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(54) **CONTAINER**

(57) The container, in particular for storing and/or displaying objects, comprises a base (2), a cover (3) and at least one hinge assembly (4), which rotatably connects said cover (3) to said base (2), said hinge assembly (4)

comprising a first member (5) fixed to said cover (3), at an edge of said cover (3) and a second member (6) fixed to said base (2) at an edge of said base (2).

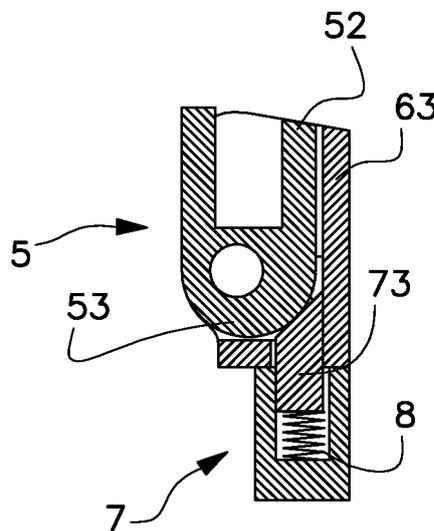


Fig.7

EP 3 816 380 A1

Description

Technical field

[0001] The present invention relates to a container for storing and/or displaying objects such as, for example, jewelry, costume jewelry or cigars.

Prior art

[0002] Currently, openable and reclosable containers are known, which may stably maintain the open condition so as to show the contents.

[0003] These containers have a base, shaped so as to contain objects such as jewelry, costume jewelry or cigars, and a cover associated with the base. A widespread typology of such containers provides the base associated with the cover by hinge means, usually by double hinge means comprising a first portion fixed to a wall of the base, and a second portion, fixed to one face of the cover, the portions being connected to a central element around which the rotation takes place. The first and second portions are usually connected respectively to the base and to the cover by means of fixing means, such as for example screws. The hinge means enable the rotation of the cover so that the container alternately takes an open configuration and a closed configuration.

[0004] This solution has the drawback of quickly compromising the connection between the hinge means and the base and/or the cover. The fact that the container is frequently carried in the open configuration and in the closed configuration implies a repeated stressing of the base and of the cover, especially at the areas where the hinge means are mounted. The stress mainly causes wear of the hinge means and, therefore, the need to remove and replace them. In more extreme cases, the stress may also lead to deterioration and consequent damage to the wall of the base to which they are attached.

[0005] Furthermore, the solution described above presents deterioration problems when the container must keep the open configuration. Keeping the open configuration entails a constant stress on the first portion of the hinge means fixed to the wall of the base caused by placing the cover on the first portion.

[0006] Finally, a further problem complained about with regard to the solution described above is the fact that during the passage from the open configuration to the closed configuration, the cover quickly comes into contact with the base, therefore, the user must generally accompany the cover until it reaches the base, to prevent the container or its contents from being hit.

Disclosure

[0007] The principal object of the invention is solving the mentioned problems, devising a lasting and reliable container.

[0008] A further object of the invention is the provision

of a container that is capable of reducing the deterioration resulting from repeated cycles of opening and closing the container.

[0009] A further object of the invention is the provision of a container that ensures easy opening.

[0010] A further object of the invention is the provision of a container that ensures stability of keeping the open configuration.

[0011] A further object of the invention is the provision of a container that enables a secure closure.

[0012] A further object of the invention is the provision of a container that enables easy assembly.

[0013] A still further object of the invention is the provision of a container with great constructive and functional simplicity, having reliable operation, versatile use, as well as of relatively cheap cost.

[0014] The aforementioned objects are achieved, according to the present invention, by the container as in claim 1.

[0015] The container comprises a base, a cover and at least one hinge assembly which rotatably connects said cover to said base.

[0016] The hinge assembly comprises a first member fixed to the cover at an edge of the cover and a second member fixed to the base at an edge of the base.

[0017] The first member is mounted inside the second member, the first member being rotatable with respect to the second member so as to alternatively make the container assume a closed configuration, in which the base is against the cover, and an open configuration, where the cover is spaced from the base. The feature relating to the first member mounted inside the second member gives the hinge assembly a more impact-resistant structure and, therefore, obtains a longer-lasting container. In addition, the compact configuration of the hinge assembly allows for easy assembly. In addition, assembling the first member inside the second member gives compactness to the hinge assembly.

[0018] Both the first and the second member have an elongated shape.

[0019] Preferably, said first member and said second member extend along a longitudinal direction, in an assembly configuration.

[0020] Preferably said first member is rotatable about an axis of rotation substantially parallel to said longitudinal direction.

[0021] Preferably, said second member has an open box shape, at least on one side, so that the insertion of said first member inside the second member is made.

[0022] Preferably, said first member has a substantially rod-like shape.

[0023] According to an aspect of the invention, said second member comprises a bottom wall, a pair of heads positioned at opposite ends and a side wall, which connects said bottom wall to said heads.

[0024] Preferably, said first member is rotatably coupled to said second member at opposite ends of said second member.

[0025] Preferably, said first member is connected to said second member at each of said ends by means of a rotatable connecting element.

[0026] Preferably, said first member has at least one channel associated with said edge of said cover, in a mounting configuration. The coupling between the first member and the cover, which provides for the insertion of the edge of the cover in the channel of the first member insures a stable coupling. In this way, opening and closing operations of the container are facilitated.

[0027] Preferably, said first member comprises a pair of opposite sides joined by a connecting portion.

[0028] Advantageously, said channel is delimited by said pair of sides and by said connecting portion.

[0029] Preferably, said at least one channel extends for the entire length of said first member.

[0030] Preferably, said at least one channel has is substantially U-shaped.

[0031] Advantageously, said hinge assembly comprises a third member, associated with said second member. Said third member comprises an adjustment element, which is in sliding contact with said first member during the rotation of said first member, to slow down the closure of said container. The interaction between the third member and the first member, during the rotation of the first member, makes it possible to slow down the closure of the container and consequently decrease the deterioration of the container over time. Furthermore, these characteristics allow a safe closure of the container.

[0032] Preferably, said third member comprises a casing which forms a seat suitable for housing the adjustment element.

[0033] More preferably, said third member develops longitudinally.

[0034] Preferably, said casing also comprises elastic means interposed between an internal wall of said seat and said adjustment element. The elastic means are capable of cooperating with said adjustment element to obtain soft closing of said container.

[0035] More preferably, said elastic means is spring type.

[0036] Preferably said second member comprises a wall that shapes an opening.

[0037] More preferably, said opening has a longitudinal shape.

[0038] Preferably said bottom wall of said second member shapes said opening.

[0039] Preferably, the adjustment element passes through said opening, at least in part, to be in contact with the first member.

[0040] Preferably, said adjustment element has a body having a prismatic shape.

[0041] Advantageously, said adjustment element extends longitudinally.

[0042] Preferably, said adjustment element has a prism shape with a trapezoidal base.

[0043] Preferably said adjustment element is made of plastic material.

[0044] Advantageously, said second member comprises at least one stop element, capable of stopping the rotation of said first member in open configuration.

[0045] Preferably, said at least one stop element is tooth-shaped.

[0046] Advantageously, said tooth has a hook profile.

[0047] Preferably, said first member comprises at least one guide groove forming an abutment surface.

[0048] Preferably, said at least one guide groove has a curvilinear profile.

[0049] Advantageously, said guide groove has a circumferential arc profile.

[0050] Preferably, said at least one stop element is arranged at said guide groove.

[0051] Advantageously, said stop element abuts on said abutment surface, in open configuration, so as to prevent further rotation of said first member according to the direction of rotation of the container opening. The characteristics of the stop element, which abuts the abutment surface ensure stability to the container and, in particular, enable stable open configuration.

[0052] Preferably, said at least one guide groove is made at one end of said first member.

[0053] Preferably, said at least one guide groove is made on said connecting portion of said first member.

[0054] Preferably, said first member comprises a pair of guide grooves, arranged at opposite ends, and a pair of stop elements, mounted at respective said guide grooves.

[0055] Preferably, said second member forms a side wall, which functions as a stop wall for said first member, in the closed configuration.

[0056] In particular, said first member abuts said side wall in the closed configuration.

[0057] Preferably said hinge assembly is made of metal material.

Description of drawings

[0058] The details of the invention will become more evident from the detailed description of a preferred embodiment of the container, illustrated as an example in the accompanying drawings, wherein:

Figures 1 and 2 show the container, object of the present invention, respectively in first, closed configuration, and in second, open configuration;

Figure 3 shows a sectional side view of the container in the first configuration;

Figure 4 shows an exploded perspective view of a detail of the container;

Figure 5 shows an exploded perspective view of a further detail of the container;

Figure 6 shows a front view of a detail of the container in the first configuration;

Figure 7 shows a view of the detail of the container illustrated in Figure 6 along the plane of line VII-VII;

Figure 8 shows a view of the detail of the container illustrated in figure 6 along the plane of line VIII-VIII; Figure 9 shows a front view of a detail of the container in the second configuration;

Figure 10 shows a view of the detail of the container illustrated in figure 9 according to the plane of line X-X;

Figure 11 shows a view of the detail of the container illustrated in Figure 9 along the plane of line XI-XI.

Best mode

[0059] With particular reference to Figure 1, the reference number 1 generally indicates the container for displaying and/or storing objects, such as, for example, jewelry, cigars, according to the invention, which will be indicated for simplicity as container 1 in the following description.

[0060] The container 1 comprises a base 2 and a cover 3.

[0061] The base 2 consists of a plurality of side walls 21, which perimetrically delimit a bottom 22, wherein the objects to be stored and/or displayed are positioned, in use.

[0062] The base 2 and the cover 3 are mutually constrained by means of a hinge assembly 4, which enables the cover 3 to rotate freely with respect to the base 2.

[0063] Preferably, the hinge assembly 4 is housed in a groove 23 made in a side wall 21 of the base 2. The groove 23 is formed, for example, as a step recess where the hinge assembly 4 is inserted and fixed to an external surface 24 of the side wall 21 of the base 2 through known fixing means, such as for example screws.

[0064] The cover 3 comprises a closing plane 32 and a plurality of side walls 31, arranged along the perimeter of the closing plane 32. The wall of the cover 31, which is positioned at the hinge assembly 4, in use, has a coupling portion 33, preferably comprising through openings, not shown in the figures.

[0065] The base walls 21 and the walls of the cover 31 extend in a substantially orthogonal way respectively to the bottom 22 and to the closing surface 32 in such a way as to form a first base frame 25 and a second covering frame 34, which may be superimposed.

[0066] The hinge assembly 4 comprises a first member 5 constrained to a second member 6. A third member 7 is also associated with the second member 6, preferably through locking means, not shown in the figures, such as screws. More precisely, the first member 5, the second member 6 and the third member 7 extend predominantly longitudinally.

[0067] The first member 5 is arranged inside the second member 6, in an assembly configuration, in particular it is housed in a region defined by the second member 6.

[0068] The first member 5 is rotatable with respect to the second member 6 and may be rotated, preferably manually, around an axis of rotation substantially parallel to a longitudinal direction A along which the first member

5 extends.

[0069] The first member 5 comprises a body which extends along the longitudinal direction A and has a channel 51 associated, in a mounting configuration, with an edge of the cover 3 so as to rotate the cover 3, in use. The channel 51 preferably develops for the entire length of the first member 5.

[0070] More particularly, the first member 5 comprises a pair of opposite side boards 52 which are joined by a connecting portion 53. The channel 51 is delimited by the pair of side boards 52 and by the connecting portion 53.

[0071] Preferably the channel 51 has a U shape but it is possible that it has any other shape.

[0072] The first member 5 may be stably associated with the coupling portion 33 of the cover 3, at the channel 51, using locking means, not shown in the figures.

[0073] The first member 5 is rotatably coupled to the second member 6 at opposite ends 54. At each end 54 a rotatable connection element is mounted, which is connected to the second member 6 to stably house the first member 5 in the second member 6, while ensuring its freedom of rotation. The rotating connection element, not visible in the figures, is made by a pivot inserted in a corresponding channel 55 made at each end 54.

[0074] The first member 5 comprises at least one guide groove 56 forming an abutment surface 57, capable of abutting against a stop element of the second member 6 so as to limit the rotation of the first member 5, as explained below.

[0075] The guide groove 56 is obtained at one end 54 of the first member 5, on the connecting portion 53. The first member 5 comprises a pair of guide grooves 56, one for each end 54.

[0076] The guide groove 56 is made for example by notching the connecting portion 53 and has a curved circumferential arc profile. Considering that the plan section of the guide groove 56 is shaped like a portion of an annulus, the abutment surface 57 is represented by a radial surface of the portion of the annulus.

[0077] The second member 6 comprises a body which extends along the longitudinal direction A. The second member 6 comprises a bottom wall 61, a pair of heads 62 positioned at the ends of the same second member 6 and a side wall 63, which is connected to the bottom wall 61 and to the heads 62.

[0078] The bottom wall 61 is made from a prismatic shaped sheet, which comprises an opening 64, preferably having rectangular shape, positioned in a central area of the bottom wall 61. The bottom wall 61 also comprises at least a through hole 65, suitable for the insertion of locking elements such as screws or bolts.

[0079] The heads 62 extend in an orthogonal direction with respect to the plane of the rear wall 61 and each have a coupling hole 66 for the insertion of the rotating connection element which ensures the coupling with the first member 5.

[0080] The second member 6 comprises at least one

stop element 67, capable of limiting the freedom of rotation of the first member 5.

[0081] According to a preferred embodiment, the second member 6 comprises a pair of stop elements 67, arranged at opposite ends of the second member 6.

[0082] Each stop element 67 is mounted, in the mounting configuration, at the respective guide groove 56 of the first member 5.

[0083] Preferably, the stop elements 67 are in the areas of union of the side wall 63 with the relative heads 62.

[0084] Each stop element 67 is tooth-shaped. Each tooth 67 has a hook profile protruding with respect to the plane identified by the side wall 63. Each tooth 67 comes into contact with the aforementioned abutment surface 57, in use, so as to limit the freedom of rotation of the first member 5.

[0085] The side wall 63, made from a sheet substantially orthogonal with respect to the plane identified by the bottom wall 61, is connected to the bottom 61 itself and mechanically connects the two heads 62. The side wall 63 is capable of functioning as a stop wall for the first member 5, in the closed configuration of the container, wherein one of the side boards 52 of the first member 5 abuts against the side wall 63 of the second member 6.

[0086] The third member 7 is integrally associated with the second member 6. This third member 7 is connected to the bottom wall 61 of the second member 6.

[0087] The third member 7 comprises a prismatic-shaped casing which comprises a seat 71, configured to house an adjustment element 73, which is in sliding contact with the first member 5, during the rotation of the first member 5, to slow down the closure of the container.

[0088] The seat 71 is made from a blind groove that develops along a longitudinal direction, in a central area of the casing.

[0089] The seat 71 is made on a base surface 72 of the casing, intended to be associated with the bottom wall 61, in the mounting configuration. Between the adjustment element 73 and an internal wall of the seat 71 elastic means 8, which cooperate with the adjustment element 73 are interposed to achieve a slowed closure of the container 1.

[0090] The elastic means 8 comprise, for example, at least one spring.

[0091] The adjustment element 73 comprises an elongated prismatic body comprising a flat base 74 where at least one blind hole is made, not shown in the figures, capable of being associated with the elastic means 8.

[0092] The adjustment element 73 has an end portion 75 that connects a pair of side faces 76 of the adjustment element 73, which are opposite and substantially parallel to each other.

[0093] Preferably the cross section of the adjustment element 73 has the shape of a right trapezoid.

[0094] The end portion 75 of the adjustment element 73 protrudes, in the mounting configuration, from the surface 72 and crosses, at least in part, the opening 64 of the second member 6 so as to come into contact with

the first member 5.

[0095] The operation of the display container is easily understood from the preceding description.

[0096] In an assembled configuration of the hinge assembly 4, the adjustment element 73 is inserted in the blind groove 71 and is in contact with the spring 8. One end of the spring 8 is inserted in the blind hole of the flat base 74 while the opposite end of the same spring 8 is inserted in the aforementioned through hole made at the base of the groove 71.

[0097] The third member 7 is mounted against the bottom 61 of the second member 6 and the end portion 75 of the adjustment element 73 protrudes through the opening 64, at least in part.

[0098] The first member 5 is rotatably housed in the second member 6.

[0099] The hinge assembly 4 is housed in the groove 23 of the base 2, by means of known fastening systems such as threaded elements.

[0100] In the closed configuration of the container 1, (see Figures 1, 3, 6 - 8), the base 2 is against the cover 3, with the relative frames mutually in contact, preventing access to the contents of the container 1. In this configuration, the first member 5 of the hinge assembly 4 is rotated so that a side board 52 is against the lateral surface 63 of the second member 6, preventing further rotation of the first member 5 in this direction. The first member 5 and the cover 3 associated with it exert a compression force on the adjustment element 73 and on the spring 8, which is in a state of compression.

[0101] In order to open the container 1, one rotates the cover 3 with respect to the base 2 thanks to the hinge assembly 4. In particular, the force applied on the cover 3 causes the first member 5 to rotate around the respective axis of rotation until the abutment surface 57 comes into contact with the tooth 67 of the second member 6. In this way, further rotation of the first member 5 in this direction is prevented (see Figure 11).

[0102] In the opening configuration of the container 1 (see figures 2, 9 - 11) the cover 3 is spaced from the base 2, allowing access to the inside of the container 1. In this configuration, the abutment surface 57 engages the tooth 67 and the adjustment element 73 is more protruding through the opening 64 of the second member 6 as the applied compression force is reduced.

[0103] The transition from the open configuration to the closed configuration occurs in a controlled manner thanks to the provision of the adjustment element 73 associated with the spring 8. In particular, during the closure of the container 1, the adjustment element 73 is in contact with the first member 5 during the rotation phase, and due to the friction present between the contact surfaces, the closing movement is slowed down.

[0104] The container described by way of example is subject to changes according to different needs.

[0105] In the practical embodiment of the invention, the materials used, as well as the shape and the dimensions, may be modified depending on requirements.

[0106] Should the technical features mentioned in any claim be followed by reference signs, such reference signs were included strictly with the aim of enhancing the understanding of the claims and hence they shall not be deemed restrictive in any manner whatsoever on the scope of each element identified for exemplifying purposes by such reference signs.

Claims

1. A container, in particular for storing and/or displaying objects, comprising a base (2), a cover (3) and at least one hinge assembly (4) which rotatably connects said cover (3) to said base (2), said hinge assembly (4) comprising a first member (5) fixed to said cover (3) at an edge of said cover (3); a second member (6) fixed to said base (2) at an edge of said base (2), said first member (5) and said second member (6) each having an elongated shape, said first member (5) being mounted inside said second member (6), said first member (5) being rotatable with respect to said second member (6) so that said container alternatively takes a closed configuration, wherein said base (2) is against said cover (3), and an open configuration, wherein said cover (3) is spaced from said base (2), said hinge assembly (4) comprising a third member (7), associated with said second member (6), said third member (7) comprising an adjustment element (73) which is in sliding contact with said first member (5) during the rotation of said first member (5), to slow down the closing of said container, said third member (7) comprising a casing which forms a seat (71) suitable for housing said adjustment element (73), said casing also comprising elastic means (8) interposed between an internal wall of said seat (71) and said adjustment element (73).
2. A container as in claim 1, **characterized in that** said second member (6) comprises a wall (61) which shapes an opening (64), said adjusting element (73) being passing, at least in part, through said opening (64) to be in contact with said first member (5).
3. A container as in any one of the preceding claims, **characterized in that** said second member (6) comprises at least one stop element (67), capable of blocking the rotation of said first member (5) in said open configuration.
4. A container as in claim 3, **characterized in that** said first member (5) comprises at least one guide groove (56) shaping a contact surface (57), said contact surface (57) abutting with said stop element (67), in said open configuration, so that the rotation of said first member (5) is prevented.
5. A container as in claim 4, **characterized in that** said at least one guide groove (56) is formed at one end (54) of said first member (5).
6. A container as in any one of the preceding claims, **characterized in that** said second member (6) shapes a side wall (63) which acts as a stop wall for said first member (5) in said closed configuration, said first member (5) being against said side wall (63) in said closed configuration.
7. A container as in any one of the preceding claims, **characterized in that** said first member (5) has at least one channel (51) associated with said edge of said cover (3), in a mounting configuration.
8. A container as in claim 7, **characterized in that** said first member (5) comprises a pair of opposite edges (52) joined by a connecting portion (53), said at least one channel (51) being delimited by said pair of edges (52) and by said connecting portion (53).

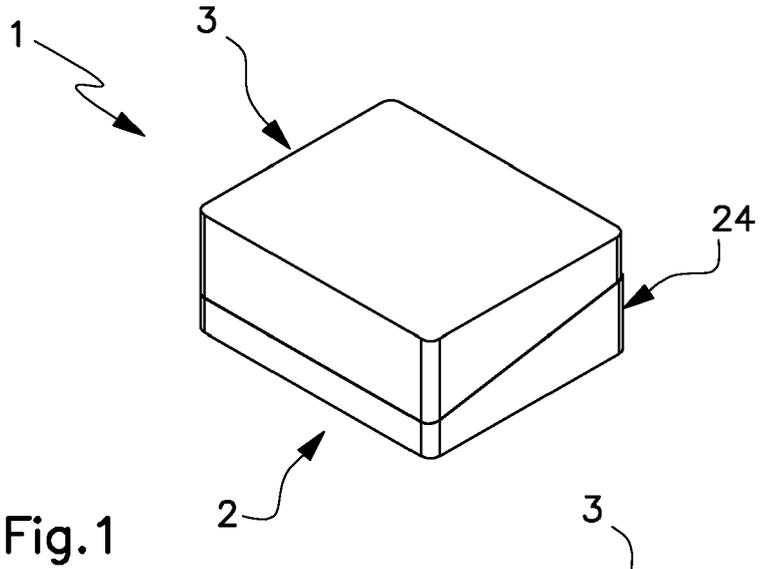


Fig. 1

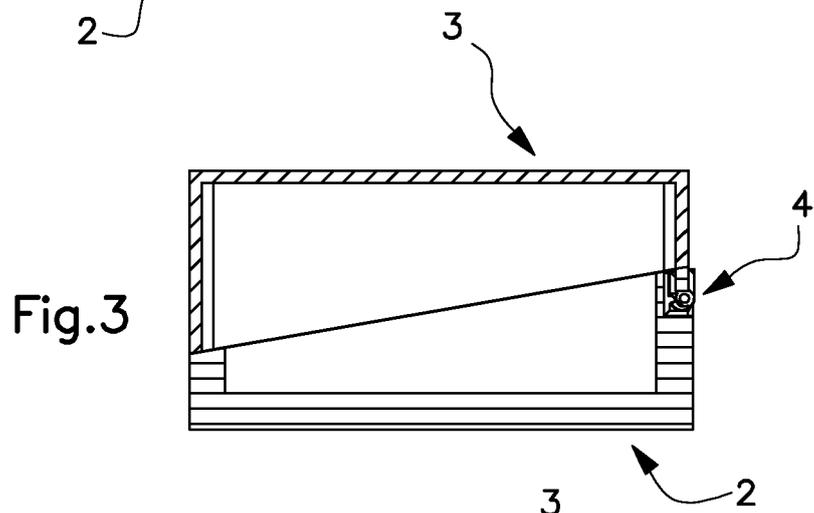


Fig. 3

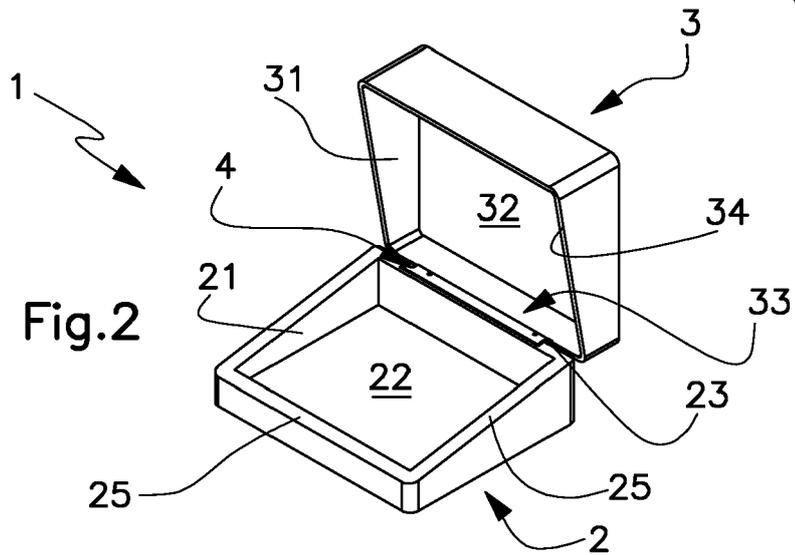


Fig. 2

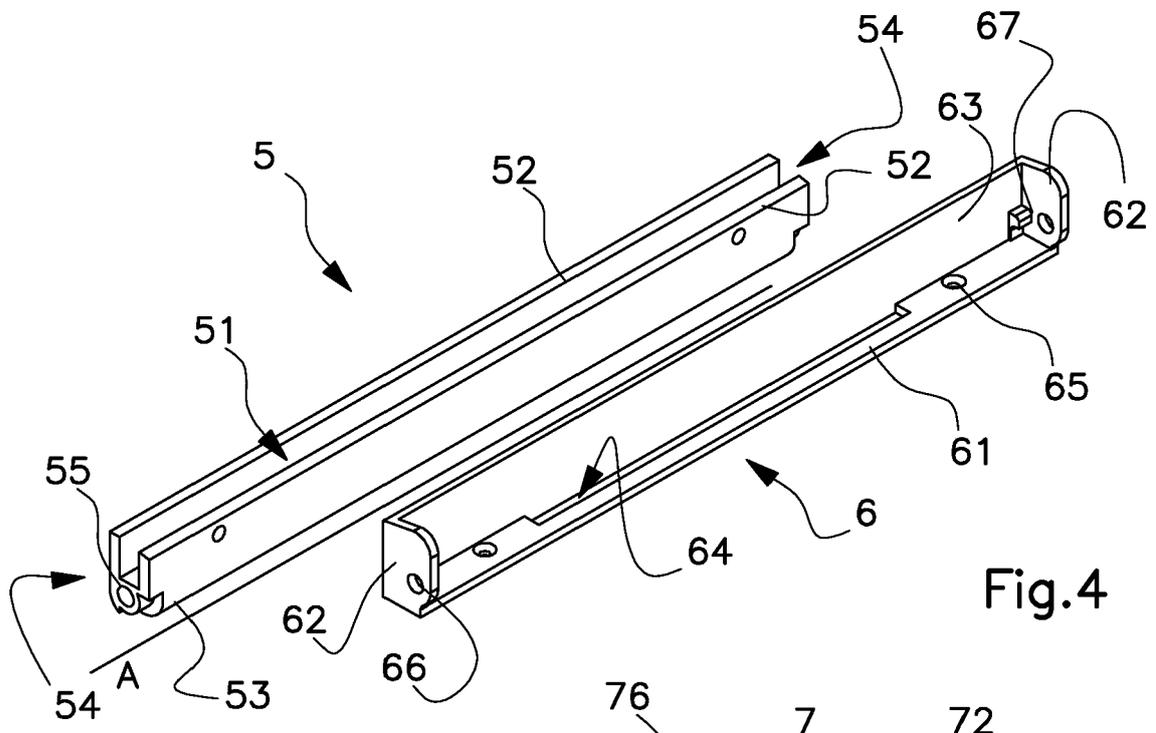


Fig.4

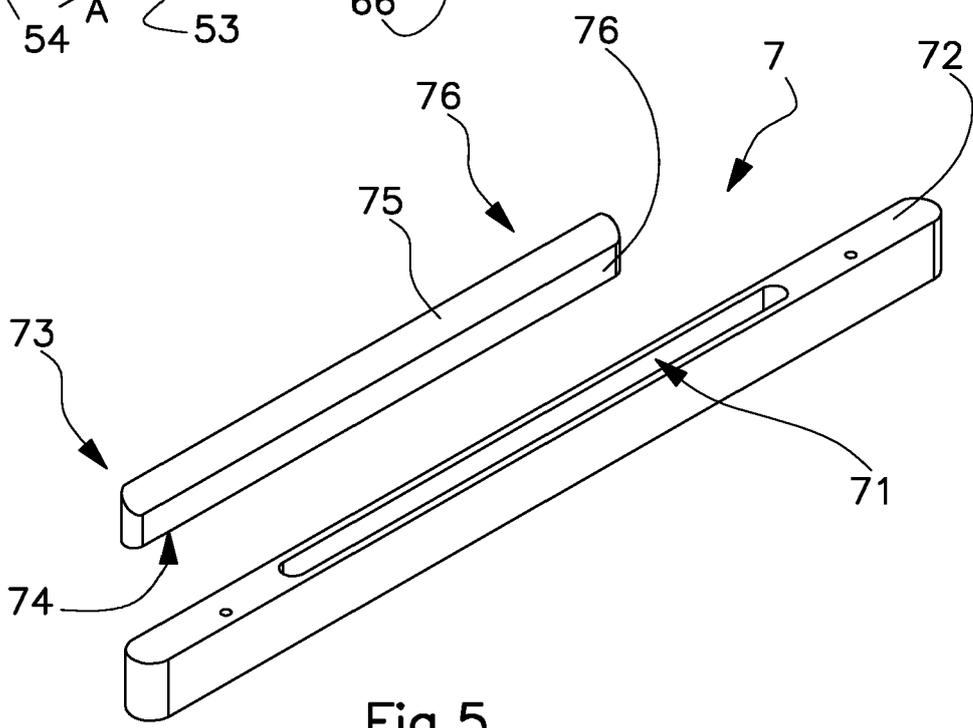


Fig.5

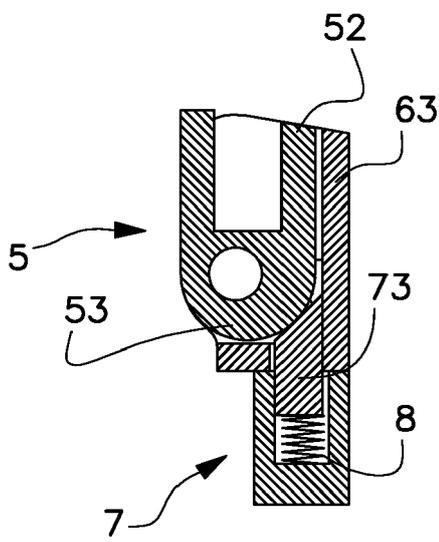
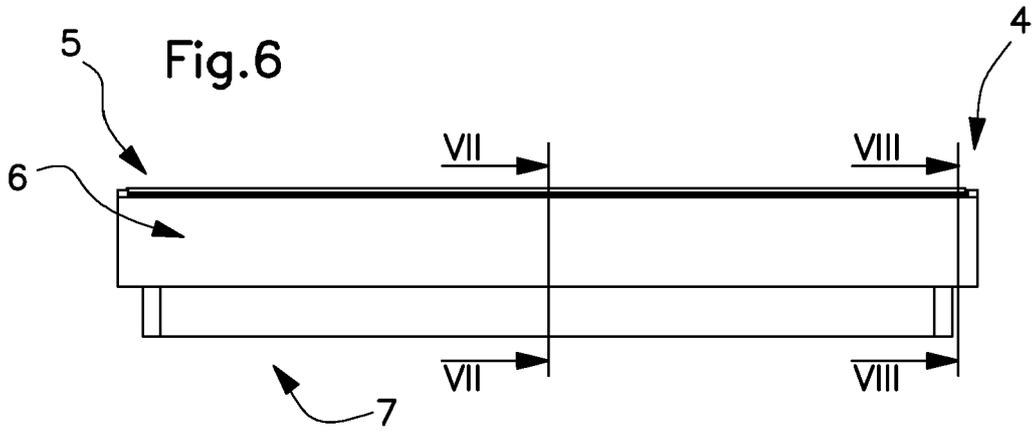


Fig.7

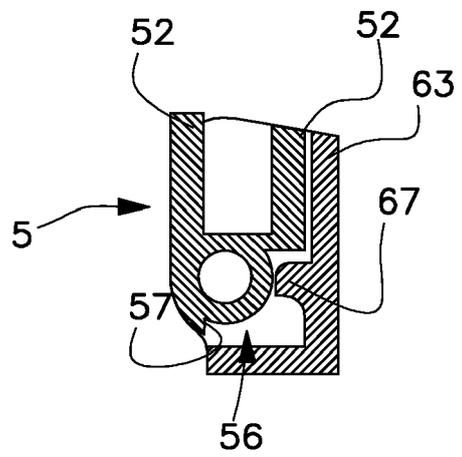


Fig.8

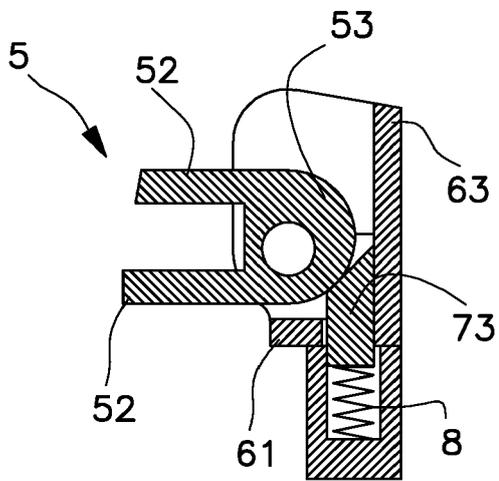
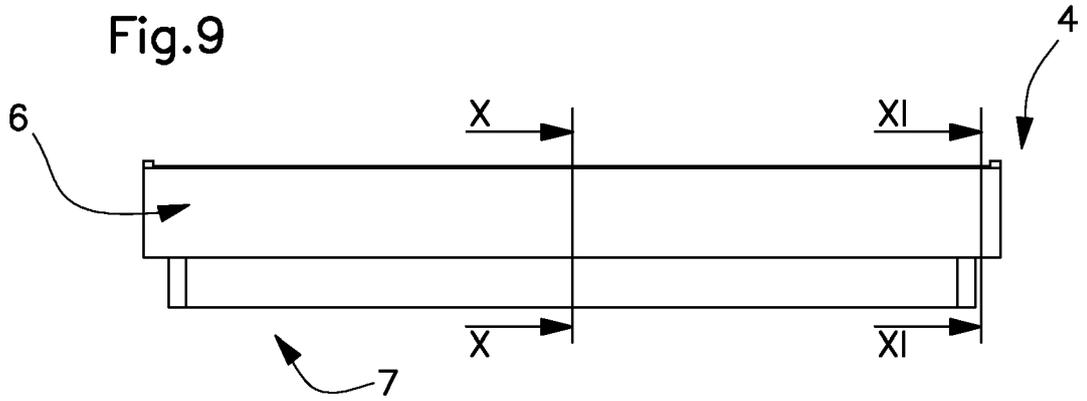


Fig.10

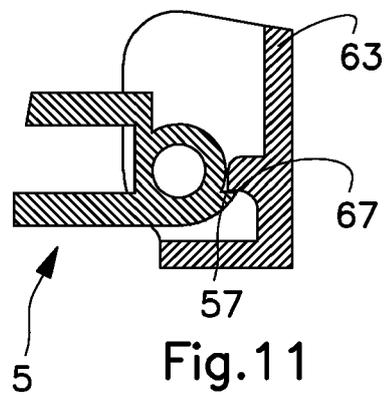


Fig.11



EUROPEAN SEARCH REPORT

Application Number
EP 20 20 4183

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ANNEX TO THE EUROPEAN SEARCH REPORT
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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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