

Mar. 13, 1923.

1,448,329

G. J. BOHLMAN

PAPER CUP

Filed Feb. 5, 1917

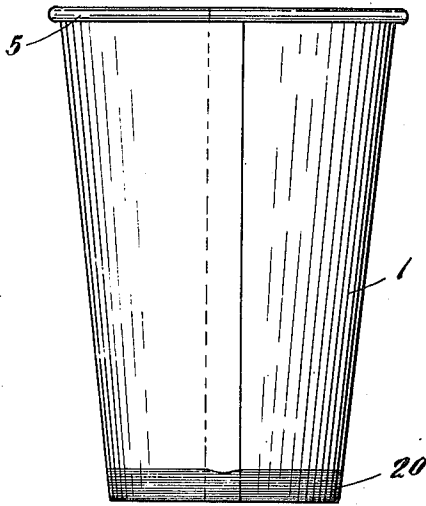


Fig. 1.

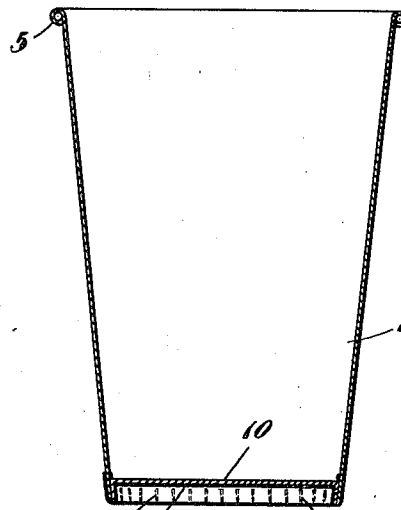


Fig. 2.

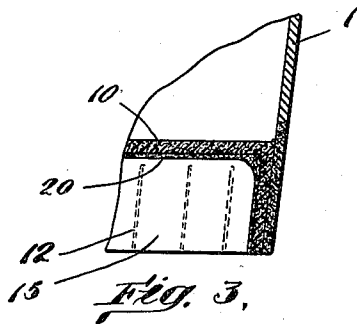


Fig. 3.

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UNITED STATES PATENT OFFICE.

GEORGE J. BOHLMAN, OF MEDFORD, MASSACHUSETTS, ASSIGNOR TO AMERICAN WATER SUPPLY CO. OF NEW ENGLAND, OF BOSTON, MASSACHUSETTS, A CORPORATION OF NEW YORK.

PAPER CUP.

Application filed February 5, 1917. Serial No. 146,609.

To all whom it may concern:

Be it known that I, GEORGE J. BOHLMAN, a citizen of the United States, residing at Medford, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Paper Cups, of which the following is a specification.

This invention relates to paper drinking cups and other paper receptacles, and has for its object the production of a receptacle having its body composed of paper having certain inherent characteristics or qualities, as for instance, the paper is inherently water-repellent, adapting it to hold water for a reasonable length of time, has a long fiber, and is heavily calendered, adapting it for a limited distortion without breaking, whereby its edge-portion may be rolled so that a resilient rolled edge may be provided without permanently altering its inherent qualities. The receptacle has a bottom closure and sealing-means for said closure whereby the joint between the closure and body is sealed and the closure securely held in place, said sealing-means being local and covering only a restricted area and limited to the lower end-portion of the body, so that the cup will not be disfigured in an objectionable manner, nor will the inherent characteristics of the paper composing the body be modified.

A drinking cup having a body composed of paper having the inherent characteristics or qualities above stated has many advantages over a cup having its body saturated or coated with paraffin, it being sufficiently water-repellent for all practical purposes, but serious difficulty is encountered in providing such a body with a bottom closure, which will be securely held in place and the joint between the bottom closure and the body will be water-tight, and herein the sealed bottom closure solves the problem.

The sealing-means serves not only to render the joint water-tight, but also to hold the bottom closure from falling out. The sealing-means preferably employed is a waterproof substance, such as a paraffin wax; and it is applied externally to the bottom closure in liquefied condition, and its application is in a very limited predetermined quantity, after which it is immediately permitted or caused to solidify so that the cup body will not absorb any appreciable amount, the lower end-portion of the body,

which surrounds the bottom closure, only being effected, so that said body is not objectionably disfigured.

Therefore, another quality of the paper composing the cup body, which is preferably employed, is its capability of absorbing the material of the sealing-means.

Fig. 1 is a side elevation of a paper drinking-cup, embodying this invention.

Fig. 2 is a longitudinal vertical section of the same.

Fig. 3 is an enlarged fragmentary detail to be referred to.

1 represents the tubular body, here shown as frustro-conical, which is composed of a piece of paper bent into tubular form and having its side edges overlapped and secured together.

The paper composing said body, as before stated, has certain inherent characteristics or qualities, that is to say, it contains a suitable sizing or stiffening material, has a long fiber, and is heavily calendered so that it is water-repellent, and is capable of a limited amount of distortion without breaking so that its edge may be rolled, without alteration of its permanent inherent characteristics or qualities. A body composed of paper having such inherent qualities or characteristics is well suited for drinking cups, as contrasted with a waterproof or coated paper, for the reason that it is cheaper and more economical to use, when all costs of labor and material are taken into consideration; is less liable to stick to an adjacent cup when the cups are nested, particularly in the summer time, and its general appearance is more acceptable on account of its being much whiter or semi-transparent. The upper edge of the body is or may be formed with a roll 5, which is extended outward and continued for nearly a complete circle, and said roll, together with the body, is more or less resilient, which especially well adapts the cup to be withdrawn from a cup-holder without permanent distortion.

A bottom closure is provided for the cup which, as here shown, consists of a disk 10, having its margin cut to form interdental spaces 12, at regular intervals, or it may be slitted radially inward for a short distance, thereby to form a series of marginal projections 15, and said projections are adapted to be turned downwardly and arranged for engagement with the interior of the wall of

the body, so that when the disk, with its marginal projections, is arranged within the body, at the lower end-portion thereof, said lower end will be closed and the closure will be additionally held by the engagement of the projections with the body. Usually these projections terminate flush or substantially so with the lower edge of the body, as shown in Fig. 2. Said closure is additionally held in place, and the joint between the closure and the body is tightly closed or sealed by suitable sealing-means 20, here shown as composed of a waterproof substance, such for instance as paraffin wax, or it may be a water-repellent substance, which is applied locally thereto when in liquefied condition. The heated wax is usually applied externally to the inverted cup, and the material so applied is allowed to spread over the entire surface of the closure to and including the edges thereof, and to fill, more or less, the interdental spaces between the projections or slits, and to be absorbed by said projections and by the lower end-portion of the body, so that when the wax congeals, a liquid-tight joint will be produced and the closure will be secured in place. A limited but predetermined amount of paraffin wax is applied, and care is taken to apply only the necessary amount, otherwise a surplus will be present which will be absorbed by the body and will tend to disfigure said body in an objectionable manner. The limited quantity is regulated with this end in view. As a result, the lower end-portion of the body only, which includes the closure, is effected.

I claim:—

1. As a new article of manufacture, a frustro-conical drinking cup composed of paper having an inherently partially water proof body not coated on its outside and

being free from indentations and projections on its inside and a water proof bottom closure.

2. As a new article of manufacture, a drinking cup consisting of a frustro-conical body of paper characterized by being inherently temporarily waterproof, not coated on its outside and being free from indentations and projections on its inside, said body having a rolled edge at the top, and a waterproof bottom closure for said body comprising a circular paper disc having a downwardly toothed flange arranged at the lower end of and to close said body, and means comprising paraffin uniting said closure and body and sealing the joint between them characterized by permeating said bottom closure and said body adjacent the closure, and filling the joint between them and limited in its permeation of the body to that portion of the body immediately adjacent to the bottom closure.

3. A drinking cup comprising an annular body portion of inherently partially waterproof paper, not coated on its outside and being free from indentations and projections on its inside, a circular bottom closure having an annular toothed flange extending downwardly to the bottom of the body portion, and means for uniting and sealing said body and closure and rendering the latter waterproof comprising paraffin applied to the bottom closure and to the body portion internally thereof and below the bottom closure.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

GEORGE J. BOHLMAN.

Witnesses:

AMOS L. TAYLOR,
ELIZABETH M. HANSON.