C. H. NOWACK.

NON-REFILLABLE CONTAINER.

APPLICATION FILED FEB. 7, 1916.

1,304,800. Patented May 27, 1919.

Fig. 1.

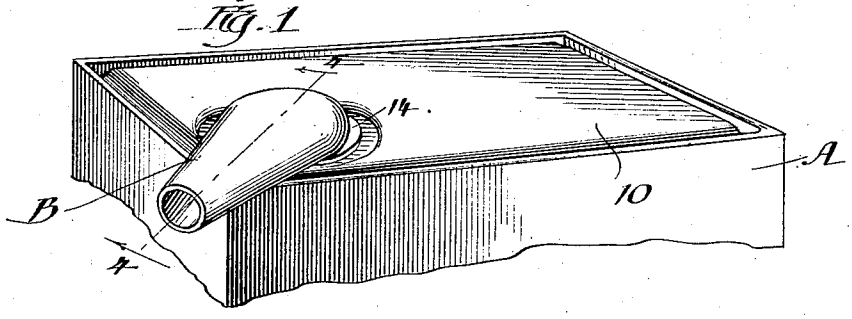


Fig. 2.

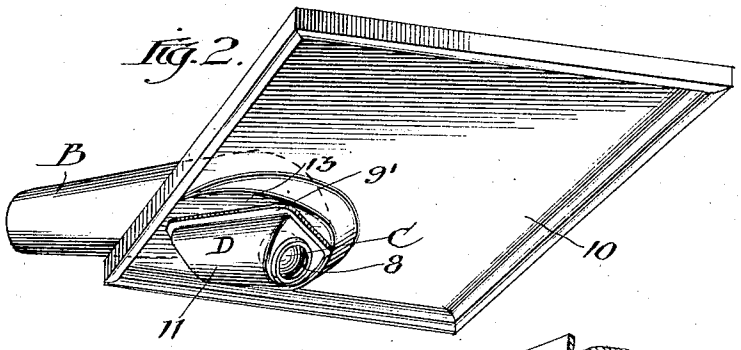


Fig. 3.

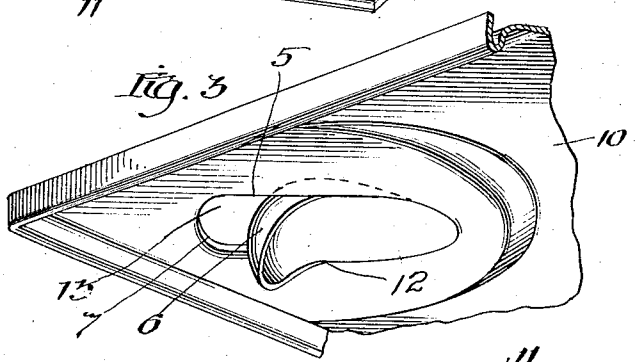
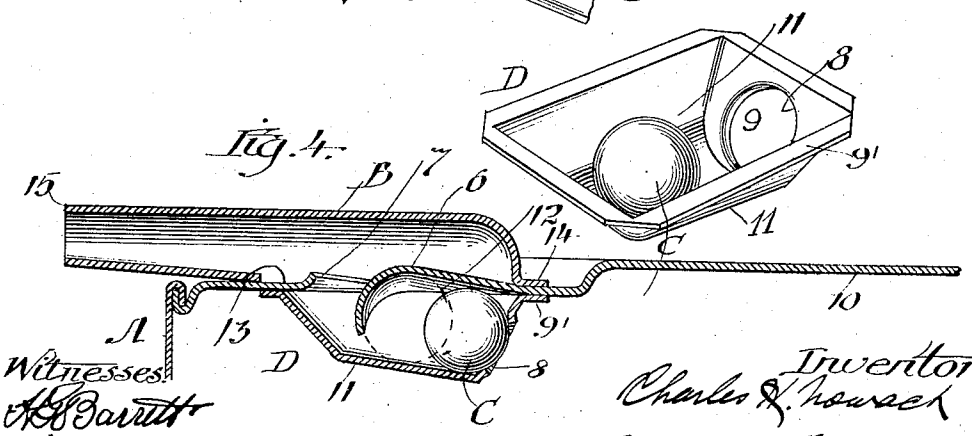


Fig. 4.



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UNITED STATES PATENT OFFICE.

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NON-REFILLABLE CONTAINER.

1,304,800. Specification of Letters Patent. Patented May 27, 1919.

Application filed February 7, 1916. Serial No. 76,783.

To all whom it may concern:

Be it known that I, CHARLES H. NOWACK, a subject of the Emperor of Austria-Hungary, residing in Oak Park, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Non-Refillable Containers, of which the following is a specification.

This invention relates in general to non-refillable containers and has more particular reference to containers of this character provided for the packaging of liquids in relatively large bulk, as for example, kerosene, gasolene and other liquids in gallon and larger containers, although it has application to containers of other capacities and for other purposes, particularly if such containers be constructed of sheet metal.

A principal object of this invention is the provision of a container of this general character which may be cheaply constructed and without many additional parts, and which will prevent adulteration of the contents and prevent also refilling of the container except by persons having special equipment therefor.

Kerosene and any number of other liquids are packed by the packer in one, two, three and five gallon cans and these cans have in the past frequently had some of the original contents removed by the jobber, wholesaler or retail dealer, and water or other diluent substituted for the portion removed, weakening the substance and thereby defrauding the customer. It is a decided object of this invention to provide a container in which this cannot be accomplished.

A further annoying practice for many packers has been the refilling of these containers with goods other than their own and this also my invention aims to eliminate by providing a container which cannot be refilled to an extent sufficient for commercial purposes, that is to say, through the provision of a container which can only have placed in it too small contents to sell as a complete package.

A still further object of the invention is the provision of such a container which, after being wholly assembled can be readily filled and refilled by the packer through the use of suitable equipment, which equipment will be of such nature as not to be available for use by the retail dealer, wholesale dealer, jobber or others likely to attempt unauthorized filling thereof.

Other objects and advantages of the invention will be apparent as it is better understood from the following description when considered in connection with the accompanying drawing illustrating a preferred embodiment thereof.

On the drawing,

Figure 1 is a partial perspective view of a container embodying my present invention;

Fig. 2 is a perspective showing the bottom of the top wall of such a container;

Fig. 3 is a similar enlarged partial view showing certain of the parts before assembling; and

Fig. 4 is a section taken substantially in the plane of the lines 4—4 in Fig. 1.

For the purpose of illustrating my invention I have shown on the drawing a can A rectangular in cross section, although it will be manifest that any form of can may be provided with a non-refillable device embodying my invention.

This device, in the present instance, comprises a nozzle B, a ball valve C and a ball-valve carrier D. The top wall of the container is cut at 5 from the under side to set off a lip 6 and provide an upwardly extending edge or flange 7 thereabout. The lip 6 is bent inwardly at this end and cupped, as shown in Figs. 3 and 4, the curvature given it being such as to cause it to fit the valve or ball C. The ball carrier D consists of a stamped metal plate having a valve seat 8 surrounding an opening 9 at the rear end of the carrier. This carrier is provided with flanges 9^1 which may be soldered or otherwise secured on the under face of the sheet of metal 10 forming the top wall, and is so arranged as to cover the lip 6 and yet leave room between the lip and the valve seat 8 for the ball C to move into open and closed position. The lower part 11 upon which the ball C normally rests is inclined from the rear end to cause the ball to roll down against the seat when liquid is not being poured from the container. The vertical clearance given this ball is relatively slight and the material back of the end of the lip is bent upwardly at 12 in substantial parallelism with the bottom 11 of the carrier. The

nozzle B is composed, in the present instance, of a sheet of suitable material and extends in parallelism, and in the present instance, close to the plane of the sheet 10. It has an opening 13 in its under side through which access is permitted from the valve carrier and between the edge or flange 7 and the lip 6. It is secured about the flanged edge 14 with which it is provided to the outer face of the top sheet 10 of the container A and the nozzle is relatively small at its open end 15.

Viewing Fig. 4, it will be noted that the ball or gravity valve C must be positively pulled from its seat in order to permit filling of the container, and this is impossible by reason of the difficulty of getting past the lip 6, the edge 7 acting to materially increase this difficulty.

The container thus described may be filled in a number of ways, each of which requires equipment not ordinarily in the hands of the handlers of this character of goods. It may be filled by placing a vent hole in the bottom of the container, inverting it and permitting the liquid to flow in by gravity past the ball C, or it may be filled without providing the hole in the bottom by inserting upon it a suction through the nozzle and of sufficient strength to pull the ball valve back against the lip.

If filled when provided with a vent, it is of course necessary to close the vent with solder or other material. If the vent be not provided and no suction be available, very little material can be placed in the container if the container is wholly emptied, for as soon as the aperture at the valve-seat is covered when the container is in inverted relation, the air in the container forms a trap which will prevent the entrance of substantially any additional material. Substitution of a part of a material can not be made for when the container has an appreciable content nothing may be added and though some of the contents be poured off, none can be substituted in its place with ordinary apparatus and tools.

The construction of the nozzle requires only two additional elements for the sheet 10 would have to be perforated and also the nozzle must be provided. The only elements additional in number required to render the container non-refillable are the ball C and the carrier or ball cage D. The ball C may be an ordinary ball-bearing ball or it may be specially prepared and the carrier D can be stamped from a single sheet of metal.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing any of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:—

1. A non-refillable container comprising a body, a perforated valve-carrier secured within and to the same, a gravity valve in said carrier and adapted to close the perforation in said carrier, said body having an aperture above said carrier, and a nozzle secured above said aperture, the material of the body being bent inwardly of the body back of said aperture and in front of said valve and cutting off access to the valve from the nozzle to prevent manipulation of the valve from without, said inwardly bent part of the body being interposed between the valve and the open end of the nozzle.

2. A non-refillable container comprising a body, the top wall of said body being cut to set off a lip, said lip being bent inwardly of the container and shaped to engage the forward side of a gravity valve and cutting off access to the latter, a gravity valve carrier having a perforation at its rear end secured beneath said lip and the opening formed by bending in the lip, a gravity valve secured between said lip and the rear end of said carrier and a nozzle covering said lip, secured to the outer face of said container.

3. A non-refillable container comprising a sheet metal wall cut from one side to set off a lip and provide an upwardly extending edge thereabout, said lip being depressed from the opposite side and formed to engage the forward side of a gravity valve, a gravity valve carrier secured to the under side of said sheet and having a valve seat at its end behind said lip, a gravity valve interposed between said lip and seat, and a nozzle secured over said lip and extending into substantial parallelism with said sheet, the lip being interposed between the valve and the pouring end of the nozzle.

4. A non-refillable container comprising a sheet of metal cut to set off a lip, said lip extending inwardly of said container and being cupped to engage the forward side of a ball-valve, a valve carrier disposed within said container and beneath said lip and the opening formed by bending in the lip, and having a valve seat behind said lip, a ball interposed between said seat and lip and a nozzle covering said lip and extending in substantial parallelism with the plane of said sheet, said lip being interposed between said ball-valve and the outer end of the nozzle.

5. A non-refillable container comprising a sheet of metal cut from one side to set off a lip and provided with an upstanding flange around said lip, said lip being bent and depressed from the opposite side to form an opening and cupped to engage the forward side of a ball valve, a ball-valve carrier disposed within the container and inclosing

said lip and the opening so formed and having a valve seat at its end behind said lip, a ball-valve interposed between said lip and seat, and a nozzle covering said lip and disposed substantially in the plane of said sheet, said lip being interposed between the said ball-valve and the nozzle opening.

6. A non-refillable container comprising a sheet of metal cut to set off a lip, said lip being bent and cupped and extending inwardly of said container to form an opening, a ball-valve carrier secured within said container and covering said lip and inclosing the opening so formed and having a seat at its rear end behind said lip, the bottom of said carrier being inclined to cause the ball to roll to said seat, and a nozzle disposed over said lip, the latter being arranged to shield the ball-valve from access through the nozzle.

7. A container having an aperture in its top, a ball-valve carrier having an inclined bottom and an opening through its end and attached to the under side of the container top around said aperture, a ball-valve rollable on said inclined bottom to close and to uncover said opening, a nozzle having an open base attached to the container top around said aperture, and a lip in said carrier and interposed between the ball-valve and the nozzle opening.

8. A sheet metal container having an aperture through its top plate; a ball carrier having a pouring opening at one end, arranged longitudinally under said top plate and downwardly inclined toward said opening so that a ball may roll by gravity to close said opening when the container is in upright position; a ball in said carrier under said top plate; a nozzle having an open base attached to the upper side of said top plate around said aperture; and means preventing access through the nozzle to said ball.

9. A container having a pouring opening and an internal casing surrounding said opening and provided with an inner valve opening and a runway for a valve ball arranged between said openings, a valve ball in said runway, and a lip arranged between the ball and the pouring opening and cutting off access to the ball through the latter opening.

Signed in the presence of two subscribing witnesses.

CHARLES H. NOWACK.

Witnesses:
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ESTHER ABRAMS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."