

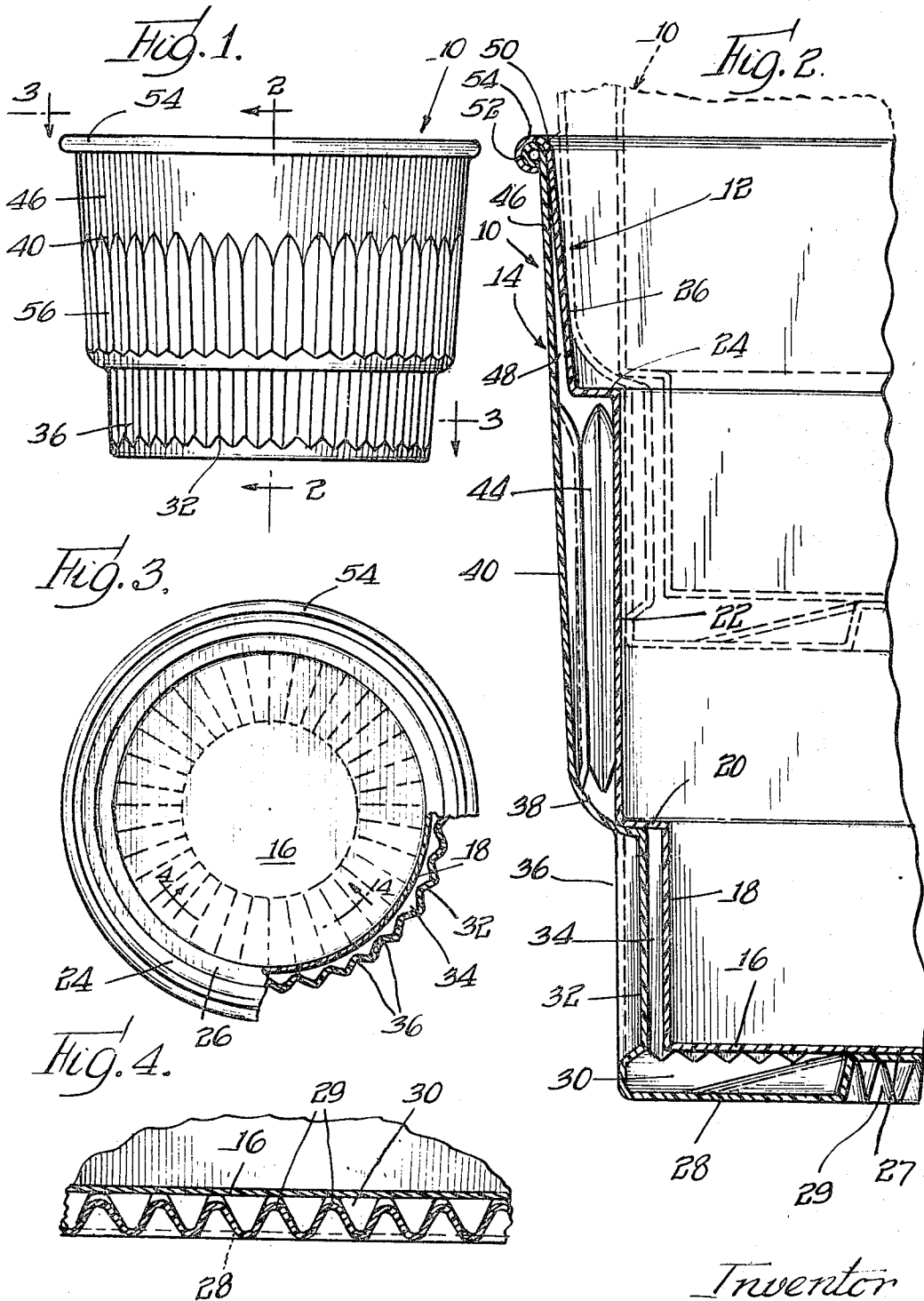
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DOUBLE WALL CONTAINER

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DOUBLE WALL CONTAINER

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6 Claims

ABSTRACT OF THE DISCLOSURE

There is disclosed a double wall cup including inner and outer cup members formed from thin material. An annular air space is maintained between mid portions of the inner and outer members for insulating purposes, and the members are formed with interengaging radially extending shoulders or shelves which aid in preventing collapsing of the outer member around the air space and also in enabling a plurality of the cups to be stacked without binding.

The present invention relates to a novel container, and more specifically to a novel double wall container such as a drinking cup.

An important object of the present invention is to provide a novel container such as a drinking cup and the like suitable for both hot and cold beverages and constructed for providing an insulated portion adapted to be gripped by the hand and further constructed so that a plurality of the containers may be stacked in nested relationship without binding.

A more specific object of the present invention is to provide a novel container or cup of the above described type having inner and outer walls formed so that mid portions thereof are spaced radially from each other a substantial distance for defining a relatively wide efficient insulating air space therebetween and further formed so that the inner member supports the outer member in a manner for resisting collapsing of the outer member around the air space when gripped in the hand of a user.

Still another object of the present invention is to provide a novel container or cup of the above described type wherein the inner and outer members are formed with interengageable radially extending shoulder or shelf portions which serve both to resist collapsing of the outer member around the air space and to permit a plurality of the containers to be stacked without binding.

A still further specific object of the present invention is to provide a novel double walled container or cup including inner and outer members formed from thin material such as plastic so that the outer member presents a relatively large diameter body merging with a radially inwardly directed shoulder toward the lower end of the cup and the inner member presents a relatively small diameter body merging with a radially outwardly directed shoulder or shelf toward the upper end of the cup, said bodies defining an annular insulated air space between said shoulders and said shoulders serving to resist collapsing of said air space and for an engagement with adjacent containers or cups when said cup is placed in a stack for preventing binding of the cups.

Other objects and advantages of the present invention will become apparent from the following description and the accompanying drawings wherein:

FIG. 1 is a side elevational view showing a container or cup incorporating features of the present invention;

FIG. 2 is an enlarged fragmentary sectional view taken along line 2-2 in FIG. 1 and further showing, in broken lines, a second cup stacked within the first cup;

FIG. 3 is a partial sectional view taken generally along line 3-3 in FIG. 1; and

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FIG. 4 is an enlarged fragmentary sectional view taken along line 4-4 in FIG. 3.

Referring now more specifically to the drawings wherein like parts are designated by the same numerals throughout the various figures, a cup 10 incorporating features of the present invention comprises an inner cup member 12 and an outer member 14. The cup members 12 and 14 are formed from a thin material which, for example, may be a plastic material. While various plastic materials may be used, a high impact polystyrene has been found to be satisfactory.

The inner cup member 12 has a bottom wall 16 which may be substantially flat. The bottom wall merges with a lower end section 18 of a seamless side wall of the cup member 12. The section 18 merges with a radially outwardly extending annular shoulder or shelf 20 which in turn joins a substantially cylindrical central body section 22 of the wall. An upper margin of the body section 22 joins another radially extending shoulder or shelf section 24 and this shelf section joins an upper end portion 26 of the cup member side wall. The upper end portion is preferably of a tapered or inverted frusto-conical configuration.

The outer cup member 14 also has a bottom wall 28. This wall has a raised central portion 27 which abuts and supports the bottom wall 16 of the inner cup member as shown in FIG. 2. The bottom wall 28 is further formed with a plurality of flutes 29 tapering downwardly and outwardly from the raised central portion 27 for lending strength and rigidity. As shown in FIG. 2, an air space 30 is defined between annular peripheral portions of the bottom walls 16 and 28 for insulating the outer bottom surface of the cup from the interior and thereby protecting the hand of a person holding the cup or a table surface on which it may be placed.

The outer bottom wall 28 merges with a lower end section 32 of a seamless side wall of the outer cup member 14. The side wall portion 32 is preferably slightly tapered or of inverted frusto-conical configuration and has a minimum diameter greater than the diameter of the inner wall portion 18 so as to define an insulating air space 34 therebetween. Preferably, the wall section 32 is formed with vertically extending flutes 36 for lending strength and rigidity thereto.

The wall section 32 merges with an outwardly flaring and, in the embodiment shown, curved shoulder sections 38 which in turn merges with a central body section 40 extending around the inner body section 22. The section 40 preferably flares slightly outwardly or, in other words, has an inverted frusto-conical configuration so that it is progressively increasingly spaced from the cylindrical inner body section 22 and combines with the body section 22 in defining an annular air space 44 of substantial width for effectively insulating the outer surface of the cup from the interior. The wall section 40 merges with an upper end portion 46 which, in fact, forms a continuation of the section 40. The taper of the section 46 is slightly less than the inclination of the adjacent inner wall section 26 so that there is a slight space 48 therebetween as shown in FIG. 2. This arrangement prevents binding of the inner and outer cups during assembly thereof so that the inner cup may be easily inserted fully.

The inner and outer cup members are secured together at their upper margins. More specifically upper marginal portions 50 and 52 thereof are rolled together to provide a single rim 54.

With the foregoing described structure, it is seen that the cup is provided with a primary grip portion adapted to be engaged by the hand of a user and defined by the intermediate body sections 22 and 40. As previously described, these sections define a relatively

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wide air space 44 which effectively insulates the outer surface of the section 40 so as to protect the hand of a user. When the section 40 is gripped in the hand of a user there is, of course, a tendency for it to collapse. Such collapsing however is eliminated or minimized by engagement of the outer cup with the annular shoulders or shelf sections 20 and 24 of the inner cup. As shown in FIG. 2, the section 20 extends into supporting engagement with the curved shoulder section 38 of the outer cup and the section 24 extends to a point closely spaced from the upper margin of the outer body section 40 so as to engage and support the section 40 in the event any collapsing of the section takes place. The outer section 40 may be further strengthened and rigidified by providing it with ribs of any suitable design such as the vertical ribs 56.

A plurality of the cups may be stacked together for storing or dispensing purposes as indicated by a stacked cup shown in broken lines in FIG. 2. In this stacked condition, the rounded shoulder 38 of an upper cup engages the shoulder or shelf 24 of the immediately adjacent lower cup. The cups are thus prevented from wedging together so that subsequent removal or dispensing is facilitated.

The invention is claimed as follows:

1. A double wall container including an inner member and an outer member, said members respectively comprising inner and outer peripheral side walls and inner and outer bottom walls, said side walls respectively including peripheral body sections intermediate their top and bottom defining a primary gripping area, said intermediate sections being substantially radially spaced from each other throughout their axial length and defining an insulating air space therebetween, and said inner side wall including axially spaced annular shoulder sections at upper and lower margins of its intermediate body section and projecting radially for engaging and supporting said outer wall adjacent upper and lower margins of the outer intermediate body section.

2. A container, as defined in claim 1, wherein said inner side wall intermediate body section has a substantially cylindrical configuration and said outer side wall intermediate body section is of inverted frusto-conical configuration.

3. A container, as defined in claim 1, wherein said inner and outer side walls respectively include lower end sections respectively having diameters less than the diameters of the inner and outer intermediate body sections, said lower shoulder section extending between a lower margin of said inner intermediate body section and an upper margin of the inner lower end section, said inner lower end section being substantially cylindrical, and said outer lower end section including a plurality of rib means, said inner and outer lower end sections being radially sepa-

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rated from each other and defining an insulating air space therebetween.

4. A container, as defined in claim 3, wherein said bottom wall of the outer member includes a raised central portion engaging and supporting the inner bottom wall, annular peripheral portions of said bottom walls being axially separated and defining an insulating air space therebetween, and said outer bottom wall including a plurality of ribs extending generally radially outwardly from said central raised portion.

5. A container, as defined in claim 1, wherein said outer side wall includes an annular shoulder section adjacent the lower margin of said outer intermediate body section, said last mentioned annular shoulder section having a minimum diameter greater than a minimum diameter of said upper annular shoulder section on the inner member so that a plurality of said containers may be stacked with said outer annular shoulder section of one container engaging said upper annular shoulder section of an immediately adjacent container for preventing binding between side walls of the containers.

6. A container, as defined in claim 5, wherein said outer member includes an outer lower end section extending downwardly from a junction with said outer member annular shoulder section and merging with said outer member bottom wall, said outer member further including an upper end section extending upwardly from a junction with said outer intermediate body section, said outer intermediate body section and outer side wall upper end section having an inverted frusto-conical configuration, said inner member including a lower end section extending downwardly from its lower shoulder section and spaced from said outer lower end section, and said inner side wall further including an upper end section joined with said upper annular shoulder section, said inner and outer upper end sections having upper marginal edges joined together, and said inner upper end section tapering inwardly from said upper margins in slightly spaced relationship with respect to said outer upper end section.

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