

[54] CONTAINER CONTENTS RETAINING DEVICE

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[57] ABSTRACT

The retainer comprises a plastic flange for the top of the waste container. The flange is sloped down and has folds in it so it can open and deflect down to pass material therethrough. However, it will close in the opposite direction to retain compacted foam plastic refuse in the container.

3 Claims, 3 Drawing Figures

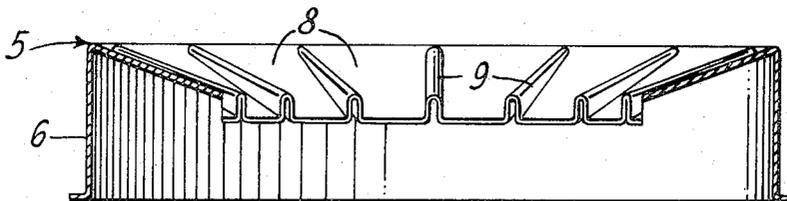


FIG. 1

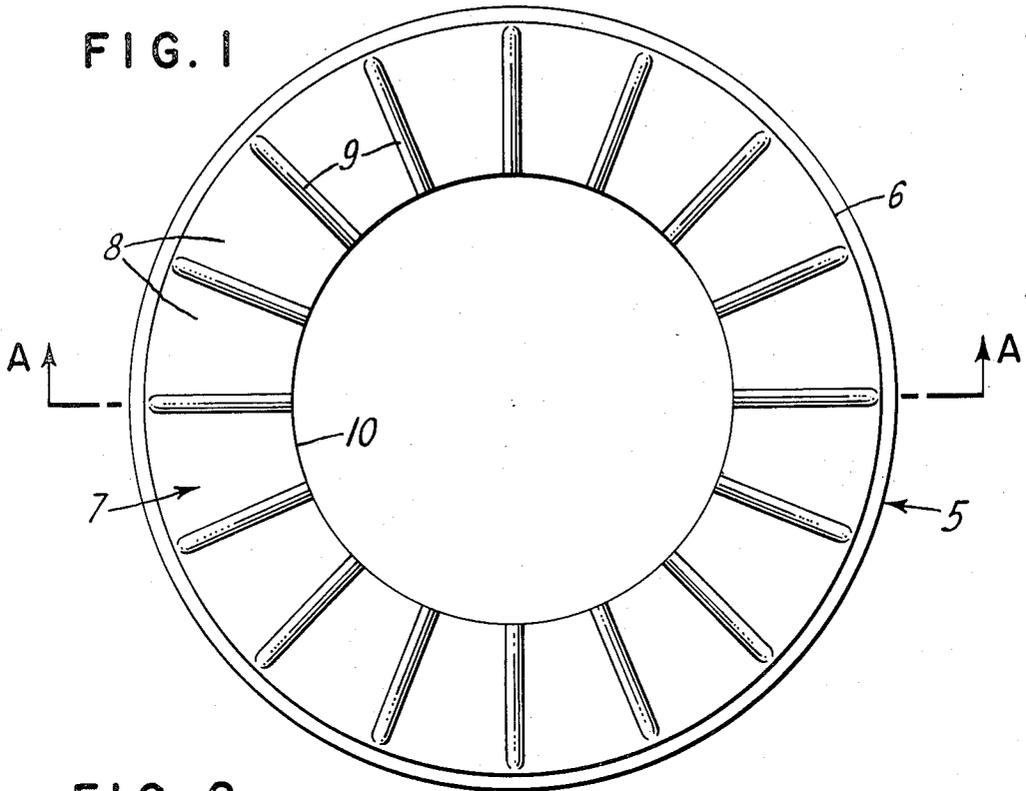


FIG. 2

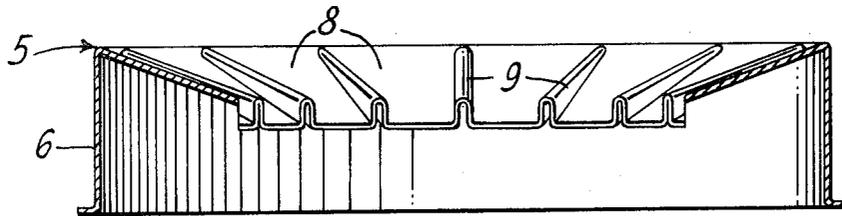
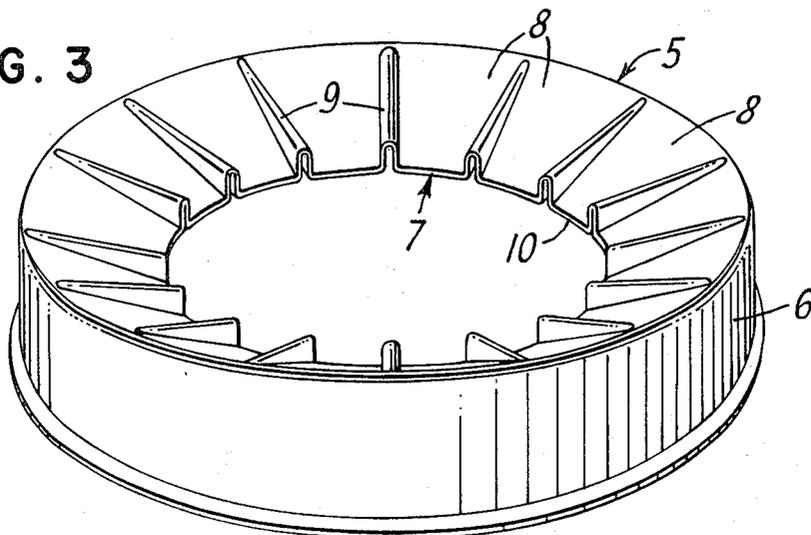


FIG. 3



CONTAINER CONTENTS RETAINING DEVICE

The present invention relates to refuse containers and more particularly, but not solely, to refuse containers for articles made of plastic foam material, e.g., cups, plates and bowls such as can be found in hospitals and school luncheon rooms.

When compacting such articles the foam material springs back and tries to retain its original shape due to its elasticity, somewhat like the behavior of a sponge.

According to the present invention there is provided a retainer for a refuse container the retainer comprising a collar having a flange for attaching the retainer to the container and having a membrane which has an aperture therethrough and is formed of a plurality of flexible webs, whereby when the retainer is mounted on a container by means of said flange, refuse can be inserted into said container through the aperture in the retainer whereupon the webs can flex to increase the size of the aperture and when refuse has passed through the aperture the webs flex in the opposite direction to decrease the size of the aperture and thus help to prevent the refuse from passing back out of the container.

The webs may be inherently flexible or may be provided with elastic means to provide their flexibility.

A constructional embodiment of the present invention will now be described, by way of example, with reference to the accompanying drawing, wherein:

FIG. 1 shows a plan view of a foam waste retainer according to the present invention;

FIG. 2 shows a sectional elevation taken on the line A—A of FIG. 1; and

FIG. 3 shows a perspective view of the retainer of FIGS. 1 and 2.

The retainer is made of low density polyethylene and comprises a collar 5 having a downwardly depending flange 6 which fits around the outside of the top of a refuse container, e.g., a tapered aluminum drum having its large end uppermost. The collar further comprises an inwardly turned annular flange or membrane 7 formed by a plurality of downwardly extending webs 8 interconnected by a series of radial ribs or loops 9 open at the bottom of the loop and closed at the top and upstanding from the webs 8 and tapering in depth from their distal ends to their ends adjacent the flange 6.

The retainer has a central circular opening or aper-

ture 10 the diameter of which may be 45 percent to 70 percent of the diameter of upper edge of the retainer and preferably 55 percent to 63 percent, e.g., 11 inches for a collar of 18 3/4 inches.

This retainer allows disposable articles of plastic foam to be directed and compacted into a bag-lined refuse container but the rebound of such articles is restricted. The ribs 9 give overall stiffness to the collar but permit distortion of the membrane in the downward direction because the ribs flex. Thus the size of the central aperture can be increased so that bulky items can pass therethrough.

After the articles have passed through the aperture the stretched ribs close and thus pull the webs 8 back up to their original position thereby decreasing the size of the central aperture and retaining the articles within the container because the membrane offers resistance to pressure in the upward direction because the membrane becomes stiff when the ribs have closed.

The retainer may be made from a sheet material or by molding and preferably from an incompressible but flexible synthetic resinous or plastic type of material.

What we claim is:

1. A retainer for a refuse container, the retainer comprising a collar having a flange for attaching the retainer to the container and having a membrane which has an aperture therethrough and is formed of a plurality of flexible webs, whereby when the retainer is mounted on a container by means of said flange, refuse can be inserted into said container through the aperture in the retainer whereupon the webs can flex to increase the size of the aperture and when refuse has passed through the aperture the webs flex in the opposite direction to decrease the size of the aperture and thus help to prevent the refuse from passing back out of the container, wherein the webs are interconnected by radial loop-shaped ribs.

2. A retainer as claimed in claim 1 wherein each loop-shaped rib is open at the bottom and closed at the top, is upstanding from the webs and tapers in depth from its distal end to its end adjacent the flange.

3. A retainer as claimed in claim 2 wherein the flange and membrane are annular and the membrane has a central circular opening, and the flange, member and ribs being integral with each other and made of low density polyethylene.

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