

Fun IP

Prof. Roger Ford

Class 5 – February 3, 2015

Patents: Introduction, disclosure requirements, & the patent bargain

(post-AIA) 35 U.S.C. § 101 — Inventions patentable

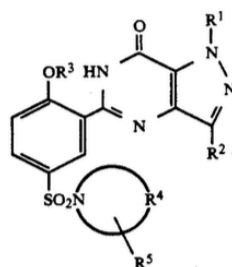
Whoever **invents or discovers** any **new and useful process, machine, manufacture, or composition of matter**, or any new and useful **improvement thereof**, may obtain a patent therefor, subject to the conditions and requirements of this title.

Sildenafil citrate

Claim 1 of
U.S. patent no.
5,250,534

We claim:

1. A compound of the formula:



(I)

wherein

R¹ is H, C₁-C₃ alkyl, C₃-C₅ cycloalkyl or C₁-C₃ perfluoroalkyl;

R² is H, C₁-C₆ alkyl optionally substituted by OH, C₁-C₃ alkoxy or C₃-C₆ cycloalkyl, or C₁-C₃ perfluoroalkyl;

R³ is C₁-C₆ alkyl, C₃-C₆ alkenyl, C₃-C₆ alkynyl, C₃-C₇ cycloalkyl, C₁-C₆ perfluoroalkyl or (C₃-C₆ cycloalkyl)C₁-C₆ alkyl;

R⁴ taken together with the nitrogen atom to which it is attached completes a 4-N-(R⁶)-piperazinyl group;

R⁵ is H, C₁-C₄ alkyl, C₁-C₃ alkoxy, NR⁷R⁸, or CONR⁷R⁸;

R⁶ is H, C₁-C₆ alkyl, (C₁-C₃ alkoxy) C₂-C₆ alkyl hydroxy C₂-C₆ alkyl, (R⁷R⁸N)C₂-C₆ alkyl, (R⁷R⁸NCO)C₁-C₆ alkyl, CONR⁷R⁸, CSNR⁷R⁸ or C(NH)NR⁷R⁸;

R⁷ and R⁸ are each independently H, C₁-C₄ alkyl, (C₁-C₃ alkoxy)C₂-C₄ alkyl or hydroxy C₂-C₄ alkyl; and

pharmaceutically acceptable salts thereof.



US006263732B1

(12) United States Patent
Hoeting et al.

(10) Patent No.: US 6,263,732 B1
(45) Date of Patent: Jul. 24, 2001

(54) MEASURING CUP

(75) Inventors: Michael G. Hoeting; Stephen C. Hoeting, both of Cincinnati, OH (US)

(73) Assignee: Bang Zoom Design, Cincinnati, OH (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 09/313,686

(22) Filed: May 18, 1999

(51) Int. Cl. G01F 19/00

(52) U.S. Cl. 73/427; 33/1 V; D10/46.2

(58) Field of Search 33/1 V; 1 E; 522; 33/679.1; 73/426, 427; 215/365, 366; D10/46.2; 222/23, 25, 26

(50) References Cited

U.S. PATENT DOCUMENTS

- 153,159 * 7/1854 Dawlidge 73/427
216,530 * 6/1879 Pfeiffermeier 73/427
D. 243,500 3/1977 Cooper .
D. 255,530 6/1980 Dancus et al. .
D. 259,460 6/1981 Dancus et al. .
D. 259,461 6/1981 Dancus et al. .
D. 259,462 6/1981 Dancus et al. .
D. 268,158 3/1983 Doyle .
D. 272,704 2/1984 Smith .
D. 282,381 10/1987 Kowolik et al. .
D. 282,462 10/1987 Ross et al. .
D. 293,776 1/1988 Ross et al. .
D. 294,213 2/1988 Chasen .
D. 302,920 8/1989 Arcona et al. .
D. 303,055 8/1989 Prindle .
D. 304,277 10/1989 Wolff et al. .
D. 304,301 10/1989 Moss et al. .

- D. 321,528 11/1991 Dupret D10/46.2
D. 330,863 11/1992 Green D10/46.2
423,018 * 3/1880 Young 73/427
1,507,968 * 9/1924 Johnson 73/427
1,564,470 * 12/1925 Cimmel 73/427
1,722,101 * 7/1929 Little 73/427
2,165,045 * 7/1939 Garside 73/426
3,526,138 9/1970 Swett et al. .
3,527,270 9/1970 Weil .
4,073,192 2/1978 Townsend 73/429
4,283,551 8/1981 Vaglio 73/426
4,566,529 1/1986 Scarpa .
4,834,251 5/1989 Yu .
5,297,036 * 3/1995 Malawald 73/427
5,588,747 12/1996 Blevins 73/427
5,662,249 9/1997 Grosse .

OTHER PUBLICATIONS

"Rigger Photographs: Having four (4) semi-columns formed in relief on inside wall, of four (4) different heights. Information concerning origin and (date is unknown)."

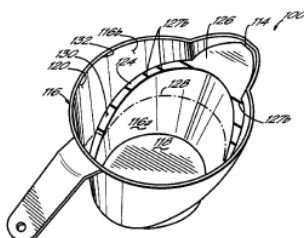
* cited by examiner

Primary Examiner—Christopher W. Fulton
(74) Attorney, Agent, or Firm—Wood, Herron & Evans, L.L.P.

(57) ABSTRACT

A measuring cup has at least one ramp formed in relief radially inwardly on the inside surface of the measuring cup sidewall. At least one ramp rises from about the bottom edge of the sidewall to about the top edge of the sidewall. The indicia on an upwardly directed surface of the at least one ramp allows a user to look downwardly into the measuring cup to visually detect the volume level of the contents in the measuring cup, thereby eliminating the need to look horizontally at the cup at eye level. Preferably the cup has two ramps, with at least one of standard units, and another with metric units.

1 Claim, 2 Drawing Sheets



(12) United States Patent
Hoeting et al.

(54) MEASURING CUP

(75) Inventors: Michael G. Hoeting; Stephen C. Hoeting, both of Cincinnati, OH (US)

(73) Assignee: Bang Zoom Design, Cincinnati, OH (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 09/313,686

(22) Filed: May 18, 1999

(51) Int. Cl.⁷ G01F 19/00

(52) U.S. Cl. 73/427; 33/1 V; D10/46.2

(58) Field of Search 33/1 V; 1 E; 522; 33/679.1; 73/426, 427; 215/365, 366; D10/46.2; 222/23, 25, 26

(50) References Cited

U.S. PATENT DOCUMENTS

153,159 * 7/1874 Dinwiddie 73/427
216,530 * 6/1879 Pfizenmeier 73/427
D. 243,500 3/1977 Cooper .
D. 255,530 6/1980 Daenen et al. .
D. 259,460 6/1981 Daenen et al. .
D. 259,461 6/1981 Daenen et al. .
D. 259,462 6/1981 Daenen et al. .
D. 268,158 3/1983 Doyle .
D. 272,704 2/1984 Smith .
D. 282,381 10/1987 Kowolik et al. .
D. 292,492 10/1987 Rom et al. .
D. 293,770 1/1988 Rom et al. .
D. 294,213 2/1988 Chasen .
D. 302,920 8/1989 Ancona et al. .
D. 303,055 8/1989 Prindle .
D. 304,277 10/1989 Wolff et al. .
D. 304,301 10/1989 Moss et al. .

(12) United States Patent Hoeting et al.

(10) Patent No.: US 6,263,732 B1

(45) Date of Patent: Jul. 24, 2001

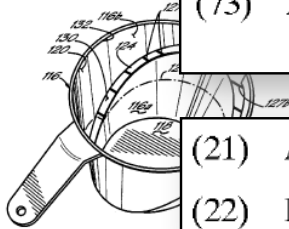
(54) MEASURING CUP

(75) Inventors: Michael G. Hoeting; Stephen C. Hoeting, both of Cincinnati, OH (US)

(73) Assignee: Bang Zoom Design, Cincinnati, OH (US)

(21) Appl. No.: 09/313,686

(22) Filed: May 18, 1999



(12) United States Patent
Hoeting et al.

(54) MEASURING CUP

(75) Inventors: Michael G. Hoeting; Stephen C. Hoeting, both of Cincinnati, OH (US)

(73) Assignee: Bang Zoom Design, Cincinnati, OH (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 09/313,686

(22) Filed: May 18, 1999

(51) Int. Cl.⁷ G01F 19/00

(52) U.S. Cl. 73/427; 33/1 V; D10/46.2

(58) Field of Search 33/1 V; 1 E; 522; 33/679.1; 73/426, 427; 215/365, 366; D10/46.2; 222/23, 25, 26

(50) References Cited

U.S. PATENT DOCUMENTS

153,159 * 7/1874 Dinwiddie 73/427
216,530 * 6/1879 Pfizenmeier 73/427
D. 243,500 3/1977 Cooper .
D. 255,530 6/1980 Daenen et al. .
D. 259,460 6/1981 Daenen et al. .
D. 259,461 6/1981 Daenen et al. .
D. 259,462 6/1981 Daenen et al. .
D. 268,158 3/1983 Doyle .
D. 272,704 2/1984 Smith .
D. 282,381 10/1987 Kowolik et al. .
D. 292,492 10/1987 Rom et al. .
D. 293,770 1/1988 Rom et al. .
D. 294,213 2/1988 Chasen .
D. 302,920 8/1989 Ancona et al. .
D. 303,055 8/1989 Prindle .
D. 304,277 10/1989 Wolff et al. .
D. 304,301 10/1989 Moss et al. .

(56)

References Cited

U.S. PATENT DOCUMENTS

153,159 * 7/1874 Dinwiddie 73/427
216,530 * 6/1879 Pfizenmeier 73/427

D. 243,500 3/1977 Cooper .
D. 255,530 6/1980 Daenen et al. .

D. 259,460 6/1981 Daenen et al. .
D. 259,461 6/1981 Daenen et al. .
D. 259,462 6/1981 Daenen et al. .

D. 268,158 3/1983 Doyle .
D. 272,704 2/1984 Smith .

D. 282,381 10/1987 Kowolik et al. .
D. 292,492 10/1987 Rom et al. .

D. 293,770 1/1988 Rom et al. .
D. 294,213 2/1988 Chasen .

D. 302,920 8/1989 Ancona et al. .
D. 303,055 8/1989 Prindle .

D. 304,277 10/1989 Wolff et al. .
D. 304,301 10/1989 Moss et al. .

D. 321,328 11/1991 Duquet D10/46.2
D. 330,863 11/1992 Green D10/46.2

423,018 * 3/1890 Young 73/427
1,507,968 * 9/1924 Johnson 73/427

1,564,470 * 12/1925 Crimmel 73/427
1,722,101 * 7/1929 Little 73/427

2,165,045 * 7/1939 Garside 73/426
3,526,138 9/1970 Swett et al. .

3,527,270 9/1970 Weil .
4,073,192 2/1978 Townsend 73/429

4,283,951 8/1981 Varpio 73/426
4,566,509 1/1986 Szajna .

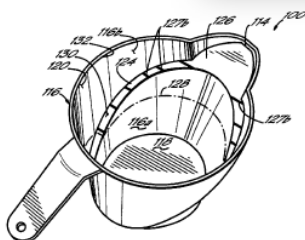
4,834,251 5/1989 Yu .
5,397,036 * 3/1995 Mainwald 73/427

5,588,747 12/1996 Blevins 73/427
5,662,249 9/1997 Grosse .

OTHER PUBLICATIONS

"Jigger Photographs: Having four (4) semi-columns formed in relief on inside wall, of four (4) different heights. Information concerning origin and (date is unknown)."

* cited by examiner



(12) **United States Patent**
Hoeting et al.

(10) Patent No.: **US 6,263,732 B1**
(45) Date of Patent: **Jul. 24, 2001**

(54) **MEASURING CUP**

(75) Inventors: **Michael G. Hoeting; Stephen C. Hoeting**, both of Cincinnati, OH (US)

(73) Assignee: **Bang Zoom Design, Cincinnati, OH (US)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/313,686**

(22) Filed: **May 18, 1999**

(51) Int. Cl.⁷ **G01F 10/00**

(52) U.S. Cl. **73/427; 33/1 V; D10/46.2**

(58) Field of Search **33/1 V; 1 E; 522; 33/679; 1; 73/426, 427; 215/365, 366; D10/46.2; 222/23, 25, 26**

(50) **References Cited**

U.S. PATENT DOCUMENTS

153,159 * 7/18/54 Dinsdale 73/427
216,530 * 6/18/59 Pfizenmeyer 73/427
D. 243,500 3/19/77 Cooper
D. 255,530 6/1980 Damsen et al.
D. 259,460 6/1981 Damsen et al.
D. 259,461 6/1981 Damsen et al.
D. 259,462 6/1981 Damsen et al.
D. 268,158 3/1983 Doyle
D. 272,704 2/1984 Smith
D. 282,381 10/1987 Kowolik et al.
D. 282,492 10/1987 Ross et al.
D. 293,776 1/1988 Ross et al.
D. 294,213 2/1988 Chasen
D. 302,920 8/1989 Arcona et al.
D. 303,055 8/1989 Prindle
D. 304,277 10/1989 Wolff et al.
D. 304,301 10/1989 Moss et al.

D. 321,328 11/1991
D. 330,863 11/1992
423,018 * 5/1986
1,507,968 * 9/1924
1,564,470 * 12/1925
1,722,101 * 7/1929
2,165,045 * 7/1939
3,526,138 9/1970
3,527,270 9/1970
4,073,192 2/1978
4,283,951 8/1981
4,566,529 1/1986
4,834,251 5/1989
5,297,036 * 3/1995
5,588,747 12/1996
5,662,249 9/1997

OTHER

"Rigger Photographs: Have in relief on inside wall, a mation concerning origin

* cited by examiner

Primary Examiner—Christopher W. Fulton
(74) Attorney, Agent, or Firm—Wood, Herron & Evans, L.L.P.

(57)

A measuring cup has at least one ramp formed in relief radially inwardly on the inside surface of the measuring cup sidewall. At least one ramp rises from about the bottom edge of the sidewall to about the top edge of the sidewall. The indicia on an upwardly directed surface of the at least one ramp allows a user to look downwardly into the measuring cup to visually detect the volume level of the contents in the measuring cup, thereby eliminating the need to look horizontally at the cup at eye level. Preferably the cup has two ramps, with at least one of standard units, and another with metric units.

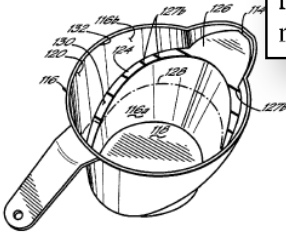
1 Claim,

Primary Examiner—Christopher W. Fulton

(74) Attorney, Agent, or Firm—Wood, Herron & Evans, L.L.P.

(57) ABSTRACT

A measuring cup has at least one ramp formed in relief radially inwardly on the inside surface of the measuring cup sidewall. At least one ramp rises from about the bottom edge of the sidewall to about the top edge of the sidewall. The indicia on an upwardly directed surface of the at least one ramp allows a user to look downwardly into the measuring cup to visually detect the volume level of the contents in the measuring cup, thereby eliminating the need to look horizontally at the cup at eye level. Preferably the cup has two ramps, with at least one of standard units, and another with metric units.



(12) **United States Patent**
Hoeting et al.

(10) Patent No.: **US 6,263,732 B1**
(45) Date of Patent: **Jul. 24, 2001**

(54) **MEASURING CUP**

(75) Inventors: **Michael G. Hoeting; Stephen C. Hoeting**, both of Cincinnati, OH (US)

(73) Assignee: **Bang Zoom Design, Cincinnati, OH (US)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/313,686**

(22) Filed: **May 18, 1999**

(51) Int. Cl.⁷ **G01F 10/00**

(52) U.S. Cl. **73/427; 33/1 V; D10/46.2**

(58) Field of Search **33/1 V; 1 E; 522; 33/679; 1; 73/426, 427; 215/365, 366; D10/46.2; 222/23, 25, 26**

(50) **References Cited**

U.S. PATENT DOCUMENTS

153,159 * 7/18/54 Dinsdale 73/427
216,530 * 6/18/59 Pfizenmeyer 73/427
D. 243,500 3/19/77 Cooper
D. 255,530 6/1980 Damsen et al.
D. 259,460 6/1981 Damsen et al.
D. 259,461 6/1981 Damsen et al.
D. 259,462 6/1981 Damsen et al.
D. 268,158 3/1983 Doyle
D. 272,704 2/1984 Smith
D. 282,381 10/1987 Kowolik et al.
D. 282,492 10/1987 Ross et al.
D. 293,776 1/1988 Ross et al.
D. 294,213 2/1988 Chasen
D. 302,920 8/1989 Arcona et al.
D. 303,055 8/1989 Prindle
D. 304,277 10/1989 Wolff et al.
D. 304,301 10/1989 Moss et al.

D. 321,328 11/1991
D. 330,863 11/1992
423,018 * 5/1986
1,507,968 * 9/1924
1,564,470 * 12/1925
1,722,101 * 7/1929
2,165,045 * 7/1939
3,526,138 9/1970
3,527,270 9/1970
4,073,192 2/1978
4,283,951 8/1981
4,566,529 1/1986
4,834,251 5/1989
5,297,036 * 3/1995
5,588,747 12/1996
5,662,249 9/1997

OTHER

"Rigger Photographs: Have in relief on inside wall, a mation concerning origin

* cited by

Primary Examiner—Christopher W. Fulton

(74) Attorney, Agent, or Firm—Wood, Herron & Evans, L.L.P.

(57)

A measuring cup has at least one ramp formed in relief radially inwardly on the inside surface of the measuring cup sidewall. At least one ramp rises from about the bottom edge of the sidewall to about the top edge of the sidewall. The indicia on an upwardly directed surface of the at least one ramp allows a user to look downwardly into the measuring cup to visually detect the volume level of the contents in the measuring cup, thereby eliminating the need to look horizontally at the cup at eye level. Preferably the cup has two ramps, with at least one of standard units, and another with metric units.

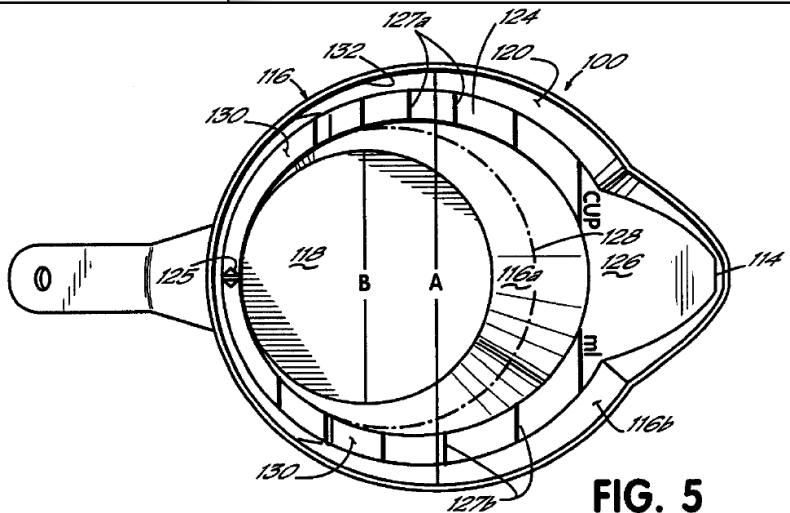
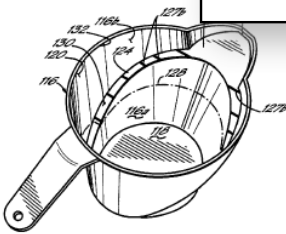


FIG. 5



(12) **United States Patent**
Hoeting et al.

(10) Patent No.: **US 6,263,732 B1**
(45) Date of Patent: **Jul. 24, 2001**

(54) **MEASURING CUP**

(75) Inventors: **Michael G. Hoeting**
Hoeting, both of Cincinnati, OH

(73) Assignee: **Bang Zoom Design, Inc.**
(US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/313,686**

(22) Filed: **May 18, 1999**

(51) Int. Cl.⁷ **G01F 1/02**

(52) U.S. Cl. **73/427, 73/428, 73/429, 73/430, 73/431, 73/432, 73/433, 73/434, 73/435, 73/436, 73/437, 73/438, 73/439, 73/440, 73/441, 73/442, 73/443, 73/444, 73/445, 73/446, 73/447, 73/448, 73/449, 73/450, 73/451, 73/452, 73/453, 73/454, 73/455, 73/456, 73/457, 73/458, 73/459, 73/460, 73/461, 73/462, 73/463, 73/464, 73/465, 73/466, 73/467, 73/468, 73/469, 73/470, 73/471, 73/472, 73/473, 73/474, 73/475, 73/476, 73/477, 73/478, 73/479, 73/480, 73/481, 73/482, 73/483, 73/484, 73/485, 73/486, 73/487, 73/488, 73/489, 73/490, 73/491, 73/492, 73/493, 73/494, 73/495, 73/496, 73/497, 73/498, 73/499, 73/500, 73/501, 73/502, 73/503, 73/504, 73/505, 73/506, 73/507, 73/508, 73/509, 73/510, 73/511, 73/512, 73/513, 73/514, 73/515, 73/516, 73/517, 73/518, 73/519, 73/520, 73/521, 73/522, 73/523, 73/524, 73/525, 73/526, 73/527, 73/528, 73/529, 73/530, 73/531, 73/532, 73/533, 73/534, 73/535, 73/536, 73/537, 73/538, 73/539, 73/540, 73/541, 73/542, 73/543, 73/544, 73/545, 73/546, 73/547, 73/548, 73/549, 73/550, 73/551, 73/552, 73/553, 73/554, 73/555, 73/556, 73/557, 73/558, 73/559, 73/560, 73/561, 73/562, 73/563, 73/564, 73/565, 73/566, 73/567, 73/568, 73/569, 73/570, 73/571, 73/572, 73/573, 73/574, 73/575, 73/576, 73/577, 73/578, 73/579, 73/580, 73/581, 73/582, 73/583, 73/584, 73/585, 73/586, 73/587, 73/588, 73/589, 73/590, 73/591, 73/592, 73/593, 73/594, 73/595, 73/596, 73/597, 73/598, 73/599, 73/600, 73/601, 73/602, 73/603, 73/604, 73/605, 73/606, 73/607, 73/608, 73/609, 73/610, 73/611, 73/612, 73/613, 73/614, 73/615, 73/616, 73/617, 73/618, 73/619, 73/620, 73/621, 73/622, 73/623, 73/624, 73/625, 73/626, 73/627, 73/628, 73/629, 73/630, 73/631, 73/632, 73/633, 73/634, 73/635, 73/636, 73/637, 73/638, 73/639, 73/640, 73/641, 73/642, 73/643, 73/644, 73/645, 73/646, 73/647, 73/648, 73/649, 73/650, 73/651, 73/652, 73/653, 73/654, 73/655, 73/656, 73/657, 73/658, 73/659, 73/660, 73/661, 73/662, 73/663, 73/664, 73/665, 73/666, 73/667, 73/668, 73/669, 73/670, 73/671, 73/672, 73/673, 73/674, 73/675, 73/676, 73/677, 73/678, 73/679, 73/680, 73/681, 73/682, 73/683, 73/684, 73/685, 73/686, 73/687, 73/688, 73/689, 73/690, 73/691, 73/692, 73/693, 73/694, 73/695, 73/696, 73/697, 73/698, 73/699, 73/700, 73/701, 73/702, 73/703, 73/704, 73/705, 73/706, 73/707, 73/708, 73/709, 73/710, 73/711, 73/712, 73/713, 73/714, 73/715, 73/716, 73/717, 73/718, 73/719, 73/720, 73/721, 73/722, 73/723, 73/724, 73/725, 73/726, 73/727, 73/728, 73/729, 73/730, 73/731, 73/732, 73/733, 73/734, 73/735, 73/736, 73/737, 73/738, 73/739, 73/740, 73/741, 73/742, 73/743, 73/744, 73/745, 73/746, 73/747, 73/748, 73/749, 73/750, 73/751, 73/752, 73/753, 73/754, 73/755, 73/756, 73/757, 73/758, 73/759, 73/760, 73/761, 73/762, 73/763, 73/764, 73/765, 73/766, 73/767, 73/768, 73/769, 73/770, 73/771, 73/772, 73/773, 73/774, 73/775, 73/776, 73/777, 73/778, 73/779, 73/780, 73/781, 73/782, 73/783, 73/784, 73/785, 73/786, 73/787, 73/788, 73/789, 73/790, 73/791, 73/792, 73/793, 73/794, 73/795, 73/796, 73/797, 73/798, 73/799, 73/800, 73/801, 73/802, 73/803, 73/804, 73/805, 73/806, 73/807, 73/808, 73/809, 73/810, 73/811, 73/812, 73/813, 73/814, 73/815, 73/816, 73/817, 73/818, 73/819, 73/820, 73/821, 73/822, 73/823, 73/824, 73/825, 73/826, 73/827, 73/828, 73/829, 73/830, 73/831, 73/832, 73/833, 73/834, 73/835, 73/836, 73/837, 73/838, 73/839, 73/840, 73/841, 73/842, 73/843, 73/844, 73/845, 73/846, 73/847, 73/848, 73/849, 73/850, 73/851, 73/852, 73/853, 73/854, 73/855, 73/856, 73/857, 73/858, 73/859, 73/860, 73/861, 73/862, 73/863, 73/864, 73/865, 73/866, 73/867, 73/868, 73/869, 73/870, 73/871, 73/872, 73/873, 73/874, 73/875, 73/876, 73/877, 73/878, 73/879, 73/880, 73/881, 73/882, 73/883, 73/884, 73/885, 73/886, 73/887, 73/888, 73/889, 73/890, 73/891, 73/892, 73/893, 73/894, 73/895, 73/896, 73/897, 73/898, 73/899, 73/900, 73/901, 73/902, 73/903, 73/904, 73/905, 73/906, 73/907, 73/908, 73/909, 73/910, 73/911, 73/912, 73/913, 73/914, 73/915, 73/916, 73/917, 73/918, 73/919, 73/920, 73/921, 73/922, 73/923, 73/924, 73/925, 73/926, 73/927, 73/928, 73/929, 73/930, 73/931, 73/932, 73/933, 73/934, 73/935, 73/936, 73/937, 73/938, 73/939, 73/940, 73/941, 73/942, 73/943, 73/944, 73/945, 73/946, 73/947, 73/948, 73/949, 73/950, 73/951, 73/952, 73/953, 73/954, 73/955, 73/956, 73/957, 73/958, 73/959, 73/960, 73/961, 73/962, 73/963, 73/964, 73/965, 73/966, 73/967, 73/968, 73/969, 73/970, 73/971, 73/972, 73/973, 73/974, 73/975, 73/976, 73/977, 73/978, 73/979, 73/980, 73/981, 73/982, 73/983, 73/984, 73/985, 73/986, 73/987, 73/988, 73/989, 73/990, 73/991, 73/992, 73/993, 73/994, 73/995, 73/996, 73/997, 73/998, 73/999, 74/000**

(50) **References Cited**

U.S. PATENT DOCUMENTS

153,159 * 7/18/54 Dinsdale 73/427
216,530 * 6/18/59 Pfeiffer 73/427
D. 243,500 3/19/77 Cooper
D. 255,530 6/1980 Damsen et al.
D. 259,460 6/1981 Damsen et al.
D. 259,461 6/1981 Damsen et al.
D. 259,462 6/1981 Damsen et al.
D. 268,158 3/1983 Doyle
D. 272,704 2/1984 Smith
D. 282,381 10/1987 Kowalik et al.
D. 282,492 10/1987 Ross et al.
D. 293,776 1/1988 Ross et al.
D. 294,213 2/1988 Chasen
D. 302,020 8/1989 Arcona et al.
D. 303,055 8/1989 Prindle
D. 304,277 10/1989 Wolff et al.
D. 304,301 10/1989 Moss et al.

FIELD OF THE INVENTIONS

This invention relates to measuring cups. More specifically, this invention relates to a measuring cup having indicia viewable from above.

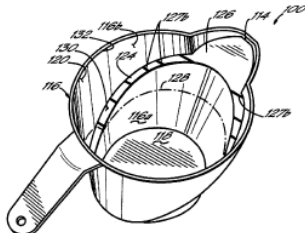
* cited by examiner

Primary Examiner—Christopher W. Fulton
(74) Attorney, Agent, or Firm—Wood, Herron & Evans, L.L.P.

(57) **ABSTRACT**

A measuring cup has at least one ramp formed in relief radially inwardly on the inside surface of the measuring cup sidewall. At least one ramp rises from about the bottom edge of the sidewall to about the top edge of the sidewall. The indicia on an upwardly directed surface of the at least one ramp allows a user to look downwardly into the measuring cup to visually detect the volume level of the contents in the measuring cup, thereby eliminating the need to look horizontally at the cup at eye level. Preferably the cup has two ramps, with at least one of standard units, and another with metric units.

1 Claim, 2 Drawing Sheets



(12) **United States Patent**
Hoeting et al.

(54) **MEASURING CUP**

(75) Inventors: **Michael G. Hoeting**
Hoeting, both of Cincinnati, OH

(73) Assignee: **Bang Zoom Design, Cincinnati, OH**
(US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/313,686**

(22) Filed: **May 18, 1999**

(51) Int. Cl.⁷ **G01F 1/02**

(52) U.S. Cl. **73/427, 73/428, 73/429, 73/430, 73/431, 73/432, 73/433, 73/434, 73/435, 73/436, 73/437, 73/438, 73/439, 73/440, 73/441, 73/442, 73/443, 73/444, 73/445, 73/446, 73/447, 73/448, 73/449, 73/450, 73/451, 73/452, 73/453, 73/454, 73/455, 73/456, 73/457, 73/458, 73/459, 73/460, 73/461, 73/462, 73/463, 73/464, 73/465, 73/466, 73/467, 73/468, 73/469, 73/470, 73/471, 73/472, 73/473, 73/474, 73/475, 73/476, 73/477, 73/478, 73/479, 73/480, 73/481, 73/482, 73/483, 73/484, 73/485, 73/486, 73/487, 73/488, 73/489, 73/490, 73/491, 73/492, 73/493, 73/494, 73/495, 73/496, 73/497, 73/498, 73/499, 73/500, 73/501, 73/502, 73/503, 73/504, 73/505, 73/506, 73/507, 73/508, 73/509, 73/510, 73/511, 73/512, 73/513, 73/514, 73/515, 73/516, 73/517, 73/518, 73/519, 73/520, 73/521, 73/522, 73/523, 73/524, 73/525, 73/526, 73/527, 73/528, 73/529, 73/530, 73/531, 73/532, 73/533, 73/534, 73/535, 73/536, 73/537, 73/538, 73/539, 73/540, 73/541, 73/542, 73/543, 73/544, 73/545, 73/546, 73/547, 73/548, 73/549, 73/550, 73/551, 73/552, 73/553, 73/554, 73/555, 73/556, 73/557, 73/558, 73/559, 73/560, 73/561, 73/562, 73/563, 73/564, 73/565, 73/566, 73/567, 73/568, 73/569, 73/570, 73/571, 73/572, 73/573, 73/574, 73/575, 73/576, 73/577, 73/578, 73/579, 73/580, 73/581, 73/582, 73/583, 73/584, 73/585, 73/586, 73/587, 73/588, 73/589, 73/590, 73/591, 73/592, 73/593, 73/594, 73/595, 73/596, 73/597, 73/598, 73/599, 73/600, 73/601, 73/602, 73/603, 73/604, 73/605, 73/606, 73/607, 73/608, 73/609, 73/610, 73/611, 73/612, 73/613, 73/614, 73/615, 73/616, 73/617, 73/618, 73/619, 73/620, 73/621, 73/622, 73/623, 73/624, 73/625, 73/626, 73/627, 73/628, 73/629, 73/630, 73/631, 73/632, 73/633, 73/634, 73/635, 73/636, 73/637, 73/638, 73/639, 73/640, 73/641, 73/642, 73/643, 73/644, 73/645, 73/646, 73/647, 73/648, 73/649, 73/650, 73/651, 73/652, 73/653, 73/654, 73/655, 73/656, 73/657, 73/658, 73/659, 73/660, 73/661, 73/662, 73/663, 73/664, 73/665, 73/666, 73/667, 73/668, 73/669, 73/670, 73/671, 73/672, 73/673, 73/674, 73/675, 73/676, 73/677, 73/678, 73/679, 73/680, 73/681, 73/682, 73/683, 73/684, 73/685, 73/686, 73/687, 73/688, 73/689, 73/690, 73/691, 73/692, 73/693, 73/694, 73/695, 73/696, 73/697, 73/698, 73/699, 73/700, 73/701, 73/702, 73/703, 73/704, 73/705, 73/706, 73/707, 73/708, 73/709, 73/710, 73/711, 73/712, 73/713, 73/714, 73/715, 73/716, 73/717, 73/718, 73/719, 73/720, 73/721, 73/722, 73/723, 73/724, 73/725, 73/726, 73/727, 73/728, 73/729, 73/730, 73/731, 73/732, 73/733, 73/734, 73/735, 73/736, 73/737, 73/738, 73/739, 73/740, 73/741, 73/742, 73/743, 73/744, 73/745, 73/746, 73/747, 73/748, 73/749, 73/750, 73/751, 73/752, 73/753, 73/754, 73/755, 73/756, 73/757, 73/758, 73/759, 73/760, 73/761, 73/762, 73/763, 73/764, 73/765, 73/766, 73/767, 73/768, 73/769, 73/770, 73/771, 73/772, 73/773, 73/774, 73/775, 73/776, 73/777, 73/778, 73/779, 73/780, 73/781, 73/782, 73/783, 73/784, 73/785, 73/786, 73/787, 73/788, 73/789, 73/790, 73/791, 73/792, 73/793, 73/794, 73/795, 73/796, 73/797, 73/798, 73/799, 73/800, 73/801, 73/802, 73/803, 73/804, 73/805, 73/806, 73/807, 73/808, 73/809, 73/810, 73/811, 73/812, 73/813, 73/814, 73/815, 73/816, 73/817, 73/818, 73/819, 73/820, 73/821, 73/822, 73/823, 73/824, 73/825, 73/826, 73/827, 73/828, 73/829, 73/830, 73/831, 73/832, 73/833, 73/834, 73/835, 73/836, 73/837, 73/838, 73/839, 73/840, 73/841, 73/842, 73/843, 73/844, 73/845, 73/846, 73/847, 73/848, 73/849, 73/850, 73/851, 73/852, 73/853, 73/854, 73/855, 73/856, 73/857, 73/858, 73/859, 73/860, 73/861, 73/862, 73/863, 73/864, 73/865, 73/866, 73/867, 73/868, 73/869, 73/870, 73/871, 73/872, 73/873, 73/874, 73/875, 73/876, 73/877, 73/878, 73/879, 73/880, 73/881, 73/882, 73/883, 73/884, 73/885, 73/886, 73/887, 73/888, 73/889, 73/890, 73/891, 73/892, 73/893, 73/894, 73/895, 73/896, 73/897, 73/898, 73/899, 73/900, 73/901, 73/902, 73/903, 73/904, 73/905, 73/906, 73/907, 73/908, 73/909, 73/910, 73/911, 73/912, 73/913, 73/914, 73/915, 73/916, 73/917, 73/918, 73/919, 73/920, 73/921, 73/922, 73/923, 73/924, 73/925, 73/926, 73/927, 73/928, 73/929, 73/930, 73/931, 73/932, 73/933, 73/934, 73/935, 73/936, 73/937, 73/938, 73/939, 73/940, 73/941, 73/942, 73/943, 73/944, 73/945, 73/946, 73/947, 73/948, 73/949, 73/950, 73/951, 73/952, 73/953, 73/954, 73/955, 73/956, 73/957, 73/958, 73/959, 73/960, 73/961, 73/962, 73/963, 73/964, 73/965, 73/966, 73/967, 73/968, 73/969, 73/970, 73/971, 73/972, 73/973, 73/974, 73/975, 73/976, 73/977, 73/978, 73/979, 73/980, 73/981, 73/982, 73/983, 73/984, 73/985, 73/986, 73/987, 73/988, 73/989, 73/990, 73/991, 73/992, 73/993, 73/994, 73/995, 73/996, 73/997, 73/998, 73/999, 74/000**

(50) **References Cited**

U.S. PATENT DOCUMENTS

153,159 * 7/18/54 Dinsdale 73/427
216,530 * 6/18/59 Pfeiffer 73/427
D. 243,500 3/19/77 Cooper
D. 255,530 6/1980 Damsen et al.
D. 259,460 6/1981 Damsen et al.
D. 259,461 6/1981 Damsen et al.
D. 259,462 6/1981 Damsen et al.
D. 268,158 3/1983 Doyle
D. 272,704 2/1984 Smith
D. 282,381 10/1987 Kowalik et al.
D. 282,492 10/1987 Ross et al.
D. 293,776 1/1988 Ross et al.
D. 294,213 2/1988 Chasen
D. 302,020 8/1989 Arcona et al.
D. 303,055 8/1989 Prindle
D. 304,277 10/1989 Wolff et al.
D. 304,301 10/1989 Moss et al.

BACKGROUND OF THE INVENTION

Measuring cups are known. Measuring cups can be made from a variety of materials, including plastic, metal and glass. One of the problems with measuring cups is that they are often difficult to use. For example, a user may have to stoop over to read the volume of contents in a measuring cup placed on a level surface, but may also have just as much difficulty in lifting a measuring cup to eye level and holding the cup steady to read the volume of contents held therein. When precise measurement of the volume of contents within a measuring cup is critical to a task, the simple actions of bending over or lifting a measuring cup to eye level, which seem easy to some users, may become difficult and uncomfortable for others.

The utility of measuring cups is well known. Measuring cups are used in a wide variety of applications, from cooking to scientific research. The utility of measuring cups is well known. Measuring cups are used in a wide variety of applications, from cooking to scientific research.

While the above-described methods for determining the volume of contents in a measuring cup may seem simple enough for most users, these methods can prove to be difficult for others. Users with bad knees, a bad back, or arthritis, for example, may not only have substantial difficulty in stooping over to accurately read the volume of contents in a measuring cup placed on a level surface, but may also have just as much difficulty in lifting a measuring cup to eye level and holding the cup steady to read the volume of contents held therein. When precise measurement of the volume of contents within a measuring cup is critical to a task, the simple actions of bending over or lifting a measuring cup to eye level, which seem easy to some users, may become difficult and uncomfortable for others

(12) **United States Patent**
Hoeting et al.

(10) Patent No.:
(45) Date of Patent:



US006263732B1

(54) **MEASURING CUP**

(75) Inventors: **Michael G. Hoeting; Stephen C. Hoeting**, both of Cincinnati, OH (US)

(73) Assignee: **Bang Zoom Design**, Cincinnati, OH (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/313,686**

(22) Filed: **May 18, 1999**

(51) Int. Cl.⁷ **G01F 10/00**

(52) U.S. Cl. **73/427; 33/1 V; D10/46.2**

(58) Field of Search: **33/1 V; 1 E; 522; 33/679; 1; 73/426, 427; 215/365, 366; D10/46.2; 222/23, 25, 26**

(50) **References Cited**

U.S. PATENT DOCUMENTS

- 153,159 * 7/18/54 Duvallide 73/427
216,530 * 6/18/59 Pfizenmeyer 73/427
D. 243,500 3/19/77 Cooper
D. 255,530 6/1980 Damsen et al.
D. 259,460 6/1981 Damsen et al.
D. 259,461 6/1981 Damsen et al.
D. 259,462 6/1981 Damsen et al.
D. 268,158 3/1983 Doyle
D. 272,704 2/1984 Smith
D. 282,381 10/1987 Kowolik et al.
D. 292,492 10/1987 Ross et al.
D. 293,776 1/1988 Ross et al.
D. 294,213 2/1988 Chan
D. 302,920 8/1989 Arcona et al.
D. 303,055 8/1989 Prindle
D. 304,277 10/1989 Wolff et al.
D. 304,301 10/1989 Moss et al.

D. 321,328 11/1991 Dapout D10/46.2

D. 330,863 11/1992 Green D10/46.2

423,018 * 5/1880 Young 73/427

1,507,968 * 9/1924 Johnson 73/427

1,564,470 * 12/1925 G

1,722,101 * 7/1929 J

2,165,045 * 7/1939

3,526,138 9/1970 S

3,527,270 9/1970 S

4,073,192 2/1978 T

4,283,951 8/1981 V

4,566,529 1/1986 S

4,834,251 5/1989 V

5,297,036 * 5/1995 S

5,588,747 12/1996 B

5,662,249 9/1997 G

OTHER P

"Rigger Photographs: Having in relief on inside wall, of mason concerning origin

* cited by examiner

Primary Examiner—Chris

(74) Attorney, Agent, or L.L.P.

(57) **AB**

A measuring cup has at least one ramp on the inside sidewall. At least one ramp of the sidewall to about the indicia on an upwardly directed ramp allows a user to look cup to visually detect the measuring cup, thereby situated at the cup at eye ramps, with at least one of metric units.

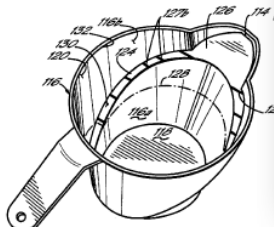
1 Claim, 2

SUMMARY OF THE INVENTION

The present invention achieves the above-stated objectives by including with a measuring cup at least one sloped ramp having an upwardly directed surface having indicia which is readily observable by an observer looking downwardly into the open end of the cup.

The structure simplifies volume determination because there is no need for the observer to move relative to the cup in order to look in a horizontal direction at the cup indicia. Thus, the possibility of spilling is reduced. Also, since the ramp preferably rises continuously and gradually from the bottom of the cup, a user who is filling the cup from above can actually see the volume indicia on the upwardly directed surface of the ramp while the cup is being filled, looking along the same line of sight generally used during filling. These advantages result from the ability to visually determine the volume of the cup by simply looking into the open upper end, and the gradual slope of the ramp.

According to a first preferred embodiment of the invention, the cup has a bottom wall and an encircling vertical sidewall, so that the cup is cylindrical in shape with an open upper end. Inside the cup, at least one ramp slopes



(12) **United States Patent**
Hoeting et al.

(10) Patent No.: **US 6,263,732 B1**
(45) Date of Patent: **Jul. 24, 2001**



US006263732B1

(54) **MEASURING CUP**

(75) Inventors: **Michael G. Hoeting; Stephen C. Hoeting**, both of Cincinnati, OH (US)

(73) Assignee: **Bang Zoom Design**, Cincinnati, OH (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/313,686**

(22) Filed: **May 18, 1999**

(51) Int. Cl.⁷ **G01F 10/00**

(52) U.S. Cl. **73/427; 33/1 V; D10/46.2**

(58) Field of Search: **33/1 V; 1 E; 522; 33/679; 1; 73/426, 427; 215/365, 366; D10/46.2; 222/23, 25, 26**

(50) **References Cited**

U.S. PATENT DOCUMENTS

- 153,159 * 7/18/54 Duvallide 73/427
216,530 * 6/18/59 Pfizenmeyer 73/427
D. 243,500 3/19/77 Cooper
D. 255,530 6/1980 Damsen et al.
D. 259,460 6/1981 Damsen et al.
D. 259,461 6/1981 Damsen et al.
D. 259,462 6/1981 Damsen et al.
D. 268,158 3/1983 Doyle
D. 272,704 2/1984 Smith
D. 282,381 10/1987 Kowolik et al.
D. 292,492 10/1987 Ross et al.
D. 293,776 1/1988 Ross et al.
D. 294,213 2/1988 Chan
D. 302,920 8/1989 Arcona et al.
D. 303,055 8/1989 Prindle
D. 304,277 10/1989 Wolff et al.
D. 304,301 10/1989 Moss et al.

D. 321,328 11/1991 Dapout D10/46.2

D. 330,863 11/1992 Green D10/46.2

423,018 * 5/1880 Young 73/427

1,507,968 * 9/1924 Johnson 73/427

1,564,470 * 12/1925 G

1,722,101 * 7/1929 J

2,165,045 * 7/1939

3,526,138 9/1970 S

3,527,270 9/1970 S

4,073,192 2/1978 T

4,283,951 8/1981 V

4,566,529 1/1986 S

4,834,251 5/1989 V

5,297,036 * 5/1995 S

5,588,747 12/1996 B

5,662,249 9/1997 G

OTH

"Rigger Photographs: Having in relief on inside wall, of mason concerning origin

* cited by examiner

Primary Examiner—Chris

(74) Attorney, Agent, or L.L.P.

(57) **AB**

A measuring cup has at least one ramp on the inside sidewall. At least one ramp of the sidewall to about the indicia on an upwardly directed ramp allows a user to look cup to visually detect the measuring cup, thereby situated at the cup at eye ramps, with at least one of metric units.

1 Claim, 2

3

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a measuring cup according to a first preferred embodiment of the invention

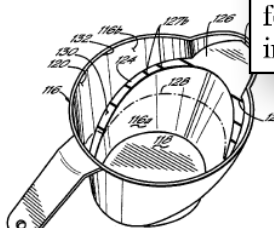
FIG. 2 is a top plan view of the measuring cup of FIG. 1

FIG. 3 is a cross-sectional view of the measuring cup of FIG. 2 taken along 3—3

FIG. 4 is a perspective view of a second preferred embodiment of the inventive measuring cup

FIG. 5 is a top plan view of the measuring cup of FIG. 4

FIG. 6 is side view of the measuring cup and nesting feature of a second preferred embodiment of the present inventive measuring cup.



(12) **United States Patent**
Hoeting et al.

(10) Patent No.
(45) Date of Pa

(54) **MEASURING CUP**

(75) Inventors: **Michael G. Hoeting; Stephen C. Hoeting**, both of Cincinnati, OH (US)

(73) Assignee: **Bang Zoom Design**, Cincinnati, OH (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/313,686**

(22) Filed: **May 18, 1999**

(51) Int. Cl.⁷ **G01F 10/00**

(52) U.S. Cl. **73/427; 33/1 V; D10/46.2**

(58) Field of Search **33/1 V; 1 E; 522; 33/679.1; 73/426, 427; 215/365, 366; D10/46.2; 222/23, 25, 26**

(50) **References Cited**

U.S. PATENT DOCUMENTS

153,159 * 7/18/54 Dinsdale 73/427
216,530 * 6/18/59 Pfizenmeyer 73/427
D. 243,500 3/19/77 Cooper
D. 255,530 6/1980 Damsen et al.
D. 259,460 6/1981 Damsen et al.
D. 259,461 6/1981 Damsen et al.
D. 259,462 6/1981 Damsen et al.
D. 268,158 3/1983 Doyle
D. 272,704 2/1984 Smith
D. 282,381 10/1987 Kowolik et al.
D. 282,492 10/1987 Rott et al.
D. 293,776 1/1988 Ross et al.
D. 294,213 2/1988 Chasen
D. 302,020 8/1989 Arcona et al.
D. 303,055 8/1989 Prindle
D. 304,277 10/1989 Wolff et al.
D. 304,301 10/1989 Moss et al.

D. 321,328 11/1991

D. 330,863 11/1992

423,018 * 3/1986

1,507,968 * 9/1924

1,564,470 * 12/1925

1,722,101 * 7/1928

2,165,045 * 7/1939

3,526,138 9/1976

3,527,270 9/1976

4,073,192 2/1978

4,283,951 8/1981

4,834,251 5/1989

5,297,036 * 3/1994

5,588,747 12/1996

5,662,249 9/1997

OTHER

"Rigger Photographs: H

in relief on inside wall,

main concern origi

* cited by examiner

Primary Examiner—Ch

(74) Attorney, Agent, &

L.L.P.

(57)

A measuring cup has,

radially inwardly on the

sidewall. At least one of

of the sidewall to about

indicia on an upwardly

ramp allows a user to li

cup to visually detect the

measuring cup, thereby

zonally at the cup at c

ramps, with at least one

metric units.

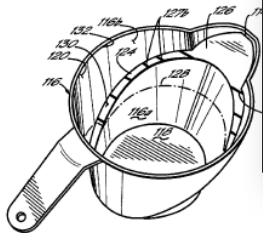
1 Claim

**DETAILED DESCRIPTION OF THE
PREFERRED EMBODIMENT**

FIGS. 1–3 show a first preferred embodiment of the present inventive measuring cup 10. Generally, the measuring cup 10 is integrally formed out of a suitable material and has a handle 12 and a spout 14 integrally attached to a substantially vertical sidewall 16. The measuring cup 10 has a base or bottom wall 18 integrally attached around its perimeter to the bottom edge of the sidewall 16. The cup 10 has an open upper end.

The wall 16 has an inside surface 20 and an outside surface 22 from which ramps 24a, 24b are formed in relief. The measuring cup 10 is molded from any suitable food grade plastic known in the art, however, it will be understood that the measuring cup 10 may be manufactured by any suitable process. It will also be understood that the measuring cup 10 may be made of any other suitable material known in the art, e.g., Pyrex®, metal.

The ramps 24a, 24b are located on opposite sides of the cup 10 but are identical in construction. Therefore, only one such ramp is described. Each ramp has a ramp base, or



(12) **United States Patent**
Hoeting et al.

(10) Patent No. **US 6,263,732 B1**

(54) **MEASURING CUP**

(75) Inventors: **Michael G. Hoeting; Stephen C. Hoeting**, both of Cincinnati, OH (US)

(73) Assignee: **Bang Zoom Design**, Cincinnati, OH (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/313,686**

(22) Filed: **May 18, 1999**

(51) Int. Cl.⁷ **G01F 10/00**

(52) U.S. Cl. **73/427; 33/1 V; D10/46.2**

(58) Field of Search **33/1 V; 1 E; 522; 33/679.1; 73/426, 427; 215/365, 366; D10/46.2; 222/23, 25, 26**

(50) **References Cited**

U.S. PATENT DOCUMENTS

153,159 * 7/18/54 Dinsdale 73/427
216,530 * 6/18/59 Pfizenmeyer 73/427
D. 243,500 3/19/77 Cooper
D. 255,530 6/1980 Damsen et al.
D. 259,460 6/1981 Damsen et al.
D. 259,461 6/1981 Damsen et al.
D. 259,462 6/1981 Damsen et al.
D. 268,158 3/1983 Doyle
D. 272,704 2/1984 Smith
D. 282,381 10/1987 Kowolik et al.
D. 282,492 10/1987 Rott et al.
D. 293,776 1/1988 Ross et al.
D. 294,213 2/1988 Chasen
D. 302,020 8/1989 Arcona et al.
D. 303,055 8/1989 Prindle
D. 304,277 10/1989 Wolff et al.
D. 304,301 10/1989 Moss et al.

D. 321,328 11/1991

D. 330,863 11/1992

423,018 * 3/1986

1,507,968 * 9/1924

1,564,470 * 12/1925

1,722,101 * 7/1928

2,165,045 * 7/1939

3,526,138 9/1976

3,527,270 9/1976

4,073,192 2/1978

4,283,951 8/1981

4,834,251 5/1989

5,297,036 * 3/1994

5,588,747 12/1996

5,662,249 9/1997

OTHER

"Rigger Photographs: H

in relief on inside wall,

main concern origi

* cited by examiner

Primary Examiner—Ch

(74) Attorney, Agent, &

L.L.P.

(57)

A measuring cup has,

radially inward in relief from said sidewall,

said ramps extending from about said bottom wall

generally opposite said spout toward said open upper

end generally adjacent said spout, wherein said ramp is

coextensive with said spout, said ramp having an

upwardly directed surface and indicia located on said

upwardly directed surface being at least one of standard

and metric units of measurement providing a readily

observable indication of the volume of the contents

contained within said cup.

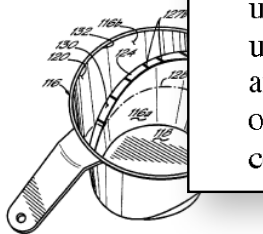
What is claimed is:

1. A measuring device, comprising:

a bottom wall and a generally vertical and encircling side wall having a lower edge and an upper edge, said sidewall defining an upwardly opening cup with an upper end;

a spout attached integrally to said sidewall; and

a pair of continuously sloping ramps formed integrally with and radially inward in relief from said sidewall, said ramps extending from about said bottom wall generally opposite said spout toward said open upper end generally adjacent said spout, wherein said ramp is coextensive with said spout, said ramp having an upwardly directed surface and indicia located on said upwardly directed surface being at least one of standard and metric units of measurement providing a readily observable indication of the volume of the contents contained within said cup.



(post-AIA) 35 U.S.C. § 112 — Specification

(a) In General.— The specification shall contain a **written description of the invention**, and of the **manner and process of making and using it**, in such full, clear, concise, and exact terms as to **enable any person skilled in the art** to which it pertains, or with which it is most nearly connected, **to make and use the same**, and shall set forth the **best mode** contemplated by the inventor or joint inventor of carrying out the invention.

(b) Conclusion.— The specification shall conclude with **one or more claims particularly pointing out and distinctly claiming** the subject matter which the inventor or a joint inventor regards as the invention.

* * *

35 U.S.C. § 132 — Notice of rejection; reexamination (Post-AIA)

(a) Whenever, on examination, any claim for a patent is rejected, or any objection or requirement made, the Director shall notify the applicant thereof, stating the reasons for such rejection, or objection or requirement, together with such information and references as may be useful in judging of the propriety of continuing the prosecution of his application; and **if after receiving such notice, the applicant persists in his claim for a patent, with or without amendment**, the application shall be reexamined. **No amendment shall introduce new matter into the disclosure of the invention.** * * *

35 U.S.C. § 120 — Benefit of Earlier Filing Date in the United States (Post-AIA)

An application for patent for an invention disclosed in the manner provided by section 112 (a) (other than the requirement to disclose the best mode) in an application previously filed in the United States, * * * which names an inventor or joint inventor in the previously filed application shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application or on an application similarly entitled to the benefit of the filing date of the first application and if it contains or is amended to contain a specific reference to the earlier filed application. * * *

(12) United States Patent	
Klein	
(10) Patent No.:	US 6,185,590 B1
(45) Date of Patent:	Feb. 6, 2001
(54) PROCESS AND ARCHITECTURE FOR USE ON STAND-ALONE MACHINE AND IN DISTRIBUTED COMPUTER ARCHITECTURE FOR CLIENT SERVER AND/OR INTRANET AND/OR INTERNET OPERATING ENVIRONMENTS	5,586,240 12/1996 Khan et al. 709/302 5,613,090 * 3/1997 Willem 707/7 5,615,401 3/1997 Hanscoet et al. 367/83 5,680,618 * 10/1997 Freund 395/712 5,774,720 * 6/1998 Bogendale et al. 5,920,725 * 7/1999 Ma et al.
(75) Inventor:	Laurence C. Klein, Silver Spring, MD (US)
(73) Assignee:	Imagination Software, Silver Spring, MD (US)
(*) Notice:	Under 35 U.S.C. 154(b), the term of this patent shall be extended for 0 days.
(21) Appl. No.:	08/950,838
(22) Filed:	Oct. 15, 1997
Related U.S. Application Data	
(63) Continuation-in-part of application No. 08/911,083, filed on Aug. 14, 1997.	
(66) Provisional application No. 60/028,129, filed on Oct. 18, 1996; provisional application No. 60/028,128, filed on Oct. 18, 1996; provisional application No. 60/028,697, filed on Oct. 18, 1996; provisional application No. 60/028,630, filed on Oct. 18, 1996; and provisional application No. 60/028,685, filed on Oct. 18, 1996.	
(51) Int. Cl. 7	G06F 13/00; G06F 15/00
(52) U.S. Cl.	707/526; 345/329
(58) Field of Search	395/500, 701, 712, 92; 709/302, 300, 238, 245, 223
(56) References Cited	
U.S. PATENT DOCUMENTS	
5,430,845	7/1995 Rimmer et al.
5,465,364	11/1995 Lathrop et al.
22 Claims, 23 Drawing Sheets	

U.S. Patent No. 6,185,590

→ Filing date:
Oct. 15, 1997

→ "Process and architecture for use on stand-alone machine and in distributed computer architecture for client server and/or intranet and/or internet operating environments"

(12) **United States Patent**
Klein

(10) **Patent No.:** US 6,185,590 B1
(45) **Date of Patent:** Feb. 6, 2001

(54) **PROCESS AND ARCHITECTURE FOR USE ON STAND-ALONE MACHINE AND IN DISTRIBUTED COMPUTER ARCHITECTURE FOR CLIENT SERVER AND/OR INTRANET AND/OR INTERNET OPERATING ENVIRONMENTS**

5,586,240 12/1996 Khan et al.
5,613,090 * 3/1997 Willem 709/302
5,615,401 3/1997 Hanscoet et al.
5,680,618 * 10/1997 Freund 707/7
5,774,720 * 6/1998 Bogendale et al. 367/83
5,920,725 * 7/1999 Ma et al. 395/712

OTHER PUBLICATIONS

"Multiprotocol Management Agents: A Look At an Implementation and the Issues to Consider", Baktha Muralidharan, IEEE Journal on Selected Areas in Communications, vol. 14, No. 4, pp. 409-419, 1996.

(75) **Inventor:** Laurence C. Klein, Silver Spring, MD (US)

(73) **Assignee:** Imagination Software, Silver Spring, MD (US)

(*) **Notice:** Under 35 U.S.C. patent shall be

(21) **Appl. No.:** 08/950,838

(22) **Filed:** Oct. 15, 1997

Related U.S. Application

(63) Continuation-in-part of application

(60) Provisional application No. 60/028,129, filed on Oct. 18, 1996, provisional application No. 60/028,522, filed on Oct. 18, 1996, provisional application No. 60/028,128, filed on Oct. 18, 1996, provisional application No. 60/028,697, filed on Oct. 18, 1996, provisional application No. 60/028,685, filed on Oct. 18, 1996.

(51) **Int. Cl. 7**

(52) **U.S. Cl.**

(58) **Field of Search**

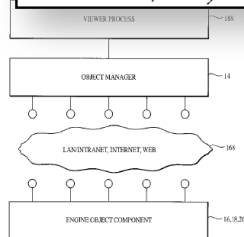
395/500, 701, 712.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,430,845 7/1995 Rimmer et al.

5,465,364 11/1995 Lathrop et al.



U.S. Patent No. 6,185,590

→ **Filing date:**
Oct 15 1997

Related U.S. Application Data

(63) Continuation-in-part of application No. 08/911,083, filed on Aug. 14, 1997.

(60) Provisional application No. 60/028,129, filed on Oct. 18, 1996, provisional application No. 60/028,522, filed on Oct. 18, 1996, provisional application No. 60/028,128, filed on Oct. 18, 1996, provisional application No. 60/028,697, filed on Oct. 18, 1996, provisional application No. 60/028,639, filed on Oct. 18, 1996, and provisional application No. 60/028,685, filed on Oct. 18, 1996.

architecture for
client server and/
or intranet and/or
internet operating
environments"

(12) **United States Patent**
Klein

(54) **PROCESS AND ARCHITECTURE FOR USE ON STAND-ALONE MACHINE AND IN DISTRIBUTED COMPUTER ARCHITECTURE FOR CLIENT SERVER AND/OR INTRANET AND/OR INTERNET OPERATING ENVIRONMENTS**

(75) **Inventor:** Laurence C. Klein, Silver Spring, MD (US)

(73) **Assignee:** Imagination Software, Silver Spring, MD (US)

(*) **Notice:** Under 35 U.S.C. 154(b) patent shall be extended

(21) **Appl. No.:** 08/950,838

(22) **Filed:** Oct. 15, 1997

Related U.S. Application

(63) Continuation-in-part of application No. 08/911,083, filed on Aug. 14, 1997.

(60) Provisional application No. 60/028,129, filed on Oct. 18, 1996, provisional application No. 60/028,522, filed on Oct. 18, 1996, provisional application No. 60/028,128, filed on Oct. 18, 1996, provisional application No. 60/028,697, filed on Oct. 18, 1996, provisional application No. 60/028,639, filed on Oct. 18, 1996, and provisional application No. 60/028,685, filed on Oct. 18, 1996.

(51) **Int. Cl. 7**

(52) **U.S. Cl.**

(58) **Field of Search**

395/500, 701, 712, 92, 7

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,430,845 7/1995 Rimmer et al.

5,465,364 11/1995 Lathrop et al.

What is claimed is:

1. A distributed computer implemented process for migrating at least one program specific Application Programmer Interface (API) from an original state into a substantially consistent interface by building an object for at least one of an engine and a viewer process, the object providing substantially uniform access to the at least one of the engine having engine settings and the viewer process, comprising the steps of:

(a) providing, on a server, the at least one engine and viewer process, each with one or more features to be executed;

(b) providing, on at least one of the server and another server connectable to the server, at least one engine component or another viewer process configured to execute the one or more features by converting the at least one program specific Application Programmer Interface (API) from the original state into the substantially consistent interface, and mapping the substantially consistent interface to the at least one of the engine and the viewer process; and

(c) providing, on a client configured to be connectable to the server and optionally configured to be connectable to the another server, an object manager layer communicable with and managing the at least one engine component or the another viewer process via the substantially consistent interface.

(12) **United States Patent**
Klein

(10) Patent No.: **US 6,771,381 B1**
(45) Date of Patent: **Aug. 3, 2004**

(54) **DISTRIBUTED COMPUTER ARCHITECTURE AND PROCESS FOR VIRTUAL COPYING**

(76) Inventor: **Laurence C. Klein**, 1010 Wayne Ave., Silver Spring, MD (US) 20910

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/438,300**

(22) Filed: **Nov. 12, 1999**

Related U.S. Application Data

(60) Provisional application No. 60/108,798, filed on Nov. 13, 1998.

(51) **Int. Cl.** **G06K 15/00**

(52) **U.S. Cl.** **358/1.15, 358/1.1**

(58) **Field of Search** **358/1.1, 1.6, 1.13, 358/1.15, 1.16, 402, 403, 407, 425; 710/8, 14, 15, 33, 62, 63, 64, 65, 72, 73**

References Cited

U.S. PATENT DOCUMENTS

5,666,495 A * 9/1997 Yeh 710/303

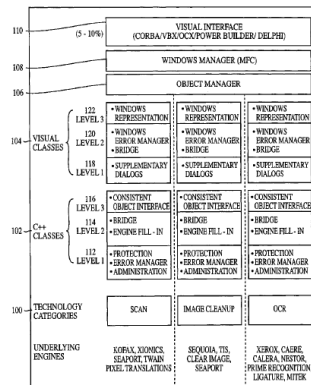
* cited by examiner

Primary Examiner—Arthur G. Evans
(74) **Attorney, Agent, or Firm**—Irah H. Donner, Esq.; Wilmer, Cutler, Pickering Hale and Dorr LLP

(57) **ABSTRACT**

The purpose of the Virtual Copier invention ("VC") is to enable a typical PC user to add electronic paper processing to their existing business process. VC is an extension of the concept we understand as copying. In its simplest form it extends the notion of copying from a process that involves paper going through a conventional copier device, to a process that involves paper being scanned from a device at one location and copied to a device at another location. In its more sophisticated form, VC can copy paper from a device at one location directly into a business application residing on a network or on the Internet, or visa versa. The VC invention is software that manages paper so that it can be electronically and seamlessly copied in and out of devices and business applications (such as Microsoft Office, Microsoft Exchange, Lotus Notes) with an optional single-step Go operation. The VC software can reside on a PC, LAN/WAN server, digital device (such as a digital copier), or on a web server to be accessed over the Internet.

15 Claims, 44 Drawing Sheets



U.S. Patent No. 6,771,381

→ Filing date:
Nov. 12, 1999

→ "Distributed
computer
architecture and
process for virtual
copying"

(12) **United States Patent**
Klein

(10) Patent No.: **US 7,477,410 B1**
(45) Date of Patent: ***Jan. 13, 2009**

(54) **DISTRIBUTED COMPUTER ARCHITECTURE AND PROCESS FOR VIRTUAL COPYING**

(76) Inventor: **Laurence C. Klein**, 1010 Wayne Ave., Silver Spring, MD (US) 20910

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 964 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **10/874,172**

(22) Filed: **Jun. 24, 2004**

Related U.S. Application Data

(63) Continuation of application No. 09/438,300, filed on Nov. 12, 1999, now Pat. No. 6,771,381.

(60) Provisional application No. 60/108,798, filed on Nov. 13, 1998.

(51) **Int. Cl.** **G06F 3/12** (2006.01)

G06F 15/00 (2006.01)

(52) **U.S. Cl.** **358/1.15, 358/1.1**

(58) **Field of Classification Search** **358/1.1, 358/1.6, 1.13, 1.15, 1.16, 402, 403, 407, 358/425, 1.18, 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, 358/9, 1.11, 1.12, 1.14, 1.17, 408; 710/8, 710/14, 15, 33, 62, 63, 64, 65, 72, 73**

See application file for complete search history.

(56) **References Cited**
U.S. PATENT DOCUMENTS

5,303,336 A * 4/1994 Kageyama et al. 358/1.15
5,666,495 A * 9/1997 Yeh 710/303
5,689,625 A * 11/1997 Austin et al. 358/1.15
5,754,747 A * 5/1998 Rolly et al. 358/1.15
5,761,396 A * 6/1998 Austin et al. 358/1.15
6,401,150 B1 * 6/2002 Rolly 710/104

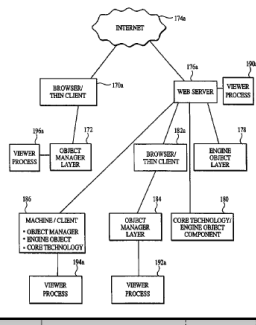
* cited by examiner

Primary Examiner—Dov Popovici
(74) **Attorney, Agent, or Firm**—Thomas, Kayden, Horstemeier & Risley LLP

(57) **ABSTRACT**

A computer data management system is capable of transmitting one or more of an electronic image, electronic graphics and electronic document to external destinations including one or more of external devices and applications. The computer data management system includes at least one memory storing a plurality of interface protocols for interfacing and communicating with at least one processor. The processor is responsively connectable to the memory, and implements the interface protocols as a software application for interfacing and communicating with the plurality of external destinations, including external devices and applications.

47 Claims, 44 Drawing Sheets



U.S. Patent No. 7,477,410

→ Filing date:
June 24, 2004

→ "Distributed
computer
architecture and
process for virtual
copying"

wherein the computer data management system includes integration of at least one of said electronic image, electronic graphics and electronic document using software so that said electronic image, electronic graphics and electronic document gets seamlessly replicated and transmitted to at least one of said plurality of external destinations.

tributed
uter
ecture and
ss for
ment
gement"

- ☐ ☐ 1. Does your company use document scanning equipment that is network addressable (*i.e.*, it has an IP address and can communicate on your network);
- ☐ ☐ 2. Does your company use Microsoft Exchange/Outlook, Lotus Domino/Notes or a comparable system for company email;
- ☐ ☐ 3. Are at least some of your employees' email addresses loaded into the scanner, so that you can select to whom you wish to send a scanned document by email; or, alternatively, can you manually input an employee's email address into the scanner to whom you wish a scanned document to be sent; and
- ☐ ☐ 4. Can you cause your scanner to transform your paper document to a .pdf file, and have it automatically transmitted to one or more of your employees by email. By automatically, we mean that pressing a "Start" or "Go" button instigates both the copying of the document and the automatic transmission of the document to its intended destination (such as a Microsoft Outlook email inbox)