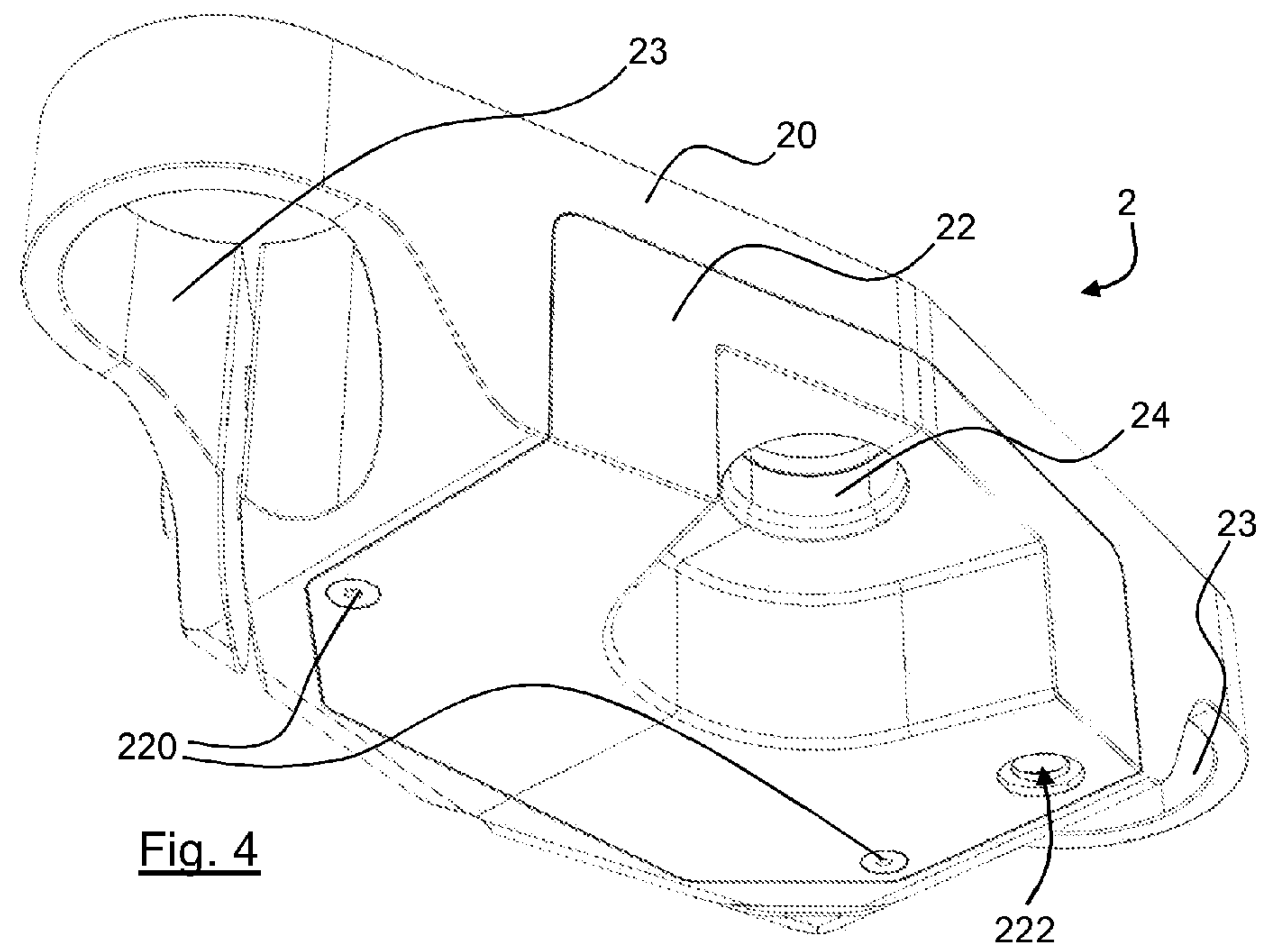


Fig. 4

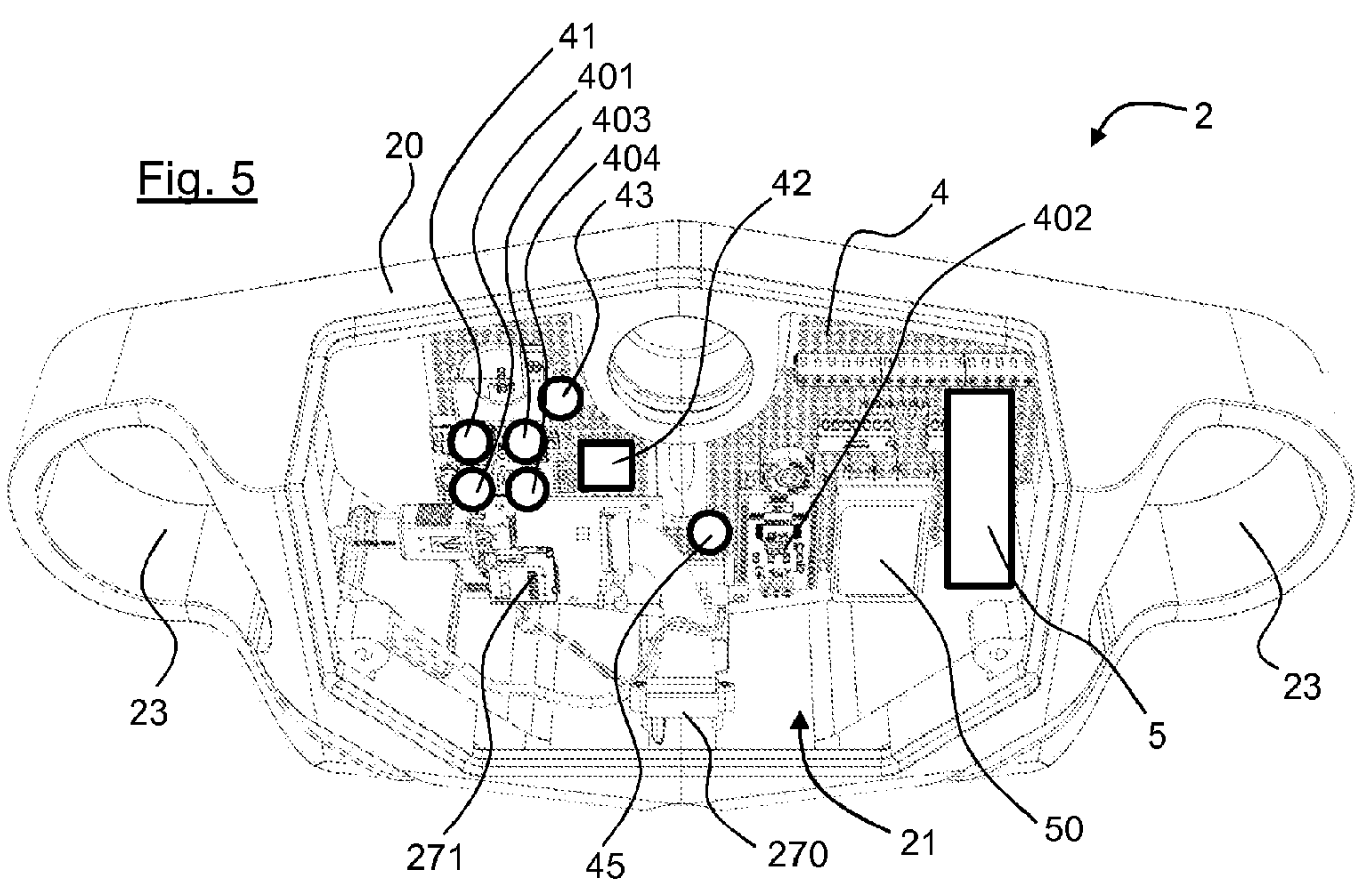


Fig. 5

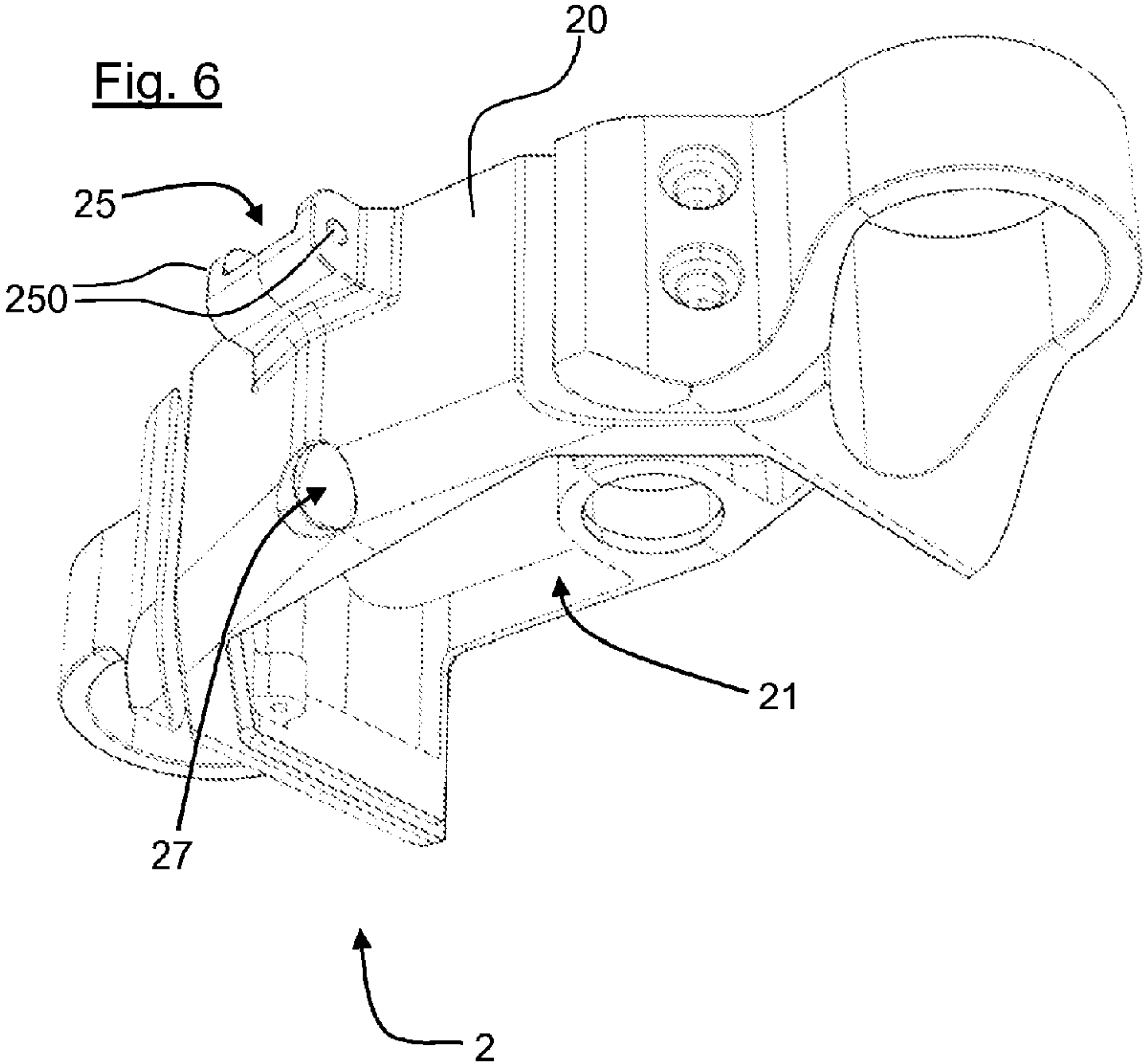


Fig. 7

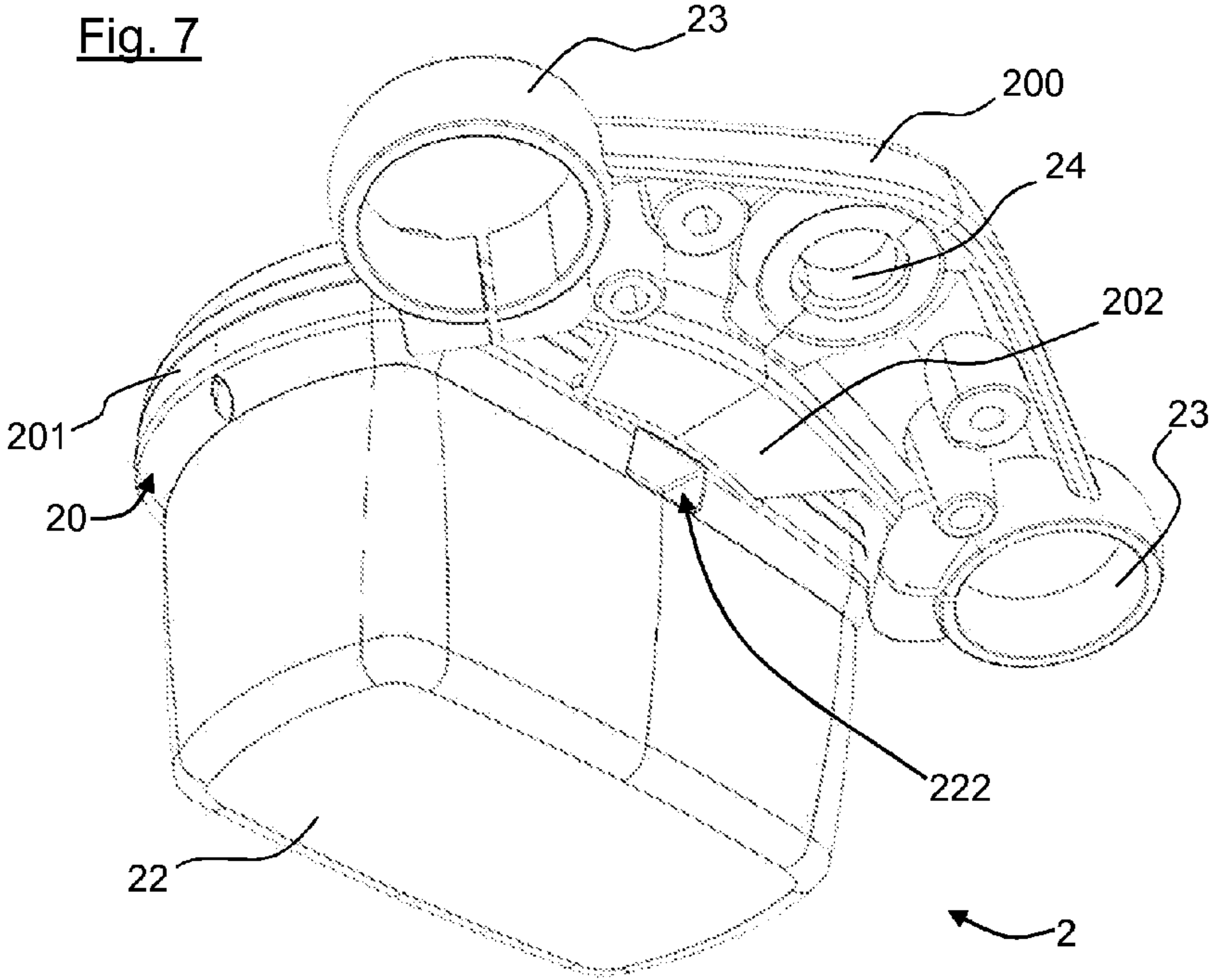


Fig. 8

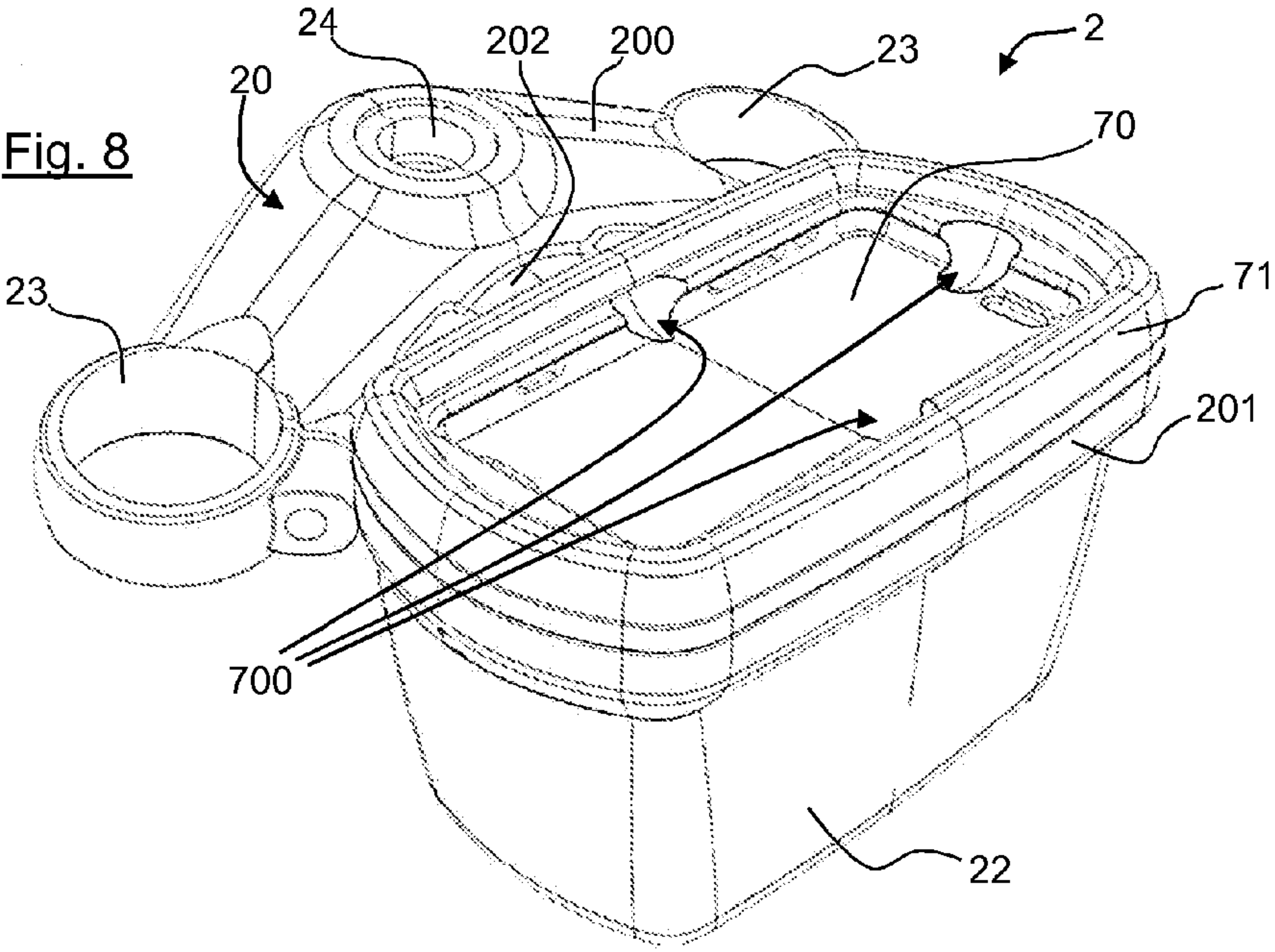


Fig. 9

