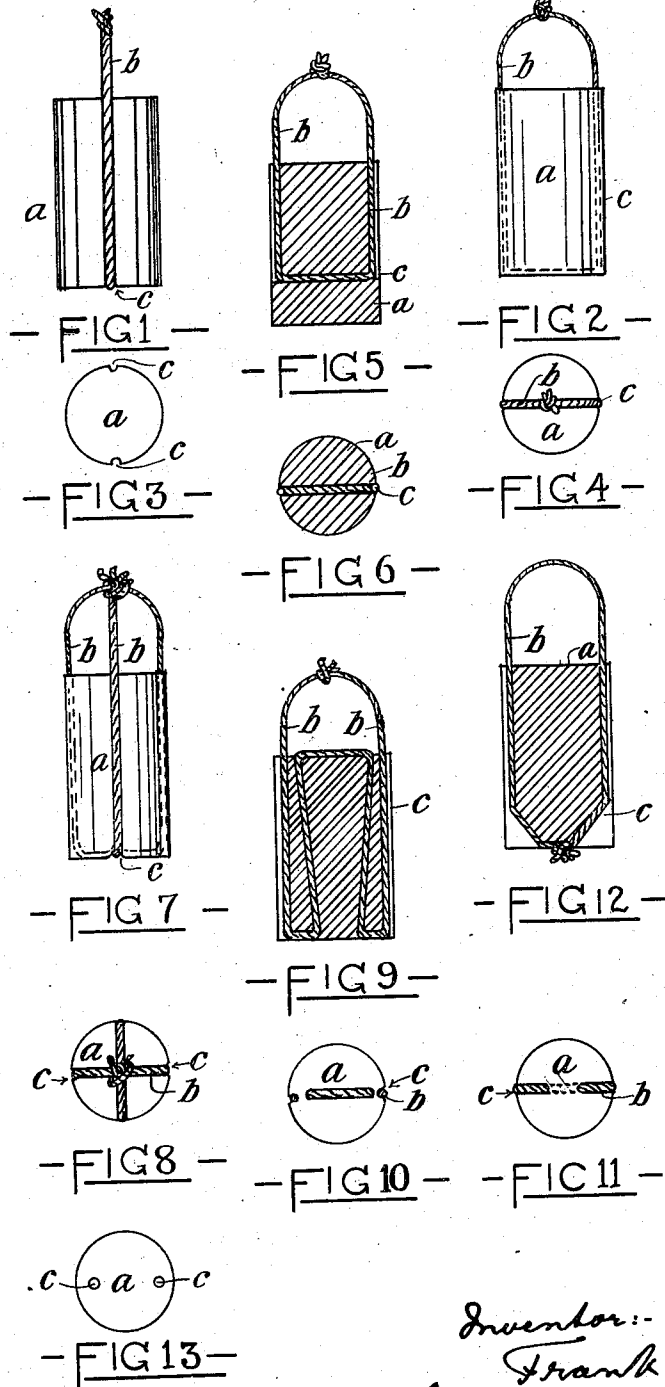


F. RUSSELL.
BOTTLE STOPPER.
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1,028,907.

Patented June 11, 1912.



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UNITED STATES PATENT OFFICE.

FRANK RUSSELL, OF ADELAIDE, SOUTH AUSTRALIA, AUSTRALIA.

BOTTLE-STOPPER.

1,028,907.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK RUSSELL, a subject of the King of Great Britain, residing at 89 King William street, Adelaide, in the State of South Australia, in the Commonwealth of Australia, agent, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification.

This invention relates to certain improvements in bottle-stoppers for jars bottles and cognate receptacles and has for its objects to provide an improved means whereby for the repeated and intermittent use of a stoppered receptacle in the withdrawal of contents the cork or stopper may readily be withdrawn without the use of extraneous means such as corkscrews and when stoppered the receptacle be efficiently closed.

I accomplish my object by applying a length or band of fibrous material to and through grooves or channels within the cork or stopper in the form of an embedded loop at the sides and across the base in such a manner that a pull upon an externally projecting end or loop will effect the withdrawal of the cork or stopper from the receptacle and the compression of the cork due to the forcing of the same into the neck of the receptacle forms a closure which prevents leakage or evaporation of the contents when the receptacle is stoppered.

For the length or band of fibrous material I prefer to use string but may employ other textile substance which by any convenient means is fully or partially embedded into or passed through the cork or stopper after the style of a loop at any desired positioning.

The cork or stopper is suspended upon the length of material and by pulling upon the projecting ends after it is applied to the receptacle may readily be withdrawn for intermittent repeated use.

In order that my invention may be the better understood reference may be made to the accompanying sheet of drawings in which the various illustrations represent alternative modes of applying the material to the stopper viz:—

Figure 1 is a side elevation showing the position of the material. Fig. 2 is a front view of the same. Fig. 3 is a plan of Fig. 1 showing grooves with the material removed. Fig. 4 is a plan of Fig. 2 with the material inserted. Fig. 5 is a section of an

alternative arrangement with the material inserted through the body of a cork. Fig. 6 is a sectional plan of Fig. 5 immediately above the material. Fig. 7 is a side view of a cork with the material forming a double loop. Fig. 8 is a plan of Fig. 7. Fig. 9 is a section of a cork showing the material passed over and through and under the cork and from thence through channels at the sides. Fig. 10 is a plan of the top of the cork of Fig. 9. Fig. 11 is a plan of the bottom of a cork Fig. 9. Fig. 12 is a section of a cork in which the bottom edges are deeply grooved and a loop knot is arranged underneath. Fig. 13 is a plan of the whole of the cork showing holes for threading the material.

In these several figures *a* represents a cork or stopper, *b* the embedded material and *c* the grooves or channels. The length or band of material is fully or partially embedded into and through the cork or stopper and in stoppering the receptacle, the compression of the cork and the material due to the cork being forced into the neck of the bottle effects the complete closure of the grooves and holes in the cork, so as to prevent the escape of liquid therethrough.

The material is preferably fitted into grooves or channels cut externally down either side and across the base of the cork or stopper but may be threaded through the body from the top or either side or passed through holes which have been previously pierced or threaded through the body and held in grooves or channels cut at the sides.

By my invention the cork or stopper is suspended upon the material before it is applied to the receptacle and in stoppering the material under the compression caused by the cork being forced into the neck of the receptacle, becomes integrally embedded in the cork as a fixture with an upper and outwardly projecting end. The projecting ends are either bent together or interlocked in the form of a loop or may be entwined to form a band or grip for the fingers in withdrawing the cork or stopper from the receptacle. The capsule or head of the cork when first applied to the receptacle may be coated with wax and if it be desired the lengths of material may be duplicated to form a dual set of rings or loops for withdrawal.

In practice it is found that by means of the applied material the cork or stopper may

repeatedly be withdrawn from stoppered receptacles and intermittently stoppered with the fingers without requiring extraneous means such as corkscrews, leakage or evaporation of the contents being prevented owing to the compression of the cork by the neck of the receptacle.

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

1. A bottle-stopper, comprising in combination a stopper, a plurality of longitudinally extending holes in said stopper, a plurality of longitudinal grooves formed in the sides of said stopper, passages connecting said holes with said grooves and a length of fibrous material passing through said holes, passages and grooves and being formed on the outer side of the cork into a loop by means of which the withdrawal of the cork may be effected.

2. A bottle-stopper, comprising in combi-

nation a stopper, two longitudinally extending holes in said stopper, two longitudinal grooves formed in the sides of said stopper, two passages formed in the inner end of the cork connecting said holes with said grooves and a length of fibrous material, the center portion of said material extending across the top of said cork between said holes and the end portions being passed through said holes, end passages and side grooves and being joined together on the outer side of the cork to form a loop by which the withdrawal of the cork may be effected.

In testimony whereof I have hereto affixed my signature in presence of witnesses.

FRANK RUSSELL.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."