

C. F. JENKINS.  
CLOSURE FOR PAPER VESSELS.  
APPLICATION FILED DEC. 14, 1908.

993,170.

Patented May 23, 1911.

FIG 1

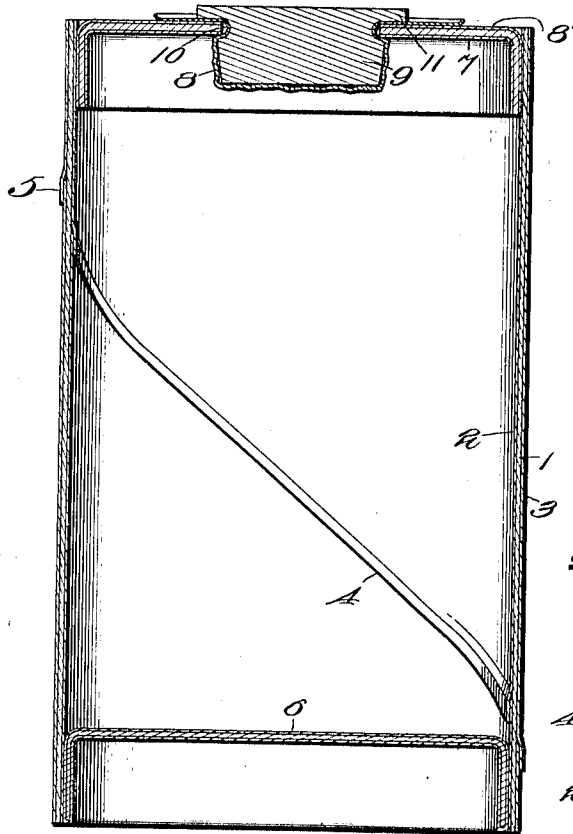


FIG 2

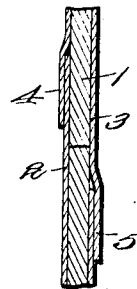


FIG 3

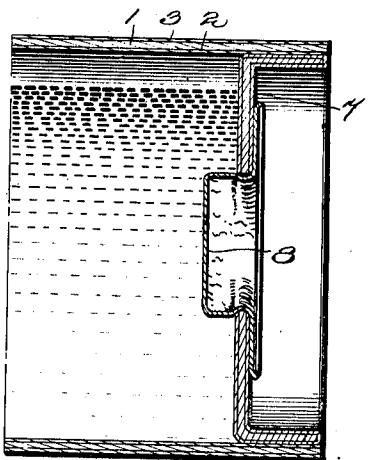


FIG 4

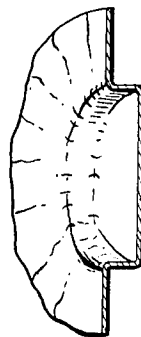
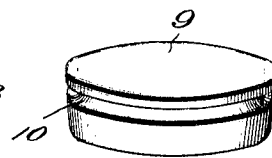


FIG 5



Witnesses  
W. (Map) Dwall.  
Geo. A. Bpue.

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# UNITED STATES PATENT OFFICE.

CHARLES FRANCIS JENKINS, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR, BY  
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A CORPORATION OF NEW JERSEY.

## CLOSURE FOR PAPER VESSELS.

993,170.

Specification of Letters Patent.

Patented May 23, 1911.

Application filed December 14, 1908. Serial No. 467,429.

*To all whom it may concern:*

Be it known that I, CHARLES FRANCIS JENKINS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Closures for Paper Vessels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to closures for paper vessels, and has for its object to improve the closures described and claimed in my pending applications No. 453,660, filed September 18, 1908, and No. 444,469, filed July 20, 1908, and both for paper vessels.

In the paper bottles made the subject of the above applications, it has been found that the crimped sheet stopper is liable to be displaced when the bottle is violently overturned, and if for any cause the solid wood stopper does not fit its orifice sufficiently tight it is likewise liable to be disengaged from the bottle head.

The object of this invention is to obviate these practical difficulties, and to these ends the invention consists in the novel details of structure and combinations of parts more fully hereinafter disclosed and particularly pointed out in the claims.

Referring to the accompanying drawing forming a part of this specification, in which like numerals refer to like parts in all the views:—Figure 1, is a sectional view of a flush top paper vessel with an improved plug stopper in place. Fig. 2, is a like view of a sunken top paper vessel with only the stopper, made of crimped sheet material, in place. Fig. 3, is a view of the plug stopper detached. Fig. 4, is a sectional view of the crimped sheet stopper detached; and Fig. 5, is a detail of the overlapping inside and outside linings of the paper vessel.

1 represents a middle wall of cheap paper material, 2 an inner wall or lining of more expensive paper material, and 3 an outer wall or layer of material likewise more expensive than wall 1. Each of these walls is formed by spirally winding the strips of paper in continuous tubes, and preferably permitting the edges of the strip forming the inner wall to overlap as at 4, or the edges of the strip forming the outer wall to over-

lap as at 5, or permitting the edges of both strips to overlap at 4 and 5 while the edges of the middle wall abut or meet in the same plane as illustrated in Fig. 5. These strips 1, 2 and 3 are continuously and simultaneously wound on a suitable machine; and the finished tube automatically cut off into suitable lengths in the manner well known. The ends of the short tubes thus formed are closed by inverted cup shaped pieces 6 and 7, the upper one, 7, being perforated and facing downward in the same direction as the bottom one, 6, in order to provide a flush top 8' to the bottle or vessel as shown in Fig. 1; or the top cup 7 may face upward, in an opposite direction, as shown in Fig. 2, in order to provide a sunken top. In the perforation in the top cup 7, is placed a thin, flexible sheet 8 of crimped material, preferably of paraffined paper, which itself forms a temporary stopper to exclude dust and dirt and constitutes a partial protection against spilling when the bottle is overturned, as illustrated in Fig. 2; and such temporary stopper not only serves the purpose stated, but it also protects the wood plug stopper 9 from the swelling action of the milk, and aids in slipping said stoppers into place, when the bottles are filled by machinery, all as clearly brought out in the applications above mentioned. Furthermore, these crimped stoppers 8 receive any paraffin which may be applied over the end of the bottle to seal the same; and therefore when withdrawn leave a clean space around the opening, thereby obviating the danger of particles of indigestible paraffin being detached when withdrawing the plug stopper 9, and entering the milk, all as brought out in said applications above. The tapered stopper 9 in this application, however, is provided with a groove 10, into which the edges of the filling opening snap, and into which the crimped stopper 8 is forced as shown in Fig. 1. The effect of placing this simple groove 10 in the plug stopper is twofold. The paper edges being resilient and capable of bending down as well as up, they readily snap in and out of said groove, and therefore the stoppers and holes may vary considerably in size without permitting the stopper to fall out of the bottle. Leakage is prevented by reason of the temporary stopper 8 always fitting under the flange 11 of the plug stop-

per, and held thereby in contact with the top of the bottle, as shown. Another most important function of this groove 10 is to jam the said temporary stopper 8 farther and  
 5 more firmly around the edges of the filling orifice, as it does in fact, owing to the said crimped stopper 8 being forced into said groove, as illustrated in Fig. 1. This firmer hold of the temporary stopper imparted by  
 10 the groove 10, causes the said stopper 8 to rest more firmly in place, and to make the contents more secure, when the bottle is overturned, as illustrated in Fig. 2.

I do not wish to claim in this case anything covered by the above mentioned applications; as this invention is limited to the employment of the groove 10 in the various combinations disclosed in said applications.

What I claim is:—

20 1. A paper vessel provided with a top closure having a filling orifice; a hollow tem-

porary stopper of crimped sheet material filling said orifice; and a plug stopper provided with a groove fitting said hollow crimped stopper, substantially as described. 25

2. A paper vessel provided with a top closure comprising a flanged cup having a filling orifice; a hollow temporary stopper of crimped sheet material filling said orifice and having a flange extending around the  
 30 same; and a plug stopper provided with a circumferential groove fitting said hollow crimped stopper and receiving the edges of said orifice in said groove, substantially as described. 35

In testimony whereof, I affix my signature, in presence of two witnesses.

CHARLES FRANCIS JENKINS.

Witnesses:

ARTHUR A. BASSE,  
 FRANK M. WRIGHT.