

US00D590048S

(12) **United States Design Patent**  
**Leber et al.**

(10) **Patent No.:** **US D590,048 S**  
(45) **Date of Patent:** **\*\* Apr. 7, 2009**

(54) **HAND SHOWER**

1,203,466 A 10/1916 Benson

(75) Inventors: **Leland C. Leber**, Fort Collins, CO  
(US); **Anne Clare Moser**, Chicago, IL  
(US); **Scott Belliveau**, Plainfield, IL  
(US)

(Continued)

FOREIGN PATENT DOCUMENTS

CA 659510 3/1963

(73) Assignee: **Water Pik, Inc.**, Fort Collins, CO (US)

(Continued)

(\*\*) Term: **14 Years**

OTHER PUBLICATIONS

(21) Appl. No.: **29/299,226**

Color Copy, Labeled 1A, Gemlo, available at least as early as Dec. 2, 1998.

(22) Filed: **Dec. 20, 2007**

Color Copy, Labeled 1B, Gemlo, available at least as early as Dec. 2, 1998.

(51) **LOC (9) Cl.** ..... **23-01**

*Primary Examiner*—Robin V Webster

(52) **U.S. Cl.** ..... **D23/223**

(74) *Attorney, Agent, or Firm*—Dorsey & Whitney LLP

(58) **Field of Classification Search** ..... D23/213,  
D23/223, 229–230; 239/282–283; 4/567,  
4/615

(57) **CLAIM**

See application file for complete search history.

The ornamental design for a hand shower, as shown and described.

(56) **References Cited**

**DESCRIPTION**

U.S. PATENT DOCUMENTS

203,094 A	4/1878	Wakeman
204,333 A	5/1878	Josias
309,349 A	12/1884	Hart
428,023 A	5/1890	Schoff
432,712 A	7/1890	Taylor
445,250 A	1/1891	Lawless
486,986 A	11/1892	Schinke
566,384 A	8/1896	Engelhart
566,410 A	8/1896	Schinke
570,405 A	10/1896	Jerguson et al.
694,888 A	3/1902	Pfluger
800,802 A	10/1905	Franquist
832,523 A	10/1906	Andersson
835,678 A	11/1906	Hammond
854,094 A	5/1907	Klein
926,929 A	7/1909	Dusseau
1,001,842 A	8/1911	Greenfield
1,003,037 A	9/1911	Crowe
1,018,143 A	2/1912	Vissering
1,046,573 A	12/1912	Ellis

FIG. 1 is a bottom perspective view of a hand shower, with the broken lines showing nozzles and a user-engagement feature for illustrative purposes only and forming no part of the claimed invention;

FIG. 2 is a bottom view of the hand shower of FIG. 1, with the nozzles and user-engagement feature not shown in this figure;

FIG. 3 is a front view of the hand shower of FIG. 1, with the nozzles and user-engagement feature not shown in this figure;

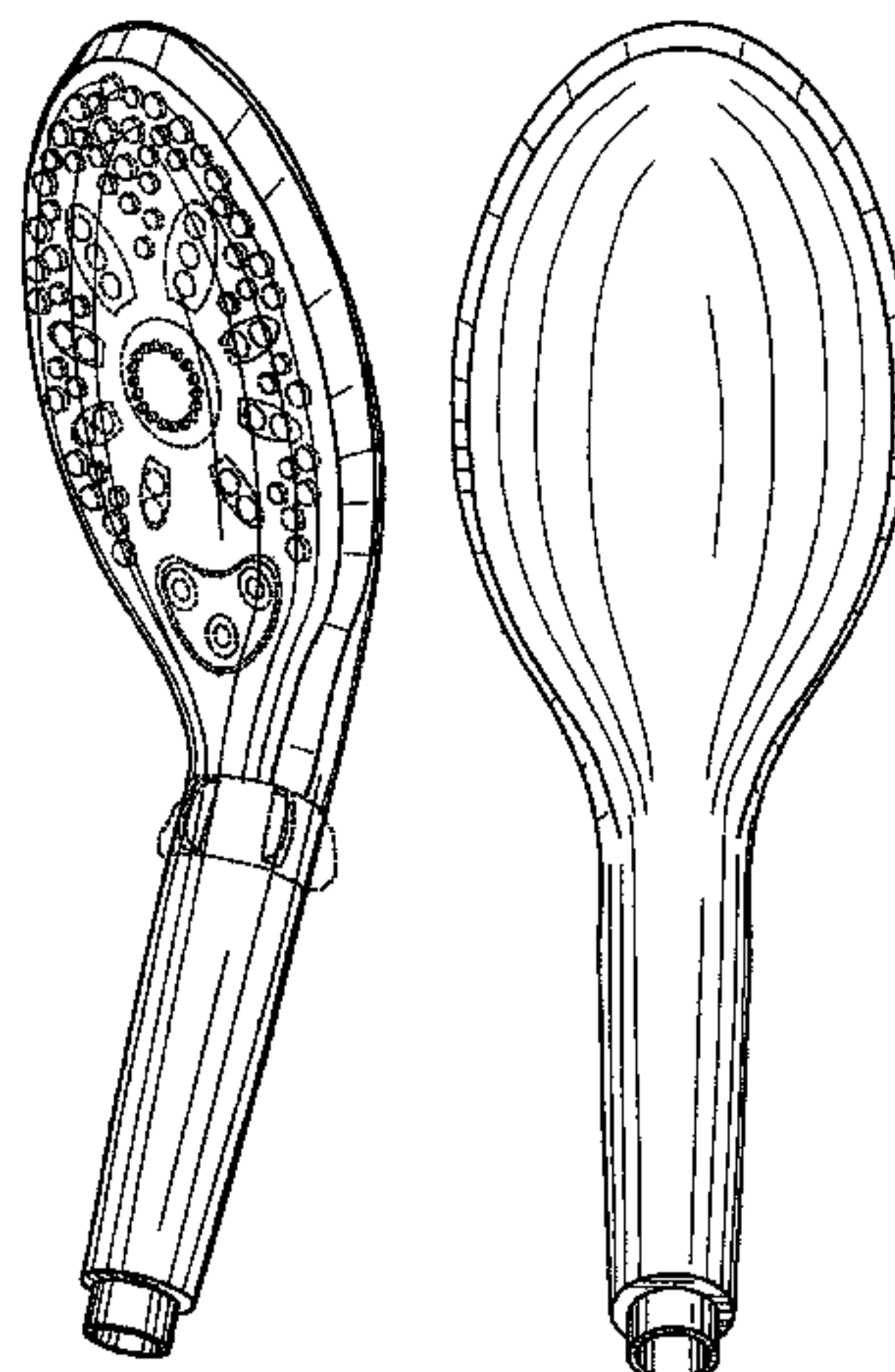
FIG. 4 is a top view of the hand shower of FIG. 1, with the user-engagement feature not shown in this figure;

FIG. 5 is a right side view of the hand shower of FIG. 1, with the nozzles and user-engagement feature not shown in this figure; and,

FIG. 6 is a left side view of the hand shower of FIG. 1, with the nozzles and user-engagement feature not shown in this figure.

The back view of the hand shower is a mirror image of the front view.

**1 Claim, 3 Drawing Sheets**



# US D590,048 S

Page 2

U.S. PATENT DOCUMENTS						
			3,007,648	A	11/1961	Fraser
			D192,935	S	5/1962	Becker
			3,032,357	A	5/1962	Shames et al.
			3,034,809	A	5/1962	Greenberg
			3,037,799	A	6/1962	Mulac
			3,081,339	A	3/1963	Green et al.
			3,092,333	A	6/1963	Gaiotto
			3,098,508	A	7/1963	Gerdes
			3,103,723	A	9/1963	Becker
			3,104,815	A	9/1963	Schultz
			3,104,827	A	9/1963	Aghnides
			3,111,277	A	11/1963	Grimsley
			3,143,857	A	8/1964	Eaton
			3,196,463	A	7/1965	Farneth
			3,231,200	A	1/1966	Heald
			3,236,545	A	2/1966	Parkes et al.
			3,239,152	A	3/1966	Bachli et al.
			3,266,059	A	8/1966	Stelle
			3,273,359	A	9/1966	Fregeolle
			3,306,634	A	2/1967	Groves et al.
			3,323,148	A	6/1967	Burnon
			3,329,967	A	7/1967	Martinez et al.
			3,341,132	A	9/1967	Parkison
			3,342,419	A	9/1967	Weese
			3,344,994	A	10/1967	Fife
			3,363,842	A	1/1968	Burns
			3,383,051	A	5/1968	Fiorentino
			3,389,925	A	6/1968	Gottschald
			3,393,311	A	7/1968	Dahl
			3,393,312	A	7/1968	Dahl
			3,404,410	A	10/1968	Sumida
			3,492,029	A	1/1970	French et al.
			3,516,611	A	6/1970	Piggott
			3,546,961	A	12/1970	Marton
			3,550,863	A	12/1970	McDermott
			3,552,436	A	1/1971	Stewart
			3,565,116	A	2/1971	Gabin
			3,566,917	A	3/1971	White
			3,580,513	A	5/1971	Martin
			3,584,822	A	6/1971	Oram
			3,596,835	A	8/1971	Smith et al.
			3,612,577	A	10/1971	Pope
			3,641,333	A	2/1972	Gendron
			3,647,144	A	3/1972	Parkison et al.
			3,663,044	A	5/1972	Contreras et al.
			3,669,470	A	6/1972	Deurloo
			3,672,648	A	6/1972	Price
			3,682,392	A	8/1972	Kint
			3,685,745	A	8/1972	Peschcke-koedt
			D224,834	S	9/1972	Laudell
			3,711,029	A	1/1973	Bartlett
			3,722,798	A	3/1973	Bletcher et al.
			3,722,799	A	3/1973	Rauh
			3,731,084	A	5/1973	Trevorrow
			3,754,779	A	8/1973	Peress
			D228,622	S	10/1973	Juhlin
			3,762,648	A	10/1973	Deines et al.
			3,768,735	A	10/1973	Ward
			3,786,995	A	1/1974	Manoogian et al.
			3,801,019	A	4/1974	Trenary et al.
			3,810,580	A	5/1974	Rauh
			3,826,454	A	7/1974	Zieger
			3,840,734	A	10/1974	Oram
			3,845,291	A	10/1974	Portyrata
			3,860,271	A	1/1975	Rodgers
			3,861,719	A	1/1975	Hand
			3,865,310	A	2/1975	Elkins et al.
			3,869,151	A	3/1975	Fletcher et al.
			3,896,845	A	7/1975	Parker
			3,902,671	A	9/1975	Symmons
			3,910,277	A	10/1975	Zimmer
			D237,708	S	11/1975	Grohe
			3,929,164	A	12/1975	Richter



# US D590,048 S

Page 3

3,958,756 A	5/1976	Trenary et al.	4,540,202 A	9/1985	Amphoux et al.
D240,322 S	6/1976	Staub	4,545,081 A	10/1985	Nestor et al.
3,967,783 A	7/1976	Halsted et al.	4,553,775 A	11/1985	Halling
3,979,096 A	9/1976	Zieger	D281,820 S	12/1985	Oba et al.
3,997,116 A	12/1976	Moen	4,561,593 A	12/1985	Cammack et al.
3,998,390 A	12/1976	Peterson et al.	4,564,889 A	1/1986	Bolson
3,999,714 A	12/1976	Lang	4,571,003 A	2/1986	Roling et al.
4,005,880 A	2/1977	Anderson et al.	4,572,232 A	2/1986	Gruber
4,006,920 A	2/1977	Sadler et al.	D283,645 S	4/1986	Tanaka
4,023,782 A	5/1977	Eifer	4,587,991 A	5/1986	Chorkey
4,042,984 A	8/1977	Butler	4,588,130 A	5/1986	Trenary et al.
4,045,054 A	8/1977	Arnold	4,598,866 A	7/1986	Cammack et al.
D245,858 S	9/1977	Grube	4,614,303 A	9/1986	Moseley, Jr. et al.
D245,860 S	9/1977	Grube	4,616,298 A	10/1986	Bolson
4,068,801 A	1/1978	Leutheuser	4,618,100 A	10/1986	White et al.
4,081,135 A	3/1978	Tomaro	4,629,124 A	12/1986	Gruber
4,084,271 A	4/1978	Ginsberg	4,629,125 A	12/1986	Liu
4,091,998 A	5/1978	Peterson	4,643,463 A	2/1987	Halling et al.
D249,356 S	9/1978	Nagy	4,645,244 A	2/1987	Curtis
4,117,979 A	10/1978	Lagarelli et al.	4,650,120 A	3/1987	Kress
4,129,257 A	12/1978	Eggert	4,650,470 A	3/1987	Epstein
4,130,120 A	12/1978	Kohler, Jr.	4,652,025 A	3/1987	Conroy, Sr.
4,131,233 A	12/1978	Koenig	4,654,900 A	4/1987	McGhee
4,133,486 A	1/1979	Fanella	4,657,185 A	4/1987	Rundzaitis
4,135,549 A	1/1979	Baker	4,669,666 A	6/1987	Finkbeiner
D251,045 S	2/1979	Grube	4,669,757 A	6/1987	Bartholomew
4,141,502 A	2/1979	Grohe	4,674,687 A	6/1987	Smith et al.
4,151,955 A	5/1979	Stouffer	4,683,917 A	8/1987	Bartholomew
4,151,957 A	5/1979	Gecewicz et al.	4,703,893 A	11/1987	Gruber
4,162,801 A	7/1979	Kresky et al.	4,719,654 A	1/1988	Blessing
4,165,837 A	8/1979	Rundzaitis	4,733,337 A	3/1988	Bieberstein
4,167,196 A	9/1979	Morris	D295,437 S	4/1988	Fabian
4,174,822 A	11/1979	Larsson	4,739,801 A	4/1988	Kimura et al.
4,185,781 A	1/1980	O'Brien	4,749,126 A	6/1988	Kessener et al.
4,190,207 A	2/1980	Fienhold et al.	D296,582 S	7/1988	Haug et al.
4,191,332 A	3/1980	De Langis et al.	4,754,928 A	7/1988	Rogers et al.
4,203,550 A	5/1980	On	D297,160 S	8/1988	Robbins
4,209,132 A	6/1980	Kwan	4,764,047 A	8/1988	Johnston et al.
D255,626 S	7/1980	Grube	4,778,104 A	10/1988	Fisher
4,219,160 A	8/1980	Allred, Jr.	4,787,591 A	11/1988	Villacorta
4,221,338 A	9/1980	Shames et al.	4,790,294 A	12/1988	Allred, III et al.
4,243,253 A	1/1981	Rogers, Jr.	4,801,091 A	1/1989	Sandvik
4,244,526 A	1/1981	Arth	4,809,369 A	3/1989	Bowden
D258,677 S	3/1981	Larsson	4,839,599 A	6/1989	Fischer
4,254,914 A	3/1981	Shames et al.	4,842,059 A	6/1989	Tomek
4,258,414 A	3/1981	Sokol	D302,325 S	7/1989	Charet et al.
4,272,022 A	6/1981	Evans	4,850,616 A	7/1989	Pava
4,274,400 A	6/1981	Baus	4,854,499 A	8/1989	Neuman
4,282,612 A	8/1981	King	4,856,822 A	8/1989	Parker
D261,300 S	10/1981	Klose	4,865,362 A	9/1989	Holden
D261,417 S	10/1981	Klose	D303,830 S	10/1989	Ramsey et al.
4,303,201 A	12/1981	Elkins et al.	4,871,196 A	10/1989	Kingsford
4,319,608 A	3/1982	Raikov et al.	4,896,658 A	1/1990	Yonekubo et al.
4,330,089 A	5/1982	Finkbeiner	D306,351 S	2/1990	Charet et al.
D266,212 S	9/1982	Haug et al.	4,901,927 A	2/1990	Valdivia
4,350,298 A	9/1982	Tada	4,903,178 A	2/1990	Englot et al.
4,353,508 A	10/1982	Butterfield et al.	4,903,897 A	2/1990	Hayes
4,358,056 A	11/1982	Greenhut et al.	4,903,922 A	2/1990	Harris, III
D267,582 S	1/1983	Mackay et al.	4,907,137 A	3/1990	Schladitz et al.
D268,359 S	3/1983	Klose	4,907,744 A	3/1990	Jousson
D268,442 S	3/1983	Darmon	4,909,435 A	3/1990	Kidouchi et al.
D268,611 S	4/1983	Klose	4,914,759 A	4/1990	Goff
4,383,554 A	5/1983	Merriman	4,946,202 A	8/1990	Perricone
4,396,797 A	8/1983	Sakuragi et al.	4,951,329 A	8/1990	Shaw
4,398,669 A	8/1983	Fienhold	4,953,585 A	9/1990	Rollini et al.
4,425,965 A	1/1984	Bayh, III et al.	4,964,573 A	10/1990	Lipski
4,432,392 A	2/1984	Paley	4,972,048 A	11/1990	Martin
D274,457 S	6/1984	Haug	D313,267 S	12/1990	Lenci et al.
4,461,052 A	7/1984	Mostul	4,976,460 A	12/1990	Newcombe et al.
4,465,308 A	8/1984	Martini	D314,246 S	1/1991	Bache
4,467,964 A	8/1984	Kaeser	D315,191 S	3/1991	Mikol
4,495,550 A	1/1985	Visciano	4,998,673 A	3/1991	Pilolla
4,527,745 A	7/1985	Butterfield et al.	5,004,158 A	4/1991	Halem et al.



# US D590,048 S

Page 4

D317,348 S	6/1991	Geneve et al.	5,263,646 A	11/1993	McCauley
5,020,570 A	6/1991	Cotter	5,265,833 A	11/1993	Heimann et al.
5,022,103 A	6/1991	Faist	5,268,826 A	12/1993	Greene
5,032,015 A	7/1991	Christianson	5,276,596 A	1/1994	Krenzel
5,033,528 A	7/1991	Volcani	5,277,391 A	1/1994	Haug et al.
5,033,897 A	7/1991	Chen	5,286,071 A	2/1994	Storage
D319,294 S	8/1991	Kohler, Jr. et al.	5,288,110 A	2/1994	Allread
D320,064 S	9/1991	Presman	5,294,054 A	3/1994	Benedict et al.
5,046,764 A	9/1991	Kimura et al.	5,297,735 A	3/1994	Heimann et al.
D321,062 S	10/1991	Bonbright	5,297,739 A	3/1994	Allen
5,058,804 A	10/1991	Yonekubo et al.	D345,811 S	4/1994	Van Deursen et al.
D322,119 S	12/1991	Haug et al.	D346,426 S	4/1994	Warshawsky
D322,681 S	12/1991	Yuen	D346,428 S	4/1994	Warshawsky
5,070,552 A	12/1991	Gentry et al.	D346,430 S	4/1994	Warshawsky
D323,545 S	1/1992	Ward	D347,262 S	5/1994	Black et al.
5,082,019 A	1/1992	Tetrault	D347,265 S	5/1994	Gottwald
5,086,878 A	2/1992	Swift	5,316,216 A	5/1994	Cammack et al.
5,090,624 A	2/1992	Rogers	D348,720 S	7/1994	Haug et al.
5,100,055 A	3/1992	Rokitenetz et al.	5,329,650 A	7/1994	Zaccai et al.
D325,769 S	4/1992	Haug et al.	D349,947 S	8/1994	Hing-Wah
D325,770 S	4/1992	Haug et al.	5,333,787 A	8/1994	Smith et al.
5,103,384 A	4/1992	Drohan	5,333,789 A	8/1994	Garneys
D326,311 S	5/1992	Lenci et al.	5,340,064 A	8/1994	Heimann et al.
D327,115 S	6/1992	Rogers	5,340,165 A	8/1994	Sheppard
5,121,511 A	6/1992	Sakamoto et al.	D350,808 S	9/1994	Warshawsky
D327,729 S	7/1992	Rogers	5,344,080 A	9/1994	Matsui
5,127,580 A	7/1992	Fu-I	5,349,987 A	9/1994	Shieh
5,134,251 A	7/1992	Martin	5,356,076 A	10/1994	Bishop
D328,944 S	8/1992	Robbins	5,356,077 A	10/1994	Shames
5,141,016 A	8/1992	Nowicki	D352,092 S	11/1994	Warshawsky
D329,504 S	9/1992	Yuen	D352,347 S	11/1994	Dannenberg
5,143,300 A	9/1992	Cutler	D352,766 S	11/1994	Hill et al.
5,145,114 A	9/1992	Monch	5,368,235 A	11/1994	Drozdoeff et al.
D330,068 S	10/1992	Haug et al.	5,369,556 A	11/1994	Zeller
D330,408 S	10/1992	Thacker	5,370,427 A	12/1994	Hoelle et al.
D330,409 S	10/1992	Raffo	5,385,500 A	1/1995	Schmidt
5,153,976 A	10/1992	Benchaar et al.	D355,242 S	2/1995	Warshawsky
5,154,355 A	10/1992	Gonzalez	D355,703 S	2/1995	Duell
5,154,483 A	10/1992	Zeller	D356,626 S	3/1995	Wang
5,161,567 A	11/1992	Humpert	5,397,064 A	3/1995	Heitzman
5,163,752 A	11/1992	Copeland et al.	5,398,872 A	3/1995	Joubran
5,171,429 A	12/1992	Yasuo	5,398,977 A	3/1995	Berger et al.
5,172,860 A	12/1992	Yuch	5,402,812 A	4/1995	Moineau et al.
5,172,862 A	12/1992	Heimann et al.	5,405,089 A	4/1995	Heimann et al.
5,172,866 A	12/1992	Ward	5,414,879 A	5/1995	Hiraishi et al.
D332,303 S	1/1993	Klose	5,423,348 A	6/1995	Jezek et al.
D332,994 S	2/1993	Huen	5,433,384 A	7/1995	Chan et al.
D333,339 S	2/1993	Klose	D361,399 S	8/1995	Carbone et al.
5,197,767 A	3/1993	Kimura et al.	D361,623 S	8/1995	Huen
D334,794 S	4/1993	Klose	5,441,075 A	8/1995	Clare
D335,171 S	4/1993	Lenci et al.	5,449,206 A	9/1995	Lockwood
5,201,468 A	4/1993	Freier et al.	D363,360 S	10/1995	Santarsiero
5,206,963 A	5/1993	Wiens	5,454,809 A	10/1995	Janssen
5,207,499 A	5/1993	Vajda et al.	5,468,057 A	11/1995	Megerle et al.
5,213,267 A	5/1993	Heimann et al.	D364,935 S	12/1995	deBlois
5,220,697 A	6/1993	Birchfield	D365,625 S	12/1995	Bova
D337,839 S	7/1993	Zeller	D365,646 S	12/1995	deBlois
5,228,625 A	7/1993	Grassberger	5,476,225 A	12/1995	Chan
5,230,106 A	7/1993	Henkin et al.	D366,309 S	1/1996	Huang
D338,542 S	8/1993	Yuen	D366,707 S	1/1996	Kaiser
5,232,162 A	8/1993	Chih	D366,708 S	1/1996	Santarsiero
D339,492 S	9/1993	Klose	D366,709 S	1/1996	Szymanski
D339,627 S	9/1993	Klose	D366,710 S	1/1996	Szymanski
D339,848 S	9/1993	Gottwald	5,481,765 A	1/1996	Wang
5,246,169 A	9/1993	Heimann et al.	D366,948 S	2/1996	Carbone
5,246,301 A	9/1993	Hirasawa	D367,315 S	2/1996	Andrus
D340,376 S	10/1993	Klose	D367,333 S	2/1996	Swyst
5,253,670 A	10/1993	Perrott	D367,696 S	3/1996	Andrus
5,253,807 A	10/1993	Newbegin	D367,934 S	3/1996	Carbone
5,254,809 A	10/1993	Martin	D368,146 S	3/1996	Carbone
D341,007 S	11/1993	Haug et al.	D368,317 S	3/1996	Swyst
D341,191 S	11/1993	Klose	5,499,767 A	3/1996	Morand
D341,220 S	11/1993	Eagan	D368,539 S	4/1996	Carbone et al.



# US D590,048 S

Page 5

D368,540 S	4/1996	Santarsiero	D382,936 S	8/1997	Shfaram
D368,541 S	4/1996	Kaiser et al.	5,653,260 A	8/1997	Huber
D368,542 S	4/1996	deBlois et al.	5,667,146 A	9/1997	Pimentel et al.
D369,204 S	4/1996	Andrus	D385,332 S	10/1997	Andrus
D369,205 S	4/1996	Andrus	D385,333 S	10/1997	Caroen et al.
5,507,436 A	4/1996	Ruttenberg	D385,334 S	10/1997	Caroen et al.
D369,873 S	5/1996	deBlois et al.	D385,616 S	10/1997	Dow et al.
D369,874 S	5/1996	Santarsiero	D385,947 S	11/1997	Dow et al.
D369,875 S	5/1996	Carbone	D387,230 S	12/1997	von Buelow et al.
D370,052 S	5/1996	Chan et al.	5,699,964 A	12/1997	Bergmann et al.
D370,250 S	5/1996	Fawcett et al.	5,702,057 A	12/1997	Huber
D370,277 S	5/1996	Kaiser	D389,558 S	1/1998	Andrus
D370,278 S	5/1996	Nolan	5,704,080 A	1/1998	Kuhne
D370,279 S	5/1996	deBlois	5,718,380 A	2/1998	Schorn et al.
D370,280 S	5/1996	Kaiser	D392,369 S	3/1998	Chan
D370,281 S	5/1996	Johnstone et al.	5,730,361 A	3/1998	Thonnes
5,517,392 A	5/1996	Roussio et al.	5,730,362 A	3/1998	Cordes
5,521,803 A	5/1996	Eckert et al.	5,730,363 A	3/1998	Kress
D370,542 S	6/1996	Santarsiero	5,742,961 A	4/1998	Casperson et al.
D370,735 S	6/1996	deBlois	D394,490 S	5/1998	Andrus et al.
D370,987 S	6/1996	Santarsiero	5,746,375 A	5/1998	Guo
D370,988 S	6/1996	Santarsiero	5,749,552 A	5/1998	Fan
D371,448 S	7/1996	Santarsiero	5,749,602 A	5/1998	Delaney et al.
D371,618 S	7/1996	Nolan	D394,899 S	6/1998	Caroen et al.
D371,619 S	7/1996	Szymanski	D395,074 S	6/1998	Neibrook
D371,856 S	7/1996	Carbone	D395,142 S	6/1998	Neibrook
D372,318 S	7/1996	Szymanski	5,765,760 A	6/1998	Kuo
D372,319 S	7/1996	Carbone	5,769,802 A	6/1998	Wang
5,531,625 A	7/1996	Zhong	5,772,120 A	6/1998	Huber
5,539,624 A	7/1996	Dougherty	5,778,939 A	7/1998	Hok-Yin
D372,548 S	8/1996	Carbone	5,788,157 A	8/1998	Kress
D372,998 S	8/1996	Carbone	D398,370 S	9/1998	Purdy
D373,210 S	8/1996	Santarsiero	5,806,771 A	9/1998	Loschelder et al.
D373,434 S	9/1996	Nolan	5,819,791 A	10/1998	Chronister et al.
D373,435 S	9/1996	Nolan	5,820,574 A	10/1998	Henkin et al.
D373,645 S	9/1996	Johnstone et al.	5,823,431 A	10/1998	Pierce
D373,646 S	9/1996	Szymanski et al.	5,823,442 A	10/1998	Guo
D373,647 S	9/1996	Kaiser	5,833,138 A	11/1998	Crane et al.
D373,648 S	9/1996	Kaiser	5,839,666 A	11/1998	Heimann et al.
D373,649 S	9/1996	Carbone	D402,350 S	12/1998	Andrus
D373,651 S	9/1996	Szymanski	D403,754 S	1/1999	Gottwald
D373,652 S	9/1996	Kaiser	D404,116 S	1/1999	Bosio
5,551,637 A	9/1996	Lo	5,855,348 A	1/1999	Fornara
5,552,973 A	9/1996	Hsu	5,860,599 A	1/1999	Lin
5,558,278 A	9/1996	Gallorini	5,862,543 A	1/1999	Reynoso et al.
D374,271 S	10/1996	Fleischmann	5,862,985 A	1/1999	Neibrook et al.
D374,297 S	10/1996	Kaiser	D405,502 S	2/1999	Tse
D374,298 S	10/1996	Swyst	5,865,375 A	2/1999	Hsu
D374,299 S	10/1996	Carbone	5,865,378 A	2/1999	Hollinshead et al.
D374,493 S	10/1996	Szymanski	5,873,647 A	2/1999	Kurtz et al.
D374,494 S	10/1996	Santarsiero	D408,893 S	4/1999	Tse
D374,732 S	10/1996	Kaiser	D409,276 S	5/1999	Ratzlaff
D374,733 S	10/1996	Santarsiero	D410,276 S	5/1999	Ben-Tsur
5,560,548 A	10/1996	Mueller et al.	5,918,809 A	7/1999	Simmons
5,567,115 A	10/1996	Carbone	5,918,811 A	7/1999	Denham et al.
D375,541 S	11/1996	Michaluk	D413,157 S	8/1999	Ratzlaff
5,577,664 A	11/1996	Heitzman	5,937,905 A	8/1999	Santos
D376,217 S	12/1996	Kaiser	5,938,123 A	8/1999	Heitzman
D376,860 S	12/1996	Santarsiero	5,947,388 A	9/1999	Woodruff
D376,861 S	12/1996	Johnstone et al.	D415,247 S	10/1999	Haverstraw et al.
D376,862 S	12/1996	Carbone	5,961,046 A	10/1999	Joubran
5,605,173 A	2/1997	Arnaud	5,979,776 A	11/1999	Williams
D378,401 S	3/1997	Neufeld et al.	5,992,762 A	11/1999	Wang
5,613,638 A	3/1997	Blessing	D418,200 S	12/1999	Ben-Tsur
5,613,639 A	3/1997	Storm et al.	5,997,047 A	12/1999	Pimentel et al.
5,615,837 A	4/1997	Roman	6,003,165 A	12/1999	Loyd
5,624,074 A	4/1997	Parisi	D418,902 S	1/2000	Haverstraw et al.
5,624,498 A	4/1997	Lee et al.	D418,903 S	1/2000	Haverstraw et al.
D379,212 S	5/1997	Chan	D418,904 S	1/2000	Milrud
D379,404 S	5/1997	Spelts	D421,099 S	2/2000	Mullenmeister
5,632,049 A	5/1997	Chen	6,021,960 A	2/2000	Kehat
D381,405 S	7/1997	Waidele et al.	D422,053 S	3/2000	Brenner et al.
D381,737 S	7/1997	Chan	6,042,027 A	3/2000	Sandvik



# US D590,048 S

Page 6

6,042,155 A	3/2000	Lockwood	D453,370 S	2/2002	Lindholm et al.
D422,336 S	4/2000	Haverstraw et al.	D453,551 S	2/2002	Lindholm et al.
D422,337 S	4/2000	Chan	6,349,735 B2	2/2002	Gul
D423,083 S	4/2000	Haug et al.	D454,617 S	3/2002	Curbbun et al.
D423,110 S	4/2000	Cipkowski	D454,938 S	3/2002	Lord
D424,160 S	5/2000	Haug et al.	6,375,342 B1	4/2002	Koren et al.
D424,161 S	5/2000	Haug et al.	D457,937 S	5/2002	Lindholm et al.
D424,162 S	5/2000	Haug et al.	6,382,531 B1	5/2002	Tracy
D424,163 S	5/2000	Haug et al.	D458,348 S	6/2002	Mullenmeister
D426,290 S	6/2000	Haug et al.	6,412,711 B1	7/2002	Fan
D427,661 S	7/2000	Haverstraw et al.	D461,224 S	8/2002	Lobermeier
D428,110 S	7/2000	Haug et al.	D461,878 S	8/2002	Green et al.
D428,125 S	7/2000	Chan	6,450,425 B1	9/2002	Chen
6,085,780 A	7/2000	Morris	6,454,186 B2	9/2002	Haverstraw et al.
D430,267 S	8/2000	Milrud et al.	6,464,265 B1	10/2002	Mikol
6,095,801 A	8/2000	Spiewak	D465,552 S	11/2002	Tse
D430,643 S	9/2000	Tse	D465,553 S	11/2002	Singtoroj
6,113,002 A	9/2000	Finkbeiner	6,484,952 B2	11/2002	Koren
6,123,272 A	9/2000	Havican et al.	D468,800 S	1/2003	Tse
6,123,308 A	9/2000	Faisst	D469,165 S	1/2003	Lim
D432,624 S	10/2000	Chan	6,502,796 B1	1/2003	Wales
D432,625 S	10/2000	Chan	D470,219 S	2/2003	Schweitzer
D433,096 S	10/2000	Tse	6,516,070 B2	2/2003	Macey
D433,097 S	10/2000	Tse	D471,253 S	3/2003	Tse
6,126,091 A	10/2000	Heitzman	D471,953 S	3/2003	Colligan et al.
6,126,290 A	10/2000	Veigel	6,533,194 B2	3/2003	Marsh et al.
D434,109 S	11/2000	Ko	D472,958 S	4/2003	Ouyoung
6,164,569 A	12/2000	Hollinshead et al.	6,550,697 B2	4/2003	Lai
6,164,570 A	12/2000	Smeltzer	6,607,148 B1	8/2003	Marsh et al.
D435,889 S	1/2001	Ben-Tsur et al.	6,611,971 B1	9/2003	Antoniello et al.
D439,305 S	3/2001	Slothower	6,637,676 B2	10/2003	Zieger et al.
6,199,580 B1	3/2001	Morris	6,641,057 B2	11/2003	Thomas et al.
6,202,679 B1	3/2001	Titus	D483,837 S	12/2003	Fan
D440,276 S	4/2001	Slothower	6,659,117 B2	12/2003	Gilmore
D440,277 S	4/2001	Slothower	6,659,372 B2	12/2003	Marsh et al.
D440,278 S	4/2001	Slothower	D485,887 S	1/2004	Luetzgen et al.
D441,059 S	4/2001	Fleischmann	D486,888 S	2/2004	Lobermeier
6,209,799 B1	4/2001	Finkbeiner	6,691,338 B2	2/2004	Zieger
D443,025 S	5/2001	Kollmann et al.	D487,301 S	3/2004	Haug et al.
D443,026 S	5/2001	Kollmann et al.	D487,498 S	3/2004	Blomstrom
D443,027 S	5/2001	Kollmann et al.	6,701,953 B2	3/2004	Agosta
D443,029 S	5/2001	Kollmann et al.	D489,798 S	5/2004	Hunt
6,223,998 B1	5/2001	Heitzman	D490,498 S	5/2004	Golichowski
6,230,984 B1	5/2001	Jager	6,736,336 B2	5/2004	Wong
6,230,988 B1	5/2001	Chao et al.	6,739,523 B2	5/2004	Haverstraw et al.
6,230,989 B1	5/2001	Haverstraw et al.	6,739,527 B1	5/2004	Chung
D443,335 S	6/2001	Andrus	D492,004 S	6/2004	Haug et al.
D443,336 S	6/2001	Kollmann et al.	D492,007 S	6/2004	Kollmann et al.
D443,347 S	6/2001	Gottwald	6,742,725 B1	6/2004	Fan
6,250,572 B1	6/2001	Chen	D493,208 S	7/2004	Lin
D444,865 S	7/2001	Gottwald	D493,864 S	8/2004	Haug et al.
D445,871 S	7/2001	Fan	D494,655 S	8/2004	Lin
6,254,014 B1	7/2001	Clearman et al.	D494,661 S	8/2004	Zieger et al.
6,270,278 B1	8/2001	Mauro	D495,027 S	8/2004	Mazzola
6,276,004 B1	8/2001	Bertrand et al.	6,776,357 B1	8/2004	Naito
6,283,447 B1	9/2001	Fleet	D496,987 S	10/2004	Glunk
6,286,764 B1	9/2001	Garvey et al.	D497,974 S	11/2004	Haug et al.
D449,673 S	10/2001	Kollmann et al.	D498,514 S	11/2004	Haug et al.
D450,370 S	11/2001	Wales et al.	D500,121 S	12/2004	Blomstrom
D450,805 S	11/2001	Lindholm et al.	D500,549 S	1/2005	Blomstrom
D450,806 S	11/2001	Lindholm et al.	D501,242 S	1/2005	Blomstrom
D450,807 S	11/2001	Lindholm et al.	D502,760 S	3/2005	Zieger et al.
D451,169 S	11/2001	Lindholm et al.	D502,761 S	3/2005	Zieger et al.
D451,170 S	11/2001	Lindholm et al.	D503,211 S	3/2005	Lin
D451,171 S	11/2001	Lindholm et al.	D503,774 S	4/2005	Zieger
D451,172 S	11/2001	Lindholm et al.	D503,775 S	4/2005	Zieger
6,321,777 B1	11/2001	Wu	D503,966 S	4/2005	Zieger
D451,583 S	12/2001	Lindholm et al.	6,899,292 B2	5/2005	Titinet
D451,980 S	12/2001	Lindholm et al.	D506,243 S	6/2005	Wu
D452,553 S	12/2001	Lindholm et al.	D507,037 S	7/2005	Wu
D452,725 S	1/2002	Lindholm et al.	6,935,581 B2	8/2005	Titinet
D452,897 S	1/2002	Gillette et al.	D509,280 S	9/2005	Bailey et al.
D453,369 S	2/2002	Lobermeier	D509,563 S	9/2005	Bailey et al.

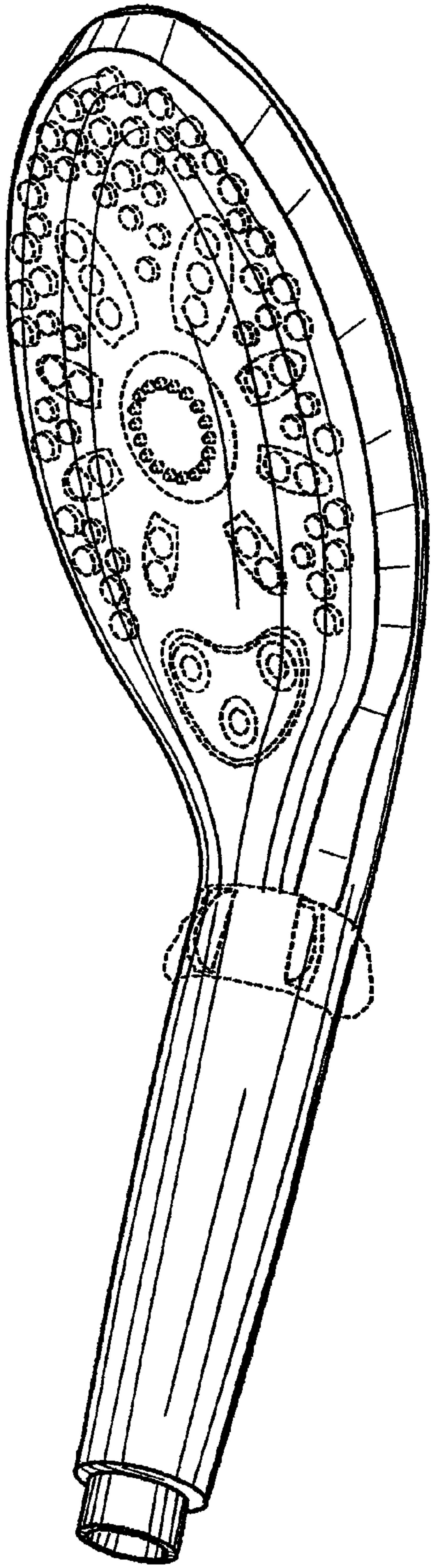
# US D590,048 S

Page 7

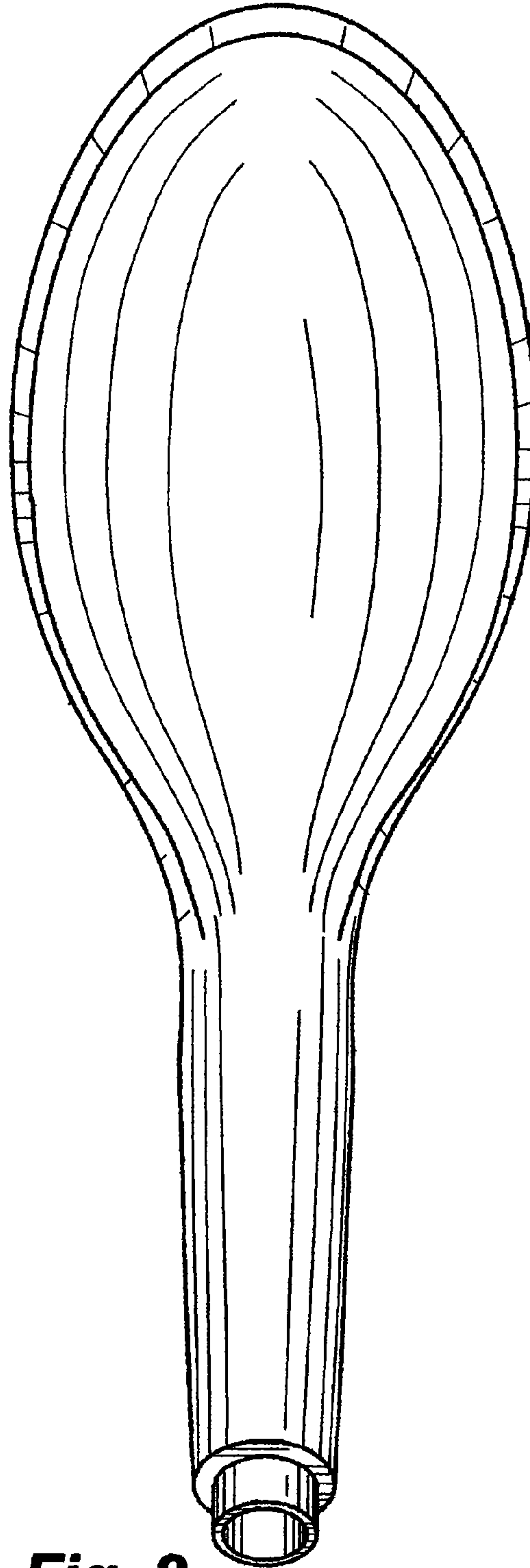
D510,123 S	9/2005	Tsai		2007/0200013 A1	8/2007	Hsiao
D511,809 S *	11/2005	Haug et al. ....	D23/223	2007/0246577 A1	10/2007	Leber
D512,119 S	11/2005	Haug et al.		2007/0272770 A1	11/2007	Leber et al.
6,981,661 B1	1/2006	Chen		2008/0073449 A1	3/2008	Haynes et al.
7,004,409 B2	2/2006	Okubo		2008/0083844 A1	4/2008	Leber et al.
D520,109 S	5/2006	Wu		2008/0111004 A1	5/2008	Huffman
7,048,210 B2	5/2006	Clark		2008/0223957 A1	9/2008	Schorn
7,055,767 B1	6/2006	Ko		2008/0272203 A1	11/2008	Leber
7,070,125 B2	7/2006	Williams et al.		2008/0272591 A1	11/2008	Leber
D527,440 S	8/2006	Macan				
D528,631 S	9/2006	Gillette et al.				
7,100,845 B1	9/2006	Hsieh				
7,111,798 B2	9/2006	Thomas et al.		CH	234284	3/1963
D530,389 S	10/2006	Genslak et al.		DE	352813	5/1922
7,114,666 B2	10/2006	Luetttgen et al.		DE	848627	9/1952
D533,253 S	12/2006	Luetttgen et al.		DE	854100	10/1952
D534,239 S	12/2006	Dingler et al.		DE	2360534	6/1974
D535,354 S *	1/2007	Wu .....	D23/223	DE	2806093	8/1979
D536,060 S	1/2007	Sadler		DE	3107808	9/1982
7,156,325 B1	1/2007	Chen		DE	3246327	6/1984
D538,391 S	3/2007	Mazzola		DE	3440901	7/1985
D540,424 S	4/2007	Kirar		DE	3706320	3/1988
D540,425 S	4/2007	Endo et al.		DE	8804236	6/1988
D540,426 S *	4/2007	Cropelli .....	D23/213	DE	4034695	5/1991
D540,427 S	4/2007	Bouroullec et al.		DE	19608085	9/1996
D542,391 S	5/2007	Gilbert		EP	0167063	6/1985
D542,393 S	5/2007	Haug et al.		EP	0478999	4/1992
7,229,031 B2	6/2007	Schmidt		EP	0514753	11/1992
7,243,863 B2	7/2007	Glunk		EP	0617644	10/1994
D552,713 S	10/2007	Rexach		EP	0683354	11/1995
7,278,591 B2	10/2007	Clearman et al.		EP	0687851	12/1995
D556,295 S	11/2007	Genord et al.		EP	0695907	2/1996
D557,763 S	12/2007	Schönherr et al.		EP	0719588	7/1996
D557,764 S	12/2007	Schönherr et al.		EP	0721082	7/1996
D557,765 S	12/2007	Schönherr et al.		EP	0733747	9/1996
D558,301 S	12/2007	Hoernig		EP	0808661	11/1997
7,303,151 B2	12/2007	Wu		EP	0726811	1/1998
D559,357 S	1/2008	Wang et al.		FR	538538	6/1922
D559,945 S	1/2008	Patterson et al.		FR	873808	7/1942
D562,937 S	2/2008	Schönherr et al.		FR	1039750	10/1953
D562,938 S	2/2008	Blessing		FR	1098836	8/1955
D562,941 S	2/2008	Pan		FR	2596492	10/1987
7,331,536 B1	2/2008	Zhen et al.		FR	2695452	3/1994
7,347,388 B2	3/2008	Chung		GB	10086	4/1894
D565,699 S	4/2008	Berberet		GB	3314	12/1914
D565,703 S *	4/2008	Lammel et al. ....	D23/223	GB	129812	7/1919
D566,228 S	4/2008	Neagoe		GB	204600	10/1923
D566,229 S	4/2008	Rexach		GB	634483	3/1950
D567,328 S	4/2008	Spangler et al.		GB	971866	10/1964
7,360,723 B2	4/2008	Lev		GB	1111126	4/1968
7,364,097 B2	4/2008	Okuma		GB	2066074	1/1980
7,374,112 B1	5/2008	Bulan et al.		GB	2066704	7/1981
7,384,007 B2	6/2008	Ho		GB	2068778	8/1981
D577,099 S	9/2008	Leber		GB	2121319	12/1983
D577,793 S	9/2008	Leber		GB	2155984	10/1985
D580,012 S	11/2008	Quinn et al.		GB	2156932 A	10/1985
D580,513 S	11/2008	Quinn et al.		GB	2199771	7/1988
D581,014 S	11/2008	Quinn et al.		GB	2298595	11/1996
2003/0062426 A1	4/2003	Gregory et al.		IT	327400	7/1935
2004/0118949 A1	6/2004	Marks		IT	350359	7/1937
2005/0061896 A1	3/2005	Luetttgen et al.		IT	563459	5/1957
2005/0082824 A1	4/2005	Luetttgen et al.		JP	S63-181459	11/1988
2005/0284967 A1	12/2005	Korb		JP	H2-78660	6/1990
2006/0016913 A1	1/2006	Williams et al.		JP	4062238	2/1992
2006/0043214 A1	3/2006	Macan et al.		JP	4146708	5/1992
2006/0060678 A1	3/2006	Mazzola		NL	8902957	6/1991
2006/0102747 A1	5/2006	Ho		WO	WO93/12894	7/1993
2006/0157590 A1	7/2006	Clearman et al.		WO	WO93/25839	12/1993
2006/0163391 A1	7/2006	Schorn		WO	WO96/00617	1/1996
2006/0219822 A1	10/2006	Miller et al.		WO	WO98/30336	7/1998
2006/0283986 A1	12/2006	Chung		WO	WO00/10720	3/2000
2007/0040054 A1	2/2007	Farzan				
2007/0119980 A1	5/2007	Somerfield et al.				

\* cited by examiner



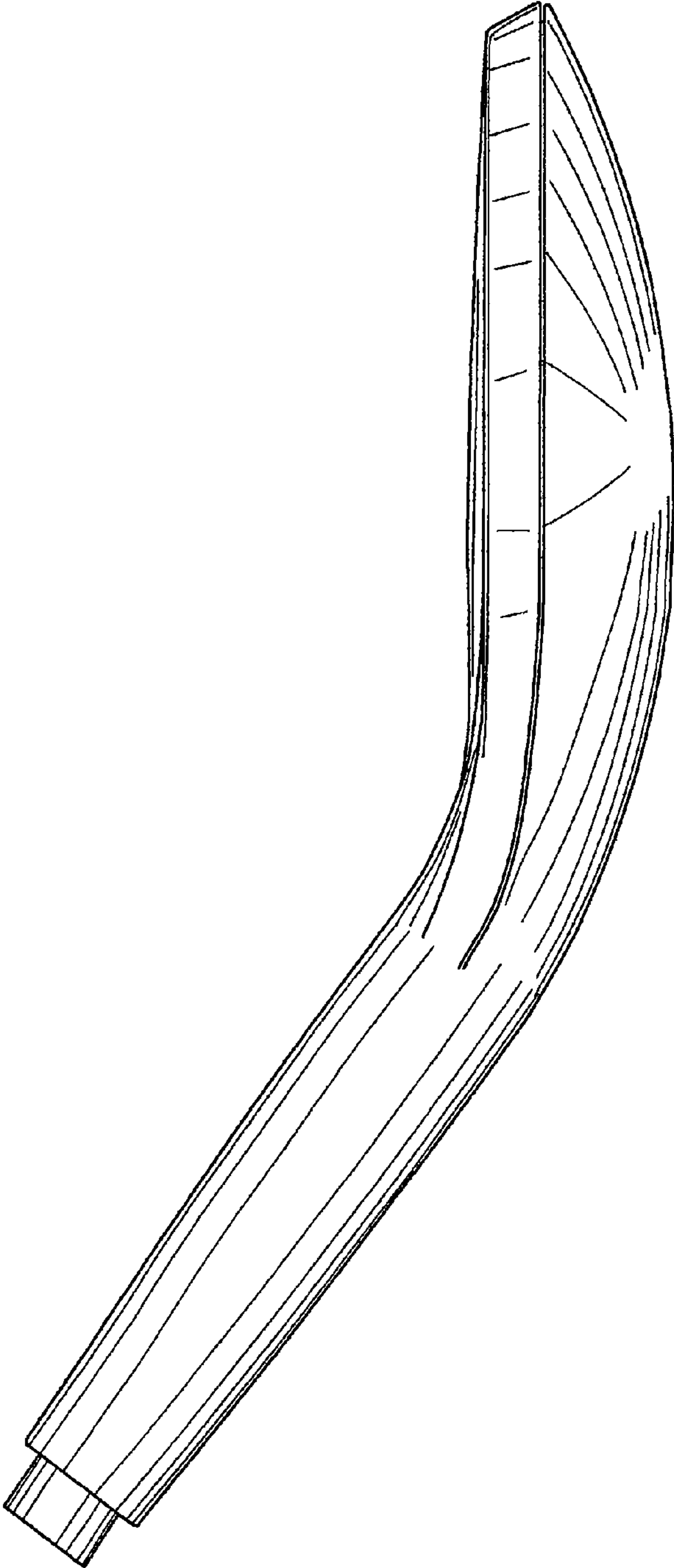


**Fig. 1**

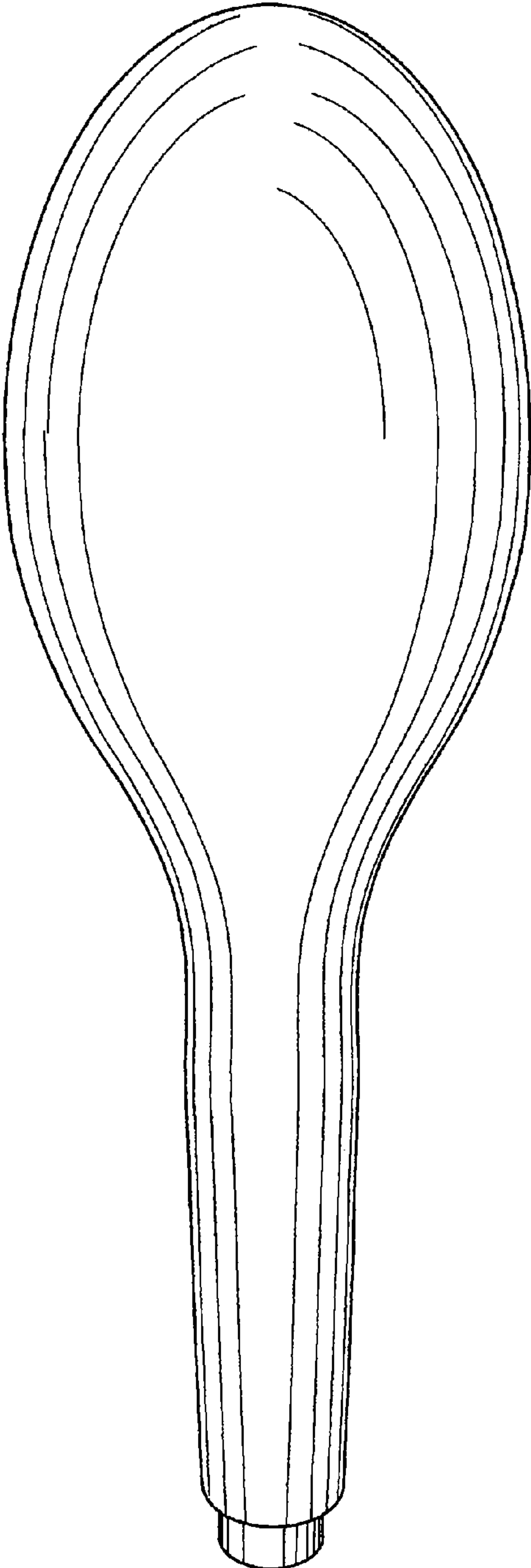


**Fig. 2**

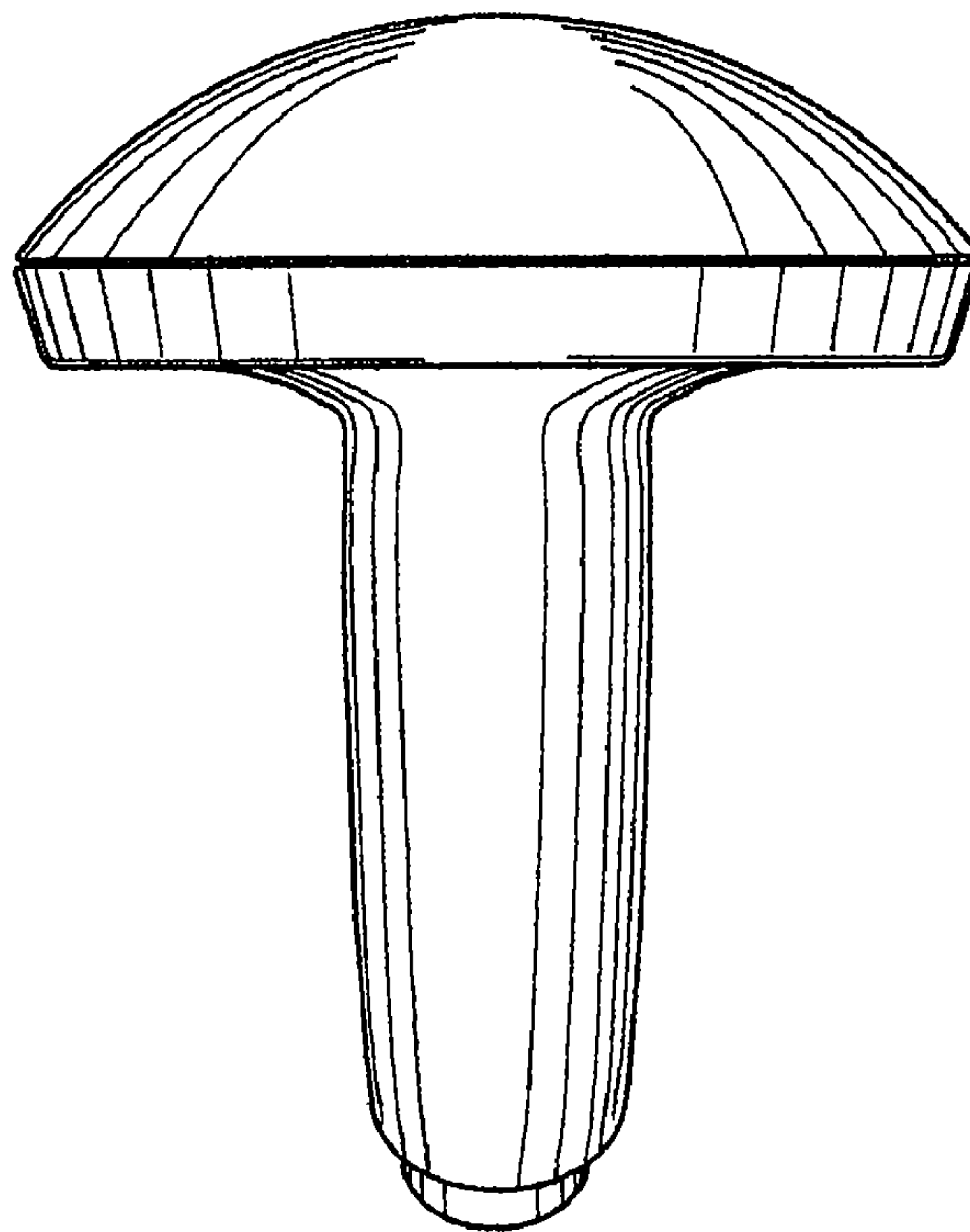




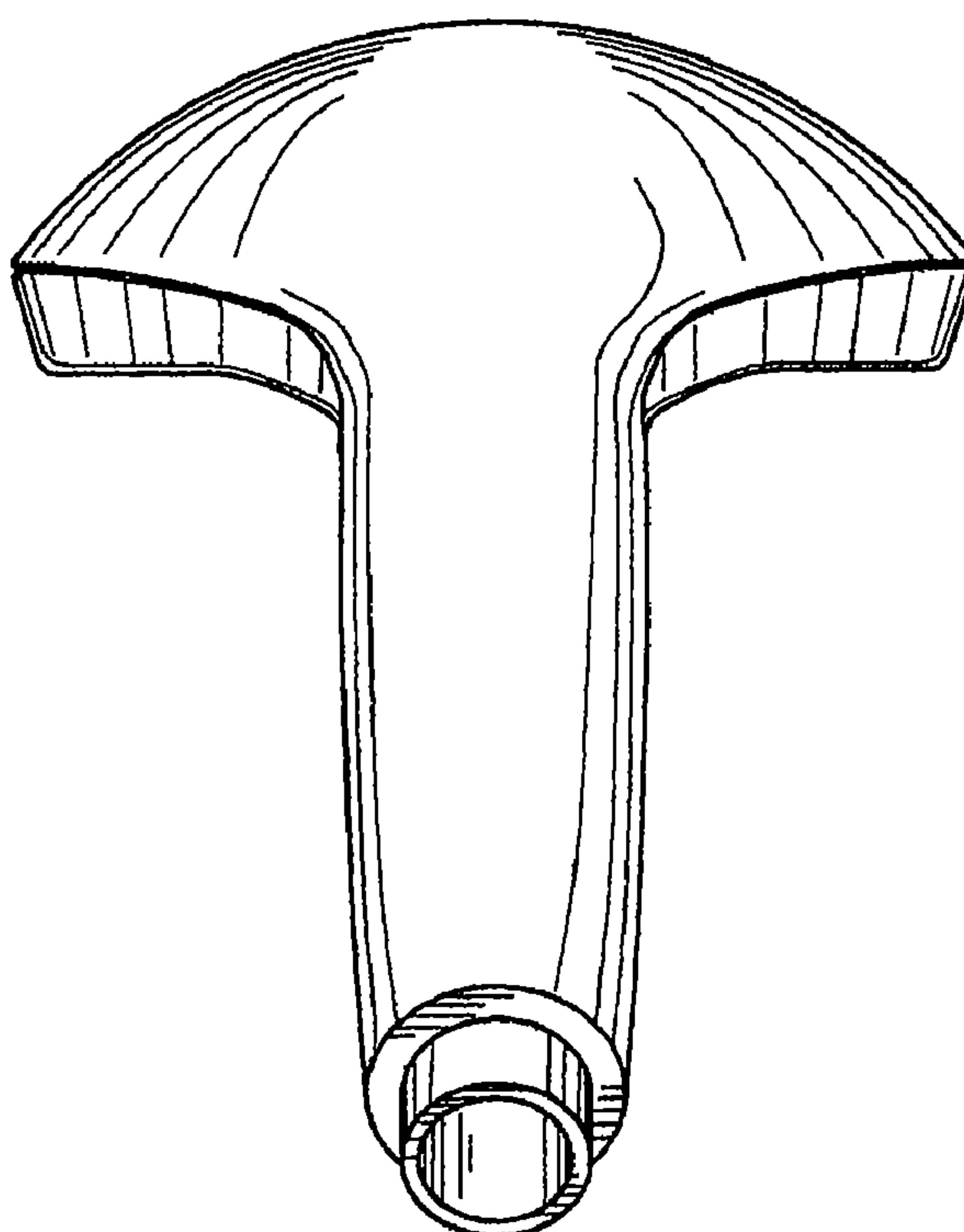
**Fig. 3**



**Fig. 4**



**Fig. 5**



**Fig. 6**