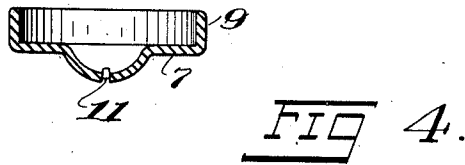
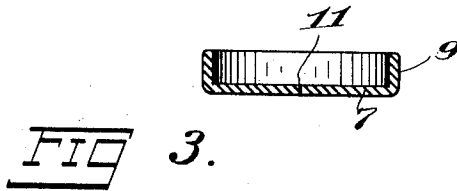
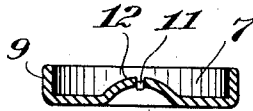
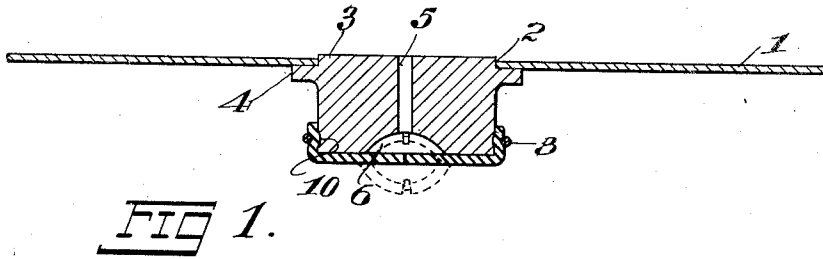


A. SCHILLING.
CONTAINER VENT.
APPLICATION FILED SEPT. 6, 1921.

1,428,399.

Patented Sept. 5, 1922.



Inventor.
August Schilling
By *Carroll Totten*
Attorneys

Patented Sept. 5, 1922.

1,428,399

UNITED STATES PATENT OFFICE.

AUGUST SCHILLING, OF SAN FRANCISCO, CALIFORNIA.

CONTAINER VENT.

Application filed September 6, 1921. Serial No. 498,802.

To all whom it may concern:

Be it known that I, AUGUST SCHILLING, a citizen of the United States, residing at the city and county of San Francisco and State of California, have invented certain new and useful Improvements in Container Vents, of which the following is a specification.

In the packaging of certain commodities, particularly coffee, it is necessary to normally maintain the package close¹ to preserve the quality of the commodity, and it is also desirable to release from the container certain generated gases given off by the commodity, and under other circumstances to admit into the container additional atmosphere to relieve a vacuum within the container, and it is to accomplish these conditions that the present invention is designed, it operating solely by a variation of pressure within the container. The invention consists primarily in a valve or diaphragm controlling a vent opening actuated by a difference in pressure within the container whereby the valve or diaphragm affords a closure for the vent, a relief for a vacuum within the container, and an escape for a pressure therefrom.

With the above mentioned and other objects in view, the invention consists in the novel construction and combination of parts hereinafter described, illustrated in the accompanying drawings, and set forth in the claims hereto appended, it being understood that various changes in the form, proportion, size and minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Figure 1 is a vertical sectional view through the preferred embodiment of my invention in position in an opening in the container wall.

Figure 2 is a sectional view of the diaphragm disclosing the slot therein affording an opening for the release of a compression within the container.

Figure 3 is a view similar to Figure 2 with the diaphragm in its normal position affording a closure for the container, and

Figure 4 is a view similar to Figures 2 and 3 and with the diaphragm in a position to afford a relief for a vacuum within the container.

Referring more particularly to the several views of the drawings wherein like charac-

ters of reference designate corresponding parts, 1 indicates a container wall formed with an opening 2 in which is positioned a plug or base 3 preferably formed with an annular securing flange 4 resting against the wall of the opening 2. Extending through the plug or base 3 is a vent 5 formed at its lower end with a circular depression 6. Secured over the inner end of the plug or base 3 is a cupped diaphragm 7 of flexible stretchable material such as rubber, and the same is preferably secured in position by a tie or band 8 extending around the flange 9 thereof and forcing the inner surface of the flange to be seated within an annular groove 10 in the plug or base 3. The diaphragm overlies the depression 6, and is formed preferably in line with the vent 5 with a slot or cut portion 11, the opposite meeting edges of which are adapted to contact when the diaphragm is in its normal plane, as indicated in Figure 3, said diaphragm then affording a closure for the vent. On the creation of a pressure from any source within the container which exceeds atmospheric pressure, the portion of the diaphragm overlying the depression 6 will be distorted or stretched by being forced inwardly into said depression 6, as indicated by the numeral 12, which action will cause a separation of the side walls of the cut or slot 11 affording a relief through the slot and the vent 5 for the pressure within the container. When this pressure is relieved, the flexibility of the diaphragm causes the same to assume its normal plane, as in Figure 3. On the creation of a vacuum within the container, a pressure is created against the diaphragm drawing the central portion thereof inwardly and again causing a separation of the side edges of the slot or cut portion 11 affording a means for the relief of the vacuum through the slot and vent 5, and after such relief is afforded, the diaphragm again assumes its normal position, as in Figure 3.

By my present invention, it will be observed that the diaphragm normally seals the container vent, and is adapted for operation by a variation of pressure within the container to maintain the normal pressure within the container substantially atmospheric.

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

1. A container vent and closure compris-

ing a base for securing over a container wall and provided with a vent extending there-
through and formed with a depression at
the inner end of said vent, and a flexible dia-
5 phragm of stretchable material secured to
the inner end of said base and overlying said
depression, said diaphragm being cut at a
point overlying said base.

2. A container vent and closure compris-
10 ing a flexible diaphragm of stretchable ma-
terial for positioning over the inner end of
a container vent, said diaphragm being
formed with a slot at a point overlying the
inner end of said vent, the meeting edges of
15 which are normally in contact affording a
closure for the container when said dia-
phragm is in its normal plane, said dia-
phragm adapted for distortion to either side
of its normal plane by a variation of pres-
20 sure within the container for causing a sep-
aration of the meeting edges of said slot
whereby a relief for the container pressure
is afforded.

3. A container vent and closure compris-
25 ing a flexible diaphragm of stretchable ma-
terial for positioning over the inner end of a
container vent, said diaphragm being
formed with a slot at a point overlying the
inner end of said vent, the meeting edges of
30 which are normally in contact affording a
closure for the container when said dia-
phragm is in its normal plane, said dia-
phragm adapted for distortion from its nor-
mal plane by a variation of pressure with-
35 in the container for causing a separation of
the meeting edges of said slot whereby an
opening for the container is afforded.

4. A container vent and closure compris-
ing a base for securing over an opening in a

container wall and provided with a vent ex- 40
tending therethrough, said base provided
with a depression in its inner face at the
inner end of said vent, and a flexible rubber
diaphragm secured over the inner face of
said base in contact therewith, said dia- 45
phragm being provided with a slot in line
with said vent opening, the edges of which
are normally in contact when the diaphragm
is in its normal plane affording a closure
for the container, said diaphragm adapted 50
for movement to one side of its normal
plane into said depression by a variation of
pressure within the container whereby said
diaphragm is stretched separating the meet-
ing edges of said slot affording a relief for 55
the container pressure.

5. A container vent and closure compris-
ing a base for securing over an opening in a
container wall and provided with a vent ex-
tending therethrough, said base provided 60
with a depression in its inner face at the
inner end of said vent, and a flexible rubber
diaphragm secured over the inner face of
said base in contact therewith, said dia-
phragm being provided with a slot in line 65
with said vent opening, the edges of which
are normally in contact when the diaphragm
is in its normal plane affording a closure
for the container, said diaphragm adapted
for movement to opposite sides of its nor- 70
mal plane by a variation of pressure within
the container whereby the said diaphragm is
stretched separating the meeting edges of
said slot affording a relief for the container
pressure. 75

In testimony whereof I have signed my
name to this specification.

AUGUST SCHILLING.