April 12, 1932. G. R. WEBBER 1,853,390

LOW TEMPERATURE DISPENSING CONTAINER

Filed March 17, 1928

Fig. 1

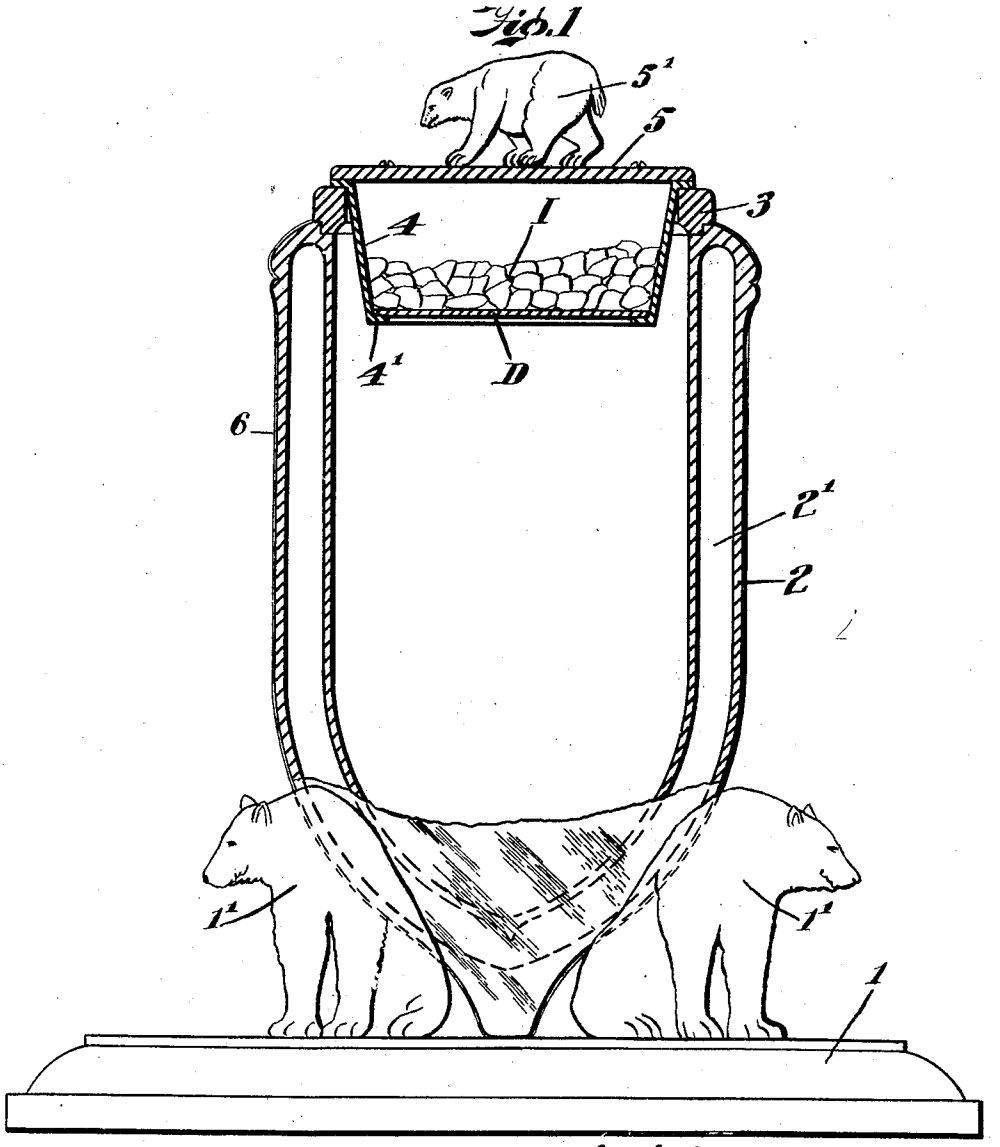


Fig. 3

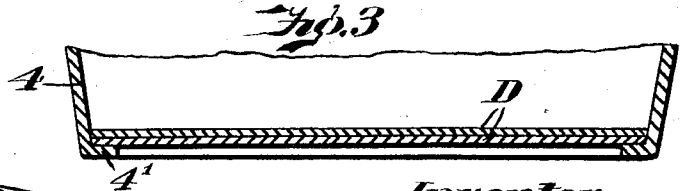
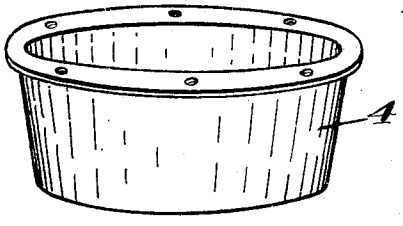


Fig. 2



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UNITED STATES PATENT OFFICE

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LOW TEMPERATURE DISPENSING CONTAINER

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My present invention relates to containers and more particularly those intended to dispense articles which must be kept at temperatures below room temperature.

In the merchandising of certain frozen or perishable articles much difficulty has been experienced in providing any convenient or inexpensive way of displaying the articles while at the same time protecting them from store temperatures. The result has been that such articles have usually been inconveniently stored in refrigerators, ice boxes or other low temperature containers which were relatively unaccessible to the store clerk and being out of sight of the prospective customer afforded him no purchasing urge. The display of such articles as on the counter or otherwise in plain sight of customers has long been recognized as desirable but except in connection with rather elaborate refrigerated display devices the same has not been deemed possible.

My present invention contemplates a container or receptacle of the same general character as the broad mouthed display jar used for countless commodities where the temperature made no difference. My jar, however, while apparently of that simple type and while operable with the same simplicity is in fact an insulated jar refrigerated by its stopper or closure which is in effect a refrigerating unit capable of maintaining the jar contents at a low temperature for a considerable period of time.

As illustrative of my invention I have shown in the accompanying drawings a simple form by which the desired results may be attained which is inexpensive but capable of being produced in attractive form and which provides for that visible and intimate dislay which the old counter jar afforded with no hope of refrigerating protection. Throughout the specification and drawings like reference characters are employed to indicate corresponding parts, and in the drawings:

Fig. 1 is a partly sectioned elevation of a jar in accordance with my invention.

Fig. 2 is a view of the stopper or closure removed from the refrigerating container, and

Fig. 3 a section bottom fragment of the same showing by way of modification a plurality of the permeable discs.

In the drawings I have indicated at 1 the base on which is supported in any desired manner a container 2 formed with double walls and an annular space 2^1 from which the air may be exhausted so that it is in effect an inverted vacuum bell or what might be called an open mouth jar. About the mouth of this jar is an insulating ring 3 into which fits a stopper or closure. This stopper comprises a depending tapered member 4 adapted to be supported within the upturned mouth of the container 2 and having a bottom flange 4^1 on which rests one or more permeable discs D. These discs D may be of any suitable porous material, as for example, a porous natural or artificial stone, or a composite disc of fibre, or may I find be made up of paper or cardboard discs. This is a very inexpensive way of effecting a predetermined penetration of the solidified carbon dioxide which I prefer to use as the refrigerant in the chamber 4 and which I have indicated by the reference letter I. I show a single disc in Fig. 1 and a pair of discs in Fig. 3. By increasing or decreasing the number of these discs or by substituting discs of different thickness, the rate of escape of the carbon dioxide is regulated to suit the contents and the local conditions and the season. Of course, this member 4 could be made with an integral bottom of permeable material which could be rendered more or less impermeable by coating or otherwise and in some cases I would actually use such a combined container and closure. I find in practice, however, that the paper disc principle is so simple, so inexpensive and so sanitary acting both as a filter and an absorber that I give it preference for ordinary purposes.

The upper part of this chamber is closed by a detachable disc 5 having any suitable handle 5^1. The handle 5^1 and the supporting elements 1^1 are merely shown in decorative rather than purely mechanical form merely to illustrate the potential effectiveness of

such a device as a sales factor. The so-called dry ice or other refrigerant may be replaced in the stopper member 4 as required or an interchangeable stopper may be used to avoid any substantial cooling of the interior of the container 2. On account of the insulating values of the container 2 it is found that a temperature within the container during the dispensing of an average content may be maintained at 22° F., the refrigerating medium lasting about 74 hours. The solidified carbon dioxide on account of its potential low temperatures requires very little space and the slight amount of moisture generated may be taken up by the disc D for which purpose the paper above described serves very well.

My container may be made of any desired material, as for example, metal, glass or composite, but glass is preferable for many reasons, especially on account of its transparency and its ductility.

Inasmuch as vacuum containers are of somewhat delicate character and somewhat susceptible to jar and impact, I provide a guard against any shattering of the glass that might involve risk to those nearby. Such a guard I have indicated at 6. It may consist of an enclosing wire or other mesh or may be a close fitting jacket or transparent material such as one of the condensation products or preferably it may consist of a coating of nitro-cellulosic character applied to the outside of the jar and allowed to dry with a shrinking effect resulting from the evaporation of its solvent. In this way I am able to put a transparent skin or coating on the outside of the jar which by reason of its tight fit and coherence holds or forces inward all particles of glass that might otherwise be freed in case the jar is shattered. While these jars do not in practice suffer more breakage than the ordinary jar, this protective feature is highly important as it is a safety factor making possible the use of these vacuum bells of relatively inexpensive structure which otherwise might require a much more expensive factor of stability.

While I have shown a device of simple and inexpensive form it has proven to be a very practical and inexpensive device with a relatively high sales efficiency. It is of course capable of an infinite variety of design and ornamentation and may be variously constructed in accordance with my invention as defined by my claims.

What I therefore claim and desire to secure by Letters Patent is:

1. A low temperature counter display comprising an insulated wall vessel having an open mouth, a combination vessel closure and refrigerant holder comprising a hollow cup-like member set within the open mouth of the vessel and adapted to contain a refrigerant, said holder having an annular side wall depending into the vessel and a gas-permeable bottom of porous material and having a displaceable cover.

2. A low temperature counter display comprising an insulated wall vessel having an open mouth, an insulating ring about said mouth, a refrigerant holder seated on said ring and comprising a hollow cup-like member depending within the vessel and adapted to contain a refrigerant, said holder having a displaceable cover and having a gas-permeable bottom of porous material.

In testimony whereof I affix my signature.

GEORGE R. WEBBER.