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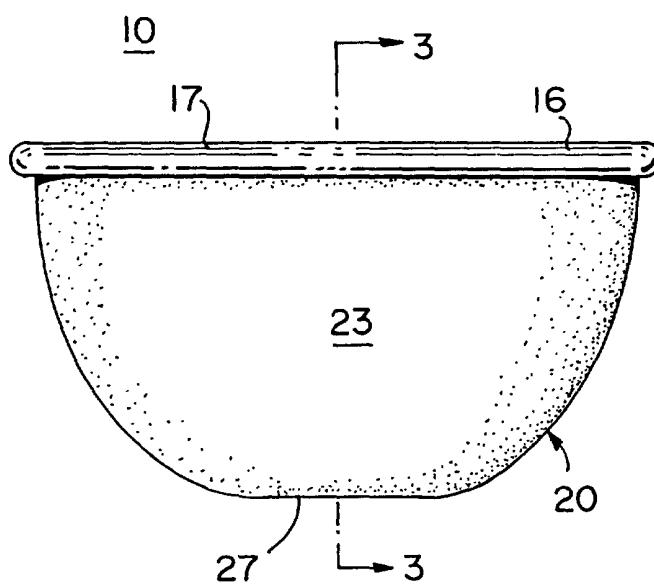
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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(54) Title: COMPOSITE BOWL



(57) Abstract: A composite bowl (10) has a seamless, one-piece, stainless steel inner body (11) with a covering or outer body (20) formed of a flexible and resilient frictional material. The outer body (20) has an enlarged bead (26) around the rim of the bowl and the stainless inner body (11) is rolled around the bead (26). Fig 1 shows a side view of the composite bowl.

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## COMPOSITE BOWL

### Background

The present application relates to a cookware receptacle and, in particular, to  
5 mixing bowls.

Mixing bowls have been formed of a variety of different materials, including glass, ceramic, metal and the like. Such bowls are commonly used in different positions. In one position, such as for use with an electric mixer or the like, the bowl is disposed in an upright position resting on a generally flat base with the central axis of the bowl disposed substantially vertically. When used with hand mixers or beaters, whisks or the like, the  
10 bowl is typically tilted to facilitate entry of the stirring or mixing implement into the open mouth of the bowl and manipulation thereof. For this purpose, the user will typically grasp the edge of the bowl with one hand to tilt it while operating the mixing implement with the other hand.

A typical mixing bowl has a generally semi-spherical shape with a smooth outer surface which has a tendency to slip or slide along underlying support surfaces in use. Furthermore, such bowls may be difficult to grasp firmly, particularly if the user's hands  
15 are wet.

In order to alleviate these difficulties, it is known to provide bowls formed of  
20 plastic materials with flexible anti-skid rings or bottom portions to inhibit skidding along support surfaces. Bowls have also been provided with enlarged rim flanges or handles to facilitate grasping. Patent no. 5,169,023 to Heiberg et al., discloses a composite bowl with an inner rigid plastic shell and an outer elastic shell formed by co-molding. However, the plastic material of the bowl is not suitable for all applications.

### Summary

The present application discloses an improved composite mixing bowl which avoids advantages of prior bowls while affording additional structure or operating advantages.

5 A feature is a provision of a bowl of the type set forth which is of simple and economical construction, yet is sturdy and ergonomically designed.

Another feature is the provision of a bowl of the type set forth which has a unique metal/elastomeric composite construction.

In particular, there is provided a composite receptacle comprising: a rigid 10 imperforate inner body having an outer surface and forming an open-top vessel having an upstanding peripheral side wall, the side wall having a laterally outwardly projecting flange forming an upper lip extending around the periphery of the inner body, the lip extending downwardly and back inwardly toward the side wall to form a channel, and an outer body of flexible and resilient material covering and fixed to the outer surface of the 15 inner body, the outer body having a peripheral bead filling the channel.

### Brief Description of the Drawings

For the purpose of facilitating an understanding of the subject matter sought to be protected, there are illustrated in the accompanying drawings embodiments thereof, from an inspection of which, when considered in connection with the following description, the 20 subject matter sought to be protected, its construction and operation, and many of its advantages should be readily understood and appreciated.

FIG. 1 is a side elevational view of a composite bowl;

FIG. 2 is a top plan view of the bowl of FIG. 1;

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

FIG. 4 is an enlarged, fragmentary sectional view of a portion of FIG. 3.

#### Detailed Description

Referring to the drawings, there is illustrated a composite bowl, generally designated by the numeral 10, which includes a seamless, one-piece inner body 11, formed of a suitable metal, such as stainless steel. The inner body 11 is generally part-spherical in shape and has an inner surface 12 and an outer surface 13, the body 11 defining a curvilinear bottom 14 and curvilinear upstanding side wall 15. The side wall 15 has an upper end portion or flange 16 extending around the periphery thereof and defining the wide, open mouth at top of the bowl. The flange 16 is curved laterally outwardly and then 5 downwardly to define a generally tubular lip 17 which terminates at a distal edge 18 spaced a slight distance from the outer surface of the side wall 15 to define a channel 19, 10 which is a part-circular in transverse cross section.

Bowl 10 also includes an outer body 20 formed of a flexible and resilient frictional material, such as an elastic material of a type sold under the trade name Santoprene, which 15 is adhered to and covers the outer surface 13 of the inner body 11. The outer body 20 has an outer surface 23 and defines a bottom portion 24, which covers the inner body bottom 14, and a side portion 25 which covers the inner body side wall 15. The side portion 25 terminates at its upper end in a peripheral bead 26 which fills the channel 19 and is 20 substantially circular in transverse cross section, so that the edge 18 of the flange 16 is disposed of the juncture between the bead 26 and the remainder of the outer body side portion 25. The outer surface of the 23 of the outer body 20 has a substantially flat bottom surface portion 27. The thickness of the outer body 20 varies, having a thickened region 28 around the periphery of the inner body bottom 14. The outer body 20 is fixedly secured to the inner body 11 by suitable means, as by being bonded thereto or molded thereon. The

resulting composite bowl 11 defines a receptacle 29 for receiving food stuffs or the like.

The composite bowl 10 is particularly useful as a mixing bowl, the stainless steel inner body 11 providing desirable qualities of rigidity, durability, stain resistance, ease of clean-up and the like, characteristic of stainless steel utensils. The outer body 20 forms a 5 resilient frictional surface which resists sliding or skidding of the bowl along an underlying support surface, facilitates griping by a user's hand, cushions the bowl in use, and provides a stable, non-slip engagement with an underlying support surface to facilitate tipping of the bowl during use. The bowl 10 can readily be formed by injection molding of the outer body 20 over the pre-formed inner body 11.

10 The matter set forth in the foregoing description and accompanying drawings is offered by way of illustration only and not as a limitation. While a particular embodiment has been shown and described, it will be obvious to those skilled in the art that changes and modifications may be made without departing from the broader aspects of applicants' contribution. The actual scope of the protection sought is intended to be defined in the 15 following claims when viewed in their proper perspective based on the prior art.

**We Claim:**

1. A composite receptacle comprising:
  - a rigid imperforate inner body having an outer surface and forming an open-top vessel having an upstanding peripheral side wall,
    - 5 the side wall having a laterally outwardly projecting flange forming an upper lip extending around the periphery of the inner body,
    - the lip extending downwardly and back inwardly toward the side wall to form a channel, and
  - 10 an outer body of flexible and resilient material covering and fixed to the outer surface of the inner body,
  - the outer body having a peripheral bead filling the channel.
2. The receptacle of claim 1, wherein the inner body is formed of metal.
3. The receptacle of claim 1, wherein the side wall is curvilinear.
- 15 4. The receptacle of claim 1, wherein the inner body has a curvilinear bottom.
5. The receptacle of claim 4, wherein the outer body has an outer surface with a substantially flat bottom portion.
6. The receptacle of claim 1, wherein the outer body has a variable thickness.
7. The receptacle of claim 1, wherein the outer body is formed of a frictional
- 20 material.
8. The receptacle of claim 1, wherein the channel is part-circular in transverse cross section.
9. The receptacle of claim 1, wherein the side wall is circular in horizontal cross section.

10. A composite receptacle comprising:
  - a rigid imperforate inner body having an outer surface and forming an open-top vessel having an upstanding peripheral side wall,
  - the side wall having an upper end portion, and
  - 5 an outer body of flexible and resilient material covering and fixed to the outer surface of the inner body,
  - the outer body having a thickened laterally outwardly projecting bead at an upper end thereof and extending along the entire periphery thereof,
  - the upper end portion of the inner body being wrapped around the bead and fixed 10 thereto for substantially covering the bead.
11. The receptacle of claim 10, wherein the bead is substantially circular in transverse cross section.
12. The receptacle of claim 10, wherein the outer body is formed of a frictional material.
15. The receptacle of claim 10, wherein the outer body has a variable thickness.
14. The receptacle of claim 10, wherein the outer body has an outer surface with a substantially flat bottom portion.
15. The receptacle of claim 14, wherein the inner body has a curvilinear bottom.
20. 16. The receptacle of claim 10, wherein the inner body is formed of metal.
17. The receptacle of claim 10, wherein the upper end portion of the inner body terminates at a junction between the bead and the remainder of the outer body.

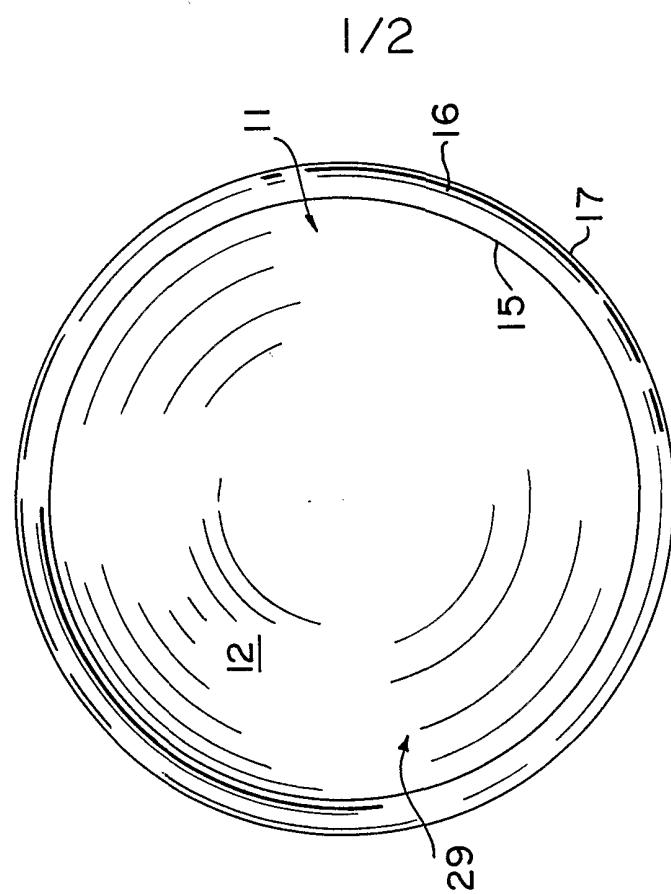


FIG. 2

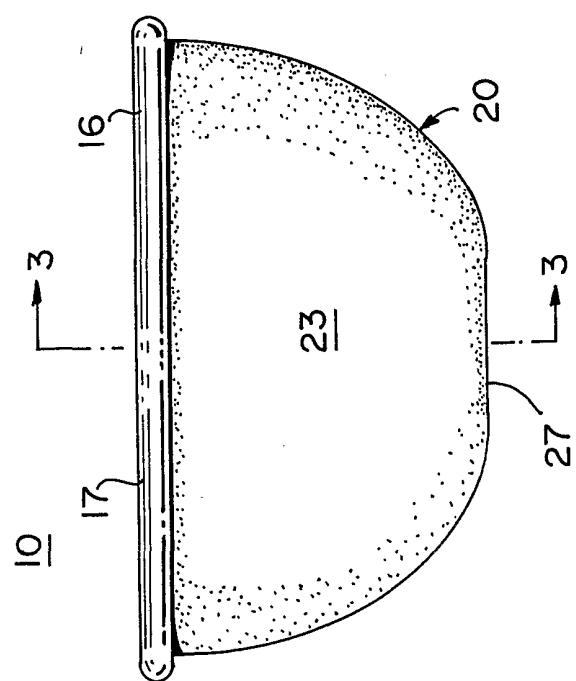
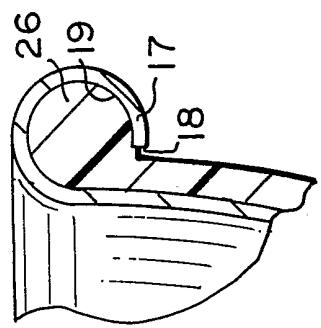
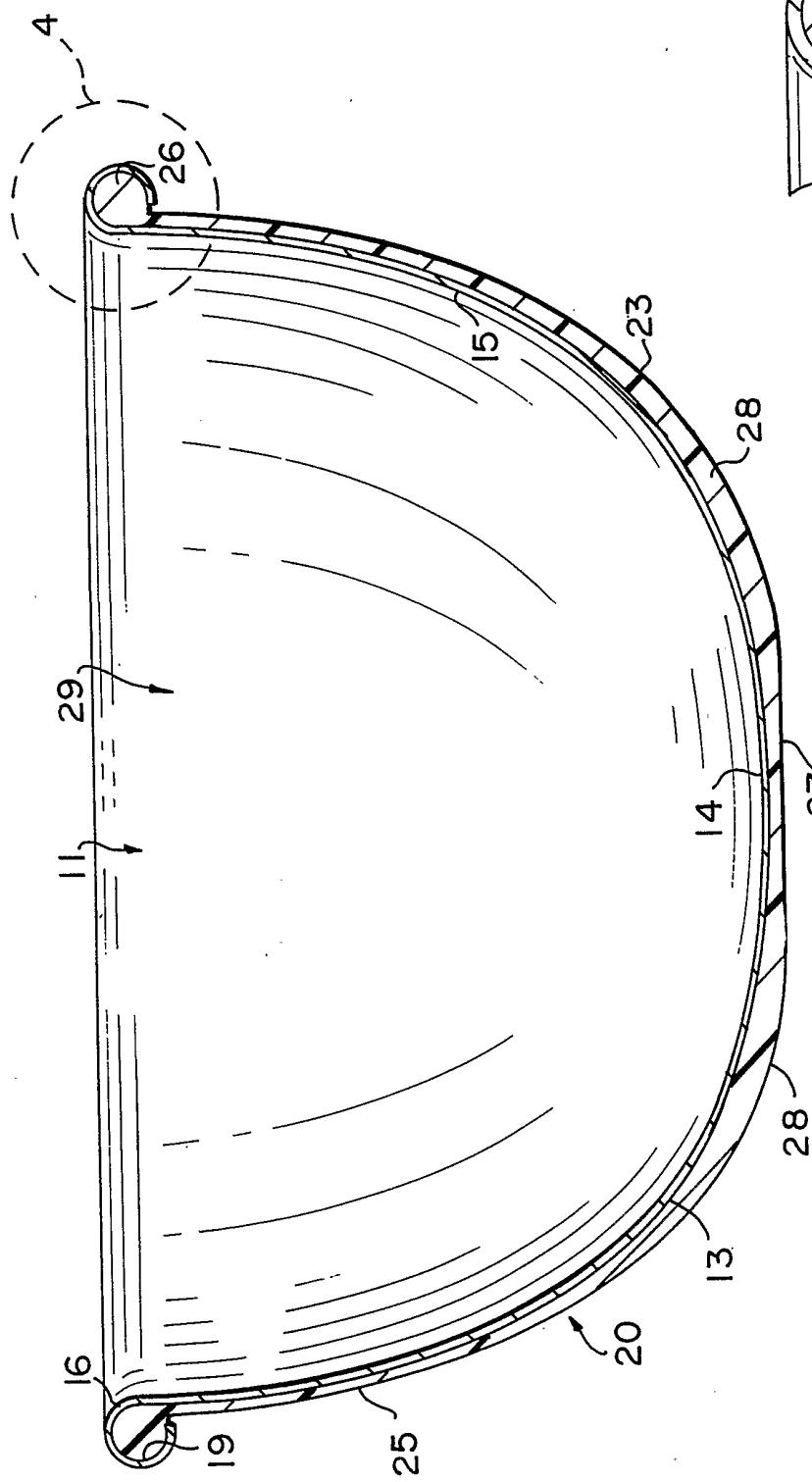


FIG. 1

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US01/19448

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : B65D 6/14; A47G 19/00

US CL : 220/62.13, 574, 574.3, 62.14, 62.22

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 220/62.13, 574, 574.3, 62.14, 62.22

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EAST

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,419,454 A ( <i>STOWELL et al.</i> ) 30 May 1995.	1-17
A	US 2,412,528 A ( <i>MORRELL</i> ) 10 December 1946.	1-17
A	US 3,788,513 A ( <i>RACZ</i> ) 29 January 1974.	1-17

Further documents are listed in the continuation of Box C.  See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step
"E"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means		document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed		

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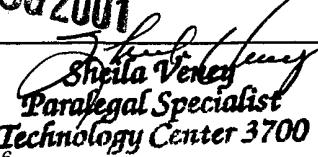
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