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**W. S. SYKES**

**2,266,828**

PAPER CUP

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Fig. 1.

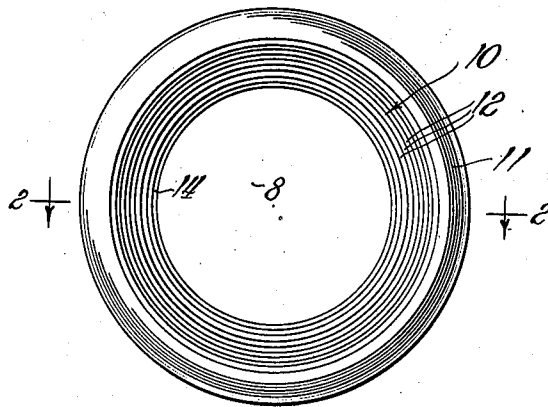


Fig. 3.

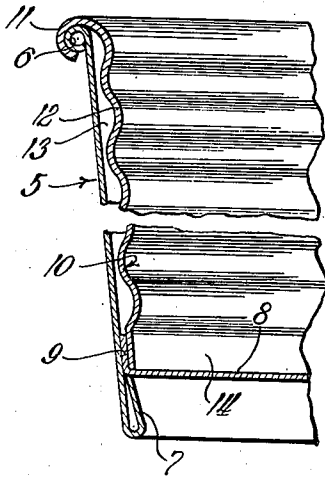
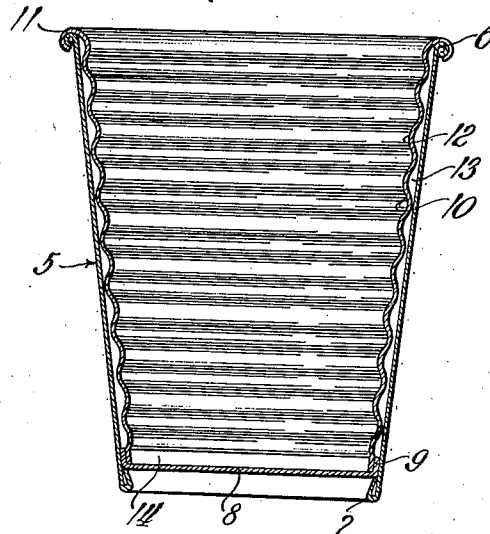


Fig. 2.



Inventor  
Wesley S. Sykes  
By Brown, Jackson, Butler & Wimer  
Attys.

## UNITED STATES PATENT OFFICE

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## PAPER CUP

Wesley S. Sykes, Milwaukee, Wis., assignor to  
Milwaukee Lace Paper Company, Milwaukee,  
Wis., a corporation of Wisconsin

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2 Claims. (Cl. 229—14)

This invention relates to containers, and has to do particularly with paper cups intended for serving either hot or cold drinks or comestibles.

My invention is directed to the provision of a paper cup which can be produced at low cost, is well suited for holding in the hand, is provided with means effective for thermally insulating the contents of the cup from the hand holding it while also imparting desirable rigidity and mechanical strength to the cup, and which facilitates drinking from the cup of liquids contained therein. Further objects and advantages will appear from the detail description.

In the drawing:

Figure 1 is a plan view of a cup embodying my invention;

Figure 2 is a sectional view taken substantially on line 2—2 of Figure 1; and

Figure 3 is a fragmentary sectional view through the cup, on an enlarged scale, the cup body and the lining therefor being partly broken away.

The cup comprises a downwardly tapering body 5 of circular cross-section, formed of paper waxed or otherwise treated in a known manner to be rendered waterproof. Body 5 is provided, at its top, with an outwardly rolled outwardly projecting circumferential bead 6 and, at its lower end, with an inwardly and upwardly turned flange 7. Flange 7 is secured at its upper edge to body 5 in a suitable manner, as by means of an adhesive or by means of the wax applied to the paper of which the body is formed. A disc-shaped bottom member 8, also formed of paper waxed or otherwise waterproofed, fits snugly within body 5 and seats upon the upper edge of flange 7. Bottom member 8 is provided with an integral upwardly extending circumferential flange 9 which seats tightly against the surrounding wall of body 5 and is secured thereto, conveniently by a suitable known adhesive.

A liner 10, also formed of paper waxed or otherwise waterproofed, is disposed within body 5. At its upper end liner 10 is provided with an outwardly rolled and outwardly extending circumferential bead 11 fitting snugly over and about bead 6, to which it is secured, conveniently by means of a suitable adhesive. Liner 10 is provided throughout the major portion of its height with circumferentially extending corrugations 12, which impart considerable rigidity to the liner and resist radial deformation thereof, while providing spaces 13 between the liner and body 5. The lower end portion of liner 10 is flat or uncorrugated, at 14, and fits snugly within flange 9

of bottom element 8, to which flange it is secured so as to form a fluid tight closure therewith, conveniently by means of a suitable heat resistant and waterproof adhesive or cement of known type. The liner 10 is thus secured at its top and bottom to body 5 and is supported therein in spaced relation thereto, there being a dead air space between body 5 and the liner highly efficient for thermal insulating purposes. The areas of contact between the body 5 and liner 10, at the top and the bottom of the latter, are quite small, reducing to a minimum the transfer of heat, by conduction, between body 5 and liner 10, and these areas are disposed out of the area of body 5 normally grasped by the hand when holding the cup. If body 5 of the cup be grasped so tightly as to tend to crush it radially, the wall thereof may be moved inward into contact with corrugations 12 of liner 10, the latter then offering considerable resistance to continued inward movement of the wall of body 5 effective to prevent inadvertent crushing thereof. Under such conditions the areas of contact between body 5 and the apices of corrugations 12 will be slight and insufficient to cause objectionable heat transfer, by conduction, between body 5 and liner 10.

A cup constructed in the manner above described may be held in the hand with comfort while containing hot drinks or comestibles, and objectionable heating of the contents of the cup by heat derived from the hand grasping it, when the cup contains cold drinks or comestibles, is effectively prevented, while the liner serves also to reenforce the cup and prevent inadvertent radial crushing thereof. The beads 6 and 11 together provide an outwardly rounded lip at the top of the cup, which facilitates drinking liquids therefrom.

I claim:

1. In a paper cup, a substantially cylindrical paper body adapted to be held in the hand provided at its top with a circumferential reinforcing bead and at its bottom with an inwardly and upwardly turned flange, a bottom closure member seating on said flange provided with an upwardly extending circumferential flange seating against and secured to the surrounding wall of said body, and a substantially cylindrical paper liner within said body having its bottom portion straight fitting within and secured to said flange of said bottom closure member, said liner having an outwardly extending circumferential bead at its top fitting over and secured to said bead at the top of said body, said liner being provided

between its top and its bottom portion with circumferential reinforcing corrugations.

2. In a paper cup, a substantially cylindrical paper body adapted to be held in the hand provided at its top with a circumferential reinforcing bead and at its bottom with an inwardly and upwardly turned flange, a bottom closure member seating on said flange provided with an upwardly extending circumferential flange seating

5 against the surrounding wall of said body, and a substantially cylindrical paper liner within said body having its bottom portion straight fitting within and secured to said flange of said bottom closure member, said liner having an outwardly extending circumferential bead at its top fitting over and secured to said bead at the top of said body.

WESLEY S. SYKES.