

(No Model.)

H. S. WETHERBEE, Dec'd.,

A. C. WETHERBEE, Administrator.

FRUIT JAR.

No. 259,065.

Patented June 6, 1882.

Fig. 2.

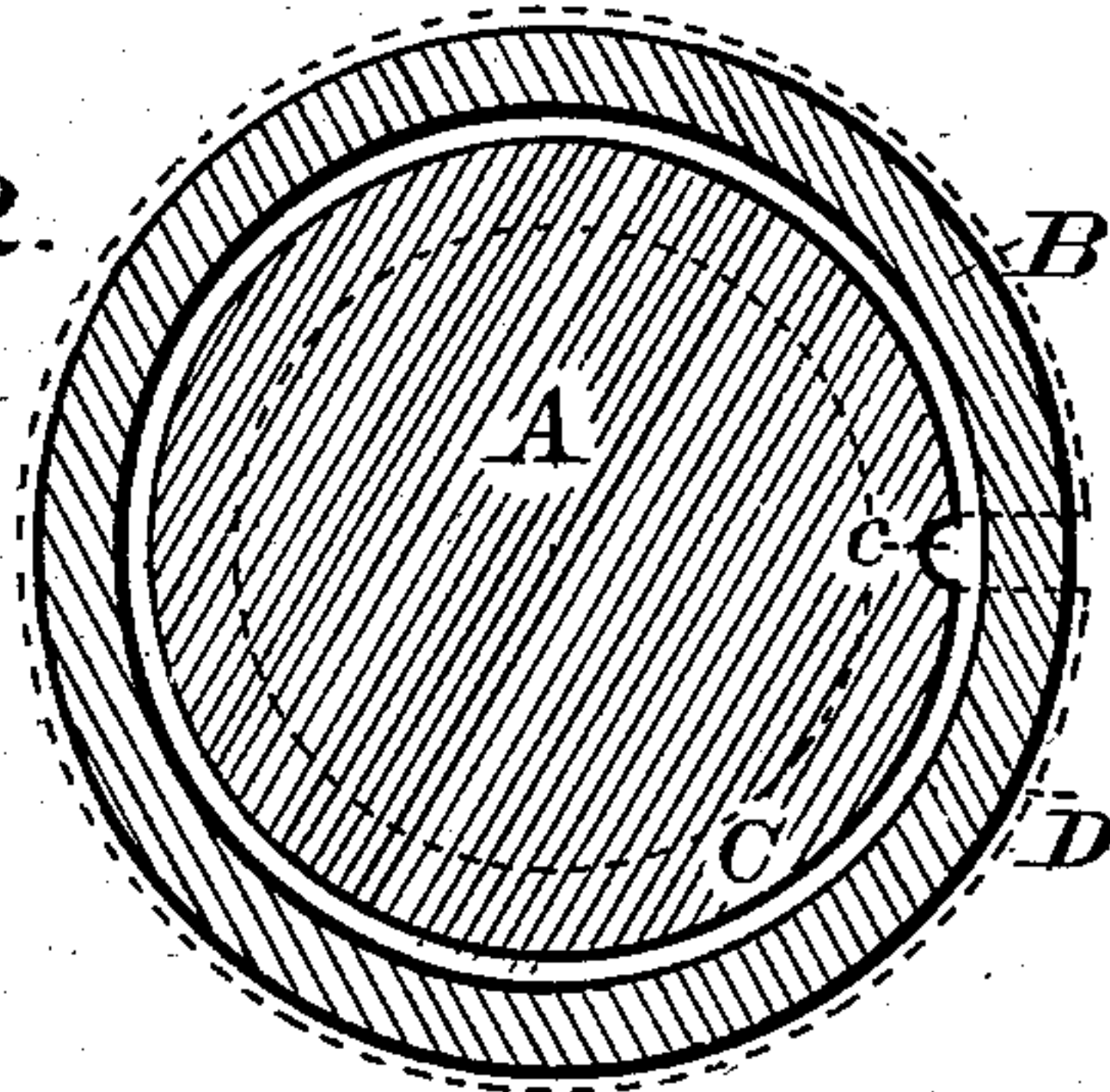
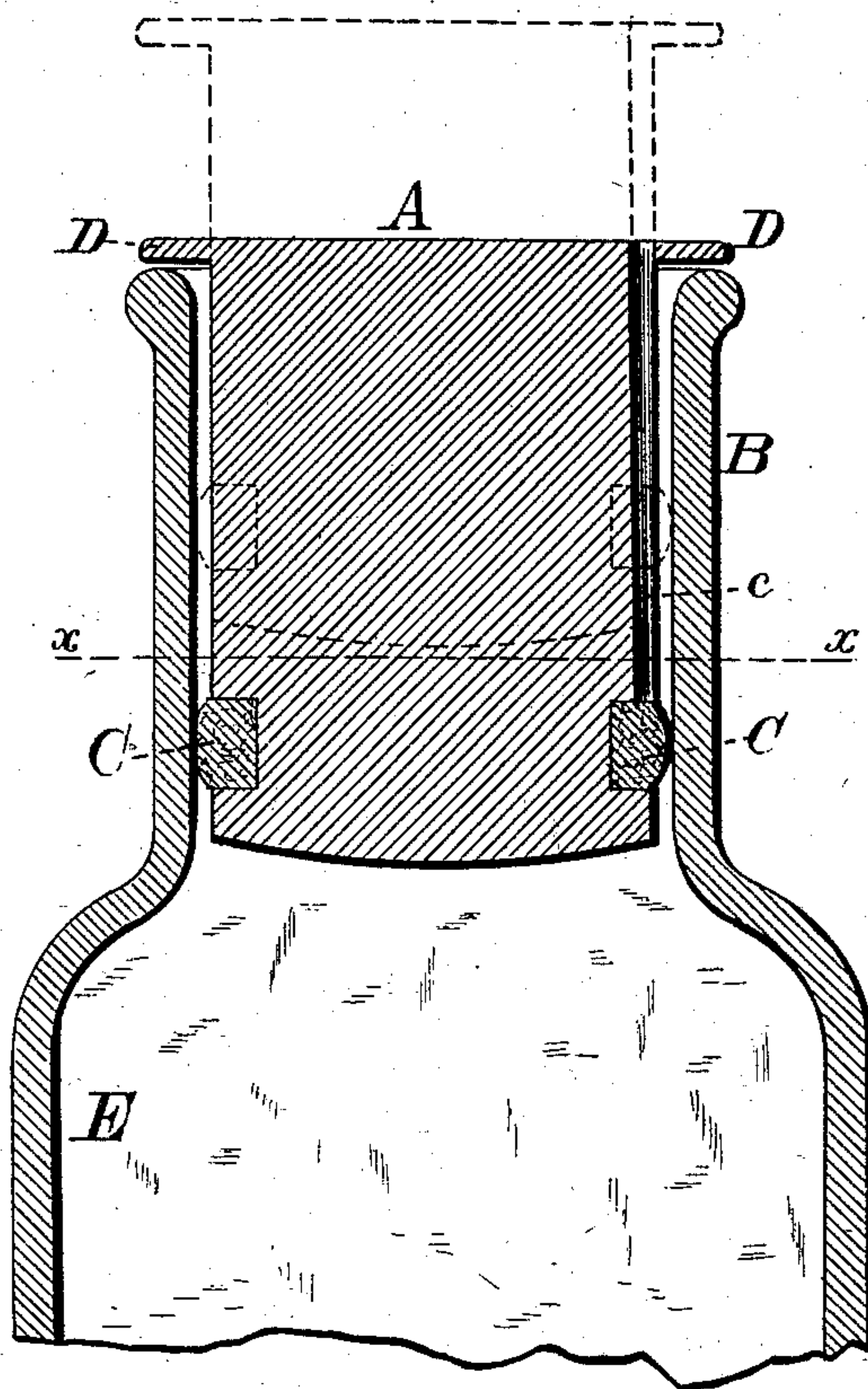


Fig. 1.



Attest:

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UNITED STATES PATENT OFFICE.

ALBERT C. WETHERBEE, OF HAMMONTON, NEW JERSEY, ADMINISTRATOR
OF HENRY S. WETHERBEE, DECEASED.

FRUIT-JAR.

SPECIFICATION forming part of Letters Patent No. 259,065, dated June 6, 1882.

Application filed October 9, 1880. (No model.)

To all whom it may concern:

Be it known that HENRY S. WETHERBEE, of Hammonton, in the county of Atlantic and State of New Jersey, did invent a new and useful Improvement in Fruit-Jars; and I, ALBERT C. WETHERBEE, administrator of the estate of the said HENRY S. WETHERBEE, do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

The nature of this invention consists in the peculiar construction of the neck and stopper of the fruit-jar in such a manner that the stopper can rise and fall within the cylindrical neck of the jar, holding the packing-ring always in a plane perpendicular to the axis of the neck of the jar, as the contents of the jar may expand or contract, avoiding under all circumstances either air or a partial vacuum between the contents of the jar and the stopper, the stopper being adapted to force out and exclude all air from the contents of the jar, as more fully set forth in the following specification and claim.

In the accompanying drawings, Figure 1 represents a vertical section through the stopper and the neck and upper portion of the body of this improved fruit-jar. Fig. 2 represents a transverse section of the same on the line *x x* of Fig. 1.

Similar letters of reference indicate like parts in all the drawings.

The main body of the jar is represented in Fig. 1 by the letter E.

The neck B of the fruit-jar is formed into the shape of a perfect cylinder, extending upward from the main body of the jar, preferably two or three inches, being several times the length of the ordinary neck of the fruit-jars in common use, but may be varied somewhat, according to the size of the jar and the diameter of the neck. The throat or inner face of the neck B should be formed smooth and true into a perfect cylinder, to insure the free and air-tight action of the stopper.

The stopper A is also in the form of a cylinder, and should be large enough in diameter to nearly fill the neck of the jar, but loose enough to be freely raised and lowered in the

neck of the jar. Near the lower end of the cylindrical stopper a broad rectangular groove extends around the cylinder to receive the rubber ring or elastic band C, which serves as a packing. The cylindrical stopper A may be formed hollow, open from above, but closed at its base to lighten the same. The stopper A may be formed with a flange, D, projecting over the upper edge of the neck of the jar, to prevent the stopper from being forced through into an empty jar and to assist in withdrawing the stopper from the jar.

c is a groove extending vertically along one side of the cylindrical stopper from the top of the stopper to the rubber packing. Through the groove *c* a wire can be inserted between the elastic packing and the neck of the jar, forming a vent both in inserting and withdrawing the stopper.

The operation of this improved jar is as follows: The jar is filled with fruit and with the warm liquid in which the fruit is cooked to, say, about the central portion of the cylindrical neck of the jar. The stopper A is then inserted in the neck of the jar, a small wire being placed in the groove *c* and between the rubber packing and the neck of the jar. The stopper A is next to be pressed down forcibly, expelling all the air, gas, or vapor from beneath the stopper, the air escaping through the orifice between the wire inserted and the side of the neck where the wire passes the packing. The stopper A is forced down until all the air is expelled and the base of the stopper rests upon the contents of the jar. The wire being withdrawn, the stopper is left in actual contact with the contents of the jar—that is, the fruit and juice to be preserved—and the elastic packing-ring C effectually excludes the contents of the jar from all contact with the external air. The stopper A is formed with an extension above the packing-ring C, nearly filling the cylindrical neck of the jar, so that whenever the packing-ring is forced into the neck of the jar it will be held by the upper part of the stopper in a plane perpendicular to the axis of the neck. In any other plane the packing-ring would not be air-tight, and were no means provided for keeping the packing-ring in a plane perpendicular to the

axis of the neck of the jar as the stopper is raised and lowered in the neck it would be liable to rise or fall at one edge only, while the other edge remained stationary. By providing a suitable arrangement to retain the packing-ring in its proper plane perpendicular to the axis of the neck, the packing is always air-tight, however much it may be raised or lowered in the neck of the jar. If the contents of the jar shrink in cooling, the stopper and elastic packing will follow down under the outer atmospheric pressure, keeping the stopper always in close contact with the contents and avoiding any vacuum between the stopper and the contents of the jar.

The stopper can readily be withdrawn at any time, if desired, by introducing the small wire before referred to into the groove *c* between the packing-ring *C* and the neck of the jar, allowing the external air to enter as the stopper is withdrawn.

With this improved jar the stopper can be removed at any time, the contents of the jar examined and tested, a small portion being taken out, if desired, and the stopper returned to its place in contact with the contents of the jar. This can all be done without reheating the jar or contents, and fruit canned in these jars will keep fresh and sweet without change, even though the stoppers be several times removed and replaced, because no air is left between the stopper and the contents of the jar to cause fermentation or change.

The neck of the jar should be formed of sufficient length to allow all the desired free play to the stopper, to allow the stopper to follow the contents of the jar through all extremes of expansion and contraction, or to allow small portions of the contents of the jar to be removed for testing, if desired. The inner face of the neck of the jar must form a perfect cylinder as far as the packing-ring is ever designed to rise or fall. The packing-ring should be so formed as not to roll between the stopper and the neck of the jar as the stopper is raised or lowered in the neck. To accomplish this the packing-ring must be broad enough so that

it cannot roll out of its place in the groove around the stopper. A broad band or packing-ring, *C*, with a flat base fitting into the rectangular recess or groove around the stopper, the packing-ring having a convex outer face, as shown in section in Fig. 1, is best adapted for the purpose.

To prevent the stopper from ever canting to either side, and to retain the packing-ring always in its proper plane perpendicular to the axis of the neck of the jar, the stopper is formed of cylindrical shape, slightly smaller than the neck of the jar. When placed within the neck of the jar the axis of the stopper must therefore correspond with the axis of the neck of the jar, always retaining the packing-ring *C* in its true position to form an air-tight joint.

I am aware of the patent issued to W. W. Lyman, Reissue No. 1,920, March 28th, 1865, in which he uses a shallow stopper with a packing-ring around the same and a recess in the side of the shallow stopper for a venting-pin; but his stopper is not adapted to vertical motion in the neck of his jar, keeping an air-tight joint as the contents of the jar contract or expand.

What is claimed as new, and desired to be secured by Letters Patent, is—

The combination of a fruit-jar having a neck with a smooth straight and cylindrical inner surface with a stopper having a groove around the base and an elastic packing-ring embedded immovably in the groove, and having in its side a groove for a venting-pin, the stopper having a cylindrical extension above the packing-ring nearly corresponding in diameter with that of the extended neck of the jar, whereby the stopper without tipping may rise and fall within the neck of the jar as the contents expand or contract, and the jar may be vented, all as and for the purposes set forth.

ALBERT C. WETHERBEE,
Administrator of the estate of Henry S. Wetherbee.

Witnesses:

T. S. WETHERBEE,
R. G. HYDE.