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(54) **Cover set**

Deckelsatz

Ensemble couvercle

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Description

BACKGROUND OF INVENTION

1. FIELD OF INVENTION

[0001] The invention relates to a cover set according to the preamble of claim 1. EP-A-1361176 discloses such a cover set.

2. RELATED PRIOR ART

[0002] Referring to Fig. 11, a conventional garbage-containing apparatus 90 is shown to include a bin 92, a cover 91 pivotally connected to the bin 92 and two elastic elements 93 for lifting the cover 91 from the bin 92. Near the end of the lifting, the cover 91 however hits the bin 92 fiercely and makes loud noise. The hit is often strong so that the entire garbage-containing apparatus rattles and makes more noise. Such noise is annoying.

[0003] To obviate this problem EP-A-1 361 176 suggests to use a buffer requiring damping oil to buffer the cover near the end of the lifting.

SUMMARY OF INVENTION

[0004] According to the present invention, a cover set according to claim 1 is provided.

[0005] The object of the present invention is to provide an alternative buffer which is simpler and cleaner.

[0006] Other advantages and features of the present invention will become apparent from the following description referring to the drawings.

BRIEF DESCRIPTION OF DRAWINGS

[0007] The present invention will be described through detailed illustration of three embodiments referring to the drawings.

Fig. 1 is a perspective view of a garbage-containing apparatus equipped with a cover set according to the first embodiment of the present invention.

Fig. 2 is an enlarged exploded partial view of the cover set shown in Fig. 1, and shows that the cover set includes a ring, a cover pivotally connected to the ring, a lifting device for lifting the cover from the ring and two buffers for buffering the cover during the end of the lifting.

Fig. 3 is a cross-sectional partial view of the cover set of Fig. 1.

Fig. 4 is a cross-sectional partial view of the cover set in another position than shown in Fig. 3.

Fig. 5 is a reduced cross-sectional view of the cover set of Fig. 4.

Fig. 6 is a cross-sectional partial view of the cover set in another position than shown in Fig. 4.

Fig. 7 is a cross-sectional partial view of the cover

set in another position than shown in Fig. 6.

Fig. 8 is a perspective view of a garbage-containing apparatus equipped with a cover set according to the second embodiment of the present invention.

Fig. 9 is a perspective view of a garbage-containing apparatus equipped with a cover set according to the third embodiment of the present invention.

Fig. 10 is an enlarged exploded view of the cover set shown in Fig. 9.

Fig. 11 is a perspective view of a conventional garbage-containing apparatus.

DETAILED DESCRIPTION OF EMBODIMENTS

[0008] Referring to Fig. 1, there is shown a garbage-containing apparatus including a bin 1 and a cover set 2 according to a first embodiment of the present invention. The cover set 2 includes a ring 10 mounted on the bin 1, a cover 20 pivotally connected to the ring 10, a lifting device 30 for lifting the cover 20 from the ring 10, two buffers 40 for buffering the cover 20 near the end of the lifting and two shields 50 for shielding the buffers 40.

[0009] Referring to Fig. 2, the ring 10 includes a platform 11 formed on an internal side of the ring 10 and located lower than an upper face of the ring 10, four ears 12 formed on the platform 11 and two plates 14 projected from the internal side of the ring 10 and located lower than the platform 11. Each of the ears 12 is formed with a boss 13. Each of the plates 14 defines a screw hole 141 and two apertures 142.

[0010] The cover 20 is formed with four ears 21 for pivotal connection to the ears 12 and an extensive portion 23 for contact with the buffers 40. Each of the ears 21 defines an aperture 22 for receiving a related one of the bosses 13. Hence, the cover 20 is pivotally connected to the ring 10.

[0011] The lifting device 30 includes two torque springs 33. Each of the torque springs 33 includes two looped portions each arranged around a related one of the bosses 13. Therefore, the lifting device 30 can lift the cover 20 from the ring 10.

[0012] Each of the buffers 40 includes a bent portion 41 mounted on a related one of the plates 14 and a curved portion 42 for contact with the extensive portion 23 of the cover 20. A slot 43 is defined in the curved portion 42 of each of the buffers 40 so that the flexibility of the latter is improved.

[0013] A threaded bolt 60 is driven in the screw hole 141 of each of the plates 14 through an aperture defined in the bent portion 41 of a related one of the buffers 40. Thus, the buffers 40 are secured to the plates 14.

[0014] Each of the shields 50 includes two hooks 51 each inserted in a related one of the apertures 142 of a related one of the plates 14. Hence, the shields 50 are secured to the plates 14. The shields 50 shield the buffers 40 from a side while the ring 10 shields the buffers 40 from another side.

[0015] Referring to Fig. 3, the cover 20 is lifted from

the ring 10. The pivoting of the cover 20 gets faster and faster.

[0016] Referring to Figs. 4 and 5, near the end of the lifting, the pivoting of the cover 20 reaches its top speed, the extensive portion 23 of the cover 20 begins to contact the curved portions 42 of the buffers 40.

[0017] Referring to Figs. 6 and 7, the extensive portion 23 of the cover 20 pushes the curved portions 42 of the buffers 40. The speed of the pivoting of the cover 20 is reduced. Therefore, the cover 20 is buffered by the buffers 40. The cover 20 does not hit the ring 10 and does not make any noise. The lifting of the cover set is steady and quiet.

[0018] Referring to Fig. 8, there is shown a cover set according to a second embodiment of the present invention. The second embodiment is like the first embodiment except including only one buffer 40 and only one shield 50.

[0019] Referring to Figs. 9 and 10, there is shown a cover set according to a third embodiment of the present invention. The third embodiment is like the first embodiment except including a lifting device 30' instead of the lifting device 30. The lifting device 30' includes two units each including a first cap 31' connected to the ring 10, a second cap 32' connected to the cover and a helical spring 33' with an end connected to the first cap 31' and another end connected to the second cap 32'. In each of the units, the spring 33 is substantially not loaded when the cover 20 is lifted from the ring 10 and loaded as the cover 20 is lowered onto the ring 10. Thus, the lifting device 30' is used to lift the cover 20 from the ring 10.

[0020] The present invention has been described through the illustration of the embodiments. Those skilled in the art can derive variations from the embodiments without departing from the scope of the present invention as defined in the claims.

Claims

1. A cover set comprising a ring (10) mountable on a bin (1) of a garbage-containing apparatus, a cover (20) pivotally connected to the ring (10), a lifting device (30; 30') for lifting the cover (20) from the ring (10) and at least one buffer (40) for buffering the cover (20) near the end of the lifting device, wherein the buffer (40) comprises a first portion (41) attached to the ring and a second portion (42), **characterised in that** the second portion (42) is for contact with an extensive portion (23) of the cover (20) and is a curved portion having a slot (43) for improving the flexibility thereof.
2. The cover set according to claim 1 wherein the first portion (41) of the buffer (40) is a bent portion.
3. The cover set according to claim 2 wherein the ring (10) comprises at least one plate (14) formed on an

internal side for supporting the bent portion (41) of the buffer (40).

4. The cover set according to claim 3 comprising a fastener (60) for fastening the bent portion (41) of the buffer (40) to the plate (14).
5. The cover set according to claim 4 wherein the fastener (60) is a threaded bolt, and the plate (14) defines a screw hole (141) for receiving the threaded bolt.
6. The cover set according to claim 3 comprising at least one shield (50) installed on the plate (14) for shielding the buffer (40).
7. The cover set according to claim 6 wherein the shield comprises at least one hook (51), and the plate (14) defines at least one aperture (42) for receiving the hook (51).
8. The cover set according to claim 1 wherein the lifting device (30) comprises at least one torque spring (33) arranged between the ring (10) and the cover (20).
9. The cover set according to claim 1 wherein the lifting device (30') comprises at least one torque-providing unit arranged between the ring (10) and the cover (20).
10. The cover set according to claim 9 wherein the torque-providing unit comprises a first cap (31') connected to the ring (10), a second cap (32') connected to the cover (20) and a helical spring (33') with an end attached to the first cap (31') and another end attached to the second cap (32').
11. The cover set according to claim 1 wherein the ring (10) comprises a plurality of ears (12) formed thereon, and the cover (20) comprises a corresponding number of ears (21) pivotally connected to the ears (12) of the ring (10).
12. The cover set according to claim 11 wherein each of the ears (12) of the ring (10) comprises a boss (13), and each of the ears (21) of the cover (20) defines an aperture (22) for receiving the boss (13) of a related one of the ears (12) of the ring (10).

Patentansprüche

1. Ein Deckelsatz mit einem auf einen Eimer (1) einer müllenthaltenden Vorrichtung montierbaren Ring (10), einem Deckel (20), der schwenkbar mit dem Ring (10) verbunden ist, einer Hebevorrichtung (30; 30') zum Anheben des Deckels (20) vom Ring (10) und mindestens einem Puffer (40) zum Puffern des

Deckels (20) in der Nähe des Endes der Hebevorrichtung, wobei der Puffer (40) einen ersten Teil (41), der am Ring befestigt ist, und einen zweiten Teil (42) umfasst, **dadurch gekennzeichnet, dass** der zweite Teil (42) für den Kontakt mit einem ausgedehnten Teil (23) des Deckels (20) ist und ein gebogener Teil mit einem Schlitz (42) ist, um die Flexibilität hiervon zu verbessern.

2. Deckelsatz gemäß Anspruch 1, wobei der erste Teil (41) des Puffers (40) ein gebogener Teil ist. 10
3. Deckelsatz gemäß Anspruch 2, wobei der Ring (10) mindestens eine Anschlussplatte (14) umfasst, die auf einer inneren Seite ausgebildet ist, um den gebogenen Teil (41) des Puffers (40) zu unterstützen. 15
4. Deckelsatz gemäß Anspruch 3 mit einer Befestigungsvorrichtung (60) zum Befestigen des gebogenen Teils (41) des Puffers (40) an der Anschlussplatte (14). 20
5. Deckelsatz gemäß Anspruch 4, wobei die Befestigungsvorrichtung (60) ein Gewindebolzen ist und die Anschlussplatte (14) ein Schraubloch (141) definiert, um den Gewindebolzen aufzunehmen. 25
6. Deckelsatz gemäß Anspruch 3 mit mindestens einer Abschirmung (50), die auf der Anschlussplatte (14) installiert ist, um den Puffer (40) abzuschirmen. 30
7. Deckelsatz gemäß Anspruch 6, wobei die Abschirmung mindestens einen Haken (51) umfasst, und die Anschlussplatte (14) mindestens einen Ausschnitt (42) definiert, um den Haken (51) aufzunehmen. 35
8. Deckelsatz gemäß Anspruch 1, wobei die Hebevorrichtung (30) mindestens eine Drehmomentfeder (33) umfasst, die zwischen dem Ring (10) und dem Deckel (20) angeordnet ist. 40
9. Deckelsatz gemäß Anspruch 1, wobei die Hebevorrichtung (30') mindestens eine drehmoment-leistende Einheit umfasst, die zwischen dem Ring (10) und dem Deckel (20) angeordnet ist. 45
10. Deckelsatz gemäß Anspruch 9, wobei die drehmoment-leistende Einheit eine erste Kappe (31'), die mit dem Ring (10) verbunden ist, eine zweite Kappe (32'), die mit dem Deckel (20) verbunden ist und eine Schraubenfeder (33'), deren eines Ende an der ersten Kappe (31') und deren anderes Ende an der zweiten Kappe (32') befestigt ist, umfasst. 50
11. Deckelsatz gemäß Anspruch 1, wobei der Ring (10) eine Vielzahl an Laschen (12) umfasst, die darauf ausgebildet sind und der Deckel (20) eine entspre-

chende Anzahl von Laschen (21) umfasst, die schwenkbar mit den Laschen (12) des Rings (10) verbunden sind.

- 5 12. Deckelsatz gemäß Anspruch 11, wobei jede der Laschen (12) des Rings (10) einen Ansatz (13) umfasst, und jede der Laschen (21) des Deckels (20) einen Ausschnitt (22) definiert, um den Ansatz (13) einer entsprechenden einen der Laschen (12) des Rings (10) aufzunehmen. 10

Revendications

- 15 1. Ensemble couvercle comprenant une bague (10) pouvant être fixée sur une poubelle (1) d'un appareil contenant des ordures, un couvercle (20) relié de façon pivotante à la bague (10), un dispositif de levage (30 ; 30') servant à soulever le couvercle (20) par rapport à la bague (10) et au moins un amortisseur (40) servant à amortir le couvercle (20) à proximité de l'extrémité du dispositif de levage, dans lequel l'amortisseur (40) comprend une première partie (41) fixée à la bague et une seconde partie (42), **caractérisé en ce que** la seconde partie (42) entre en contact avec une partie étendue (23) du couvercle (20) et est une partie incurvée ayant une fente (43) permettant d'améliorer sa flexibilité. 20
2. Ensemble couvercle selon la revendication 1, dans lequel la première partie (41) de l'amortisseur (40) est une partie fléchie. 25
3. Ensemble couvercle selon la revendication 2, dans lequel la bague (10) comprend au moins une plaque (14) formée sur une face interne pour supporter la partie fléchie (41) de l'amortisseur (40). 30
4. Ensemble couvercle selon la revendication 3, comprenant un système de fixation (60) permettant de fixer la partie fléchie (41) de l'amortisseur (40) à la plaque (14). 35
5. Ensemble couvercle selon la revendication 4, dans lequel le système de fixation (60) est un boulon fileté et dans lequel la plaque (14) définit un trou de vis (141) servant à recevoir le boulon fileté. 40
6. Ensemble couvercle selon la revendication 3, comprenant au moins un écran de protection (50) installé sur la plaque (14) pour protéger l'amortisseur (40). 45
7. Ensemble couvercle selon la revendication 6, dans lequel l'écran de protection comprend au moins un crochet (51) et dans lequel la plaque (14) définit au moins une ouverture (42) servant à recevoir le crochet (51). 50

8. Ensemble couvercle selon la revendication 1, dans lequel le dispositif de levage (30) comprend au moins un ressort de couple (33) agencé entre la bague (10) et le couvercle (20). 5
9. Ensemble couvercle selon la revendication 1, dans lequel le dispositif de levage (30') comprend au moins une unité d'apport de couple agencée entre la bague (10) et le couvercle (20). 10
10. Ensemble couvercle selon la revendication 9, dans lequel l'unité d'apport de couple comprend un premier cache (31') relié à la bague (10), un second cache (32') relié au couvercle (20) et un ressort hélicoïdal (33') doté d'une extrémité fixée au premier cache (31') et une autre extrémité fixée au second cache (32'). 15
11. Ensemble couvercle selon la revendication 1, dans lequel la bague (10) comprend une pluralité d'oreilles (12) formées dessus et dans lequel le couvercle (20) comprend un nombre correspondant d'oreilles (21) reliées de façon pivotante aux oreilles (12) de la bague (10). 20 25
12. Ensemble couvercle selon la revendication 11, dans lequel chacune des oreilles (12) de la bague (10) comprend une bosse saillante (13) et dans lequel chacune des oreilles (21) du couvercle (20) définit une ouverture (22) servant à recevoir la bosse saillante (13) de l'oreille relative parmi les oreilles (12) de la bague (10). 30

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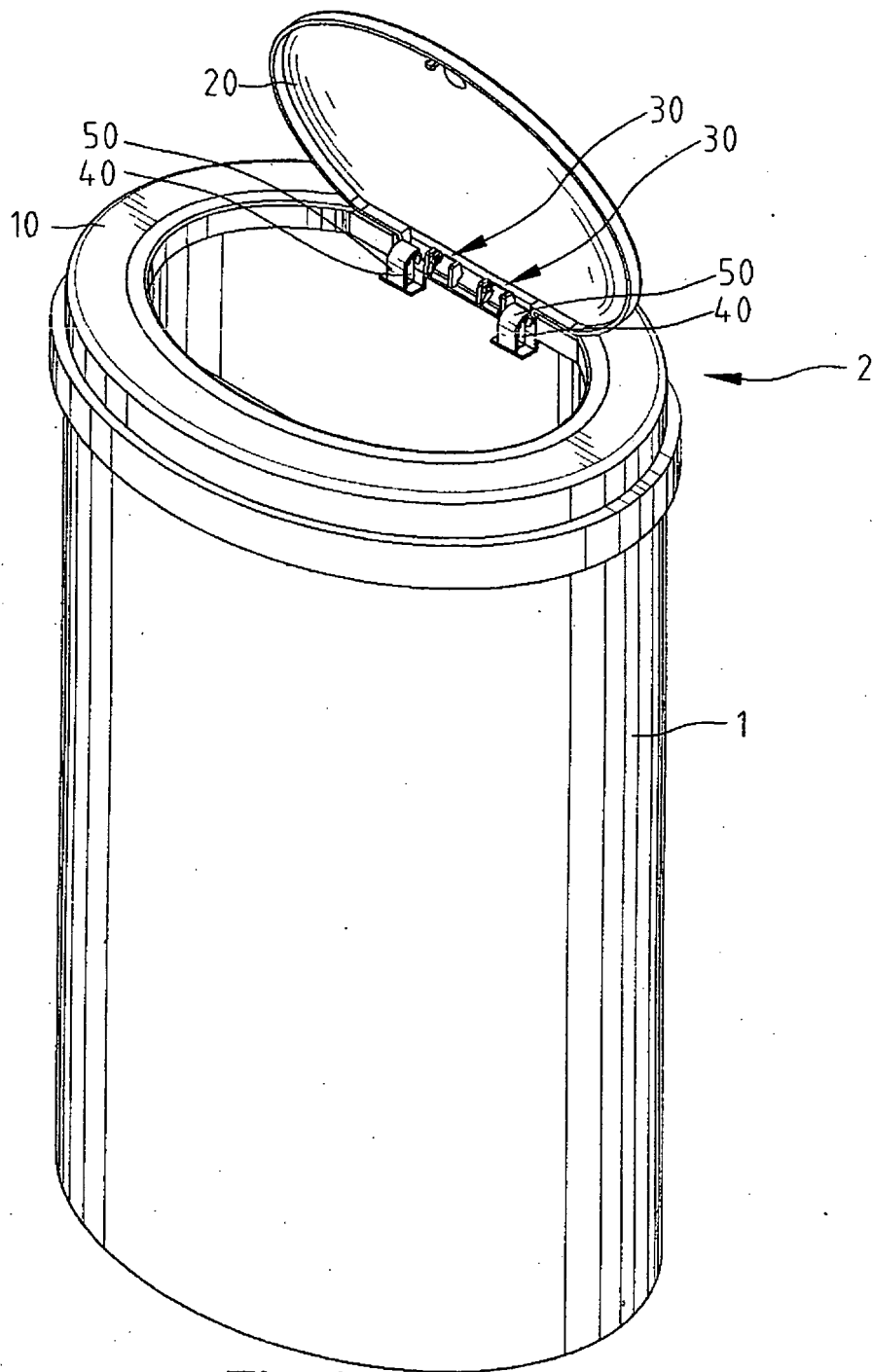


Fig.1

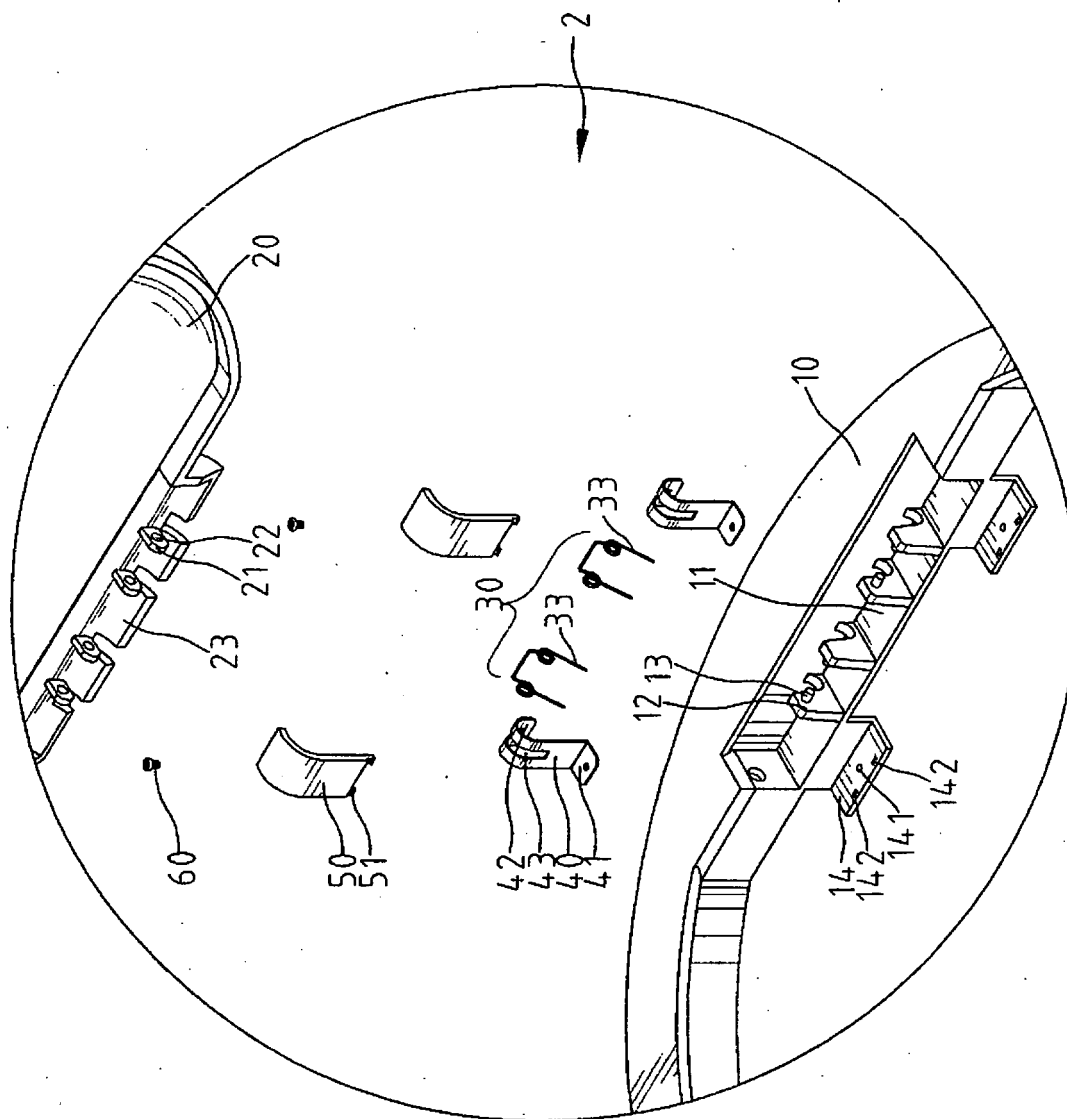


Fig.2

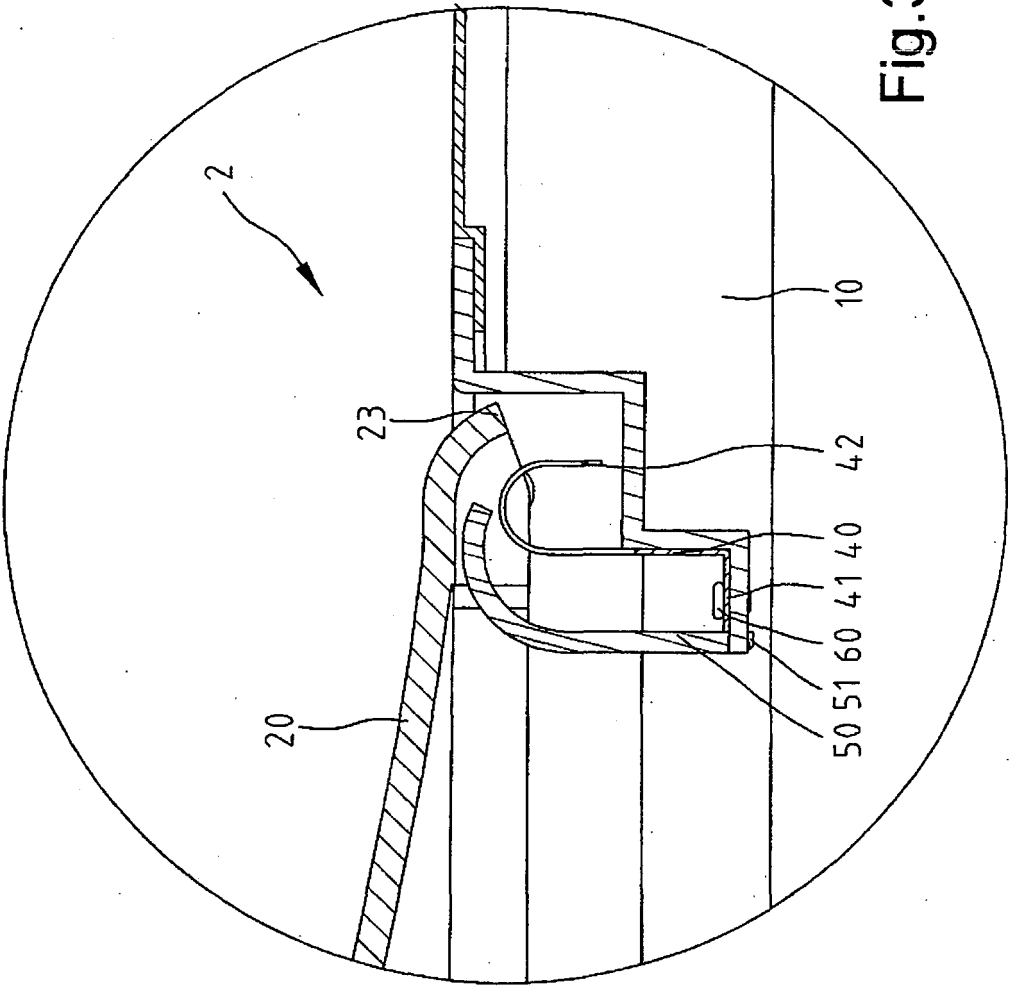


Fig. 3

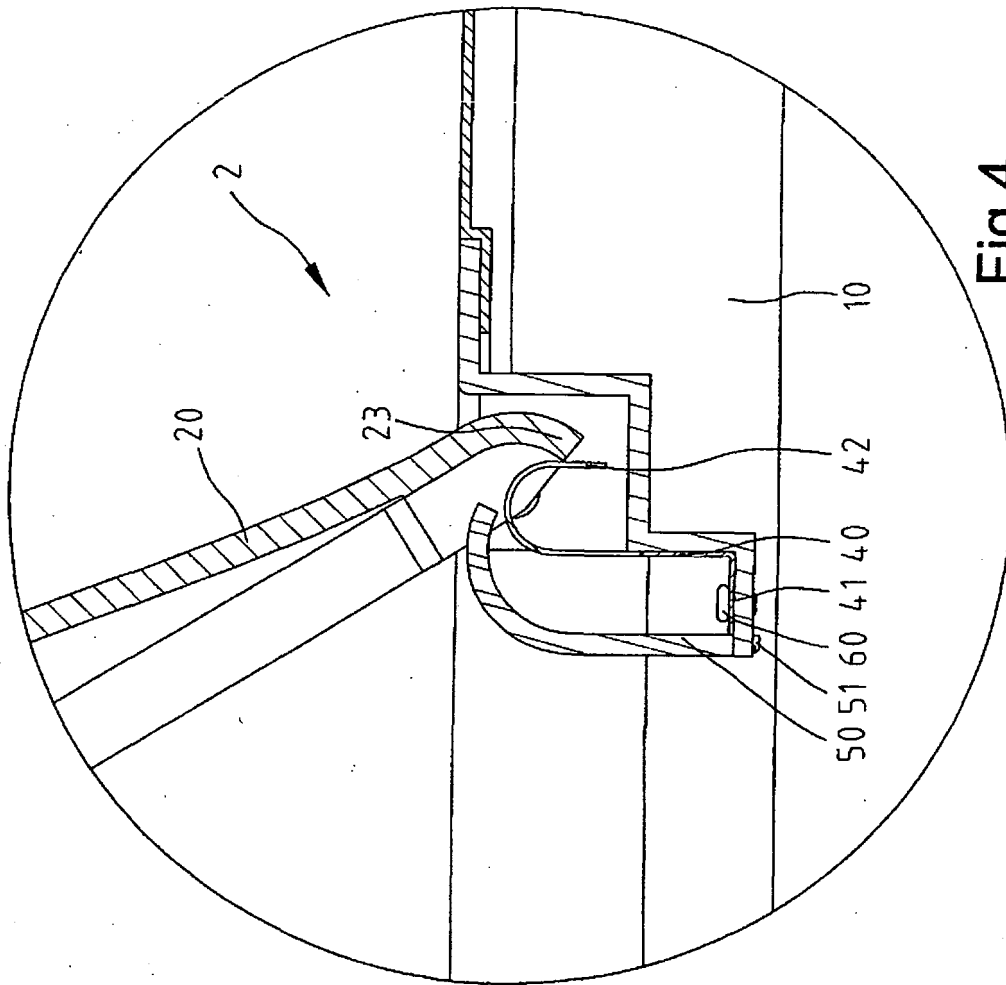


Fig. 4

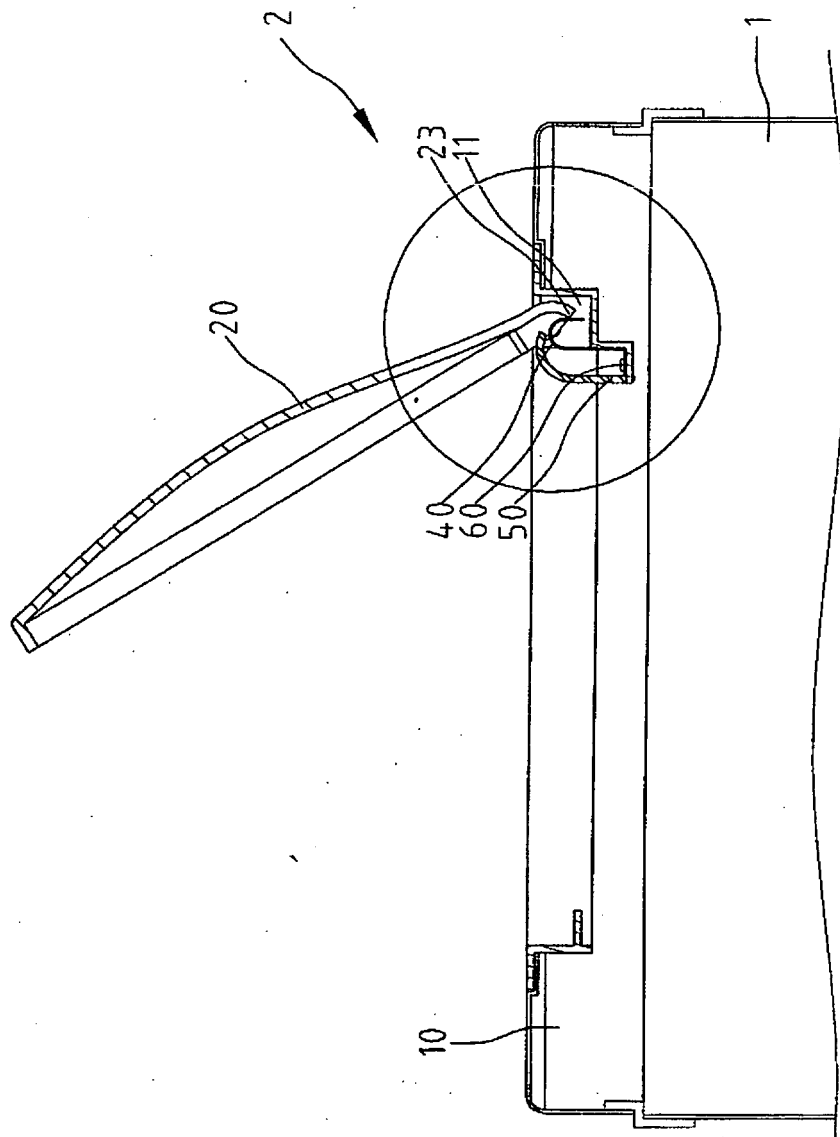


Fig.5

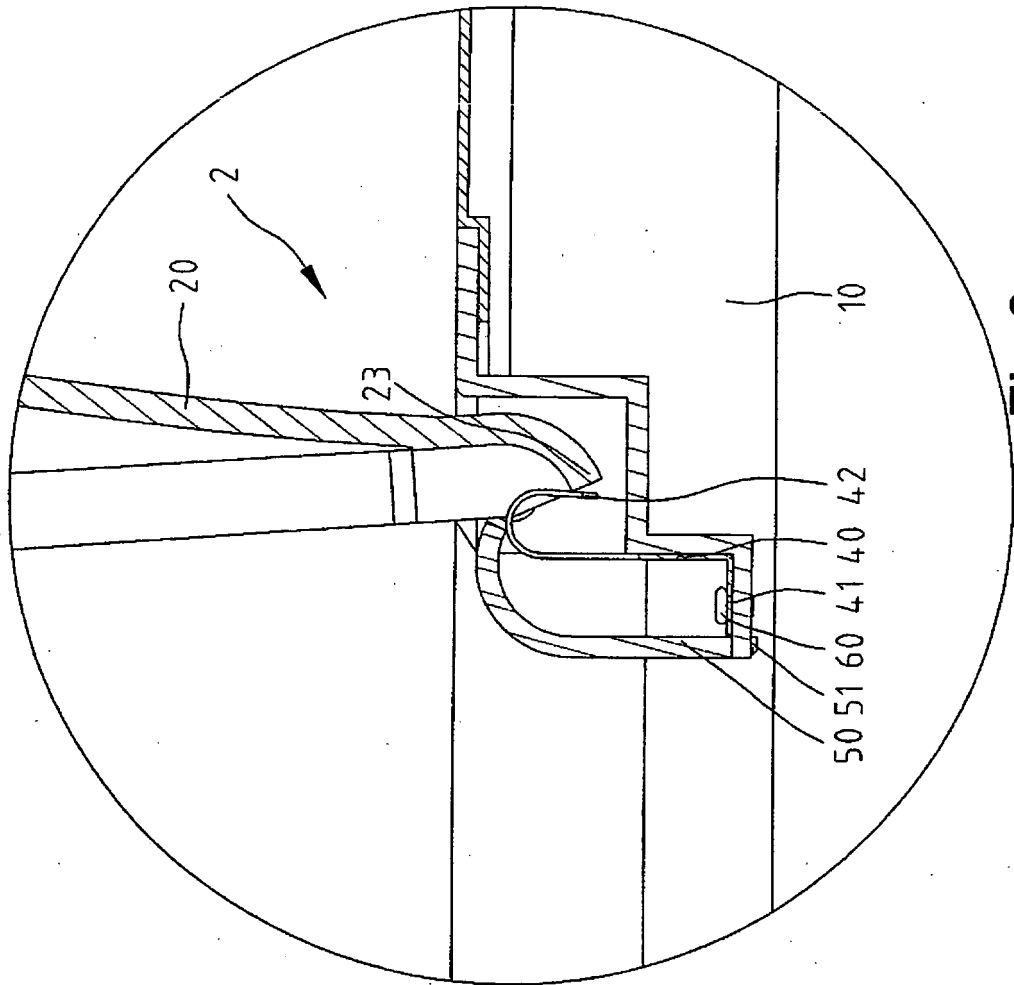


Fig.6

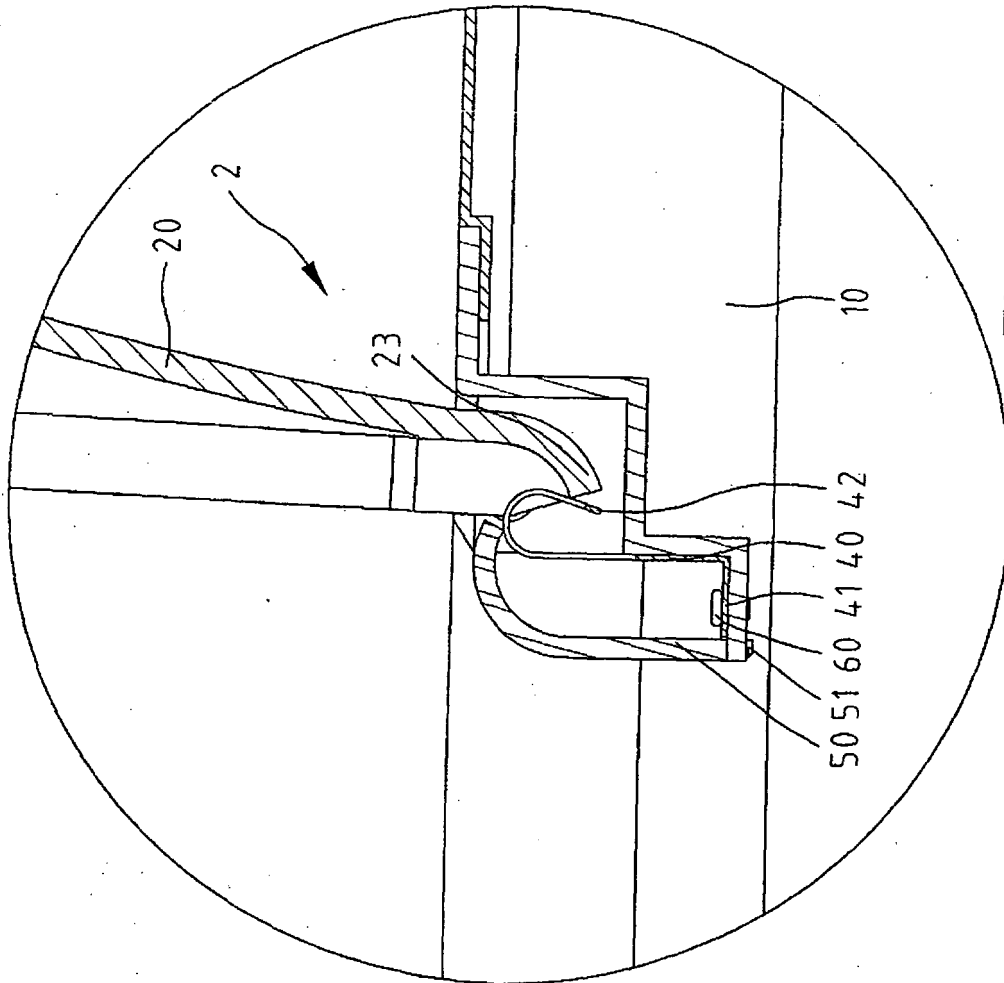


Fig. 7

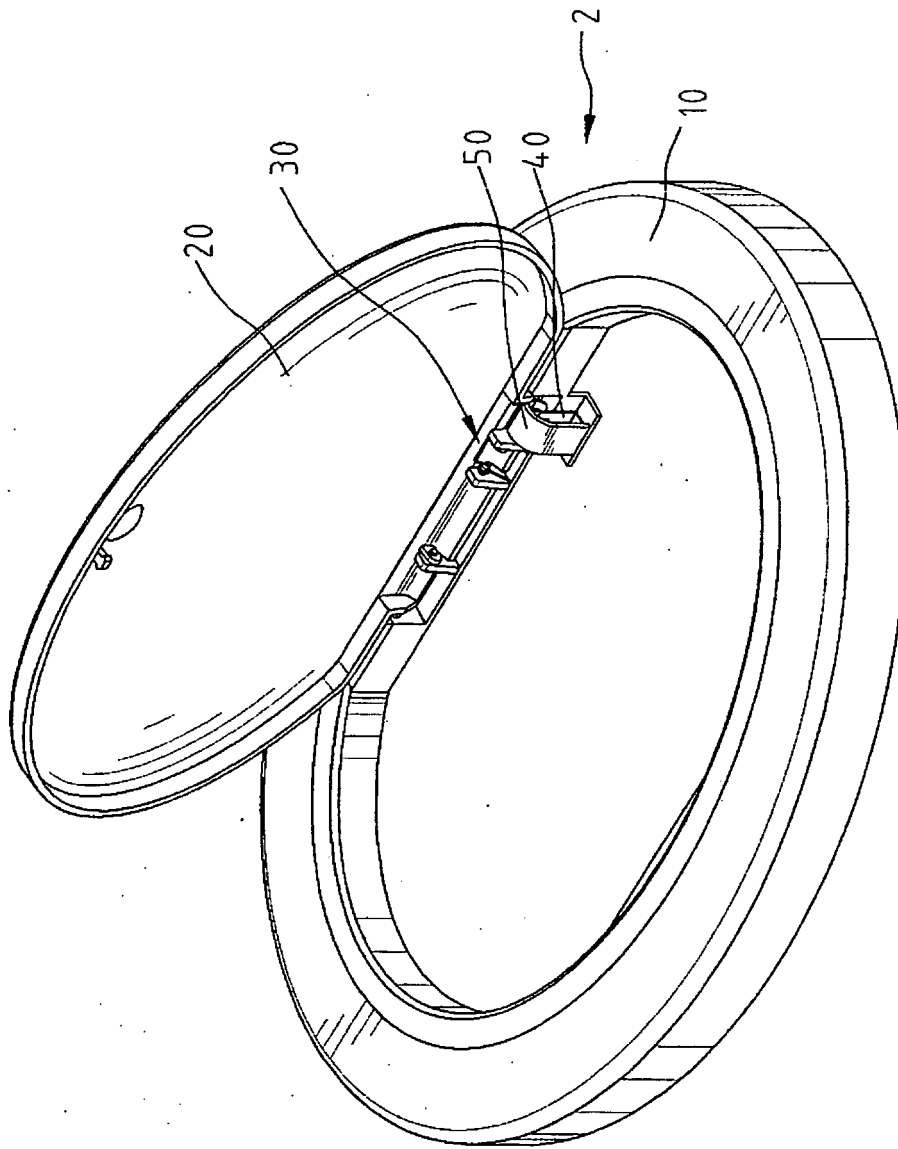


Fig. 8

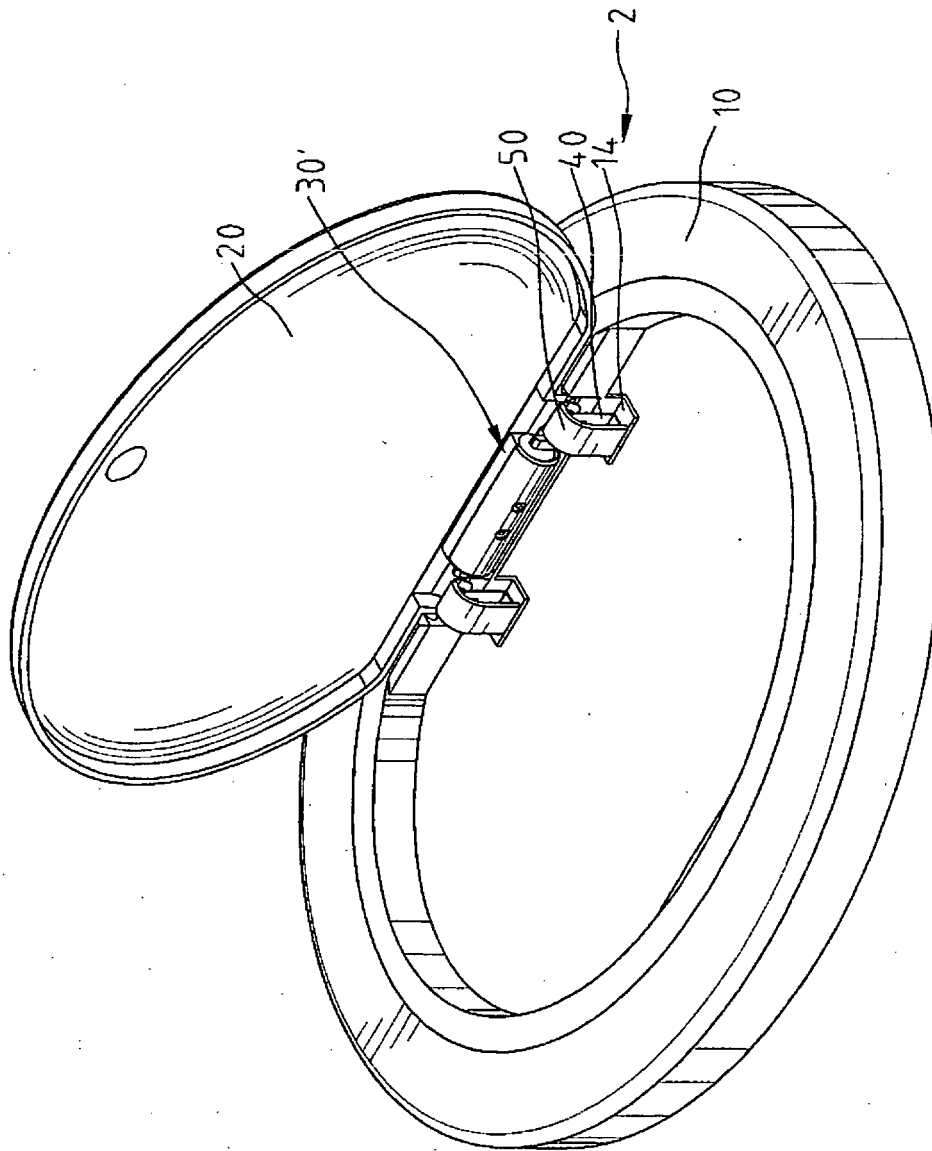


Fig.9

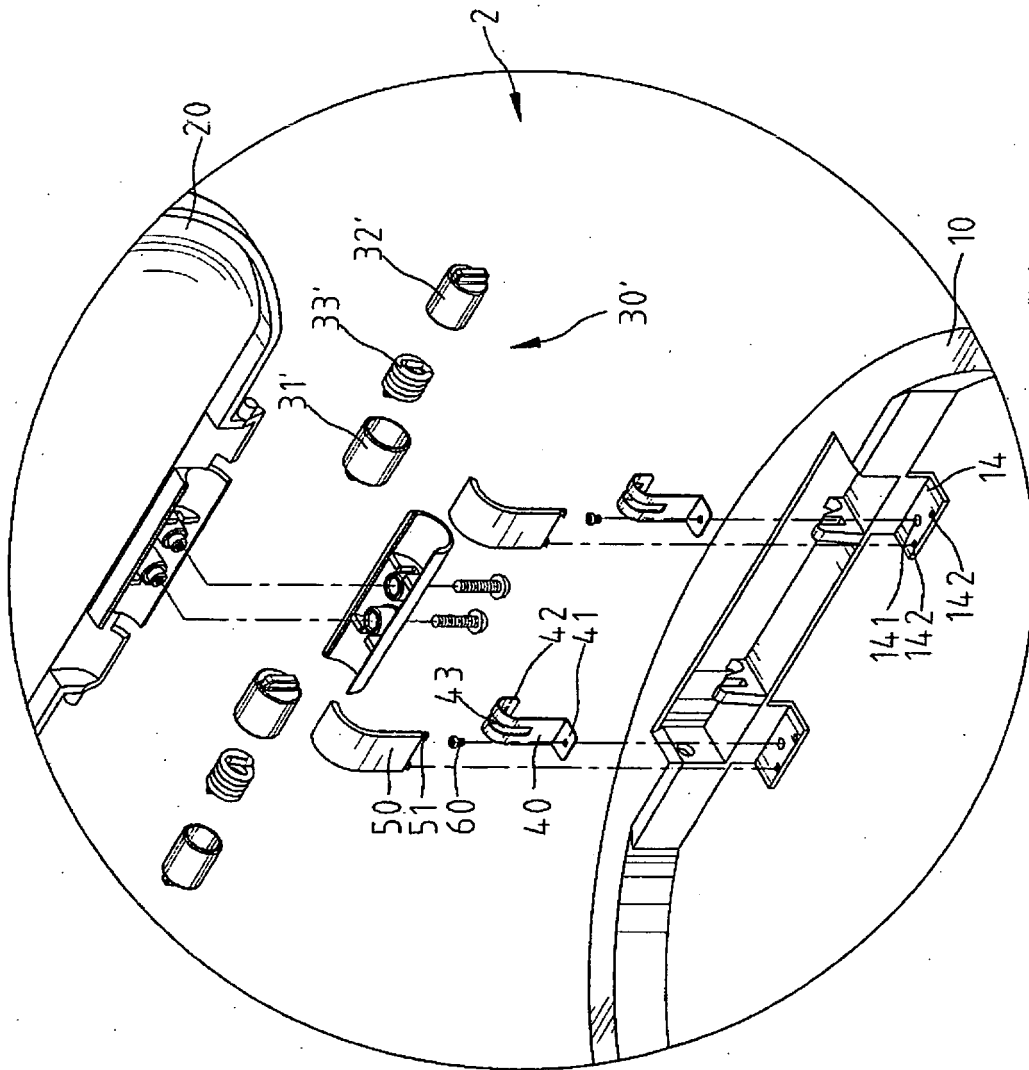


Fig.10

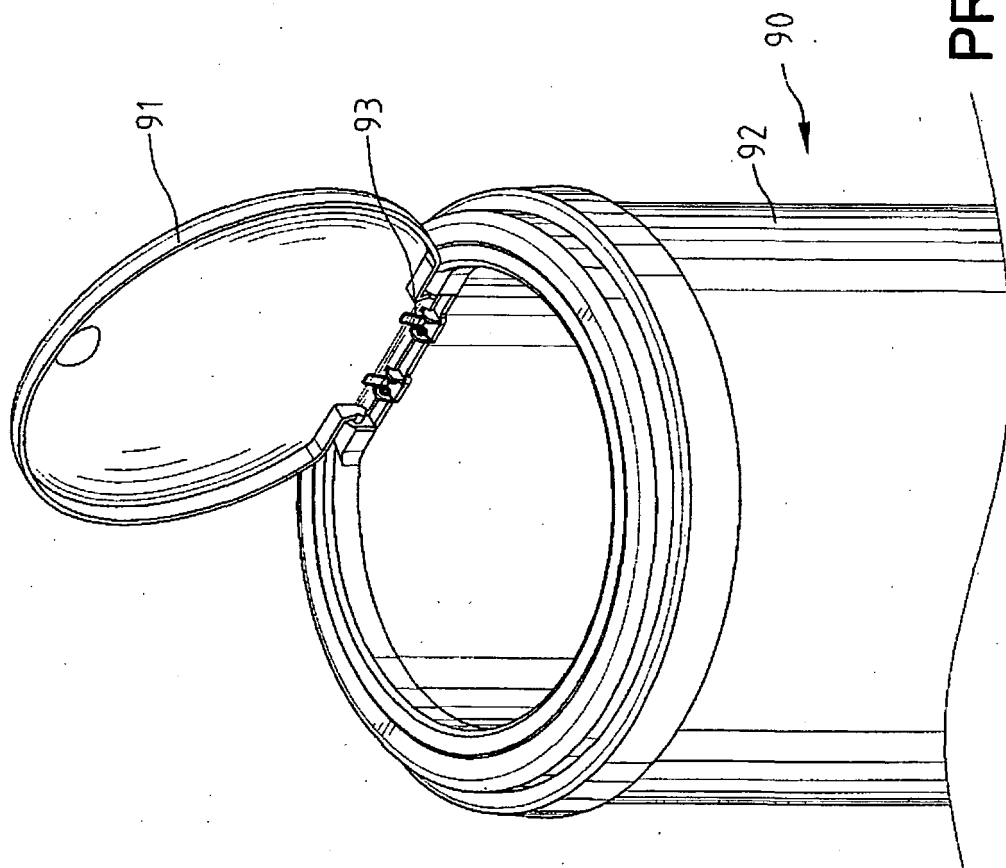


Fig.11
PRIOR ART

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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