

(19) **DANMARK**



Patent- og
Varemærkestyrelsen

(12) Oversættelse af
europæisk patentskrift

(10) **DK/EP 3644813 T3**

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- (51) Int.Cl.: **A 47 J 43/07 (2006.01)** **B 01 F 7/16 (2006.01)** **B 23 Q 11/00 (2006.01)**
F 16 P 3/08 (2006.01)
- (45) Oversættelsen bekendtgjort den: **2021-07-12**
- (80) Dato for Den Europæiske Patentmyndigheds
bekendtgørelse om meddelelse af patentet: **2021-04-14**
- (86) Europæisk ansøgning nr.: **18823686.3**
- (86) Europæisk indleveringsdag: **2018-03-15**
- (87) Den europæiske ansøgnings publiceringsdag: **2020-05-06**
- (86) International ansøgning nr.: **US2018022620**
- (87) Internationalt publikationsnr.: **WO2019005231**
- (30) Prioritet: **2017-06-30 US 201762527945 P**
- (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: **Capbran Holdings, LLC, 11601 Wilshire Boulevard, Suite 2300 , Los Angeles, California 90025, USA**
- (72) Opfinder: **SAPIRE, Colin, 11601 Wilshire Blvd., Suite 2300, Los Angeles, CA 90025, USA**
- (54) Benævnelse: **MIXER MED SIKKERHEDSMEKANISMER**
- (56) Fremdragne publikationer:
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DESCRIPTION

[0001] The present invention relates to kitchen appliances. In particular, the present invention relates to blenders and food processors having safety features.

[0002] Kitchen appliances such as blenders and food processors are well known. Such devices are typically capable of performing myriads of operations, such as mixing, blending, pulsing, pulverizing, chopping and cutting, which are generally referred to herein as processing. Such devices can process drinks and foods, generally referred to herein as comestible material.

[0003] Devices for processing comestible material are typically comprised of a container, a blade assembly, and a motor base. For instance, a typical countertop blender will have a container for holding the comestible material to be processed. The blender will have a blade assembly to perform the processing operation. In standard "upright" blenders, the blade assembly is integrally affixed to the bottom of the container. The container has an opening at the top, which is enclosed by a lid. The container is mounted to the base in an upright position.

[0004] For "inverted" blenders, the blade assembly is removably attached to the opening of the container so that it also functions as a lid. With these kinds of blenders, the container is inverted to mount the blade assembly to the base. In both upright and inverted blenders, the container and blade assembly are mounted on top of the base, which has a motor that drives the blades of the blade assembly to process the comestible material in the container.

[0005] To operate a typical blender, a user would put comestible material into the container, attach the blade assembly to close the container, and then mount the container and the blade assembly to the base. The user would then activate the motor, which drives the blades to process the comestible material in the container. Because the blades are sharp and spin at a very high speed and with great force, there is a potential of serious injury to the user if the blade assembly is not securely attached to the container when the motor is activated.

[0006] For example, there is a risk that the container may separate from the blade assembly if the container is not securely attached to the blade assembly when the motor is activated. If the container separates from the blade assembly when the motor is activated, this would create an extreme hazard because the whirling blades would be exposed. A user could suffer severe injury if he or she makes contact with the whirling blades. Thus, it is necessary to ensure that the container is locked to the blade assembly before the motor can be activated and at all times when the motor is in operation.

[0007] Further, there is also a potential of serious injury if the container and the blade assembly are not securely mounted on the base when the motor is activated. For example, if the container and blade assembly are not securely mounted on the base when the motor is activated, there is a risk that both the container and the blade assembly could come off the base, which would also be extremely hazardous because the impeller that drives the blades

would be exposed and potentially cause injury to the user.

[0008] To minimize these types of risk, blenders have included safety features to protect the user. It is known for a blender to include a switch means to disable the motor if the container is not present on the base. Safety mechanisms also exist that prevent the motor from starting unless the container is properly mounted on the motor base. For example, U.S. Patent No. 3,786,999 teaches that "[t]he jar must be inserted on a base member properly and twisted to a locked position to enable the base, which has a portion of the driven blade shaft in it, to be connected to the drive shaft of the blender." Other blenders have safety mechanisms to prevent the operation of the motor when the lid is not attached (e.g., U.S. Patent No. 8,403,556) so that the blender cannot be powered on unless the lid is secured to protect the user from the spinning blades.

[0009] However, these kinds of safety mechanisms are inadequate to minimize the dangers described above. Most blenders known in the art teach the use of a single safety mechanism to protect against a single safety concern, such as when a container is improperly mounted on a base as described in U.S. Patent No. 3,786,999. A further blender including safety features is known from US-A-2015/0216360.

[0010] Current blenders do not employ a system of redundant safety mechanisms to minimize multiple dangers, such as when a container is improperly secured to a blade assembly or when the blade assembly is improperly mounted on the motor base.

[0011] It is an object of the invention to provide a blender having safety mechanisms.

[0012] It is an object of the invention to provide a blender with a safety mechanism for ensuring that the container is securely attached to the blade assembly.

[0013] It is an object of the invention to provide a blender with a safety mechanism for ensuring that the blade assembly is securely attached to the motor base.

[0014] It is an object of the invention to utilize at least two safety mechanisms to protect against different risks where the blade assembly is not properly attached to the container or where the blade assembly is not properly mounted on the base.

[0015] It is a further object of the invention that the safety mechanisms work redundantly.

[0016] In accordance with the objectives of the invention, the embodiments of the present invention relate to a blender. A blender is to be understood as any device capable of processing comestible material. The blender according to the present invention has coordinated safety mechanisms to prevent the blender from being turned on if the container is not properly attached to the blade assembly or if the blade assembly is not properly mounted on the base.

[0017] The blender according to the present invention has a first safety mechanism, which functions to ensure that the container is securely attached to the blade assembly before the blade assembly can be mounted to the base. The first safety mechanism is comprised of blocking mechanism that prevents the blade assembly from being mounted onto the base when the container is not securely attached to the blade assembly. The blocking mechanism is comprised of an obstructing tab or equivalent structure that can move between a blocking position and an unblocking position. In the default blocking position, the blocking mechanism blocks the blade assembly from being mounted to the base.

[0018] To move the blocking mechanism so that the blade assembly can be mounted to the base, it is necessary to move the obstructing tab or equivalent structure into the unblocking position. This can be accomplished using a spring-loaded tab located in the blade assembly. When the container is attached to the blade assembly, the container will depress the spring-loaded tab, causing the blocking mechanism to move to the unblocking position to allow the blade assembly to be mounted on the motor base. In alternative embodiments of the invention, the first safety mechanism need not be comprised of a spring-loaded tab or other physical obstructing components, but can be comprised of a system of electronic emitters and detectors that can sense when the container is properly secured to the blade assembly.

[0019] The blender includes a second safety mechanism that functions to ensure the motor in the base can only be powered on when the container and the blade assembly are securely mounted to the base. In a preferred embodiment, the second safety mechanism is comprised of an emitter and a corresponding detector that communicates to activate the motor. The emitter can be a magnetic element or any sensing element capable of communicating a signal. The detector can be a magnetic element or any element capable of receiving a signal. In a preferred embodiment, the emitter is located in the blade assembly and the detector is located in the base. (Conversely, the emitter can be in the base and the detector can be in the blade assembly.) The emitter communicates with the detector to activate the motor. In order for the emitter to communicate with the detector, the emitter has to be aligned with the detector. The emitter and the detector can only be aligned when the blade assembly is mounted on the base.

[0020] In an embodiment, the emitter in the blade assembly is attached to a spring-loaded tab that permits the second safety mechanism to move between an "off position and an "on" position. The default position of the emitter is in the "off position where it is not aligned with the detector, thereby preventing the emitter from communicating with the detector to activate the motor. In order to move the second safety mechanism to the "on" position to activate the motor, it is necessary to move the emitter into alignment with the detector by depressing the spring-loaded tab. The tab can only be depressed to align the emitter with the detector when the container is properly secured on the blade assembly. That is, when the container is securely attached to the blade assembly, the container will depress the spring-loaded tab to move the emitter into alignment with the detector. When the emitter is properly aligned with the detector, the motor in the base can be switched on.

[0021] In a preferred embodiment, the first and second safety mechanisms work in tandem.

When the container is secured to the blade assembly, it will release both the first and the second safety mechanisms. Securing the container to the blade assembly will cause the blocking mechanism of the first safety mechanism to move to an unblocking position, while at the same time cause the emitter of the second safety mechanism to move into alignment with the detector in the base. With the first safety mechanism in the unblocking position, the blade assembly can be secured on the motor base. With the second safety mechanism in the "on" position, the motor can be activated.

[0022] Not only can the first and second safety mechanisms work in tandem, the safety mechanisms can also be redundant. For example, in a preferred embodiment, the motor will automatically shut off if the container becomes detached from the blade assembly because the emitter will move out of alignment with the detector. This ensures that the motor can never be activated if the container separates from the blade assembly or if the blade assembly separates from the base during operation.

FIG. 1 is a perspective view of a blender in accordance with an embodiment of the present invention.

FIG. 2 is an exploded view of the blender in accordance with an embodiment of the present invention

FIG. 3 is a perspective view of a container of the blender in accordance with an embodiment of the present invention.

FIG. 4 is a top perspective view of a blade assembly in accordance with an embodiment of the present invention.

FIG. 5 is a bottom perspective view of the blade assembly in accordance with an embodiment of the present invention.

FIG. 6 is a bottom view of the blade assembly in accordance with an embodiment of the present invention, illustrating cross sections of FIG. 9, FIG. 10, FIG. 11 and FIG. 12.

FIG. 7 is a top view of the blade assembly in accordance with an embodiment of the present invention.

FIG. 8 is a side view of the blade assembly accordance with an embodiment of the present invention having an interior surface and an exterior surface.

FIG. 9 is an illustrative view of the internal structure of a blade holder in accordance with an embodiment of the present invention, showing a retractable ball and a first safety mechanism.

FIG. 10 is an illustrative view of the internal structure of the blade holder accordance with an embodiment of the present invention, showing the first safety mechanism in a blocking position.

FIG. 11 is an illustrative view of the internal structure of the blade holder accordance with an embodiment of the present invention, showing the first safety mechanism in an unblocking

position.

FIG. 12 is an illustrative view of the internal structure of the blade holder accordance with an embodiment of the present invention, showing an emitter element of a second safety mechanism in an off position.

FIG. 13 is an illustrative view of the internal structure of the blade holder accordance with an embodiment of the present invention, showing a emitter element of a second safety mechanism in an on position.

FIG. 14 is a perspective view of a base of the blade assembly in accordance with an embodiment of the present invention.

FIG. 15 is a side view of the base of the blade assembly in accordance with an embodiment of the present invention.

FIG. 16 is another side view of the base of the blade assembly accordance with an embodiment of the present invention, showing a base recess located on the top of the base.

FIG. 17 is a top view of the base of the blade assembly accordance with an embodiment of the present invention, showing nubs on the top of the base.

[0023] The invention now will be described more fully hereinafter with reference to the accompanying drawings, in which embodiments of the invention are shown. This invention may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein. Rather, these embodiments are provided so that this disclosure will be thorough and complete, and to fully convey the scope of the invention to those skilled in the art.

[0024] As shown in **FIG. 1**, a blender **40** according to an embodiment of the invention is comprised of a container **10**, a blade assembly **20**, and a base **30**. As further shown in the exploded view of **FIG. 2**, the blade assembly **20** is removably attached to the container **10** to form a closed space for processing comestible material. The blade assembly **20**, with the container **10** attached, is removably mounted on the base **30**.

[0025] Referring now to **FIG. 3**, the container **10** has a body **100** with an open-end **101** that is defined by a rim **102**. In a preferred embodiment, the body **100** is ogive shaped (i.e. bullet shaped), though it can have any shape that serves the intended function of the invention. The body **100** is further defined by an outer side **103** and an inner side **104**.

[0026] To facilitate the attachment of the container **10** to the blade assembly **20**, the container **10** has one or more tongue protrusions **106** located on the inner side **104** near the rim **102**. As further described below, the tongue protrusions **106** engage with corresponding slots **214** on the blade assembly **20** to secure the container **10** to the blade assembly **20**.

[0027] Referring now to **FIGS. 4 to 8**, the blade assembly **20** is comprised of a blade or blades **200**, a blade holder **202**, and a blade impeller **204**. As shown in **FIGS. 5 and 6**, the blade **200** is mounted on the blade holder **202** and connected to the blade impeller **204** such that the blade impeller **204** spins the blade **200**.

[0028] As best shown in **FIG. 4**, the blade holder **202** has an interior surface **206** extending from the blade **200** and connecting to a collar **208**, forming a trench **207** between the interior surface **206** and the collar **208**. The collar **208** has a top collar wall **210** as shown in **FIG. 4** and a bottom collar rim **212** as shown in **FIG. 5**. The shape of the collar **208** is complementary to the shape of rim **102** of the container **10**. In a preferred embodiment, the collar **208** has a greater circumference than the rim **102** such that the rim **102** fits within the trench **207** to seal the open-end **101** of container **10** as shown in **FIGS. 1 and 11**. In this way, when the blade assembly **20** is attached to the container **10**, the interior surface **206** forms a closed end for the container **10**.

[0029] As further shown in **FIG. 4 and FIG. 8**, the blade holder **202** has one or more slots **214** on the interior surface **206** for engaging the tongue protrusions **106** on the container **10**. In a preferred embodiment, the container **10** is attached to the blade assembly **20** by rotating the tongue protrusions **106** into the slots **214**. When the tongue protrusions **106** are secured in the slots **214**, the rim **102** of the container **10** rests in trench **207**, between the interior surface **206** and the collar **208** to seal the open end **101** of the container **10**.

[0030] Referring now to **FIGS. 5 and 6**, the blade holder **202** has a plurality of blade holder protrusions **216**. In a preferred embodiment, the blade holder protrusions **216** are located on an interior side wall **209** of the collar **208** approximate to the bottom collar rim **212**. The blade holder protrusions **216** function to secure the blade assembly **20** to the base **30** as described below. In a preferred embodiment, the blade holder **202** has three blade holder protrusions **216** equally spaced apart on the interior side wall **209** of the collar **208** as best shown in **FIG. 6**.

[0031] Referring now to **FIGS. 14 to 17** of the base **30**, the base **30** has a motor (not shown) for driving a motor impeller **308** that is engaged with the blade impeller **204** when the blade assembly **20** is properly mounted on the base **30**.

[0032] In a preferred embodiment as shown in **FIG. 14**, the base **30** has a top surface **306** and a base body **307**. The motor impeller **308** is mounted at the center of the top surface **306** as best shown in **FIG. 17**.

[0033] As shown in **FIGS. 14 and 17**, the base **30** has one or more ramps **302** on the top surface **306** surrounding the motor impeller **308**. In a preferred embodiment, the base **30** has three ramps **302** equally spaced apart on the top surface **306**. As shown in **FIGS. 14 and 15**, each ramp **302** has a recess **304** for receiving the blade holder protrusion **216** of the blade assembly **20**. The recess **304** has a shape that is complementary to the shape of the blade holder protrusion **216** such that the blade holder protrusion **216** can slide into the recess **304**.

[0034] The blade assembly **20** is mounted on the base **30** by coupling the blade impeller **204** with the motor impeller **308** and by engaging the blade holder protrusions **216** with the recesses **304**. When the blade assembly **20** is placed on top of the base **30**, the ramps **302** will guide the blade assembly **20** until the bottom collar rim **212** is substantially resting on the top surface **306**, such that each blade holder protrusion **216** is substantially aligned with a corresponding recess **304**. The blade assembly **20** can be securely mounted to the base **30** by rotating the blade assembly **20** so that blade holder protrusions **216** slide into the recesses **304**.

[0035] Referring now to **FIGS. 10** and **11**, the blender **40** according to the present invention has at least a first safety mechanism **220**. The first safety mechanism **220** functions to ensure that the container **10** is securely attached to the blade assembly **20** before the blade assembly **20** can be mounted to the base **30**.

[0036] Referring again to **FIGS. 5** and **6**, an embodiment of the first safety mechanism **220** comprises a blocking member **218**. The blocking member **218** is located adjacent to one of the blade holder protrusions **216** as shown in **FIG. 9**. The blocking member **218** is capable of moving between a blocking position, as shown in **FIG. 10**, and an unblocking position as shown in **FIG. 11**. In the blocking position shown in **FIG. 10**, the blocking member **218** functions to block the blade holder protrusion **216** from sliding into the recess **304** of the ramp **302** so as to prevent the blade assembly **20** from being mounted to the base **30**.

[0037] More particularly, the blocking member **218** is connected to a first spring-loaded tab **222**. The first spring-loaded tab **222** can be a spring or any other resilient material, such as a plastic polymer, which can be compressed to move the blocking member **218**. The top of the first spring-loaded tab **222** protrudes from an opening in the trench **207** adjacent to the collar **208** of the blade assembly **20** as shown in **FIG. 10**.

[0038] When the first spring-loaded tab **222** is in its default position (i.e. uncompressed state), as shown in **FIG. 10**, the blocking member **218** is in the "blocking" position because it is not aligned with the blade holder protrusion **216**. When the container **10** is attached the blade assembly **20** as shown in **FIG. 11**, the rim **102** depresses the first spring-loaded tab **222**. Depressing the spring-loaded tab **222** causes the blocking member **218** to move to the "unblocking" position where the blocking member **218** is substantially aligned with the blade holder protrusion **216**. If the container **10** is detached from the blade assembly **20**, the first spring-loaded tab **222** returns to its default "blocking" position in **FIG. 10**.

[0039] Thus, the blade assembly **20** can only be mounted to the base **30** by rotating the blade holder protrusions **216** into the recess **304** (shown in **FIGS. 14** and **15**) when the container **10** is attached to the blade assembly **20**. The blade holder protrusion **216** can only enter the recess **304** when the rim **102** of the container **10** depresses the first spring-loaded tab **222** to move the blocking member **218** into alignment with the blade holder protrusion **216**. If the container **10** is detached from the blade assembly **20**, the blocking member **218** returns to the

default position depicted by **FIG. 10**, thereby blocking the blade holder protrusion **216** from entering the recess **304**.

[0040] An embodiment of the blender **40** also has a second safety mechanism **230** as shown in **FIGS. 12** and **13**. The second safety mechanism **230** functions to ensure the motor in the base **30** can only be switched on when the container **10** and the blade assembly **20** are securely mounted to the base **30**.

[0041] As shown in **FIGS. 12** and **13**, the second safety mechanism **230** is comprised of an emitter **232** in the blade holder **202** and a corresponding detector **310** in the base **30**. The emitter **232** can be a magnet, a laser, or any similar device capable of sending a signal such as a radio frequency. The second safety mechanism **230** is capable of moving between an "off" position, as shown in **FIG. 12**, and an "on" position, as shown in **FIG. 13**. In the "on" position, the emitter **232** is aligned with the detector **310** to enable the motor in the base **30** to be activated. In the "off" position, the emitter **232** is not aligned with the detector **310**, which causes the motor to be turned off.

[0042] Referring more particularly to **FIG. 12**, the emitter **232** is connected to a second spring-loaded tab **234**, which protrudes from an opening in the trench **207** adjacent to the top collar wall **210** of the blade holder **202**. In an embodiment, the second spring-loaded tab **234** is adjacent to the first spring-loaded tab **222**. The second spring-loaded tab **234** can be a spring or any other resilient material, such as a plastic polymer, which can be compressed to move between the "off" position (**FIG. 12**) and the "on" position (**FIG. 13**).

[0043] The emitter **232** is capable of interacting with the detector **310** in the base **30** to activate the motor. The detector **310** is a component capable of receiving magnetic signals, optical signals, or radio signals from the emitter **232**. For example, if the emitter **232** is a magnet, the detector **310** could be a corresponding reed switch. In the preferred embodiment, the detector **310** is located at a terminal end of the recess **304** in ramp **302** such that the emitter **232** aligns with the detector **310** only when the blade holder protrusion **216** is fully inserted into the recess **304**.

[0044] In the default "off" position as shown **FIG. 12**, the detector **310** does not receive a signal from the emitter **232** because the emitter **232** is not aligned with the detector **310**. Thus, when the emitter **232** is not aligned with the detector **310**, the motor in the base **30** cannot be powered on. In order to power on the motor, it is necessary to move the emitter **232** into alignment with the detector **310** as shown **FIG. 13**. The emitter **232** moves into alignment with the detector **310** when the second spring-loaded tab **234** is fully depressed. When the container **10** is mounted on the blade assembly **20** as shown in **FIG. 13**, the rim **102** of the container **10** depresses the second spring-loaded tab **234** to move the emitter **232** into alignment with the detector **310** to switch the second safety mechanism **230** to the "on" position. When the second safety mechanism **230** is in the "on" position, the detector **310** receives a signal from the emitter **232** to activate the motor in the base **30**.

[0045] If the container 10 is removed from the blade assembly 20, the second-spring loaded tab 226 will return to its default "off position and the emitter 232 will be out of alignment with the detector 310, thereby causing the motor to be automatically shut off.

[0046] The first safety mechanism 220 and second safety mechanism 230 work in tandem and are redundant to ensure that the container 10 is properly secured to the blade assembly 20 before the motor in the base 30 can be powered on or stay on. For example, when the container 10 is mounted on the blade assembly 20, the rim 102 of container 10 will depress both the first spring-loaded tab 222 and the second spring-loaded tab 234 simultaneously. As a result, the first safety mechanism 220 will be toggled to the "unblocking" position and the second safety mechanism 230 will be toggled to the "on" position simultaneously to activate the motor in the base 30. The second safety mechanism 230 is redundant to the first safety mechanism 220 because if the container 10 becomes detached from the blade assembly 20 while the blade assembly 20 is mounted on the base 30, the second safety mechanism 230 will be toggled "off since the rim 102 of container 10 will no longer depress the second spring-loaded tab 234. Thus, the redundant safety feature will shut off the motor in the base 30 if the container 10 becomes detached during the operation of blender 40.

[0047] In another embodiment of the invention as illustrated in FIG. 9, the blade assembly 20 includes at least one retractable ball 240 that protrudes from the bottom collar rim 212 of the blade assembly 20. The retractable ball 240 is connected to the second spring-loaded tab 234 in the collar 208.

[0048] When the blade assembly 20 is affixed to the base 30 by rotating the blade holder protrusions 216 into the recesses 304, the retractable ball 240 slides along the top surface 306 before coming into contact with at least one nub 312 on the top surface 306 as shown in FIG. 17. The nub is positioned on top surface 306 such that the retractable ball 240 comes into contact with nub 312 when the blade holder protrusion 216 reaches the terminal end of the recess 304. As the retractable ball 240 passes over the nub 312, it retracts and then springs back into place, making an audible sound, such as a "clicking" noise. The audible sound informs the user that the blade holder protrusion 216 has reached the terminal end of the recess 304 and therefore a secure connection has been formed between the blade assembly 20 and the base 30. The user can confirm that the blade assembly 20 is secured on the base 30 by the audible "click" from the retractable ball 230.

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

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- US8403556B [0008]
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MIXER MED SIKKERHEDSMEKANISMER**Patentkrav****1. En blender (40), der omfatter:**

en beholder (10), hvor ovennævnte beholder (10) har en åben ende (101);
et klingeaggregat (20), hvor ovennævnte klingeaggregat (20) er aftageligt fastgjort på ovennævnte åbne ende (101) af ovennævnte beholder (10);
et fodstykke (30), hvor ovennævnte fodstykke (30) har en motor til at drive ovennævnte blender (40), når ovennævnte klingeaggregat (20) er monteret på ovennævnte fodstykke (30);
hvor ovennævnte blender (40) yderligere omfatter:
en første sikkerhedsmekanisme (220), der kan flyttes mellem en første position og en anden position;
en anden sikkerhedsmekanisme (230), der kan flyttes mellem en tredje position og en fjerde position;
hvor ovennævnte klingeaggregat (20) yderligere omfatter:
en klingeholder (202), hvor ovennævnte klingeholder (202) har mindst ét klingeholderfremspring (216);
et klingeumpenhjul (204) tilsluttet ovennævnte klingeholder (202);
mindst én klinge (200), hvor ovennævnte klinge (200) er tilsluttet ovennævnte klingeumpenhjul (204);
hvor ovennævnte fodstykke (30) yderligere omfatter:
et motorumpenhjul (308) drevet af ovennævnte motor; og
mindst en fordybning (304) i fodstykket til placering af ovennævnte mindst ét klingeholderfremspring (216);
kendetegnet ved, at ovennævnte klingeaggregat (20) er fastgjort på ovennævnte fodstykke (30) ved sammenkobling af ovennævnte klingeumpenhjul (204) med ovennævnte motorumpenhjul (308) og indføring af ovennævnte mindst ét klingeholderfremspring (216) i ovennævnte mindst én fordybning (304) i fodstykket;
hvor ovennævnte første sikkerhedsmekanisme (220) yderligere omfatter:
mindst én bevægelig første tand placeret i ovennævnte klingeholder (202);
en blokerende del (218) tilsluttet ovennævnte første tand, hvor ovennævnte blokerende del (218) sidder ved siden af ovennævnte mindst ét klingeholderfremspring (216);
kendetegnet ved, at ovennævnte blokerende del (218) forhindrer ovennævnte mindst ét klingeholderfremspring (216) i at komme ned i ovennævnte mindst én fordybning (304) i fodstykket, når ovennævnte blokerende del (218) er i ovennævnte første position;
kendetegnet ved, at når ovennævnte beholder (10) er fastgjort på ovennævnte klingeholder (202), trykker ovennævnte beholder (10) ned på ovennævnte første tand, så ovennævnte blokerende del (218) flytter til ovennævnte anden position for at gøre det muligt, at ovennævnte mindst ét klingeholderfremspring (216) indsættes i ovennævnte mindst én fordybning (304) i fodstykket;
kendetegnet ved, at ovennævnte klingeaggregat (20) kun kan fastgøres på ovennævnte fodstykke (30), når ovennævnte første sikkerhedsmekanisme (220) er i ovennævnte anden position ved at fastgøre ovennævnte beholder (10) på ovennævnte klingeaggregat (20);
kendetegnet ved, at ovennævnte blender (40) kan betjenes ved:

at fastgøre ovennævnte beholder (10) på ovennævnte klingeaggregat (20), således at ovennævnte første sikkerhedsmekanisme (220) flytter sig fra ovennævnte første position til ovennævnte anden position; og ovennævnte anden sikkerhedsmekanisme (230) flytter sig fra ovennævnte tredje position til ovennævnte fjerde position;

hvorved ovennævnte motor aktiveres, så den kun kan foretage en forarbejdning, når ovennævnte første sikkerhedsmekanisme (220) er i ovennævnte anden position og ovennævnte anden sikkerhedsmekanisme (230) samtidig er i ovennævnte fjerde position.

2. Blenderen (40) i overensstemmelse med patentkrav 1, hvor ovennævnte anden sikkerhedsmekanisme (230) omfatter:

mindst én sender (232) i ovennævnte klingeaggregat (20); og

mindst én detektor (310) i ovennævnte fodstykke (30);

kendetegnet ved, at ovennævnte mindst én sender (232) kan kommunikere med ovennævnte mindst én detektor (310) for at gøre det muligt at aktivere ovennævnte motor.

3. Blenderen (40) i overensstemmelse med patentkrav 2, hvor ovennævnte anden sikkerhedsmekanisme (230) yderligere omfatter:

mindst én bevægelig anden tand, der sidder i ovennævnte klingeholder (202); hvor ovennævnte sender (232) er tilsluttet ovennævnte mindst én bevægelige anden tand, således at ovennævnte sender (232) kan flytte sig mellem ovennævnte tredje position og ovennævnte fjerde position;

kendetegnet ved, at i ovennævnte tredje position er ovennævnte mindst én sender (232) ikke tilsluttet ovennævnte mindst én detektor (310);

kendetegnet ved, at i ovennævnte fjerde position er ovennævnte mindst én sender (232) tilsluttet ovennævnte mindst én detektor (310);

kendetegnet ved, at når ovennævnte beholder (10) er fastgjort på ovennævnte klingeholder (202), trykker ovennævnte beholder (10) ned på ovennævnte anden tand, således at ovennævnte mindst én sender (232) flytter sig fra ovennævnte tredje position til ovennævnte fjerde position for at gøre det muligt at aktivere ovennævnte motor.

4. Blenderen (40) i overensstemmelse med patentkrav 2 eller 3, kendetegnet ved, at ovennævnte mindst én sender (232) er en magnet og ovennævnte mindst én detektor (310) er en reed-kontakt.

5. Blenderen (40) i overensstemmelse med et af patentkrav 2 til 4, kendetegnet ved, at ovennævnte mindst én sender (232) er en RFID-chip og ovennævnte mindst én detektor (310) er en RFID-chipdetektor.

6. Blenderen (40) i overensstemmelse med et af foregående patentkrav, som yderligere omfatter:

mindst én dup (312) på ovennævnte fodstykke (30);

mindst én udtrækkelig kugle (240) på ovennævnte klingeaggregat (20);

kendetegnet ved, at når ovennævnte klingeaggregat (20) fastgøres på ovennævnte fodstykke (30), kommer ovennævnte mindst én udtrækkelig kugle (240) i kontakt med ovennævnte mindst én dup (312), så der laves en hørbar lyd.

7. Blenderen (40) i overensstemmelse med patentkrav 6, kendetegnet ved, at:

ovenstående mindst én dup (312) er placeret så ovenstående mindst én udtrækkelig kugle (240) kommer i kontakt med mindst én dup (312), når ovenstående klingeholderfremspring (216) når en sidste ende af fordybningen (304), således at ovenstående hørbare lyd angiver, at ovenstående klingeholderfremspring (216) har nået ovenstående sidste ende af ovenstående fordybning (304).

8. En metode til betjening af en blender (40) som angivet i patentkrav 1, hvor ovenstående metode omfatter:

fastgørelse af ovenstående beholder (10) på ovenstående klingeaggregat (20);

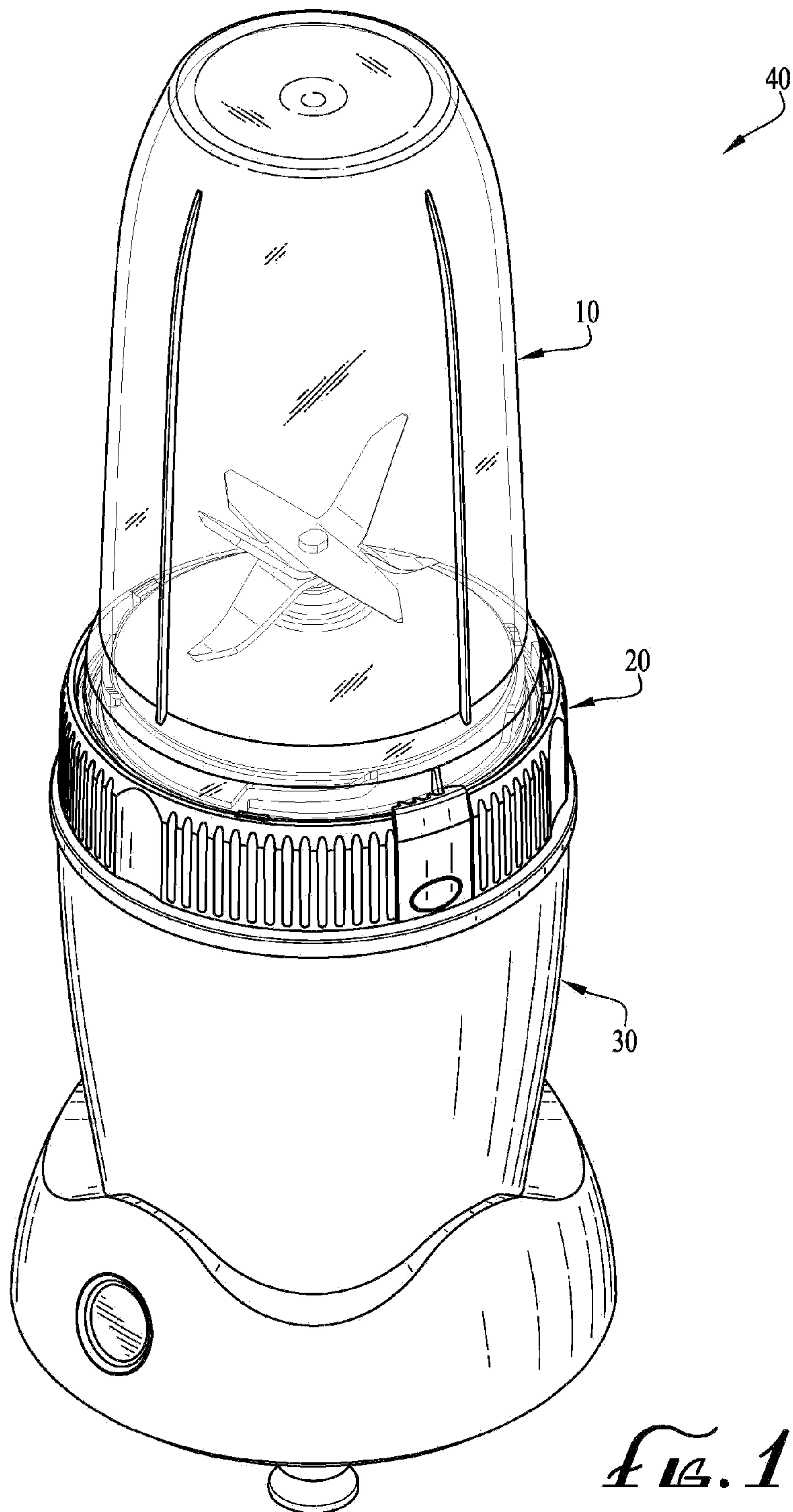
fastgørelse af ovenstående klingeaggregat (20) på ovenstående fodstykke (30);

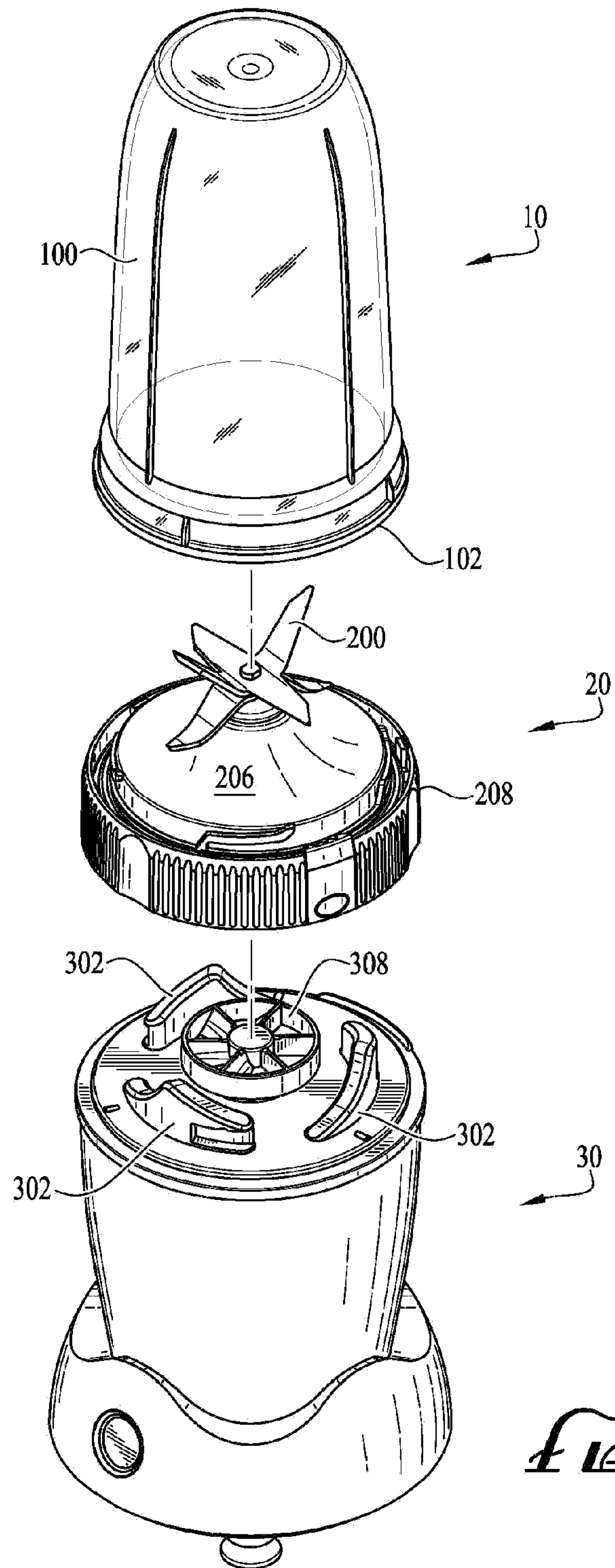
hvorved ovenstående beholder (10) fastgjort på ovenstående klingeaggregat (20) forårsager, at ovenstående første sikkerhedsmekanisme (220) flytter sig fra ovenstående første position til ovenstående anden position, og ovenstående anden sikkerhedsmekanisme (230) flytter sig fra ovenstående tredje position til ovenstående fjerde position.

9. Metoden i overensstemmelse med patentkrav 8, kendetegnet ved, at ovenstående klingeaggregat (20) kun kan fastgøres funktionsdygtigt på ovenstående fodstykke (30), når ovenstående beholder (10) er fastgjort på ovenstående klingeaggregat (20) og ovenstående første sikkerhedsmekanisme (220) er i ovenstående anden position.

10. Metoden i overensstemmelse med patentkrav 8 eller 9, kendetegnet ved, at ovenstående motor kun aktiveres, når ovenstående første sikkerhedsmekanisme (220) er i ovenstående anden position og ovenstående anden sikkerhedsmekanisme (230) samtidig er i ovenstående fjerde position.

DRAWINGS





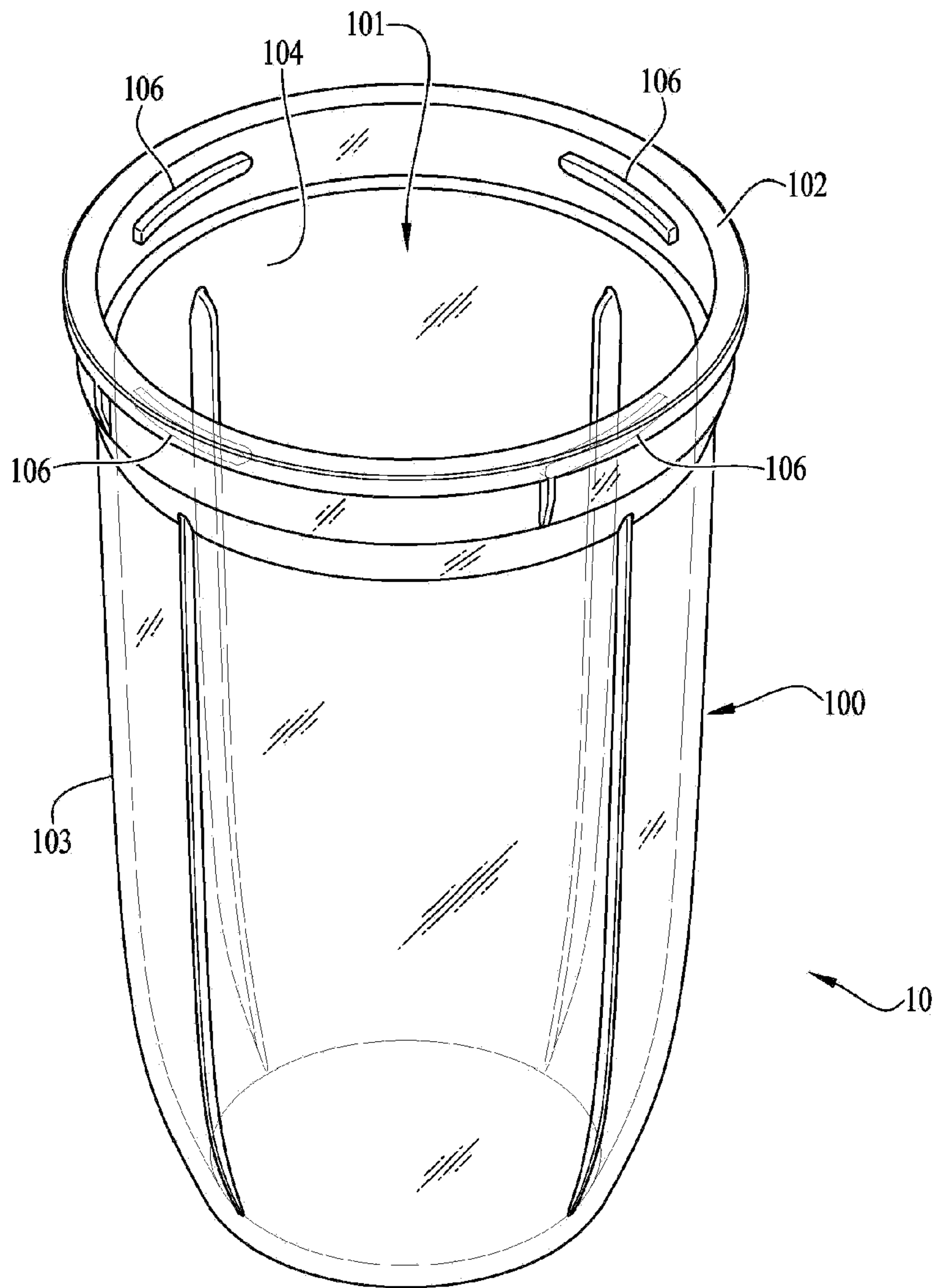
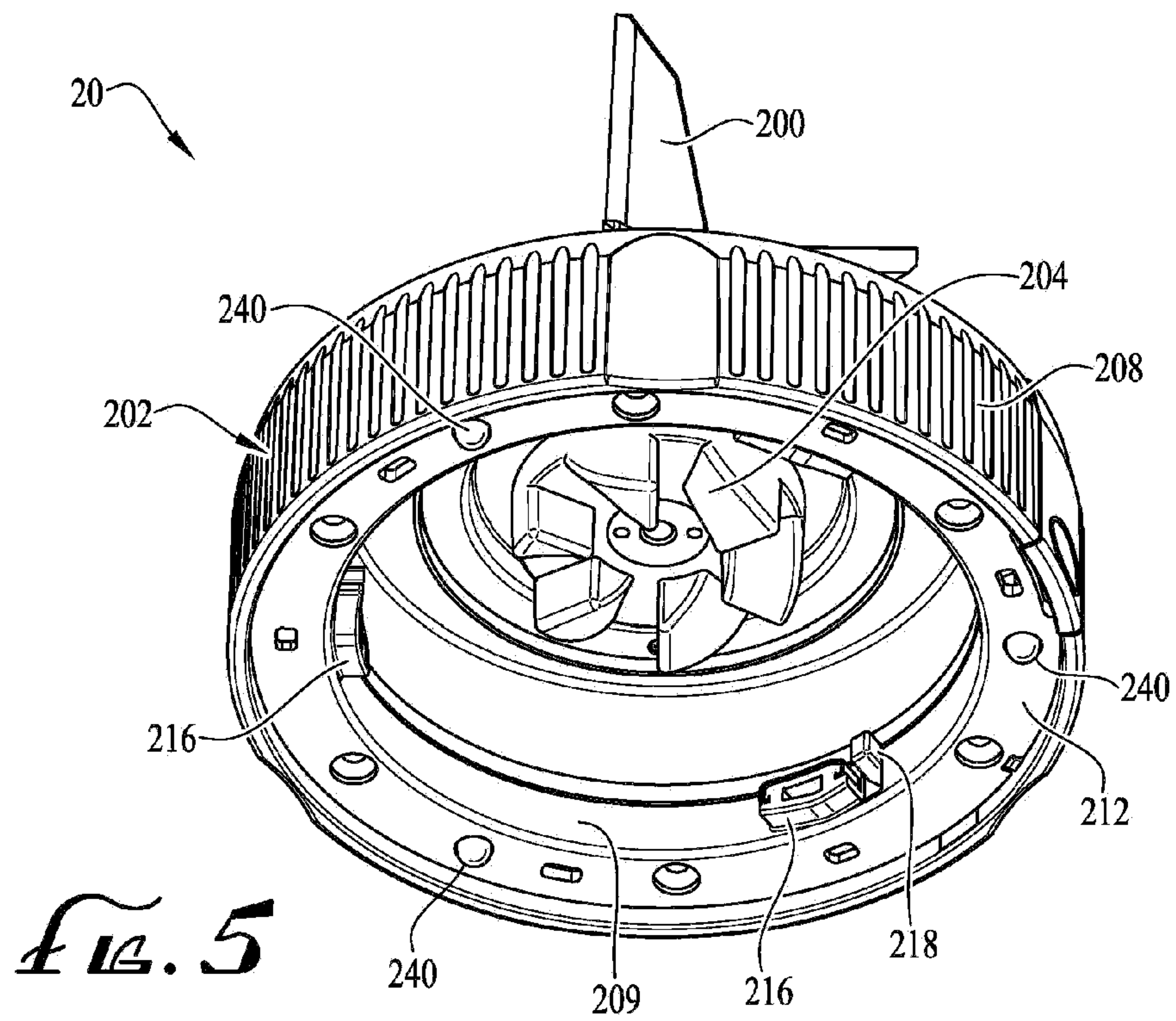
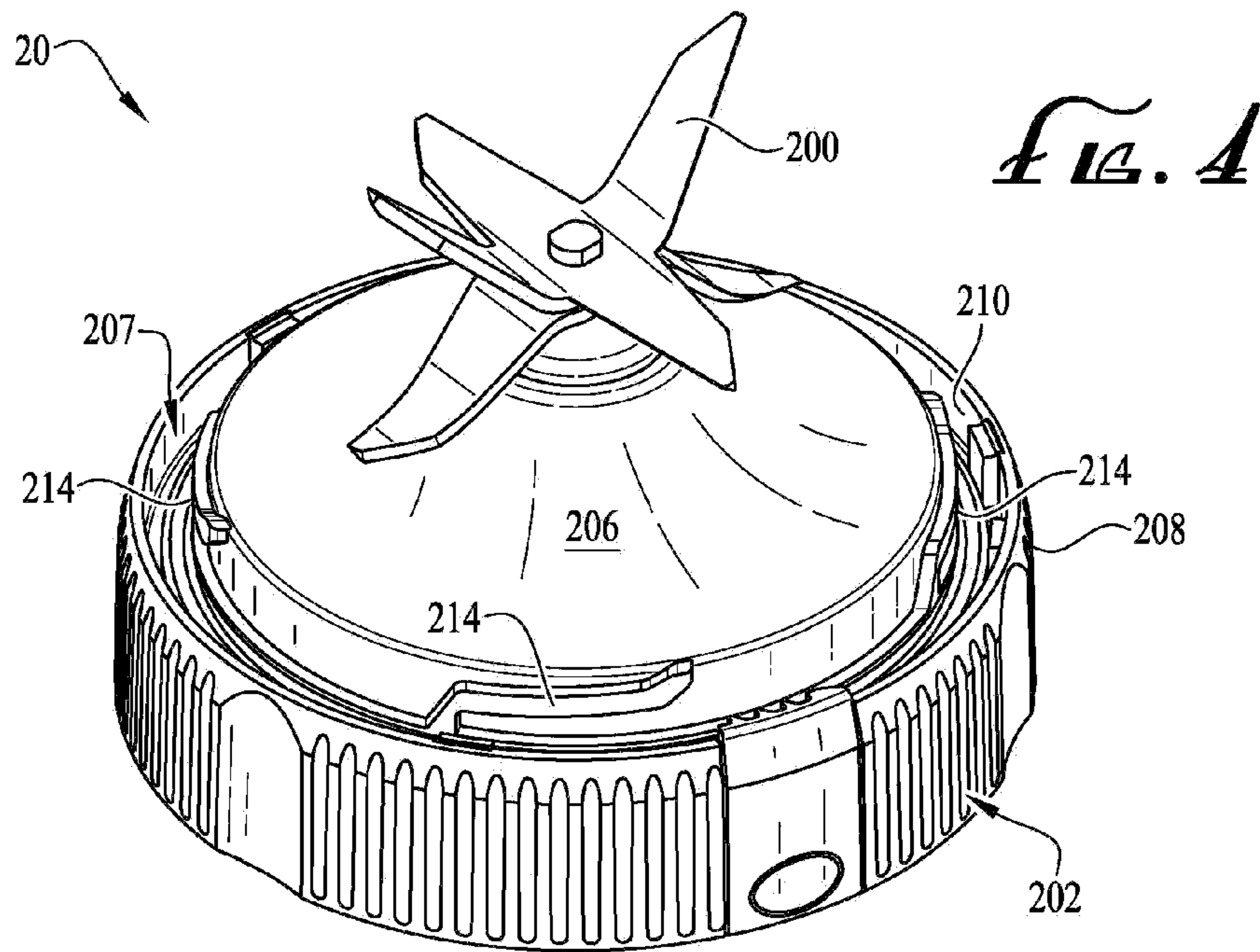
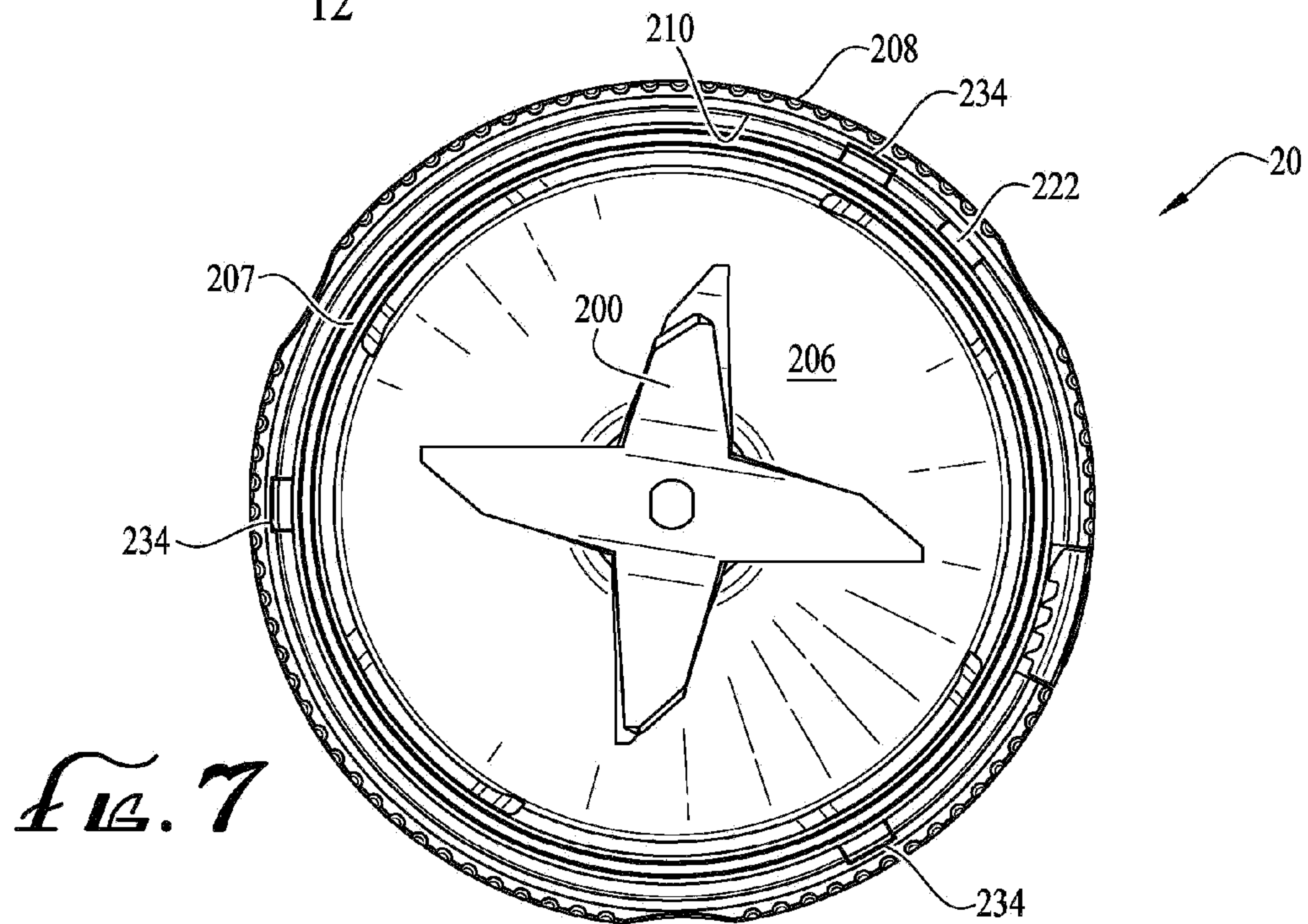
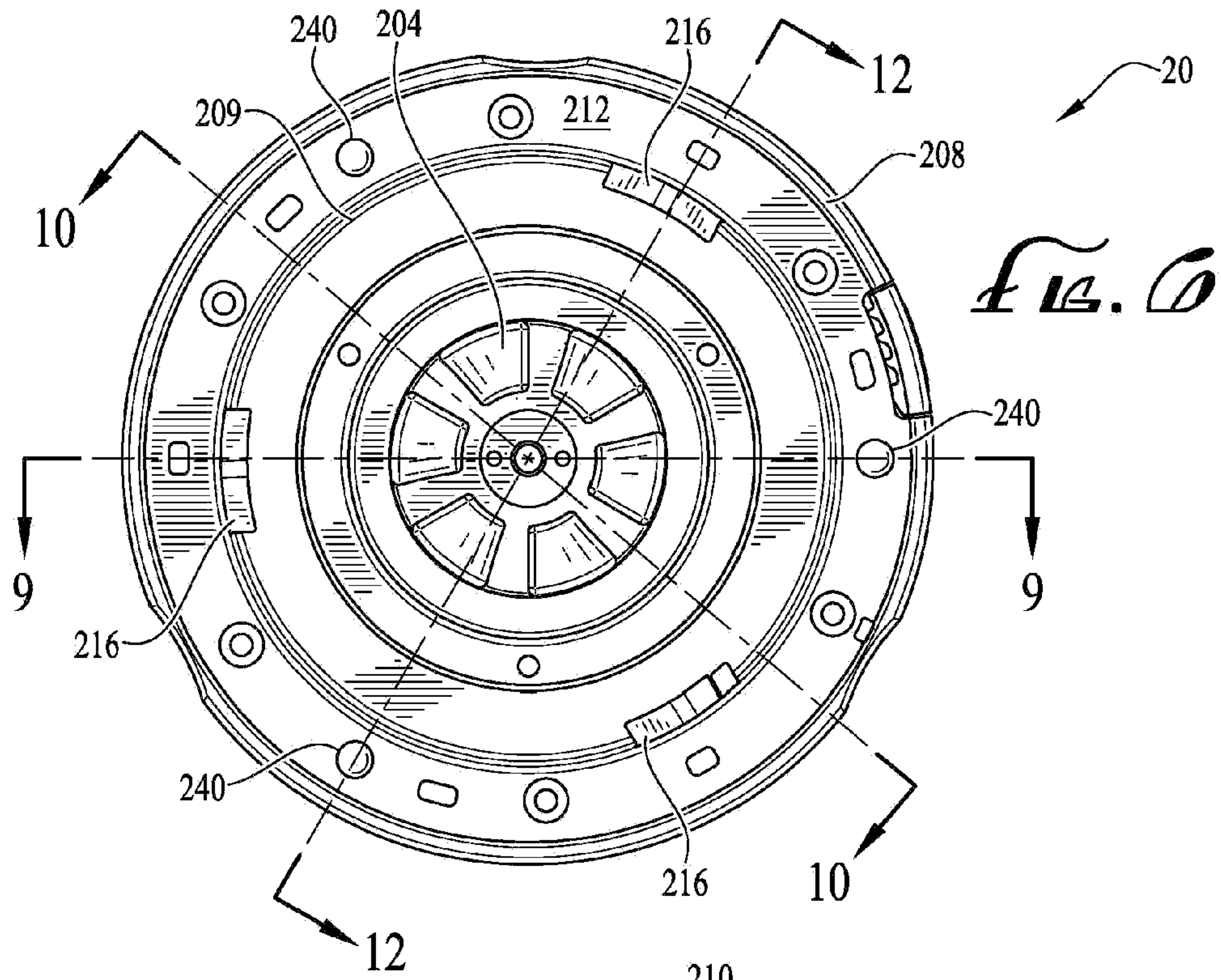
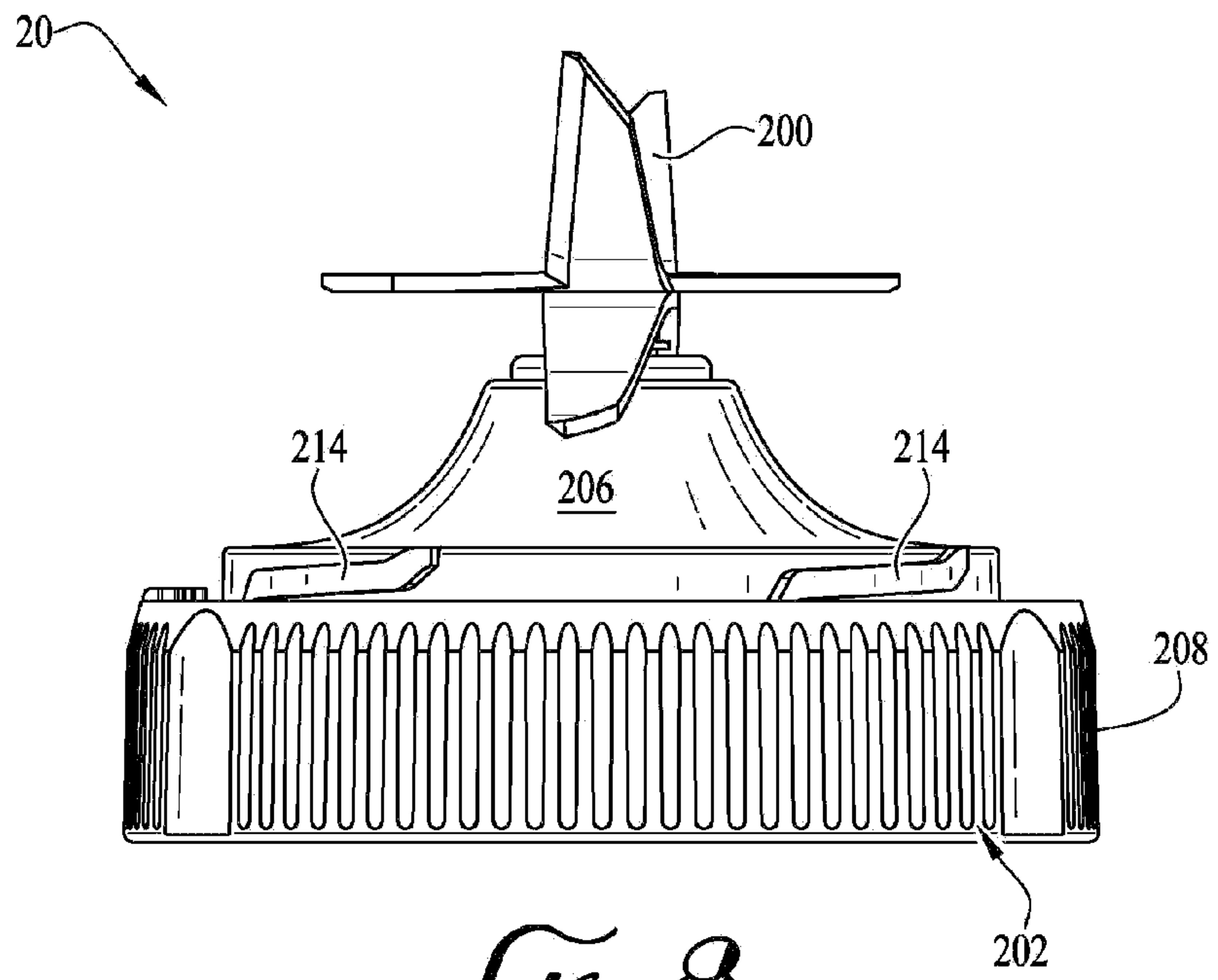


FIG. 3







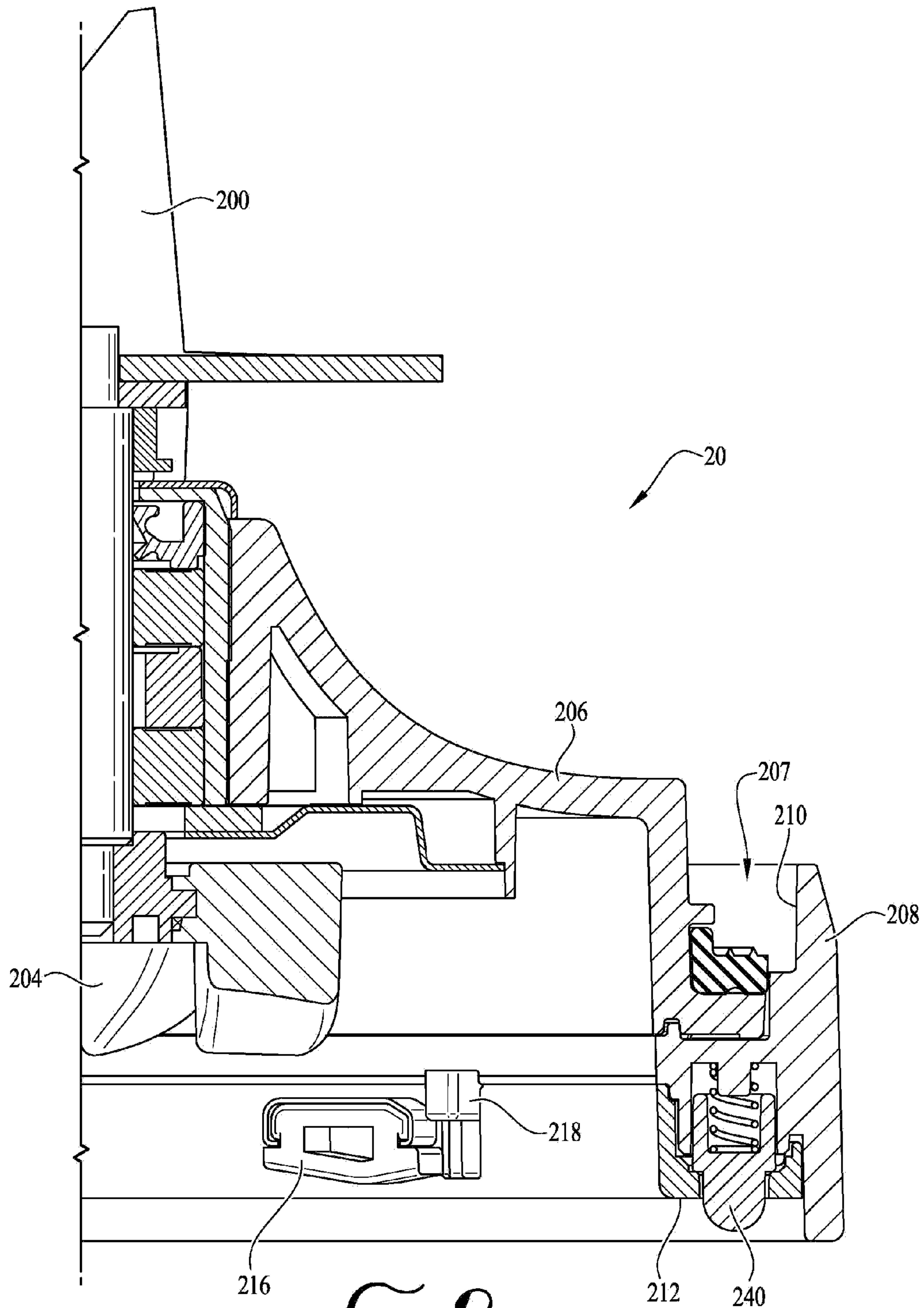


FIG. 9

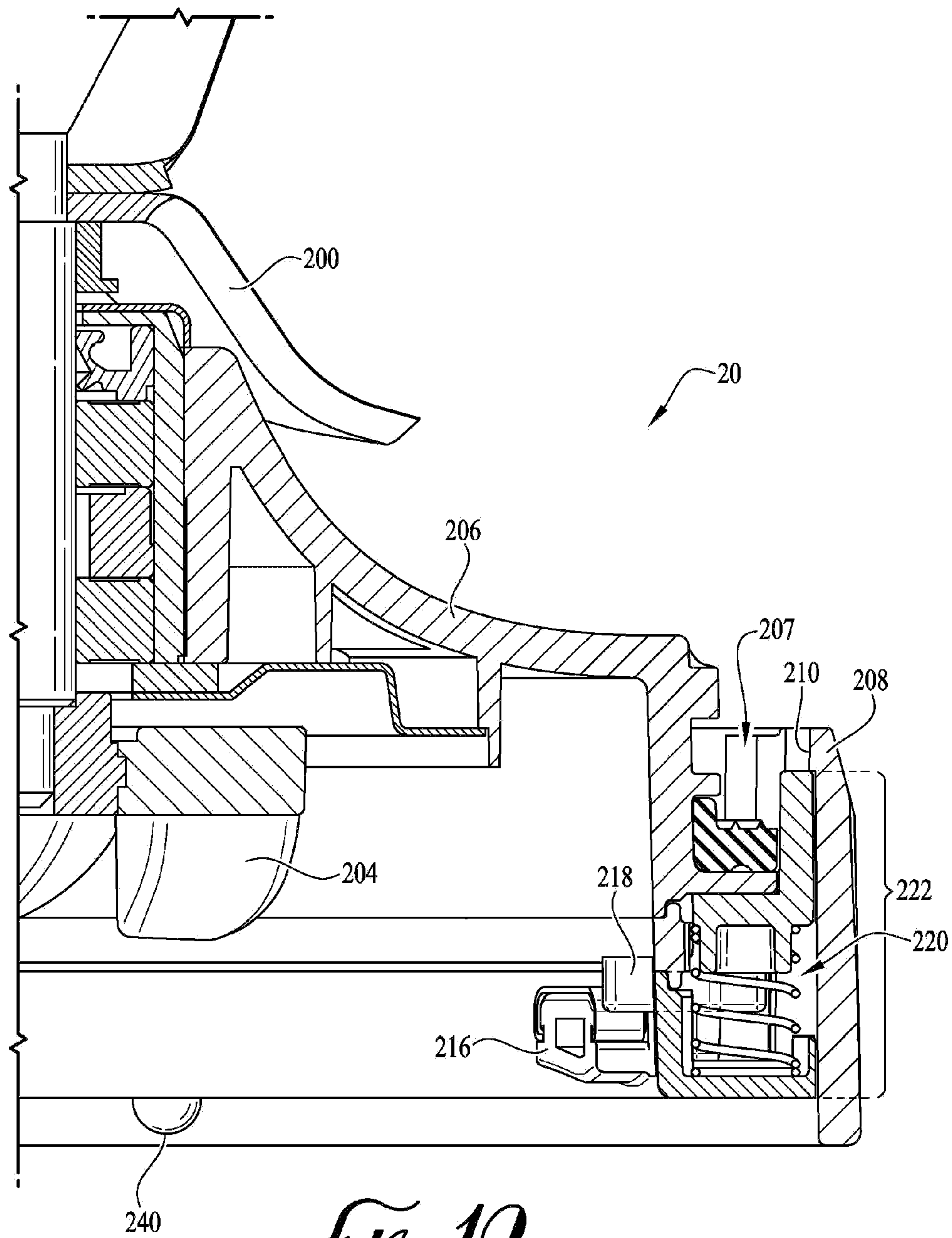
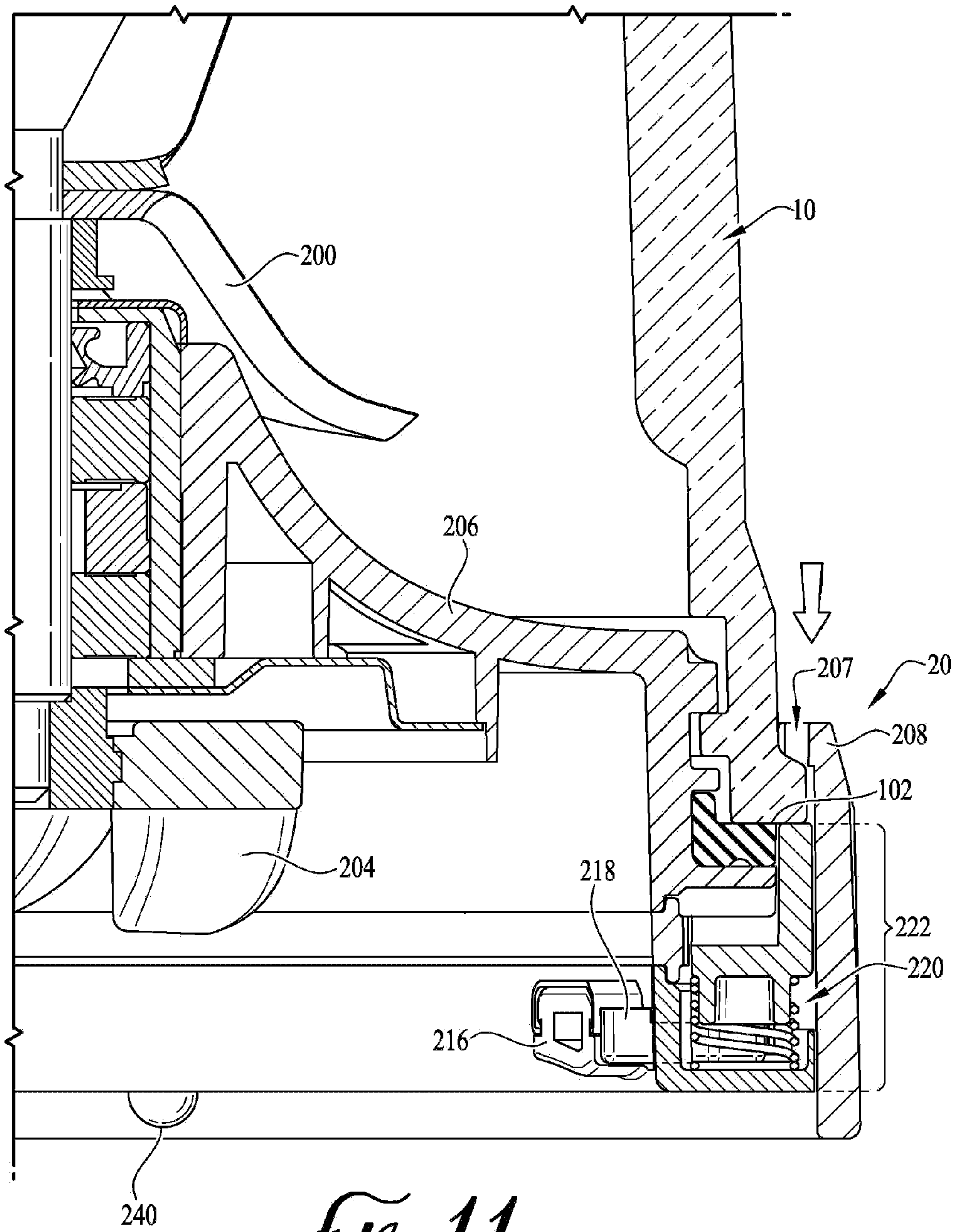


Fig. 10



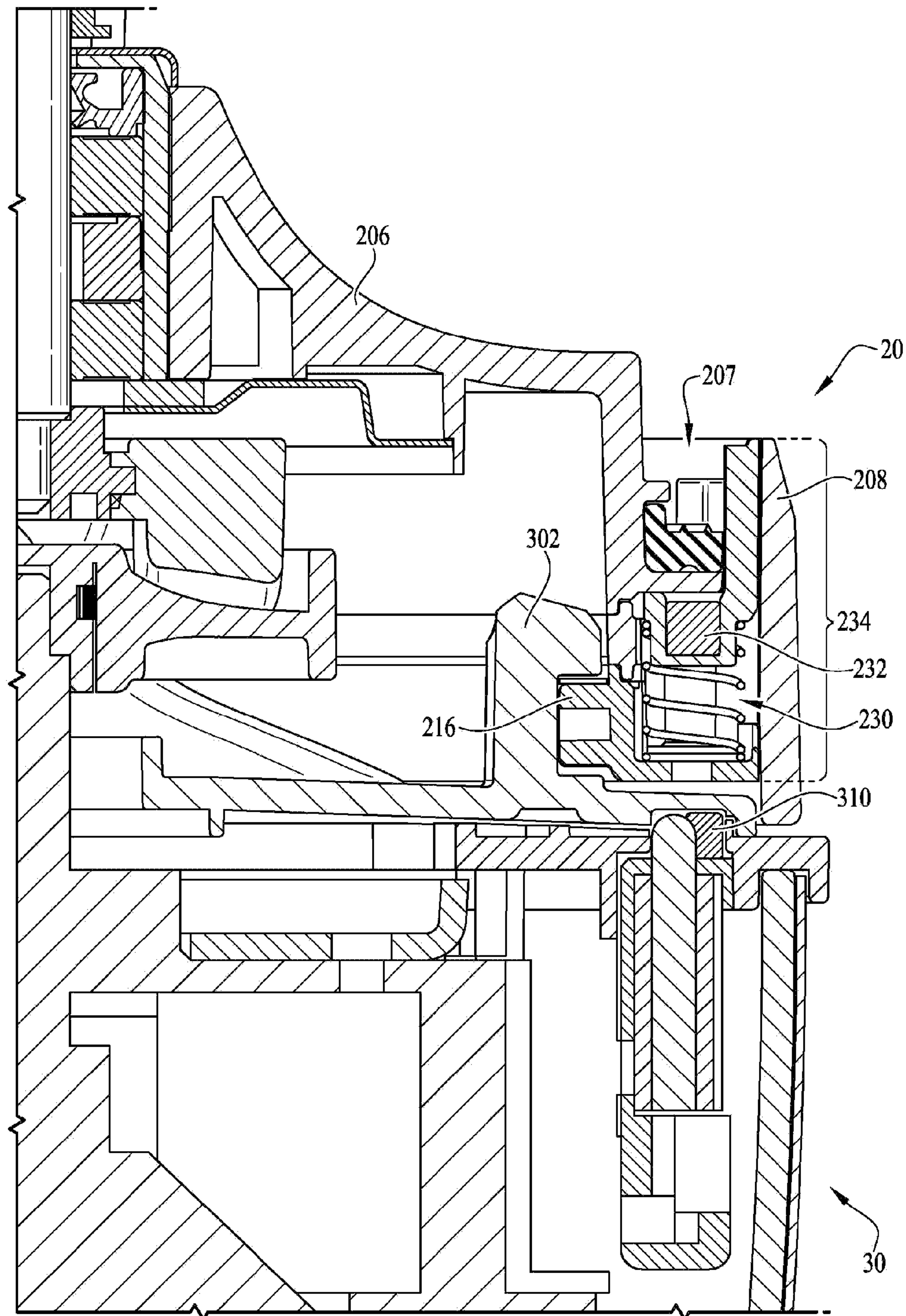


Fig. 12

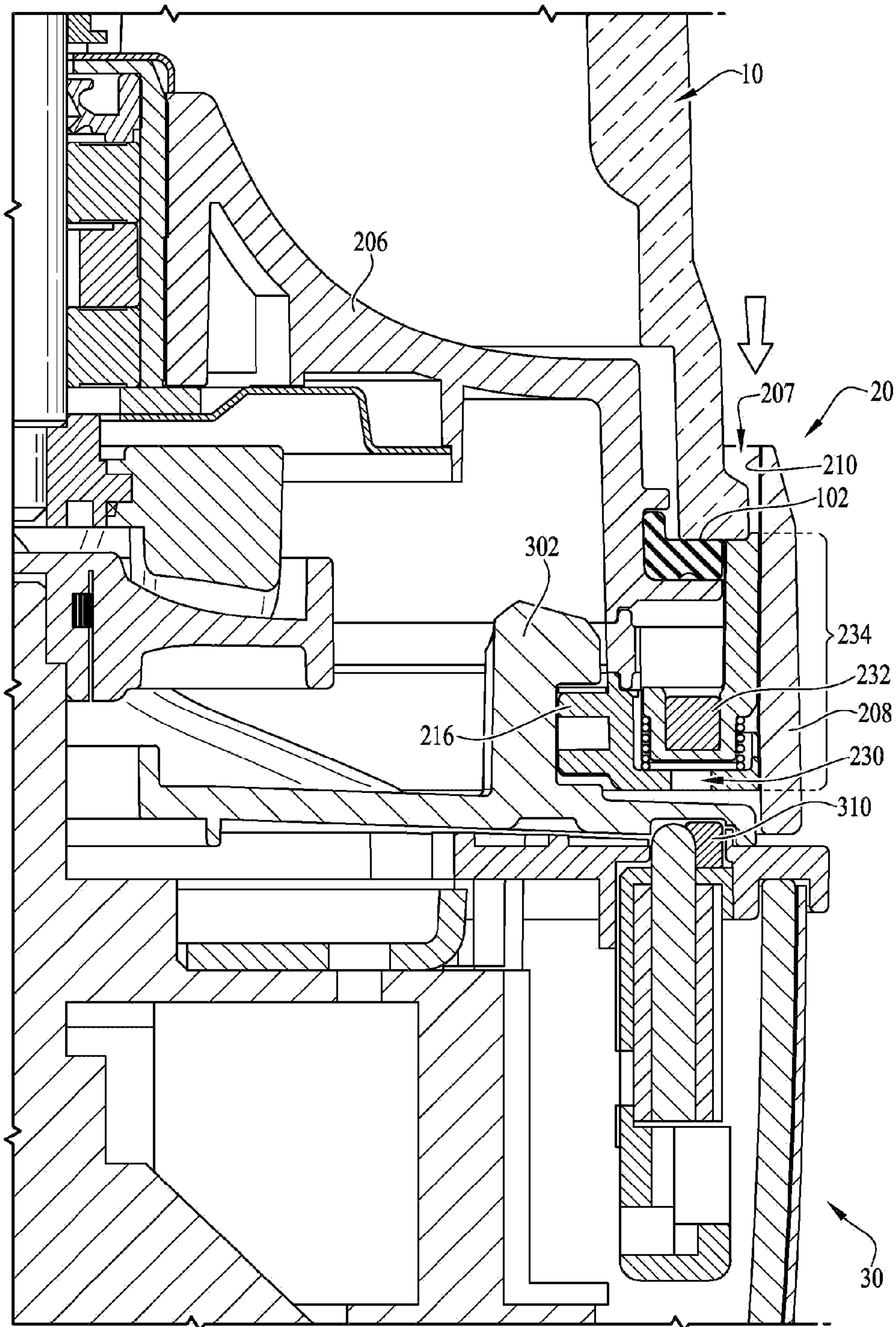


Fig. 13

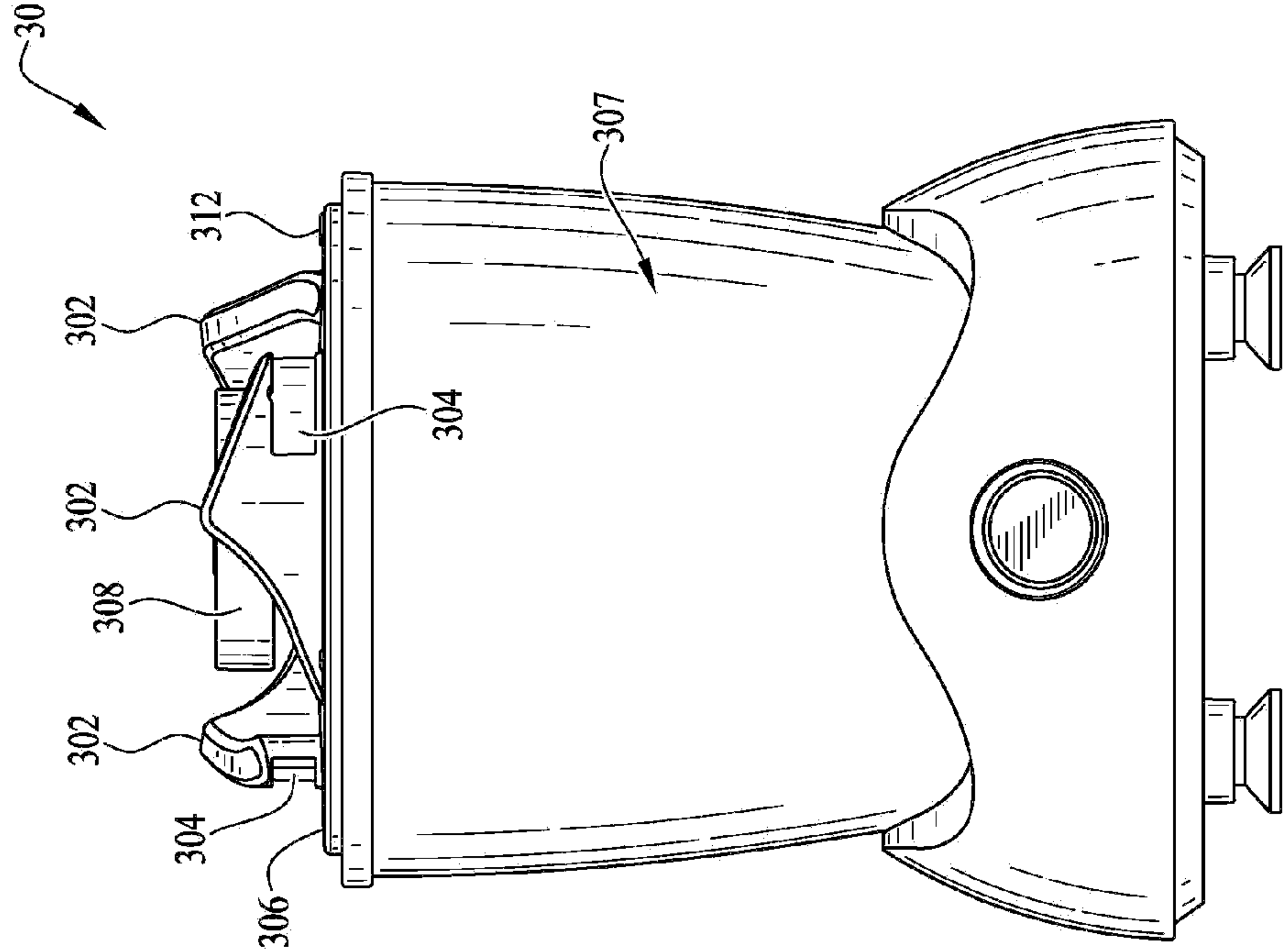


Fig. 15

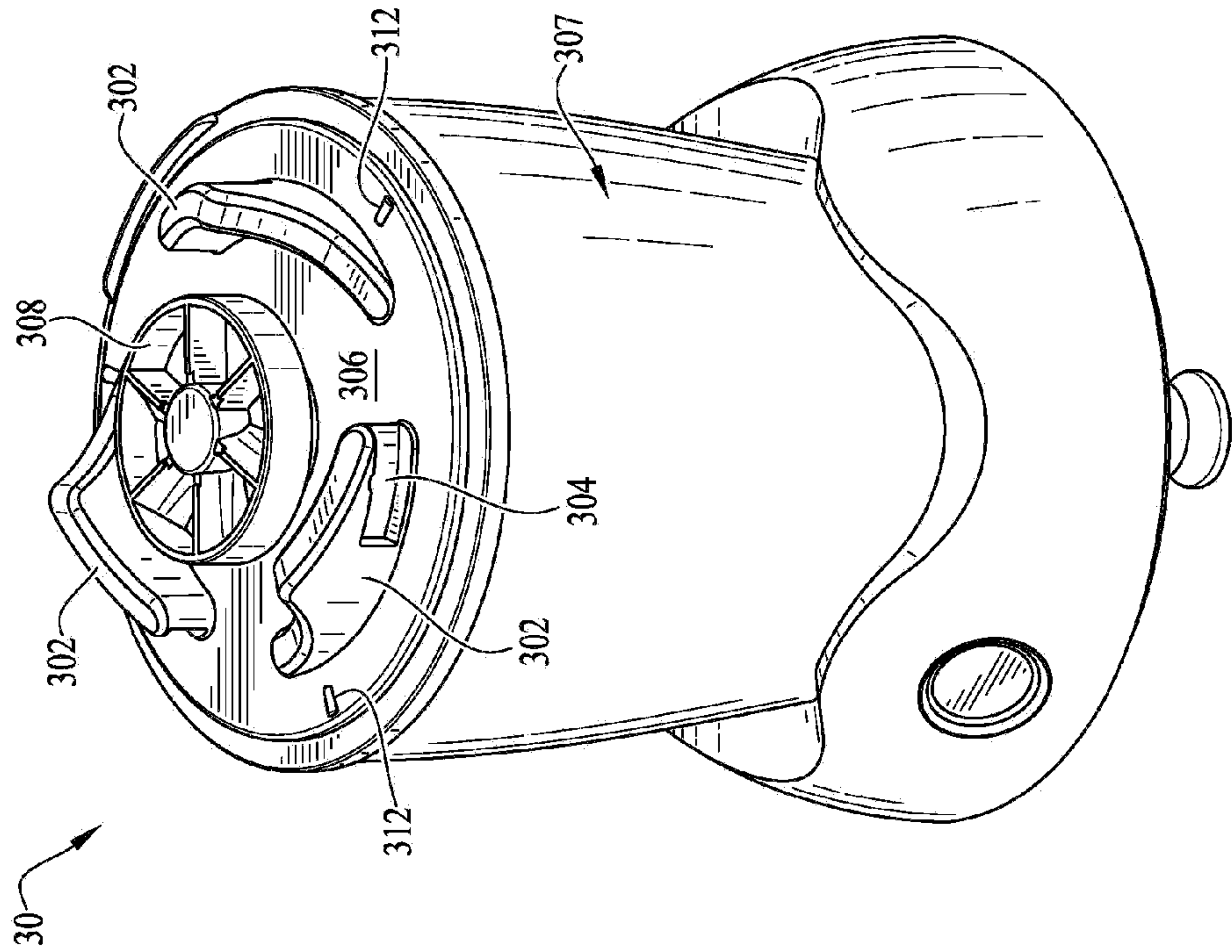


Fig. 14

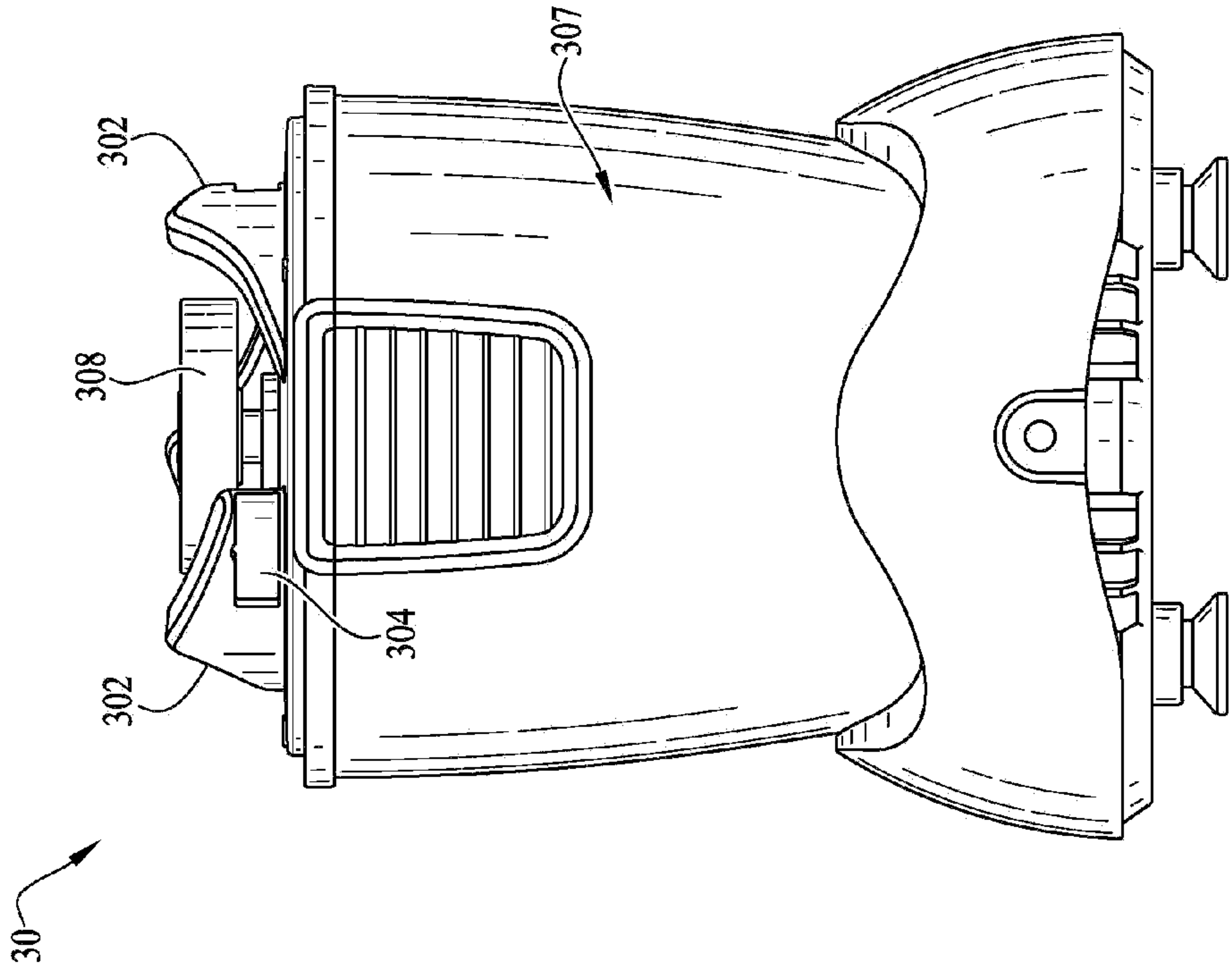


Fig. 10

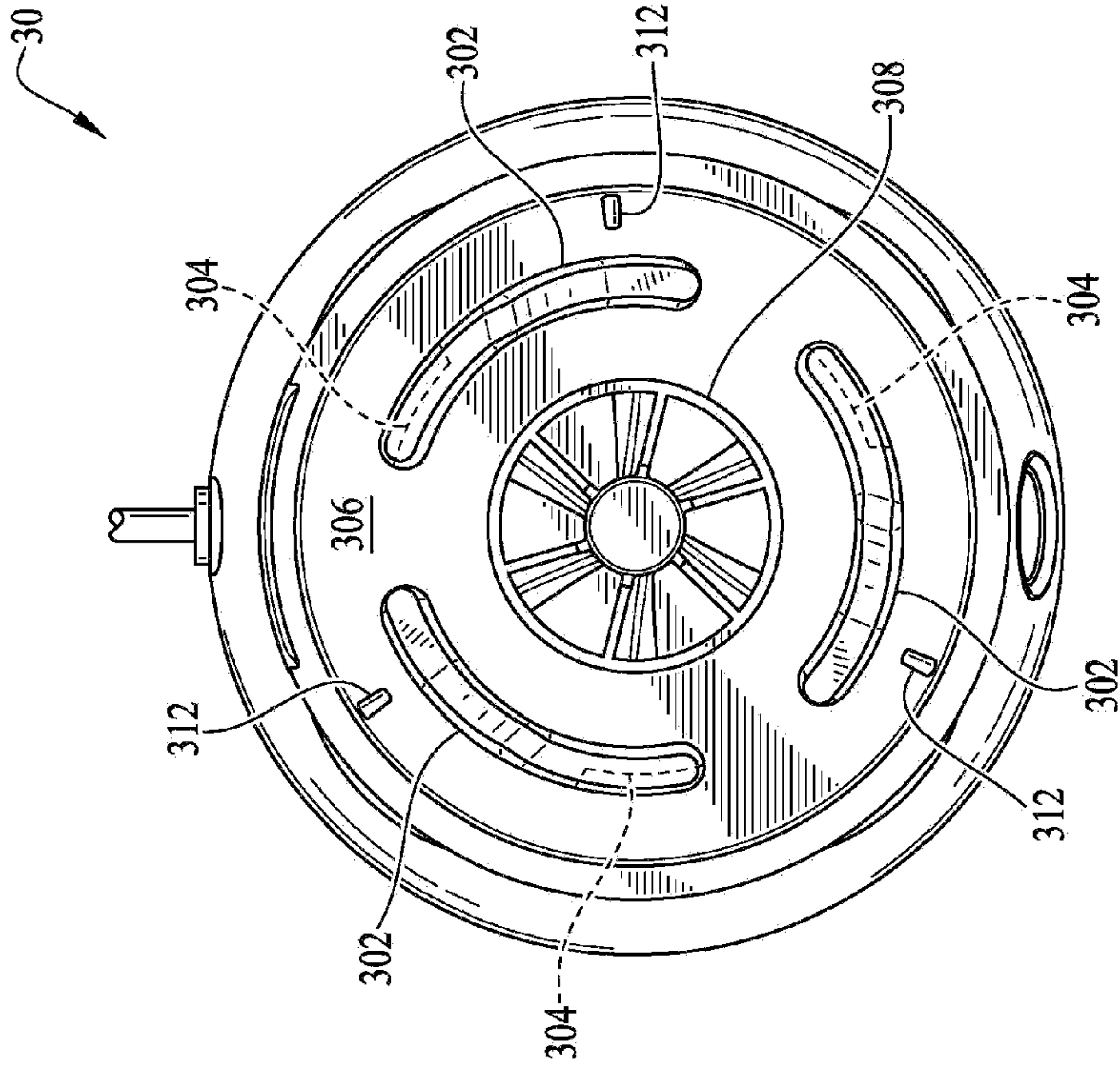


Fig. 17