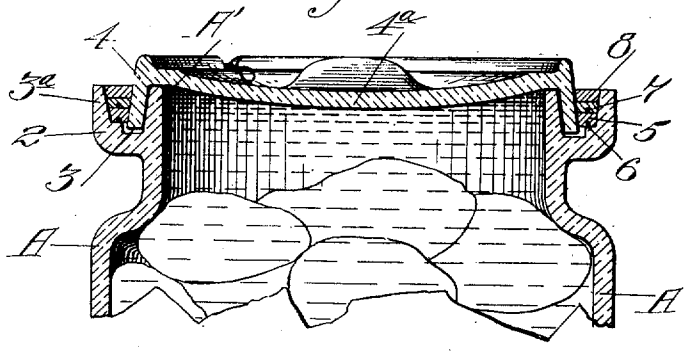
J. L. ROLLINS.

JAR SEALING DEVICE.

APPLICATION FILED JAN. 24, 1910.

973,214. **Patented Oct. 18, 1910.**

Fig. 1.



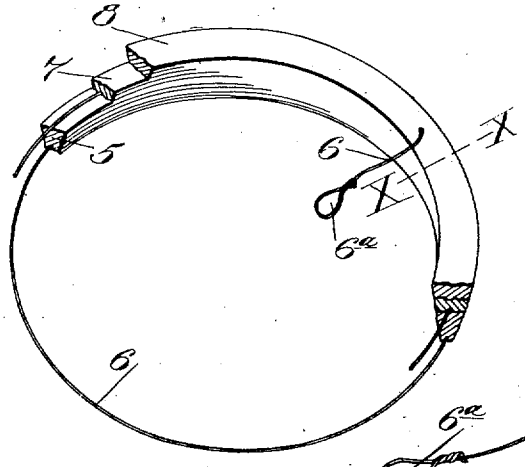


Fig. 2.

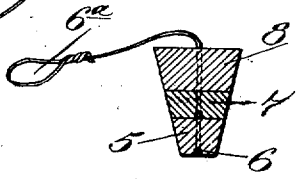


Fig. 3.

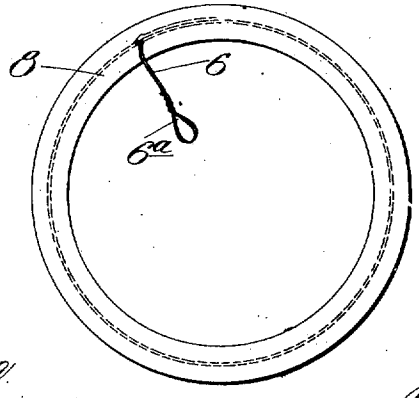


Fig. 4.

Witnesses.
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F. E. Maynard.

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Jarrod L. Rollins.
by Geo. H. Strong
his Atty.

UNITED STATES PATENT OFFICE.

JARROT L. ROLLINS, OF COLFAX, CALIFORNIA.

JAR-SEALING DEVICE.

973,214. Specification of Letters Patent. Patented Oct. 18, 1910.

Application filed January 24, 1910. Serial No. 539,732.

To all whom it may concern:

Be it known that I, JARROT L. ROLLINS, a citizen of the United States, residing at Colfax, in the county of Placer and State of California, have invented new and useful Improvements in Jar-Sealing Devices, of which the following is a specification.

My invention relates to a device for hermetically sealing jars such as are specially designed to contain hermetically sealed goods.

It consists in a novel combination of sealing elements, arrangement of parts connected therewith, and in details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a sectional elevation of the upper part of a jar, illustrating my invention. Fig. 2 is a partial perspective view of the sealing ring. Fig. 3 is an enlarged section through *x—x* of Fig. 2. Fig. 4 is a plan view.

It is the object of my present invention to provide an improved and comparatively inexpensive device for sealing jars and the construction of a jar and cover to be used in conjunction therewith so that the jar may be closed and sealed without direct contact of the sealing medium with the interior lip and connected channel of the jar, and to so construct the seal as to provide superposed layers of material having a successively less resistance to heat from the bottom upward; the whole device serving to provide a very perfect seal, and which is important in the opening of jars to substantially prevent any of the sealing medium remaining in the channel of the jar in such a manner that it is liable to become mixed with the contents of the jar when the latter are poured out.

The jar A has an upturned flange 2 projecting near the top and having its upper edge substantially level with the upper edge A′ of the jar. Between these two edges is a channel so formed that the deepest portion 3 surrounds the lip A′, the outer wall of this lip being divergent downward as shown, and capable of receiving with an approximate fit, the down-turned lip 4 of the cover 4^a so that when the cover is placed upon the jar, the inner periphery of the lip 4 will form an approximate fit to the inclined outer surface of the jar lip A′. The edge of the lip 4 reaches the bottom of the inner portion 3 of the channel around the jar, and this channel is of such width that there is also a space, as plainly shown, around the exterior of the lower edge of the cover. This space is practically intended to be clear of all packing material, and its object is to provide a clean channel into which none of the sealing medium is allowed to pass.

Exterior to the channel 3 is the upper connected portion 3^a which extends to the top of the flange 2, and has its inner surface convergent downwardly from the top. This, in conjunction with the outwardly divergent lip 4 of the cover, provides a channel which is convergent in cross section.

The sealing medium consists of a plurality of layers of material, the lower one of which, 5, is of a sufficiently heat-resisting character so that it will not soften at the temperature to which the contents of the jar will be submitted, say 212° F. Various materials may be used for this purpose. I prefer to use a substance which is not compressible, but which can be made to substantially fit the lower part of the channel above described. This lowermost ring has a reinforcing wire 6 partly enveloped in it when the ring is formed, and secured to the ring; this wire serving to strengthen the ring and prevent breakage or damage by careless handling. It also serves to break the seal. Above this ring is a second ring 7. This second ring is made of a material less heat-resistant than the lowermost ring, but which may soften somewhat but not melt at the temperature to which the jar contents are subjected. This ring may also have a reinforcing wire or cord concealed within it.

The uppermost ring 8 is made of wax or equivalent material which is of such a character that the heat of the jar contents will melt and soften it sufficiently so that it will flow into any interstices between itself and the walls of the channel in which it lies. Thus the lowermost ring forms an impervious packing which keeps the bottom of the groove or channel perfectly clean. The second ring is sufficiently subject to the heat to cause it to adhere, and to expand enough to form a tight joint with the top of the lowermost ring, and thus prevent any accidental passage of the softer material of the uppermost ring.

In case of any defect in the joints or form of the two lower rings, the uppermost ring, as before stated, will soften sufficiently to fill any grooves or interstices, and to make a

tight joint with the wall of the jar channel. The sealing is thus absolutely complete.

The wire 6 upon the lowermost ring may have one end brought out, and provided with a loop or ring 6^a which may normally lie across the top of the jar within easy reach so that by pulling upon this wire the whole of the united rings will be lifted out of the groove or channel, and the latter left perfectly clean.

The jar cover will not fit so closely upon the mouth of the jar as to prevent the ingress of air, and thus the breaking of the seal to allow the cover to be removed.

An important construction of the jar cover is the formation of the central portion 4^a in a smooth convexity toward the interior of the jar. This causes any air which may be contained in the jar contents, and which will be expelled by the cooking with the jar in a vertical position, to pass to the outer periphery of the jar cover, and thus escape over the edge of the jar, and no air will be retained in the jar as may occur in the case of irregular corrugated or concaved jar caps.

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

1. A jar having an exterior annular groove around the top, and trapezoidal in cross section, a cap or cover having a downwardly turned flange substantially fitting the interior inclined surface of the channel, a sealing medium consisting of a plurality of layers of material, the uppermost of said layers being capable of softening by heat of the jar contents, and the lower ones having successively increasing heat resisting qualities.

2. The combination in a jar closure, of a jar having an annular upwardly divergent channel around the periphery, a cap having an inwardly convex interior surface, and a downwardly turned flange substantially fitting the interior of the channel, and forming with the exterior a downwardly convergent channel, a sealing medium consisting of superposed layers of material formed into a ring fitting said channel, and having successively greater heat-resisting qualities from the upper to the lower one.

3. The combination in a jar closure, of a jar having an annular downwardly convergent channel around its periphery, a cover having a downwardly turned flange fitting the interior of the channel, a closure consisting of a downwardly convergent ring, said ring being formed of successive layers of material, the lowermost of which forms a heat-resistant joint with the lower part of the channel, and the uppermost being capable of softening by the heat of the jar contents so as to hermetically close the upper part of the channel, said lower sections having wires extending through them.

4. The combination with a jar having an annular downwardly convergent channel surrounding its top, and a cap having a downwardly turned flange fitting the inner surface of said channel, of a sealing ring, said ring being composed of superposed sections, the lowermost of which is heat-resistant, and has an annular reinforcing wire, and the uppermost section being capable of softening by the heat of the jar contents to form a joint between the sides of the channel, and the lower sections of the ring.

5. A jar having an annular downwardly convergent channel around the top, the inner portion of said channel having a greater depth than the outer portion, and a step or shoulder between the two, a cap having a downwardly turned flange extending substantially to the bottom of the inner portion of the channel, a sealing medium consisting of a ring tapered in cross section to fit the surrounding annular channel, said ring being composed of a plurality of layers, the lowermost of which is heat-resistant and capable of seating upon the shoulder of the channel, and the uppermost rings filling the upper part of the channel and capable of softening by heat to form a hermetical joint therewith.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JARROT L. ROLLINS.

Witnesses:
S. K. Williams,
B. J. Ghent.