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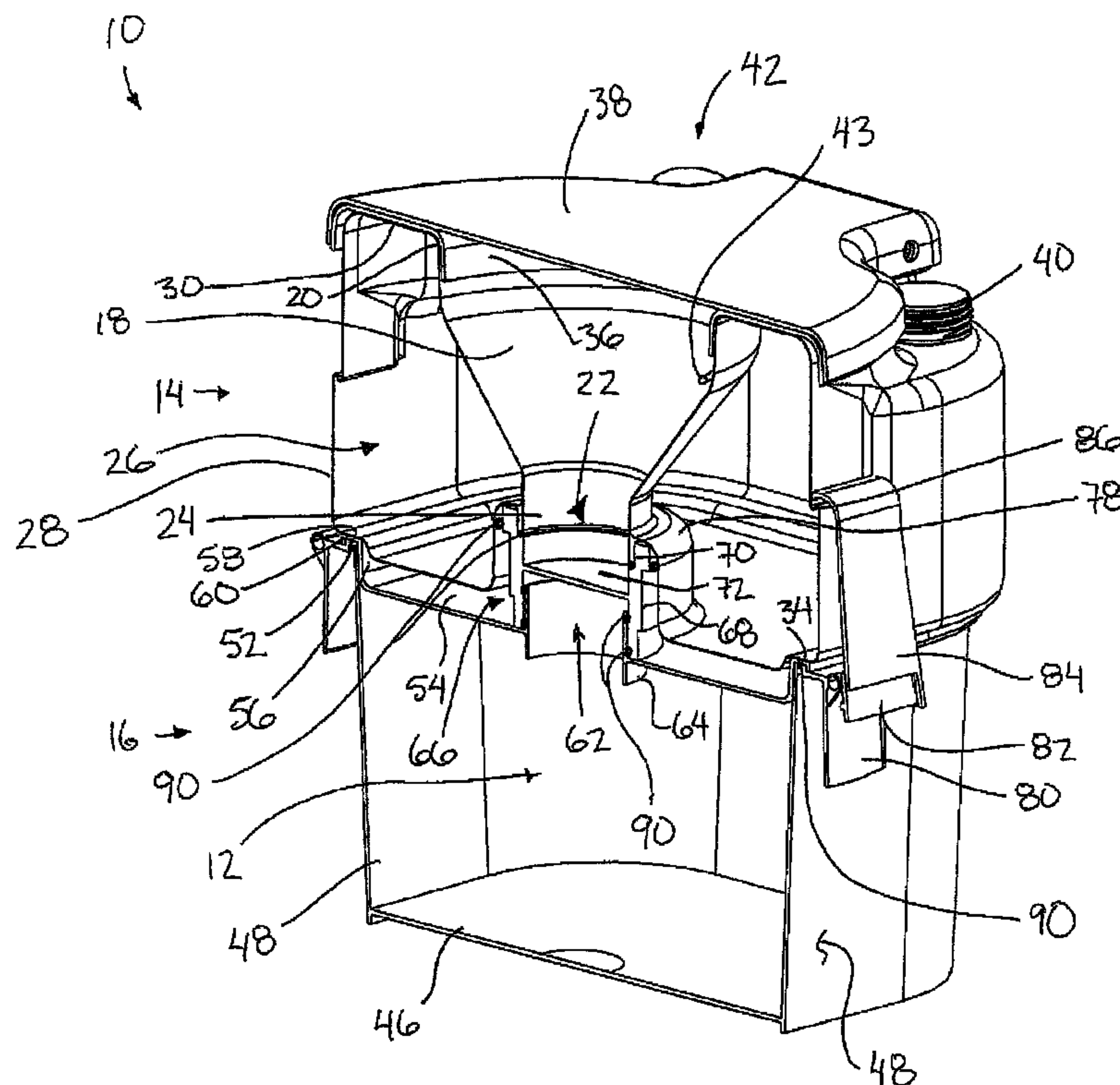
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(54) Titre : CUVETTES HYGIENIQUES PORTATIVES

(54) Title: PORTABLE TOILET



(57) Abrégé/Abstract:

A portable toilet comprises a holding tank and a toilet bowl unit supported above the holding tank. An uppermost wall of the holding tank locates an inlet opening therein which co-operates with a bottom discharge opening of the toilet bowl unit. A valve mechanism is operable across the inlet opening. The uppermost wall of the tank which locates the inlet opening therein is readily removable for greater access to the interior of the holding tank for disposal of the contents of the tank and for cleaning.

ABSTRACT

A portable toilet comprises a holding tank and a toilet bowl unit supported above the holding tank. An uppermost wall of the holding tank locates an inlet opening therein which co-operates with a bottom discharge opening of the toilet bowl unit. A valve mechanism is operable across the inlet opening. The uppermost wall of the tank which locates the inlet opening therein is readily removable for greater access to the interior of the holding tank for disposal of the contents of the tank and for cleaning.

PORTABLE TOILET

FIELD OF THE INVENTION

The present invention relates to a portable toilet, and more particularly relates to a toilet of the type have a bowl unit comprising a toilet bowl and flushing
5 reservoir detachably supported above a lower waste holding tank.

BACKGROUND

One known type of portable toilet involves a toilet bowl locating a reservoir for a flushing liquid therein which is detachably supported onto a waste holding tank. The holding tank normally supports the bowl unit thereon, but the bowl
10 unit can be separated from the waste holding tank for servicing or for disposing of the waste within the holding tank. A flushing mechanism typically delivers the flushing liquid from the reservoir into the bowl when flushing. The bowl discharges through a discharge opening in the bottom thereof which communicates with a cooperating opening in the holding tank. A valve mechanism in the discharge opening is normally
15 closed for sealing the holding tank shut; however the valve can be manually opened when discharging the contents of the toilet bowl into the holding tank.

Prior art designs of holding tanks in toilets of this type typically only include an inlet opening for communication with the discharge opening of the toilet bowl and which is sealed closed by the valve mechanism, and an outlet opening for
20 emptying the contents of the holding tank. Prior art designs of discharge openings are typically in the form of a small circular opening enclosed by a threaded cap in a side wall, typically adjacent the bottom of the tank. When locating the opening adjacent the bottom of the tank, such a small opening with a threaded cap is typically required to ensure a proper seal when the outlet is to be closed for use. The small and limited
25 access provided by the inlet opening and the outlet opening however make it very

difficult to clean the holding tank and remove any materials which may be clogged therein.

SUMMARY OF THE INVENTION

According to one aspect of the invention there is provided a portable
5 toilet comprising:

a bowl unit comprising a toilet bowl with a bottom discharge opening and a reservoir arranged to receive a flushing liquid for flushing the toilet bowl;

a holding tank arranged to support the bowl unit thereabove, the holding tank defining a waste holding chamber enclosed by a plurality of wall sections;

10 an inlet opening in an upper one of the wall sections of the holding tank which is arranged to co-operate with the discharge opening of the toilet bowl when the bowl unit is supported on the holding tank such that waste material in the toilet bowl is arranged to be received through the inlet opening into the waste holding chamber; and

15 a valve mechanism associated with the inlet opening of the holding tank, the valve mechanism comprising a valve member operable across the inlet opening between respective open and closed positions;

one of the wall sections of the holding tank comprising a removable wall section which is selectively separable from remaining ones of the wall sections such
20 that the remaining ones of the wall sections define a wall opening in the holding tank through which waste material in the waste holding chamber is arranged to be discharged.

According to a second aspect of the present invention there is provided a portable toilet comprising:

25 a holding tank defining a waste holding chamber surrounded by a

plurality of wall sections;

a bowl unit arranged to be supported above the holding tank comprising a toilet bowl with a bottom discharge opening;

an uppermost one of the wall sections of the holding tank comprising a removable wall section which is selectively separable from remaining ones of the wall sections such that the remaining ones of the wall sections define a wall opening in the holding tank spanning the top end of the holding tank through which waste material in the waste holding chamber is arranged to be discharged;

the uppermost one of the wall sections having an inlet opening therein which is arranged to co-operate with the discharge opening of the toilet bowl when the bowl unit is supported above the holding tank such that waste material in the toilet bowl is arranged to be received through the inlet opening into the waste holding chamber; and

a valve mechanism associated with the inlet opening of the holding tank, the valve mechanism comprising a valve member operable across the inlet opening between respective open and closed positions.

By providing a removable wall section in the holding tank, a larger area of the tank can be opened for greater access and ease of cleaning and discharging the contents of the holding tank. Locating the wall section at the top end allows a friction fit over a large area as compared to the prior art as such a configuration of sealing is generally sufficient when locating the opening above fluid levels in the tank. Furthermore no additional threaded connection and the like is required to effect proper sealing as the bowl unit clamped onto the holding tank can also serve to clamp the removable wall section in place by a common clamping mechanism.

By locating the inlet opening in the removable wall section, the resulting

walls of the holding tank are smooth and generally flat in profile to ensure ease of cleaning and to be free of any protrusions and the like which may be clogged or upon which waste may be caught. Providing a removable wall section also readily permits the use of liners to be used in the holding tank. The resulting structure of the holding tank having upright walls about the periphery thereof also provides adequate support for supporting the bowl unit thereon about the full periphery in a stable and strong manner without any additional intermediate supports and the like being required.

The removable wall section preferably comprises an uppermost one of the wall sections which spans a top end of the holding tank.

More particularly, the inlet opening is preferably located in the removable wall section in the preferred embodiment.

The removable wall section may be held in a closed position spanning the wall opening by the bowl unit supported on the holding tank. In this instance, the bowl unit may be arranged to be latched to the holding tank in an assembled position in which the removable wall section is clamped between the holding tank and the removable wall section.

The bowl unit is preferably supported on the removable wall section with the removable wall section being supported on the holding tank.

When the wall sections include a plurality of upright perimeter wall sections, the removable wall section preferably overlaps a top end of the perimeter wall sections about a full periphery of the wall opening to support the bowl unit thereon.

More particularly, the plurality of wall sections may comprise a bottom wall section, a plurality of upright side walls sections extending upwardly from the bottom wall section about a periphery thereof and formed integrally therewith, and a

top wall section spanning a wall opening defined at a top end of the holding chamber by the side wall sections, in which the top wall section comprises the removable wall section.

5 The bottom wall section and the side wall sections are preferably generally flat and smooth.

The wall opening preferably fully spans a top end of the holding tank.

The removable wall section may be arranged to be frictionally engaged and retained within the wall opening. In this instance, the removable wall section is preferably arranged to frictionally engage inner surfaces of the holding tank about a
10 full periphery of the wall opening.

The removable wall section may be arranged to be snap fit over the wall opening.

Connection between the valve mechanism and the inlet opening is preferably stronger than connection between the valve mechanism and the discharge
15 opening such that a greater force is required to separate the valve mechanism from the inlet opening of the holding tank than to separate the valve mechanism from the discharge opening of the bowl unit.

Preferably the wall opening has an area which is plural times greater in magnitude than an area of the inlet opening.

20 When the wall sections include a plurality of upright wall sections about the wall opening, preferably at least a forwardmost one of the wall sections is generally curved about the wall opening.

The toilet may be provided in combination with a liner securable within the waste holding chamber about a periphery of the wall opening.

25 There may be provided a gauge supported on the holding tank and

arranged to visually indicate a volume of contents in the waste holding chamber.

One embodiment of the invention will now be described in conjunction with the accompanying drawings in which:

BRIEF DESCRIPTION OF THE DRAWINGS

5 Figure 1 is a perspective view of the portable toilet.

Figure 2 is a perspective view of the portable toilet in which the bowl unit is shown separated from the holding tank and valve mechanism.

Figure 3 is a sectional perspective view of the portable toilet in an assembled configuration.

10 Figure 4 is a perspective view of the holding tank with the top wall section separated therefrom.

Figure 5 is a perspective view of the valve mechanism shown separated from the top wall section of the holding tank.

15 Figure 6 is a front elevational view of the holding tank with the top wall section shown separated.

Figure 7 is a top plan view of the base of the holding tank.

Figure 8 is a perspective view of the bowl unit with the seat and lid shown removed.

Figure 9 is a front elevational view of the bowl unit according to Figure 8.

20 Figure 10 is a perspective view of the lid of the portable toilet.

Figure 11 is a perspective view of the seat of the portable toilet.

In the drawings like characters of reference indicate corresponding parts in the different figures.

DETAILED DESCRIPTION

25 Referring to the accompanying figures there is illustrated a portable

toilet generally indicated by reference numeral 10. The toilet 10 is generally of the type in which a flushing fluid is used to flush waste into a waste holding chamber 12 which can be detached for subsequent disposal of the waste therein.

The portable toilet includes a bowl unit 14 which is detachably mounted
5 on a holding tank 16 so as to be selectively separable therefrom. The holding tank 16 locates the waste holding chamber 12 therein.

The bowl unit includes a toilet bowl 18 which has an inner surface tapering downwardly and inwardly from an upper rim 20 to a central discharge opening 22 defining a respective discharge rim 24 adjacent the bottom of the bowl
10 unit. The toilet bowl 18 is surrounded by an annular reservoir 26 which receives the flushing liquid therein prior to its use for flushing waste into the waste holding chamber. The bowl unit includes an annular upright side wall 29 which defines an outer wall of the reservoir 26 while the inner wall of the annular reservoir is defined by the generally conical surface of the toilet bowl 18. A generally flat annular top wall 30
15 and a generally flat annular bottom wall 32 enclose the top and bottom ends of the annular reservoir for the flushing liquid.

The bottom wall 32 of the bowl unit includes a peripheral shoulder 34 about a periphery of the bowl unit to define a central lower stepped portion of the bottom wall 32 such that the shoulder 34 comprises a generally annular, flat,
20 horizontal bearing surface above the bottom wall 32, and at the perimeter of the bowl unit, which is suitably arranged to be supported on the holding tank 16.

A toilet seat 36 is arranged to be supported on top of the bowl unit so as to be hinged at a rear side of the toilet in a generally conventional manner. The seat
16 has an annular configuration for being engaged upon the annular rim 20 of the
25 toilet bowl when pivoted into a horizontal in-use position. A toilet lid 38 is also hinged

at the rear of the bowl unit to fully span the seat 36 to enclose the central opening thereof in a conventional manner.

The bowl unit also includes a fill port 40 onto which a screw cap may be secured to selectively enclose the fill port 40. When the screw cap is removed, the fill
5 port permits the flushing fluid to be replenished in the annular reservoir 26 with which the fill port communicates. The fill port 40 is situated at a top end of the bowl unit, adjacent the hinge of the lid 38 at a rear end of the bowl unit.

A flush mechanism 42 is also provided on the bowl unit for communication with the flushing liquid in the annular reservoir to effectively pump fluid
10 from the reservoir and into the toilet bowl when actuated. The flushing mechanism 42 may comprise any one of various conventional flushing mechanisms available in the prior art relating to portable toilets. In the illustrated embodiment, the mechanism 42 comprises a manually operated pump which serves to pump fluid from the reservoir 26 through a flushing discharge tube 43 which discharges onto the inner surface of
15 the toilet bowl 18 adjacent a top end thereof. The mechanism 42 is situated on the top of the bowl unit adjacent the hinge of the lid at the rear end of the bowl on an opposing side of the bowl unit relative to the fill port 40.

Upon a user manually pressing the flushing mechanism 42 at the top rear end of the bowl unit, flushing fluid from the reservoir 26 will be dispensed into the
20 toilet bowl 18 for flushing waste downwardly into the discharge opening.

The holding tank 16 generally includes a base 44 comprised of a bottom wall section 46 and a plurality of side wall sections 48. The side wall sections 48 are joined with one another to form a continuous annular wall joined with the bottom wall section 46 about the periphery thereof so that the bottom wall section 46 and the side
25 wall sections 48 together define an integrally injection moulded receptacle with a wall

opening 50 spanning the open top end thereof between the generally upright side wall sections 48. The side wall sections 48 are oriented in a near vertical orientation with a slightly upward and outward taper relative to one another. The side wall sections 48 are joined with one another at rounded corners so that the wall sections together form
5 a smooth continuous wall having a flat inner surface which is free of any protrusions or recesses upon which waste material may be caught or collected.

A laterally protruding lip 52 is provided at the top end of the side wall sections 48 to extend about a full periphery of the wall opening defined at the top end of the base 44. The lip 52 provides some reinforcement to the top edge of the side
10 wall sections while also providing a suitable structure onto which a top wall section 54 may be adequately secured.

The upright side wall sections 48 at the front of the holding tank 16 are arranged to form an arcuate path of generally semicircular shape as viewed from above so that the front portion of the holding tank forms a spout-like structure that
15 functions as a suitable spout when dumping the waste contents of the holding tank through the wall opening 50 defined as spanning the open top end of the holding tank when the removable top wall section 54 is separated from the side wall sections 48.

The top wall section 54 comprises a generally flat and rigid panel which is arranged to fully span the top wall opening 50 of the holding tank for enclosing the
20 opening 50 while remaining selectively separable from the remaining wall sections 46 and 48 of the holding tank for access to the holding chamber 12 defined within the interior of the holding tank 16 as desired. The top wall section 54 includes a raised edge 56 about the periphery thereof which is suitably sized so as to be snugly frictionally engaged within the wall opening 50 in the holding tank so that the raised
25 edge 56 of the top wall section 54 is in sealing engagement with the inner surfaces of

the side wall sections 48 when the top wall section 54 is mounted in use for enclosing the wall opening 50.

A peripheral lip 58 projects radially outward from the raised edge 56 of the top wall section 54 spaced above the main panel portion of the top wall section so
5 that the peripheral lip 58 is suitably arranged to overlap the top side of the lip 52 about a full periphery of the wall opening 50 in the holding tank 16.

An additional depending flange 60 is provided on the peripheral lip 58 also about the full periphery thereof to extend downwardly from the lip 58 spaced outwardly from the raised edge 56 so as to define a channel between the depending
10 flange 60 and the raised edge 56 of the top wall section 54 which snugly receives the lip 52 by friction fit therein. The depending flange 60 thus overlaps the outer side of the lip 52 about the wall opening 50 of the holding tank. The friction fit of the lip 52 of the holding tank received in the channel defined about the perimeter of the top wall section 54 provides a suitable seal between the top wall section and the remaining
15 wall section to prevent the escape of splashing fluids within the waste holding chamber 12 in the holding tank during transport to a dumping location for discharging the contents of the waste holding chamber. In further embodiments, if desired a snap fit connection may be provided between the wall section 54 and the side wall sections 48 of the holding tank for added securement and sealing during transport of the
20 holding tank.

An inlet opening 62 is provided in the holding tank 16 by being located centrally within the top wall section 54 so as to be centrally located at the top end of the holding tank 16. The inlet opening 62 is surrounded by an upright collar 64 projecting upwardly from the panel portion of the top wall section to define an
25 externally threaded portion above the panel portion while also extending downwardly

slightly below the panel portion of the top wall section 54 to define a stem portion below the panel portion. The inlet opening 62 is suitably sized and located for alignment in cooperation with the discharge opening 52 of the bowl unit when the peripheral shoulder 34 of the bowl unit is engaged upon the top of the side wall sections 48 of the holding tank with the peripheral lip 58 of the top wall section 54 secured therebetween.

A valve mechanism 66 is associated with the inlet opening for controlling opening and closing of the inlet opening and accordingly for controlling communication between the discharge opening 22 of the toilet bowl and the waste holding chamber 12 of the holding tank through the inlet opening of the tank. The valve mechanism 66 generally comprises a valve body 68 in the form of a collar which is internally threaded at a lower end so as to be arranged for threaded connection with the externally threaded portion of the collar 64 about the inlet opening 62. An opposite end of the valve body 68 includes a counterbore 70 therein so that the counter bore faces upwardly in the mounted and in use position. The counterbore 70 is suitably dimensioned to snugly receive the discharge rim 24 of the discharge opening 22 in frictional sealing engagement therein.

A valve member 72 is mounted within the valve body 68 in the form of a generally circular plate member which is supported for sliding movement generally horizontally in relation to the valve body 68 between respective closed and open positions. In the closed position the valve member 72 spans across the inlet opening for sealing the inlet opening closed with a suitable sealing member. In the open position, the valve member 72 is horizontally displaced so as to be substantially removed from the inlet opening so that the inlet opening is substantially unobstructed in relation to the closed position of the valve member. An actuator stem 74 projects

radially outward from the valve body 68 for receiving the valve member 72 in the open position. The valve member 72 is connected through the stem 74 to an actuator handle 76 at the outer free end of the actuator stem 74. The handle 76 may be manually grasped by a user of the toilet to displace the valve member 72 between the
5 closed and open positions. Biasing means are provided to bias the valve member to the closed position.

A suitable channel 78 is formed in the bottom wall of the bowl unit to extend between the discharge rim 24 of the toilet bowl and the outer side wall 28 of the bowl unit. The channel comprises a raised portion of the bottom wall of the bowl
10 unit arranged for receiving the actuator stem 74 extending between the discharge rim 24 and the outer side wall 28. At the outer side wall 28, the bottom wall is recessed upwardly into the bowl unit at the channel 78 sufficiently to receive the handle 76 at the outer end of the stem 74. The user can thus operate the valve member by gripping the handle 76 at the outer side of the bowl unit and displacing the handle
15 radially outward to open the valve member or radially inward to close the valve member.

The discharge rim 24, at the bottom end of the downward and inward tapering surface of the bowl 18, is spaced upwardly from the bottom wall section 54 to provide sufficient clearance for the valve body between the removable top wall of the
20 holding tank and the reservoir. The channel 78 thus also defines walls of the reservoir 26 which span between the bottom wall section 54 and the discharge rim 24 which is raised upwardly in relation to the bottom wall section 54. The discharge rim 24 also includes a collar portion extending downward from the top side of the channel 78 for engagement within the counterbore 70 in the valve body.

25 A latching mechanism is provided for securing the bowl unit to the

holding tank when the bowl unit is supported thereon. The latching mechanism generally comprises two anchor bodies 80 supported on opposing side wall sections 48 of the holding tank by being integrally formed therewith. Link arms 82 are pivotally connected on the anchor bodies 80 respectively onto which a pair of latch members 5 84 are respectively pivotally mounted. Each latch member 84 includes a hook at a free end thereof for engaging a respective shoulder 86 formed on the side walls 28 of the bowl unit in alignment with the latch members when the bowl unit is supported on the holding tank. Operation of the latch members between respective engaged/latched positions and respective released positions is generally 10 conventional. In alternative embodiments, the latch members may instead be pivotally supported on the bowl unit for engaging respective shoulders on the holding tank if desired.

Prior to assembling all of the components of the toilet, gaskets 90 are provided at various locations to provide sealing engagement between holding tank 15 and the removable top wall section, between the valve mechanism at the opening in the removable top wall section at plural locations, and between the discharge opening of the toilet bowl and the valve mechanism at plural locations. Each gasket 90 comprises an annular resilient sealing member arranged to be compressed between respective components where relative sealing engagement is desired.

20 More particularly, two gaskets 90 are provided at axially spaced positions at opposing ends of the threaded connection between the valve body and the inlet opening in the removable top wall. Both gaskets 90 thus extend about the collar 64 above the top wall section to be compressed between the collar 64 and the valve body 68 secured thereto.

25 Two other gaskets 90 are provided about an inner surface and an outer

surface respectively of the valve body 68 adjacent the top end thereof for engagement with respective mating surfaces of the channel 78 and the downward projecting collar portion of the discharge rim 24 in the bottom wall of the bowl unit. The gaskets 90 in this instance seal engagement between the collar portion of the discharge rim and the counterbore in the valve body receiving the collar portion therein.

An additional one of the gaskets 90 is provided about the peripheral lip 52 of the holding tank upon which the peripheral lip 58 of the top wall section is sealably engaged.

In use, the components are assembled such that the top wall section threadably secures the valve body of the valve mechanism thereon. The top wall section is in turn frictionally engaged into the wall opening 50 defined by the remaining wall sections to fully enclose the waste holding chamber 12 within the holding tank 16. The peripheral shoulder 34 about the bottom of the bowl unit is then aligned with the top edge of the upright wall sections 48 for supporting the bowl unit thereon. In supporting the bowl unit onto the holding tank, the depending collar portion of the discharge rim of the toilet bowl is also aligned and frictionally engaged into the counterbore in the top end of the valve body 68 for sealing engagement therebetween. The latch members 84 on opposing sides of the holding tank can then be pivoted into latching engagement with the respective shoulders on the bowl unit for clamping the bowl unit to the holding tank. In doing so the top wall section 54 is effectively clamped between the bowl unit and the holding tank so that the top wall section 54 of the holding tank is clamped down to the side wall sections 48 commonly by the latch members 84 which also serve to secure the bowl unit to the holding tank.

When a person uses the portable toilet, the flush mechanism works as in conventional flushing mechanisms for portable toilets to provide a flushing liquid

from the reservoir into the toilet bowl. The valve member 72 is then displaced into the open position using the handle 76 communicating with the valve member 72 through the actuator stem 74 so as to be arranged for manually operation by the user. Releasing the handle 76 causes the valve member 72 to be biased back into the closed position for sealing the holding chamber 12 within the holding tank closed.

When it is desired to empty the contents of the waste holding chamber 12, releasing the latch members 84 permits the bowl unit to be readily detached and separated from the holding tank simply by lifting the bowl unit up off of the holding tank. The threaded connection between the valve body and the collar about the inlet opening in the top wall section 54 ensures that the valve mechanism remains closed across the inlet opening when the bowl unit is released therefrom. The press fit or frictional engagement of the top wall section 54 to the side wall sections 48 is a tighter fit over a larger area as compared to connection between the discharge rim 24 of the toilet bowl and the counterbore of the valve mechanism to ensure that when the bowl unit is lifted from the holding tank, the bowl unit releases from the valve mechanism and the top wall section 54 remains snugly engaged to span the open top end of the holding tank.

When it is desired to dump the contents of the holding tank, the holding tank can be transported by itself apart from the bowl unit while remaining in a sealed and enclosed configuration throughout transport to a dumping location. Once ready to discharge the contents, the top wall section can be readily removed and the waste material within the waste holding chamber 12 can be poured out using the spout like configuration of the curved front side wall section 48 of the holding tank.

In some instances it may be desirable to use a liner bag 90 as shown in Figure 6 which can be used to line the bottom wall section 46 and the side wall

sections 48 so as to be secured about a periphery of the wall opening 50 of the holding tank between the top wall section 54 and the side wall sections in use.

In other embodiments, a translucent gauge strip 92 may be formed in one of the side wall sections of the holding tank to permit a user to gauge a level of waste material in the waste holding chamber of the holding tank. In yet further embodiments, the gauge strip may be replaced with other types of gauges including float sensors and/or dial gauges and the like.

Since various modifications can be made in my invention as herein above described, and many apparently widely different embodiments of same made within the spirit and scope of the claims without department from such spirit and scope, it is intended that all matter contained in the accompanying specification shall be interpreted as illustrative only and not in a limiting sense.

CLAIMS:

1. A portable toilet comprising:
 - a bowl unit comprising a toilet bowl with a bottom discharge opening and a reservoir arranged to receive a flushing liquid for flushing the toilet bowl;
 - 5 a holding tank arranged to support the bowl unit thereabove, the holding tank defining a waste holding chamber enclosed by a plurality of wall sections;
 - an inlet opening in an upper one of the wall sections of the holding tank which is arranged to co-operate with the discharge opening of the toilet bowl when the bowl unit is supported on the holding tank such that waste material in the toilet bowl is
 - 10 arranged to be received through the inlet opening into the waste holding chamber; and
 - a valve mechanism associated with the inlet opening of the holding tank, the valve mechanism comprising a valve member operable across the inlet opening between respective open and closed positions;
 - 15 one of the wall sections of the holding tank comprising a removable wall section which is selectively separable from remaining ones of the wall sections such that the remaining ones of the wall sections define a wall opening in the holding tank through which waste material in the waste holding chamber is arranged to be discharged.
- 20 2. The toilet according to Claim 1 wherein the removable wall section comprises an uppermost one of the wall sections which spans a top end of the holding tank.
3. The toilet according to either one of Claims 1 or 2 wherein the removable wall section locates the inlet opening therein.
- 25 4. The toilet according to any one of Claims 1 through 3 wherein the

removable wall section is held in a closed position spanning the wall opening by the bowl unit supported on the holding tank.

5 5. The toilet according to any one of Claims 1 through 4 wherein the bowl unit is arranged to be latched to the holding tank with the removable wall section clamped between the holding tank and the removable wall section.

6. The toilet according to any one of Claims 1 through 5 wherein the bowl unit is supported on the removable wall section and the removable wall section is supported on the holding tank.

10 7. The toilet according to any one of Claims 1 through 6 wherein the wall sections include a plurality of upright wall sections and the removable wall section overlaps a top end of the wall sections about a full periphery of the wall opening.

15 8. The toilet according to any one of Claims 1 through 7 wherein the plurality of wall sections comprise a bottom wall section, a plurality of upright side walls sections extending upwardly from the bottom wall section about a periphery thereof and formed integrally therewith, and a top wall section spanning a wall opening defined at a top end of the holding chamber by the side wall sections, the top wall section comprising the removable wall section.

9. The toilet according to Claim 8 wherein the bottom wall section and the side wall sections are generally flat and smooth.

20 10. The toilet according to any one of Claims 1 through 9 wherein the wall opening fully spans a top end of the holding tank.

11. The toilet according to any one of Claims 1 through 10 wherein the wall sections include a plurality of upright wall sections upon which the bowl unit is arranged to be supported.

25 12. The toilet according to any one of Claims 1 through 11 wherein

the removable wall section is arranged to be frictionally engaged within the wall opening.

13. The toilet according to Claim 12 wherein the removable wall section is arranged to frictionally engage inner surfaces of the holding tank about a full
5 periphery of the wall opening.

14. The toilet according to any one of Claims 1 through 13 wherein the removable wall section is arranged to be snap fit over the wall opening.

15. The toilet according to any one of Claims 1 through 14 wherein frictional connection between the valve mechanism and the inlet opening is arranged
10 to be stronger than connection between the valve mechanism and the discharge opening.

16. The toilet according to any one of Claims 1 through 15 wherein the wall opening has an area which is plural times greater than an area of the inlet opening.

15 17. The toilet according to any one of Claims 1 through 16 wherein the wall sections include a plurality of upright wall sections about the wall opening and wherein at least one of the wall sections is generally curved about the wall opening.

18. The toilet according to any one of Claims 1 through 17 in combination with a liner securable within the waste holding chamber about a
20 periphery of the wall opening.

19. The toilet according to any one of Claims 1 through 18 wherein there is provided a gauge supported on the holding tank and arranged to visually indicate a volume of contents in the waste holding chamber.

20. A portable toilet comprising:
25 a holding tank defining a waste holding chamber surrounded by a

plurality of wall sections;

a bowl unit arranged to be supported above the holding tank comprising a toilet bowl with a bottom discharge opening;

an uppermost one of the wall sections of the holding tank comprising a removable wall section which is selectively separable from remaining ones of the wall sections such that the remaining ones of the wall sections define a wall opening in the holding tank spanning the top end of the holding tank through which waste material in the waste holding chamber is arranged to be discharged;

the uppermost one of the wall sections having an inlet opening therein which is arranged to co-operate with the discharge opening of the toilet bowl when the bowl unit is supported above the holding tank such that waste material in the toilet bowl is arranged to be received through the inlet opening into the waste holding chamber; and

a valve mechanism associated with the inlet opening of the holding tank, the valve mechanism comprising a valve member operable across the inlet opening between respective open and closed positions.

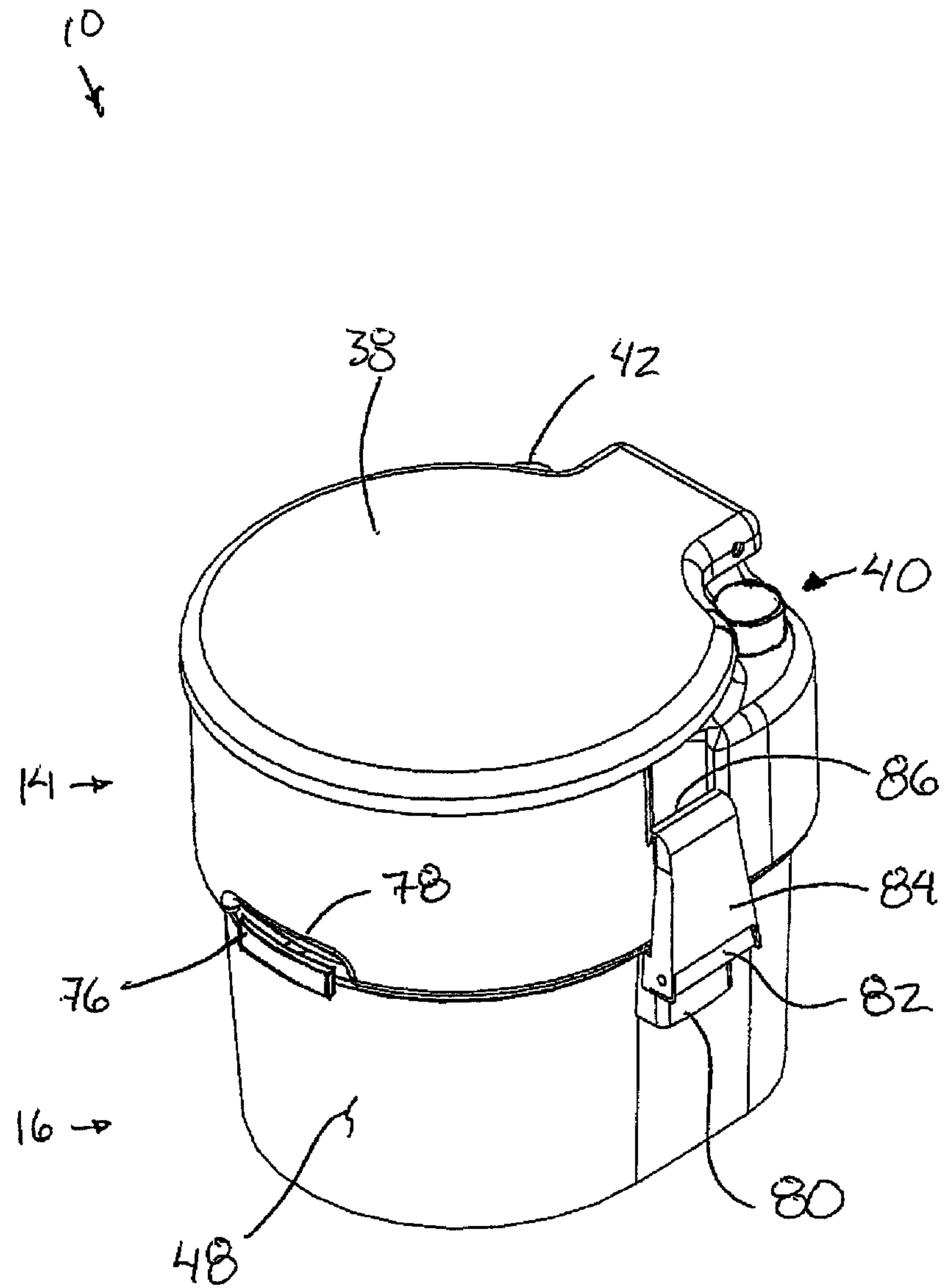


FIG. 1

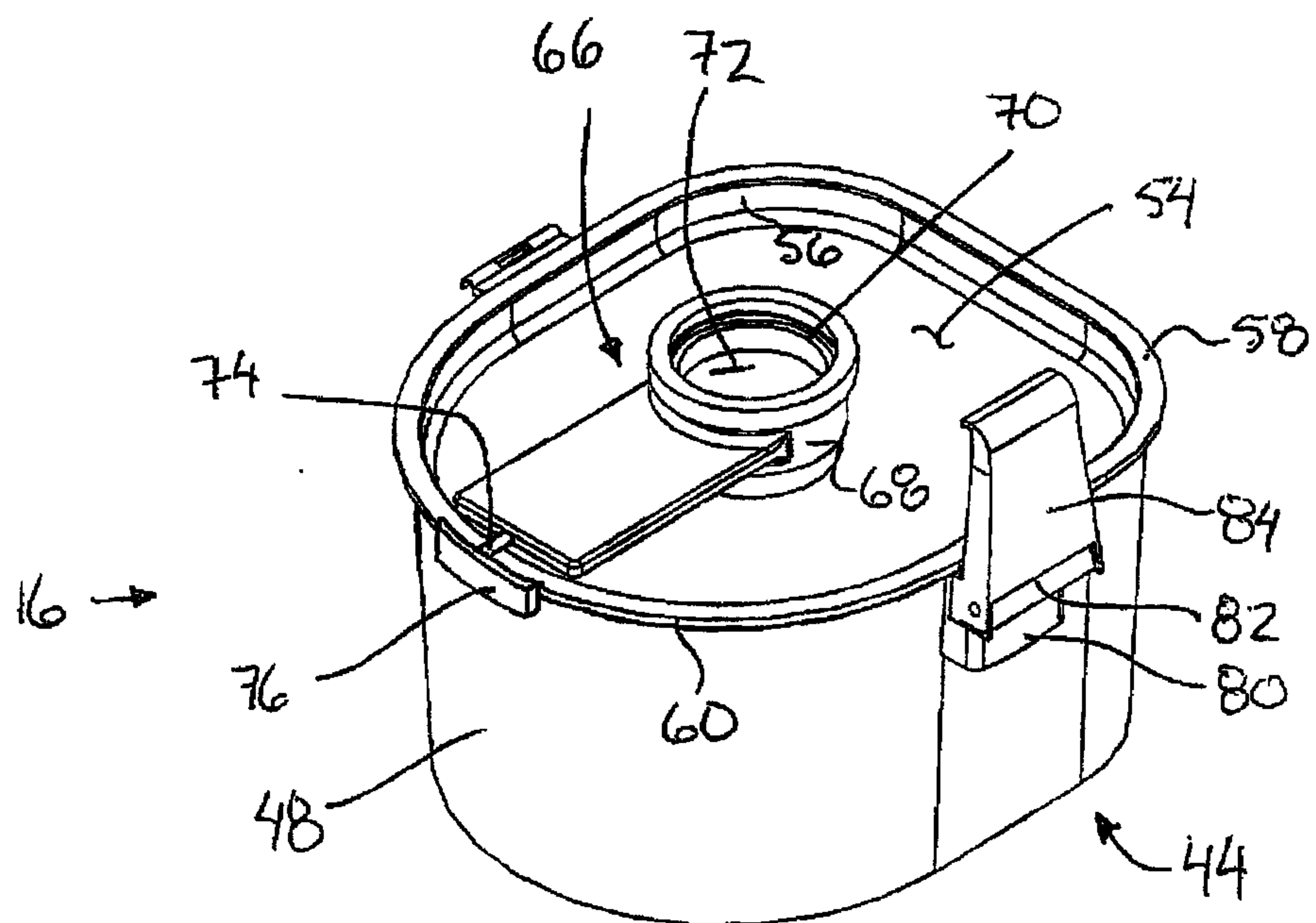
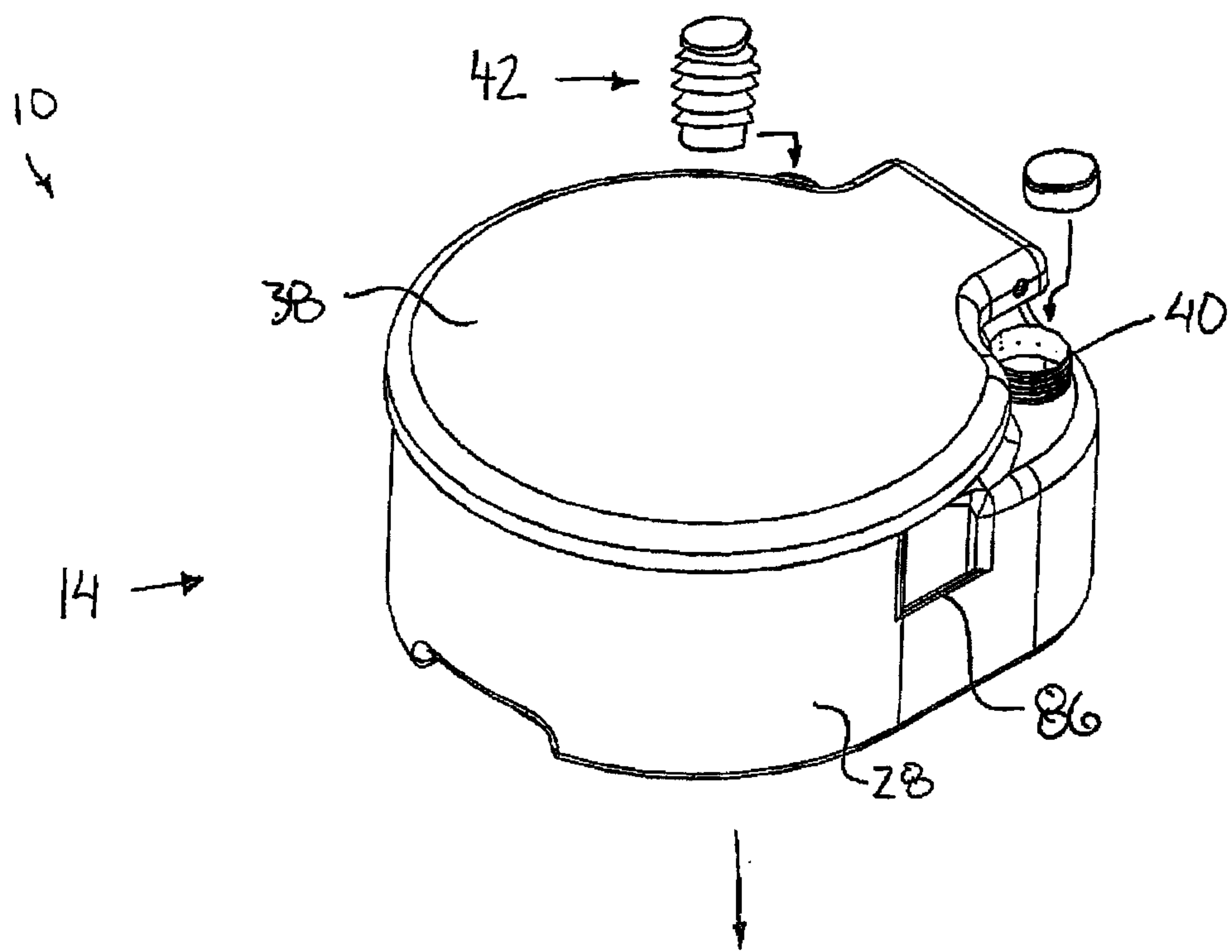


FIG. 2

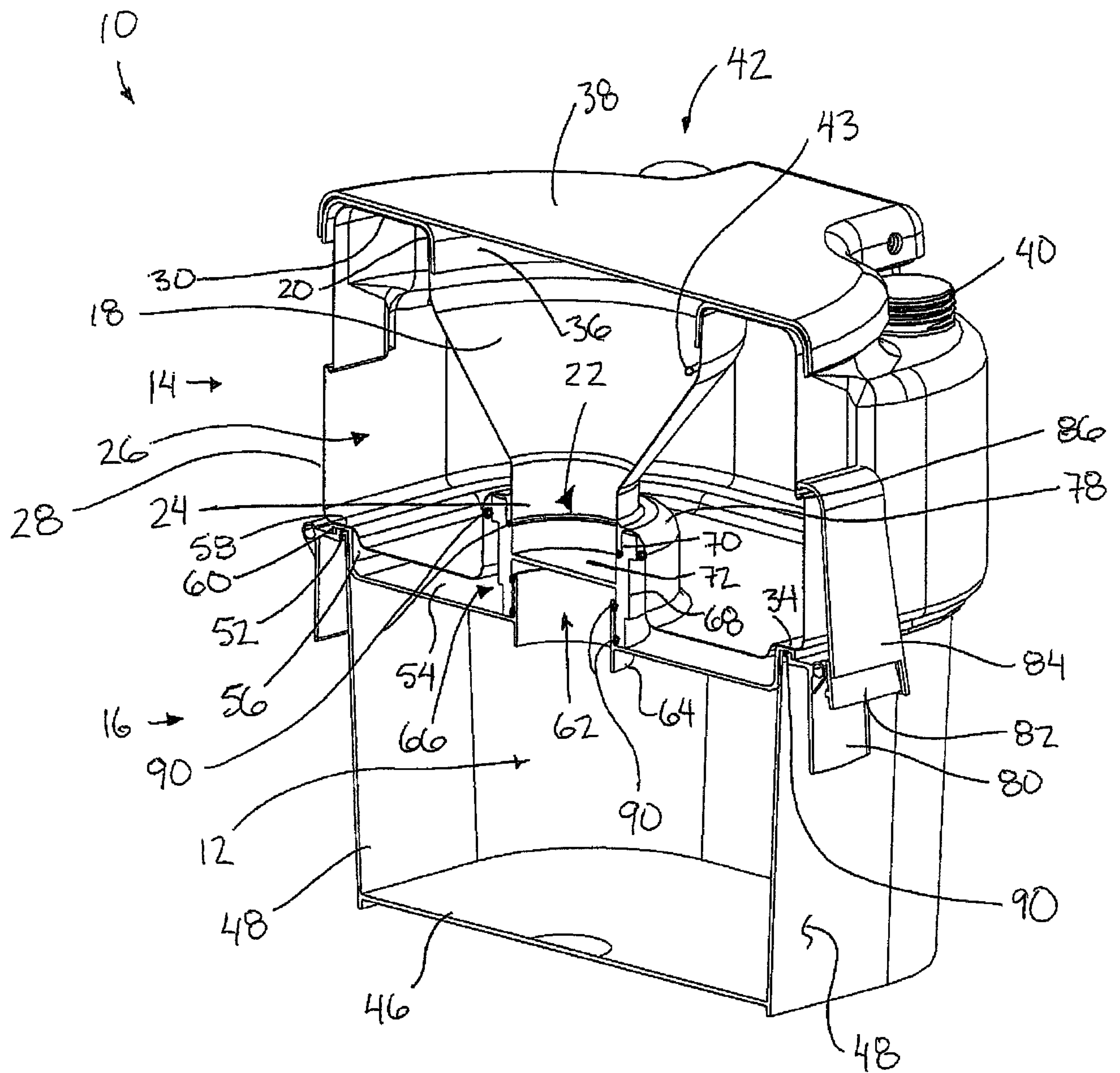


FIG. 3

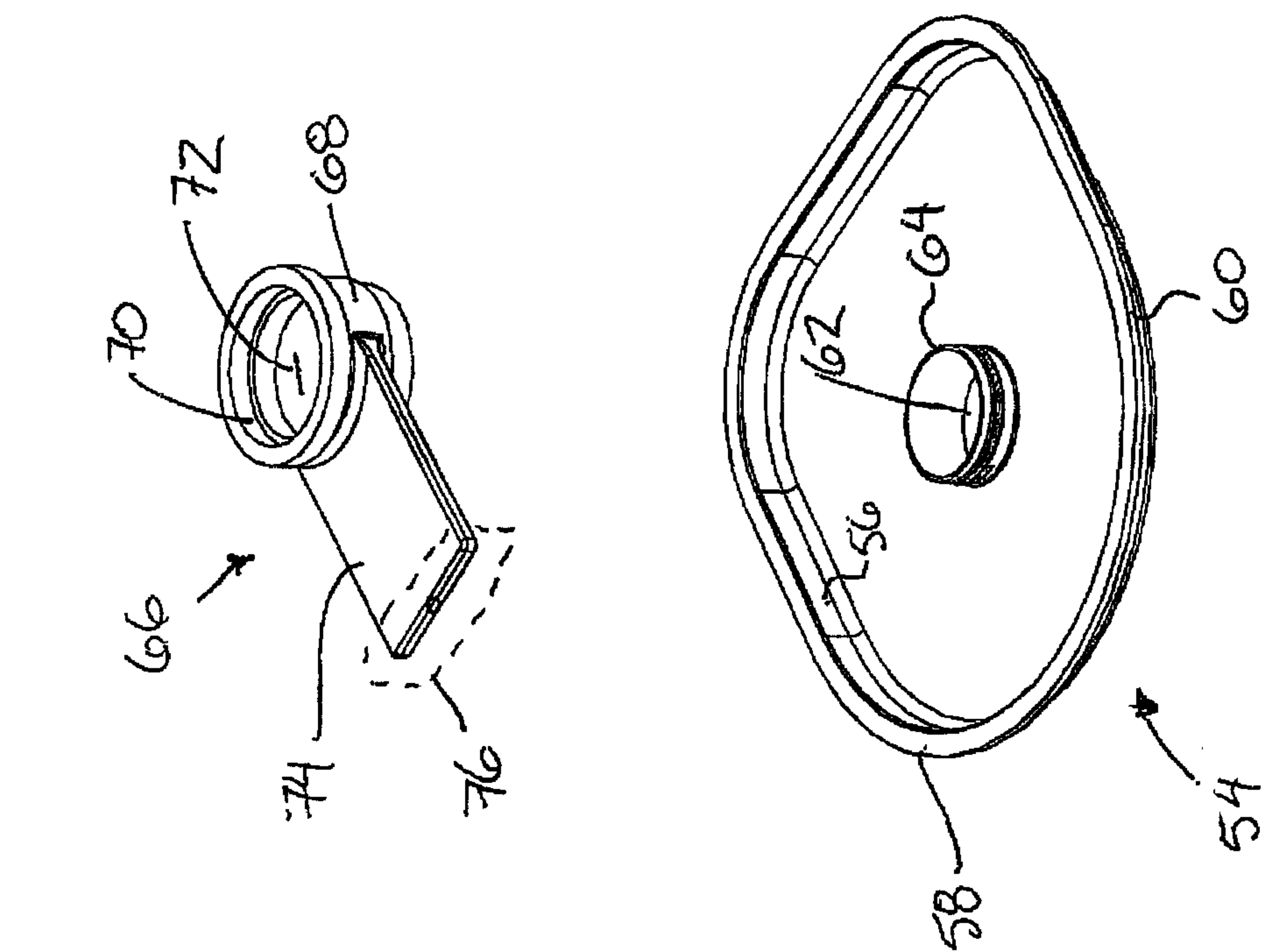


FIG. 4

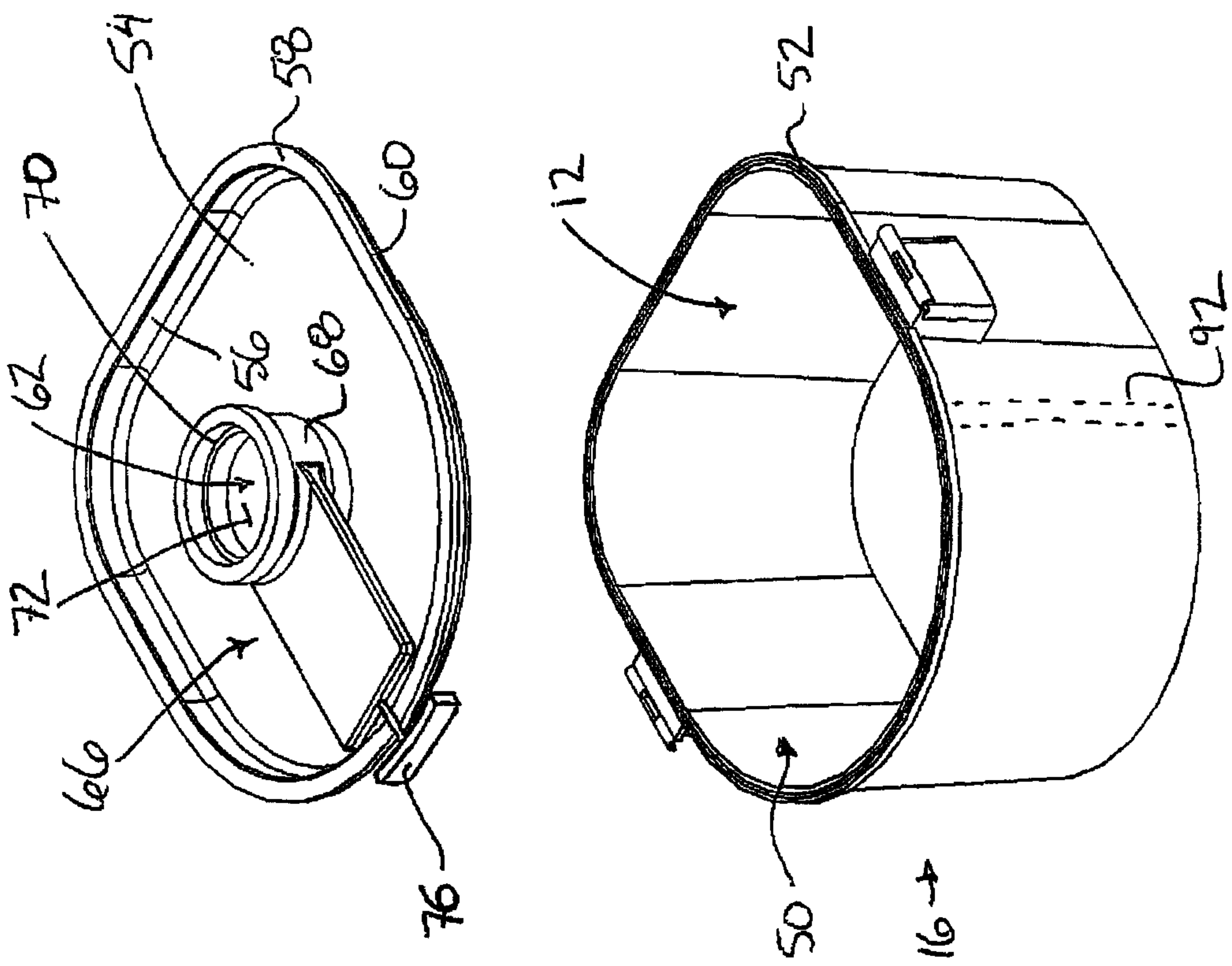


FIG. 5

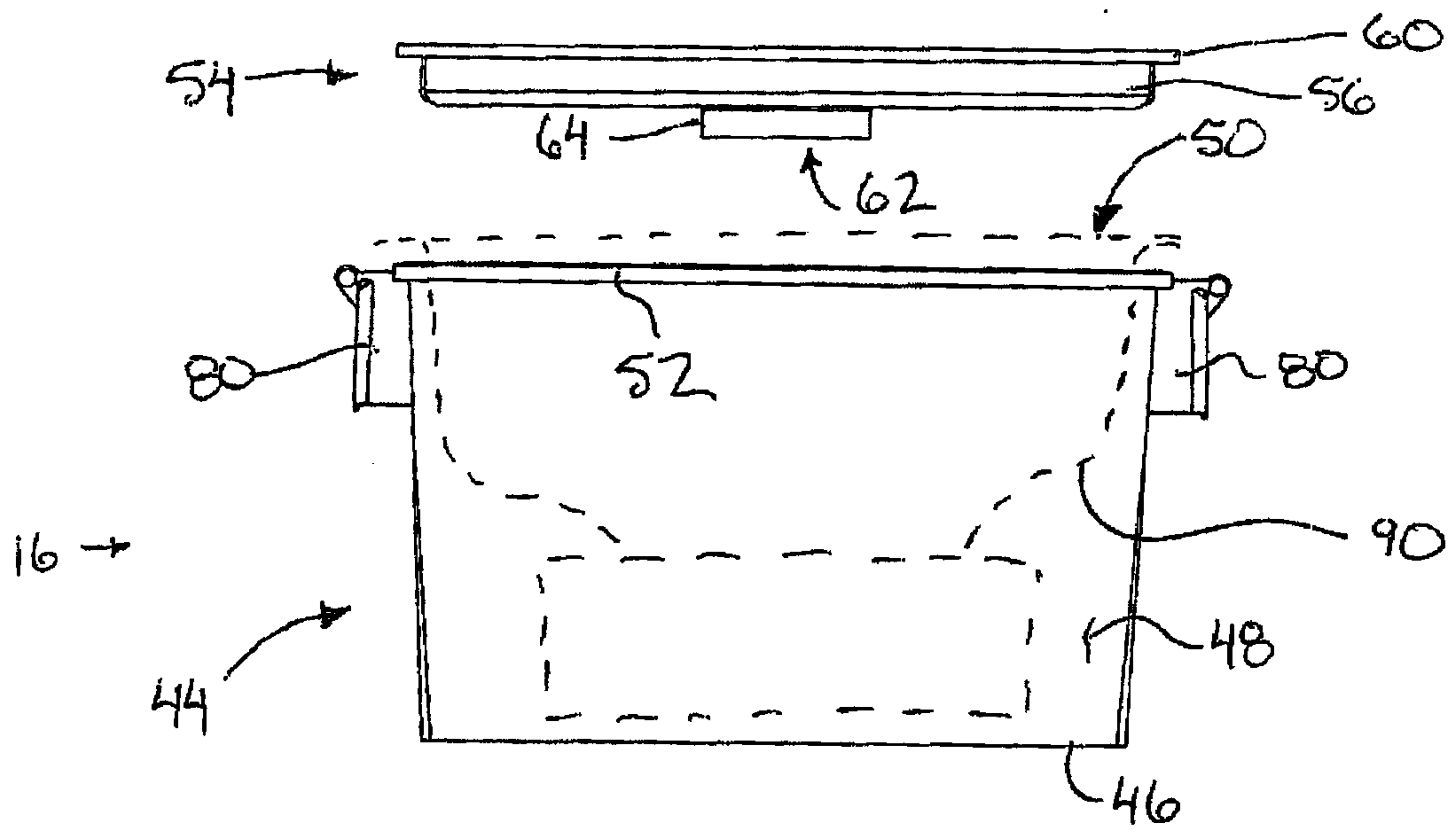


FIG. 6

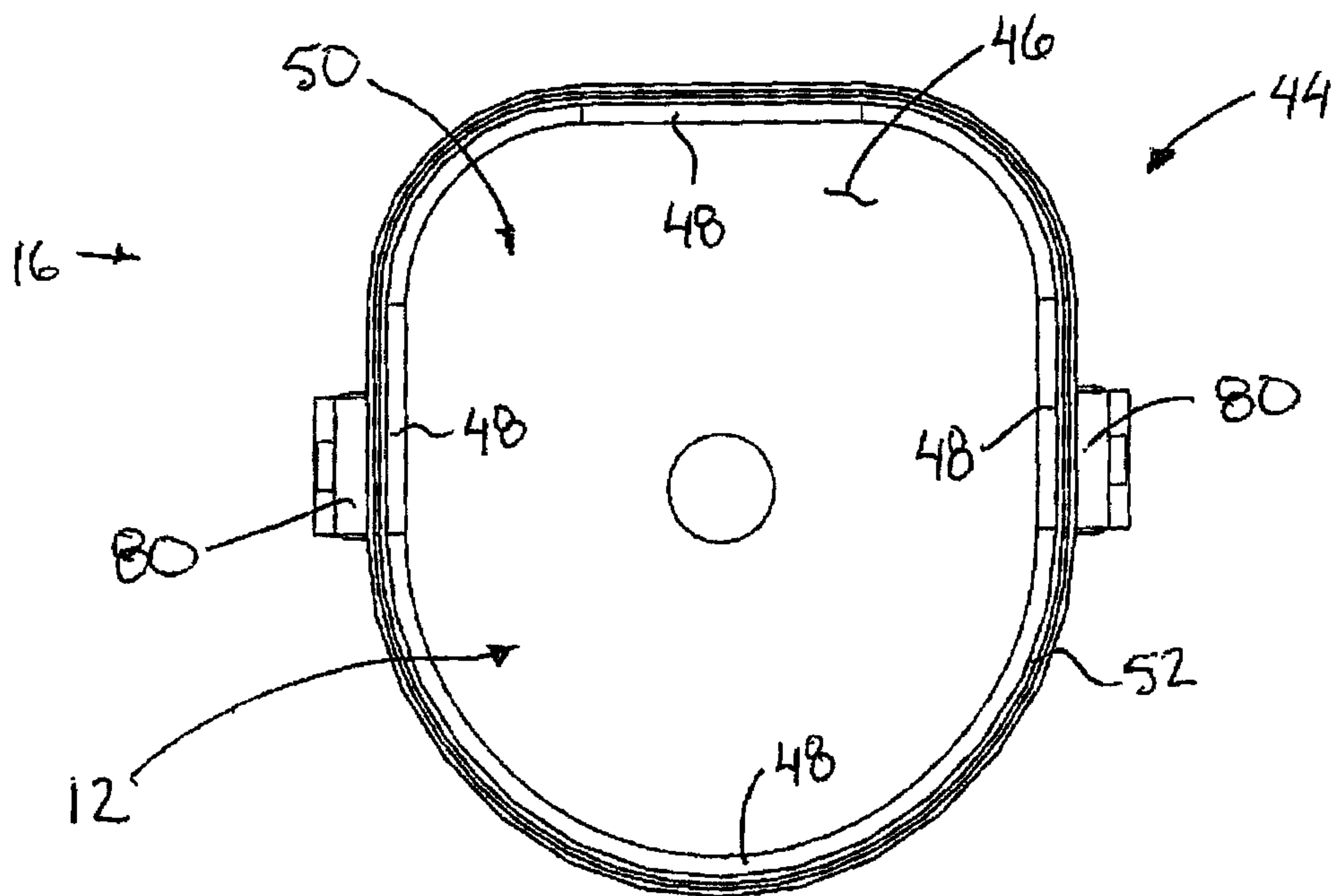


FIG. 7

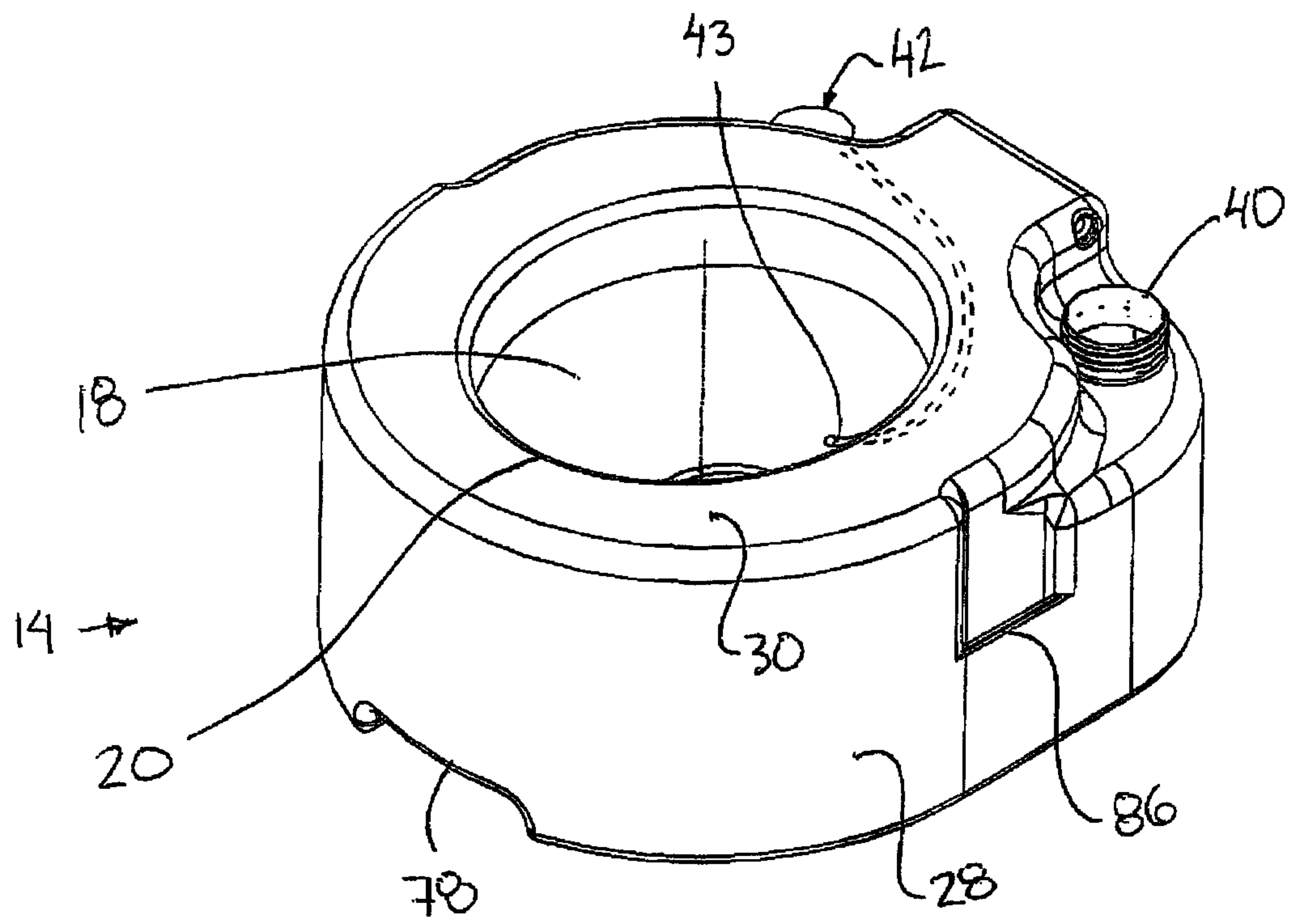


FIG. 8

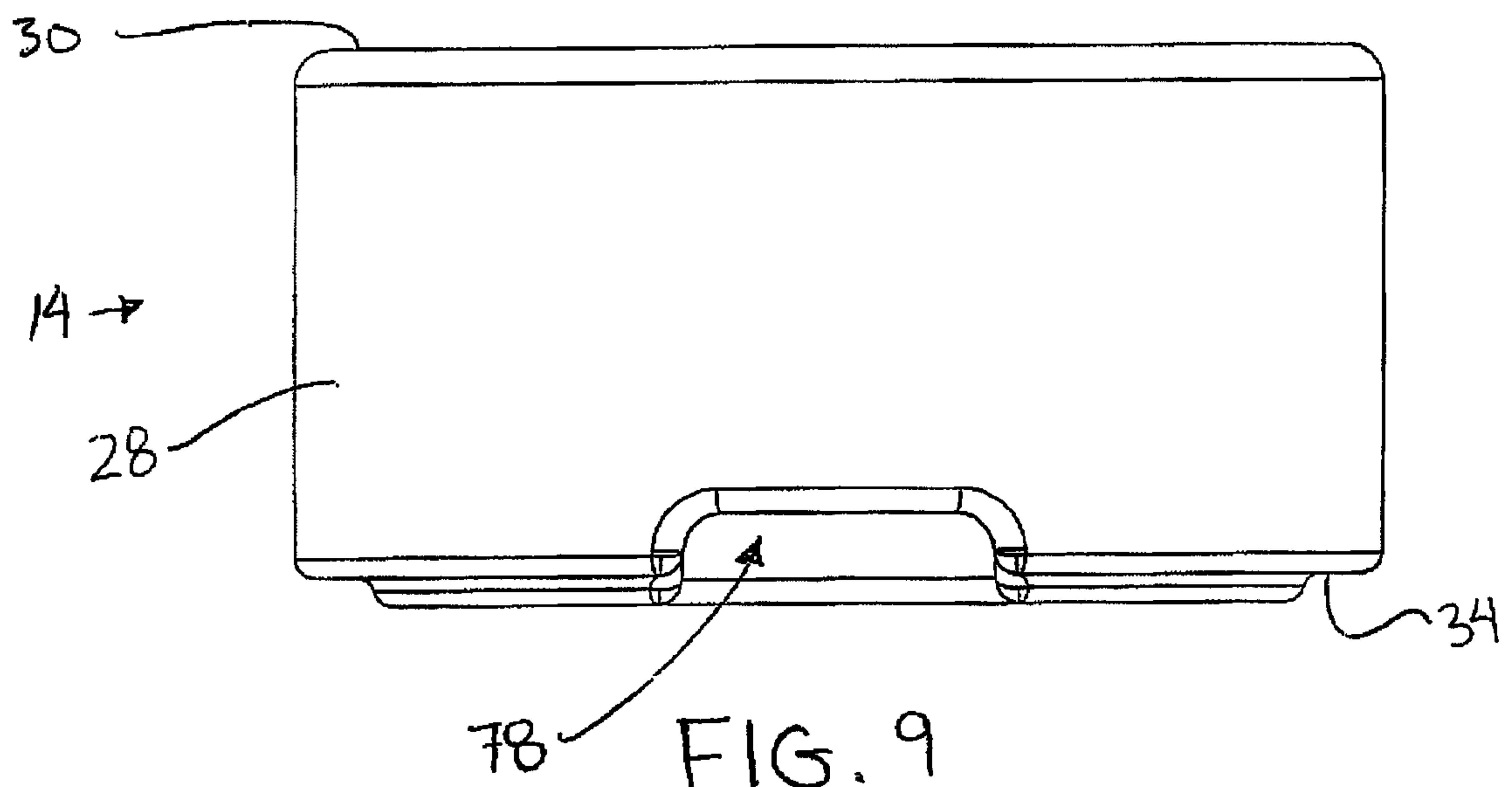


FIG. 9

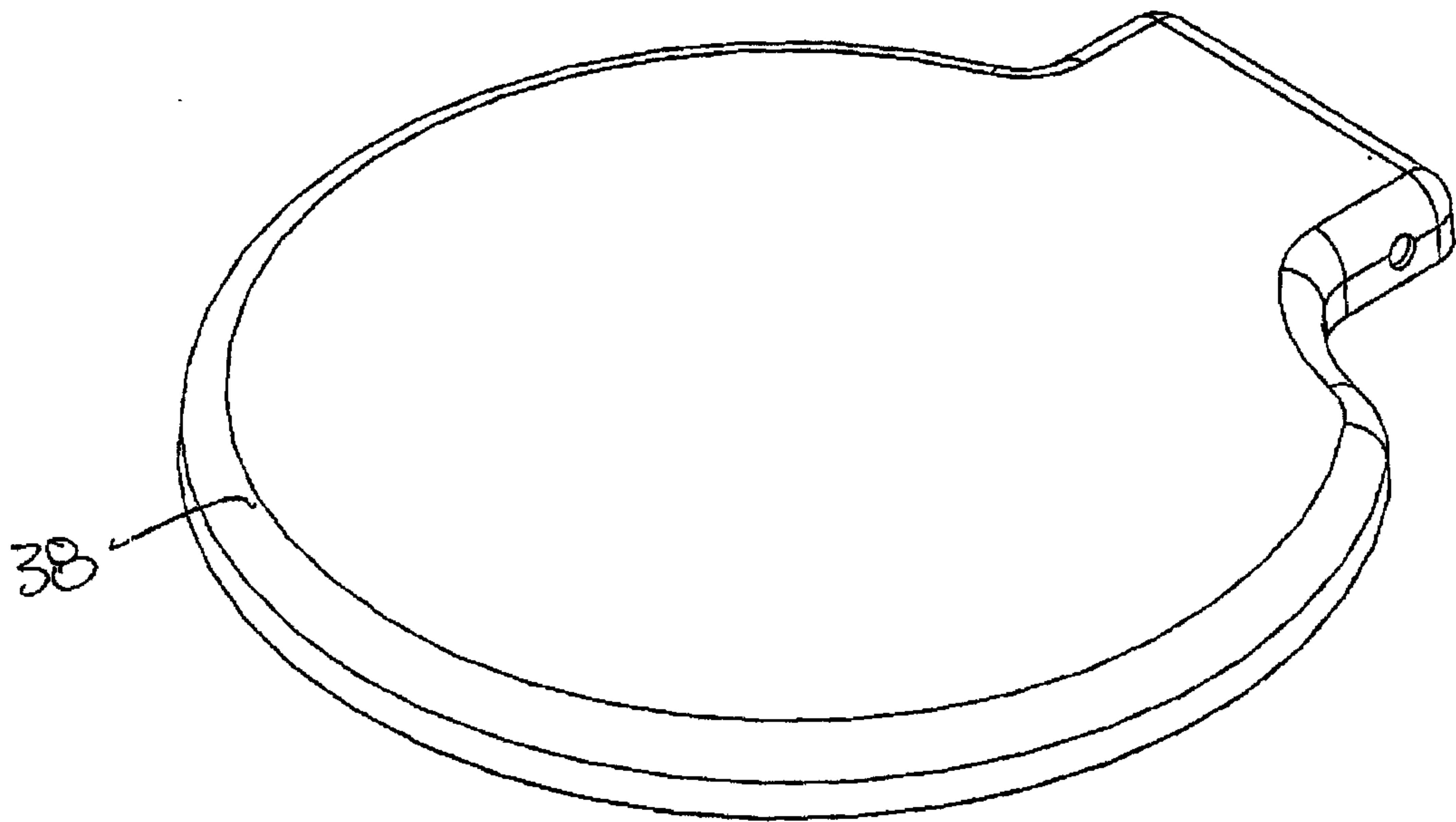


FIG. 10

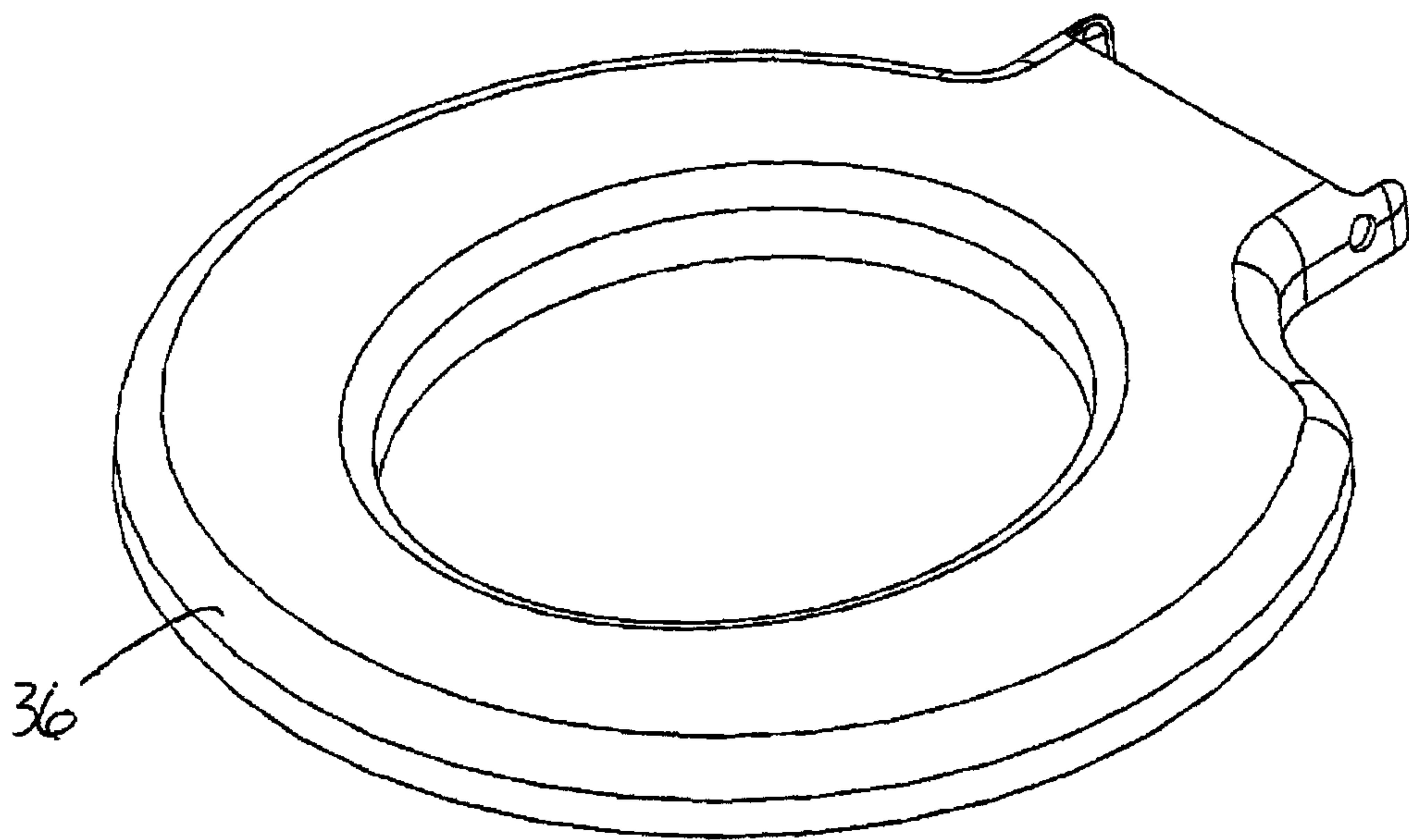


FIG. 11

