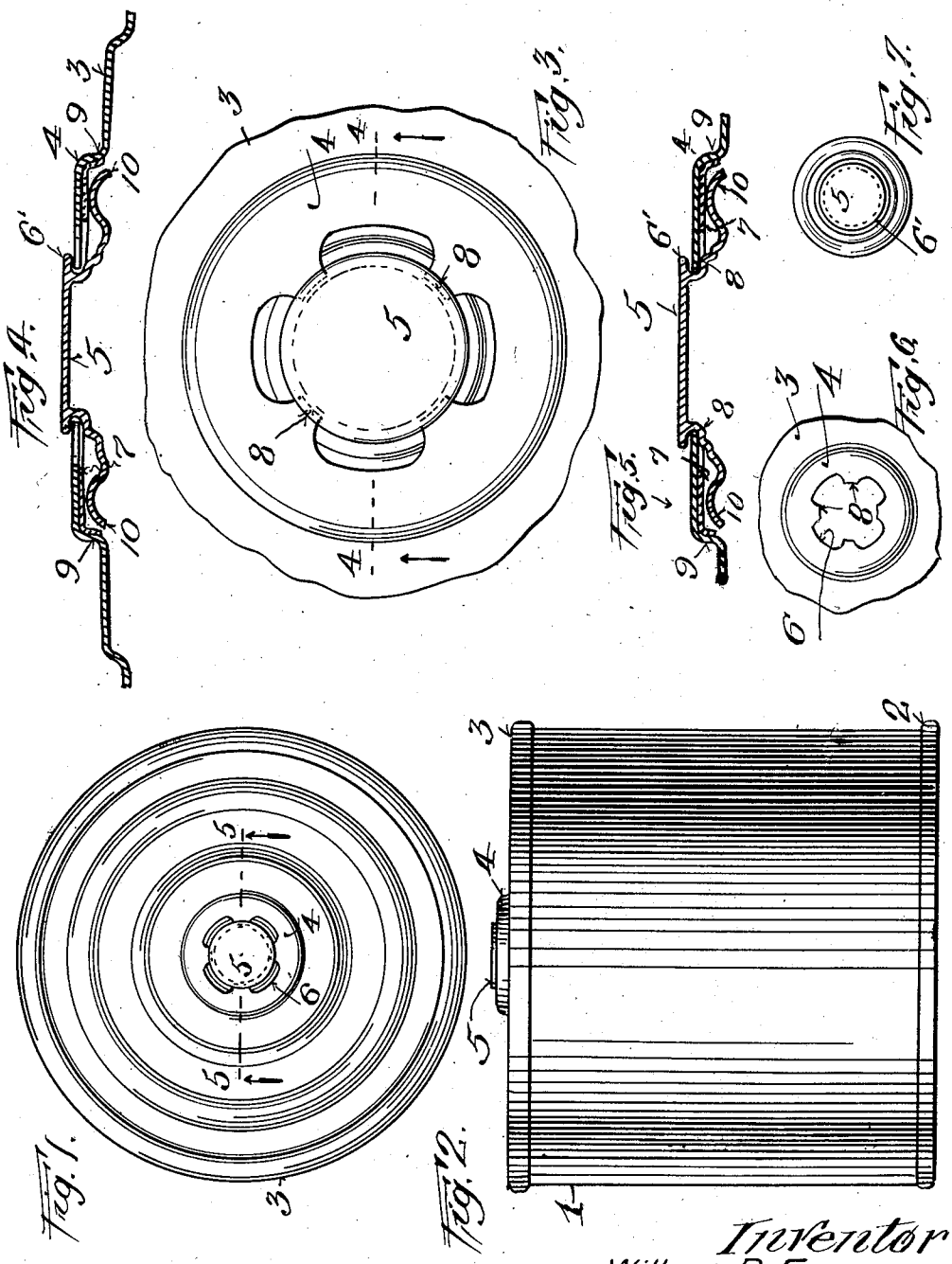
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CONTAINER AND VALVE AND METHOD OF EMPLOYING THE SAME

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UNITED STATES PATENT OFFICE

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CONTAINER AND VALVE AND METHOD OF EMPLOYING THE SAME

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This invention relates broadly to containers and valves therefor.

One of the objects of this invention is the provision of a container having a valve therein through which the container may be filled, sterilized and with which the container may be sealed.

A further object of this invention is the construction of a valved container which is relatively simple in construction and adapted to be rapidly manufactured at a relatively low cost.

A further object of this invention is the provision of a valved container which can be rapidly filled and sterilized through the valve and quickly and easily sealed to maintain the contents in sterilized condition.

A further object of this invention is the provision of a new and novel method of filling, sterilizing and sealing containers.

This invention resides substantially in the combination, construction, arrangement and relative location of parts and in the steps and relative arrangement of steps, to provide a novel method as will appear from the following disclosure.

Referring to the drawings, Fig. 1 is a top plan view of a container employing the principles of this invention.

Fig. 2 is a side elevational view of this container.

Fig. 3 is an enlarged plan view of the valve construction employed in the container.

Fig. 4 is a cross sectional view of the valve construction taken on the line 4—4 of Fig. 3.

Fig. 5 is a cross sectional view of the figure construction taken on the line 5—5 of Fig. 1.

Fig. 6 is a detail plan view of a part of the valve with the central valve member removed, and

Fig. 7 is a top plan view of the central valve member.

I am well aware as evidenced by various patents and pending applications of mine that it is old to provide containers having a valve therein through which the container may be evacuated and sterilized and by means of which the container may be finally sealed. As far as I am aware however, there is at present no such valve construction which is adapted to permit the filling of the container through the valve. I am able to secure this result by the construction disclosed below.

A container is shown at 1 having the bottom member 2 and top or closure member 3. The closure member 3 is provided with a raised portion 4 within which is mounted the valve member 5. As clearly shown in Figure 4 the valve member comprises a depressed disc element having a flange as shown at 6′ and a curved portion near its periphery as shown at 10. The raised portion 4 is provided with a central opening having a series of notches as shown at 6 to provide radial projections 8. These projections 8 engage under the flanged portions 6 of the valve member 5 and serve to support the valve in the position shown in the drawings.

A suitable sealing compound or rubber gasket is shown at 7 within the raised portion 4. By reason of the notched opening the container may be filled through the valve construction as will be apparent.

It is evident that this device is only particularly adapted for use on containers for liquids such as orange juice, milk and in fact, any liquids which do not have any or very little solid matter in them.

In carrying out the process for filling these containers, I clamp a suitable suction head around the projection 4 and evacuate the container. The liquid with which the container is to be filled is then admitted to the container through the notches 6 and past the periphery 10 of the valve without breaking the vacuum. The container and its contents are then sterilized by the use of any suitable sterilizing medium, as for instance, steam and then pressure is applied to the base of the projection 4 at the point indicated at 9. The

base of the projection by means of this pressure is forced inwardly to engage the periphery 10 of the valve member to firmly force it outwardly into contact with the sealing material 7. This forms a permanent air tight seal.

It will be apparent from the foregoing disclosure that I have evolved a novel valved container and method of filling, sterilizing and sealing the same. I am well aware that many changes in the details of construction, relative arrangement of parts and relative association of steps will occur to those skilled in the art and I do not therefore desire to be limited to the features disclosed by me for purposes of illustration but rather to the scope of invention as I have defined it in the appended claims.

What I seek to secure by United States Letters Patent is:—

1. The combination with a container of a closure for one end thereof having a raised portion with an opening therein and a valve member in said opening arranged so that the container may be filled through said opening and sealed by contracting said raised portion at its base.

2. The combination with a container of a closure for one end thereof having a raised portion with an opening therein, said opening being provided with a number of notches and a valve member in said opening engaging it at the edge of the opening so that the valve is held within said raised portion.

3. The combination with a container of a closure for one end thereof having a raised portion with an opening therein, said opening being provided with a number of projections and a valve member in said opening and engaging said projections to hold it within the raised portion.

4. The combination with a container of a closure for one end thereof having a raised portion with an opening therein, said opening being provided with a number of radial projections and a flanged valve member in said opening and supported on said projections.

5. The combination with a container of a closure member having a notched opening, a flanged valve member in said opening engaging the projections formed by the notches at its flanged portion and a sealing compound between the closure and the flanged valve member.

6. The combination with a container of a closure member having a raised portion with a notched opening, a flanged valve member in said opening engaging the projections formed by the notches at its flanged portion and a sealing compound between the closure and the flanged valve member, said raised portion and valve member being arranged so that the container can be sealed by applying pressure at the base of the raised portion to firmly hold the valve member in the opening to seal the container.

7. A can closure comprising a substantially plane member having a raised portion with a notched central opening and a flanged valve engaging said member at said notched opening whereby the valve is held in said raised portion and the notches provide passages into the interior of the container.

In testimony whereof I have hereunto set my hand on this 17th day of June, A. D., 1927.

WILLIAM B. FENN.