No. 793,107. PATENTED JUNE 27, 1905.

G. STAUNTON.

PRESERVING JAR OR VESSEL.

APPLICATION FILED OCT. 23, 1903.

Fig. 1

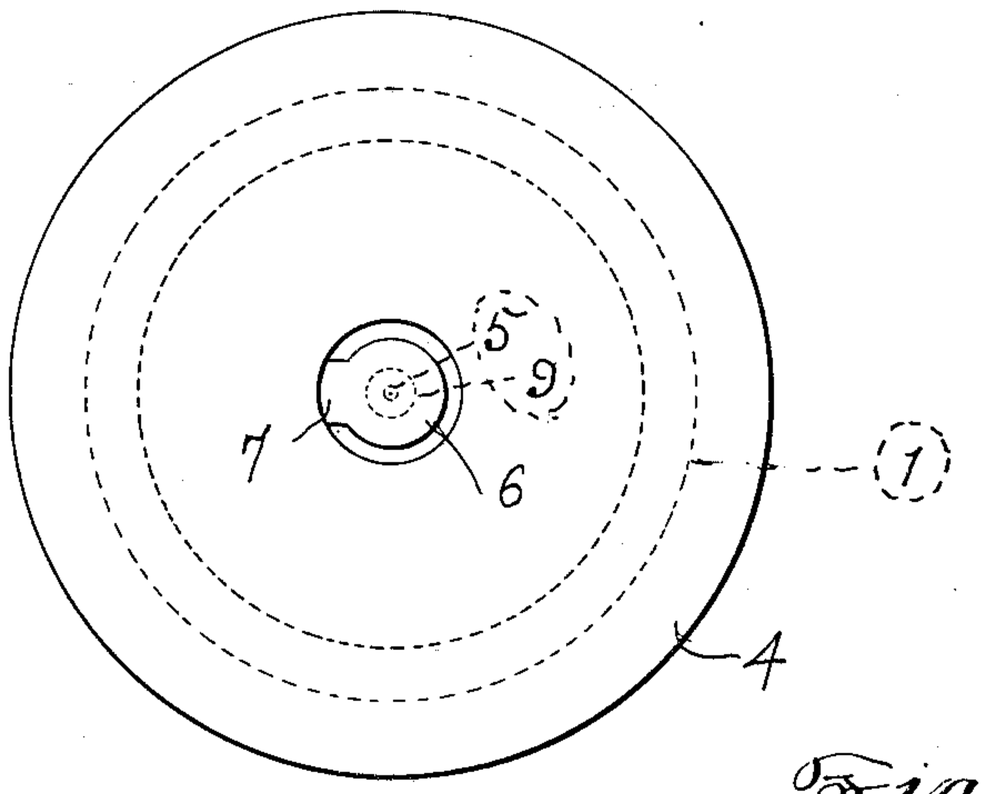

Fig. 2

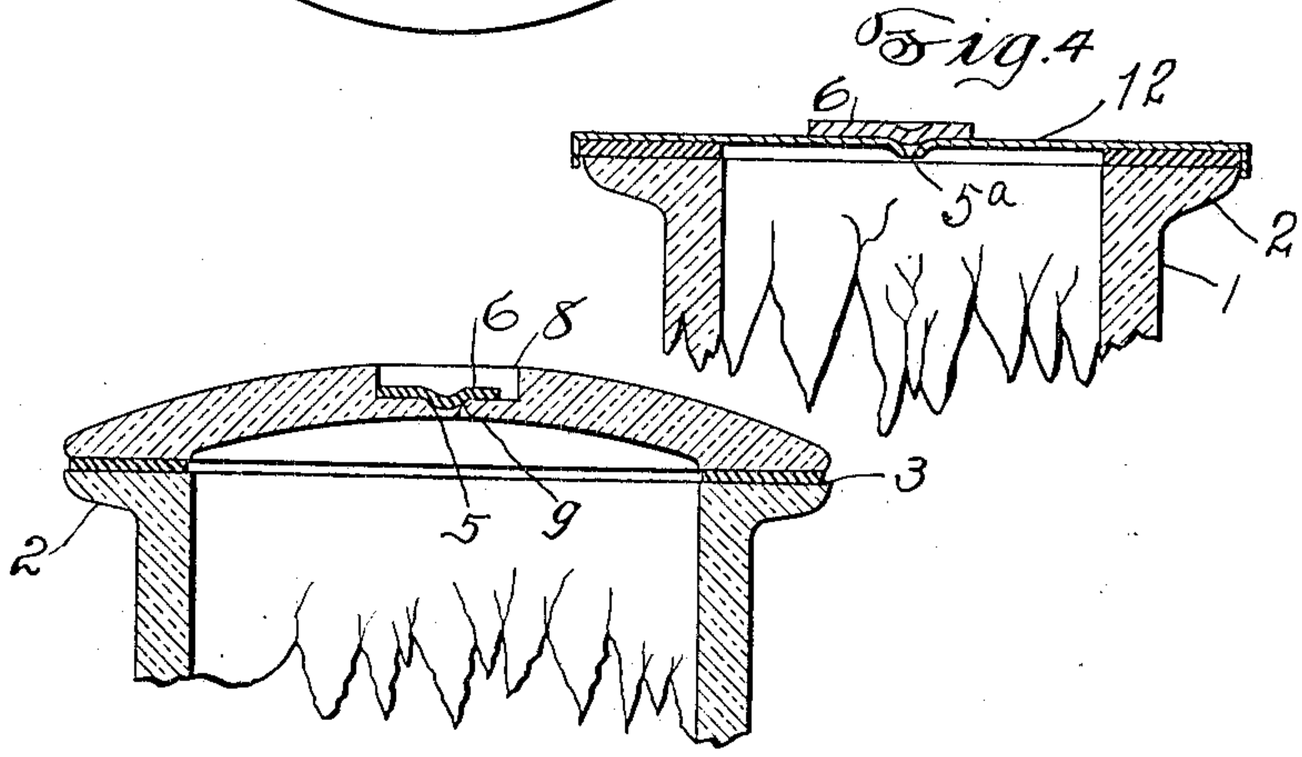

Fig. 3

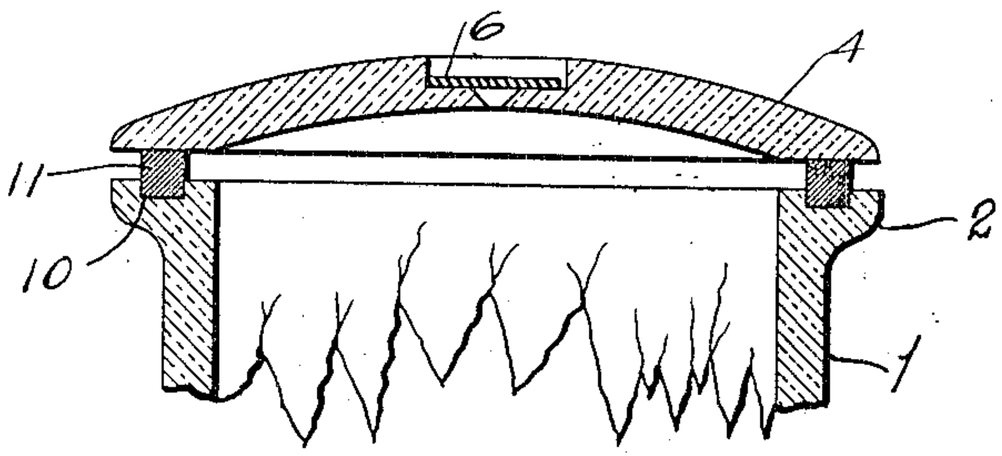

Fig. 4

Fig. 5

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UNITED STATES PATENT OFFICE.

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PRESERVING JAR OR VESSEL.

SPECIFICATION forming part of Letters Patent No. 793,107, dated June 27, 1905.

Application filed October 23, 1903. Serial No. 178,200.

To all whom it may concern:

Be it known that I, GRAY STAUNTON, a citizen of the United States, residing at Evanston, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Preserving Jars or Vessels, of which the following is a full, clear, and exact specification.

My invention relates to jars or vessels employed for hermetically sealing and preserving fruit, vegetables, and other foodstuffs, beverages, liquids, paints, varnishes, &c.; and it has for its primary object to provide improved, simple, and efficient means whereby the cover or sealing-cap of the jar or receptacle may be held on by atmospheric pressure and readily and quickly released at will without puncturing the cap or other part of the device or otherwise injuring it, so that it may be refilled and used an indefinite number of times without necessarily employing any special apparatus apart from the device itself, thus perfectly adapting the invention for household as well as other purposes.

With these ends in view my invention consists in certain features of novelty in the construction, combination, and arrangement of parts by which the said objects and certain other objects hereinafter appearing are attained, all as fully described with reference to the accompanying drawings and more particularly pointed out in the claims.

In the said drawings, Figure 1 is a plan view of my improved jar. Fig. 2 is a vertical section thereof, showing the pressure on. Fig. 3 is a similar section of a slight modification, showing the pressure off. Fig. 4 is a similar section of a still further modified form; and Fig. 5 is a vertical section of a portion of the cap, showing also in section a sucker adapted to be placed thereagainst for making a hermetic connection with any suitable air-exhauster not necessary to illustrate.

The jar, as illustrated in Figs. 1, 2, and 3, is constructed of glass or some similar material; but it is obvious, nevertheless, that the character of the substance of which the jar is composed is entirely immaterial.

In Figs. 1 and 2 the upper rim or end of the body 1 of the jar or receptacle is formed with a broad flat flange or face 2, upon which rests a rubber or other suitable gasket 3, and upon this gasket rests a cap 4, which is also provided on its lower side around its edge with a broad flat face corresponding to the flange 2, so as to form a tight connection with the gasket 3. The center or other suitable part of the cap 4 is formed with a small vent 5, which is closed by an inwardly-closing valve 6, preferably composed of a thin rubber or elastic disk having a tongue 7 on one edge, which is cemented or otherwise secured to the cap 4 in such a manner that the valve 6 can rise and fall as the air is exhausted from the jar. This valve 6 is preferably countersunk in a recess 8 in the cap 4, so as to protect it from injury and avoid the liability of the edge of the valve being turned up, thus allowing the vacuum within the jar to be broken, and in order that the atmospheric pressure against the outer side of the valve may be considerably in excess of the pressure of the contents of the jar against the inner side of the valve in the event the jar is turned upside down the recess 8 is formed with a countersink 9, tapering downwardly to the vent 5, so that as the atmospheric pressure increases relatively to the degree of vacuum within the jar the elastic valve 6 will be depressed into this countersink 9 and held in place by a pressure proportionately greater than any pressure that could be produced by the contents resting against the valve.

The valve 6 is preferably a little smaller in diameter than the recess 8 to facilitate the insertion of a pin, the finger-nail, or other pointed instrument under its edge for releasing it from its seat, and thereby permitting the jar to be opened, which operation may be accomplished without puncturing the valve or injuring any other part of the device.

In the modification shown in Fig. 3 the gasket instead of being flat, like the gasket 3, is let into a groove 10 and is made in the form of a ring 11, square in cross-section, and in the form shown in Fig. 4 a metallic cap or cover 12, composed of tin or other suitable sheet metal, is employed, this being one of

the ordinary caps of commerce. The valve-seat and air-vent are formed in this sheet-metal cap by simply puncturing the cap with a round pointed instrument in a downward direction, so as to upset the metal in the form of a protuberance 13, and thus simultaneously produce the vent 5^a and the conical countersink 9^a, leading downwardly to it for the valve 6 to sink into.

The vacuum or partial vacuum within the jar may be created by any of the various methods well known in the art—such, for example, as bringing the contents to a boiling temperature, placing the cap upon the gasket with the valve in place, and then allowing the condensation which subsequently occurs upon cooling to create the vacuum for holding the cap in place—or, if desired, the vacuum or partial vacuum may be created by any suitable air-exhausting device, such as a small pump, (not necessary to illustrate,) having its air-pipe 14 provided with a sucker 15, in whose edge is secured a gasket 16, adapted to be placed against the surface of the cap of the jar, around the valve thereof, so that by the operation of the pump the valve will be elevated by the suction of the pump at eacn impulse to exhaust the air and lowered to its seat again by the atmospheric pressure to maintain the degree of vacuum thus obtained; or, again, the contents of the vessel may be raised to a temperature of, say, 134° Fahrenheit and the air thereafter exhausted by means of a pump, as just described, until the contents boil. The contents then being allowed to cool, the vacuum will be materially increased. It is also evident that the invention may be used for preserving materials without cooking or heating by filling the jar therewith and then exhausting the air by mechanical means.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. As a new and useful article of manufacture, a preserving jar or vessel comprising in combination a body portion, a cap independent of and detachable from, but hermetically fitted to and closing the open end of said body, and having a conical or counterbored air-vent, and a valve closing said air-vent and depressible thereinto.

2. As a new and useful article of manufacture, a preserving jar or vessel comprising in combination a body portion or receptacle, a removable cap hermetically closing said body or receptacle, said jar or vessel having an air-vent flaring or conical at its outer end, and a thin, depressible flexible valve arranged in the outer flaring end of said vent and closing the same by atmospheric pressure.

3. As a new and useful article of manufacture, a preserving jar or vessel comprising in combination a body or receptacle, a cap hermetically closing said body or receptacle, said jar or vessel having an air-vent conical or flaring at its outer end, a thin elastic valve depressible into the conical end of said vent by the atmospheric pressure, and means for retaining said valve in position when once raised to permit the air to be exhausted from or to the end of said jar.

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Witnesses:
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