



US 20060027579A1

(19) **United States**

(12) **Patent Application Publication**
Yang et al.

(10) **Pub. No.: US 2006/0027579 A1**

(43) **Pub. Date: Feb. 9, 2006**

(54) **DAMPING LID FOR USE WITH TRASH CAN ASSEMBLY**

Publication Classification

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(51) **Int. Cl.**
B65D 51/26 (2006.01)

(52) **U.S. Cl.** **220/212**

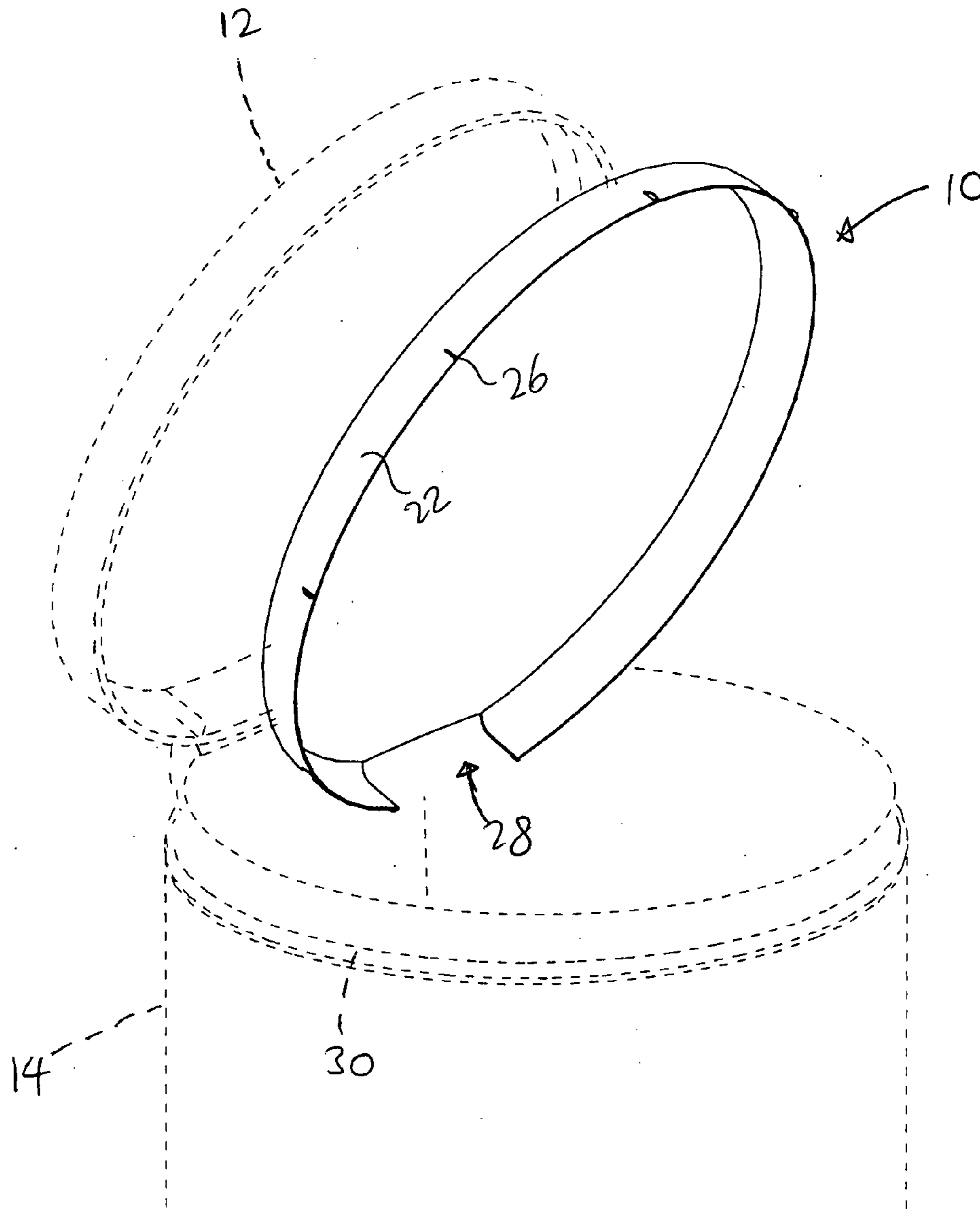
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(57) **ABSTRACT**

A trash can assembly has a body, a metal lid coupled to the top end of the body, and a non-metal lid liner having a top plate that has a periphery, and a lid liner skirt extending from the periphery. The lid liner is secured to the interior of the lid to dampen the closing motion of the lid, and to prevent rust to the lid.

(21) Appl. No.: **10/910,100**

(22) Filed: **Aug. 3, 2004**



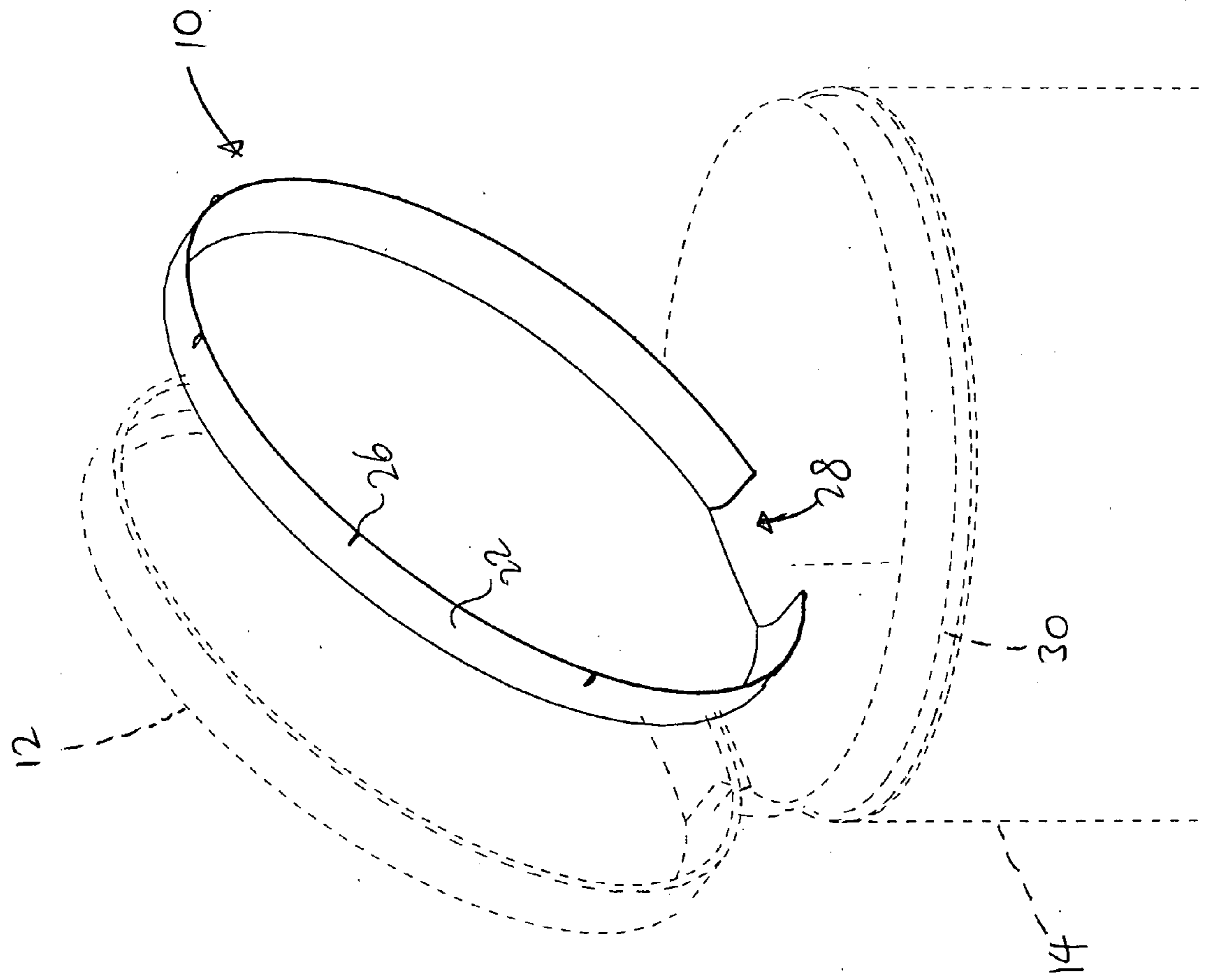
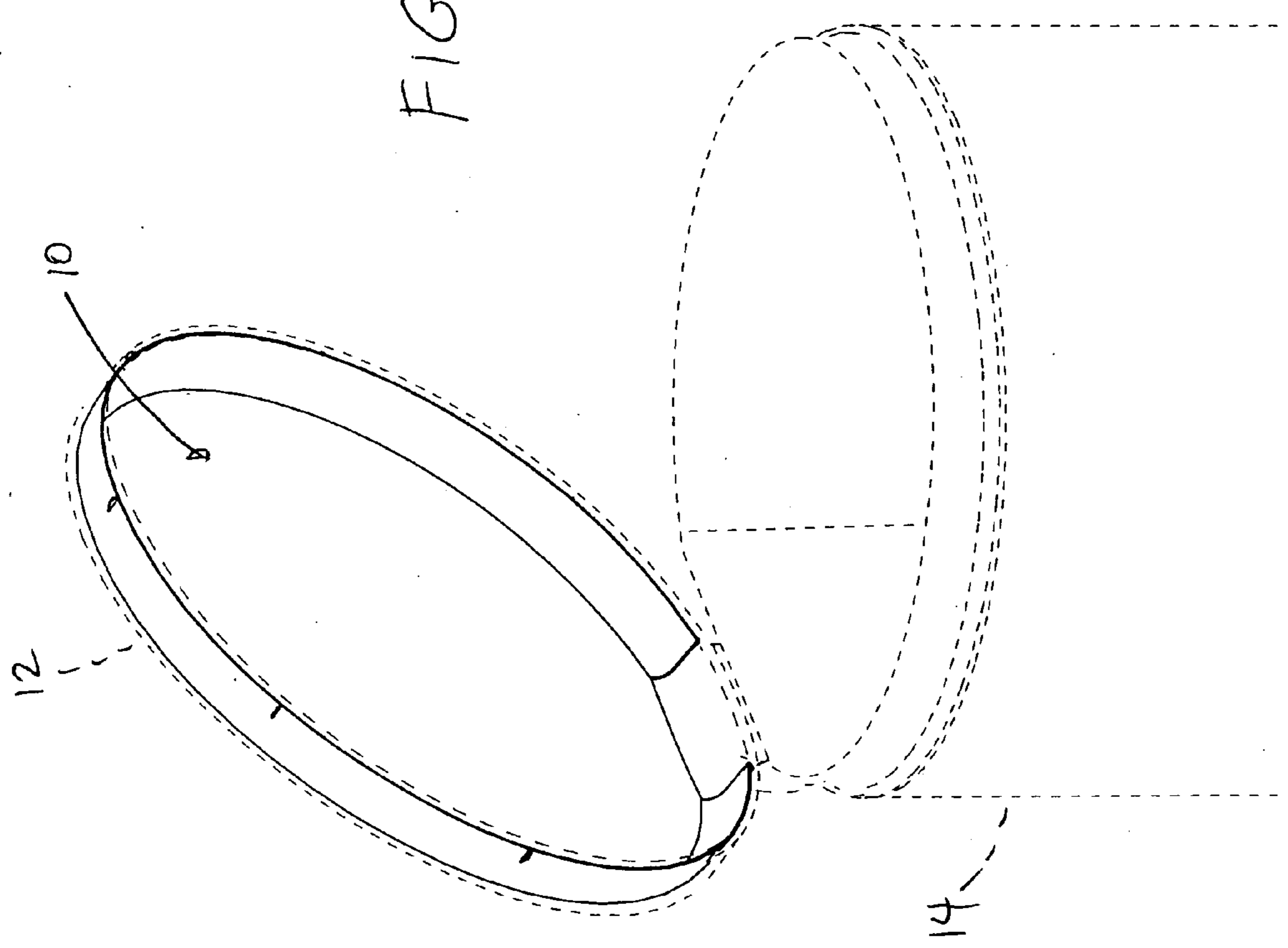


FIG. 1

FIG 2



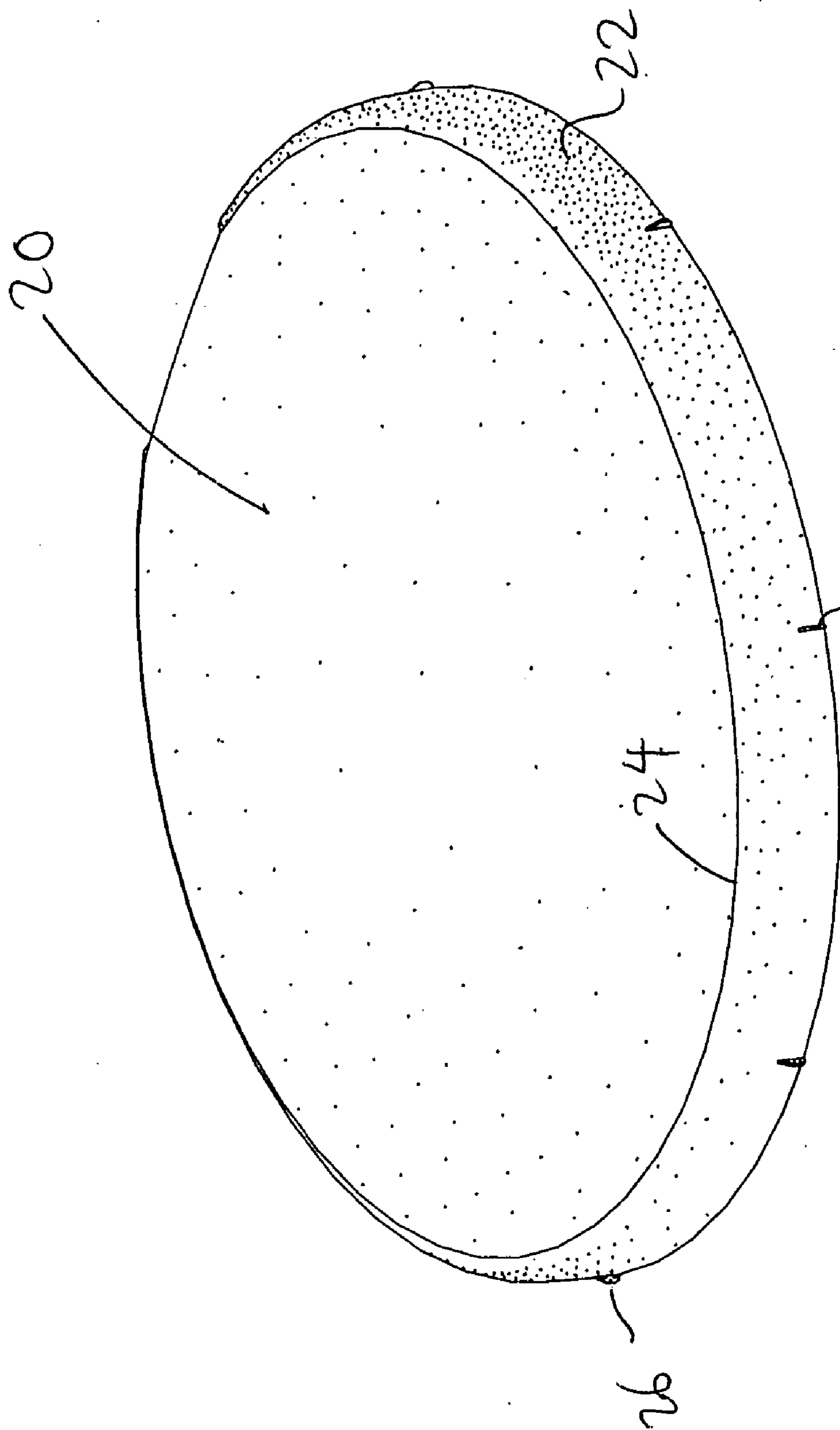
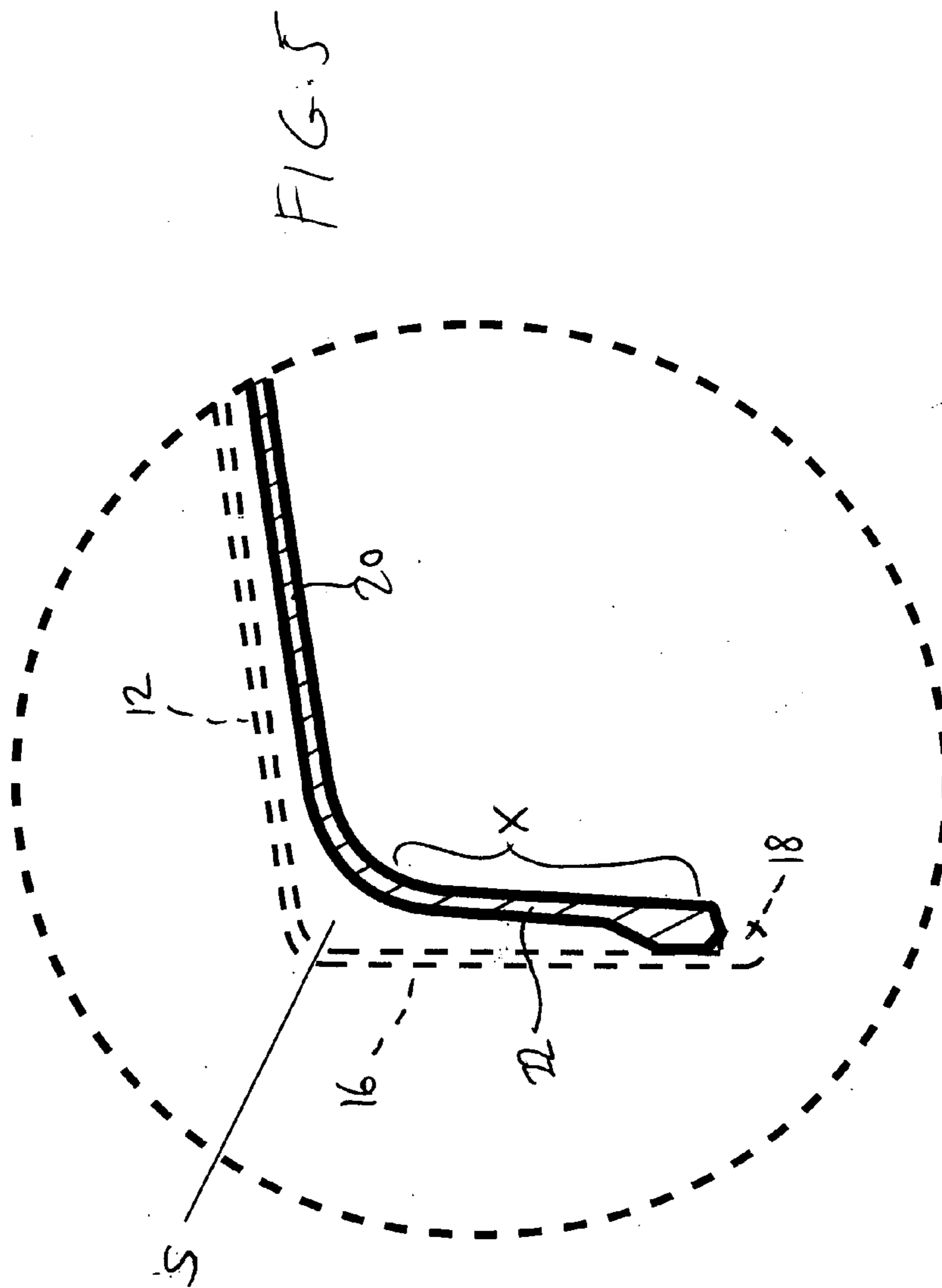
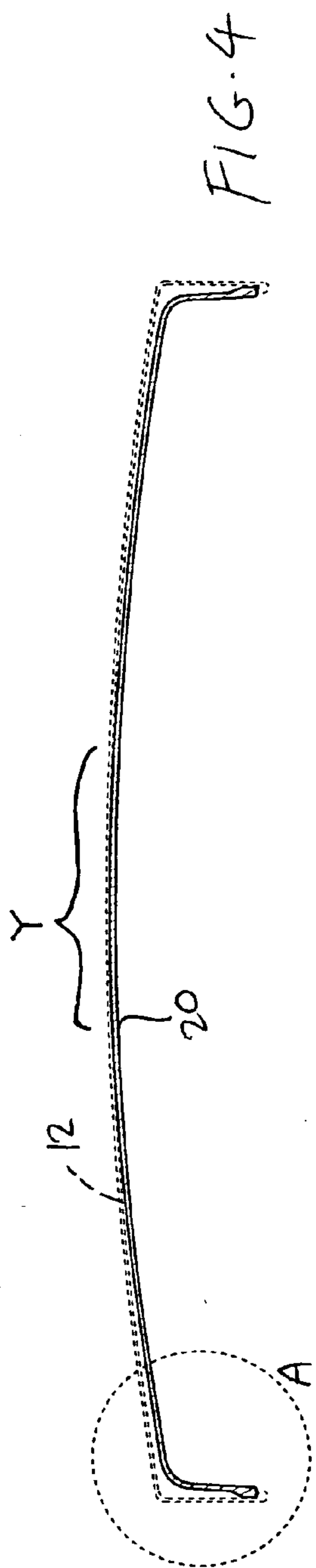


FIG. 3

26

10



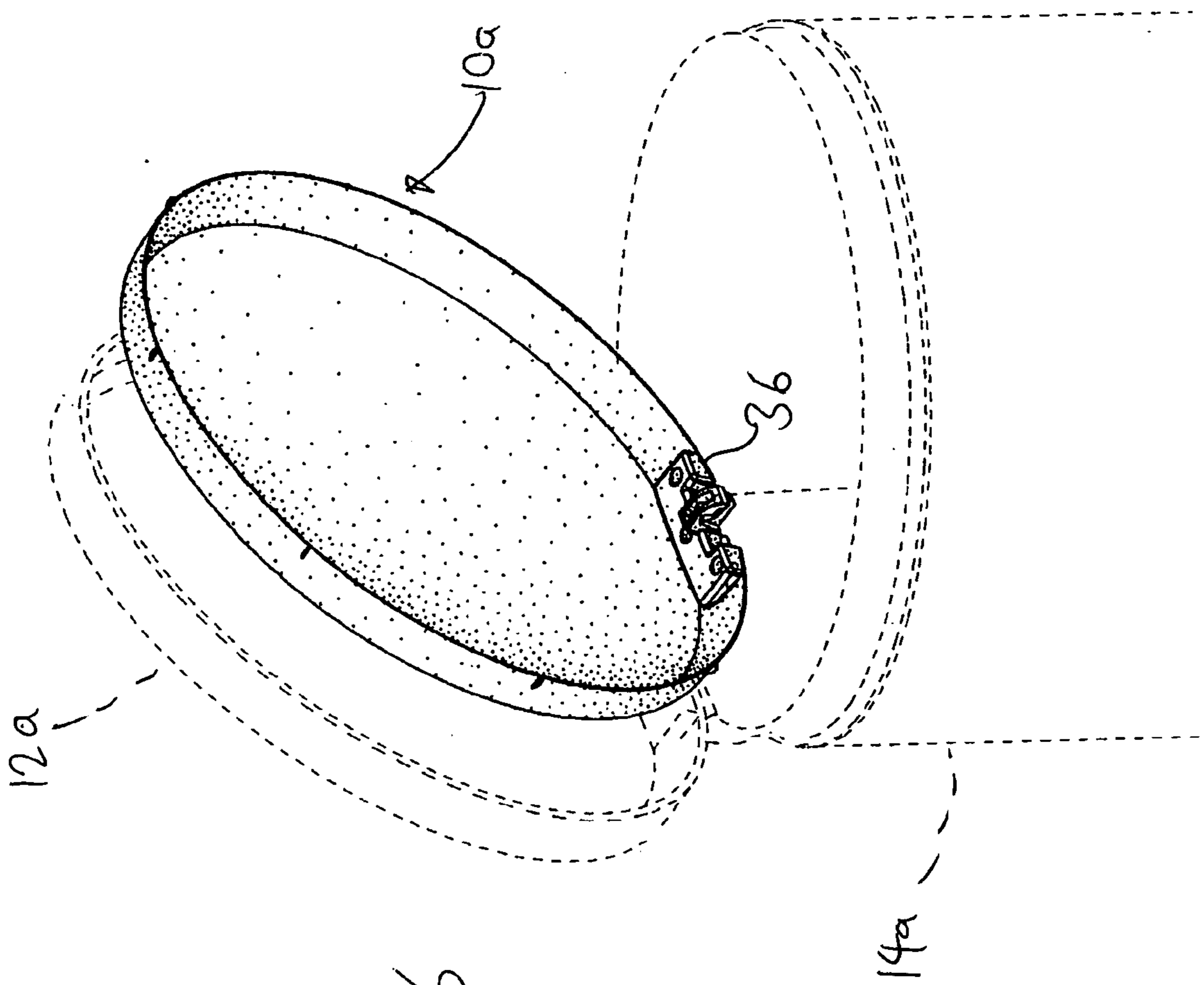


FIG. 6

DAMPING LID FOR USE WITH TRASH CAN ASSEMBLY

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to a trash can assembly, and in particular, to a lid for a trash can assembly that includes a mechanism for damping or softening the closing of the lid.

[0003] 2. Description of the Prior Art

[0004] A major concern for both the home and the workplace is containing and holding wastes, refuse, and trash until permanent disposal. Trash cans act as containers for holding trash and other wastes that are produced in any typical home or office. Trash and garbage cans often employ lids and covers to contain the trash and its associated odor, to hide the trash from view, and to prevent the trash from contaminating areas beyond the lid.

[0005] Conventional trash cans have been improved over the years to make them more user-friendly, sanitary, and hygienic. For example, many trash cans are now provided with a foot pedal positioned adjacent the base of the trash can so that a user can step on the foot pedal to open the lid of the trash can, thereby freeing up the user's hands to toss trash, or to change the plastic liner or bag that is used to line the trash can.

[0006] Despite these improvements, there are still drawbacks associated with the lid. First, metal trash cans that have metal lids often experience a loud banging sound when the lid slams shut against the top of the trash can during the closing motion of the lid. This banging may also accelerate the wear and tear of the lid after extended use. Second, the interior surfaces of the metal lids often experience rust because the interior of the closed trash can is often damp and has a high degree of humidity resulting from the trash contents contained therein.

[0007] Thus, there remains a need for a trash can assembly that overcomes the drawbacks outlined above.

SUMMARY OF THE DISCLOSURE

[0008] It is an object of the present invention to provide a trash can assembly that minimizes the banging experienced by the closing motion of the lid.

[0009] It is another object of the present invention to provide a trash can assembly that minimizes rust in the interior surfaces of the lid.

[0010] In order to accomplish the objects of the present invention, there is provided a trash can assembly that has a body, a metal lid coupled to the top end of the body, and a non-metal lid liner having a top plate that has a periphery, and a lid liner skirt extending from the periphery. The lid liner is secured to the interior of the lid to dampen the closing motion of the lid, and to prevent rust to the lid.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1 is an exploded perspective view of a lid liner according to one embodiment of the present invention shown in use with a trash can lid.

[0012] FIG. 2 is a perspective view of the lid liner of FIG. 1 shown installed in the trash can lid.

[0013] FIG. 3 is an isolated perspective view of the lid liner of FIG. 1.

[0014] FIG. 4 is a cross-sectional view of the lid liner of FIG. 1.

[0015] FIG. 5 is an enlarged sectional view of the region labeled A in FIG. 4.

[0016] FIG. 6 is an exploded perspective view of a lid liner according to another embodiment of the present invention shown in use with a trash can lid.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0017] The following detailed description is of the best presently contemplated modes of carrying out the invention. This description is not to be taken in a limiting sense, but is made merely for the purpose of illustrating general principles of embodiments of the invention. The scope of the invention is best defined by the appended claims. In certain instances, detailed descriptions of well-known devices and mechanisms are omitted so as to not obscure the description of the present invention with unnecessary detail.

[0018] FIGS. 1-5 illustrate one embodiment of a lid liner 10 according to the present invention. The lid liner 10 is intended for use with a metal lid 12 that is hingedly connected to a conventional trash can 14. The lid 12 and the trash can 14 are shown in phantom because they can be embodied in the form of any conventional trash can and metal lid. One non-limiting example of a trash can and lid is described in U.S. Publication No. US-2002-0079315-A1, published on Jun. 27, 2002 and entitled "Trash Can Assembly With Toe-Kick Recess", whose entire disclosure is incorporated by this reference as though set forth fully herein. A foot pedal assembly (not shown) can be pivotably secured to the base of the trash can 14, and a link assembly (not shown) can extend from the foot pedal to the lid. The link assembly operates to translate an up-down pivot motion of the pedal assembly to an up-down pivot motion for the lid.

[0019] The lid liner 10 can be provided in any desired shape and size to fit the shape and size of the lid 12. FIG. 2 shows the lid liner 10 secured in place in the interior of the lid 12. In one embodiment, the lid liner 10 is made of a non-metal material, such as plastic. This material is preferably flexible, easy to clean, sanitary, and capable of dampening sounds.

[0020] Referring more specifically to FIGS. 3-5, the lid liner 10 has a top plate 20 and an annular or peripheral skirt 22 extending from the peripheral edge(s) 24 of the top plate 20. The top plate 20 has a slightly convex configuration (see FIG. 4), and fins 26 can be provided in spaced apart manner along the external surface of the skirt 22. As best shown in FIG. 5, the fins 26 function to (i) create a space S between the skirt 16 of the lid 12 and the skirt 22 of the lid liner 10, and (ii) form a clip-in engagement with the annular ridge 18 that is provided at the bottom of the skirt 16 of the lid 12. The creation of the space S allows the region X of the non-metal skirt 22 of the lid liner 10 to contact the top of the body of the trash can 14 when the lid 12 closes. In addition, the clip-in engagement secures the lid liner 10 to the lid 12.

[0021] The convex configuration of the top plate **20** is configured such that the convex top plate **20** would normally extend to an elevation that is higher than the top of the lid **12**. This ensures that the top of the lid liner **10** (i.e., the top of the top plate **20**) is in constant contact with the top of the lid **12**, as shown in the region Y in **FIG. 4**. By ensuring that the top of the lid liner **10** is in constant contact with the top of the lid **12**, the noise caused by the closing motion of the metal lid **12** can be further dampened. In addition, increased contact between the non-metal skirt **22** and the metal lid **12** minimizes vibration or ringing sounds of the metal lid **12**.

[0022] In use, the lid liner **10** is snapped into place inside the interior (underside) of the lid **12**, as shown in **FIG. 2**. The ridge **18** at the bottom of the lid skirt **16** retains the lid liner skirt **22** in place inside the lid **12**. When the lid **12** is closed against the top of the trash can **14**, the lid skirt **16** and the lid liner skirt **22** are seated on a shoulder **30** adjacent the top of the body of the trash can **14** (see **FIG. 1**). Since the trash can **14** and its shoulder **30** are typically made of metal, the contact of the non-metal material of the lid liner **10** (and its skirt **22**) with the metal shoulder **30** results in less noise and damage. In addition, since the lid liner **10** is made of a non-metal material, it will not rust when exposed to the damp contents contained inside the trash can **14**.

[0023] The lid liner **10** in **FIGS. 1-5** is illustrated as having a cut-out **28** at a part of the skirt **22**. This cut-out **28** is adapted to receive the hinge mechanism (not shown) of the lid **12** which allow the lid **12** to be hingedly connected to the trash can **14**. **FIG. 6** illustrates a modification to the lid liner **10** of **FIGS. 1-5**, where the lid liner **10a** is identical to the lid liner **10** except that the hinge mechanism **36** is provided as part of (and possibly in one piece as) the lid liner **10a**. Thus, in the embodiment of **FIG. 6**, the lid **12a** is hingedly connected to the trash can **14a** via the lid liner **10a**.

[0024] The above detailed description is for the best presently contemplated modes of carrying out the invention. This description is not to be taken in a limiting sense, but is made merely for the purpose of illustrating general principles of embodiments of the invention. The scope of the invention is best defined by the appended claims. In certain instances, detailed descriptions of well-known devices, components, mechanisms and methods are omitted so as to not obscure the description of the present invention with unnecessary detail.

What is claimed is:

1. A trash can assembly, comprising:
 - a body having a top end;
 - a metal lid coupled to the top end of the body, the lid having an interior; and
 - a non-metal lid liner having a top plate that has a periphery, and a lid liner skirt extending from the periphery, the lid liner being secured to the interior of the lid.
2. The assembly of claim 1, further including means for securing the lid liner to the interior of the lid.
3. The assembly of claim 1, wherein the lid liner includes a plurality of fins provided on the external surface of the lid liner skirt.
4. The assembly of claim 3, wherein the lid includes lid skirt, and a ridge provided on the lid skirt for engaging the fins.
5. The assembly of claim 1, wherein the top plate is convex.
6. The assembly of claim 5, wherein a portion of the top plate is in constant contact with the lid when the lid liner is secured to the lid.
7. The assembly of claim 1, wherein the lid includes a lid skirt, and wherein a space is defined between the lid skirt and the lid liner skirt when the lid liner is secured to the lid.
8. A method of dampening the closing motion of a metal lid of a trash can, comprising:
 - securing a non-metal lid liner inside a metal lid of a trash can.
9. The method of claim 8, further including:
 - providing a non-metal lid liner having a top plate that has a periphery, and a lid liner skirt extending from the periphery.
10. The method of claim 9, further including:
 - causing a convex top portion of the top plate to be in constant contact with the lid when the lid liner is secured to the lid.
11. The method of claim 9, wherein the lid includes a lid skirt, and further including:
 - defining a space is between the lid skirt and the lid liner skirt when the lid liner is secured to the lid.

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