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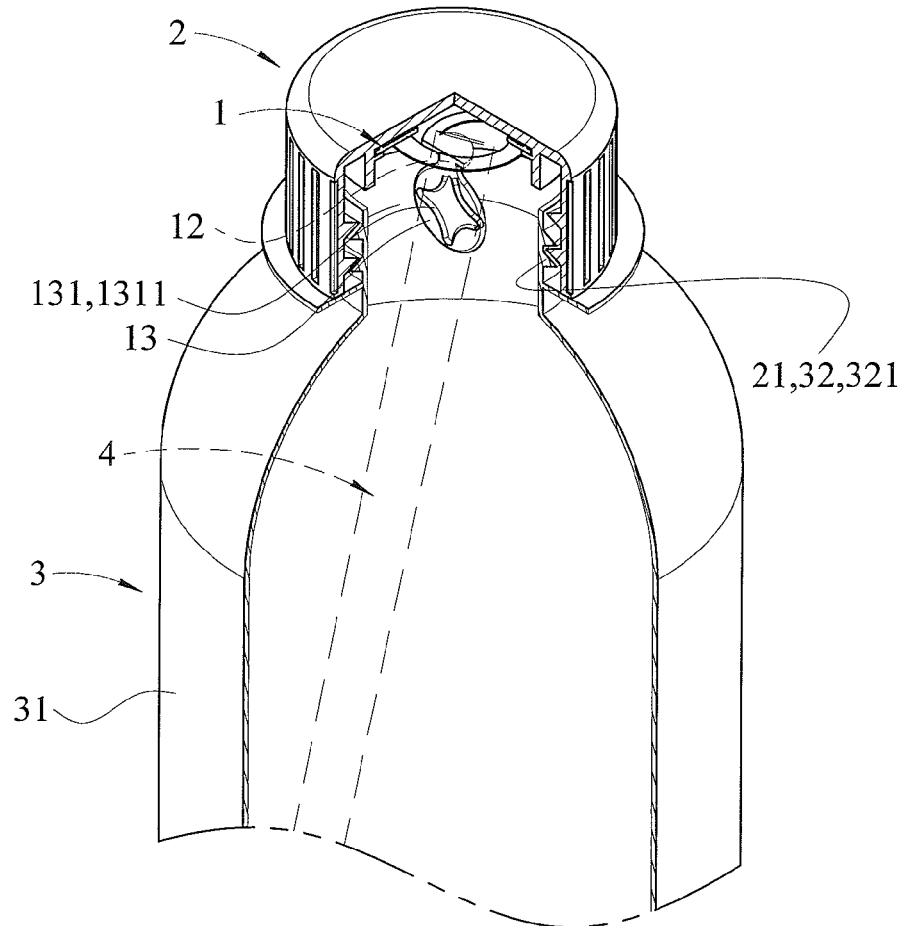
(19) **United States**(12) **Patent Application Publication**
Chen(10) **Pub. No.: US 2017/0055739 A1**(43) **Pub. Date: Mar. 2, 2017**(54) **HOLDING DEVICE FOR PREVENTING
STRAW FROM DROPPING**(52) **U.S. Cl.**CPC **A47G 19/2222** (2013.01)(71) Applicant: **Chun-Hsien Chen**, Taichung City (TW)(72) Inventor: **Chun-Hsien Chen**, Taichung City (TW)(21) Appl. No.: **14/833,171**(22) Filed: **Aug. 24, 2015****Publication Classification**(51) **Int. Cl.****A47G 19/22**

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(57)

ABSTRACT

A holding device includes a fixing plate, a connecting member connected with the fixing plate, and a positioning member connected with the connecting member. The fixing plate is provided with a through hole which has an end provided with a groove which has a helical shape. A tear line is formed between the groove and the fixing plate. The connecting member is defined by the groove of the fixing plate. The positioning member is mounted on the bottom of the connecting member and is provided with a retaining hole for positioning a straw. The holding device is combined with a cap of a container. Thus, the straw is held by the positioning member of the holding device which is limited by the cap, so that the straw will not drop into the container body.



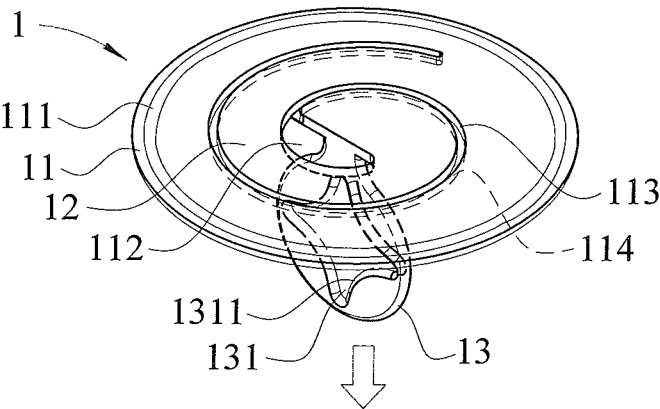


FIG. 1

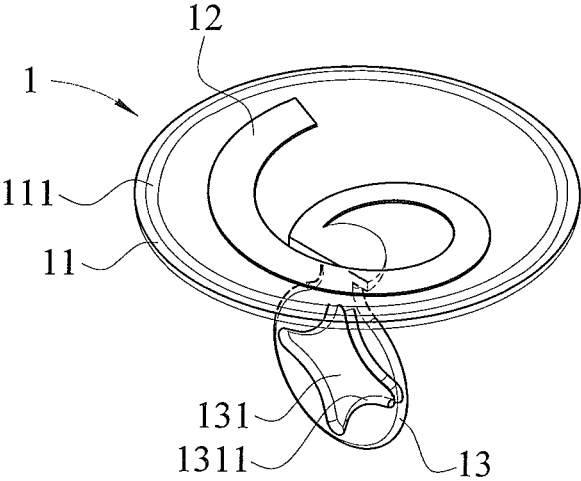


FIG. 2

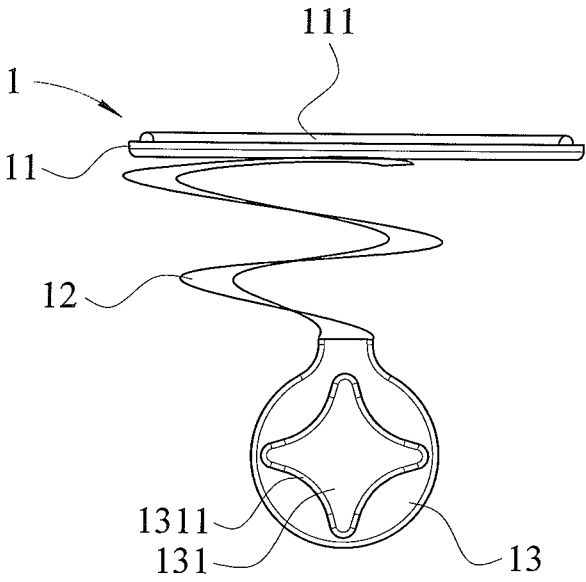


FIG. 3

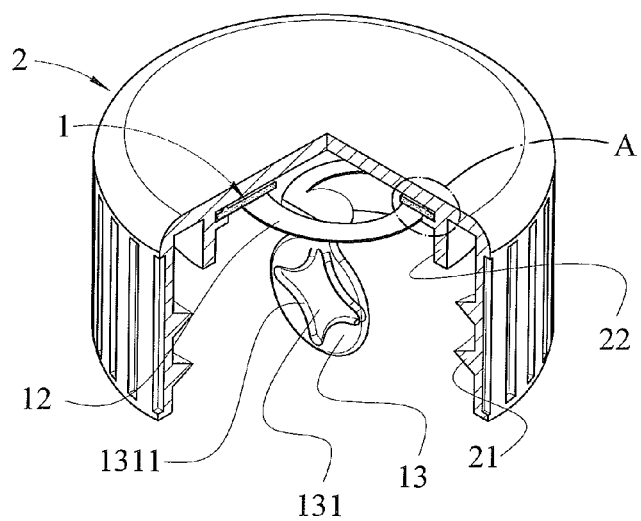


FIG. 4

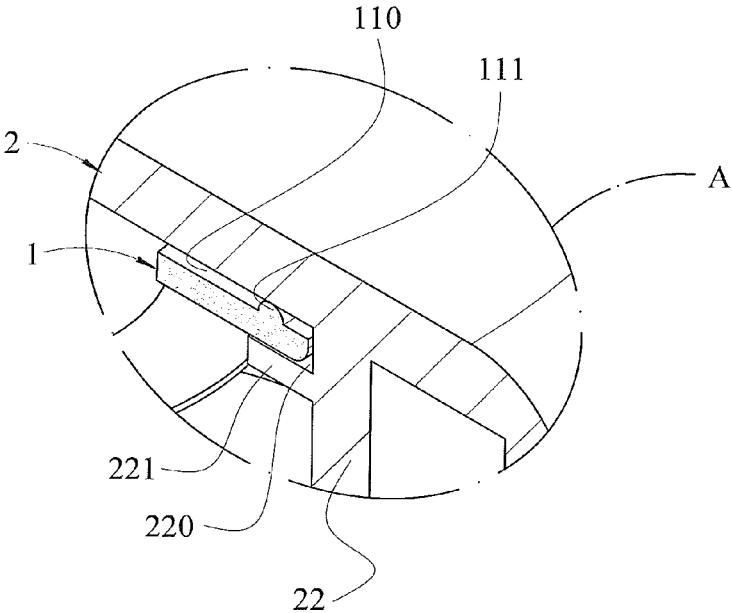


FIG. 5

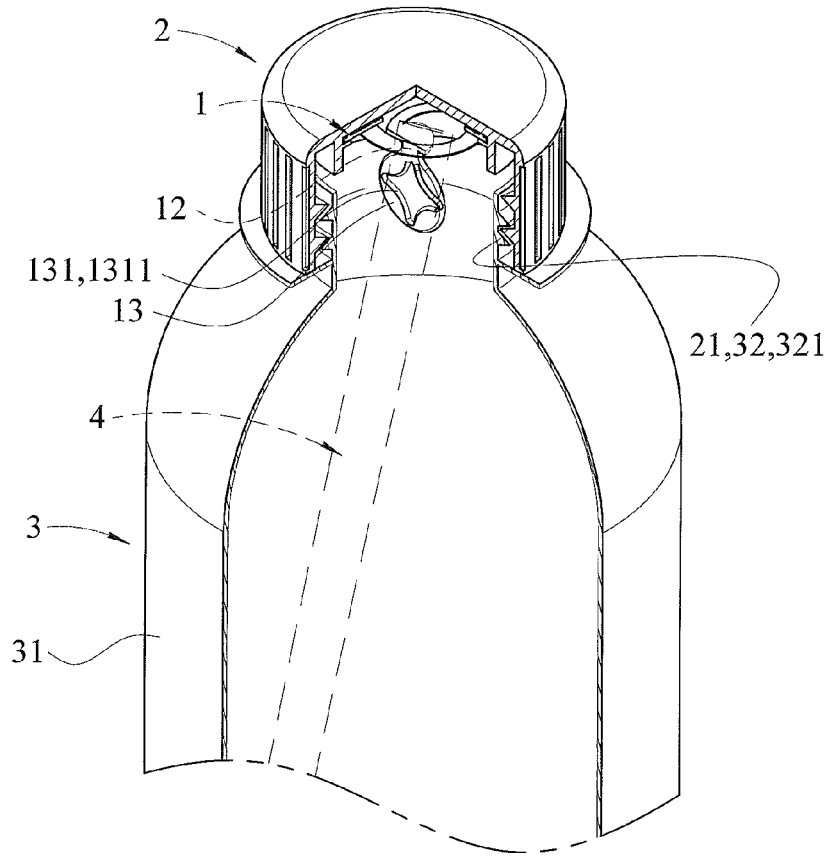


FIG. 6

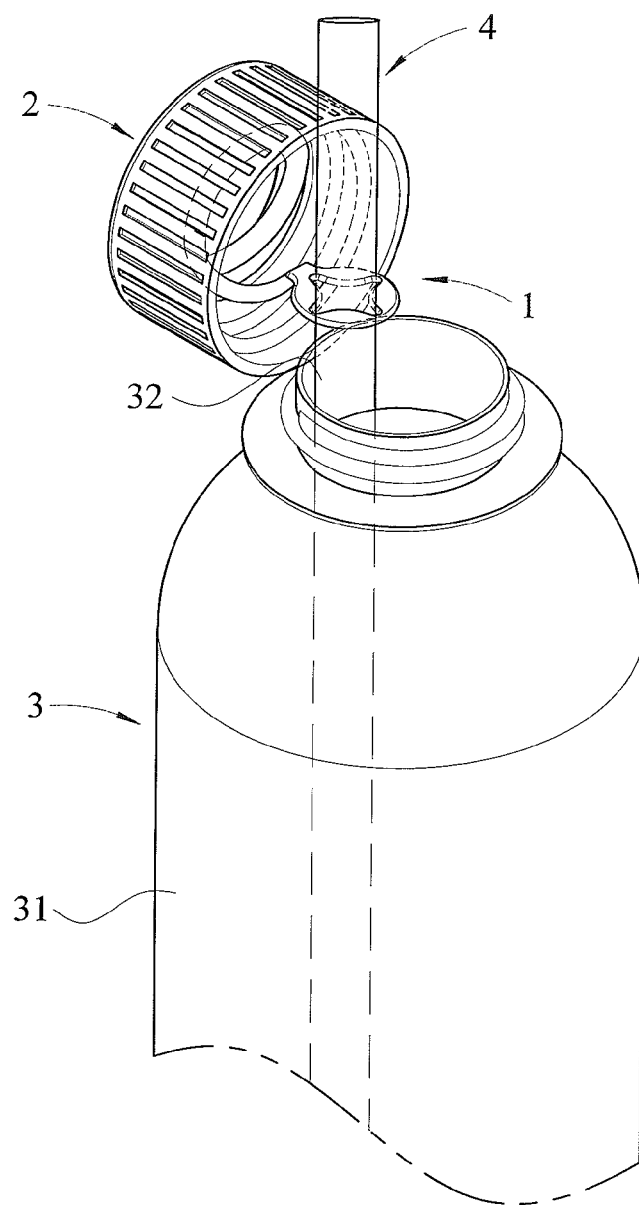


FIG. 7

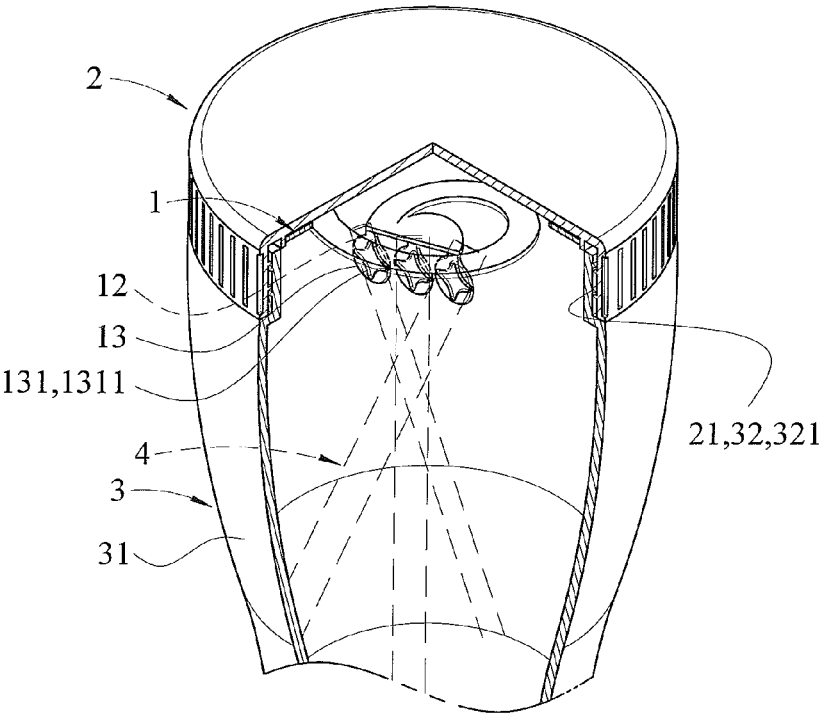


FIG. 8

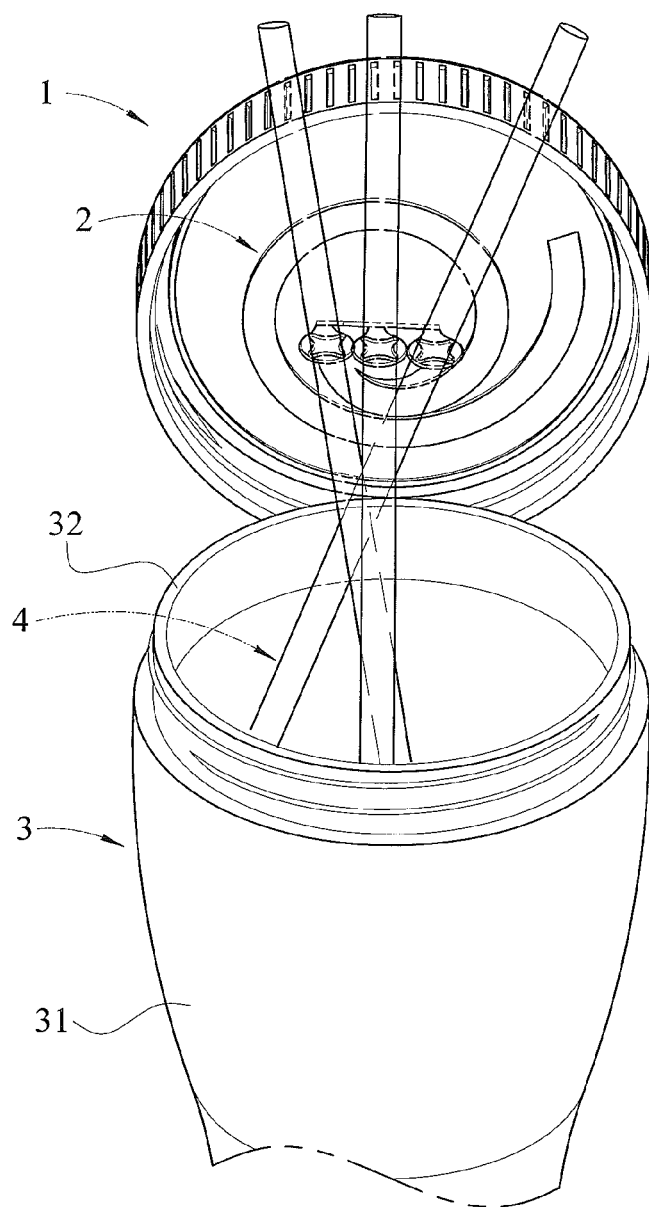
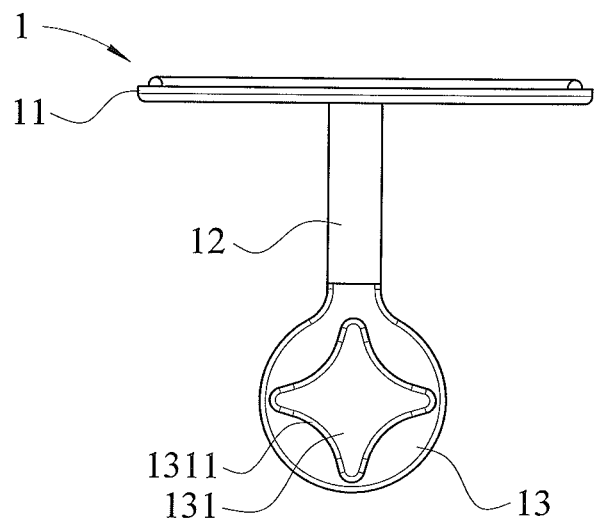


FIG. 9



F I G . 10

HOLDING DEVICE FOR PREVENTING STRAW FROM DROPPING

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to a holding device and, more particularly, to a holding device for holding a straw to prevent the straw from dropping.

[0003] 2. Description of the Related Art

[0004] A container comprises includes a container body, a mouth formed on the top of the container body, and a cap mounted on the mouth. After the cap is removed from the mouth, the user can insert a straw from the mouth into the container body to facilitate the user drinking the beverage in the container body. However, when the straw is loosened from the user's fingers, the straw easily drops into the container body and is out of reach of the user, thereby causing inconvenience to the user when drinking the container. In addition, the user's fingers directly touch the straw during operation, thereby easily causing a sanitary problem.

BRIEF SUMMARY OF THE INVENTION

[0005] The primary objective of the present invention is to provide a holding device that prevents a straw from dropping into a container.

[0006] In accordance with the present invention, there is provided a holding device comprising a fixing plate, a connecting member connected with the fixing plate, and a positioning member connected with the connecting member. The fixing plate has a top provided with at least one abutting ring. The fixing plate is provided with a through hole. The through hole of the fixing plate has an end provided with a groove which has a helical shape and extends outward. A tear line is formed between a bottom of the groove and a surface of the fixing plate. The connecting member is defined by the groove of the fixing plate. The positioning member is mounted on a bottom face of the connecting member. The positioning member is provided with a retaining hole.

[0007] Preferably, when the positioning member is pulled downward, the connecting member is moved to drive the tear line to detach from the surface of the fixing plate so that the holding device presents a helical suspension state.

[0008] Preferably, the retaining hole of the positioning member has an inner edge provided with a plurality of elastic stop pieces each protruding and extending inward.

[0009] Preferably, the positioning member has a substantially O-shaped or C-shaped profile.

[0010] Preferably, the holding device comprises a plurality of positioning members connected with the connecting member, and each of the positioning members is mounted on the bottom face of the connecting member.

[0011] Preferably, the at least one abutting ring of the fixing plate is an annular rib or includes a plurality of bosses which are arranged in an annular manner.

[0012] Preferably, when the holding device is combined with a cap, the at least one abutting ring of the fixing plate abuts an inner bottom of the cap, with a gap being defined between the fixing plate and the inner bottom of the cap.

[0013] Preferably, the holding device is inserted into or stuck to the cap.

[0014] Preferably, the holding device and the cap are formed integrally.

[0015] According to the primary advantage of the present invention, the straw is held by the positioning member of the holding device which is limited by the cap, so that the straw will not drop into the container body to facilitate the user using the straw.

[0016] According to another advantage of the present invention, when the cap is mounted on the mouth, the holding device directly pushes the straw into the container body, and when the cap is removed from the mouth, the holding device directly pulls the straw outward from the mouth, so that the user's fingers will not contact with the straw or the mouth during operation, thereby preventing the liquid in the container body from being contaminated, and thereby achieving the sanitary purpose.

[0017] According to a further advantage of the present invention, the straw is held by the holding device so that the straw can be received in the container body when not in use, without having to throw away the straw.

[0018] According to a further advantage of the present invention, the holding device presents a helical suspension state so that the whole length of the holding device can be changed to hold the straw of different length.

[0019] According to a further advantage of the present invention, the elastic stop pieces of the positioning member can be expanded and contracted elastically to fit the straw of different diameter.

[0020] Further benefits and advantages of the present invention will become apparent after a careful reading of the detailed description with appropriate reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S)

[0021] FIG. 1 is a perspective view of a holding device before use in accordance with the preferred embodiment of the present invention.

[0022] FIG. 2 is a perspective view of the holding device after use as shown in FIG. 1.

[0023] FIG. 3 is a front view of the holding device as shown in FIG. 2.

[0024] FIG. 4 is a partially perspective cross-sectional view showing combination of the holding device and a cap in accordance with the preferred embodiment of the present invention.

[0025] FIG. 5 is a locally enlarged view of the combination of the holding device and the cap taken along label "A" as shown in FIG. 4.

[0026] FIG. 6 is a partially perspective cross-sectional view showing combination of the holding device and a container in accordance with the preferred embodiment of the present invention.

[0027] FIG. 7 is a schematic operational view of the combination of the holding device and the container as shown in FIG. 6.

[0028] FIG. 8 is a partially perspective cross-sectional view showing combination of the holding device and a container in accordance with another preferred embodiment of the present invention.

[0029] FIG. 9 is a schematic operational view of the combination of the holding device and the container as shown in FIG. 8.

[0030] FIG. 10 is a front view of a holding device in accordance with a further preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0031] Referring to the drawings and initially to FIGS. 1-3, a holding device 1 in accordance with the preferred embodiment of the present invention comprises a fixing plate 11, a connecting member 12 connected with the fixing plate 11, and a positioning member 13 connected with the connecting member 12.

[0032] The fixing plate 11 has a top provided with at least one abutting ring 111. Preferably, the at least one abutting ring 111 of the fixing plate 11 is an annular rib or includes a plurality of bosses which are arranged in an annular manner. The fixing plate 11 is provided with a through hole 112. The through hole 112 of the fixing plate 11 has an end provided with a groove 113 which has a helical shape and extends outward. A tear line 114 is formed between a bottom of the groove 113 and a surface of the fixing plate 11.

[0033] The connecting member 12 is defined by the groove 113 of the fixing plate 11.

[0034] The positioning member 13 is mounted on a bottom face of the connecting member 12. The positioning member 13 is provided with a retaining hole 131. Preferably, the positioning member 13 has a substantially O-shaped or C-shaped profile. The retaining hole 131 of the positioning member 13 has an inner edge provided with a plurality of elastic stop pieces 1311 each protruding and extending inward. In use, when the positioning member 13 is pulled downward, the connecting member 12 is moved to drive the tear line 114 to detach from the surface of the fixing plate 11 so that the holding device 1 presents a helical suspension state.

[0035] In practice, referring to FIGS. 4-7 with reference to FIGS. 1-3, the holding device 1 is mounted in a container 3 for holding a straw 4. The container 3 includes a container body 31, a mouth 32 mounted on the top of the container body 31, and a cap 2 mounted on the mouth 32. The mouth 32 is provided with an outer thread 321. The cap 2 is provided with an inner thread 21 screwed onto the outer thread 321 of the mouth 32. The cap 2 has an inner bottom provided with an annular wall 22 extending downward. The annular wall 22 of the cap 2 has an inner edge provided with a locating ring 221. The locating ring 221 of the cap 2 is provided with a receiving recess 220. The fixing plate 11 of the holding device 1 is arranged and secured in the annular wall 22 of the cap 2. The fixing plate 11 of the holding device 1 is inserted into the receiving recess 220 of the cap 2 and stopped by the locating ring 221 of the cap 2. The at least one abutting ring 111 of the fixing plate 11 abuts the inner bottom of the cap 2, with a gap 110 being defined between the fixing plate 11 and the inner bottom of the cap 2. Preferably, the at least one abutting ring 111 of the fixing plate 11 is stuck to the inner bottom of the cap 2. At this time, the holding device 1 presents a helical suspension state and is hung on the inner bottom of the cap 2. The straw 4 is inserted through the retaining hole 131 of the positioning member 13 and positioned by the elastic stop pieces 1311. Thus, the straw 4 is initially received in the container 3 and attached to the positioning member 13 of the holding device 1 as shown in FIG. 6. After the cap 2 is removed from the mouth 32 as shown in FIG. 7, the holding device 1 is driven by the cap 2 to remove from the mouth 32, and the straw 4 is driven by the holding device 1 to expose outward from the mouth 32 so that the user can drink the liquid in the container body 31 through the straw 4. At this time, the straw 4 is held by the

positioning member 13 of the holding device 1, and the holding device 1 is attached to the cap 2, so that the straw 4 will not drop into the container body 31 to facilitate the user using the straw 4. In addition, when the cap 2 is mounted on the mouth 32, the holding device 1 directly pushes the straw 4 into the container body 31 so that the straw 4 is received in the container body 31 without having to throw away the straw 4.

[0036] In the preferred embodiment of the present invention, the holding device 1 is inserted into the cap 2. In another preferred embodiment of the present invention, the holding device 1 is stuck to the cap 2. In a further preferred embodiment of the present invention, the holding device 1 and the cap 2 are formed integrally.

[0037] Referring to FIGS. 8 and 9, the holding device 1 comprises a plurality of positioning members 13 connected with the connecting member 12. Each of the positioning members 13 is mounted on the bottom face of the connecting member 12 and is provided with a retaining hole 131. The retaining hole 131 of each of the positioning members 13 has an inner edge provided with a plurality of elastic stop pieces 1311 each protruding and extending inward.

[0038] Referring to FIG. 10, the connecting member 12 has a strip shape and is mounted on the bottom of the fixing plate 11.

[0039] Accordingly, the straw 4 is held by the positioning member 13 of the holding device 1 which is limited by the cap 2, so that the straw 4 will not drop into the container body 31 to facilitate the user using the straw 4. In addition, when the cap 2 is mounted on the mouth 32, the holding device 1 directly pushes the straw 4 into the container body 31, and when the cap 2 is removed from the mouth 32, the holding device 1 directly pulls the straw 4 outward from the mouth 32, so that the user's fingers will not contact with the straw 4 or the mouth 32 during operation, thereby preventing the liquid in the container body 31 from being contaminated, and thereby achieving the sanitary purpose. Further, the straw 4 is held by the holding device 1 so that the straw 4 can be received in the container body 31 when not in use, without having to throw away the straw 4. Further, the holding device 1 presents a helical suspension state so that the whole length of the holding device 1 can be changed to hold the straw 4 of different length. Further, the elastic stop pieces 1311 of the positioning member 13 can be expanded and contracted elastically to fit the straw 4 of different diameter.

[0040] Although the invention has been explained in relation to its preferred embodiment(s) as mentioned above, it is to be understood that many other possible modifications and variations can be made without departing from the scope of the present invention. It is, therefore, contemplated that the appended claim or claims will cover such modifications and variations that fall within the true scope of the invention.

1. A holding device comprising:

a fixing plate;

a connecting member connected with the fixing plate; and
a positioning member connected with the connecting member;

wherein:

the fixing plate has a top provided with at least one abutting ring;

the fixing plate is provided with a through hole;

the through hole of the fixing plate has an end provided with a groove which has a helical shape and extends outward;

a tear line is formed between a bottom of the groove and a surface of the fixing plate;

the connecting member is defined by the groove of the fixing plate;

the positioning member is mounted on a bottom face of the connecting member; and

the positioning member is provided with a retaining hole.

2. The holding device of claim 1, wherein when the positioning member is pulled downward, the connecting member is moved to drive the tear line to detach from the surface of the fixing plate so that the holding device presents a helical suspension state.

3. The holding device of claim 2, wherein the retaining hole of the positioning member has an inner edge provided with a plurality of elastic stop pieces each protruding and extending inward.

4. The holding device of claim 3, wherein the positioning member has a substantially O-shaped or C-shaped profile.

5. The holding device of claim 4, wherein the holding device comprises a plurality of positioning members connected with the connecting member, and each of the positioning members is mounted on the bottom face of the connecting member.

6. The holding device of claim 1, wherein the at least one abutting ring of the fixing plate is an annular rib or includes a plurality of bosses which are arranged in an annular manner.

7. The holding device of claim 1, wherein when the holding device is combined with a cap, the at least one abutting ring of the fixing plate abuts an inner bottom of the cap, with a gap being defined between the fixing plate and the inner bottom of the cap.

8. The holding device of claim 7, wherein the holding device is inserted into or stuck to the cap.

9. The holding device of claim 7, wherein the holding device and the cap are formed integrally.

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