No. 759,889. PATENTED MAY 17, 1904.

J. C. HOWELLS, Sr.

GLASS OR EARTHENWARE VESSEL.

APPLICATION FILED OCT. 11, 1902.

NO MODEL.

Fig. 1.

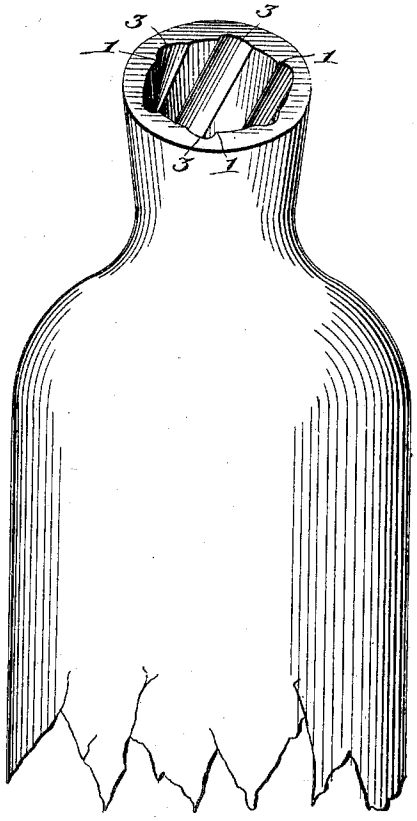


Fig. 2.

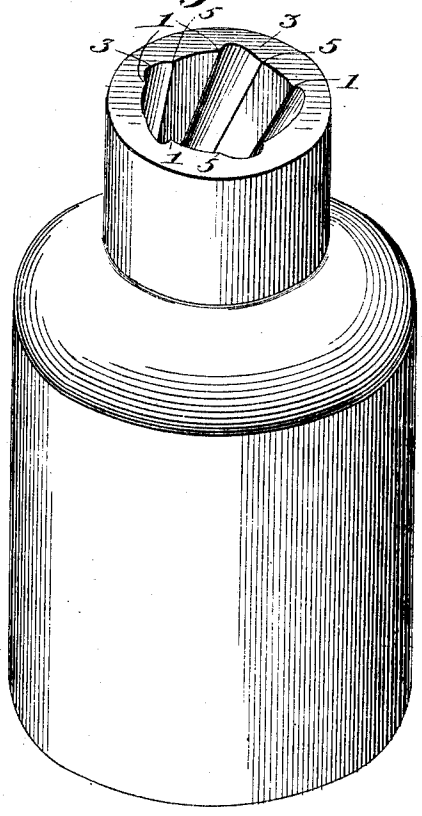


Fig. 3.

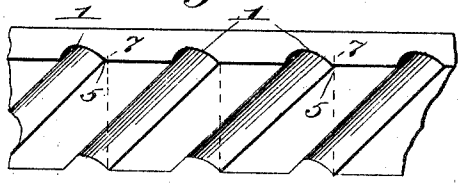
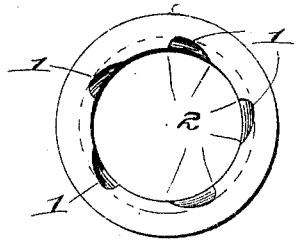


Fig. 4.



Joseph Charles Howells Sr.

Inventor:

Witnesses:

Fred. Evans.

Chester A. Evans.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 759,889. Patented May 17, 1904.

UNITED STATES PATENT OFFICE.

JOSEPH C. HOWELLS, SR., OF SUMMIT, NEW JERSEY.

GLASS OR EARTHENWARE VESSEL.

SPECIFICATION forming part of Letters Patent No. 759,889, dated May 17, 1904.

Application filed October 11, 1902. Serial No. 126,886. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH C. HOWELLS, Sr., a citizen of the United States, residing in the city of Summit, county of Union, and State of New Jersey, have invented a new and useful Improvement in Glass or Earthenware Vessels, as set forth in this specification.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation, reference being had to the accompanying drawings, and to the figures of reference marked thereon

Figure 1 represents the neck or mouth of a bottle with my improvement. Fig. 2 represents a jar provided with my invention. Fig. 3 refers to parts in detail. Fig. 4 is a top view of the mouth of a jar with the cork or stopper inserted.

Similar figures indicate like parts in all the drawings.

The nature of my invention consists in so constructing the surface of the inner neck or mouth of a vessel that a cork or stopper of suitable material and size may completely close and seal the neck or mouth of the same and without any external fastening or aid from internal pressure firmly retain its position in the vessel and preventing all leakage whatever. To this end I provide the surface of the inner neck or mouth of a vessel, such as a bottle, jug, or jar, with a series of inclined grooves or channels, uniform in length, depth, width, and distance apart. (See Figs. 1 and 2 at 3.) Where the inner neck of the vessel is of uniform diameter, these grooves should be parallel with each other, but if tapering they should converge correspondingly. The inclination of these grooves may be to the right or left at any desired angle, but preferably to the right, as the right inclination favors the removal of the stopper when a corkscrew is used. These inclined grooves or channels must be in such order as to overlie or overlap each other, "breaking joints," so to speak, and in such a manner that a line drawn perpendicularly from the upper and inner edge of any one of them will cut the lower and outer edge of the one directly adjoining. (See Fig. 3 at 7.) It will be observed that these inclined grooves or channels differ throughout their length as to depth, their upper halves being equal in depth to half the width of the groove proper, and their edges are nearly at right angles with the surface of the inner neck of the vessel, (see all the figures at 1,) while their lower halves are chamfered or cut sloping until their edges are flush with or lost in the surface of the vessel's neck. (See Figs. 2 and 3 at 5.) This form of groove or channel, while not compulsory for the lower half, favors the insertion of the cork or stopper, and the abrupt edge of the upper half presents a shoulder to resist any pressure that may be exerted within the vessel at the time or subsequently tending to displace the stopper. (See Fig. 4 at 2, with cork inserted.) These inclined grooves possess a threefold value. They act as guides for the stopper, facilitate the insertion or removal of the same, and by overlapping each other constitute, in effect, an annular ring in the surface of the inner neck or mouth of the vessel.

Valuable and efficient as my invention is when applied to vessels for the protection of gaseous or fermentable fluids, too much stress cannot be laid upon its value when used to protect fluids that never ferment and that are stored in ordinary vessels whose corks or stoppers not uncommonly are forced out by agitation or by a rise in temperature.

There should be a swivel-head in contact with the cork or stopper when it is being forced into the vessel's neck. Then the cork would be free to follow "the lines of least resistance," and, instead of overriding the grooves, it would, being compressible, follow the paths marked out and fill completely the channels, thus securely closing and sealing the vessel.

Many liquids are stored and lost by our depending on devices that depend on internal pressure on the stopper to close and seal the vessel; but we should remember that some liquids require days to ferment or ripen, and as the gases evolve slowly and escape as fast as generated there can be no pressure created. With my invention the conditions are changed, for the vessel is tightly sealed without the aid of any internal pressure on the stopper. Consequently all fluids and gases, if any, are per-

fectly secure, for the inclined grooves or channels serve as the threads of a screw to hold and retain in position the stopper that has not by internal pressure become embedded in the grooves or channels with which the vessel's neck or mouth is provided, and this constitutes the basis and gist of my invention. It will thus be seen that my invention renders it possible for a cork or stopper to securely close and seal the neck or mouth of a vessel and maintain itself firmly in place without any external fastening and regardless of any pressure against it within the vessel and that it can only be removed by a force from without, such as may be exerted by the hand if the stopper is long enough, or by a corkscrew or similar device.

What I claim, and desire to secure by Letters Patent, is—

1. A vessel such as a bottle, jug or jar the inner surface of whose neck or mouth is provided with a series of inclined grooves or channels straight and uniform throughout their entire length and so related that they overlap breaking joints and inclining at such an angle that a line drawn perpendicularly from the upper or inner edge of any one of these grooves will cut the lower or outer edge of the groove or channel directly adjoining, substantially as set forth and described.

2. As a new article of manufacture, a vessel the inner surface of whose neck or mouth is provided with straight grooves or channels of uniform width and depth their entire length and so inclined with reference to each other as to overlap as shown and set forth in the specification and drawings.

In testimony whereof I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH C. HOWELLS, SENR.

Witnesses:

E. PIERPONT HICKS,

W. NOËL CORBET.