

SEALING CAP FOR VACUUM CONTAINER

FIELD OF THE INVENTION

The present invention relates to a sealing cap for a vacuum container.

BACKGROUND OF THE INVENTION

5 A conventional vacuum container for receiving food generally includes a sealing cap made of metal and the sealing cap has a deformable portion at the center thereof. The deformable portion is a concaved portion when the inside of the container is in vacuum status, and the deformable portion is a convex portion when the vacuum status is released. By the change of the
10 deformable portion, the users judge the freshness of the food in the container. However, due to the friction between the sealing cap and the threads on the container and the pressure difference between interior and exterior of the container, the users have to apply a significant force to open the sealing cap.

 An improved sealing cap is made of plastic cap and a metallic plate
15 which is assumed to the plastic cap. The plastic cap is threadedly connected to the container and connected to a ring by multiple connection points. The metallic plate is concaved when the inside of the container is in vacuum status. The improved sealing cap is easily operated.

 The present invention intends to provide a sealing cap which is
20 composed of a plastic cap and a metallic plate, and provides satisfied sealing function and easily to operate. The plastic cap and the metallic plate are recycled.

SUMMARY OF THE INVENTION

The present invention relates to a sealing cap for a container and comprises a plastic cap and a metallic plate assembled to the cap. The central portion of the cap and the plate are overlapped on the open top of the container. A seal member is located between the cap and the plate. The cap includes a push member so as to push the scrolled end of the plate to remove the plate from the container. The scrolled end of the plate is enclosed in the seal member.

The present invention will become more obvious from the following description when taken in connection with the accompanying drawings which show, for purposes of illustration only, a preferred embodiment in accordance with the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a cross sectional view of the cap of the present invention;

Fig. 2 is a cross sectional view of the seal member of the present invention;

Fig. 3 is a cross sectional view to show that the sealing cap of the present invention is mounted to the open top of the container, and

Fig. 4 is a cross sectional view to show that the sealing cap of the present invention is removed upward from the open top of the container.

DETAILED DESCRIPTION OF THE PREFERRED
EMBODIMENT

Referring to Figs. 1 and 2, the sealing cap of the present invention comprises a plastic cap 10, a metallic plate 20 and a seal member 30.

5 The cap 10 is made integrally into a one piece and has a top portion 11, an opening 12 defined centrally in the top portion 11, a skirt 13 connected perpendicularly to the top portion 11, threads 16 defined in the inside of the skirt 13 and a push member 17 located on the inside of the skirt portion 13 and above the threads 16.

10 The plate 20 has a protrusion 22 extending radially from a center thereof. A first inclined portion 23 extends outward and downward from the protrusion 22 and a first plane 24 is connected to the first inclined portion 23. A second inclined portion 25 is connected to the first plane 24 and a second inclined portion 25 is connected to the first plane 24 and extends downward.

15 A third inclined portion 26 is connected to the second inclined portion 25 and extends upward. A second plane 27 is connected to the third inclined portion 26 and a curved portion 28 is connected to the second platen 27. A straight portion 29 is connected to the curved portion 28 and a scrolled end 291 is connected to the lower end of the straight portion 29. The plate 20 is

20 assembled to the cap 10 and located between the push member 17 and the top portion 11.

The seal member 30 is made by resilient material and has an annular portion 31 and a side portion 32. The annular portion 31 and the side portion

32 of the seal member 30 are filled in the corner area defined by the second plane 27, the curved portion 28, the straight portion 29 and the scrolled end 291. The scrolled end 291 is sealed in the side portion 32 so as to have proper corrosion resistance.

5 As shown in Fig. 3, the cap 10 is threadedly connected to the open top 51 of the container 50 by engaging the threads 16 with the threads of the container 50. The second plane 27 of the plate 20 is in contact with the top portion 11 of the cap 10. The protrusion 22, the first inclined portion 23, the first plane 24 and third inclined portion 26 seal the opening 12. The straight
10 portion 29 contacts the inside of the skirt 13 and the seal member 50 seals the open top 51. The vacuum status in the inside of the container 50 makes the protrusion 22 to be concaved axially. When the vacuum status is released, the protrusion 22 pops up as shown in Fig. 2. Referring to Fig. 3, the height H1 between the top portion 11 and the push member 17 is longer than the height
15 H2 between the second plane 27 and the scrolled end 291.

 As shown in Fig. 4, when the cap 10 is unscrewed, the cap 10 moves upward before the connection points 14 are broken. Because the height H1 is longer than the H2, the top portion 11 of the cap 10 is separated from the second plane 27 of the plate 20 by a gap 40 so that the user can judge the cap
20 10 is well sealed or not. When the cap 10 is further rotated upward, the connection points 14 are broken and the push member 17 pushes the scrolled end 291 of the plate 20 to remove the plate 20 together with the cap 10 from the container 50. The scrolled end 291 reinforces the structural strength of the

plate 10 and increases the contact area with the push member 17 so that the push member 17 is able to remove the plate 20 from the container 50.

While we have shown and described the embodiment in accordance with the present invention, it should be clear to those skilled in the art that
5 further embodiments may be made without departing from the scope of the present invention.

WHAT IS CLAIMED IS:

1. A sealing cap comprising:

a cap having a top portion, an opening defined centrally in the top portion, a skirt connected perpendicularly to the top portion, threads defined
5 in an inside of the skirt and a push member located on the inside of the skirt portion and above the threads;

a plate having a protrusion extending radially from a center thereof, a second plane, a curved portion, a straight portion and a scrolled end connected to the straight portion, the plate assembled to the cap and located
10 between the push member and the top portion, and

a seal member having an annular portion and a side portion, the seal member located in the corner area defined by the second plane, the curved portion, the straight portion and the scrolled end, the scrolled end sealed in the side portion.

15 2. The sealing cap as claimed in claim 1, wherein a height between the top portion and the push member is longer than a height between the second plane and the scrolled end.

3. The sealing cap as claimed in claim 1, wherein the annular portion and the side portion of the seal member are filled in the corner area.