

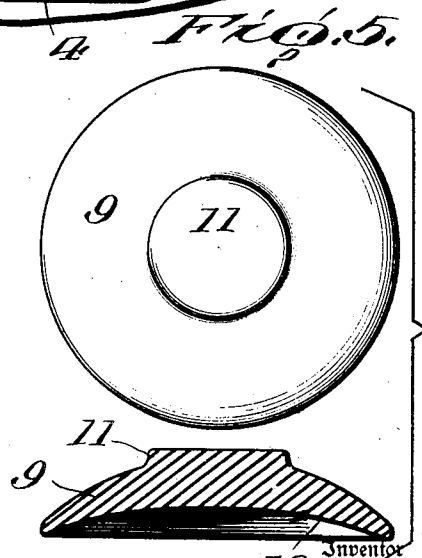
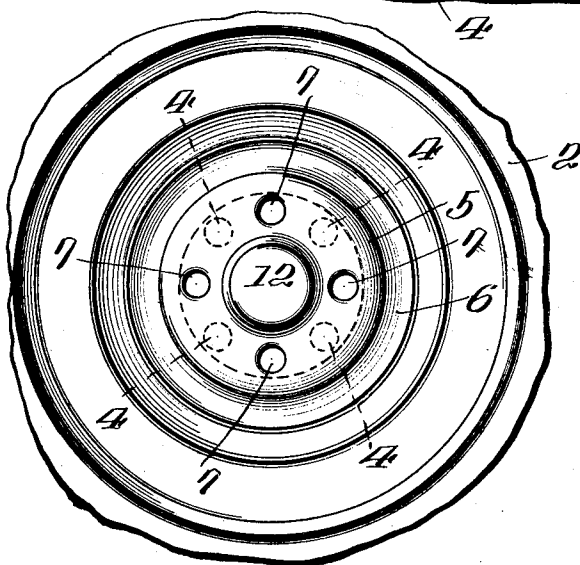
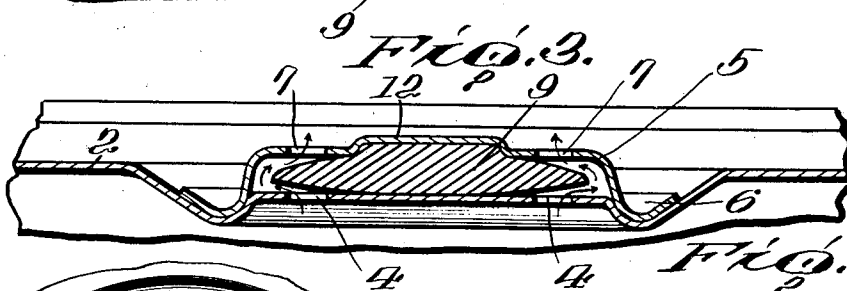
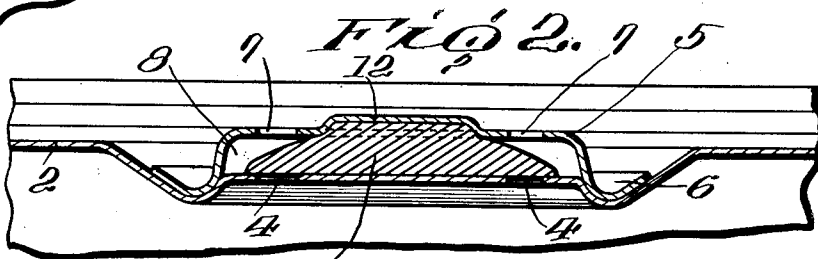
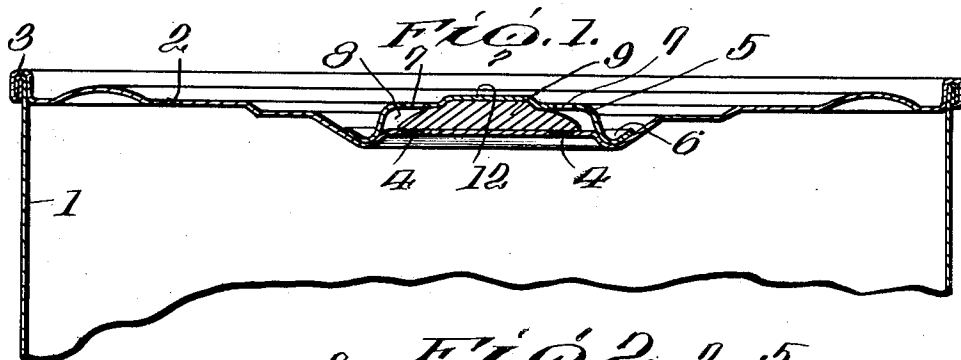
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W. F. PUNTE

1,950,325

VALVE CLOSED METAL CONTAINER

Filed April 25, 1932



William F. Punte

Sturtevant, Mason & Porter
Attorneys

UNITED STATES PATENT OFFICE

1,950,325

VALVE CLOSED METAL CONTAINER

William F. Punte, Syracuse, N. Y., assignor to
Continental Can Company, Inc., New York,
N. Y., a corporation of New York

Application April 25, 1932, Serial No. 607,473

1 Claim. (Cl. 220-44)

The invention relates to new and useful improvements in a metal container, and more particularly to a container which is provided with an opening through which gas evolving from the food product in the container may escape.

An object of the invention is to provide a container of the above type with a valve for closing the opening, which valve is located wholly on the outside of the container end and is so constructed as to permit the opening of the container when the gas pressure within the container is above atmospheric pressure and which closes when the gas pressure within the container is at atmospheric pressure.

A further object of the invention is to provide a container of the above type wherein the valve is held in place relative to the end and the opening therethrough by a metal dome-shaped member which is secured to the outer face of the container end.

In the drawing:

Figure 1 is a vertical sectional view through the upper portion of a container embodying the improvements;

Fig. 2 is an enlarged vertical sectional view through the central portion of the end, and showing the valve as closed;

Fig. 3 is a view similar to Fig. 2, but showing the valve as raised by the gas pressure from within the container so as to permit escape of said evolving gas;

Fig. 4 is a plan view of the central portion of the container end; and

Fig. 5 is a view in plan and in section of the valve for closing the container.

The invention has to do with a metal container which includes a body portion and an end which is seamed thereto. The end has an opening therethrough or a series of openings which are located adjacent the center of the end but spaced therefrom. Attached to the end on the outer face thereof is a metal cap which is dome-shaped and which is secured by welding, soldering, or any other suitable way at or adjacent its periphery to the container end. In the chamber between the cap and the end is a valve which is shaped so as to be in contact with both the end and the cap throughout the central portion thereof, and this valve is rigidly held in place. The valve overlies the perforations in the container end and is shaped so that it is free from contact with the cap directly above the perforations and will yield under gas pressure from within to allow the gas to escape.

Referring more in detail to the drawing, the

container consists of a body portion 1 to which an end 2 is attached by double seaming as indicated at 3. The end is of the usual construction and is provided with a series of perforations indicated at 4. Attached to the outer face of the end is a metal cap 5. Said metal cap 5 is dome-shaped, and the peripheral portion 6 of the cap is shaped so as to conform to an annular recess in the outer face of the end. This peripheral portion of the cap is fixed to the end either by soldering at spaced points or by welding, or in any other suitable way so that it becomes a rigid part of the end. The cap is provided with a series of perforations 7, 7. The perforations 7, 7 are staggered, and corresponds to the perforations 4, 4.

Located in the chamber 8 between the metal cap and the end is a valve 9 preferably of rubber. Said valve before it is confined between the cap and the end is shaped as shown in Fig. 5. The valve is provided with a concave underface 10 and with a raised central portion 11. This raised central portion 11 fits within the raised portion 12 formed in the cap and when the cap and valve are in place the lower face of the valve is pressed to a horizontal position, and the tendency of the elastic rubber is to snugly contact with the container end in the region of the perforations so that the perforations are normally closed. The valve decreases in thickness towards its peripheral edge so that the region directly above the perforations 4 is out of contact with the cap. When gas evolves from the product within the container to such an extent that the pressure is above atmospheric pressure and is sufficient to overcome the elasticity of the valve, then the peripheral edge portion of the valve will be raised to the position shown in Fig. 3. In this position the valve is free from contact with the perforations 4 and also with the perforations 7, and the gas will escape to the atmosphere. As soon as the gas pressure ceases and the pressure within the container is substantially atmospheric pressure or below atmospheric pressure, then the valve will move through its elasticity into contact with the end and closes the perforations or openings 4, 4 in the end.

It will be apparent from the above description that a very simple valve-closed container has been provided which is of few parts and of rigid construction. Gas evolving from the food product can escape from the container but air cannot enter the container. This makes a container which is especially adapted for cheese products. The gas evolving from the cheese product when

put in a hermetically sealed container is likely to bulge the ends of the container, making an unsightly package. By the improved valve as described above, the gas which is in the nature of an inert gas evolving from the cheese crowds out the air within the container with its oxygen content, and the valve closes so as to prevent any air entering the container so that the container is maintained sealed and the food product substantially free from contact with the oxygen of the air.

It is obvious that minor changes in the details of construction may be made without departing from the spirit of the invention as set forth in the appended claim.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:

A metal container comprising a body portion,

an end seamed thereto and having a series of perforations located adjacent but spaced from the center of the end, a metal cap secured to the outer face of the end and covering said perforations, said cap being dome-shaped so as to provide a chamber between the cap and the container, a flexible valve located in said chamber and rigidly clamped between the cap and the end, said valve at its peripheral edge being shaped so as to overlie and normally contact with the end and close the perforations, said valve in the region of the perforations being out of contact with the cap so that when the pressure of the gas evolving from the product within the container overcomes the elasticity of the valve, the peripheral portion thereof will flex and uncover the perforations to permit the gas to escape.

WM. F. PUNTE.

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