W. B. FENN.

CLOSING DEVICE FOR GLASS JARS, CANS, AND THE LIKE.

APPLICATION FILED APR. 4, 1904.
To all whom it may concern:

Be it known that I, William B. Fenn, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Closing Devices for Glass Jars, Cans, and the Like, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to closure devices for glass jars and similar vessels used for canning, preserving, or holding fruits and other substances or articles; and the object thereof is to provide an improved closure device or devices for jars or cans of this class whereby said jars or cans may be quickly, easily, and conveniently sealed whenever necessary and also easily opened whenever desired, a further object being to provide a closure device for jars or cans of the class specified composed of any desired material.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which—Figure 1 is a transverse section of the top portion of a glass jar provided with my improved closure device or devices; Fig. 2, a similar view of the cap of the jar removed, and Fig. 3 a plan view showing the method of constructing a packing band or annulus which I employ.

In the drawings forming part of this specification I have shown at a the top portion of an ordinary glass jar, which is provided with a neck or rim, and the outer wall of the neck is slightly conical or inclined and provided with a thread or threads. It will be observed that the threads increase in diameter from the top to the bottom of the neck, this increase being slight and resulting from the fact that the outer wall or walls of the neck are slightly conical, and this result is what I call a "differential" thread on the neck of the jar. I also provide a cap b, which is composed of glass and which is provided with a depending flange or rim c, the inner wall of which is vertical or at right angles to the bottom of the top portion of the cap, and the flange or rim c of the cap is provided at intervals with vertically-arranged ribs d, which are preferably shorter than the transverse depth or thickness of the flange or rim of the cap b and which extend downwardly from the top portion of the cap in the form of construction shown.

Within the cap b or the flange or rim d thereof is placed a packing band or annulus e, the inner wall of which is slightly tapered or conical to correspond with the taper or form of the outer wall of the neck of the cap. The packing band or annulus e is composed of paper-pulp or other fibrous material saturated with or boiled in paraffin or other preservative material, and is prevented from being pressed into or pressed into said band or annulus, and whenever it is desired to close the jar the cap, with the band or annulus e therein, is screwed onto the neck d. This forms a perfectly water and air tight closure device, and the jar is hermetically sealed.

A packing device formed as herein described and composed of fibrous material saturated with paraffin or other preservative material constitutes one of the chief features of this invention and is superior to rubber or any preparation of rubber or similar material that can be employed. By soaking or boiling a packing device of this class composed of fibrous material in paraffin or other preservative substance the said packing device is rendered impervious to all kinds of liquids or acids and cannot be affected thereby and will not give an objectionable taste to any liquids or substances which come in contact therewith.

In forming the packing band or annulus e I prefer to proceed as shown in Fig. 3, and in this operation I provide a strip or sheet of fibrous material which is wound into a spiral coil of suitable thickness, after which the separate coils are pressed together so as to form a homogeneous band or annulus which is afterward sealed or boiled in paraffin, as hereinbefore described.

Although I have shown and described a glass jar provided with a glass cap or cover, it will be apparent that my improved closure device or improved means for closing a jar or vessel of the class described may be applied to jars or cans composed of any material and having a cap composed of any material, the chief feature or features of my invention consisting of the band or annulus constructed and formed.
as described in connection with the cap or cover \( b \), having a straight flange or rim \( b' \) and ribs or teeth \( b'' \), which operate to prevent the band or annulus \( c \) from slipping in the operation of screwing the cap or cover onto the neck \( a' \), and it will also be apparent that any suitable form of teeth or projections may be substituted for the ribs or teeth \( b'' \) which will accomplish the result above specified. It will also be apparent that the band or annulus \( c \) when made of fibrous material and saturated, soaked, or boiled in paraffin, as herein described, is flexible and compressible and also slightly elastic, and my invention is not limited to any particular method of making said band or annulus, nor to any particular kind or class of fibrous material or substance used in the construction thereof, nor to the exact form thereof, the substance of this invention consisting of a packing device for use in closing glass jars or other vessels and composed of fibrous material saturated with or boiled in or covered with paraffin or other preservative material, the preferred form thereof being herein shown and described.

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

1. The herein-described means for closing a vessel provided with a neck, comprising threads formed on the outer wall of the neck, a cap or cover provided with a straight flange or rim having teeth or projections on its inner walls, and a packing band or annulus secured within said flange or rim and provided in its inner walls with threads which correspond with the threads on the neck of a vessel, substantially as shown and described.

2. The herein-described means for closing a vessel provided with a neck the outer wall of which is conical or tapered and provided with threads, comprising a cap provided with a straight flange or rim the inner wall of which is provided with securing projections or teeth, and a packing band or annulus placed within said flange or rim, and the inner wall of which is tapered to correspond with the taper of the neck and also threaded to correspond with the threads on the neck, said band or annulus being composed of fibrous material saturated with paraffin, substantially as shown and described.

3. The herein-described means for closing a vessel provided with a neck the outer wall of which is conical or tapered and provided with threads, comprising a cap provided with a straight flange or rim the inner wall of which is provided with securing projections or teeth, and a packing band or annulus placed within said flange or rim, and the inner wall of which is tapered to correspond with the taper of the neck and also threaded to correspond with the threads on the neck, said band or annulus being composed of fibrous material saturated with paraffin, substantially as shown and described.

4. A packing band or annulus for use in closing the neck of a vessel, said band or annulus being composed of fibrous material saturated with paraffin, and the inner wall thereof being tapered and threaded, substantially as shown and described.

5. The herein-described means for closing a glass jar provided with a neck the outer wall of which is slightly tapered and threaded, comprising a cap provided with a flange or rim the inner walls of which are vertical or at right angles to the cap and provided with teeth or projections and a band or annulus composed of fibrous material and saturated with paraffin, said band or annulus being placed within the flange or rim of the cap and the inner wall thereof being tapered or threaded to correspond with the taper and thread of the neck of the jar, substantially as shown and described.

6. The herein-described means for closing the neck of a jar which is slightly tapered and threaded, comprising a cap having a straight flange or rim the inner walls of which are provided with teeth or projections, and a band or annulus inserted within said flange or rim and the inner wall of which is slightly tapered and threaded to correspond with the taper and threads on the neck of the jar, said band or annulus being composed of flexible material saturated with paraffin, substantially as shown and described.

7. A packing device for use in glass jars or other vessels, said packing device comprising a band or annulus consisting of separate layers of material rolled into form and pressed together, said band or annulus being also saturated with a preservative material.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 1st day of April, 1904.

WILLIAM B. FENN.

Witnesses:

F. A. STEWART,
C. E. MULREANY.