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(54) **Three dimensional displayer of merchandise**

(57) To provide a displayer capable of giving an illusion as if a display object is completely floating in air to a purchaser, and remarkably increasing eagerness of the purchaser. This displayer is made, providing one pair of outside bodies comprising an approximately po-

lygonal outer frame having a narrow width, a display window for a display object provided at an approximately center part of the outer frame, and a stretchable resin film for covering the display window; piling up each film body; inserting the display object between the films; and integrally fixing the one pair of the outside bodies.

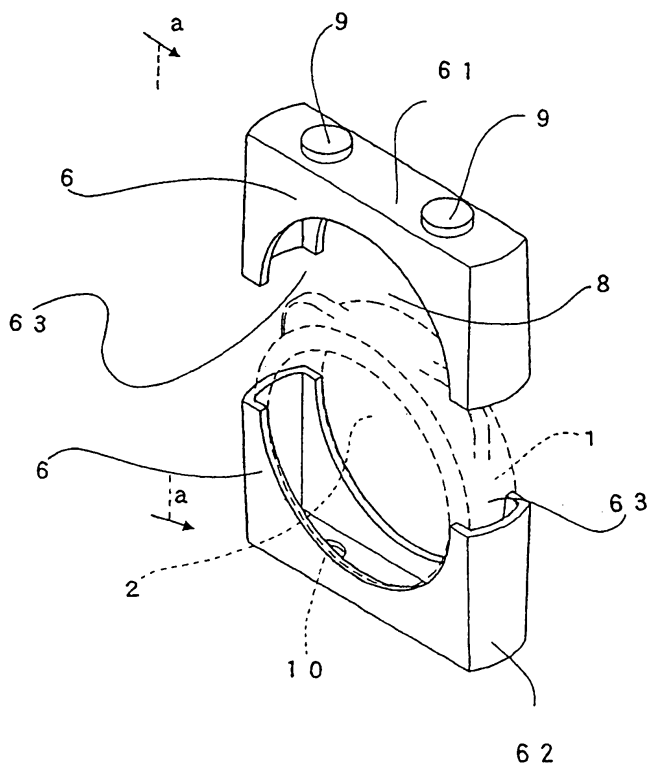


FIG.9

Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to a three dimensional displayer of a high-class merchandise which can be seen from each parts. The high-class merchandise is, for example, accessories such as a ring, a necklace or the like, a clock, or a rare coin or the like. More particularly, the present invention relates to the three dimensional displayer of the merchandise, in which a display object is elastically held and can be seen fully from the front and back sides passing through a transparent film.

Description of the Conventional Art

[0002] As for the conventional technique in this field, it is proposed for the displayer to have a structure in which the display object is taken between two transparent films and the circumferences of those films are fixed at a common frame body.

[0003] In this technique, a plastic film is used to elastically hold the three dimensional display object. For example, such a displayer is made by cutting a face corresponding to a bottom face of a box in which one side is opened, preparing two frames in which plastic films having elasticity are stuck, placing these frames so as to counter these films, inserting the display object between these films, and putting these frames in the box. (Referring to Registered Utility Model No. 3050059 (specification))

[0004] In the display object by such the structure, when the hole is enlarged in order to see the object more, there is a problem in the strength of the film or the frame.

[0005] Further, as for the display object by such the conventional technique, one pair of films is fixed at the common frame, and thus, the display object between these films cannot be exchanged.

[0006] Furthermore, it is not suitable for simultaneously displaying many display objects, for example, piling up these many frames, or the like.

Summary of the Invention

[0007] The primary objective of the present invention is to provide a displayer capable of giving an illusion as if the display object is completely floating in air to a purchaser, and remarkably increasing eagerness of the purchaser.

[0008] The other objective of the present invention is to provide a displayer which is not damaged in the displaying state of the object, i.e., floating in air, even when an intense vibration or the like is given to the display object.

[0009] The other objective of the present invention is to provide a displayer capable of certainly carrying out an operation for completely floating the display object by an easy means.

5 **[0010]** The other objective of the present invention is to provide a displayer capable of reality displaying an appearance of the display object as faithfully as possible when the display object is displayed.

10 **[0011]** It is also one of objective of the present invention that an outside body and an overcoat body holding such the display object can be placed with a stable state on a showcase or the like.

15 **[0012]** The other objective of the present invention is to provide a displayer capable of piling it in a straight line direction with the stable state in order on the one overcoat body.

[0013] The characteristic of the present invention is the followings. That is, one pair of outside bodies is provided, and the outside body comprises an approximately polygonal outer frame having the narrow width, a display window for the display object, which is provided at an approximately center part, and a stretchable resin film for covering the display window.

20 **[0014]** Further, each film is piled up, the display object is inserted between these films, and the one pair of outside bodies is integrally fixed.

25 **[0015]** The other characteristic of the present invention is the followings. That is, as for a means for fixing the one pair of outside bodies, the overcoat body capable of fitting a part and/or a whole of the circumference of the one pair of outside bodies is provided, and thereby the one pair of outside bodies can be kept with a densely contacted state mutually.

30 **[0016]** The other characteristic of the present invention is that the outside body frame has the approximately polygonal shape by providing an approximate-uniformly expanded part in all circumference directions centering on the display window provided at the center part of the outside body frame.

35 **[0017]** Further, the other characteristic of the present invention is that a stretchable and comparatively strong material, such as a polyurethane film or the like, is used as the film.

40 **[0018]** The other characteristic of the present invention is that the outside body is made with a comparatively hard plastic material.

45 **[0019]** The other characteristic of the present invention is that the countering faces of the one pair of outside bodies have approximately recess-shaped concave parts respectively, where the outer circumferences of the countering faces are recessed, and the circumference of the film is fixed at the outside body along the concave part by welding or the like.

50 **[0020]** The other characteristic of the present invention is that the countering faces of the one pair of outside bodies have engagement members, such as male and female screw threads, a concavo-convex form so as to integrally fit each other, or the like.

[0021] Further, the other characteristic of the present invention is the followings. That is, the overcoat body comprises an upper overcoat body and a lower overcoat body. Each of these bodies is rectangular parallelepiped having an approximately U-shaped cross section, and the width of the U-shaped cross section is approximately equal to the width of the outside body. A semicircular through hole is provided at a lower side center part thereof, and a lower side of this hole is opened. This hole is approximately equal to the size of the display window of the body. The upper and lower overcoat bodies are made so as to vertically counter each semicircular through hole to make an approximately right circle after fitting the outside body.

[0022] The upper and lower overcoat bodies are formed with two or more projection parts at one upper face thereof, and two or more recessed parts or holes at the other lower face thereof so as to densely fit with the two or more projection parts.

[0023] Further, the other characteristic of the present invention is the followings. That is, two or more overcoat bodies fit and received with the outside body are arranged, and at least one projection part (or recessed part or hole) of the one upper face (or lower face) is fit with at least one recessed part or hole provided at the upper face (or lower face) of the other overcoat body. By carrying out this operation in order, two or more overcoat bodies can be piled up.

[0024] The effect of the present invention is that the display object can be seen just like completely floating in air and from both of front and back sides and right and left sides. Therefore, the eagerness of purchasers can be increased.

[0025] The other effect of the present invention is that the display object can be kept in the state of completely floating in air even if it gets the intense vibration.

[0026] The other effect of the present invention is that the display object can be easily exchanged, and there are not problems that the display object is collapsed even when it is used repeatedly.

[0027] The other effect of the present invention is the followings. That is, the outside body receiving the display object can be piled up in the straight line direction. The two or more display objects can be seen at once from the front, and the state of piling up the display objects are not collapsed easily.

[0028] Further, the especial effect of the present invention is that the displayed object can be held along the circumference appearance, and can be displayed without damaging the appearance shape.

[0029] The present invention has the other excellent characteristic effect, but these are cleared by the following examples in order.

BRIEF EXPLANATION OF DRAWINGS

[0030] Figure 1 is a front view of an overcoat body.

[0031] Figure 2 is a plane, a bottom face and a right-

and-left side view of an outer main body.

[0032] Figure 3 is a perspective view of an overcoat body.

[0033] Figure 4 is a cross sectional view taken along line a-a in Figure 1.

[0034] Figure 5 is a front view of an outer main body of the other example.

[0035] Figure 6 is a plane, a bottom face and a right-and-left side view of the outer main body of Figure 5.

[0036] Figure 7 is a cross sectional explanation view in a state where a display object is inserted.

[0037] Figure 8 is a perspective view of an outer main body of the other example.

[0038] Figure 9 is a perspective view of an overcoat body.

[0039] Figure 10 is a cross sectional explanation view of the overcoat body of Figure 9.

[0040] Figure 11 is one example view 1 explaining a state where display cases are piled up.

[0041] Figure 12 is one example view 2 explaining a state where display cases are piled up.

[0042] Figure 13 is one example view 3 explaining a state where display cases are piled up.

[Explanation of Codes]

[0043] A is a display object. B is a display case. 1 is an outer frame. 2 is a display window. 3 is a film. 3' is a film. 4 is an outer main body. 4' is an outer main body. 5 is a recess-shaped concave part. 5' is a recess-shaped concave part. 6 is an overcoat body. 7 is a semicircular through hole. 8 is a semicircular through hole. 9 is a fitting projection. 10 is a recessed cut part. 61 is an upper overcoat body. 62 is a lower overcoat body. 63 is an open part.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

[Example 1]

[0044] In Figure 1 to Figure 4, (1) is a square outer frame, which is made with a comparatively hard synthetic resin and has a narrow width. (2) is a display window for the display object provided at an approximately center part of the outer frame.

[0045] (3) is a thin resin film having elasticity so as to cover the display window. As a raw material of this resin film, a polyurethane film is preferable but it is not limited to this film. Any one of a film capable of being expanded and contracted under a fixed pressure may be used. However, in this case, it is necessary that the film (3) has transparency or semi-transparency.

[0046] (4) is an outer main body comprising the above constitutions. One pair of the outer main bodies (4) and (4)' is provided, and these are densely piled up with the films (3) and (3)' respectively. In addition, as shown in Figure 7, approximately recess-shaped concave parts

(5) and (5)', which are recessed in each outer direction, are provided at countering faces of the one pair of the outer main bodies (4) and (4)'. Then, the circumferences of the films (3) and (3)' are taken into the recessed-shaped concave parts (5) and (5)' so as to match with these parts. Outer circumferences of the recessed-shaped concave parts (5) and (5)' and the films (3) and (3)' are welded. Thus, the welding areas are different from the conventional one, where only countering line parts of the outer main bodies (4) and (4)' are welded, and remarkably increased, so that the welding force becomes strong.

[0047] As a result of this, even when a comparatively large display object (A) is inserted between the films (3) and (3)', there is no problem that the welding between the films (3) and (3)' and the outer main bodies (4) and (4)' is broken.

[0048] In Figure 9, (6) is an overcoat body holding the one pair of the outer main bodies (4) and (4)', and comprises an upper overcoat body (61) and a lower overcoat body (62). Each of these bodies is rectangular parallelepiped having an approximately U-shaped cross section, and the widths of the U-shaped cross sections are approximately equal to the widths of the piled-up outside bodies (4) and (4)'.
 20

[0049] A lower part of the overcoat body (6) and upper sides of the upper and lower overcoat bodies (61) and (62) are opened (63), and each of open part (63) can be piled up each other.

[0050] Semicircular through holes (7) and (8) are provided at center parts of each sides of the upper and lower overcoat bodies (61) and (62), and these holes are equal to radius of the display window (2) of the outer main bodies (4) and (4)'. The semicircular through holes (7) and (8) become to be right circle when the upper and lower overcoat bodies (61) and (62) are linearly piled up.
 30

[0051] Further, in Figures 9 and 10, (9) and (9) are two fitting projections, which are provided keeping an interval on an upper face of the upper overcoat (6), that is, an opposite face of the open part (63). (10) and (10) are recessed cut parts. These parts (10) and (10) are provided at the lower face of the lower overcoat (62), and can be fitted with the projections (8) and (8) of the upper overcoat (6).
 35

[0052] In addition, in this case, there are two projections (9) and (9) and two recessed cut parts (10) and (10), but these are not limited if there are two or more projections and recessed cut parts.

[0053] That is, when these over coats (6) are piled up, it may be devised so as not to collapse the piling up state by a little vibration by which these over coats (6) are densely fitted each other.

[0054] Thus, as shown in Figure 11, the display object (A) is inserted between the outer main bodies (4) and (4)' at first. In this case, as for the display object (A), the object like a frame of a photograph, which is mainly displayed from one side, is not preferable, but the object, which can be appreciated from all of 6 sides and is three-

dimensional, is preferable.

[0055] Then, when each of the films (3) of the outer main bodies (4) and (4)' is strongly pressed to the display object (A), the films (3) hold the display object (A) so as to match with an appearance shape of the display object (A), as shown in Figures 7 and 11. In this case, since the films (3) have transparency, the display object (A) becomes the state in which it is completely floating in air.

[0056] Further, in this case, the outer circumferences of the films (3) are welded so as to match with the recess-shaped concave parts (5) and (5)' of the outer main bodies (4) and (4)', and thus the welding areas of the outer circumferences are comparatively large. As a result of this, when the comparatively big display object (A) is inserted, there are no problems that the films (3) are separated from the outer main bodies (4) and (4)', broken or damaged.

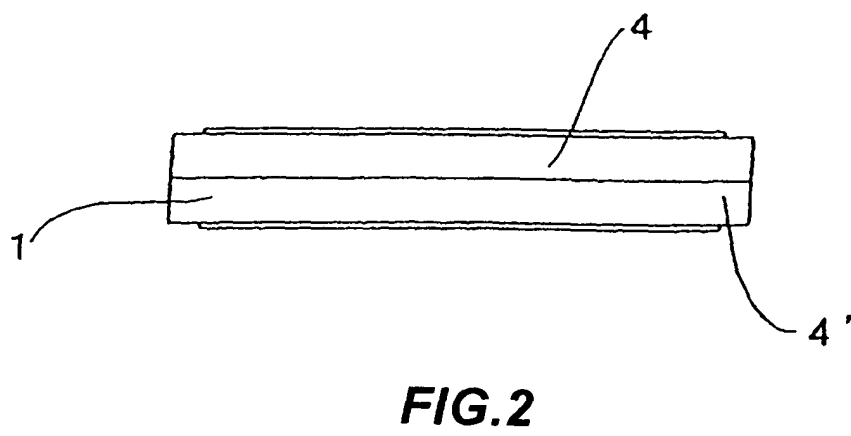
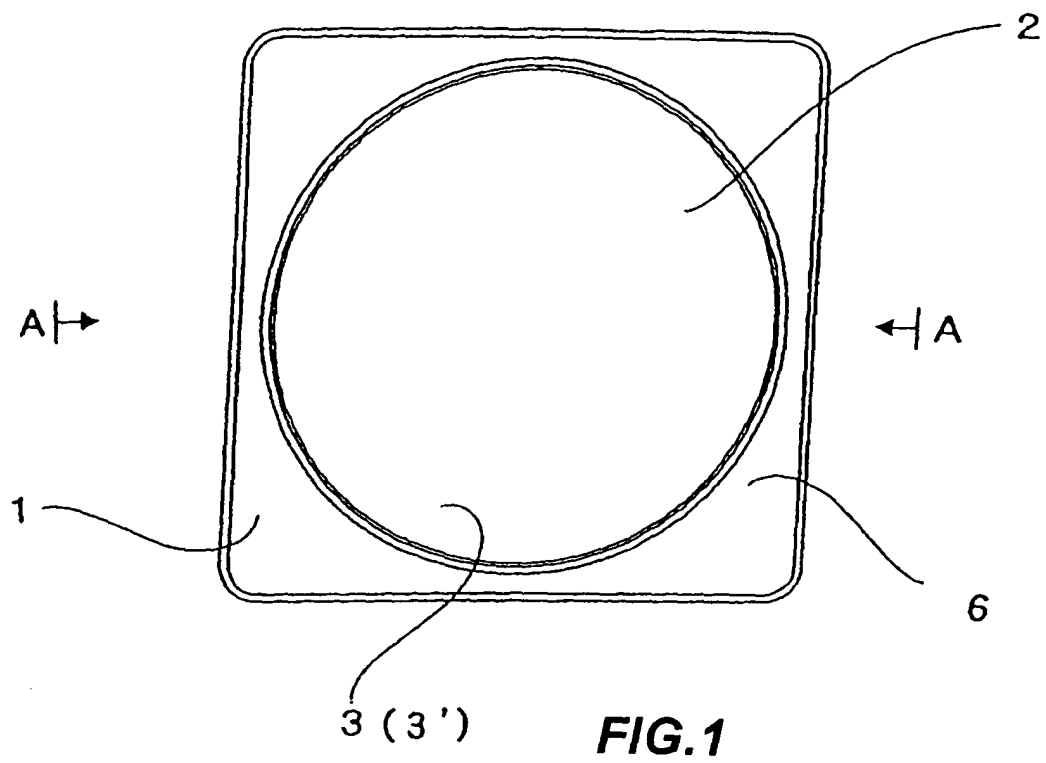
[0057] Then, when the one pair of the piled-up outer main bodies (4) and (4)', where the display object (A) is inserted between them, is covered with the upper overcoat (6') from the lower side thereof and the upper overcoat (6) from the upper side thereof, these outer main bodies are densely fitted each other. While keeping this state, that is, an upright state in which these are fitted each other, these outer main bodies may be arranged at a shop front to be used as the decoration of merchandise, or put on the own desk to be appreciated as the display object. Especially, when jewelry, a wrist watch, various character toys or the like is inserted into them, it can be seen in three dimensions, so that a very interesting novel display can be made.

[0058] Further, as for a display case (B) integrally comprising the display object (A), the outer main bodies (4) and (4)', and the overcoats (6) and (6)', it is used alone for appreciating the display object (A). In addition to this, when two or more display cases (B) are piled up to have a pyramid form as shown in Figure 13, or so as to make a wall having a front rectangular parallelepiped shape as shown in Figure 14, many three dimensional merchandises or characters can be displayed. Thus, a great interest can be given to a person, and the eagerness of the purchaser can be increased in the case of the merchandises.
 40

[0059] Further, in this case, two or more projections (9) and (9) are provided on the upper face of the display case (B), and the recessed cut parts (10) and (10) are provided on the lower face of the display case (B) to be piled up on the above display case (B). When these projections and recessed cut parts are suitably fitted each other (for example, when there are one pair of the display cases (B) adjoining each other in the level state, these are suitably fitted so as to span each display case (B)), there is no problem that a group of the display cases (B) is collapsed wholly even when getting the vibration or the like.
 45

Claims

1. A three dimensional displayer of merchandise,
wherein a display object can be three-dimensionally
displayed by providing one pair of outside bodies
comprising an approximately polygonal outer frame
having a narrow width, a display window for a display
object provided at an approximately center part
of said outer frame, and a stretchable resin film for
covering said display window,
piling up each film,
inserting the display object between said films, and
integrally fixing said one pair of the outside bodies. 5
2. The three dimensional displayer of merchandise
according to claim 1, wherein as for a means for
fixing said one pair of outside bodies, an overcoat
body, which can fit a part and/or a whole of a cir-
cumference of said one pair of outside bodies, is
used. 10
3. The three dimensional displayer of merchandise
according to claims 1 and 2,
wherein said polygonal outside body is made to
have an approximately polygonal shape by provid-
ing an approximate-uniformly expanded part in all
circumference directions centering on the display
window provided at the center part of the outside
body frame. 15
4. The three dimensional displayer of merchandise
according to claim 1 to claim 3,
wherein a stretchable and comparatively strong
material, such as a polyurethane film or the like, is
used as said film. 20
5. The three dimensional displayer of merchandise
according to claim 1 to claim 4,
wherein said outside body is made with a compar-
atively hard plastic material. 25
6. The three dimensional displayer of merchandise
according to claim 1 to claim 5,
wherein countering faces of said one pair of outside
bodies have approximately recess-shaped concave
parts respectively, which are recessed in outer di-
rections, and the circumference of said film is fixed
at the outside body along the concave part by weld-
ing or the like. 30
7. The three dimensional displayer of merchandise
according to claim 1 to claim 6,
wherein said countering faces of the one pair of out-
side bodies have engagement members, such as
male and female screw threads, a concavo-convex
form so as to integrally fit each other, or the like. 35
8. The three dimensional displayer of merchandise
according to claim 2,
wherein said overcoat body comprises
an upper overcoat body and a lower overcoat body,
each of said bodies has rectangular parallelepiped
shape having an approximately U-shaped cross
section, where the width of the U-shaped cross sec-
tion is approximately equal to the width of said out-
side body,
a semicircular through hole is provided at a lower
side center part thereof, where a lower side of said
hole is opened and said hole is approximately equal
to the size of the display window of said outside
body, and
said upper and lower overcoat bodies are made so
as to vertically counter each semicircular through
hole to make an approximately right circle after fit-
ting said outside body. 40
9. The three dimensional displayer of merchandise
according to claims 2 and 8,
wherein said upper and lower overcoats bodies
have two or more projection parts at one upper face
thereof, and two or more recessed parts or holes at
the other lower face thereof so as to densely fit with
said two or more projection parts. 45
10. The three dimensional displayer of merchandise
according to claims 2, 8, and 9,
wherein two or more overcoats bodies fitted and re-
ceived with said outside main body are arranged,
and at least one projection part (or recessed part or
hole) of the one upper face (or lower face) is fitted
with at least one recessed part or hole provided at
the upper face (or lower face) of the other overcoat
body, and thereby, two or more overcoats bodies
can be piled up by carrying out this operation in or-
der. 50



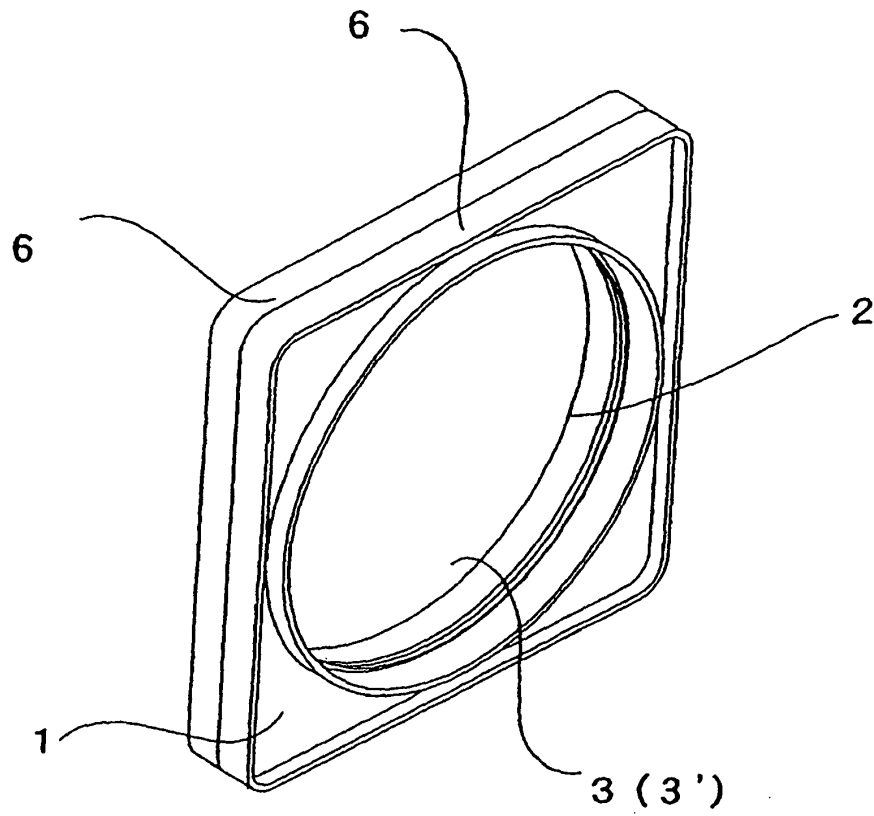


FIG.3

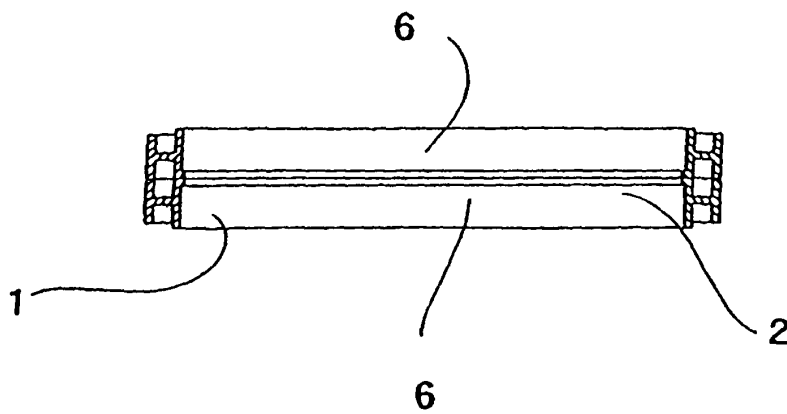


FIG.4

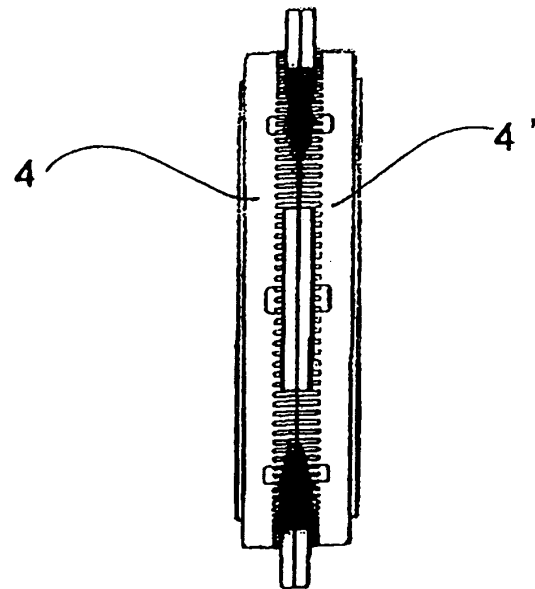
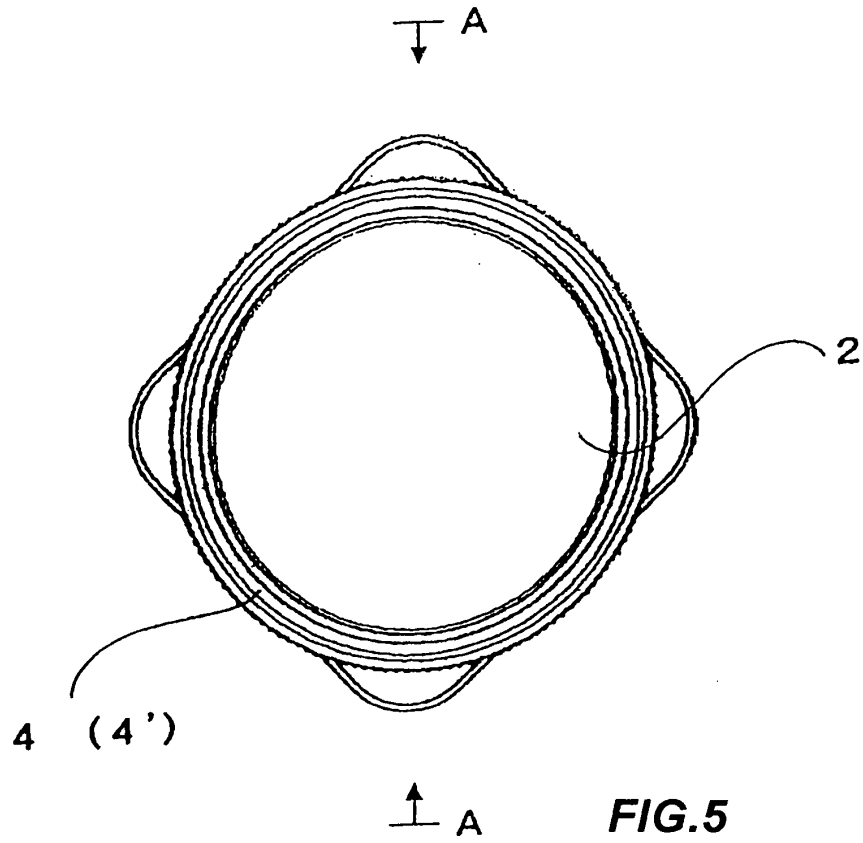


FIG. 6

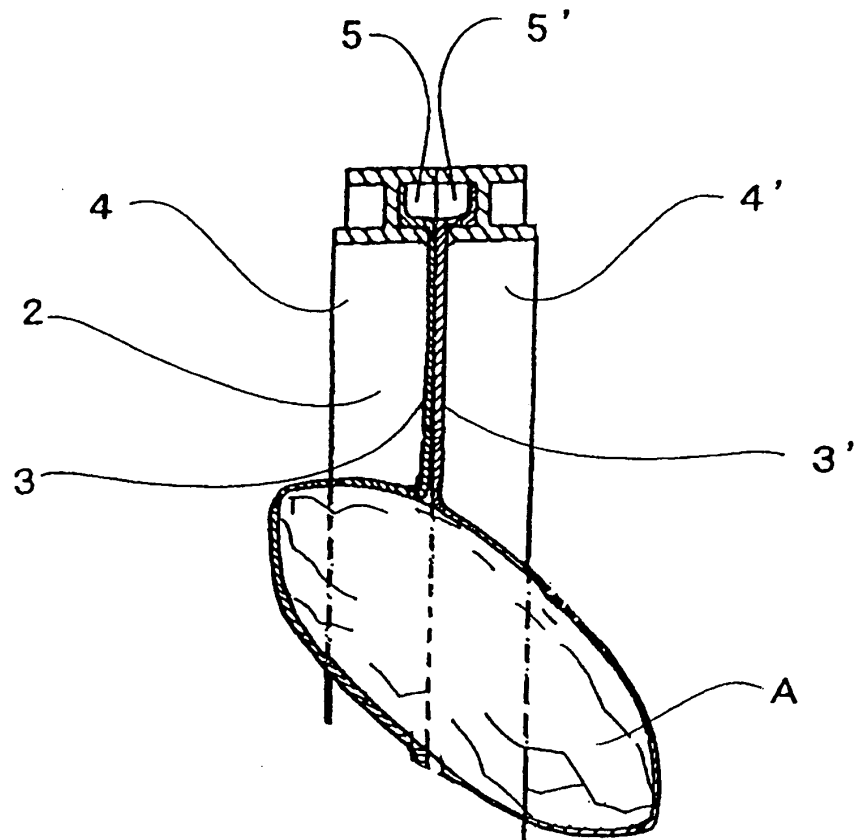


FIG. 7

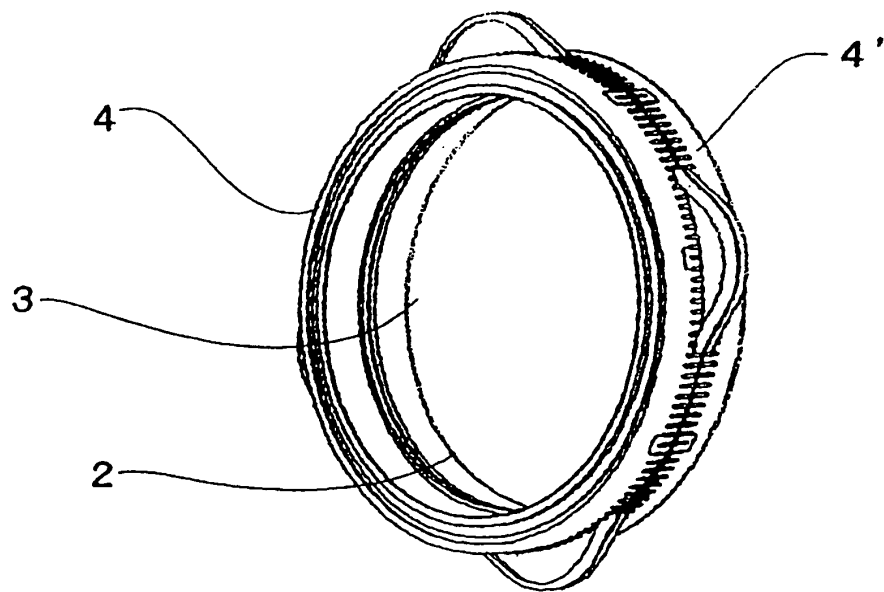


FIG. 8

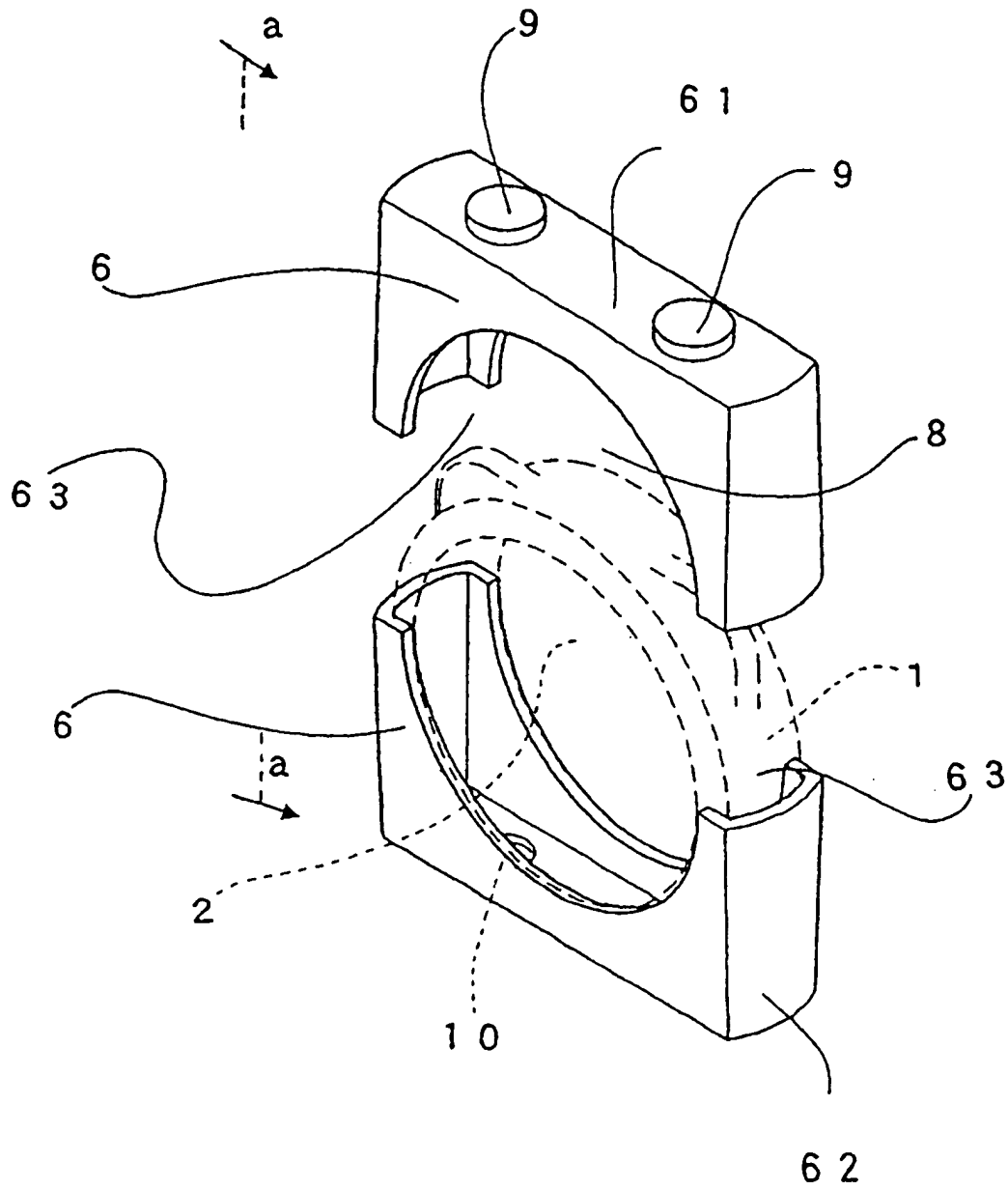


FIG.9

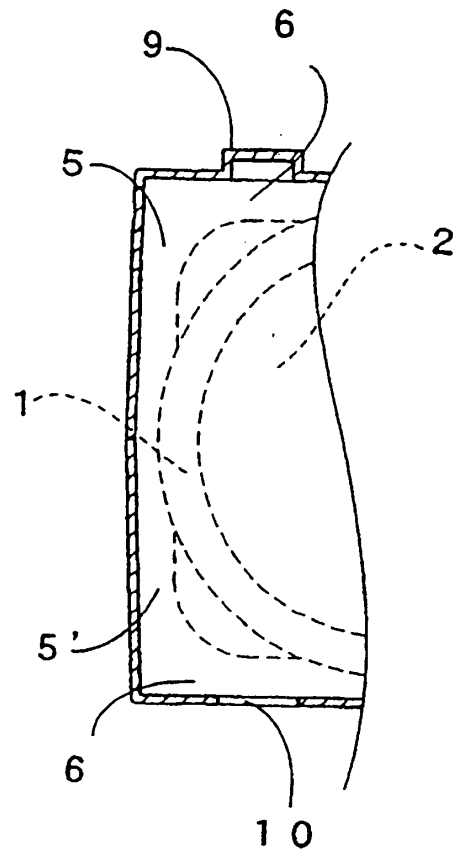


FIG. 10

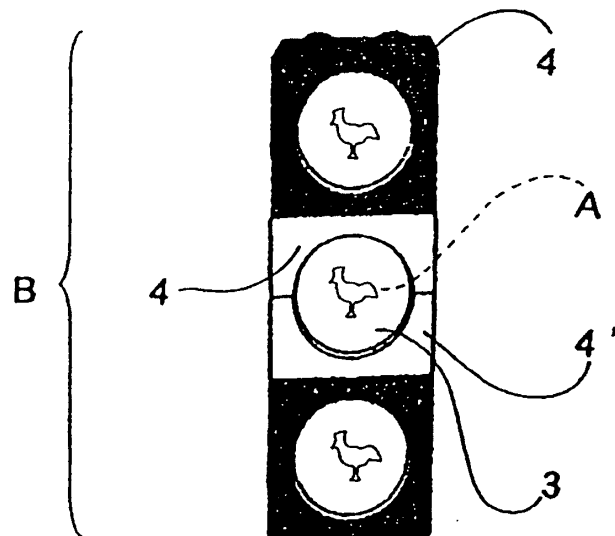


FIG. 11

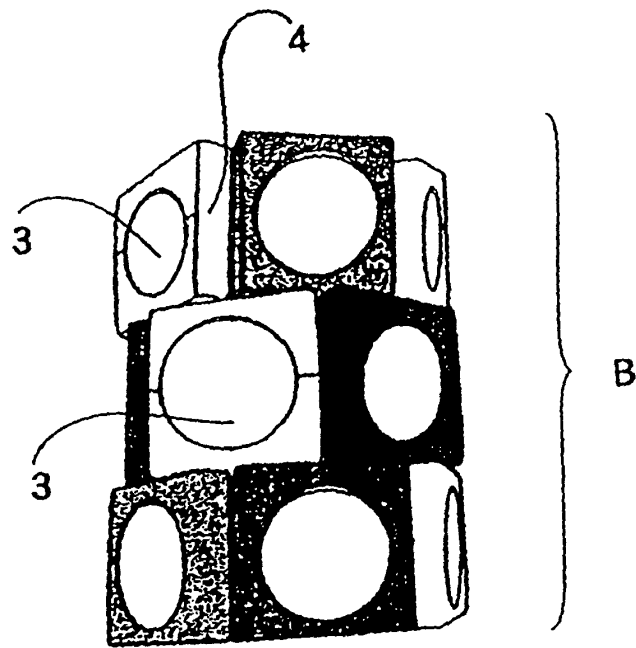


FIG.12

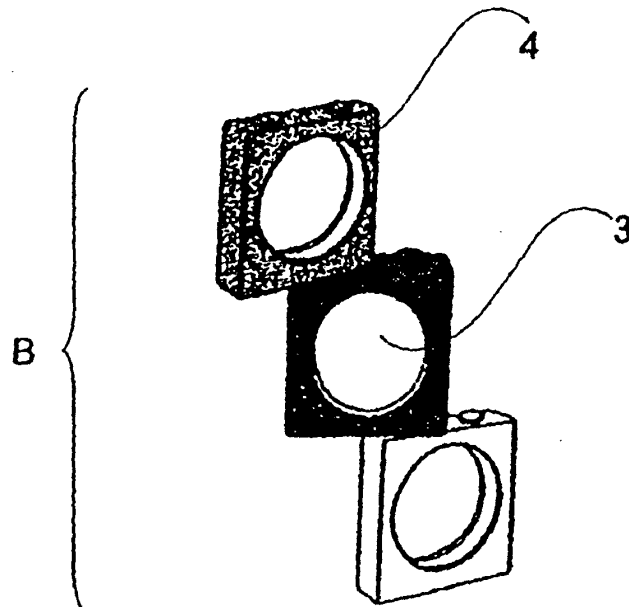


FIG.13



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 05 01 0687

DOCUMENTS CONSIDERED TO BE RELEVANT			
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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 05 01 0687

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