July 6, 1954 G. R. BROTHERS, JR 2,682,970

VENTED CLOSURE FOR COMMODITY CONTAINERS

Filed June 4, 1951

Fig. 1

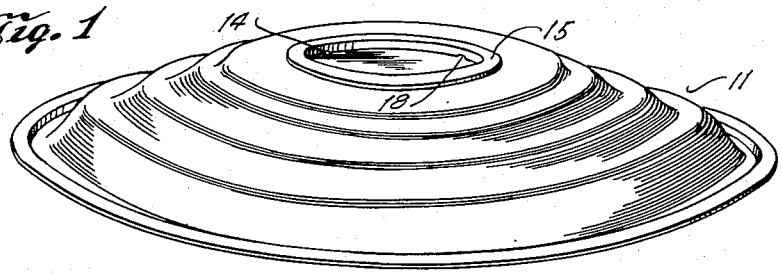


Fig. 2

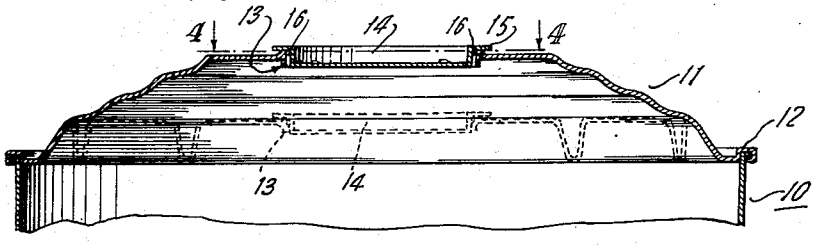


Fig. 3

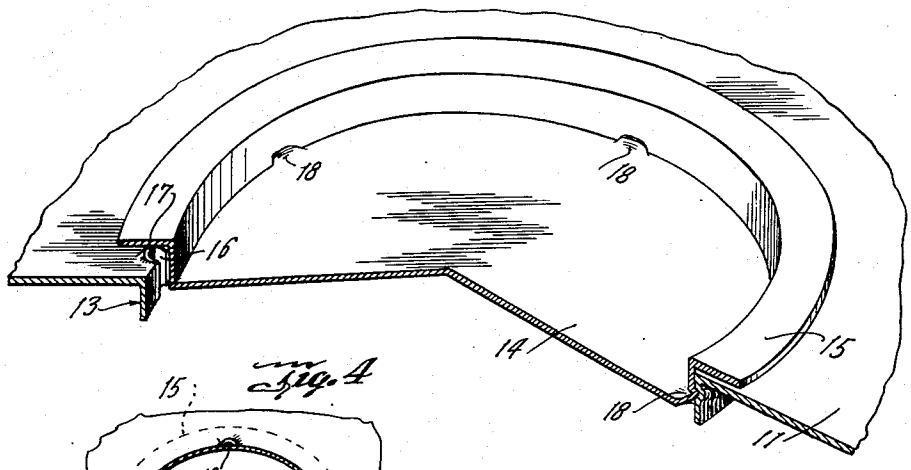
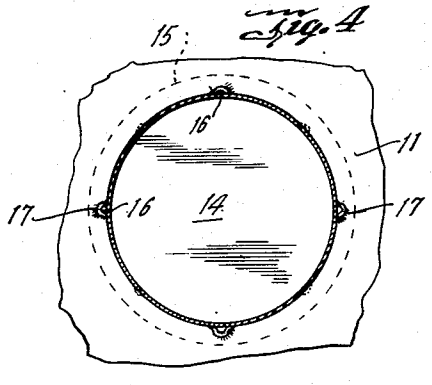


Fig. 4



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Patented July 6, 1954 2,682,970

UNITED STATES PATENT OFFICE

2,682,970

VENTED CLOSURE FOR COMMODITY CONTAINERS

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Application June 4, 1951, Serial No. 229,813

1 Claim. (Cl. 220—44)

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This invention relates to containers of the collapsible head type and more particularly to improved vented closures for such containers.

Metal barrels having a collapsible head have long been used in the packaging of materials in an expanded state, such as rosin, which is poured into an opening in the top of the head while hot and upon cooling, rosin solidifies and is thereby reduced in volume. While the material is cooling, the barrel rests upon its flat bottom while the filler opening in the head is closed by means of a suitable flanged cover. It is desirable that the head be collapsed after solidification of the barrel contents. This is done by inverting the barrel whose weight will collapse the head into a flat plane. This operation requires venting of air from the originally dome shaped head, which is accomplished conventionally by simply providing holes in the head. This practice permits water and other foreign matter to enter the container through the openings and adulterates the contents of the container which, in the case of rosin, should be free of any impurities.

It is a principal object of the present invention to provide a vented cover or closure for metal containers or drums, especially the expanded or collapsible head type, which cover or closure will permit the escape of air necessary for the collapsing of the head while preventing infiltration of foreign matter into the container.

Another object of the invention is to provide a vented closure for the filler opening of a container drum which incorporates a means for securing the closure onto the head in cooperation with a venting means which excludes impurities from the container.

With the foregoing objects in view, the invention has further reference to certain features of accomplishment which will become apparent as the description proceeds, taken in connection with the accompanying drawing wherein:

Figure 1 is a perspective view of a collapsible drum head per se showing the improved closure attachment;

Figure 2 is a fragmentary view of the container and head in vertical section;

Figure 3 is a fragmentary perspective view, partly in section, showing the cover attached to the head; and

Figure 4 is a fragmentary plan view of the container head showing the cover in transverse section, taken on line 4—4 of Figure 2.

Continuing with a more detailed description of the drawing, reference numeral 10 denotes generally the metal drum or container which has a flat bottom, not shown, and a corrugated, collapsible top or head 11 of conventional design and whose perimeter is attached to the drum by means of the conventional reversed flange joint 12.

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The head 11 has a filler opening about which is turned an internal flange 13. In the packaging of expandable materials such as hot rosin, the latter is poured through the filler opening until the drum or container is filled to the top of the head, whereupon a cover 14 is applied to close the filler opening. This cover is formed with a peripheral flange 15 adapted to overlie the top of the head 11 while the perpendicular wall of the cover engages the internal flange 13 of the head in close sliding relationship.

It is the customary procedure to provide air escape holes in the head by driving a sharp instrument into the head and afterwards collapsing the head by inverting the drum. The present invention provides a series of air escape flutes 16 at circumferentially spaced intervals around the internal flange 13. These flutes are produced by forcing a suitable tool, preferably in the nature of a cylindrical body against the internal flange about the filler opening of the head 11, thus to indent the flange in such manner as to form a protuberance 17 in the metal of the head next adjacent the indenture or flute. The protuberance thus formed slightly above the plane of that portion of the head 11 on which normally would rest the flange 15 of the closure or cap, will elevate the flange and define between the head and flange a space through which air entrapped in the head may escape in order that the head, when collapsed in the manner shown in dotted lines in Figure 2, will present a substantially uniform surface.

It is apparent from the foregoing that when the head is collapsed, which is usually accomplished by inverting the container, and the container again uprighted, the flange 15 of the cover will conceal the flutes or indentations 16 and will tend to prevent ingress of water and other matter sought to be excluded from the drum.

In order to secure the cover in place in the filler opening of the head 11, a suitable instrument is applied to the inner face of the vertical flange of the cover with sufficient force to indent both this flange and the internal flange of the filler opening as indicated at 18 in the several figures of the drawing.

Manifestly, the construction as shown and described is capable of some modification and such modification as may be construed to fall within the scope and meaning of the appended

claim is also considered to be within the spirit and intent of the invention.

What is claimed is:

A vented cover structure for commodity containers of the barrel type having a collapsible head, said head being provided with a central filler opening and having the edge thereof bordering said opening bent downwardly to form an internal flange, a cap comprising a flat plate having a peripheral flange perpendicular to the plane of the plate and a flange at right angles to said perpendicular flange extending outwardly from the free edge thereof, said cap being adapted for insertion into the opening with the perpendicular flange thereof in frictional engagement with said internal flange, the material of said internal flange being outwardly and upwardly deformed at peripherally spaced points defining channels extending the full width of said flange, the upper edge of said deformed portions protruding beyond the upper surface of said head, said protruding portions being effective to support the right angular flange of said cap in spaced parallel position with respect to the surface of said head next adjacent said filler opening and to define orifices on each side thereof between said right angular flange and said container head, said channels and orifices cooperating to form passages for the escape of air rising from under said head when said head is collapsed and a series of peripherally spaced indentations jointly in said internal flange and said perpendicular flange for securing said cover in said filler opening.

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