

979,183.

F. J. MACKIN.
JAR CLOSURE.
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Fig. 1.

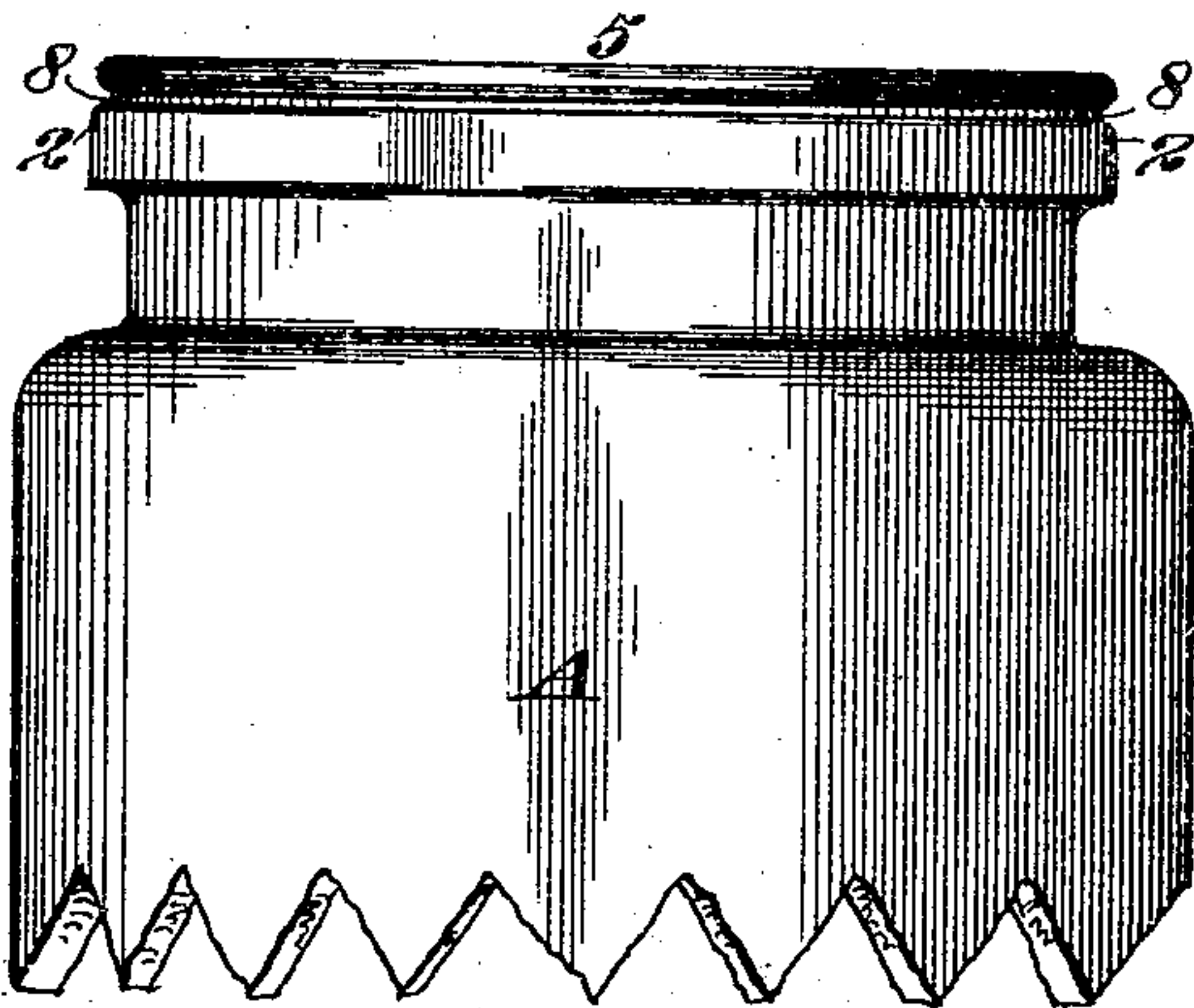


Fig. 2.

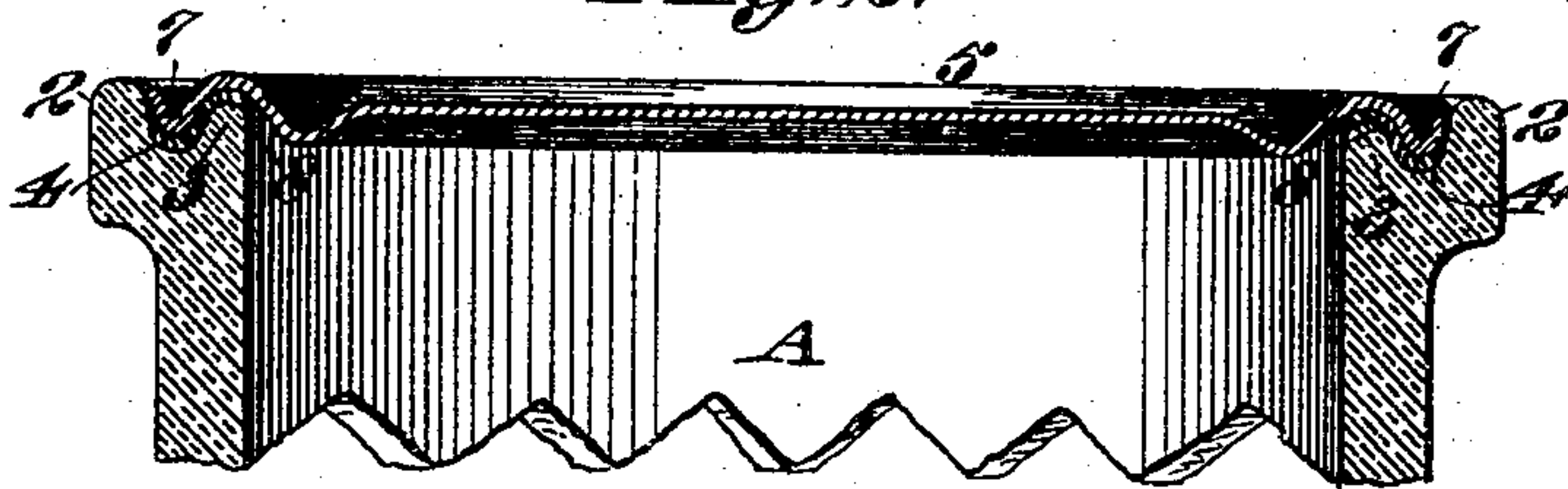
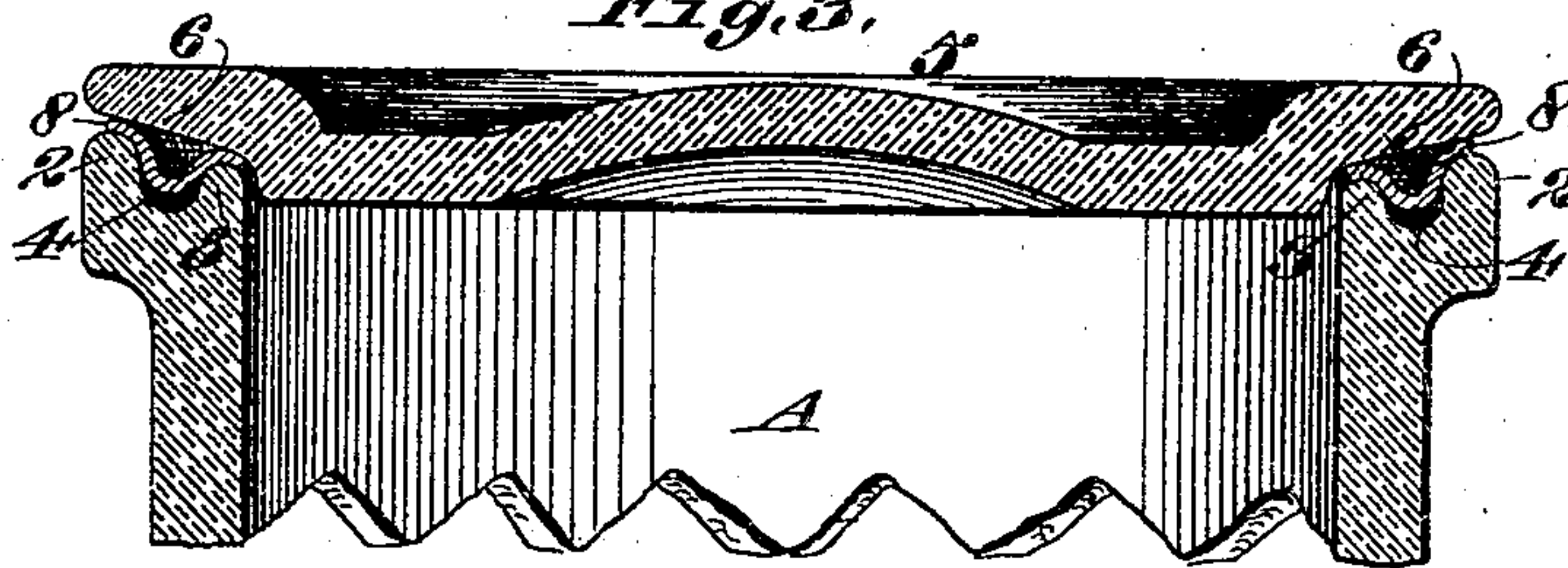


Fig. 3.



Witnesses:

Charles Pickles

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UNITED STATES PATENT OFFICE.

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JAR-CLOSURE.

979,183.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANCIS J. MACKIN, a citizen of the United States, residing at the city and county of San Francisco and State of California, have invented new and useful Improvements in Jar-Closures, of which the following is a specification.

My invention relates to jars or containers which are designed to contain hermetically sealed goods.

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

Figure 1 is a view of a container and a cap. Fig. 2 is an enlarged sectional view, showing the formation of the jar top and joint. Fig. 3 is a modification of the same.

In the manufacture of what are known as "vacuum jars" or containers for the purpose of containing hermetically sealed goods, an insurmountable difficulty in making tight joints has been the fact that when the glass cools the outside edge or periphery will, by reason of the shrinkage, become full of little cracks, or what are technically known as "crizzles", and these are sufficient to allow air to enter, and to break the vacuum produced by means of a hermetically sealed cover secured upon such a container. The very large percentage of containers that are thus affected, has made it almost impossible to practically employ this class of closures.

In my invention I form the container A with an outer lip 2, and an inner lip 3, with a groove or depression 4 between the two. The outer lip may be subject to the cracks or crizzles before described, by reason of the shrinkage of the glass, when that material is used, and the tension thereon; but the inner lip 3, by reason of the compression of the glass, will not be thus cracked or broken, and it is this inner lip that I depend upon, in conjunction with my cap, to form a joint. The cap consists of a central body portion 5, and may either have a plane surface 6 adapted to rest upon the upper edges of the lips 2 and 3, or it may form an annular channel made in it by means of a down-turned outer rim or flange 7. The proportions of this cap to the jar may be such that the surface 6 fits over the inner lip 3 of the jar, and the flanged portion 7 registers with the groove or channel 4 between the inner and outer lips 2 and 3.

In order to form a joint I may fit a sealing band 8 into the groove or channel 4 in the rim. This band is made of any suitable material which will form a joint with the lip 3, and being compressed or fitted into the groove 4, it is readily maintained in position, and the caps thus prepared are in readiness for use. When the cap is placed upon the container, this gasket 8 will rest upon the inner lip 3 of the container, the rim or flange 7 registering with the groove or channel 4, and lying within the outer lip 2. The important point in this construction is that the inner lip 3, by reason of the compression of the material of which the container is formed, by contraction on cooling, is never affected by cracks or crizzles, and upon this lip the sealing is effected. The outer lip, which is here shown projecting slightly above the inner lip is, on the contrary, subject to these cracks by reason of the tension caused by contraction and cooling, but in my sealing there is no occasion to use this outer lip. I am consequently enabled to make a very high percentage of jars that can be used for my purposes, and can disregard any cracks or openings which naturally form in the outer lip of all glass containers, since my joint and sealing are made upon the inner and perfect lip.

Instead of forming the cover with a down-turned flange as shown at 7, I may continue the surface 6 outwardly at such a bevel and with such increased diameter that it will extend substantially over the outer as well as the inner lip of the jar. With this construction, the sealing band 8 is of such width and flexibility that it extends over both jar lips so that when a vacuum is produced within the jar, it is also formed in the channel between the lips 2 and 3; and the band 8 will be forced into the channel, and thus form a much larger sealing surface of contact.

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

1. A container having concentric inner and outer lips spaced from each other to form an intermediate groove or channel, said inner lip being of less height than the outer lip; a cap or cover, and a gasket resting upon the inner lip and in the groove or channel between the same and the outer lip and having its edges lying within the outer

lip, said inner lip and the portion of the gasket thereover forming the hermetic joint between the container and cap or cover.

2. A glass container having concentric inner and outer lips spaced from each other to form an intermediate groove, said inner lip being of less height than the outer lip; a cap or cover having concentric downwardly projecting concentric ribs and an intermediate groove, said groove adapted to receive the inner lip of the container and the groove in the container adapted to register with

and receive the outer lip of the cover; and a gasket extending over the inner lip of the container and into the groove of said container and having its outer edge lying within the outer lip of the container. 15

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

FRANCIS J. MACKIN.

Witnesses:

GEO. H. STRONG,
JAS. W. DOHERTY.