

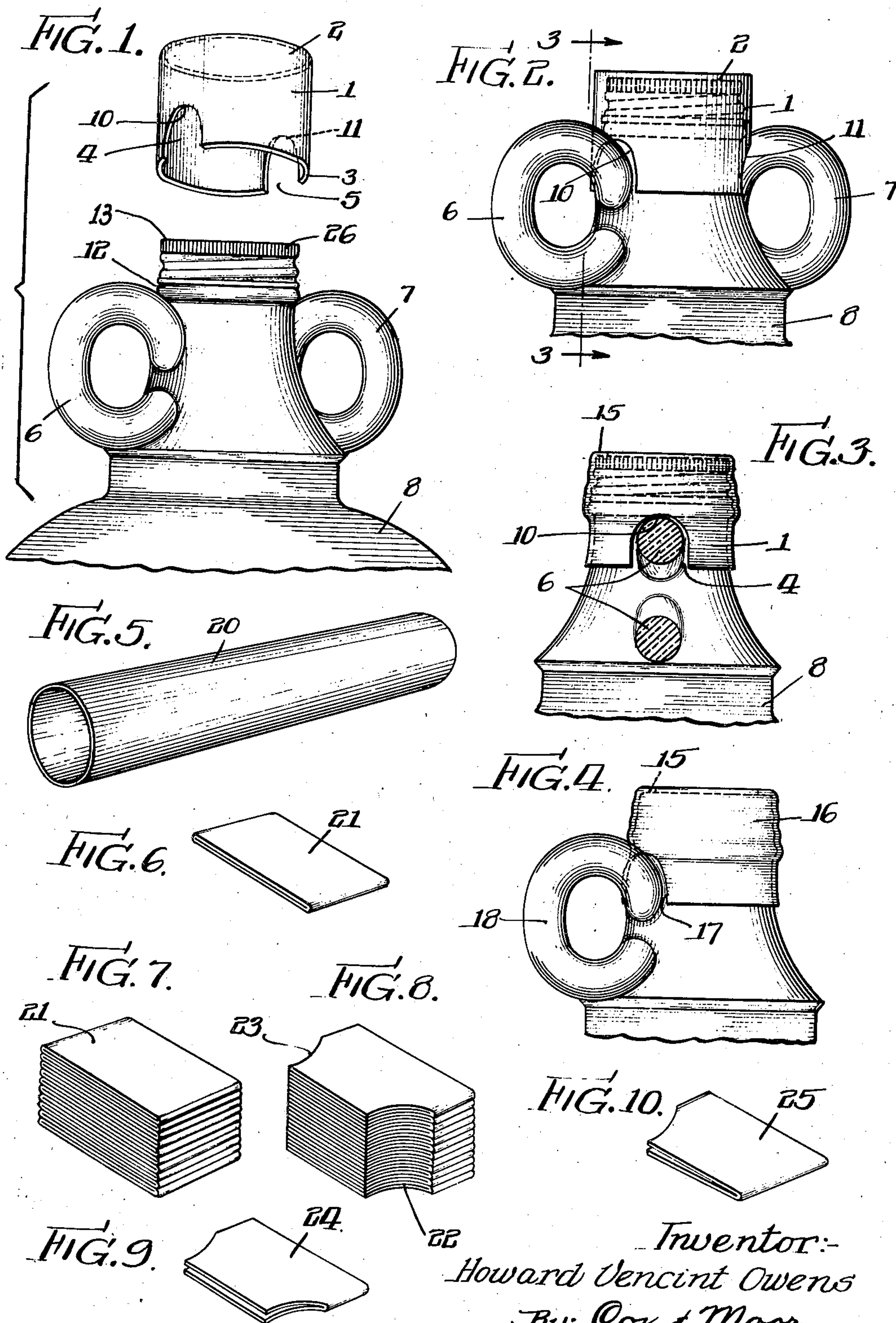
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CONTAINER CLOSURE AND METHOD FOR MAKING SAME

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## UNITED STATES PATENT OFFICE

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CONTAINER CLOSURE AND METHOD FOR  
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This invention relates in general to closure members for container tops, and more particularly to a closure member of the type conventionally made from viscose or similar material adapted to be shrunk in place around the top of the bottle, flask, or demijohn in the neighborhood of the cork or other sealing member.

It is the object of this invention to provide a closure member of the type which is caused to shrink around the sealed end of a bottle or other container, which will be particularly adapted for application to containers having irregularly shaped openings or necks in which the closure member will shrink to form a perfect fit in the neighborhood of the opening of the container and the sealing member.

Other objects and advantages of the present invention will appear more fully from the following detailed description, which, taken in connection with the accompanying drawing, will disclose the construction, process and operation of a preferred form of the present invention.

Fig. 1 is a diagrammatic representation of a preferred form of the invention showing the selected closure member about to be placed in position around the neck of a demijohn.

Fig. 2 is a perspective view of the neck of the demijohn, shown in Fig. 1, showing the closure member in place thereon.

Fig. 3 is a cross-section view of the embodiment shown in Fig. 2 about line 3—3 of Fig. 2.

Fig. 4 is a perspective view of another preferred embodiment of the present invention.

Fig. 5 is a perspective view of a tube of hydrated cellulose.

Fig. 6 is a perspective view of a cut-off segment of the tube shown in Fig. 5.

Fig. 7 is a perspective view of a stack of flattened segments, such as that shown in Fig. 6.

Fig. 8 is a perspective view of the stack of segments, shown in Fig. 7, after the same have been trimmed to form a stack of closure members.

Fig. 9 is a perspective view of one of the closure members shown in Fig. 8.

Fig. 10 is a perspective view of an alternative type of closure member.

The particular embodiment herein shown for the purpose of illustration comprises an open-ended cylinder of hydrated cellulose 1, Fig. 1, having an upper circular edge 2 and a lower circular edge 3. In the lower circular edge 3 are diametrically opposed recess portions 4 and 5. These recess portions are complementary to the handles 6 and 7 on the jug 8.

In its hydrated condition the diameter of the

cellulose cylinder 1 is considerably larger than the diameter of the portion of the neck of the jug 8 about which the cellulose closure member fits. It is slipped down over the neck while in the hydrated condition, the recesses 4 and 5 fitting around the handles 6 and 7, respectively. This allows the lower edge 3 of the cylinder to pass substantially down along the neck and secure the closure member firmly thereabout.

The top edge of the closure member 2 is located a substantial distance above the upper curved edges 10 and 11, respectively, of the recesses 4 and 5. This distance is preferably greater than the distance between the point at which the handles 6 and 7, respectively, join the neck of the jug and the line 12 which forms the juncture of the cap with the neck. It may be preferable to provide for a distance between the upper edge of the curve 10 and the top edge 2 of the closure member sufficient so that when the closure member is initially in place it will extend upwardly a slight distance above the top edge 13 of the cap 26.

As the hydrated cellulose cylinder becomes dehydrated, it shrinks considerably and conforms tightly to the shape of the object about which it is placed. Thus, the cylinder will shrink around the neck of the jug forming a perfect seal therefor.

In the event that the cylinder has been made tall enough so that there is a slight upstanding edge, as has been previously described, this upstanding edge, upon dehydration, will shrink down over the edge of the cap on the jug or demijohn and form a small, annular, inwardly extending ring 15 thereabout. Suitable designs may be cut into the top edge 2 of the cylinder so that, upon dehydration, a fanciful design may be formed in the plane of the top of the cap.

A closure member may be made for a jug having but one handle, as shown in Fig. 4, by providing a hydrated cylinder 16 with a single recess 17 which is adapted to fit complementarily about the single handle 18.

These closure members may be made preferably by extruding a tube 20 of hydrated cellulose, as shown in Fig. 5, from a suitable orifice (not shown). This tube is allowed to flatten and is then cut into a plurality of segments 21, such as that shown in Fig. 6. A suitable number of these flattened pieces are piled up one upon the other, as shown in Fig. 7. They are held firmly in this position while a suitable curved knife or cutting member makes proper arcuate cuts 22 and 23 along corners thereof, as shown in Fig. 8.



It will be apparent that the shape of this arc conforms in shape to the shape of the recess in the closure member.

After this treatment the separate members are separated from each other in the pile to form the flattened-out closure member 24, as shown in Fig. 9.

A suitable number of these flattened-out pieces are placed in a proper container and covered with water, or another suitable fluid, which maintains them in their expanded condition until the time of use. When it is desired to use the closure members they are individually taken from the container and placed in position about the neck of the container to be sealed and allowed to shrink in place thereon. If a closure member for a single-handle jug is desired, only one corner need be clipped off thereby forming a closure member 25, such as that shown at 25 in Fig. 10.

The present invention results in a type of closure member which has a number of advantages. Previously it has been practically impossible to provide a closure member which is suitable for use on jugs, demijohns and various types of flasks and containers which have prominent irregularities on the neck and particularly in the zone of the closure portion. The present invention provides a closure member which fits down around the neck of the bottle and contracts about the bottle neck snugly even though it fits around and does not cover the irregularities on the bottle neck, such as the handle members shown in the accompanying drawing.

Singularly enough, even though the bottom edge of the sealer member does not lie continuously in one place, it nevertheless fits snugly around the neck of the bottle all the way down. Furthermore, as the closure member dries and contracts, the indentations form tight-fitting shoulders about the handle portion of the jug and actually assist in preventing unauthorized

turning of the cap or cork which is inserted in the opening of the container.

Furthermore, this invention provides a closure member which curls itself downwardly in a sort of annular flange lying substantially in the plane of the top of the cap or cork. This in turn provides a sort of shoulder member which grips the cap or cork and holds it against unauthorized withdrawal from the neck of the container.

The present invention provides a closure member having hitherto unachieved decorative value.

It is to be understood that the process and devices shown herein are merely illustrative and that numerous changes may be made in the form, construction, and arrangement of the several parts without departing from the spirit and scope of the invention.

What is claimed as new and desired to be secured by Letters Patent is as follows:

1. The method of making a closure member for containers comprising extruding a solution of viscose through a suitable orifice to form a continuous tube thereof, coagulating the viscose thus extruded, cutting open-ended cylindrical segments off of the tube thus formed, flattening the segments, superposing a plurality of segments upon one another to form a stack, and cutting away a corner of said stacked segments.

2. The method of making a closure member for containers comprising extruding a solution of viscose through a suitable orifice to form a continuous tube thereof, coagulating the viscose thus extruded, cutting open-ended cylindrical segments off of the tube thus formed, flattening the segments, superposing a plurality of segments upon one another to form a stack, and cutting away a part of said stacked segments at an edge thereof to provide a closure member having opposed notches.

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