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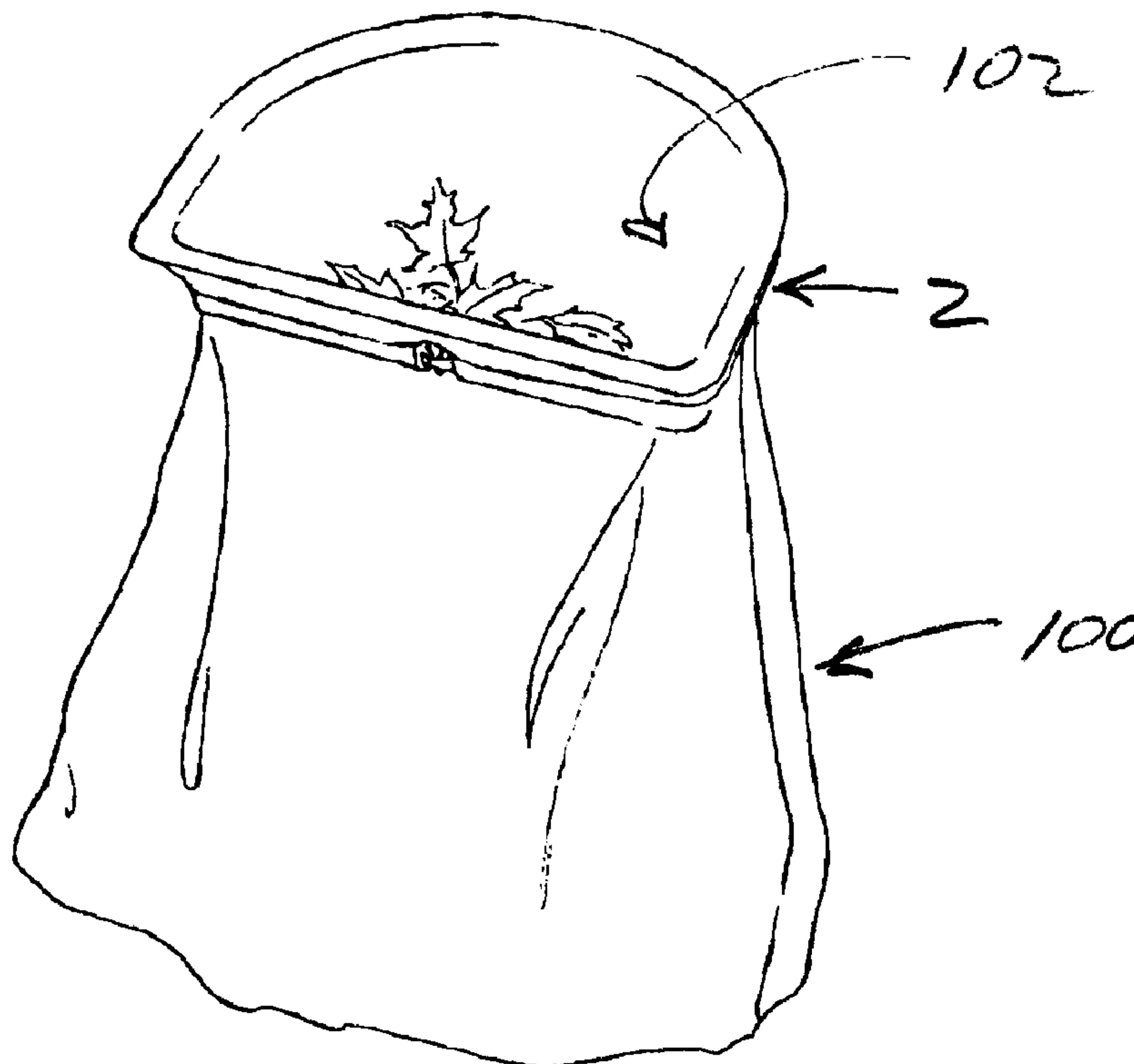
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(54) Titre : SUPPORT POUR SAC A DECHETS

(54) Title: GARBAGE BAG SUPPORT



(57) Abrégé/Abstract:

A device for holding a mouth of a plastic bag in an open position is molded of a plastic material that includes a finger hole and locking slot for retaining the bag within the device. The locking slot includes a directing member for maintaining a free end of a bag tail in the locking slot. This arrangement preferably is molded as a one piece product and has been found to be adaptable to bags of different capacities and materials. In a preferred embodiment, two finger holes are provided with each finger hole having a locking slot and directing member.



ABSTRACT

A device for holding a mouth of a plastic bag in an open position is molded of a plastic material that includes a finger hole and locking slot for retaining the bag within the device. The locking slot includes a directing member for maintaining a free end of a bag tail in the locking slot. This arrangement preferably is molded as a one piece product and has been found to be adaptable to bags of different capacities and materials. In a preferred embodiment, two finger holes are provided with each finger hole having a locking slot and directing member.

TITLE: GARBAGE BAG SUPPORTFIELD OF THE INVENTION

5 The present invention relates to a bag holder for use in holding plastic garbage bags in an open position to simplify the placement of refuse or yard waste in the plastic bag.

10

BACKGROUND OF THE INVENTION

 There are a number of known garbage bag supports that are used to maintain the mouth of a garbage bag in an open configuration. Some of these devices include
15 various clamping arrangements for effectively engaging the periphery of the bag after the bag has passed over the actual device that is clamped on the outside.

 One such device is shown in my earlier United
20 States Patent 4,775,123 that discloses a one piece structure where the mouth of a garbage bag is passed through the center of the bag holder and the edge of the bag is wrapped over the top of the device and is retained on the side of the structure. In particular, this
25 arrangement includes at least two finger holes in the side of the body member where a portion of the bag to the exterior of the holder is passed through the finger hole to form a bag tail and this bag tail is then passed through a locking slot provided at a bottom edge of the
30 holder. This device operates satisfactorily with some garbage bags, however, there is a tendency due to the natural slip characteristics of a plastic garbage bag that the tail of the garbage bag is not maintained by the locking slot. This problem is further compounded by the
35 use of larger garbage bags, as well as new materials that are used for some higher capacity garbage bags.

With my prior structure, when a certain weight (approximately 20 lbs.) is received in a garbage bag, there is a tendency for the garbage bag to slip and not be retained by the bag holder. As can be appreciated, with my earlier structure, the mouth of the bag is essentially gathered around the flared top edge of the bag holder and is drawn into engagement with the bag holder by forcing a portion of the bag through the finger holes to form two tails of the bag. These tails extend downwardly from the finger holes and are brought up into engagement with the locking slots.

With recent improvements in the materials of the bags, heavier loads are now more common and this slippage problem is more frequent.

The clamping arrangements of the other prior art structures are either less cost effective to produce or also suffer from this slippage problem.

A revised arrangement has been developed to avoid the slippage problem and allow the bag holder to operate with a host of bags of different materials, sizes and capacities.

SUMMARY OF THE INVENTION

A garbage bag support according to the present invention is designed for holding a mouth of plastic waste bag in an open position and comprises a tubular body having an upper edge and a lower edge with a center port extending between the upper and lower edges. The tubular body between the upper and lower edges includes at least two finger holes, with each finger hole receiving a tail portion of the plastic waste bag. The tail portion is formed by inserting an edge portion of the waste bag through the respective finger hole. Each

finger hole includes an associated locking slot positioned to receive the respective tail portion and retain the tail portion in the locking slot opposing any tension force exerted on said tail portion due to material retained in the bag. Each locking slot includes a directing member positioned to maintain a locking orientation of a free end of the respective tail portion relative to the locking slot whereby the waste bag maintains securement in the locking slot during use of the plastic waste bag.

According to an aspect of the invention, the directing member is a cantilevered tab secured at one side of the locking slot and extending across the locking slot and defining a narrow gap therebetween.

According to a further aspect of the invention, the cantilevered tab has an upper edge above an upper edge of said locking slot.

According to yet a further aspect of the invention, wherein the cantilevered tab includes a free end generally parallel to the locking slot with a cam edge for slide insertion of the tail portion under the cantilevered tab.

In yet a further aspect of the invention, each locking slot is provided in the lower edge of the tubular body and the directing member is provided on an exterior surface of said tubular body.

In yet a further aspect of the invention, the device is a one piece molded product.

In yet a further aspect of the invention, the tubular body includes a straight side joined by an arcuate portion to form a generally 'D' shape tubular body.

In another aspect of the invention, the straight side at the upper edge includes an outwardly extending tapered edge for sweeping of material into the plastic waste bag.

In yet a further aspect of the invention, the arcuate portion of the upper edge includes an outwardly projecting curved flange.

In yet a further aspect of the invention, the locking slot and the tab member are formed in an inwardly offset region of the tubular body.

In yet another aspect of the invention, the tab is generally flush with the exterior of the tubular body either side of the tab.

In yet another aspect of the invention, the lower edge of the tubular body includes two reset areas defining molded hand grips.

In a further aspect of the invention, the upper edge of said tubular body progressively widens to provide a funnel like transition with the tubular body.

In yet a further aspect of the invention, the finger holes are provided on opposite sides of the tubular body.

BRIEF DESCRIPTION OF THE DRAWINGS

Preferred embodiments of the invention are shown in the drawings, wherein:

Figure 1 is a perspective view of a garbage bag having the bag holder maintain the mouth of the garbage bag open;

Figure 2 is a sectional view through the holder and a retained bag;

Figure 3 is a top perspective view of the bag holder;

5 Figure 4 is a bottom perspective view of the bag holder;

Figure 5 is a partial perspective view of the relationship of a finger hole and a locking slot and retaining member;

10 Figure 6 is a partial perspective view of the locking slot, the finger hole and the retaining tab with a bag in engagement therewith; and

Figure 7 is a perspective view of an alternative embodiment.

15

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

As shown in Figures 1, 2 and 6, the bag 100 is maintained in an open position as the mouth 102 of the bag passes through the bag holder 2 and the edge of the bag is wrapped around the bag holder 2. Two tails in the bag are formed by pushing the bag through the finger holes 16 and 17 in the bag holder. Each tail of the bag is subsequently trained about the lower edge 11 of the bag holder and pulled upwardly into the locking slot 20 or 21. Each locking slot 20 or 21 includes a directing tab 22 associated therewith that retains the bag within the locking slot.

30 The locking slots 21 and 22 each have a narrowing "V" type slot opening that can include a series of serrations along the slot to enhance the engagement of the tail of the bag in the slot.

35 As shown in Figures 2, 5 and 6, the contents of the bag produces a tension force in the bag which passes over the top rim 28 of the bag holder and is opposed by the two tails 30 and 31 of the bag produced by passing a

portion of the bag through the fingers hole 16 and 17,
and engaging the tail within the associated locking slot
20 or 21. The directing tab 22 causes the respective
tail to extend upwardly and effectively be maintained in
5 the locking slot. Mere jamming of the tail in the
locking slot, as found in my earlier patent, was
effective initially but with use of the bag holder and
movement of the bag, the tail of the bag had a tendency
to progressively disengage from the locking slot or slip
10 within the locking slot.

With the present arrangement and the directing tab
22, tension in the bag is opposed by the locking slot and
the tab causes the bag to essentially stay in this
15 locking slot. Gravity, which would otherwise encourage
the tail to move out of the locking slot is opposed by
the directing tab. Thus, when the bag is tensioned, it
is retained in the narrow part of the locking slot and it
opposes the tension force in the bag, thus, effectively
20 anchoring the bag. The tails of the bag also serve to
draw the mouth of the bag over the bag holder and over
the top rim 28. This produces a friction force which
again opposes the release of the bag from the bag holder.
The tails are used to draw the bag about the periphery of
25 the bag holder and in particular, to draw it slightly
below the top rim 8 of the bag holder 2. This
arrangement increases the retention of the bag over the
top rim 8.

30 A portion of the bag is forced through the
respective finger holes 16 and 17 which are preferably
opposed. The portion of the bags forced through the
finger holes produces two bag tails 30 and 31 as shown in
Figure 6. Figure 5 illustrates how the bag tail is
35 trained through finger hole 16 and into the locking slot
20. The bag tails 30 and 31 extend on the interior
surface of the bag holder below the bottom edge of the
bag holder. Each bag tail is then brought up into

engagement with the locking slot to fix the bag tail in the locking slot. The directing tab 22 overlaps with and extends above the locking slot. The directing tab includes an outwardly extending flange at the free end of the tab to assist in positioning the bag tail behind the directing tab. The directing tab is also in close proximity to the locking slot with a narrow gap therebetween.

10 With this arrangement, the bag tail passes through the respective finger hole and engages the lower edge of the finger hole. The bag tail then passes over the bottom edge of the bag holder and is locked in the locking slot. Any tension force serves to draw the bag
15 tail deeper into the locking slot. The directing tab 22 member serves to keep the free end of the bag tail from working its way out of engagement with the respective locking slot.

20 Frictional forces on the bag tail and the locking slot oppose the tension forces exerted by the bag. The bag tails draw the mouth of the bag under the upper rim 28 and further increases the friction resistance force.

25 The directing tab 22 is illustrated as being a single integral member with the bag holder 2, however, it can be two members located on opposite sides of the locking slot or other suitable structure to oppose inadvertent withdrawal of the bag tail from the locking
30 slot. The directing tab arrangement can be rigid or flexible as the forces exerted thereon are relatively low. In addition, the directing tab arrangement could be attached as a secondary piece or a removable clip.

35 Preferably the bag holder has one straight edge 51 that includes the dust edge 53. The bag, as can be appreciated, is trained over this dust edge, as well as over the edge of the circular segment shown as 25. Thus,

the tails act like a belt to draw the mouth of the bag about the edge of the bag holder. With this arrangement, the two finger holes and locking slots with associated directing tabs have proven satisfactory. These are preferably located generally in the center of the straight wall segment 27 and in the center of the partial circular segment 25. As can be appreciated, the training of the tails of the bag through the finger holes 16 or 17, and about the lower edge of the bag holder to cause the tails to be engaged in the locking slots 20 or 21, also adds to the frictional component opposing the tension force. This friction and the jamming of the bag tail in the progressively narrowing locking slots 20 and 21 retains the bag and holder. Depending on the particular application, it is also possible to use a single finger hole, locking slot and associated directing tab for drawing of the garbage bag about the rim.

Preferably, the locking slots and associated directing tabs, are located in recessed areas 105 or 107 to protect the directing tabs from inadvertent damage.

It has been found that this bag holder operates in a satisfactory manner and can be used with bags of different sizes, capacities and materials. The prior tendency for the tail of the bag to release from the locking slot has been prevented and the performance of the bag holder has been greatly increased.

The present structure provides a simple arrangement for producing of a bag holder which can easily be molded of a plastic material. The design remains relatively simple and a one piece bag holder is produced. There are no requirements for belts or other separate clamping members that are not part of the molded product. The bag holder can operate with different sizes of bags and of bags of different materials.

As with my earlier bag holder, this molded plastic product can easily be adapted for mounting on a wall to maintaining a bag in an open position. Furthermore, the device is easily mountable on a mobile trolley type
5 device for easy movement by a user.

The invention has been described with respect to a bag holder of an open tubular structure, however, it can also be used as part of a generally closed bottom
10 receptacle such as a plastic garbage container. In this application, the finger hole, locking slot and retaining member are provided in an extended rim portion of the container, in an exterior handle portion of the container or in an offset wall portion of the container.

15

This locking structure is designed to draw a garbage bag about the rim of the container and hold it in tight securement therewith. This locking structure is preferably located below the upper edge of the container
20 and is preferably integral with the container.

Figure 7 illustrates one embodiment of a container 200 having a pair of offset handles 202 and 204 with cavities 206 and 208 located to the exterior of the
25 container. Each offset handle includes a finger hole 210, a locking slot 212 and a retaining member 214.

It is also possible to use my garbage bag support of the earlier figures as a component of a garbage
30 container. In this case, the support can have a snap fit or twist fit with the upper edge of the container and be supported and retained by the upper edge of the container. With this modified garbage container, the garbage bag support may be used separately from time to
35 time as may be helpful for cleanup applications.

Although various preferred embodiments of the present invention have been described herein in detail, it will be appreciated by those skilled in the art, that variations may be made thereto without departing from the spirit of the invention or the scope of the appended claims.

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A device for holding a mouth of plastic bag in an open position comprising a tubular body having an upper edge and a lower edge with a center port extending between said upper and lower edges; said tubular body between said upper and lower edges including at least one finger hole for receiving a tail portion of the plastic bag created by inserting an edge portion of the plastic bag through the respective finger hole;

each finger hole including an associated locking slot positioned to receive the respect tail portion and retain said tail portion in said locking slot opposing any tension force exerted on said tail portion due to material retained in the plastic bag; and wherein each locking slot includes a directing member positioned to maintain a locking orientation of a free end of the respective tail portion relative to said locking slot whereby the plastic bag maintains securement in said device until released.

2. A device as claimed in claim 1 wherein each directing member is a cantilevered tab secured at one side of said locking slot and extending across said locking slot and defining a gap therebetween.

3. A device as claimed in claim 2 wherein each cantilevered tab has an upper edge above an upper edge of said locking slot.

4. A device as claimed in claim 3 wherein each cantilevered tab includes a free end generally parallel to said locking slot with a cam edge for slide inserting of the tail portion under said cantilevered tab.

5. A device as claimed in claim 4 wherein each locking slot is provided in said lower edge of said tubular body and said directing member is provided on an exterior surface of said tubular body.
6. A device as claimed in claim 5 wherein said device is a one piece molded product.
7. A device as claimed in claim 6 wherein said tubular body includes a straight side joined by an arcuate portion to form a generally 'D' shape.
8. A device as claimed in claim 7 wherein said straight side at said upper edge includes an outwardly extending tapered edge for sweeping of material into said plastic waste bag.
9. A device as claimed in claim 8 wherein said arcuate portion of said upper edge includes an outwardly projecting curved flange.
10. A device as claimed in claim 5 wherein said locking slot and said tab member are formed in an inwardly offset region of said tubular body.
11. A device as claimed in claim 10 wherein said tab is generally flush with the exterior of the tubular body either side of said tab.
12. A device as claimed in claim 5 wherein said lower edge of said tubular body includes two reset areas defining molded hand grips.
13. A device as claimed in claim 5 wherein said upper edge of said tubular body progressively widens to provide a funnel like transition with said tubular body.

14. A device as claimed in claim 13 wherein said finger holes are provided on opposite sides of said tubular body.

15. A device for holding a mouth of plastic waste bag in an open position comprising a tubular body having an upper edge and a lower edge with a center port extending between said upper and lower edges; said tubular body between said upper and lower edges including at least two finger holes for receiving a tail portion of the plastic waste bag created by inserting an edge portion of the waste bag through the respective finger hole;

each finger hole including an associated locking slot positioned to receive the respect tail portion and retain said tail portion in said locking slot opposing any tension force exerted on said tail portion due to material retained in said bag; and wherein each locking slot includes a directing member positioned to maintain a locking orientation of a free end of the respective tail portion relative to said locking slot whereby the waste bag maintains secured in said device during the use of the plastic waste bag.

16. A receptacle for holding a mouth of plastic bag in an open position comprising a tubular body having an upper edge and a lower edge with a center cavity for receiving and retaining the plastic bag in the open position; said tubular body adjacent said upper edge including at least one bag restraining structure comprising a finger hole for receiving a tail portion of the plastic bag created by inserting an edge portion of the plastic bag through the respective finger hole after the plastic bag has been placed over said upper edge;

each finger hole including an associated locking slot positioned to receive the respect tail portion and retain said tail portion in said locking slot opposing any tension force exerted on said tail portion due to material retained in the plastic bag; and wherein each

locking slot includes a directing member positioned to maintain a locking orientation of a free end of the respective tail portion relative to said locking slot whereby the plastic bag maintains securement in said receptacle until released.

17. A receptacle as claimed in claim 16 wherein each directing member is a cantilevered tab secured at one side of said locking slot and extending across said locking slot and defining a gap therebetween.

18. A receptacle as claimed in claim 17 wherein each cantilevered tab has an upper edge above an upper edge of said locking slot.

19. A receptacle as claimed in claim 16 wherein said receptacle includes two bag restraining structures and each bag restraining structure is provided in an exterior handle portion of said receptacle.

20. A receptacle as claimed in claim 16 wherein each bag restraining structure is integral with said receptacle.

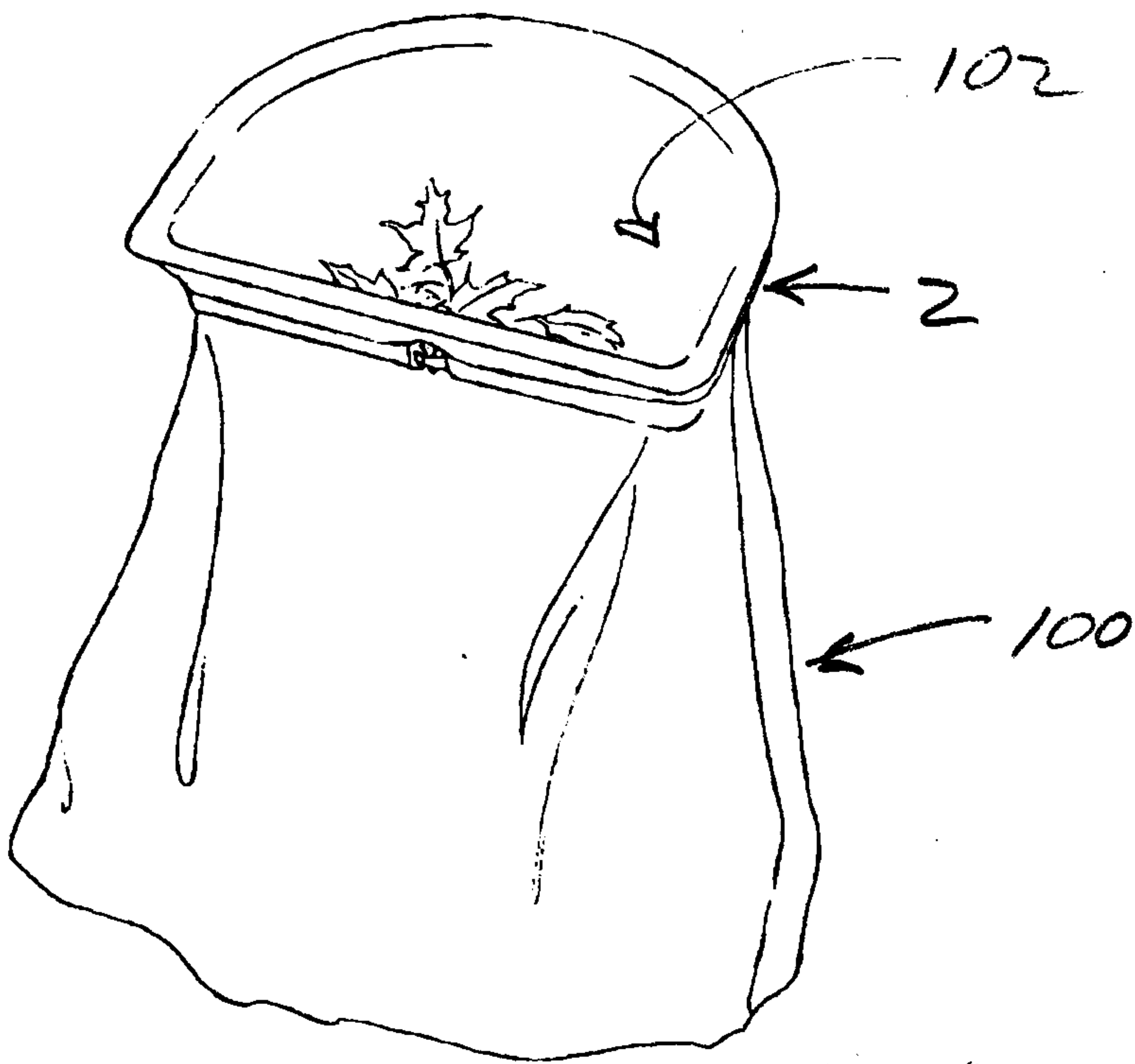


FIG. 1

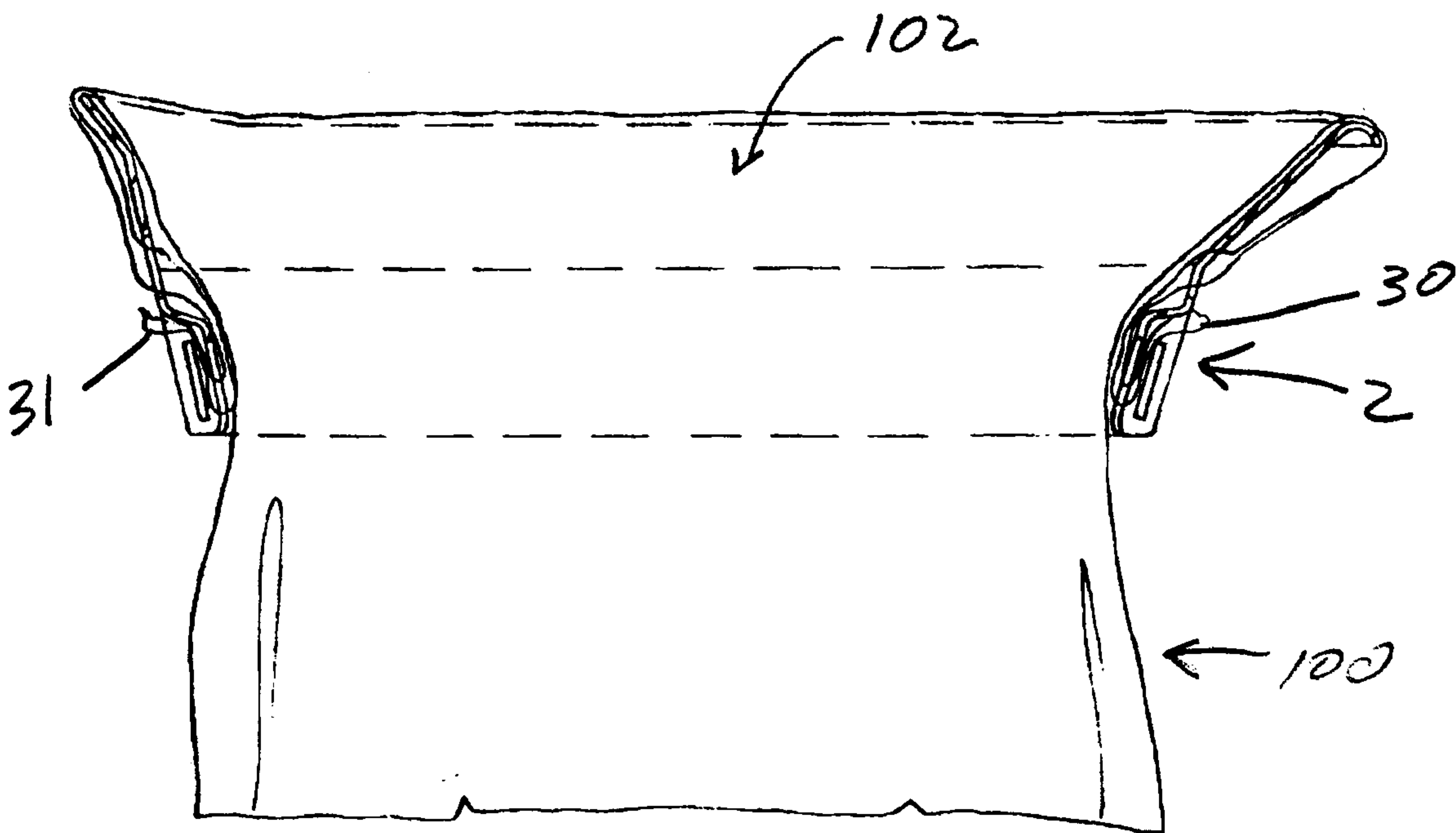
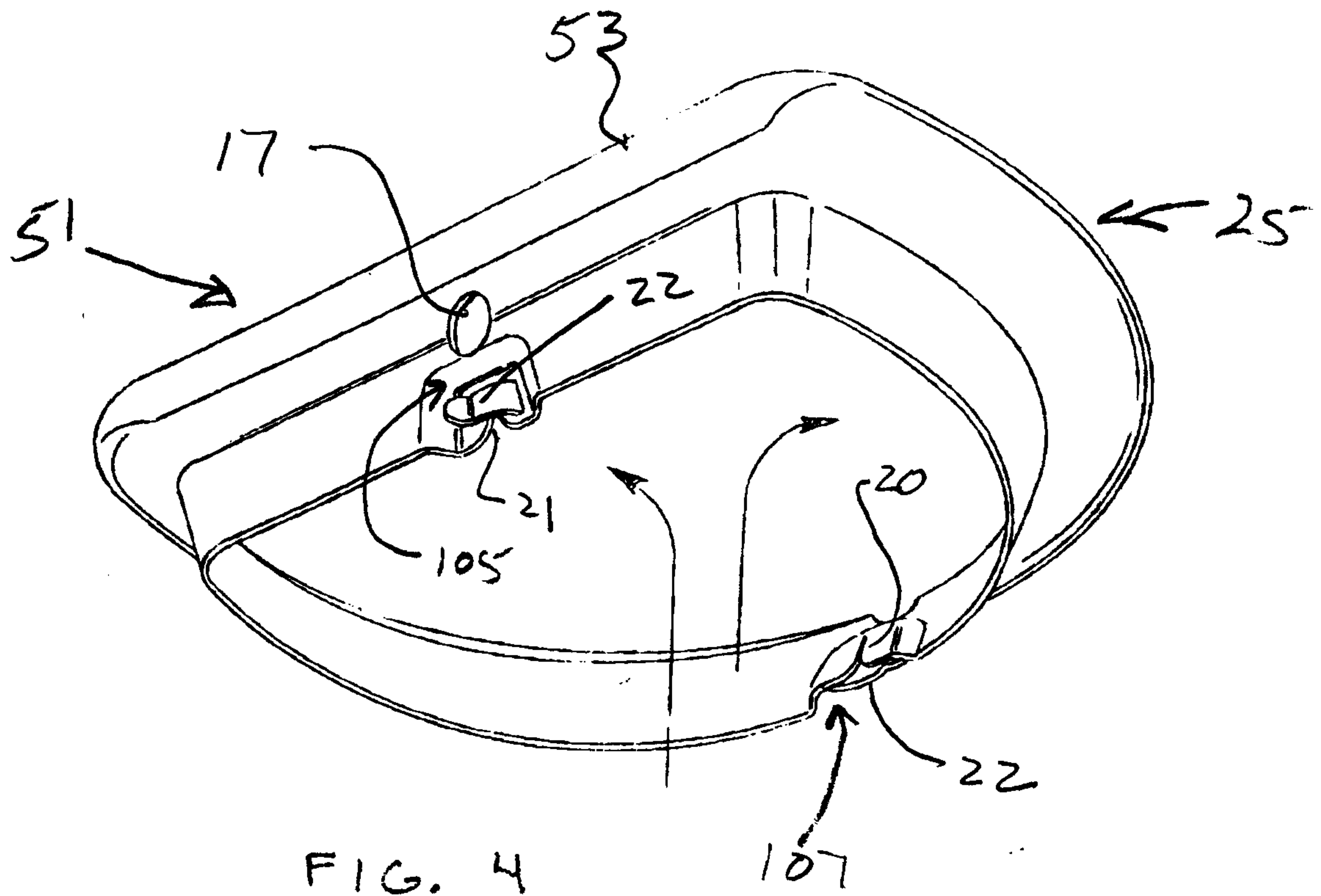
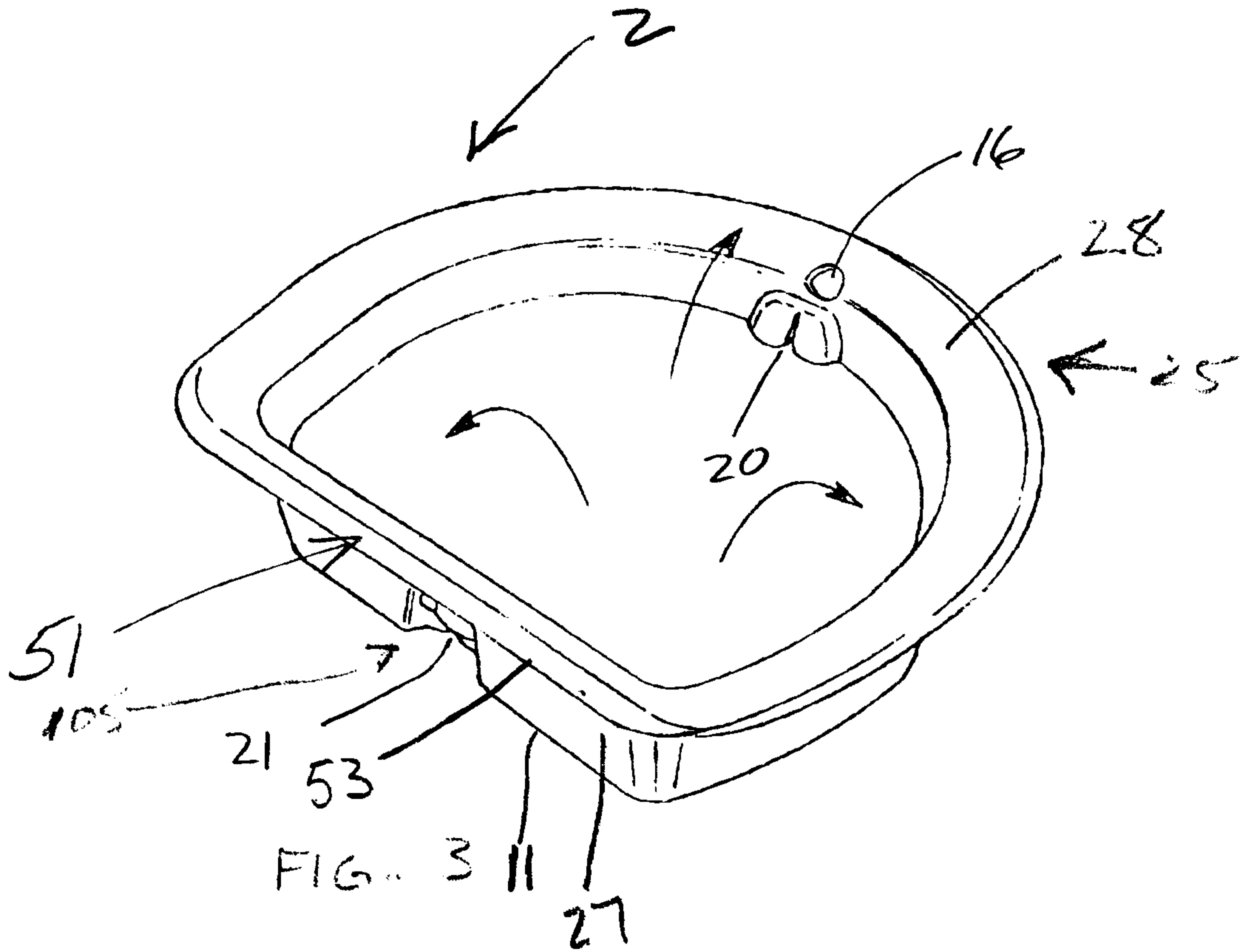
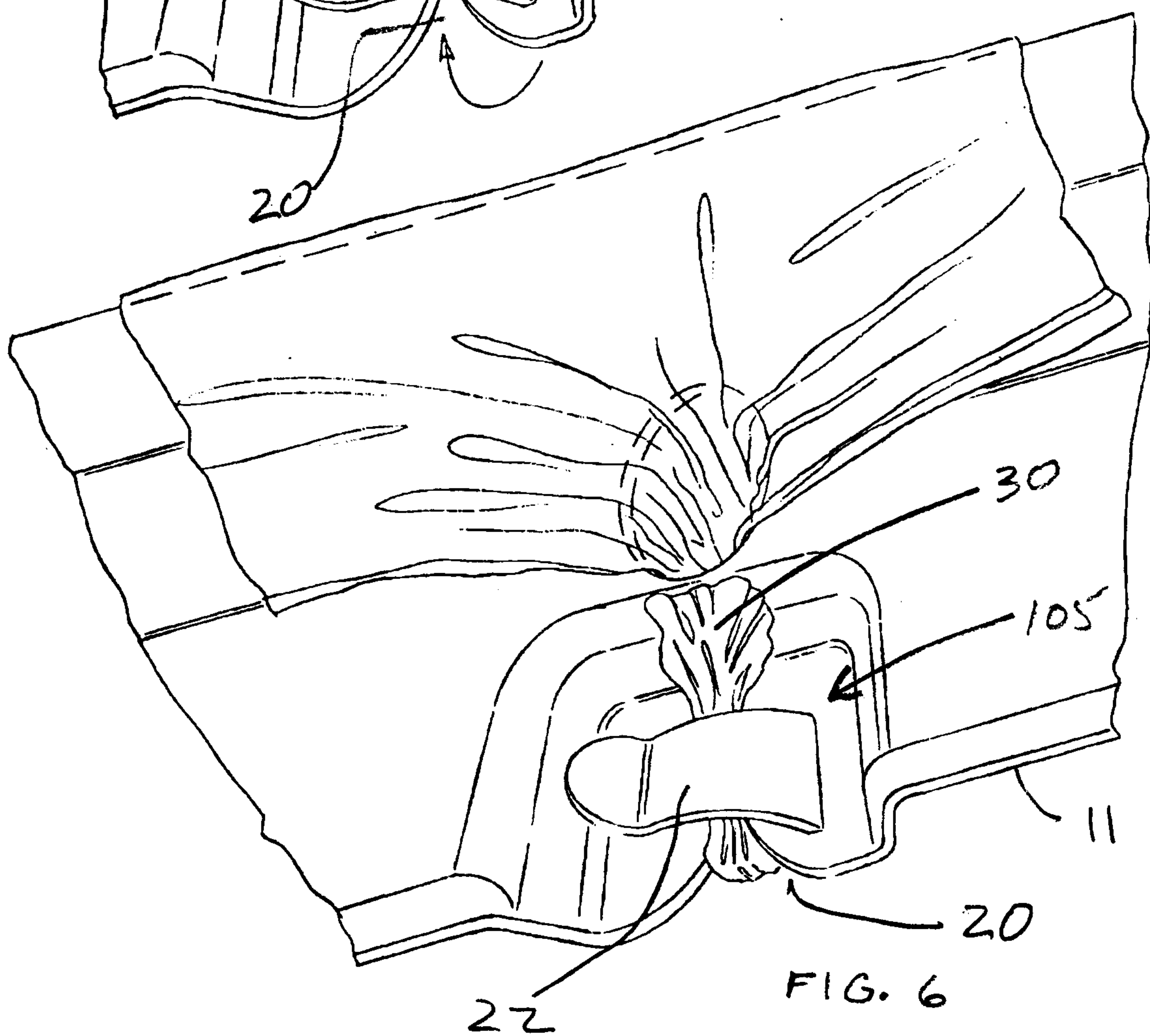
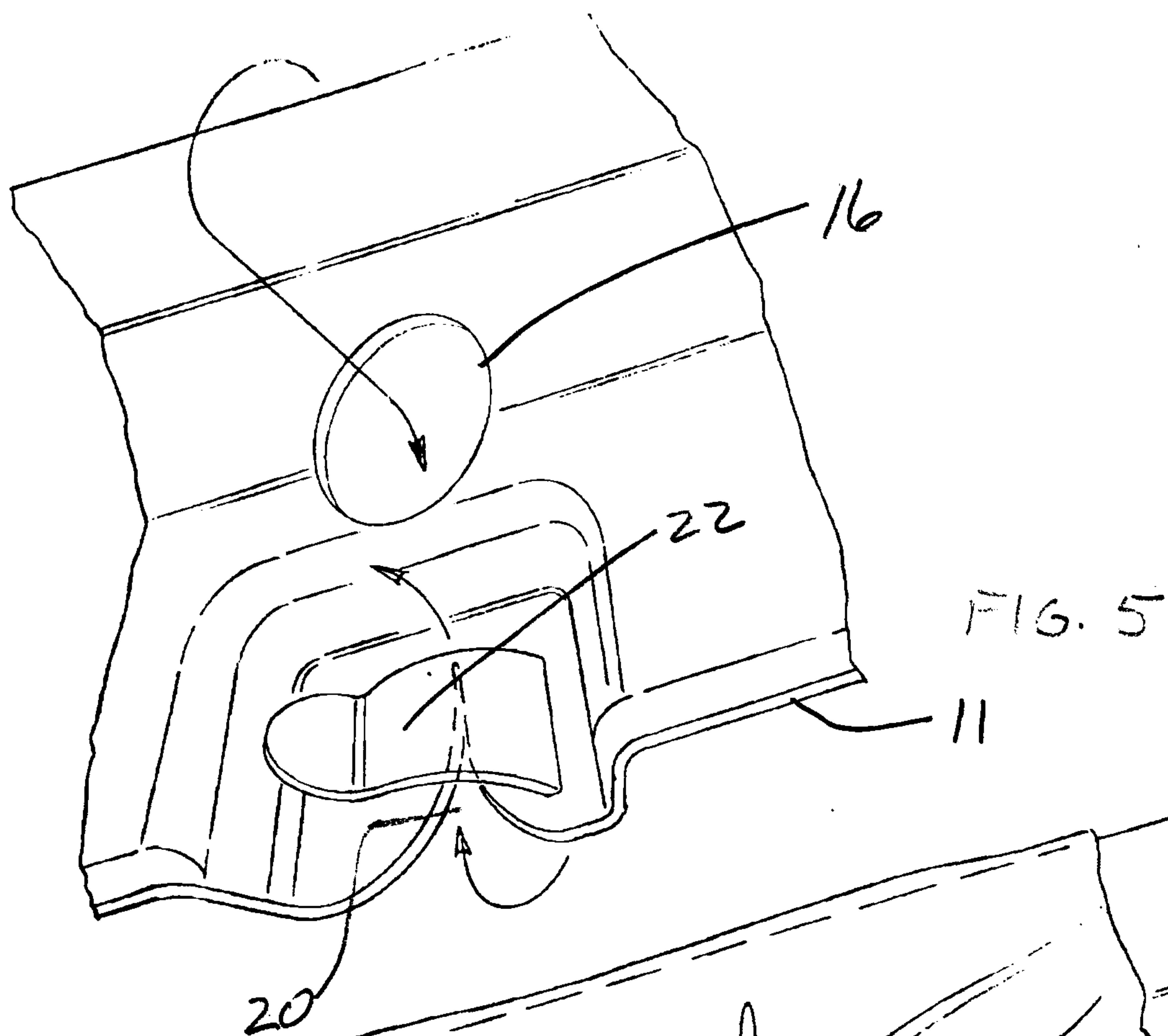


FIG. 2





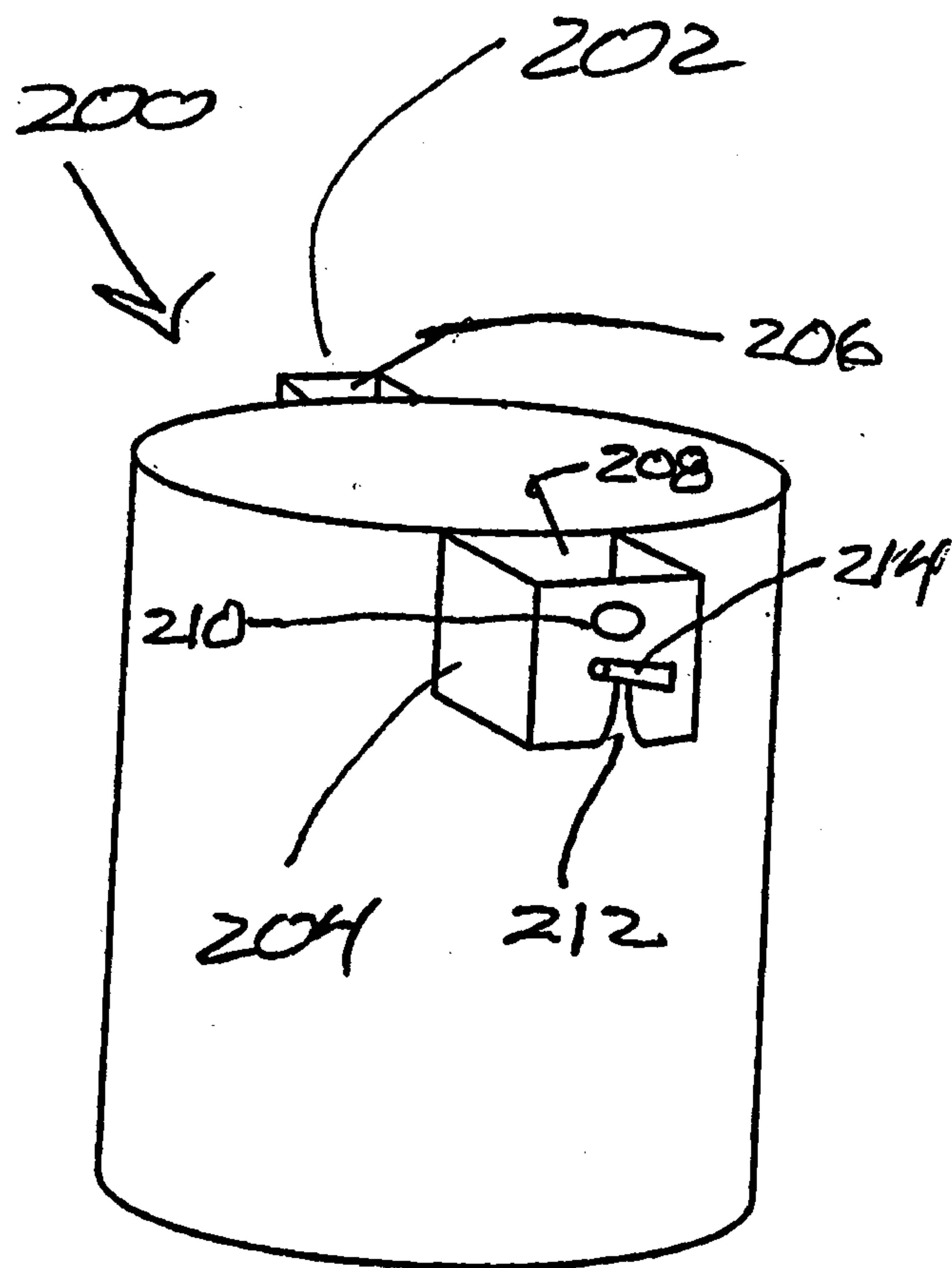


FIG. 7

