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(54) **AIRTIGHT CONTAINER**

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(57) **ABSTRACT**

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A hermetically sealed container comprises sealing mechanisms (17, 17a) wherein upper sealing surfaces (11, 11a) and lower sealing surfaces (12, 12a) are provided in inward peripheral wall surfaces (9, 9a) and outward peripheral wall surfaces (10, 10a), respectively, of annular sealing grooves formed with a container body (3) misaligned from each other in the height direction of the container body, and upper sealing parts (15, 15a) and lower sealing parts (16, 16a) are provided respectively in upper parts (13, 13a) and lower parts (14, 14a) of annular sealing protrusions formed integrally with a lid body (6), and the upper parts of the annular sealing protrusions are formed to be of high rigidity to make the upper sealing parts frictionally contact the upper sealing surfaces, and the lower parts of the annular sealing protrusions are formed to be flexibly deformable and of low rigidity to make the lower sealing parts be resiliently pressed against the lower sealing surfaces.

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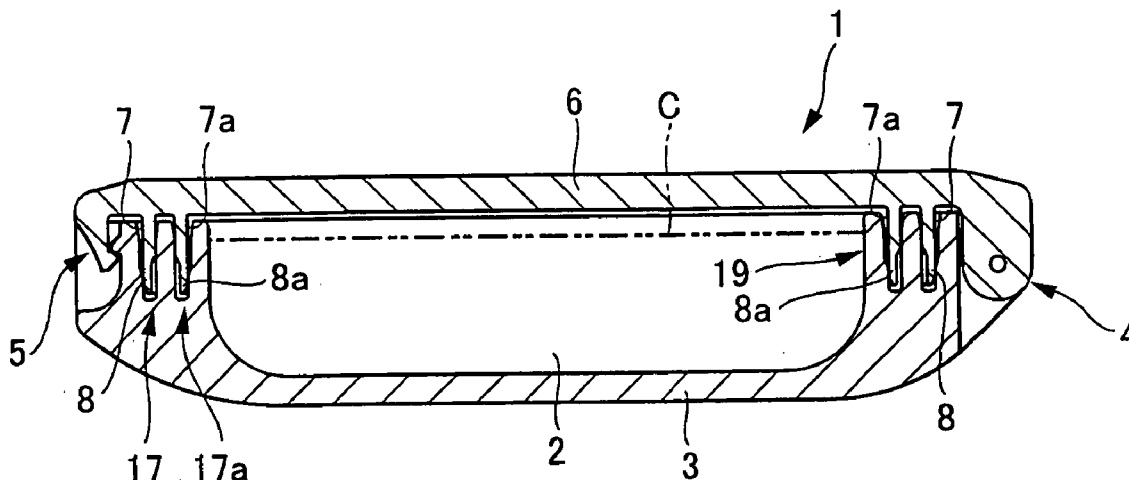
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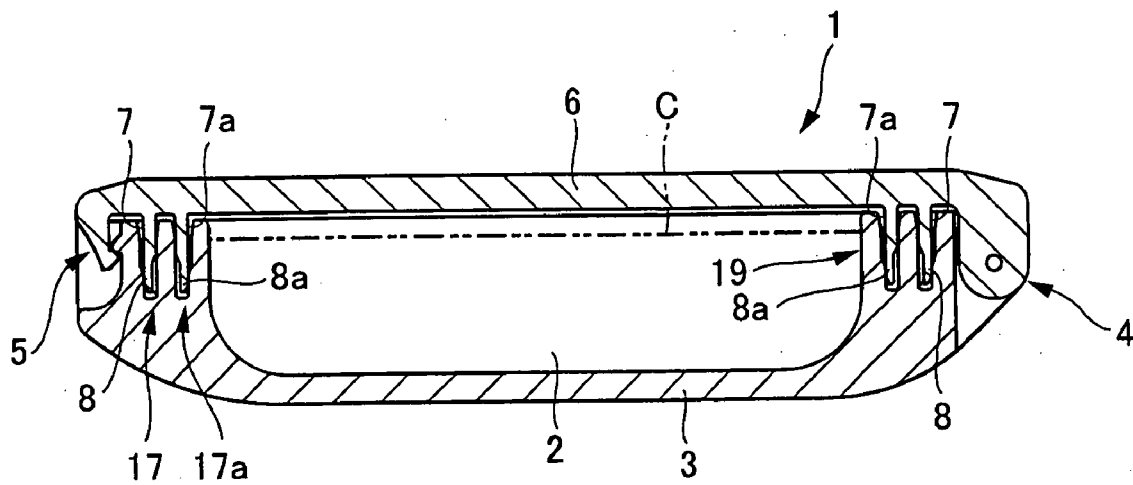


FIG. 2

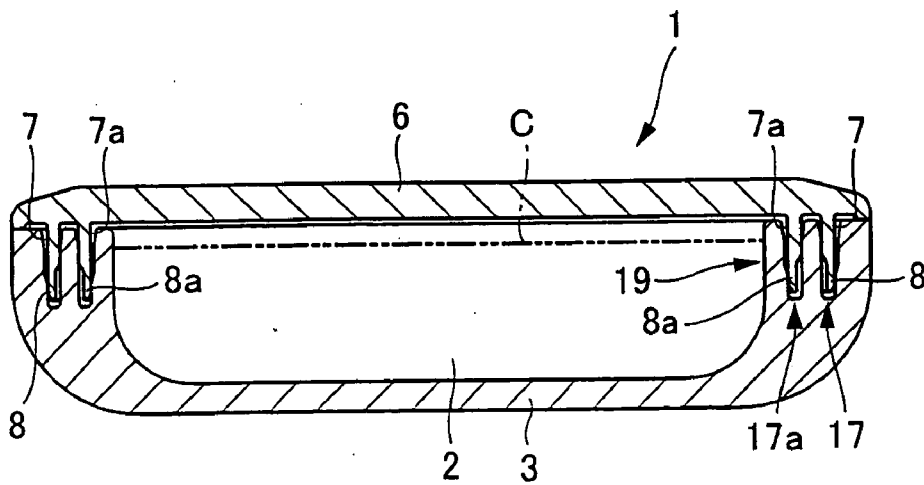


FIG. 3



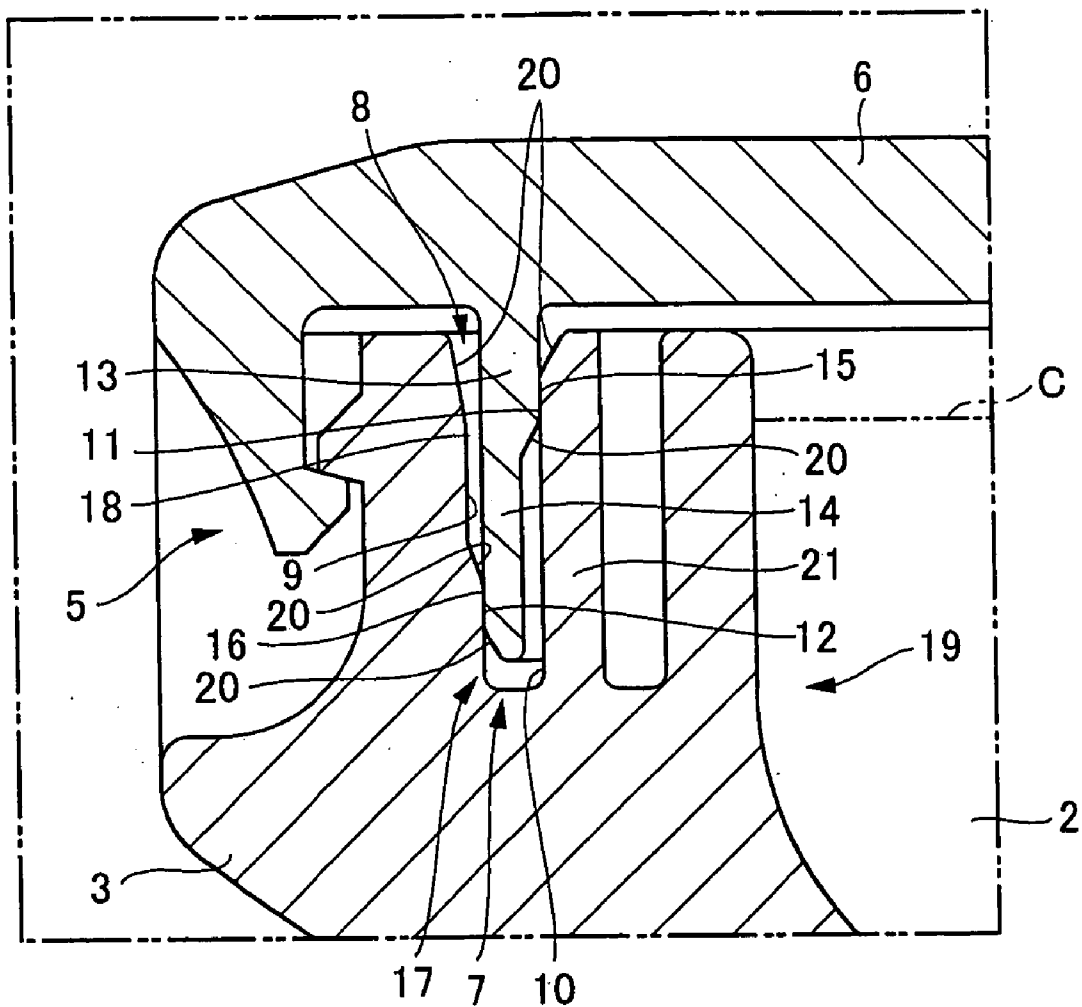


FIG. 5

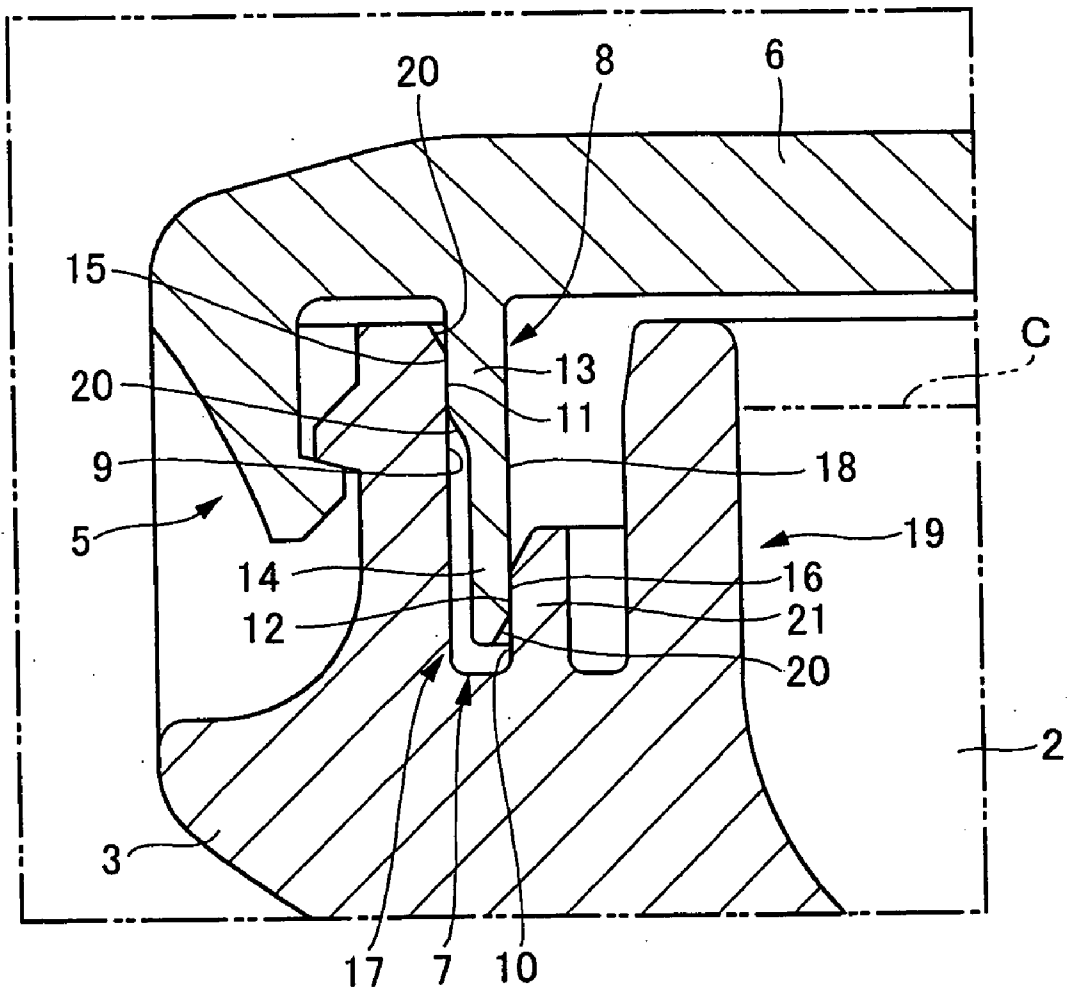


FIG. 6

## AIRTIGHT CONTAINER

### TECHNICAL FIELD

[0001] The present invention relates to a hermetically sealed container having a sealing mechanism that can be formed integrally with a container body and a lid body made of synthetic resin and is thus low in cost and has excellent productivity features, and that achieves high hermetic sealing capability while ensuring smooth opening and closing of the lid body.

### BACKGROUND ART

[0002] Some of the various types of containers, such as cosmetic containers, that are generally formed of synthetic resin material require extremely high hermetic sealing capability because, for example, the contents may include volatile components. A structure which ensures a hermetic seal for such containers is known to comprise, for example, an annular groove integrally formed in either a container body or a lid body, and an annular protrusion formed which is integrally with the other of the container body or the lid body and is inserted into the annular groove. By maintaining close contact between the inside surface of the groove and the surface of the protrusion, a sealing mechanism is obtained between the container body and the lid body (See Japanese Utility Model Application Laid-open Publication Nos. Sho61-64813 and Sho63-15912 and Japanese Utility Model Application Examined Publication No. Hei4-33059).

[0003] According to the above-described conventional art, since the inside surface of the groove and the surface of the protrusion, which are formed integrally with the container body and the lid body formed of synthetic resin material and which are made to be in close contact with each other for a hermetic seal, are formed from synthetic resin material, it is difficult to bring the inside surface of the groove into close contact with the surface of the protrusion with no space between them, because of the rigidity of the synthetic resin material itself. Therefore, the hermetic seals of the above conventional art teachings are unsatisfactory in a case where high hermetic sealing capability is required, even though they may be satisfactory for cases where the extent of hermetic sealing capability required is not so large.

[0004] In order to improve the hermetic sealing capability, the dimensional settings between the inside surface of the groove and the surface of the protrusion could be adjusted so as to tighten the degree of contact. However, this gives rise to a problem that the lid body can not be closed or the opening and closing of the lid becomes difficult. On the other hand, if the degree of contact is set loose in order to make it easy to manipulate the lid body, then this gives rise to a problem that a sufficient sealing capability cannot be obtained.

[0005] In view of these problems, it is possible to consider incorporating, as a separate component, a sealing member made, for example, of rubber which is well known as a sealing component. In this way, a considerably high hermetic sealing capability can be provided without impairing the operability of the lid body. However, in this case, it is necessary to prepare a sealing member that is made of a different type of material, independent of the container body and the lid body, which are made of synthetic resin material, and to carry out tasks to incorporate the sealing member.

Accordingly, there arise other problems that the cost increases and the productivity decreases.

### DISCLOSURE OF INVENTION

[0006] The present invention has been made in view of the above problems, and it is an object thereof to provide a hermetically sealed container having a sealing mechanism that can be formed integrally with a container body and a lid body made of synthetic resin and is thus low in cost and has excellent productivity features, and that achieves high hermetic sealing capability while ensuring smooth opening and closing of the lid body.

[0007] A hermetically sealed container according to an aspect of the present invention is a hermetically sealed container configured to hermetically seal an inside of a synthetic resin container body by inserting an annular sealing protrusion, which is provided integrally with either the container body or a synthetic resin lid body for opening and closing the container body, into an annular sealing groove provided integrally in the other of the two sections, the hermetically sealed container having a sealing mechanism comprising: an upper sealing surface provided on either an inward peripheral wall surface or an outward peripheral wall surface of the annular sealing groove, the outward surface and the inward surface being opposed to and spaced from each other; a lower sealing surface provided on the other one of the inward surface or the outward surface misaligned from the upper sealing surface in a direction of the height of the container body; and an upper sealing part and a lower sealing part provided in an upper part and a lower part of the annular sealing protrusion in the direction of the height of the container body, the upper sealing part and the lower sealing part corresponding to the upper sealing surface and the lower sealing surface, respectively, wherein the upper part of the annular sealing protrusion is formed to be of high rigidity to make the upper sealing part frictionally contact the upper sealing surface, and the lower part of the annular sealing protrusion is formed to be flexibly deformable and of low rigidity to make the lower sealing part be resiliently pressed against the lower sealing surface.

### BRIEF DESCRIPTION OF DRAWINGS

[0008] FIG. 1 is a partially cutaway perspective view of a cosmetic container in accordance with an embodiment of a hermetically sealed container of the present invention,

[0009] FIG. 2 is a sectional side view of the cosmetic container of FIG. 1,

[0010] FIG. 3 is a sectional front view of the cosmetic container of FIG. 1,

[0011] FIG. 4 is an enlarged sectional side view of the main parts of the cosmetic container of FIG. 1,

[0012] FIG. 5 is an enlarged sectional side view of the main parts of a modified example of the hermetically sealed container according to the present invention, and

[0013] FIG. 6 is an enlarged sectional side view of the main parts of a modified example of the hermetically sealed container in accordance with the present invention.

BEST MODE FOR CARRYING OUT THE  
INVENTION

[0014] Overview of the Disclosure

[0015] A hermetically sealed container according to an aspect of the present invention is a hermetically sealed container configured to hermetically seal an inside of a synthetic resin container body by inserting an annular sealing protrusion, which is provided integrally with either the container body or a synthetic resin lid body for opening and closing the container body, into an annular sealing groove provided integrally in the other of the two sections, the hermetically sealed container having a sealing mechanism comprising: an upper sealing surface provided on either an inward peripheral wall surface or an outward peripheral wall surface of the annular sealing groove, the outward surface and the inward surface being opposed to and spaced from each other; a lower sealing surface provided on the other one of the inward surface or the outward surface misaligned from the upper sealing surface in a direction of the height of the container body; and an upper sealing part and a lower sealing part provided in an upper part and a lower part of the annular sealing protrusion in the direction of the height of the container body, the upper sealing part and the lower sealing part corresponding to the upper sealing surface and the lower sealing surface, respectively, wherein the upper part of the annular sealing protrusion is formed to be of high rigidity to make the upper sealing part frictionally contact the upper sealing surface, and the lower part of the annular sealing protrusion is formed to be flexibly deformable and of low rigidity to make the lower sealing part be resiliently pressed against the lower sealing surface.

[0016] According to such a hermetically sealed container, a sealing mechanism can be formed integrally with the container body and the lid body made of synthetic resin, and thus the container is low in cost and has excellent productivity features. Further, the upper sealing part is brought into frictional contact with the upper sealing surface because of the high rigidity of the upper sealing part, and the lower sealing part is resiliently pressed against the lower sealing surface, and therefore these two upper and lower sealing parts can accomplish high hermetic sealing capability while ensuring smooth opening and closing of the lid body.

[0017] Further, it is preferable that a gap which allows deformation of the upper part of the annular sealing protrusion is formed between the upper part of the annular sealing protrusion and either the inward peripheral wall surface or the outward peripheral wall surface that is provided with the lower sealing surface.

[0018] Accordingly, for example, the gap can allow the expanding deformation of the upper part of the annular sealing protrusion, whereby the lower sealing part and the lower sealing surface can be pressed against each other more firmly, and thus extremely high hermetic sealing capability can be ensured.

[0019] Further, it is preferable that a plurality of the sealing mechanisms are provided.

[0020] By providing a plurality of sealing mechanisms, it becomes possible to, for example, provide seals in multiple folds and it is possible to ensure a further outstanding hermetic sealing capability.

## EXAMPLES

[0021] A hermetically sealed container in accordance with an embodiment of the present invention will hereinafter be described in detail with reference to the accompanying drawings. FIG. 1 through FIG. 4 show a portable cosmetic container 1, as an example of the hermetically sealed container, filled with a cosmetic substance C that includes a volatile component. As shown in the figures, this cosmetic container 1 mainly comprises a synthetic resin container body 3 formed with a storage section 2 containing the cosmetic substance C that includes a volatile component, and a synthetic resin lid body 6 which is pivotally coupled to one end of the container body 3 by a hinge 4 so as to permit opening and closing of the container body 3, and which is disengageably engaged to the other end of the container body 3 by hook means 5 so as to retain the container body 3 in a closed condition.

[0022] Basically, the cosmetic container 1 of the present embodiment is configured so that annular sealing grooves 7, 7a are provided integrally in either one of the container body 3 or the lid body 6, that annular sealing protrusions 8, 8a are provided integrally on the other one of the container body 3 or the lid body 6, and that the storage section 2 is hermetically sealed by inserting the annular sealing protrusions 8, 8a into the annular sealing grooves 7, 7a. In particular, the container has sealing mechanisms 17, 17a in which: an upper sealing surface 11 is provided on either the inward peripheral wall surface 9 or the outward peripheral wall surface 10 of the annular sealing groove 7, which are provided opposed to and spaced from each other; an upper sealing surface 11a is provided on either the inward peripheral wall surface 9a or the outward peripheral wall surface 10a of the annular sealing groove 7a, which are provided opposed to and spaced from each other; each lower sealing surface 12, 12a is provided on the other ones of the peripheral wall surfaces at a different height from the upper sealing surfaces in the direction of the height of the container body 3; each upper sealing part 15, 15a and each lower sealing part 16, 16a is provided in the upper parts 13, 13a and the lower parts 14, 14a of the annular sealing protrusions 8, 8a, respectively, in the direction of the height of the container body 3 in such a manner as to correspond to each upper sealing surface 11, 11a and each lower sealing surface 12, 12a, respectively; the upper parts 13, 13a of the annular sealing protrusions 8, 8a are formed to be of high rigidity to make the upper sealing parts 15, 15a frictionally contact the upper sealing surfaces 11, 11a; and the lower parts 14, 14a of the annular sealing protrusions 8, 8a are formed to be flexibly deformable and of low rigidity to make the lower sealing parts 16, 16a be resiliently pressed against the lower sealing surfaces 12, 12a. A gap 18 which allows deformation of the upper part 13 of the annular sealing protrusion 8 is provided between the upper part 13 of the annular sealing protrusion 8 and either the inward peripheral wall surface 9 or the outward peripheral wall surface 10 that is provided with the lower sealing surface 12, and a gap 18a which allows deformation of the upper part 13a of the annular sealing protrusion 8a is provided between the upper part 13a of the annular sealing protrusion 8a and either the inward peripheral wall surface 9a or the outward peripheral wall surface 10a that is provided with the lower sealing surface 12a.

[0023] Referring to the figures, in the container body 3, the annular sealing grooves 7, 7a are formed integrally in a peripheral side wall 19, which surrounds the storage section 2 of the container body 3, in the circumferential direction thereof. In the present embodiment, the two annular sealing grooves 7, 7a of large and small diameter are disposed inside and outside, respectively, in the radial direction of the container body 3. Each of the annular sealing grooves 7, 7a comprises the two peripheral wall surfaces, each of which being formed by recessing the peripheral side wall 19 considerably deeply in the direction of the height of the container body 3. These two peripheral wall surfaces are arranged opposed to and spaced from each other in the radial direction of the container body 3. Of these peripheral wall surfaces, the ones that are disposed on the radially outer side of the container body 3 are the inward peripheral wall surfaces 9, 9a, which face toward the storage section 2, and conversely, the ones that are disposed on the side of the storage section 2 are the outward peripheral wall surfaces 10, 10a, which face toward the outer side of the container body 3.

[0024] On the other hand, the annular sealing protrusions 8, 8a, which are inserted into the annular sealing grooves 7, 7a when the container body 3 is closed by the lid body 6, are integrally formed in the lid body 6 so that they surround the storage section 2 in the circumferential direction of the lid body 6. In the present embodiment, the two annular sealing protrusions 8, 8a of small and large diameter are disposed next to each other inside and outside in the radial direction of the lid body 6 in a manner so as to correspond to the two annular sealing grooves 7, 7a. Each of the annular sealing protrusions 8, 8a has two peripheral surfaces, each of which being formed by extend downward to a substantial extent toward the container body 3. When these protrusions are inserted into the annular sealing grooves 7, 7a, of these two peripheral surfaces, the outer peripheral surfaces, which face toward the outer side of the container body 3, face the inward peripheral wall surfaces 9, 9a, and conversely, the inner peripheral surfaces, which face toward the storage section 2, face the outward peripheral wall surfaces 10, 10a.

[0025] As shown in FIG. 4, when the annular sealing protrusions 8, 8a are inserted into the annular sealing grooves 7, 7a, the upper parts 13, 13a and the lower parts 14, 14a in the direction of the height of the container body 3 are separately brought into contact with the inward peripheral wall surfaces 9, 9a and the outward peripheral wall surfaces 10, 10a, respectively, of the annular sealing grooves 7, 7a so as to form the sealing mechanisms 17, 17a.

[0026] More detailed explanation will be given using the relationship between the large diameter annular sealing groove 7 and annular sealing protrusion 8 as an example. The upper part of the inner peripheral surface of the annular sealing protrusion 8 is brought into contact with the outward peripheral wall surface 10 of the annular sealing groove 7 to form the upper sealing part 15, and the upper part of the outward peripheral wall surface corresponding to the upper sealing part 15 becomes the upper sealing surface 11. Further, the lower part of the outer peripheral surface of the annular sealing protrusion 8 is brought into contact with the inward peripheral wall surface 9 of the annular sealing groove 7 to form the lower sealing part 16, and the lower part of the inward peripheral wall surface corresponding to the lower sealing part 16 becomes the lower sealing surface

12. The contact areas where these sealing parts 15, 16 contact the sealing surfaces 11, 12, may partly overlap each other, but are at least misaligned in the direction of the height of the container body 3.

[0027] In particular, the lower part 14 of the annular sealing protrusion 8 where the lower sealing part 16 is provided is formed to be flexibly deformable and of low rigidity so that the lower sealing part 16 is resiliently pressed against the lower sealing surface 12. In the illustrated embodiment, the lower part 14 of the annular sealing protrusion 8 is made rather soft by making the thickness of the lower part 14 thin, and thereby the lower sealing surface 12 contacts the lower sealing part 16 snugly with a substantial resilient force, whereby a hermetic seal is formed.

[0028] Also, the upper part 13 of the annular sealing protrusion 8 where the upper sealing part 15 is disposed is formed to be of higher rigidity than the lower part 14 so that the upper sealing part 15 frictionally contacts the upper sealing surface 11. In the illustrated embodiment, the upper part 13 of the annular sealing protrusion 8 is made rather hard by thickening the thickness of the upper part 13, and thereby, when the annular sealing protrusion 8 is inserted into or pulled out of the annular sealing groove 7, the upper sealing part 15 and the upper sealing surface 11 move rubbing against each other, and after the insertion, they are placed in contact with each other with a considerably strong pressing force, whereby a hermetic seal can be ensured.

[0029] Formed on the opposite side of where the upper sealing part 15 contacts the upper sealing surface 11 and in between the inward peripheral wall surface 9 provided with the lower sealing surface 12 and the upper part 13 of the annular sealing protrusion 8 is the gap 18 which allows deformation of the upper part 13 of the annular sealing protrusion 8. In the illustrated embodiment, this gap 18 is formed by denting the inward peripheral wall surface 9 in the radially outward direction of the container body 3 above the lower sealing surface 12. Accordingly, even if the annular sealing protrusion 8 is deformed to jut out when the upper sealing part 15 is forcibly pressed against the upper sealing surface 11, the gap 18 is adapted to receive the deformation without obstructing the deformation.

[0030] The sealing mechanism 17a comprising the small diameter annular sealing groove 7a and annular sealing protrusion 8a is configured in the same manner as the sealing mechanism 17 comprising the large diameter annular sealing groove 7 and annular sealing protrusion 8 except that the positional relationships between the sealing parts and the sealing surfaces are reverse to each other in the radial direction of the container body 3. More specifically, the upper sealing part 15a is formed in the upper part of the outer peripheral surface of the annular sealing protrusion 8a, and the upper sealing surface 11a is formed in the upper part of the inward peripheral wall surface 9a, and the lower sealing part 16a is formed in the lower part of the inner peripheral surface of the annular sealing protrusion 8a, and the lower sealing surface 12a is formed in the lower part of the outward peripheral wall surface 10a. The gap 18a which allows deformation of the upper part 13a of the annular sealing protrusion 8a is formed between the outward peripheral wall surface 10a and the upper part 13a of the annular sealing protrusion 8a by denting the outward peripheral wall surface 10a in the radially inward direction of the container body 3 above the lower sealing surface 12a.

[0031] Also, the open upper ends of these annular sealing grooves 7, 7a, the lower end parts of the gaps 18, 18a, the lower ends of the annular sealing protrusions 8, 8a, and the peripheries of the parts in which the thickness is changed are provided with taper surfaces 20 that guide the operations of inserting the annular sealing protrusions 8, 8a into and pulling these out of the annular sealing grooves 7, 7a.

[0032] In such a cosmetic container 1, as the container body 3 is closed with the lid body 6, first, the lower parts 14, 14a of the annular sealing protrusions 8, 8a are inserted into the annular sealing grooves 7, 7a smoothly and without any particular resistance, and then the upper parts 13, 13a of the annular sealing protrusions 8, 8a are inserted into the annular sealing grooves 7, 7a. During the process of insertion of the upper parts 13, 13a of the annular sealing protrusions 8, 8a into the annular sealing grooves 7, 7a, the upper sealing surfaces 11, 11a and the upper sealing parts 15, 15a start to slidably and frictionally contact with each other at the upper parts of the annular sealing grooves 7, 7a, and the lower sealing surfaces 12, 12a and the lower sealing parts 16, 16a come into contact with each other at the lower parts of the annular sealing grooves 7, 7a.

[0033] Thereafter, as the lid body 6 is firmly closed, the lower sealing parts 16, 16a, while undergoing flexural deformation, are further snugly inserted along the lower sealing surfaces 12, 12a, and the upper sealing parts 15, 15a are forcibly rubbed against the upper sealing surfaces 11, 11a for deeper insertion. When the lid body 6 is completely closed and the container body 3 is in a latched condition with the hook means 5, the upper sealing parts 15, 15a are brought firmly into frictional contact with the upper sealing surfaces 11, 11a because of its high rigidity, and the lower sealing parts 16, 16a are resiliently pressed against the lower sealing surfaces 12, 12a, and therefore these two upper and lower sealing parts can attain high hermetic sealing capability.

[0034] Further in particular, because of the upper sealing parts 15, 15a being firmly in frictional contact with the upper sealing surfaces 11, 11a, the upper parts 13, 13a of the annular sealing protrusions 8, 8a are deformed to jut out, and these jutting-out deformations are permitted by the gaps 18, 18a so that at the lower parts 14, 14a of the annular sealing protrusions 8, 8a, the lower sealing parts 16, 16a are more forcibly pressed against the lower sealing surfaces 12, 12a, and thus, the lower sealing parts 16, 16a are more forcefully pressed against the lower sealing surfaces 12, 12a. Therefore extremely high hermetic sealing capability can be ensured at both the upper parts 13, 13a and the lower parts 14, 14a of the annular sealing protrusions 8, 8a.

[0035] Further, since the two large and small diameter sealing mechanisms 17, 17a are provided, more improved hermetic sealing capability can be ensured through this multiple-fold seal.

[0036] Furthermore, the present preferred embodiment is constructed such that the positional relationships of the sealing parts and the sealing surfaces of the two large and small diameter sealing mechanisms 17, 17a are reverse to each other in the radial direction of the container body 3 with an annular wall part 21 between the two annular sealing grooves 7, 7a being interposed between the upper sealing parts 15, 15a of the two annular sealing protrusions 8, 8a. Such construction, in conjunction with the structure of the

annular sealing protrusions 8, 8a which are disposed in proximity to each other, can double the pressure of the frictional contact applied on the upper sealing surfaces 11, 11a by the upper sealing parts 15, 15a through reaction forces provided at the base ends 22, 22a of the annular sealing protrusions 8, 8a on the lid side, as compared to the construction where the positional relationships of the sealing parts and the sealing surfaces of the two sealing mechanisms 17, 17a are the same, and thus more improved hermetic sealing capability can be ensured.

[0037] On the other hand, when opening the container body 3, disengaging the hook means 5 loosens both contact conditions in which the upper sealing parts 15, 15a are firmly in frictional contact with the upper sealing surfaces 11, 11a and in which the lower sealing parts 16, 16a are resiliently pressed against the lower sealing surfaces 12, 12a, and thereafter the pivoting of the lid body 6 can smoothly remove the annular sealing protrusions 8, 8a from within the annular sealing grooves 7, 7a, and thus the lid body 6 can be opened with easy operation.

[0038] As described above, the sealing mechanisms 17, 17a provided in the cosmetic container 1 in accordance with the preferred embodiment can be integrally formed with the synthetic resin container body 3 and the lid body 6 and are thus low in cost and have excellent productivity features, achieve high hermetic sealing capability while ensuring smooth opening and closing of the lid body 6.

[0039] In FIG. 5 and FIG. 6, modified examples of the above preferred embodiment are shown. Each is an example provided with one sealing mechanism 17, and the sealing mechanism 17 of FIG. 5 is devoid of the small diameter annular sealing protrusion 8a of the above-described preferred embodiment. On the other hand, in the sealing mechanism 17 of the FIG. 6, the upper sealing surface 11 of the outward peripheral wall surface 10 of the sealing mechanism 17 of FIG. 5 is formed in the opposite inward peripheral wall surface 9, and the lower sealing surface 12 of the inward peripheral wall surface 9 is formed in the opposite outward peripheral wall surface 10, and in association with this structure, the above described annular wall part 21 is formed low in height to have a height substantially sufficient to form the lower sealing surface 12. These modified examples can also ensure substantially the same effects and results as the above described preferred embodiment.

[0040] In the above described embodiments, as for setting the required rigidity the upper parts 13, 13a and lower parts 14, 14a of the annular sealing protrusions 8, 8a, their thicknesses and cross sectional areas as well were changed, but the rigidity of these upper parts 13, 13a and lower parts 14, 14a can be set, of course, in other known methods such as by forming the upper parts 13, 13a and the lower parts 14, 14a from synthetic resin materials of different rigidity, and by providing the lower parts 14, 14a with miniscule grooves which impart substantial flexibility.

[0041] The illustrated embodiment shows a case where the inward peripheral wall surfaces 9, 9a and the outward peripheral wall surfaces 10, 10a are formed substantially vertically in the direction of the height of the container body 3, but if necessary, the annular sealing grooves 7, 7a may be narrowed in the direction of the depth to have somewhat inclined sides so that the distance between these inward

peripheral wall surfaces **9, 9a** and outward peripheral wall surfaces **10, 10a** are closer at a lower part than at an upper part.

[0042] Also in the above-described preferred embodiment, the gaps **18, 18a** are formed by denting the inward peripheral wall surfaces **9, 9a** and the outward peripheral wall surfaces **10, 10a** in the radial direction of the container body **3**, but if the upper parts **13, 13a** of the annular sealing protrusions **8, 8a** can have the sufficient thicknesses, the gaps **18, 18a** may be formed by thinning said thicknesses without denting these inward peripheral wall surfaces **9, 9a** and so on.

[0043] Further, the above description has been made to exemplify the embodiments where the annular sealing grooves **7, 7a** are formed integrally in the container body **3**, and the annular sealing protrusions **8, 8a** are formed integrally on the lid body **6**, but the annular sealing grooves **7, 7a** may be formed integrally in the lid body **6**, and the annular sealing protrusions **8, 8a** may be formed integrally on the container body **3**.

[0044] Furthermore, the above description has been made to exemplify the embodiments having the lid body **6** which is coupled with the container body **3** by the hinge **4**, but the lid body **6** may of course be completely separate from the container body **3**.

Industrial Applicability

[0045] As described above, for example, the hermetically sealed container according to an aspect of the present invention is provided with a sealing mechanism that can be formed integrally with the container body and the lid body made of synthetic resin and that is thus low in cost and has excellent productivity features, and in which the upper sealing part is brought firmly into frictional contact with the upper sealing surface because of the high rigidity of the upper sealing part and the lower sealing part is resiliently pressed against the lower sealing surface and thus achieves high hermetic sealing capability in combination with the smooth opening and closing of the lid body thanks to these two upper and lower sealing parts.

[0046] Also, for example, the jutting-out deformation of the upper part of the annular sealing protrusion can be permitted by the gap so that the lower sealing part can be more forcefully pressed against the lower sealing surface, whereby the present invention can attain extremely high hermetic sealing capability.

[0047] Also, by providing a plurality of sealing mechanisms, it becomes possible to attain, for example, a multiple-fold seal, whereby the present invention can attain further outstanding hermetic sealing capability.

1. A hermetically sealed container configured to hermetically seal an inside of a synthetic resin container body by inserting an annular sealing protrusion, which is provided integrally with either said container body or a synthetic resin lid body for opening and closing said container body, into an annular sealing groove provided integrally in the other of said two sections, said hermetically sealed container having a sealing mechanism comprising:

- an upper sealing surface provided on either an inward peripheral wall surface or an outward peripheral wall surface of said annular sealing groove, said outward surface and said inward surface being opposed to and spaced from each other;
- a lower sealing surface provided on the other one of said inward surface or said outward surface misaligned from said upper sealing surface in a direction of the height of said container body; and
- an upper sealing part and a lower sealing part provided in an upper part and a lower part of said annular sealing protrusion in the direction of the height of said container body, said upper sealing part and said lower sealing part corresponding to said upper sealing surface and said lower sealing surface, respectively,

wherein the upper part of said annular sealing protrusion is formed to be of high rigidity to make said upper sealing part frictionally contact said upper sealing surface, and the lower part of said annular sealing protrusion is formed to be flexibly deformable and of low rigidity to make said lower sealing part be resiliently pressed against said lower sealing surface.

2. A hermetically sealed container as claimed in claim 1, wherein a gap which allows deformation of the upper part of said annular sealing protrusion is formed between the upper part of said annular sealing protrusion and either said inward peripheral wall surface or said outward peripheral wall surface that is provided with said lower sealing surface.

3. A hermetically sealed container as claimed in claim 1 or 2, wherein a plurality of said sealing mechanisms are provided.

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