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(54) Title: SECURE ACCUMULATION/DISPOSAL BIN

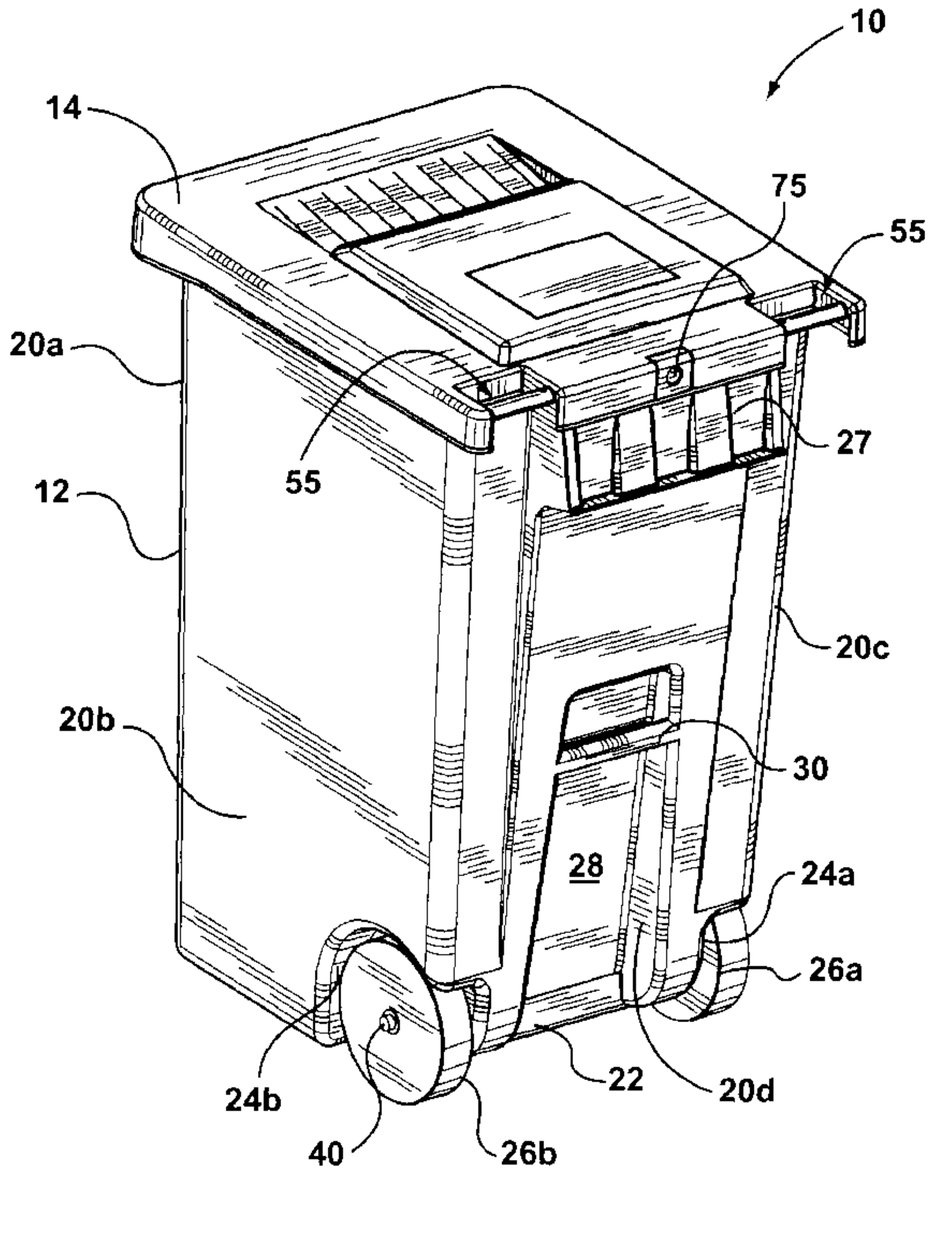


FIG. 1

(57) Abrégé/Abstract:
An accumulation/disposal bin includes a container body with an upper opening. A lid is mounted on a hinge on the forward wall of the body, to pivot about an axis proximate the upper opening. The lid pivots about the forward edge of the opening, allowing a lock

CA 2682837 A1 2008/10/16

(21) 2 682 837

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(57) Abrégé(suite)/Abstract(continued):
to be formed on the rear edge of the lid. Edge mounted wheels may further be located proximate the rear bottom of the container, diagonally across from the hinge. The bin may further include a lifting slot on the rear wall. A handle may be formed proximate the upper opening on the rear of the bin. The lid may comprise a downwardly slopped ramp extending from an opening in a horizontal plane to beneath a portion of the lid that at least partially covers this horizontal plane. The ramp and the covering portion of the lid define first and second slots each in a generally vertical plane. The second slot provides an entrance to an interior of the container body.

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[Continued on next page]

(54) Title: SECURE ACCUMULATION/DISPOSAL BIN

(57) Abstract: An accumulation/disposal bin includes a container body with an upper opening. A lid is mounted on a hinge on the forward wall of the body, to pivot about an axis proximate the upper opening. The lid pivots about the forward edge of the opening, allowing a lock to be formed on the rear edge of the lid. Edge mounted wheels may further be located proximate the rear bottom of the container, diagonally across from the hinge. The bin may further include a lifting slot on the rear wall. A handle may be formed proximate the upper opening on the rear of the bin. The lid may comprise a downwardly slopped ramp extending from an opening in a horizontal plane to beneath a portion of the lid that at least partially covers this horizontal plane. The ramp and the covering portion of the lid define first and second slots each in a generally vertical plane. The second slot provides an entrance to an interior of the container body.

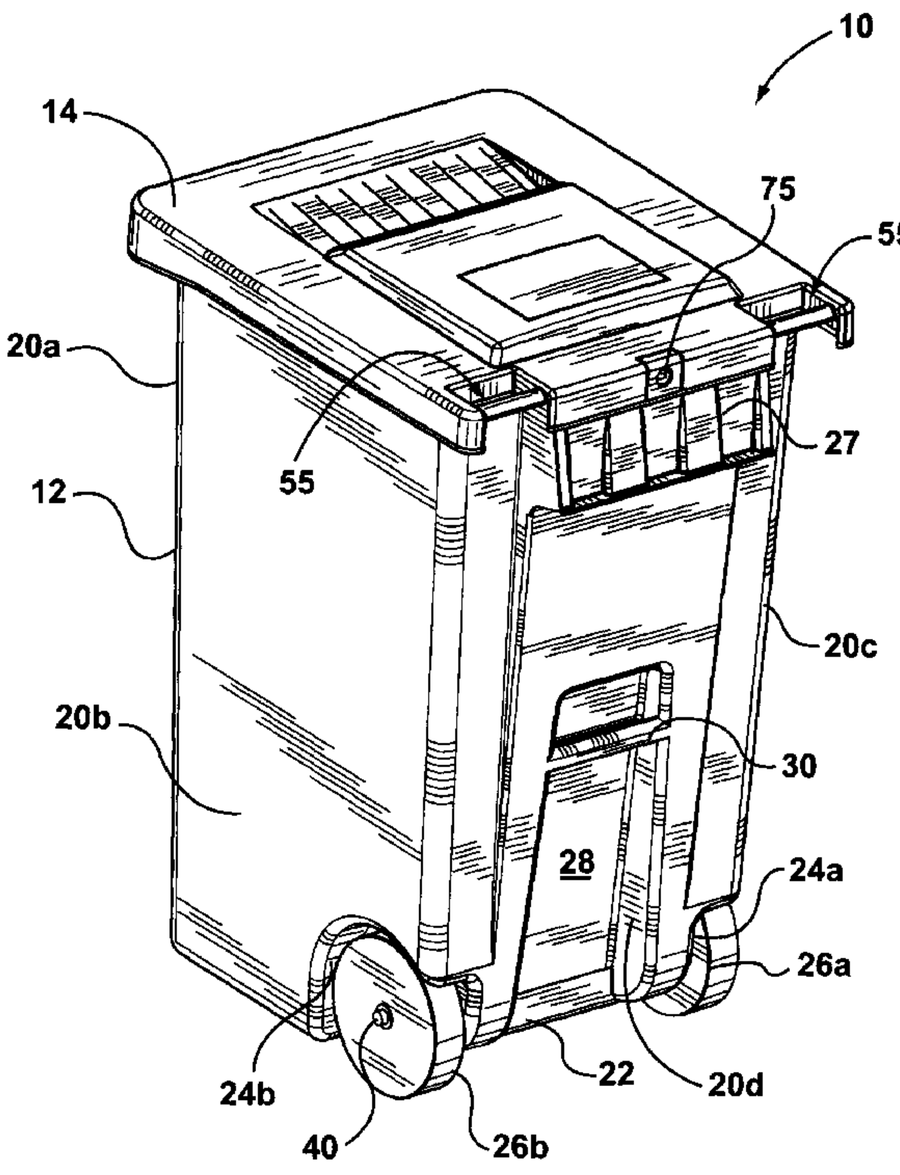


FIG. 1

WO 2008/122109 A1

WO 2008/122109 A1

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SECURE ACCUMULATION/DISPOSAL BIN

FIELD OF THE INVENTION

[0001] The present invention relates generally to refuse collection bins, and more particularly to an accumulation/disposal bin that may be suitable for safely collecting paper destined for secure disposal. One embodiment is particularly well suited for the collection of paper to be shredded from an office environment.

BACKGROUND OF THE INVENTION

[0002] Garbage and recycling bins formed of plastic are generally known. Bins used in the collection of paper to be shredded or recycled, however, are typically formed of more rigid materials such as wood or particle board. Typically, the choice of materials is based on a desire to keep such bins aesthetically pleasing and generally tamperproof.

[0003] Unfortunately, wood or particle board bins are cumbersome to access. They typically cannot be moved once full, and are thus usually emptied in situ. Moreover, the bins are costly to manufacture, deliver, and store, and are often not particularly pleasing to the eye.

[0004] As such, there remains a need for accumulation/disposal bins suitable for safely collecting paper and the like destined for secure disposal that are inexpensively produced, yet aesthetically pleasing, and moderately secure.

SUMMARY OF THE INVENTION

[0005] In accordance with an aspect of the present invention, an accumulation/disposal bin includes a container body with an upper opening. A lid covers the upper opening. The lid is mounted on a hinge on the forward wall of

the body, to pivot about an axis proximate the upper opening. The lid thus pivots about the forward edge of the opening, allowing a lock to be formed on the rear edge of the lid. Edge mounted wheels may further be located proximate the rear bottom of the container, diagonally across from the hinge. The bin may further include a lifting slot on the rear wall. In this way, lock, wheels, and lifting slot may be generally hidden when the bin is in-situ, providing a relatively clean outward appearance. The rear of the bin may further include a lifting skirt. As well, a handle may be formed proximate the upper opening on the rear the bin

[0006] The lid may comprise a downwardly sloped ramp extending from an opening in a horizontal plane to beneath a portion of the lid that at least partially covers this horizontal plane. The ramp and the covering portion of the lid define first and second slots each in a generally vertical plane. The second slot provides an entrance to an interior of the container body.

[0007] Conveniently, the covering portion and ramp, and the first and second generally vertical slots may be spaced to prevent access by hand through the slots in the container body.

[0008] In accordance with an aspect of the present invention, there is provided a bin. The bin comprises a container body defining an opening, a generally planar lid closing the opening. The lid comprises a downwardly sloped ramp extending from an opening in a horizontal plane to beneath a portion of the lid at least partially covering the horizontal plane. The ramp and the portion of the lid defining first and second slots each in a generally vertical plane, the second slot providing an entrance to an interior of the container body.

[0009] In accordance with another aspect of the present invention, there is provided a bin. The bin comprises a container body having upstanding front, rear and side walls extending from a base. The walls define an upper opening to a container, a lid covering the upper opening, a hinge on the front wall, proximate the upper opening, mounting the lid to the container body to pivot about an axis proximate the front wall of the container body; and two opposing wheels, mounted for rotation about an axis that is fixed relative to the body. One of the opposing

wheels extends from each of the side walls proximate the rear bottom of the container.

[0010] In accordance with yet another aspect of the present invention, there is provided a bin. The bin comprises a container body defining an opening, a generally planar lid closing the opening. The lid comprises a downwardly sloped ramp extending from an opening in a horizontal plane to beneath a portion of the lid at least partially covering the horizontal plane. The ramp and the portion of the lid define first and second slots each in a generally vertical plane, the second slot providing an entrance to an interior of the container body. The first and second slots and the ramp and the portion of the lid spaced to allow insertion of sheets of paper into the container, while preventing insertion of a human hand into the container through the slot.

[0011] In accordance with yet another aspect of the present invention, there is provided a bin. The bin comprises a container body having upstanding front, rear and side walls extending from a base. The walls define an upper opening to a container; a lid covering the upper opening; a hinge on the front wall, proximate the upper opening, mounting the lid to the container body to pivot about an axis proximate said front wall of the container body. The rear wall comprises an indentation extending from the base, and defining a lifting slot; two opposing wheels to support the base; a handle formed proximate the upper opening on the rear of the bin, generally opposite the hinge.

[0012] Other aspects and features of the present invention will become apparent to those of ordinary skill in the art upon review of the following description of specific embodiments of the invention in conjunction with the accompanying figures.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] In the figures which illustrate by way of example only, embodiments of the present invention,

[0014] **FIG. 1** is a perspective view of a bin exemplary of an embodiment of the present invention;

[0015] **FIG. 2** is a front view of the bin **FIG. 1**;

[0016] **FIG. 3A** is a rear view of the bin of **FIG. 1**;

[0017] **FIGS. 3B-3C** are enlarged views of portions of **FIG 3A**;

[0018] **FIG. 4** is a right side view of the bin of **FIG. 1**;

[0019] **FIGS. 5A** and **5B** are perspective views of the bin of **FIG.1** in an inverted position;

[0020] **FIG. 5C** is an enlarged view of a portion of **FIG 5A**;

[0021] **FIG. 6A** is a top view of the bin of **FIG.1** with lid removed;

[0022] **FIGS. 6B** is an enlarged view of a portion of **FIG 6A**;

[0023] **FIG. 7** is a perspective view of a lid of the bin of **FIG. 1**; and

[0024] **FIG. 8A** is a perspective view of the lid of **FIG. 7** in an inverted position;

[0025] **FIGS. 8B-8C** are enlarged views of portions of **FIG 8A**;

[0026] **FIG. 9** is a cross-sectional view of the lid of **FIG. 7**, along line **IX-IX**;

[0027] **FIG. 10** is a perspective view of multiple bins of **FIG. 1**, stacked; and

[0028] **FIG. 11** is a schematic illustration of the multiple bins of **FIG. 9**.

DETAILED DESCRIPTION

[0029] **FIG. 1** is a perspective view of an accumulation/disposal bin **10** exemplary of an embodiment of the present invention. **FIGS. 2, 3A-3C** and **4** are front, rear and side views of bin **10**. As will become apparent, bin **10** is suitable

for collecting documents in a substantially tamper-proof manner. Specifically, bin **10** may be particularly well suited for collecting paper prior to its secure disposal by way of shredding, incineration, or the like. Bin **10** is formed of a container body **12**, and lid **14**.

[0030] As illustrated in **FIGS. 1**, **2**, **3A-3C** and **4**, container body **12** includes four upstanding walls: a front wall **20a**, a rear wall **20d**, and two sidewalls **20b** and **20c**. These extend upward from and at a slight angle to base **22** (e.g. at an angle of between 2-12 ^{o} between the planes of base **22** and the plane of each of walls **20a**, **20b**, **20c** and **20d**).

[0031] Two wheel wells **24a**, **24b** for receiving wheels **26a**, **26b** making bin **10** generally movable, are formed at rear bottom of bin **10**, proximate the intersection of side and rear walls at base **22**. In the depicted embodiment, wheel wells **24a** and **24b** are formed predominantly in side walls **20b** and **20c** of container body **12**. Each wheel well **24a** and **24b** is generally disk shaped, having a diameter and height sized to accommodate a complementary wheel **26a/26b**. Wheels **26a**, **26b** may be conventional, formed of rubber, plastic or other suitable material. They may be hollow or solid.

[0032] Container body **12** further includes a lifting skirt **27** and a bottom lift slot **28**, formed on rear wall **20d**. Slot **28** and skirt **27** may be engaged by a complimentary lift extending from a trolley, mechanical mover, or the like.

[0033] Handles **55** are formed at the top rear of bin **10**, and allow bin **10** to be pulled or pushed. Conveniently, handles **55** may be used to pull bin **10** on wheels **26a**, **26b** as bin **10** is tilted rearward. A hinge **25** for pivoting lid **14** between open and closed positions is formed on the front of bin **10**, generally opposite handles **55**.

[0034] Lifting slot **28** is formed as a generally rectangular indentation on rear wall **20d**, extending upward from the bottom of rear wall **20d**. As illustrated, lift slot **28** is laterally centered on rear wall **20d**, and has a width of about 1/3 of rear wall **20d**. Lifting slot **28** tapers slights as it extends upwardly. Lifting slot **28** further includes a laterally extending bar **30** located about 4/5 of the way upwardly

along slot **28**. A gap is formed behind bar **30** and slot **28**, as shown in the enlarged view of **FIG. 3B**. Skirt **27**, slot **28** and bar **30** are suitable for engaging the mechanical lift. Lifting slot **28** may for example be formed in compliance with ANSI Standard Z245.60-2006, the contents of which are hereby incorporated by reference.

[0035] A lock **75** may secure lid **14** to bin **12**, as detailed below.

[0036] The bottom of bin **10** is more particularly illustrated in **FIGS. 5A**, **5B** and **5C**. As illustrated, bin **10** includes three wheels. Two generally opposed disc shaped wheels **26a**, **26b** are seated in wheel wells **24a**, **24b**, at the rear bottom corners of bin **10**, proximate the intersection of base **22**, and rear wall **20d** and side walls **20b, 20c**. Wheels **26a**, **26b** are axially mounted on an axle **40** that extends substantially from side to side of bin **10**. Wheels **26a**, **26b** may thus rotate about an axis **140** that is generally fixed relative to container **12**, and lies in a horizontal plane. Wheel wells **24a**, **24b** are connected by a hollow tunnel **38** that may accommodate an axle **40** on which wheels **24a**, **24b** are mounted. Hollow tunnel **38** may be continuous, or formed of several segments. Conveniently, hollow tunnel **38** extending between wheel wells **24a**, **24b** allows for free rotation of the axle **40** therein.

[0037] A third wheel (visible in **FIG. 2**, **3A**, **4, 5A** and **5B**) is formed as a caster **32**. Caster **32** includes a wheel **34**, smaller than wheels **26a**, **26b** that rotates about an axis that itself may rotate about a vertically extending axis, relative to container body **12**. Caster **32** is mounted in a recess **36** formed in base **22**, generally midway between side walls **20b** and **20c**. Recess **36** extends vertically, and is sufficiently deep so that wheel **34** and wheels **26a**, **26b** allow bin **10** to rest level on a level surface (i.e. so that wheels **26a**, **26b**, **34** are tangent to a common horizontal plane). The three wheels **26a**, **26b**, and **34** allow flexible manoeuvring of bin **10**, when empty or full. However, when bin **10** is tilted backward substantially all of the weight of bin **10** is borne by wheels **26a**, **26b**.

[0038] The interior of container body **12** may be better appreciated with reference to **FIGS. 6A** and **6B**. As illustrated, the upper edge of each of walls

20a, **20b**, **20c** and **20d** define an opening **19** into container body **12**. The two generally disc-shaped wheel wells **24a**, **24b** extend into the interior of container body **12**. Similarly, recess **36** extends into the interior of container body **12**. Likewise, walls forming lift slot **28** also extend inwardly into container body **12**.

[0039] A rim **44** extends around the upper periphery of container **12** as illustrated in **FIG. 6A**. Rim **44** is actually a combination of front, rear and side rim portions **46a**, **46d**, **46b** and **46c**. Front and side rim portions **46a**, **46b** and **46c** are generally uniform, and continuous. Each of front and side rim portions **46a**, **46b** and **46c** terminates in a downwardly extending skirt **50**.

[0040] Rear rim portion **46d** has three segments: a center segment **48a** is generally flat and extends outwardly from the edge of the top opening of container **12**. Center segment **48a** includes a lock opening **52**. Left and right rear rim segments **48b** and **48c**, extend from center segment **48a** to rim portions **46b** and **46c**, respectively, and are formed as concave half cylinders. Left and right rear segments **48b**, **48c** each define an opening **54a**, **54b** between the top edge of rear wall **20d**, and left and right rear rim segments **48b**, **48c**.

[0041] Further, a plurality of generally hooked shaped hinge portions **56** (also shown in enlarged view in **FIG. 6B**) extend generally outward from skirt **50** of front rim portion **46a**. Hooked shaped hinge portions **56** are generally uniformly spaced, and are suitable for receiving and retaining a hinge pin, that may pivot in hinge portions **56**, to form hinge **55**.

[0042] Container body **12** (excluding wheels **26a**, **26b** and accompanying axle **40** and caster **32**) may be integrally formed, using a suitable injection mould. A suitable plastic appreciated by those of ordinary skill, such as poly-ethylene or the like, may be used to form container body **12**, with walls **20a**, **20b**, **20c** and **20d**, base **22**, as well as rim **44**, and skirt **50** having thicknesses of between 2 and 8 mm, or greater. Conveniently, an appropriate choice of thickness may make bin **10** suitable from holding 130 kg or more of refuse/paper, without placing undue stress on bin **10**.

[0043] Lid **14** is more particularly illustrated in **FIGS. 7, 8A** to **8C** and **9**. As illustrated, lid **14** is complementary in size to the upper opening **19** (**FIG. 6A**) to container body **12** and includes a generally planar portion **60**, surrounded by a skirt **62** extending downwardly from the front and side edges of planar portion **60** of lid **14**. Skirt **62** includes contiguous front and side skirt portions **64a**, **64b** and **64c**. A rear skirt portion **64d** may further be divided into three skirt portions **66a**, **66b** and **66c**. Center skirt segment **66a** extends along the rear edge of lid **14**, on each side of the middle of the rear edge of lid **14**. Right and left skirt portions **66b** and **66c** are set back from center skirt portion **66a**. Semi-cylindrical handle portions **70a** and **70b** extend beside skirt portion **66a**, generally flush therewith.

[0044] Lock **75** includes a pin **72** that extends toward the center of lid **14**. Pin **72** may be retracted by a key (not shown) that may be inserted and removed in a key hole on the side of lock **75**, opposite of pin **72**, and exterior to lid **14**. Suitable locks may be available from Hettich International of Germany, under part number 356300. Pin **72** is aligned with lock opening **52** of rear rim portion **46d**. Lock opening **52** lies in a vertical plane, pin **72** extends into and out of lock opening **52**. As such, lid **14** may be locked to cover opening **19**, using a key to extend and retract pin **72**.

[0045] Formed on front skirt portion **64a** of lid **14** is a hinge portion **74**, including a plurality of laterally extending hinge pins **76**, complementary to the hooked hinge portions **56** (**FIGS. 6A, 6B**) extending forwardly from bin **10**. Pins **76** are co-axial, arranged about a pivot axis **77** that is in a generally horizontal plane. In this way, lid **14** may be pivotally mounted on container body **12** on hinge **25** defined by hinge portions **56** and **74**, as for example illustrated in **FIG. 10**. Conveniently, lid **14** pivots about the pivot axis **77** on hinge **25** located at the front of bin **10**. As illustrated, lid **14** pivots toward and away from the front of bin **10**, through an angle of about 260°, about axis **77**, proximate front wall **20a**. Of course pins **76** could be replaced by a single pin that engages multiple hooked hinge portions **56**.

[0046] Now, when lid **14** is atop container **12**, as illustrated in **FIGS. 1**, **2**, **3A-3C**, **4** front and side skirts portions **64a**, **64b** and **64c** of lid **14** engage the

periphery of opening **19** (**FIG. 6A**). Specifically skirts portions **64a**, **64b** and **64c** engage complementary front and side of skirt **50** of rim **44**. Pin **72** of lock **75** is received in locking opening **52**. Semi-cylindrical portions **70a**, **70b** of lid **14** and semi-cylindrical skirt portions **64b** and **64c** of rim **44** form generally cylindrical grips that may be used to move bin **10**.

[0047] Accordingly, handles **55** are formed by overlapping portions of lid **14** and container body **12**. Handles **55**, have an opening (defined by overlapping opening **54a**, **54b** and opening **65a**, **65b**) next to a grip **55**, on the rear side of opening **19** to container body **12**. Handles **55** are on one side of opening **19**, while hinge **25** is on the opposite side.

[0048] Conveniently, hinge **25** is mounted on the front wall **20a** of bin **10**. As such, wheels **26a**, **26b**, lock **75**, skirt **27**, and lifting slot **28** are on the same rear side of bin **10**, and are obstructed from view, when bin **10** is viewed from the front (as best seen in **FIG. 2**). This provides for a relatively clean front aesthetic. Moreover, tampering with lock **75** of bin **10** requires access to the rear of bin **10**, which is typically inaccessible as it is often proximate or in abutment with a wall at the place of installation.

[0049] As shown in **FIGS. 7**, **8A** and **9**, Lid **14** further includes a ramp **80** extending downwardly into the interior of container **12**, supported by ramp side walls **82a** and **82b**. Ramp **80** extends from region **84** in a generally horizontal plane. In the absence of ramp **80**, region **84** would define an opening in a horizontal plane into container body **12**. Ramp **80** extends between a generally flat planar portion **86** above ramp **80**. As best viewed in **FIG. 9**, planar portion **86** and ramp **80** thus define a first slot **88** in a generally vertical plane. Ramp **80** terminates at a second slot **90**. Slot **90** is also generally vertical. Slots **88** and **90** have sufficiently small heights and ramp **80** extends a sufficient distance between slot **88** and slot **90** so that access to slot **90** from slot **88**, using the human hand is difficult, if not impossible. Optionally, side walls **82a** and **82b**, may extend beyond ramp **80**, further along the interior of lid **14**, to more precisely define a guide slot extending from slot **90**. Reinforcing ribs **81** that reinforce lid **14** may extend transverse to ramp **80** and walls **82a** and **82b**. Slots **88** and **90** may, for example,

be spaced by 50-150 mm (e.g. 100 mm). The angle and spacing of ramp **80** is such that slots **88** and **90** have a height that may, for example, be between 2 mm and 25 mm (slot **88** may for example be 2.5 mm, and slot **90** 6.5 mm). As illustrated, generally planar portion **86** is slightly above the remaining part of generally planar portion of lid **14**. Generally planar portion **86** need not be planar, but could be curved or domed, or have another shape provided that portion **86** covers a portion of the horizontal plane above ramp **80** to define slots **88** and **90**. Slots **88** and **90**, of course need not have a uniform height, and will typically not be have the same dimensions.

[0050] Conveniently ramp **80** and slots **88** and **90** may be formed wide enough to accept standard size paper to be collected in bin **10**. As such the width of slots **88** and **90** may typically be in excess of 8.5", and may for example have a width of between 8.5" and 12", or larger.

[0051] In use, bin **10** is typically placed in a location where refuse, and particularly paper is to be collected. Typically, bin **10** is placed in an office environment. Wheels **26a**, **26b** and **34** allow bin **10** to be pushed into place. Preferably, rear wall **20d** is pushed into close proximity or even abutment with a wall making access to lock **75** difficult.

[0052] Once in place, end users place paper for disposal into bin **10**, by sliding the paper on ramp **80** from slot **88** to slot **90**, and into the interior of container body **12**. The distance between slot **88** and slot **90**, and the height of slots **88** and **90**, allows the insertion of paper into bin **10**, but prevents its easy removal, by hand or simple instrument. The downward tilt of ramp **80** facilitates the sliding insertion of paper into bin **10**. Depending on the height of slots **88** and **90** many stacked sheets may be concurrently passed through slots **88** and **90**.

[0053] Once bin **10** is substantially full, bin **10** may be wheeled away for emptying. Specifically, bin **10** may be tilted so that its only point of contact to the ground is wheels **26a**, **26b** that act as load bearing wheels. So tilted, bin **10** may be pulled by handles **55** and wheeled to an exit or elevator and transported to transport apparatus that engages slot **28**, bar **30** and skirt **27**. Prior to emptying

bin **10**, the lock may be opened. Bin **10** may be tilted backward, and ultimately turned upside down. As bin **10** is tilted, lid **14** pivots open about hinge pins **76**, with the rear edge of lid **14** swinging toward the front of bin **10**.

[0054] Conveniently, as handles **55** are formed apart from hinge **25**, handles **55** and wheels **26a** and **26b**, as well as lift slot **28** and lift skirt **27** may be formed at the rear of bin **10**, while hinge **55** is formed at the front of bin **10**. Thus, as best viewed in **FIGS. 2** and **3**, lift slot **28**, wheels **26a** and **26b**, skirt **27**, and lock **75** may be generally hidden from view.

[0055] When not in use, several bins of the form of bin **10** may be stacked or nested, as illustrated in **FIG. 10**. As illustrated, the outer surface of body **12** of one bin **10** is received within the interior of body **12** of a bin directly beneath the received bin. Conveniently, the top of wheel wells **24a** and **24b** in the interior of container body **12** provide a support for wheels **26a**, **26b** of a received bin. This is schematically illustrated in **FIG. 11**.

[0056] Of course, the above described embodiments, are intended to be illustrative only and in no way limiting. The described embodiments of carrying out the invention, are susceptible to many modifications of form, arrangement of parts, details and order of operation. The invention, rather, is intended to encompass all such modification within its scope, as defined by the claims.

WHAT IS CLAIMED IS:

1. A bin comprising a container body defining an opening, a generally planar lid closing said opening, said lid comprising a downwardly sloped ramp extending from an opening in a horizontal plane to beneath a portion of said lid at least partially covering said horizontal plane, said ramp and said portion of said lid defining first and second slots each in a generally vertical plane, said second slot providing an entrance to an interior of said container body.

2. The bin of claim 1, wherein said first and second slots are spaced by at least 50 mm.

3. The bin of claim 1, wherein said first and second slots are spaced by at least 100 mm.

4. The bin of claim 1, wherein said lid comprises a skirt extending downwardly along at least one edge of said lid, for engaging said container body.

5. The bin of claim 1, further comprising a hinge formed at the front of said bin, for pivotally mounting said lid to said container body.

6. The bin of claim 5, wherein said ramp is sloped downwardly away from said front of said bin.

7. The bin of claim 1, wherein said lid and said container body are formed of injection molded plastic.

8. The bin of claim 1, wherein said portion of said lid at least partially covering said horizontal plane is generally flat.

9. The bin of claim 1, wherein said portion of said lid at least partially covering said horizontal plane is generally dome shaped.

10. The bin of claim 1, further comprising a handle formed at the back of said bin.

11. The bin of claim 10, further comprising two load bearing wheels mounted for rotation about an axis that is fixed relative to said bin, proximate the back bottom of said bin.

12. The bin of claim 11, further comprising a slot for lifting said bin, formed on the back of said bin.

13. The bin of claim 12, further comprising a lock for locking said lid to said body.

14. A bin comprising:

a container body having upstanding front, rear and side walls extending from a base, said walls defining an upper opening to a container;

a lid covering said upper opening;

a hinge on said front wall, proximate said upper opening, mounting said lid to said container body to pivot about an axis proximate said front wall of said container body; and

two opposing wheels, mounted for rotation about an axis that is fixed relative to said body, one of said opposing wheels extending from each of said side walls proximate the rear bottom of the container.

15. The bin of claim 14, wherein said lid comprises a downwardly extending skirt for engaging the periphery of said upper opening.

16. The bin of claim 14, further comprising a slot for lifting said bin on said rear wall.

17. The bin of claim 16, further comprising a handle for pulling said bin in a tipped position on said two opposing wheels, said handle formed proximate said upper opening on the rear of said bin.

18. The bin of claim 14, wherein said handle is formed by overlapping portions of said lid and said container body.

19. The bin of claim 14, further comprising two wheel wells each formed proximate the intersection of said base, and said rear and side walls, in which said opposing wheels are mounted.

20. The bin of claim 14, further comprising a lifting skirt, extending outwardly from said rear wall.

21. The bin of claim 16, wherein said rear wall comprises an indentation extending from said base, and defining a lifting slot.

22. The bin of claim 17, further comprising a laterally extending bar extending across said lifting slot.

23. The bin of claim 14, further comprising a caster mounted on said base.

24. The bin of claim 14, wherein said lid comprises a generally planar panel, and a downwardly sloped ramp extending from an opening in a horizontal plane to beneath a portion of said generally planar panel partially covering said horizontal plane, said ramp and said portion of said lid defining first and second slots each in a generally vertical plane, said second slot providing an entrance to an interior of said container.

25. The bin of claim 14, wherein said lid and said container body are formed of injection molded plastic.

26. A bin comprising a container body defining an opening, a generally planar lid closing said opening, said lid comprising a downwardly sloped ramp extending from an opening in a horizontal plane to beneath a portion of said lid at least partially covering said horizontal plane, said ramp and said portion of said lid defining first and second slots each in a generally vertical plane, said second slot providing an entrance to an interior of said container body, said first and second slots and said ramp and said portion of said lid spaced to allow insertion of sheets of paper into said container, while preventing insertion of a human hand into said container through said slot .

27. A bin comprising:

a container body having upstanding front, rear and side walls extending from a base, said walls defining an upper opening to a container;

a lid covering said upper opening;

a hinge on said front wall, proximate said upper opening, mounting said lid to said container body to pivot about an axis proximate said front wall of said container body;

said rear wall comprising an indentation extending from said base, and defining a lifting slot;

two opposing wheels to support said base;.

a handle formed proximate said upper opening on the rear of said bin, generally opposite said hinge.

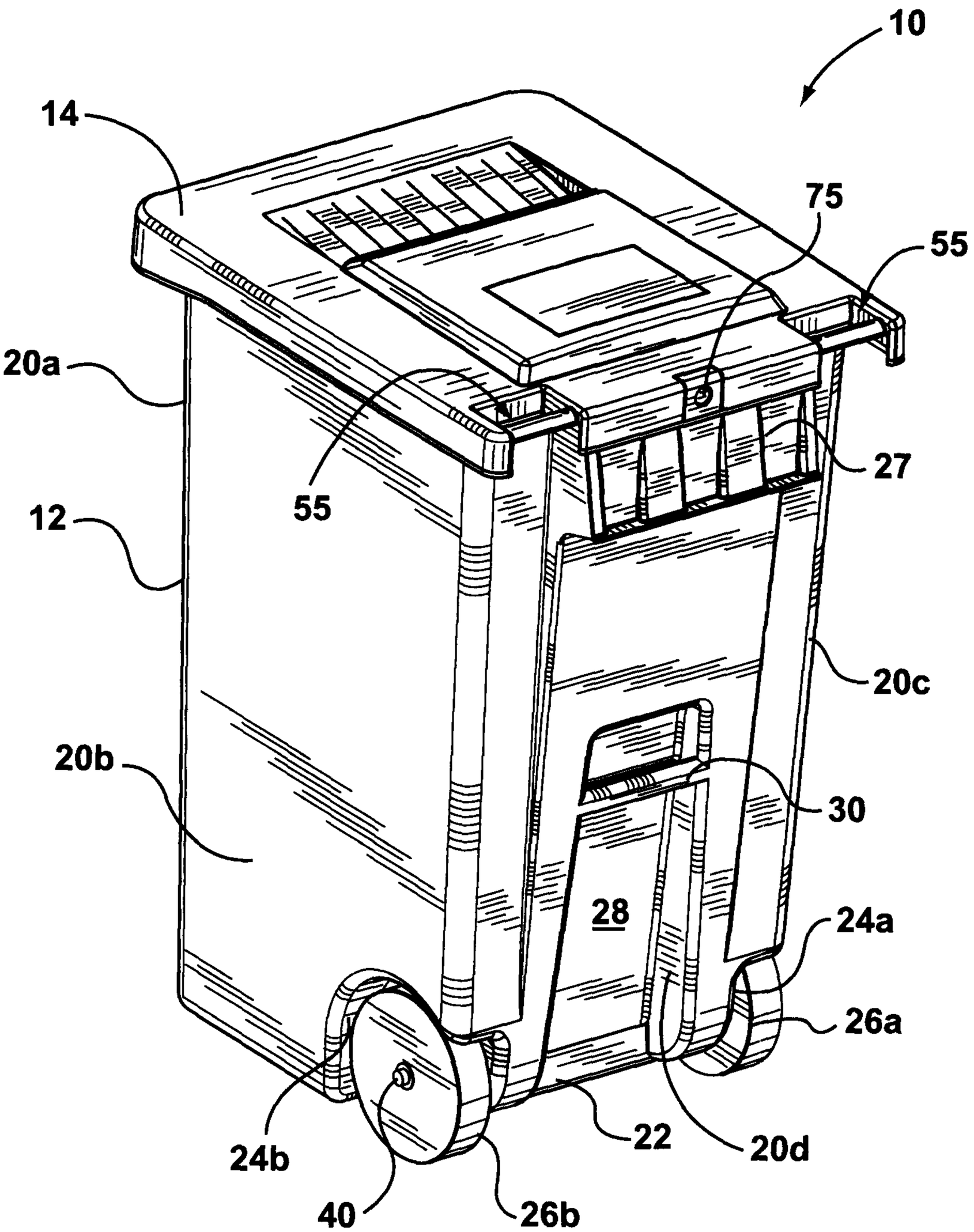


FIG. 1

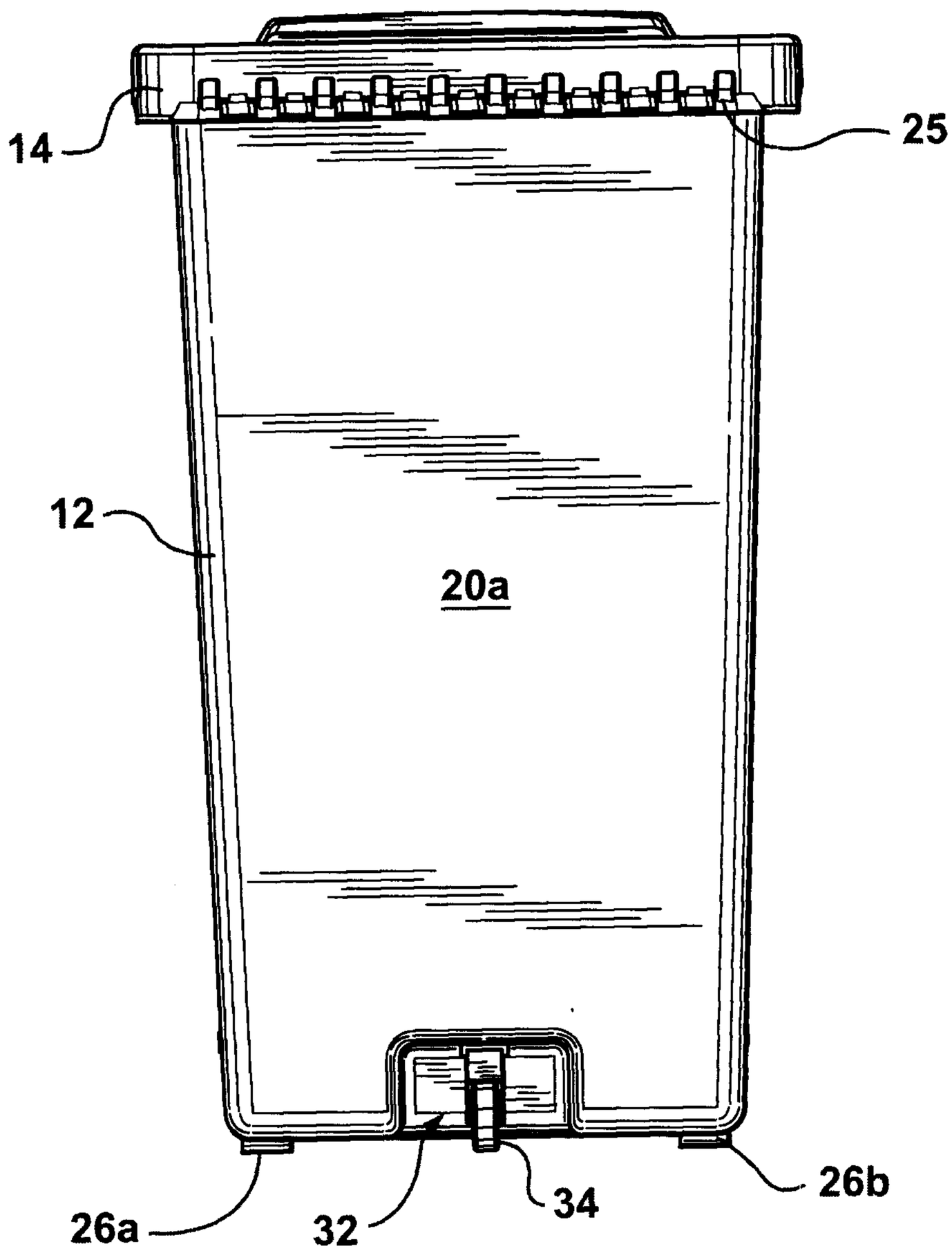


FIG. 2

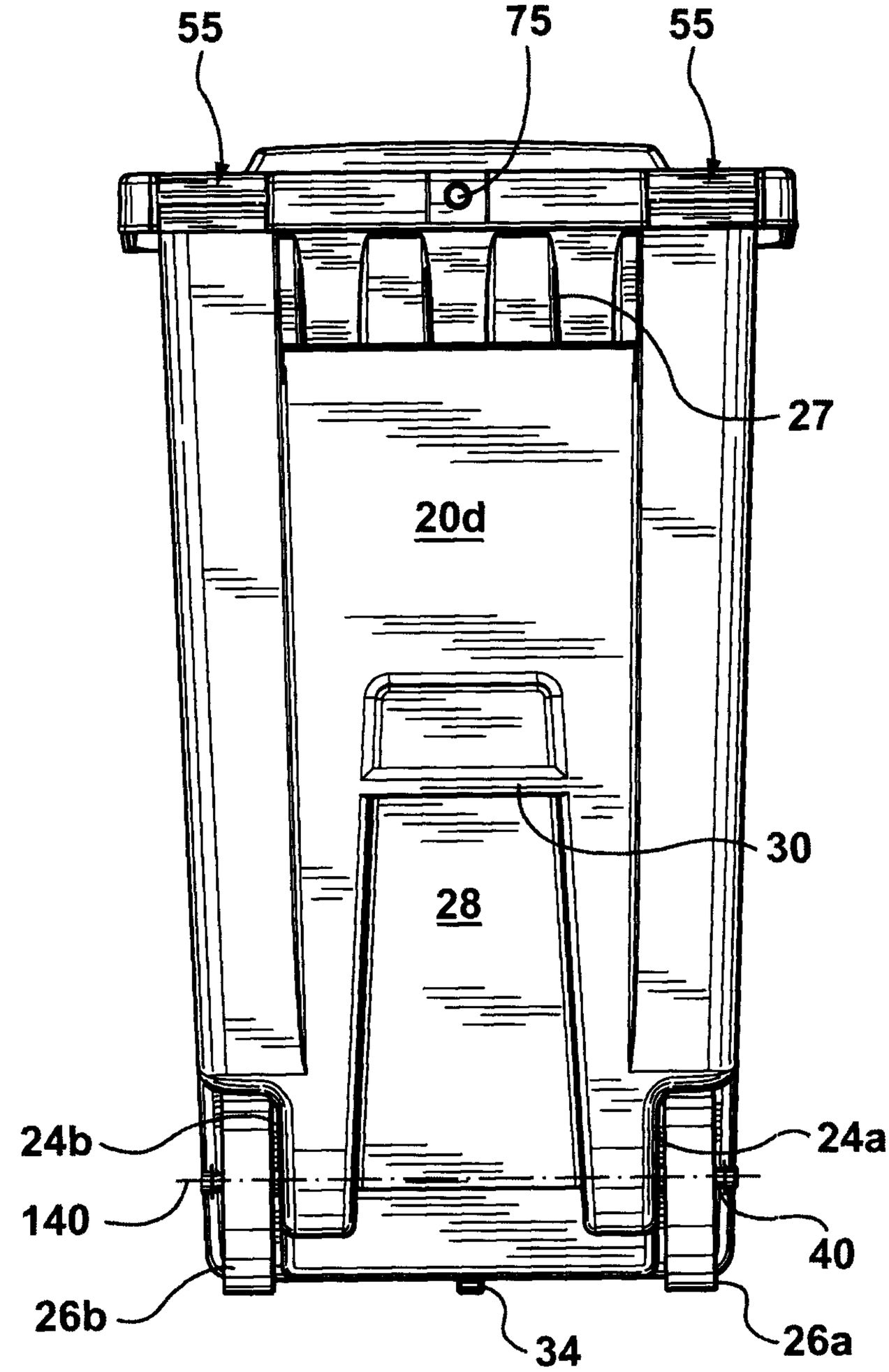


FIG. 3A

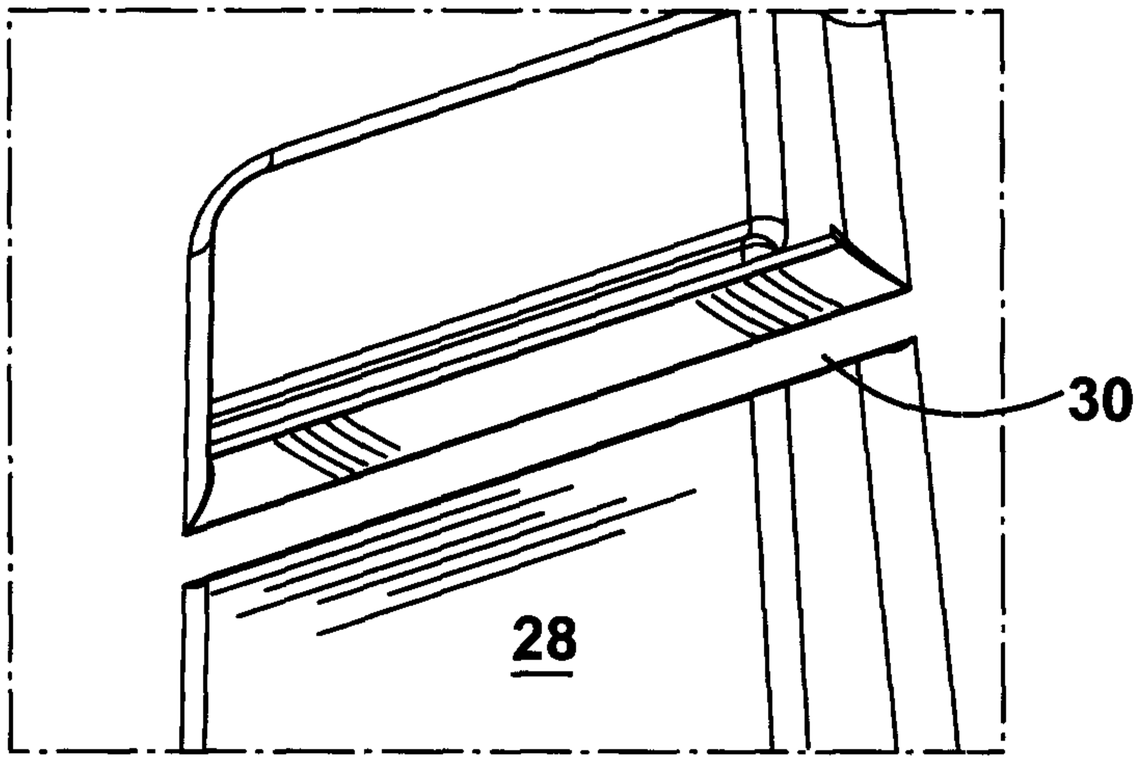


FIG. 3B

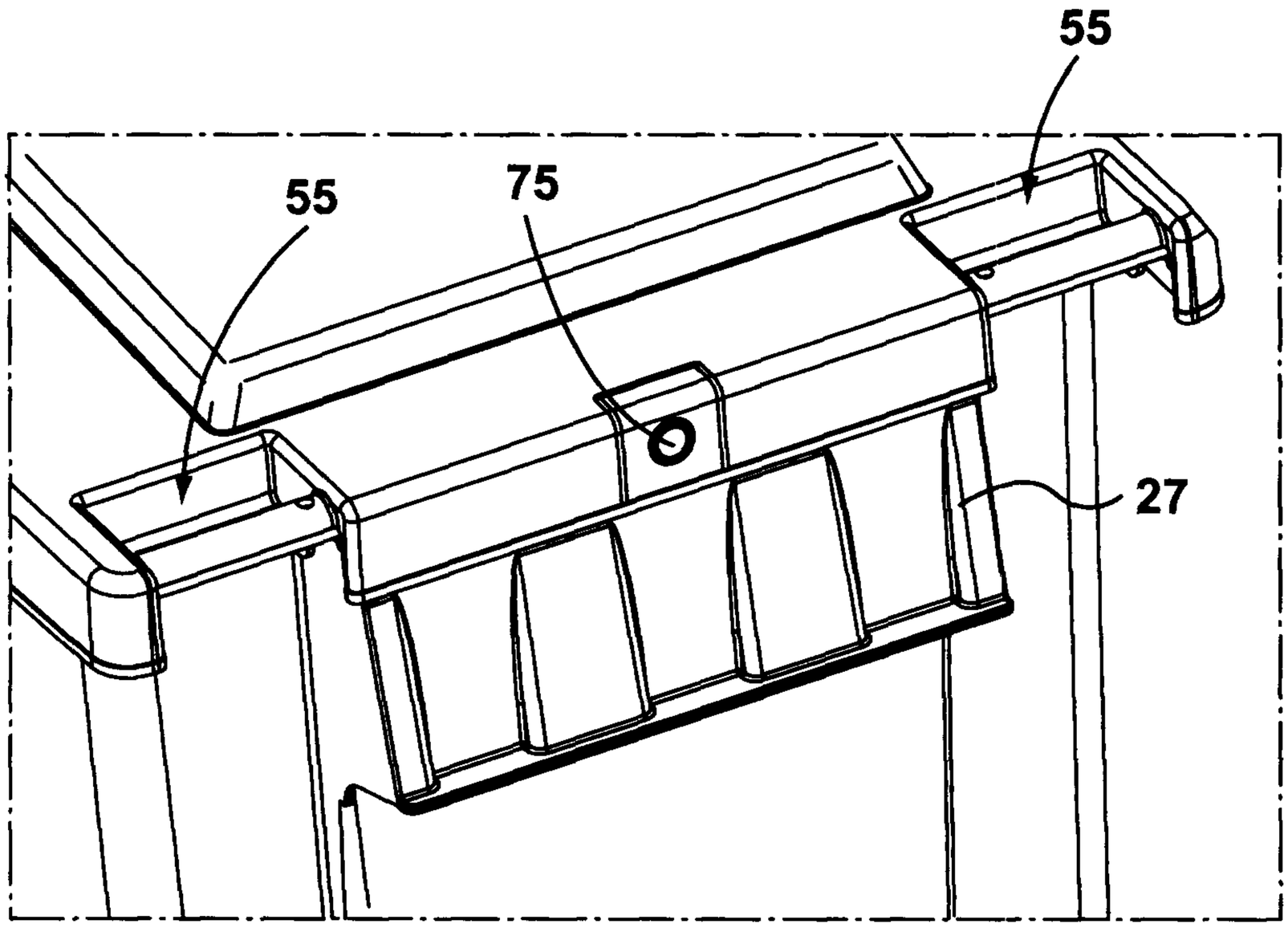


FIG. 3C

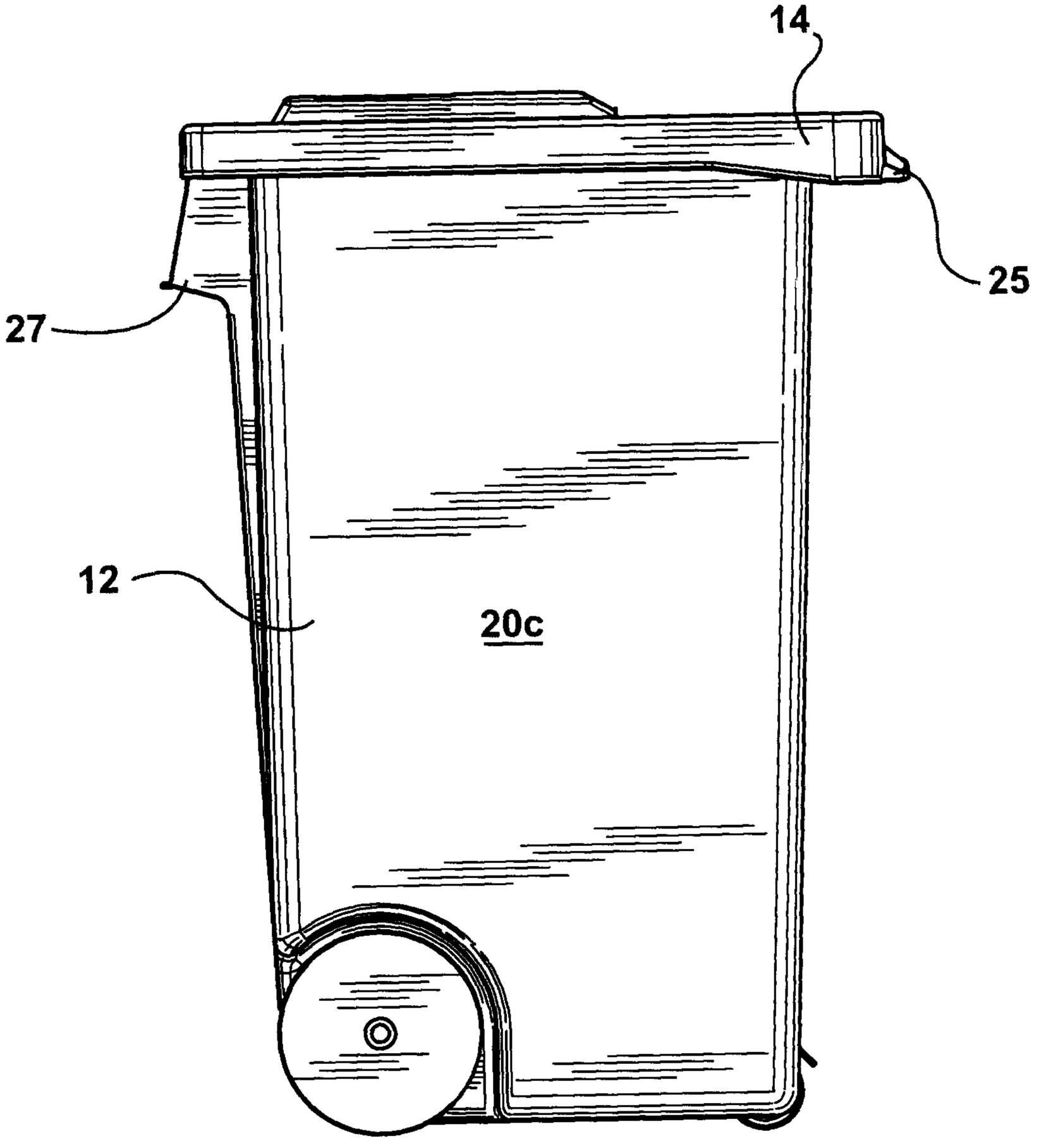


FIG. 4

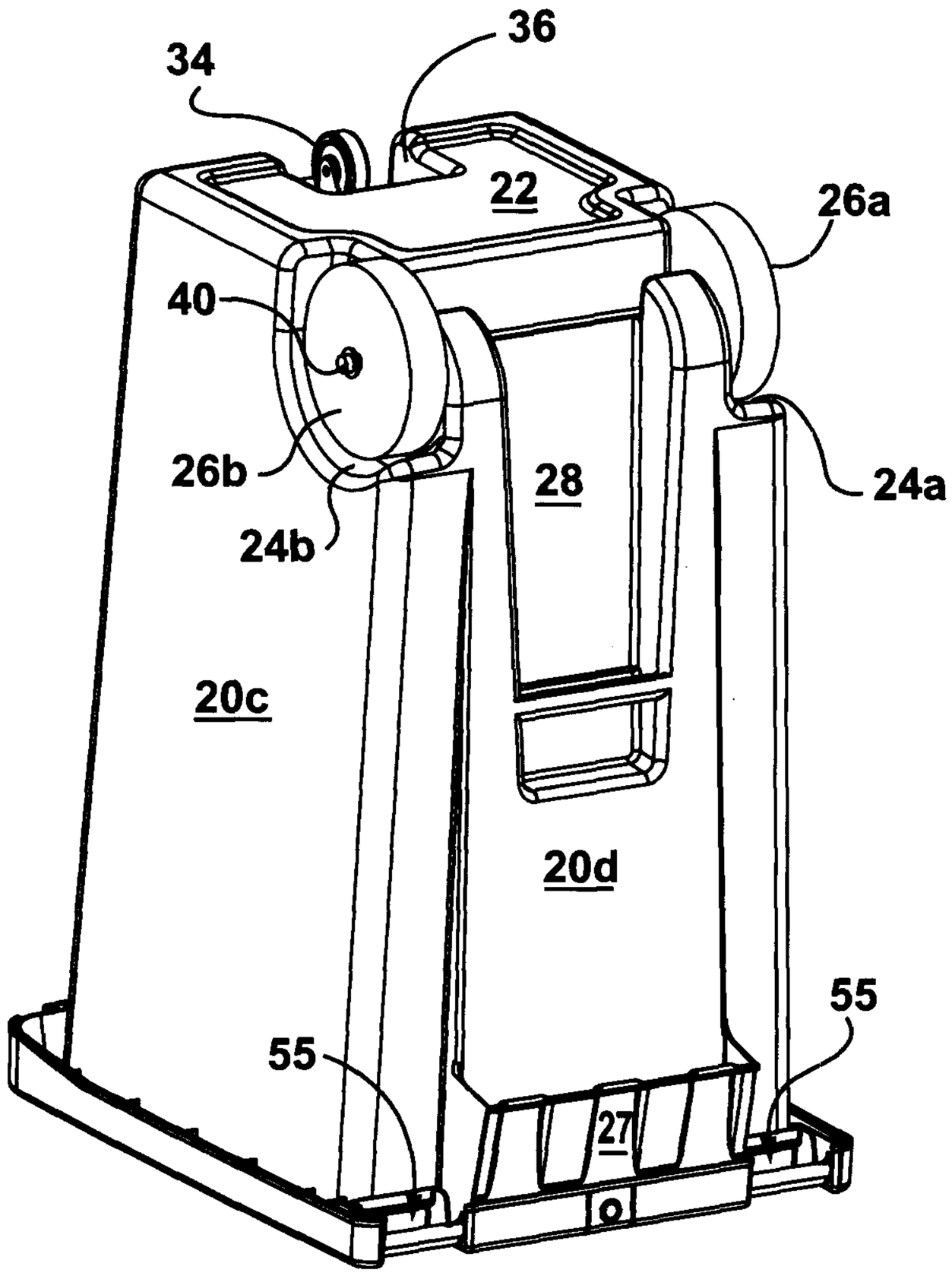


FIG. 5A

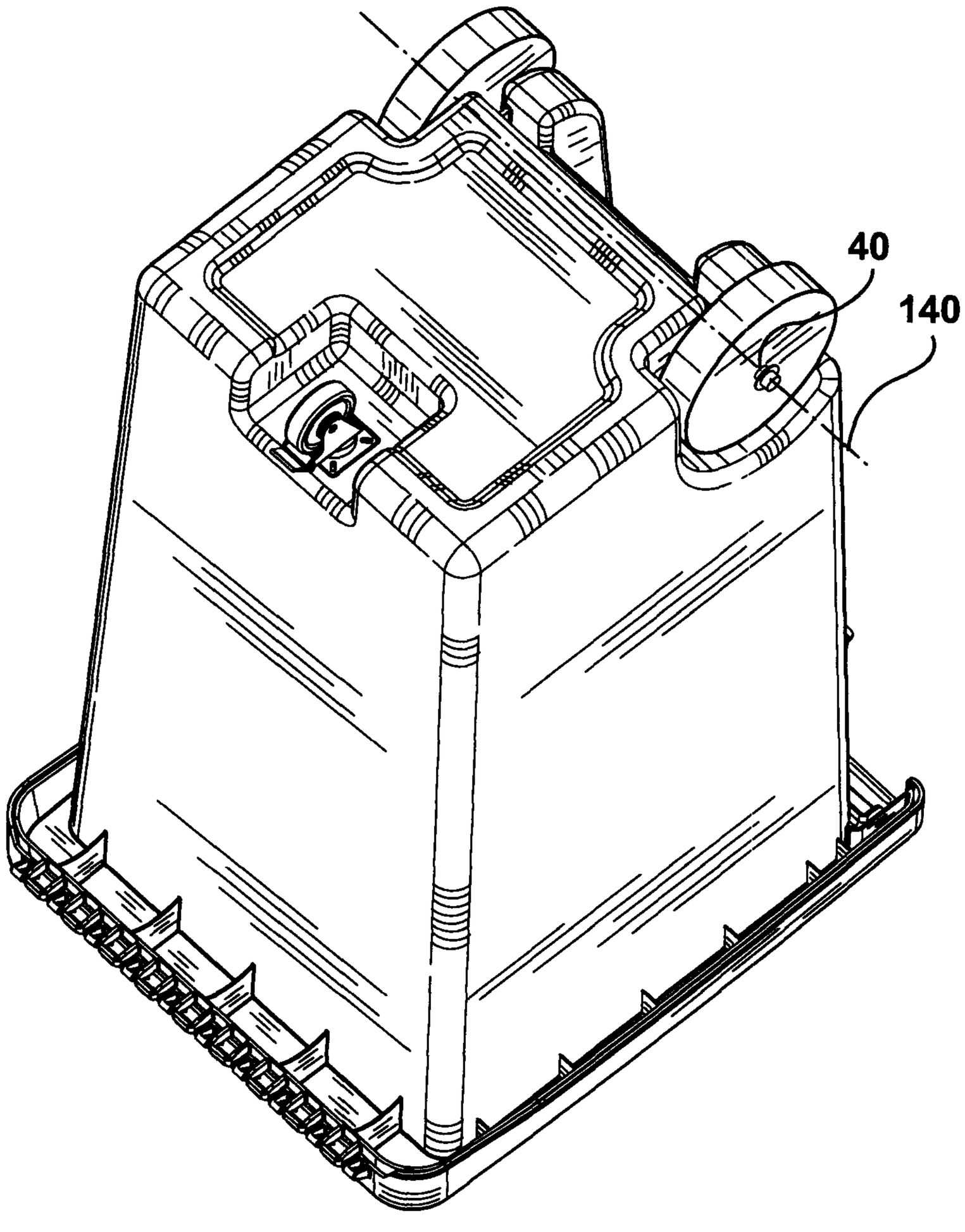


FIG. 5B

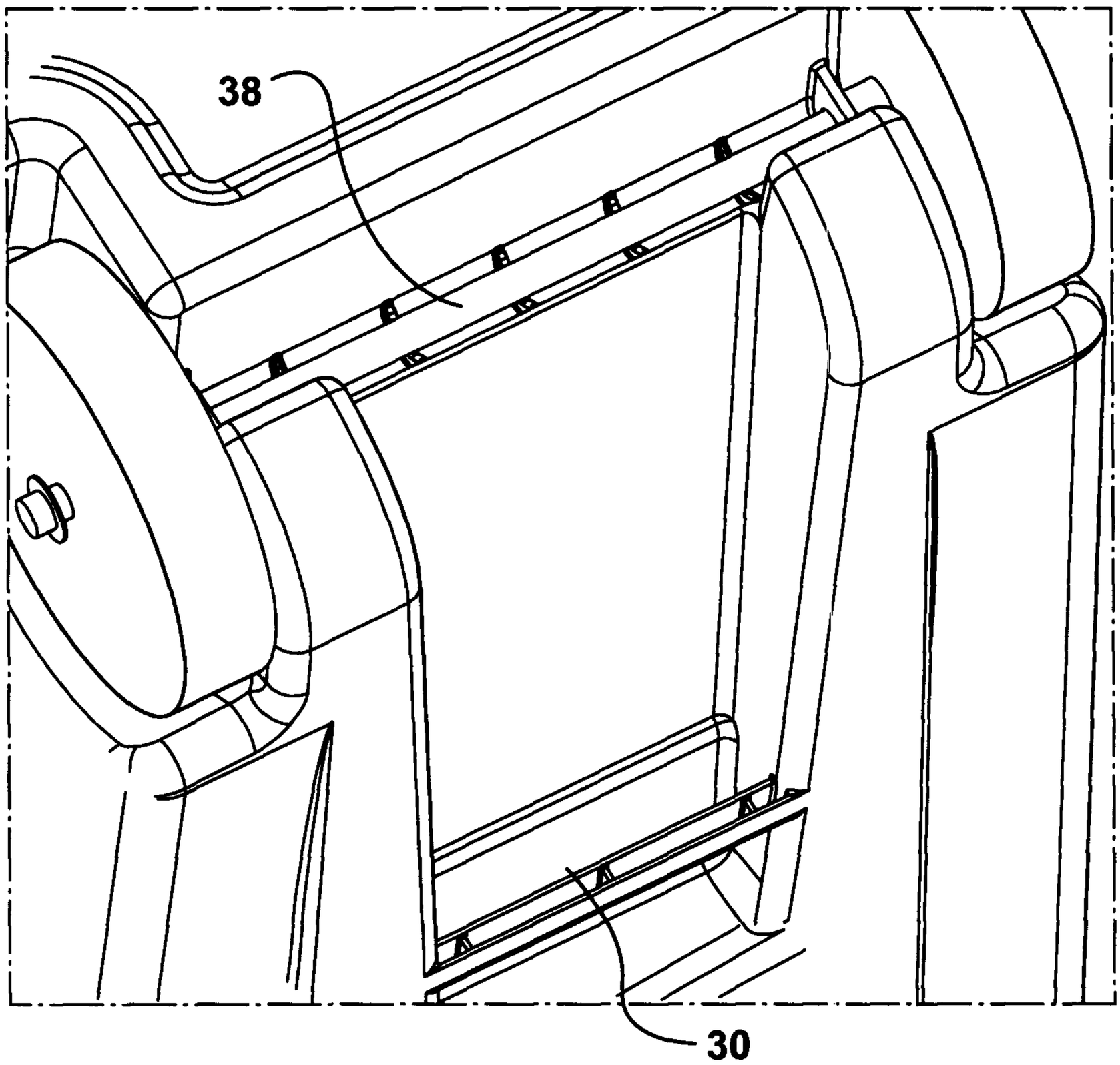


FIG. 5C

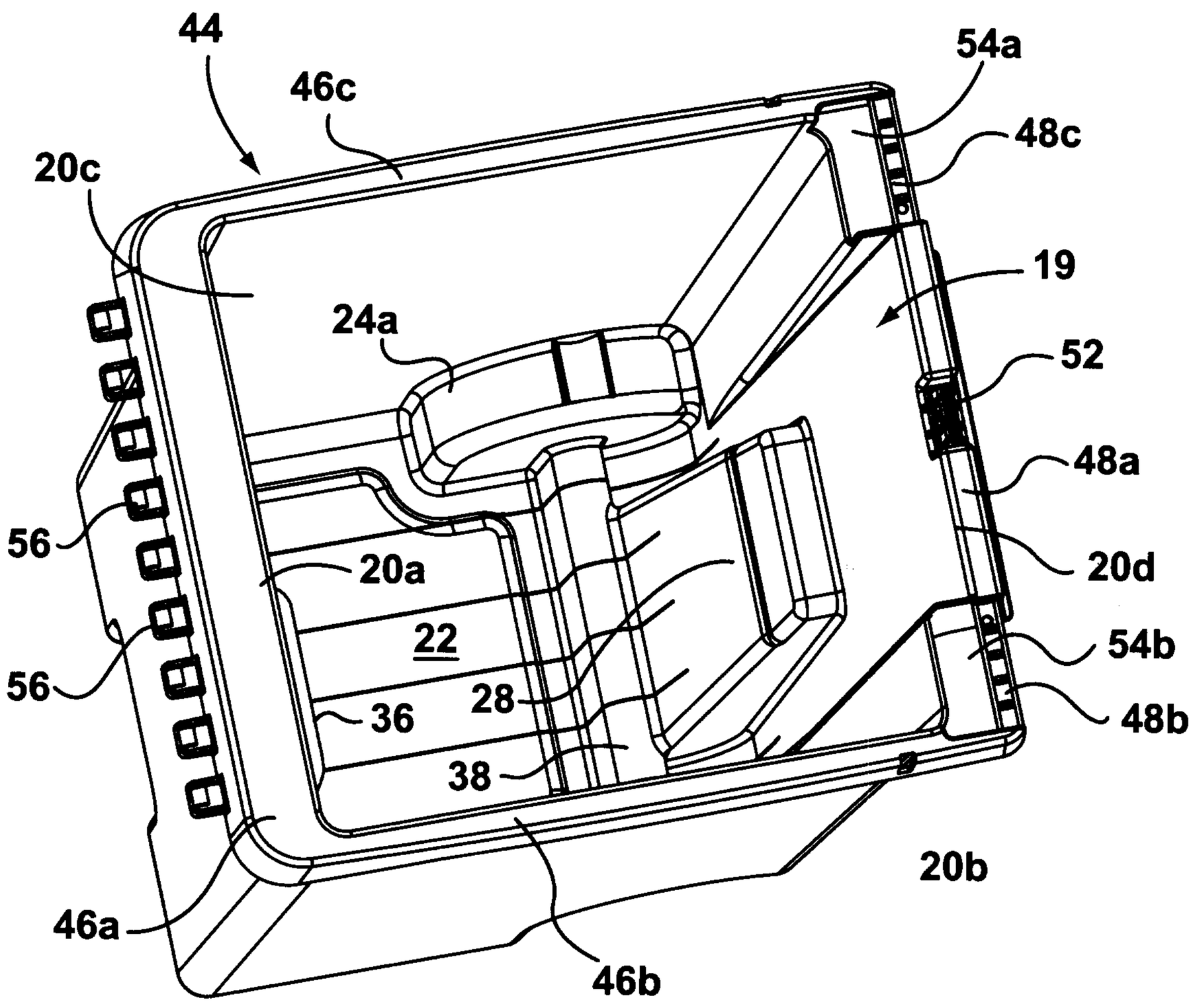

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20c
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48b
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46a
46b

FIG. 6A

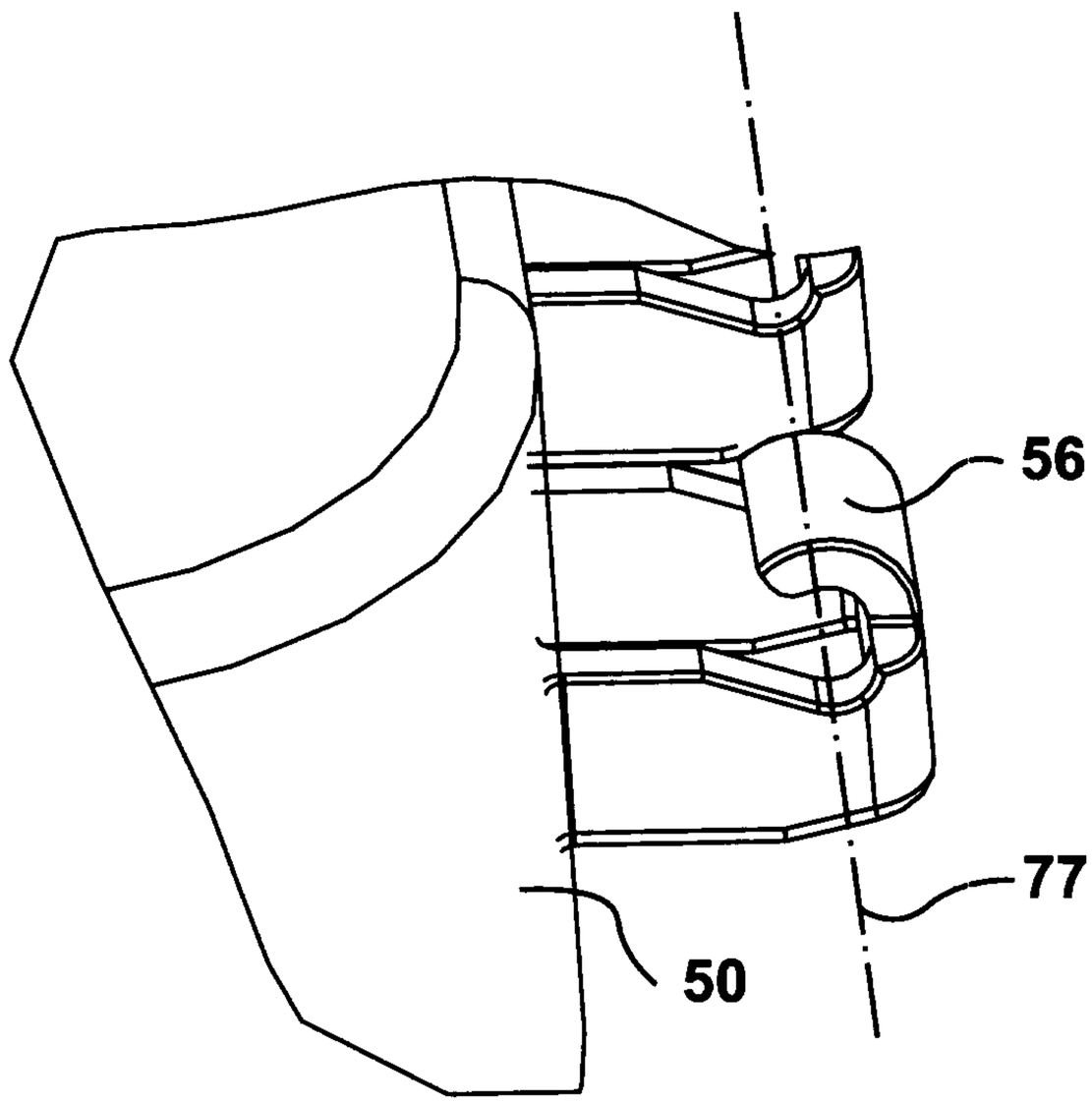


FIG. 6B

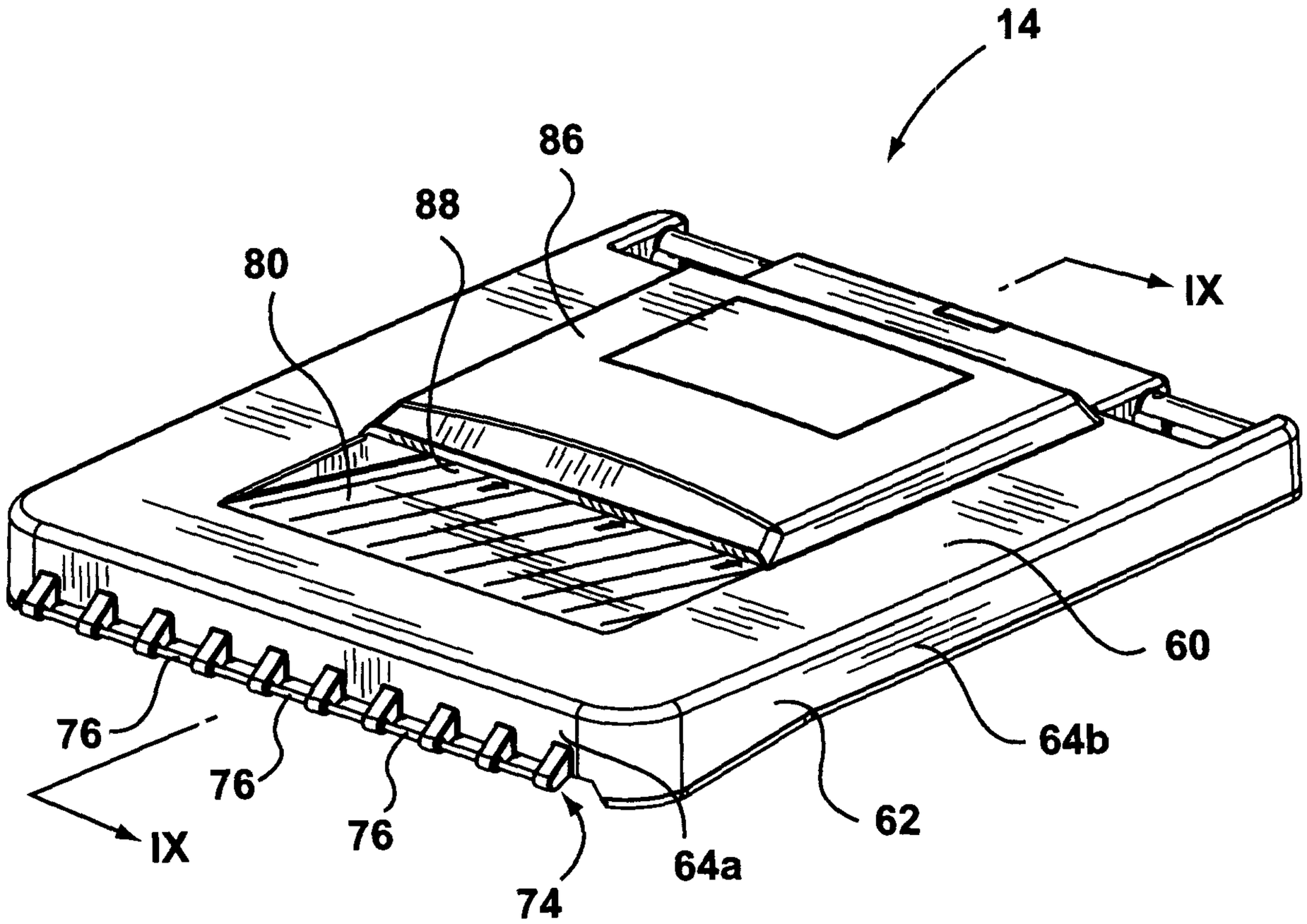


FIG. 7

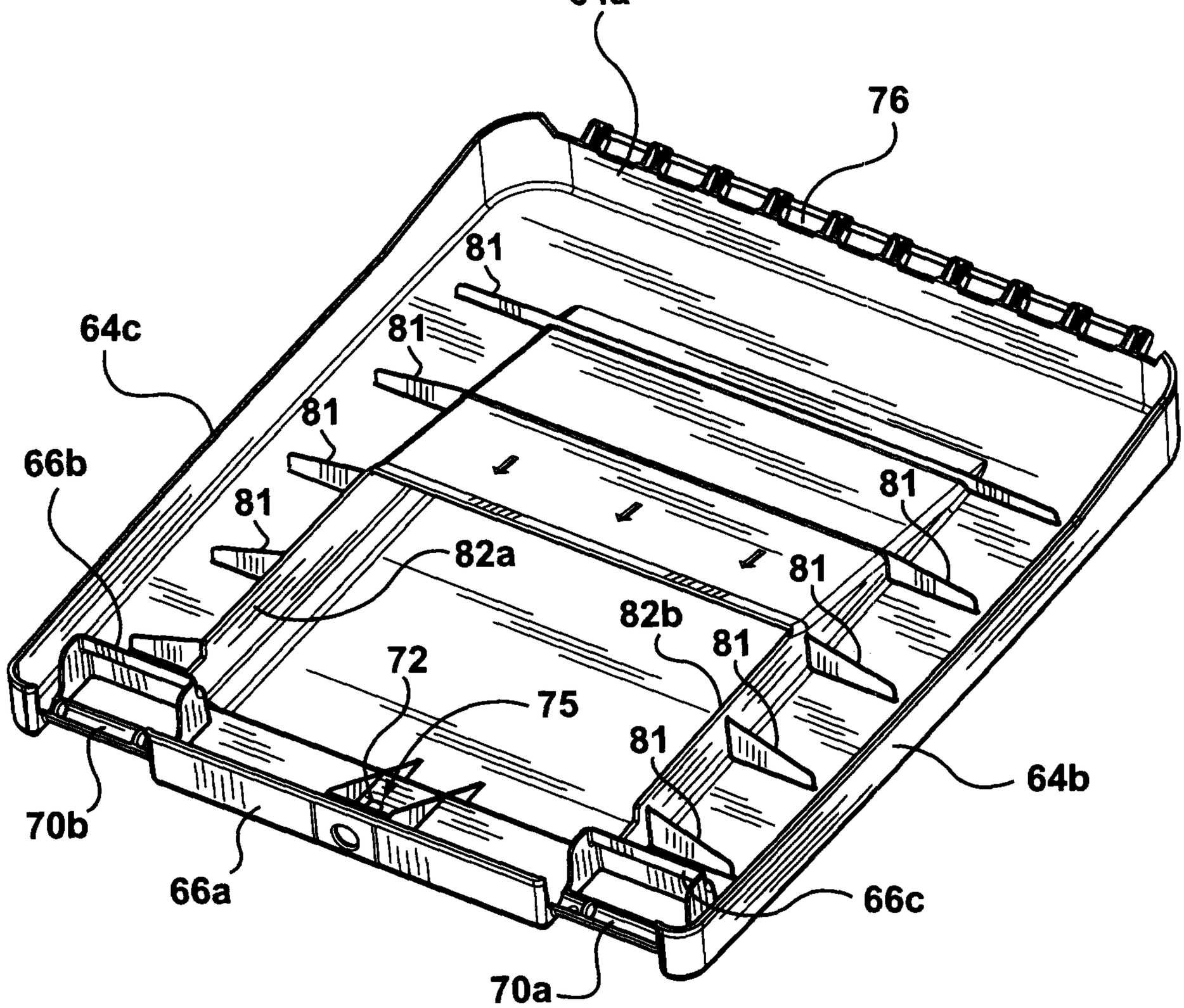

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FIG. 8A

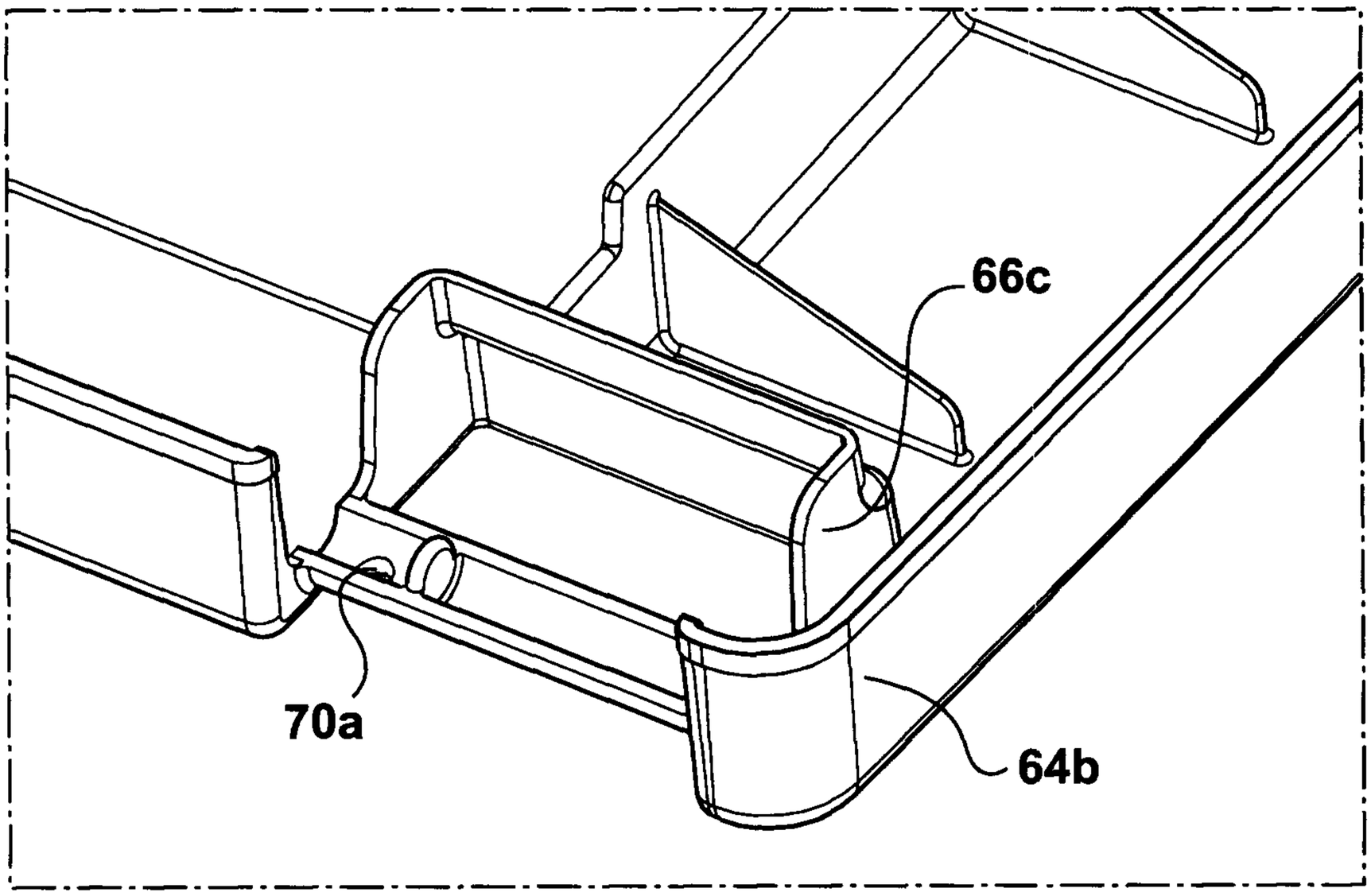


FIG. 8B

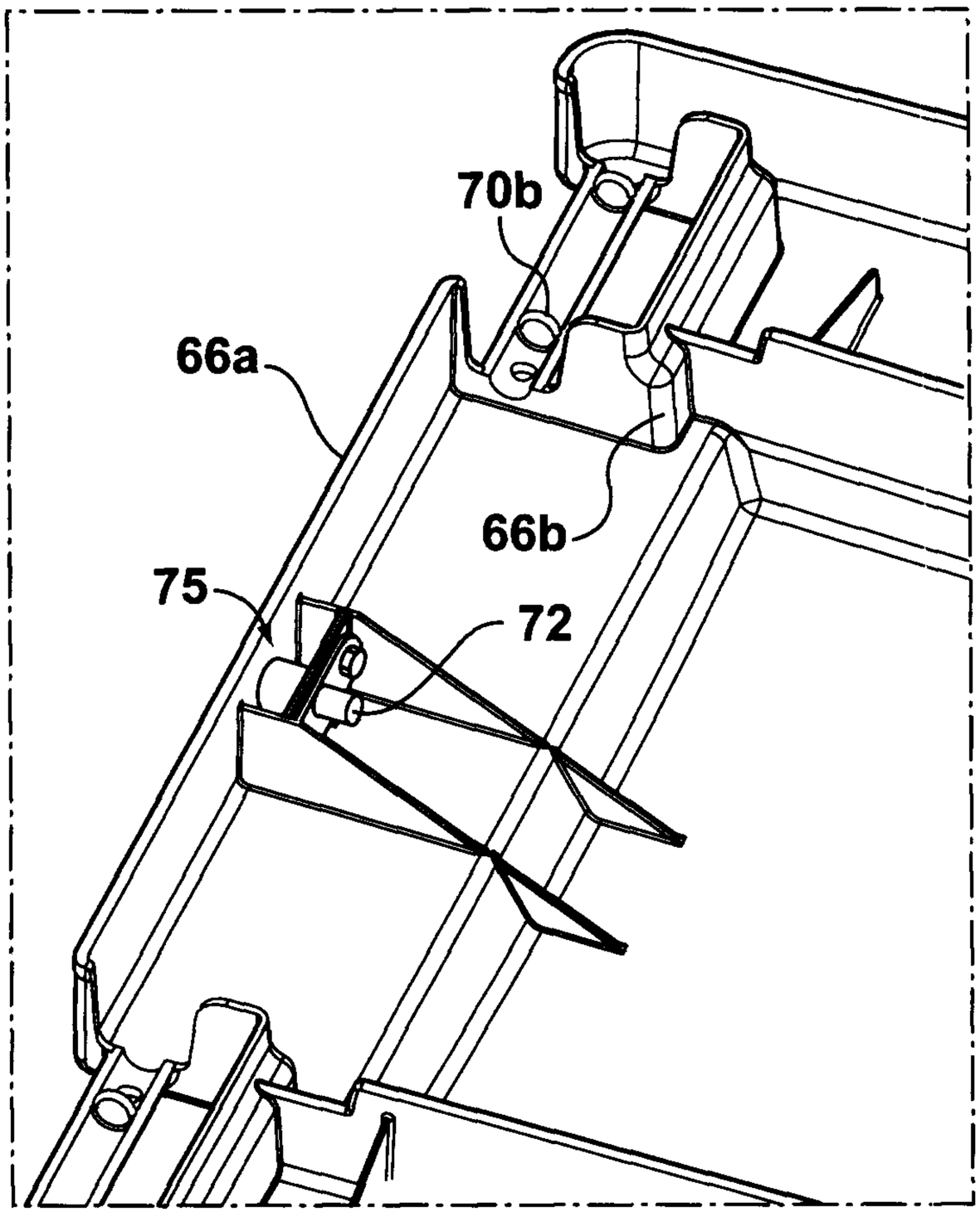


FIG. 8C

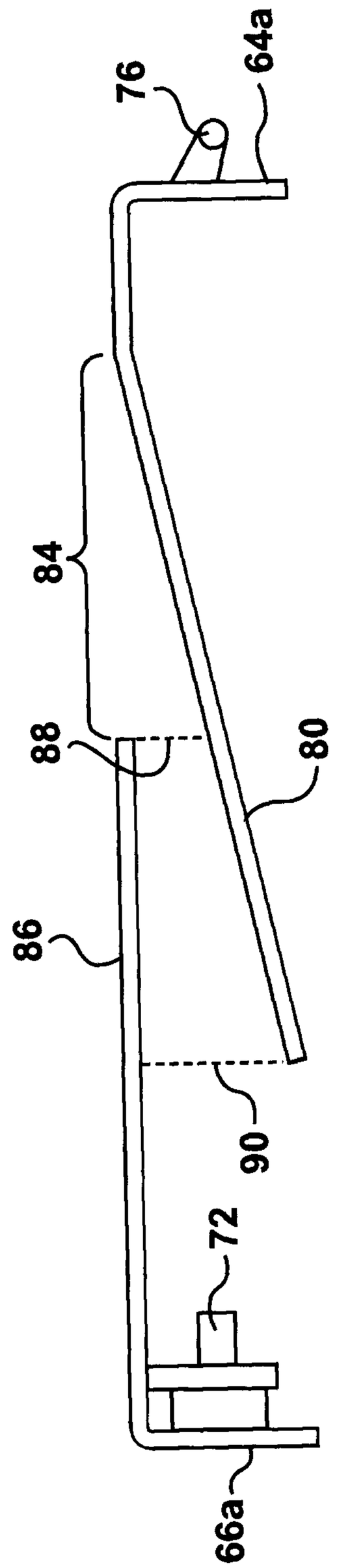


FIG. 9

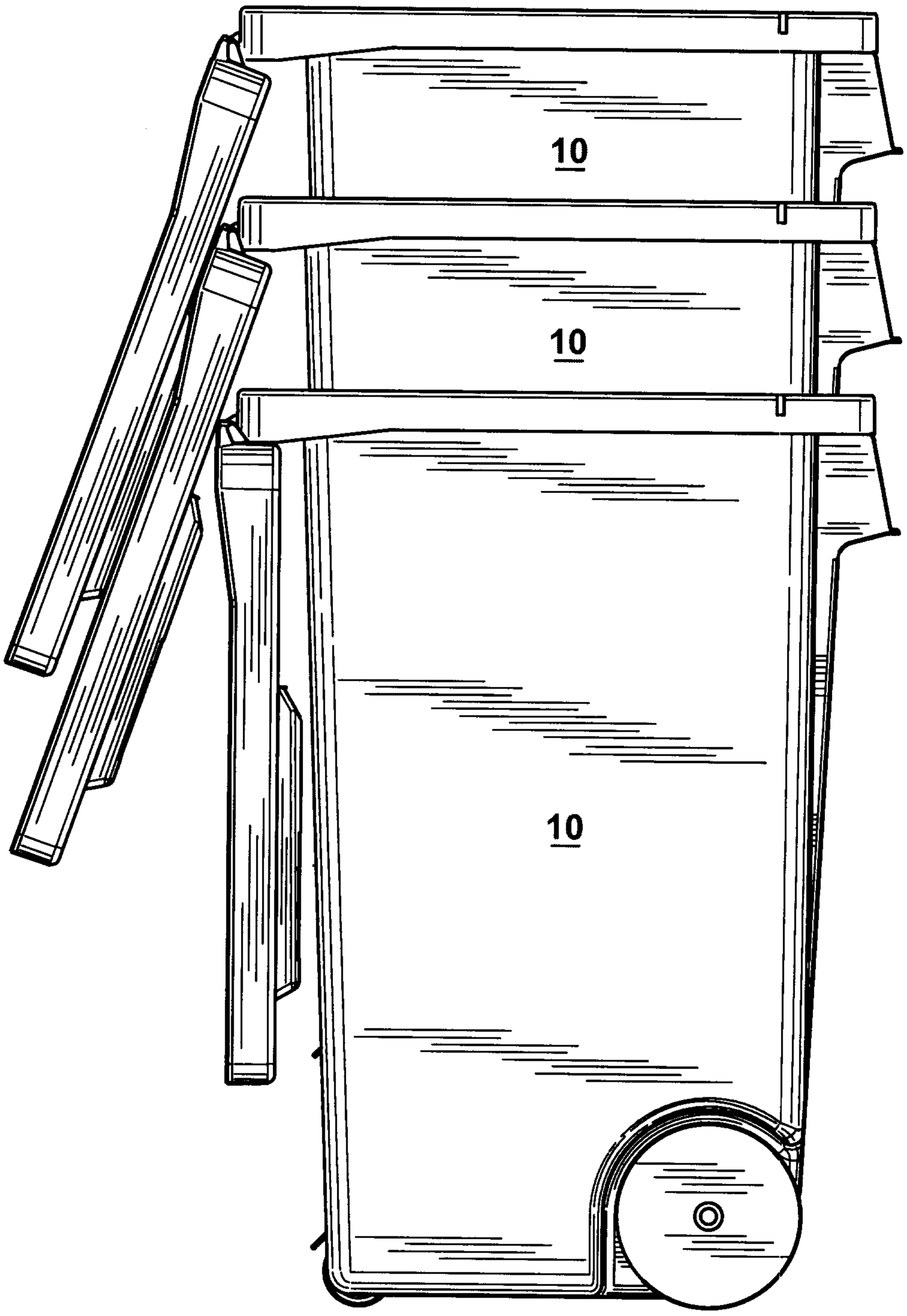


FIG. 10

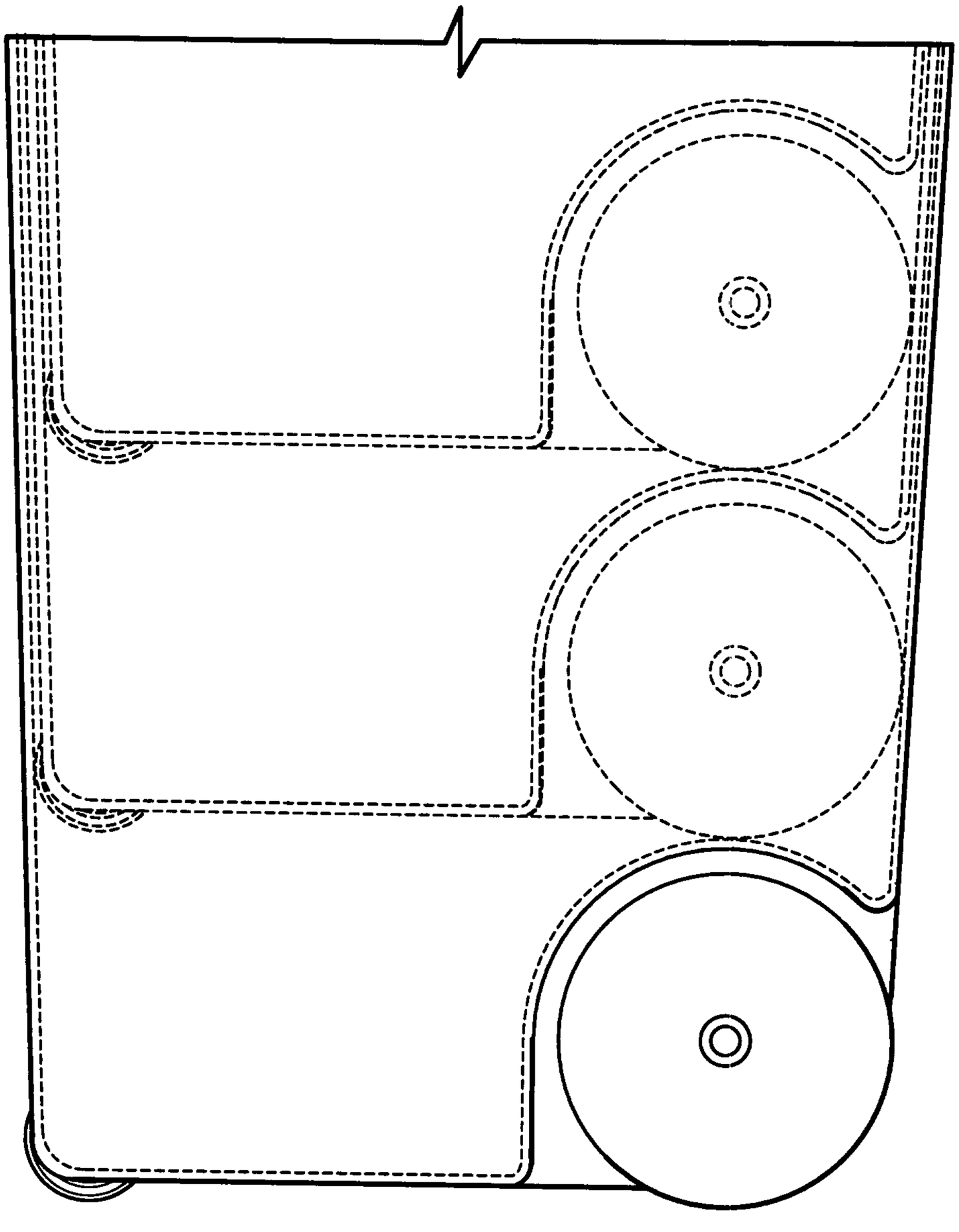


FIG. 11

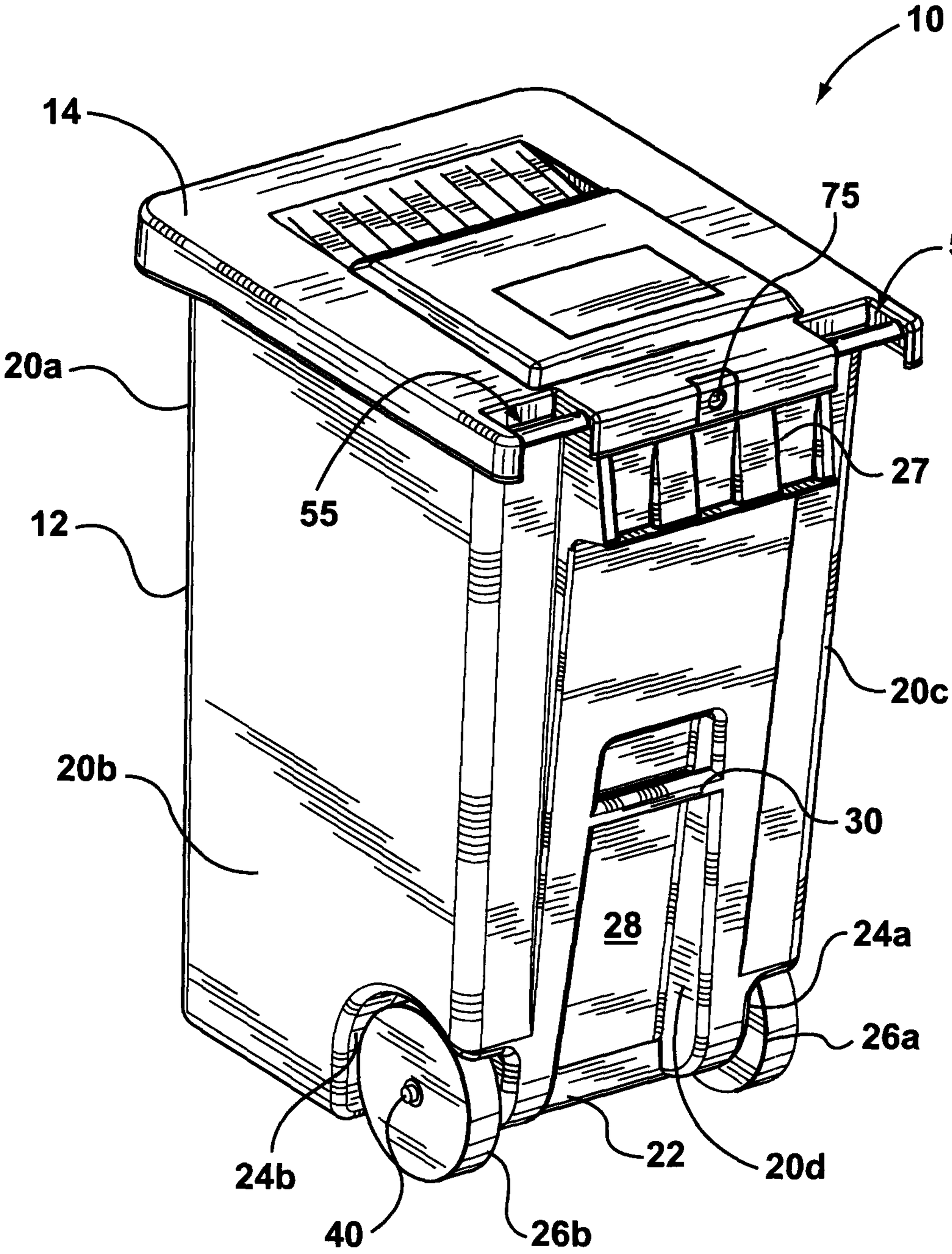


FIG. 1