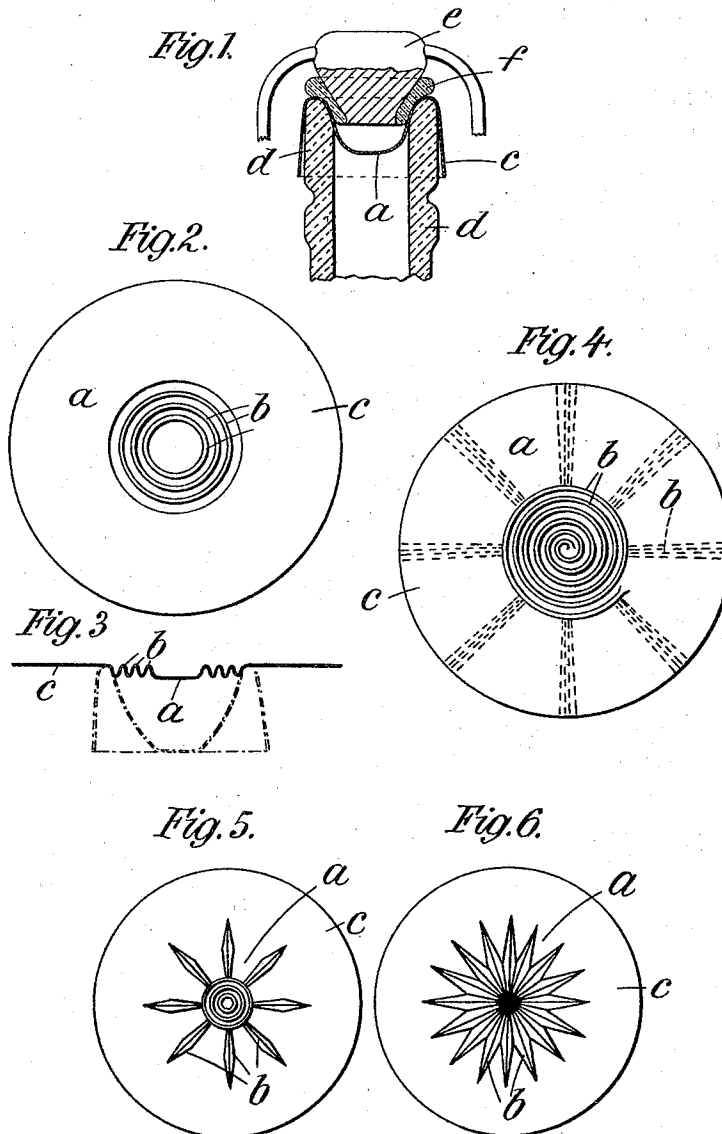


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PAPER CAPSULE FOR INTERNALLY AND EXTERNALLY COVERING THE NECKS OF BOTTLES OR
THE LIKE.

1,030,948.

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Patented July 2, 1912.



Witnesses:
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UNITED STATES PATENT OFFICE.

MAX VON DER HEYDEN, OF BERLIN, GERMANY.

PAPER CAPSULE FOR INTERNALLY AND EXTERNALLY COVERING THE NECKS OF BOTTLES OR THE LIKE.

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Specification of Letters Patent.

Patented July 2, 1912.

Application filed August 12, 1911. Serial No. 643,702.

To all whom it may concern:

Be it known that I, MAX VON DER HEYDEN, a subject of the German Emperor, residing at 109 Lützowstrasse, Berlin, Germany, have invented certain new and useful Improvements in Paper Capsules for Internally and Externally Covering the Necks of Bottles or the Like, of which the following is a specification.

The present invention relates to a novel form of protective capsule or covering adapted to be interposed between the mouth of a bottle or like container and the stopper inserted therein.

Stated generally, the invention consists in providing such capsules or protective coverings, usually made of paper or like material, with gathered portions whereby at such portions a surplus of material is formed which when pressure is applied thereto by a stopper is smoothed out and assumes a cup shape or like formation.

The invention is shown in the accompanying drawing.

Figure 1 shows by way of example a bottle closure with capsule sleeve employed therein in accordance with the invention, such capsule sleeve covering the bottle neck mouth internally and externally. Fig. 2 is a plan of the flattened capsule sleeve with concentrically impressed undulation. Fig. 3 is a cross-section thereof. Fig. 4 is a plan of a flattened capsule sleeve with spiral-shaped outwardly pressed undulation. Fig. 5 shows a capsule sleeve with concentrically impressed undulation in the covering part, adjoining which are radially directed lance-shaped ribs. Fig. 6 shows a capsule sleeve with star-shaped ribs.

a designates generally the capsule embodying the present invention and having therein gathered portions which may assume any desired formation. In this paper capsule, the material of which is extensible and shapable, the undulations or ribs *b* which extend according to Fig. 2 concentrically to each other, according to Fig. 4 spirally or as radial extensions (as indicated by dotted lines) adjoining the spirals and according to Figs. 5 and 6 star-shaped, are pressed out of the still wet paper-mass without the surface of the paper disk being permitted to undergo contraction. These undulatory spiral-shaped or star-shaped ribs or folds within the still wet middle or covering part of the paper disk

remain on the drying of the paper-mass of the disk constantly therein. The capsule is then formed out of this disk in such a manner that the covering part *a* thereof with the undulations or ribs is flattened or pressed out in the form of a hood or funnel and placed around the rim-part *c* outside the covering part, the surface surplus being provided as usual within inclined or vertical folds or undulations.

In paper ready for use and of permissible thickness the undulations or ribs of the actual figure-like shape cannot be formed; the excess or surplus of the paper surface, which is not taken up by the undulations or ribs, would remain on and between the same as a folding or creasing obstacle. The invention therefore requires, as already stated, that the pressure of the undulations or ribs should be continued until the paper mass of the disk is extensible and shapable. The radial or star-shaped ribs as shown in Figs. 4 and 5 produce the effect, after the paper disk is formed, that by equalization a radial enlargement of the surface of the capsule covering part adjoining the concentric or spiral-shaped undulations is advantageously attained. Consequently, the capsule is capable of extension in its whole periphery and capsules of the above-described kind can also be used for bottles or vessels with an unround or irregular mouth periphery.

In the modification (Fig. 6) of the capsule sleeve with star-shaped ribs of the paper sheet, the folds or ribs begin in the middle of the capsule bottom, then become wider or deeper and are thereupon flattened into long pointed folds. This folding results in a surface surplus, which is conically recessed toward the funnel-shaped inner capsule.

The figure-like formation of the undulations, ribs or folds of the capsule may of course be different to that as shown without departing from the spirit of the invention.

The capsule on the vessel mouth or on the bottle neck *d* (Fig. 1) is disposed between the seat-face thereof on which the closing member *e* is pressed, and the latter or the packing ring *f*. The object of the capsule is to prevent the contents of the bottle or the like coming in contact with the closing means, it being necessary that the capsule fits tightly on all sides. This however can only be attained if, after flattening or press-

ing out the undulations or ribs belonging to the inner capsule, a perfectly smooth surface is produced which is possible according to this invention.

5 Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim and wish to secure by Letters Patent is:

10 As a new article of manufacture, a paper capsule for bottles and like containers the material at its central portion gathered to form surplus material adapted to be made

perfectly smooth and converted into cup shape by the axial pressure of a stopper 15 against the same, said capsule having a radially fluted, horizontally extensible marginal rim adapted to be turned down to overlie the exterior walls of the mouth of the container.

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

MAX VON DER HEYDEN.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.

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