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Lombardi et al.

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(54) **FEMALE QUICK CONNECT FITTING**

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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

163,261	A	5/1875	Ruppenthal
185,896	A	1/1877	Curtis
187,982	A	3/1877	Pirsson et al.
200,944	A	3/1878	Smith
235,580	A	12/1880	Smith et al.
327,509	A	10/1885	Aldridge
584,008	A	6/1887	Munson
465,868	A	12/1891	List
725,421	A	4/1903	Dinkins

(Continued)

FOREIGN PATENT DOCUMENTS

DE 1868896 3/1963

(Continued)

OTHER PUBLICATIONS

Brochure, "Precision Components", Value Plastics, Inc., 2002.

(Continued)

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(57) **CLAIM**

We claim the ornamental design for a female quick connect fitting, substantially as shown and described.

DESCRIPTION

FIG. 1 is an isometric view taken from the top, front, and left side of a female quick connect fitting, in accordance with our new design.

FIG. 2 is an isometric view of the female quick connect fitting taken from the top, rear and left side.

FIG. 3 is a rear elevation view of the female quick connect fitting of FIG. 1.

FIG. 4 is a bottom plan view of the female quick connect fitting of FIG. 1.

FIG. 5 is a front elevation view of the female quick connect fitting of FIG. 1.

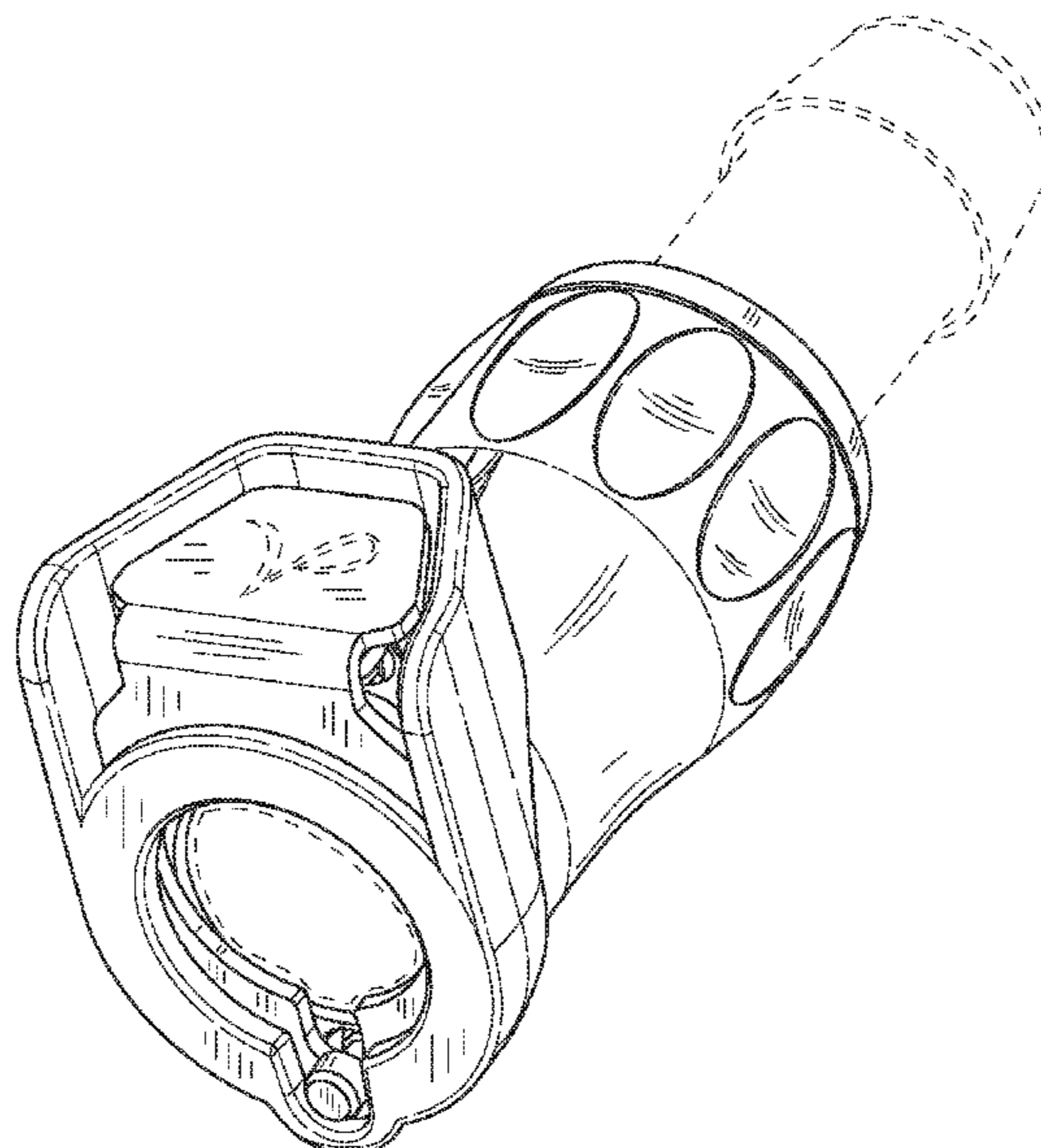
FIG. 6 is a left side elevation view of the female quick connect fitting of FIG. 1.

FIG. 7 is a right side elevation view of the female quick connect fitting of FIG. 1.

FIG. 8 is a top plan view of the female quick connect fitting of FIG. 1; and,

FIG. 9 is a top plan view of the female quick connect fitting of FIG. 1, showing an alternate environment in which the broken line barb end is shown for use with alternatively sized tubing. The broken lines shown in the drawings are for purposes of illustrating use and environment only and form no part of the claimed design.

1 Claim, 9 Drawing Sheets



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U.S. PATENT DOCUMENTS							
727,982	A	5/1903	Ludwig	3,237,974	A	3/1966	Press
874,957	A	12/1907	Godley	3,245,703	A	4/1966	Manly
884,461	A	4/1908	Browne	3,276,799	A	10/1966	Moore et al.
909,131	A	1/1909	Antic	3,279,497	A	10/1966	Norton et al.
951,889	A	3/1910	Teuer	3,314,696	A	4/1967	Ferguson et al.
1,029,819	A	6/1912	Nylander	3,317,214	A	5/1967	Durgom
1,033,187	A	7/1912	Metzger	D209,166	S	11/1967	Hunt
1,039,354	A	9/1912	Bonadio	D209,168	S	11/1967	Hunt
1,077,417	A	11/1913	McCracken	3,352,576	A	11/1967	Thomas
1,078,112	A	11/1913	Storm	3,382,892	A	5/1968	Cerbin
1,115,945	A	11/1914	Kunz	3,403,930	A	10/1968	Bernier
1,193,446	A	8/1916	Wells	3,432,176	A	3/1969	Valenziano
1,239,345	A	9/1917	Brown	3,448,760	A	6/1969	Cranage
1,255,847	A	2/1918	Arkin	3,450,424	A	6/1969	Calisher
1,259,684	A	3/1918	Vinten	3,512,808	A	5/1970	Graham
1,489,310	A	4/1924	Critchlow	3,523,701	A	8/1970	Graham
1,526,218	A	2/1925	Johnson	3,538,940	A	11/1970	Graham
1,578,504	A	3/1926	Bronson et al.	3,542,338	A	11/1970	Scaramucci
1,587,079	A	6/1926	Machino	3,545,490	A	12/1970	Burrus
1,767,073	A	6/1930	Ingold	3,550,626	A	12/1970	Daniels et al.
1,863,360	A	6/1932	Weatherhead	3,560,027	A	2/1971	Graham
1,950,947	A	3/1934	Mulroyan	3,563,265	A	2/1971	Graham
2,023,428	A	12/1935	Liebhardt	3,574,314	A	4/1971	Quercia
2,056,524	A	10/1936	Johnson	3,588,149	A	6/1971	Demler
2,066,473	A	1/1937	Jorgensen	3,596,933	A	8/1971	Luckenbill
2,097,628	A	11/1937	Liebhardt	3,599,843	A	8/1971	Johnston
2,099,335	A	11/1937	Hansen	3,600,917	A	8/1971	Krock
2,108,714	A	2/1938	Hirsch et al.	3,666,297	A	5/1972	Marks
2,116,705	A	5/1938	Marx et al.	3,690,336	A	9/1972	Drum
2,139,745	A	12/1938	Goodall	3,712,583	A	1/1973	Martindale et al.
2,147,355	A	2/1939	Scholtes	3,747,964	A	7/1973	Nilsen
2,159,116	A	5/1939	Zacharias	3,750,238	A	8/1973	Tanner
2,211,147	A	8/1940	Miller	3,815,887	A	6/1974	Curtis et al.
2,257,321	A	9/1941	Arnold	3,817,561	A	6/1974	Kay
2,263,293	A	11/1941	Ewald	3,829,135	A	8/1974	Forni
2,264,815	A	12/1941	Thomsen	3,876,234	A	4/1975	Harms
2,340,119	A	1/1944	Graham	3,889,710	A	6/1975	Brost
2,346,445	A	4/1944	Merker et al.	3,899,200	A	8/1975	Gamble
2,352,728	A	7/1944	Merker et al.	3,921,656	A	11/1975	Meisenheimer, Jr. et al.
2,429,782	A	10/1947	Versoy	3,979,934	A	9/1976	Isemann
2,432,946	A	12/1947	Theunissen	3,990,674	A	11/1976	Schattenberg
2,470,800	A	5/1949	Ashton	4,025,049	A	5/1977	Schmidt
2,479,499	A	8/1949	Le Clair	4,039,213	A	8/1977	Walters
2,500,720	A	3/1950	Van der Heem	4,072,330	A	2/1978	Brysch
2,507,536	A	5/1950	Goodson	4,099,748	A	7/1978	Kavick
2,516,583	A	7/1950	Moore	4,113,627	A	9/1978	Leason
2,535,740	A	12/1950	Knopp	4,129,145	A	12/1978	Wynn
2,577,009	A	12/1951	Frantz	4,142,546	A	3/1979	Sandau
2,626,974	A	1/1953	Howard et al.	D252,470	S	7/1979	Pawlak
2,630,131	A	3/1953	Snyder	4,181,149	A	1/1980	Cox
2,661,018	A	12/1953	Snyder	4,182,519	A	1/1980	Wilson
2,701,147	A	2/1955	Summerville	D254,505	S	3/1980	Parsons et al.
2,722,399	A	11/1955	Oetiker	4,200,605	A	4/1980	Imamura
2,753,195	A	7/1956	Palmer	D255,145	S	5/1980	Nederman
2,774,616	A	12/1956	Dodd et al.	4,220,360	A	9/1980	Jacek et al.
2,790,571	A	4/1957	Flaith et al.	D258,526	S	3/1981	Nederman
2,864,628	A	12/1958	Edleson	4,253,687	A	3/1981	Maples
2,915,325	A	12/1959	Foster	D259,278	S	5/1981	McCaw et al.
2,926,934	A	3/1960	Gill	4,271,865	A	6/1981	Galloway et al.
2,931,668	A	4/1960	Baley	4,282,175	A	8/1981	Volgstadt et al.
2,937,892	A	5/1960	Prescott, Jr.	4,287,644	A	9/1981	Durand
2,948,553	A	8/1960	Gill et al.	4,294,285	A	10/1981	Joslyn
2,967,067	A	1/1961	Singer	4,296,949	A	10/1981	Muetterties et al.
2,991,090	A	7/1961	De Cenzo	4,319,774	A	3/1982	Kavick
3,017,203	A	1/1962	Macleod	4,330,010	A	5/1982	Drescher et al.
3,037,497	A	6/1962	Roberson	4,330,142	A	5/1982	Paini
3,046,028	A	7/1962	Nathan	4,331,175	A	5/1982	Brake et al.
3,048,415	A	8/1962	Shook	4,331,177	A	5/1982	Makishima
3,073,342	A	1/1963	Magorien	4,340,200	A	7/1982	Stegmeier
3,078,068	A	2/1963	Romney	4,345,786	A	8/1982	Egert
D196,473	S	10/1963	Hill	4,346,703	A	8/1982	Dennehey
3,124,157	A	3/1964	Krzewina	4,351,351	A	9/1982	Flory et al.
3,129,020	A	4/1964	Bujnowski	4,366,816	A	1/1983	Bayard et al.
3,171,196	A	3/1965	Helitas	4,393,548	A	7/1983	Herb
3,191,628	A	6/1965	Kirkwood et al.	4,397,442	A	8/1983	Larkin
3,217,400	A	11/1965	Illesy et al.	4,407,526	A	10/1983	Cicenas
3,217,771	A	11/1965	Beall et al.	4,431,031	A	2/1984	Ettlinger
3,227,380	A	1/1966	Pinkston	4,431,218	A	2/1984	Paul
				4,434,121	A	2/1984	Schaper

US D654,573 S

4,436,125 A	3/1984	Blenkush	5,106,127 A	4/1992	Briet
4,437,689 A	3/1984	Goebel et al.	D326,155 S	5/1992	Boehringer et al.
4,439,188 A	3/1984	Dennehey	5,110,163 A	5/1992	Benson et al.
4,458,719 A	7/1984	Strybel	5,112,084 A	5/1992	Washizu
4,489,914 A	12/1984	Stevenson et al.	5,114,250 A	5/1992	Usui
4,489,961 A	12/1984	Laidig	D326,715 S	6/1992	Schmidt
4,500,118 A	2/1985	Blenkush	5,123,677 A	6/1992	Kreczko et al.
4,527,745 A	7/1985	Butterfield et al.	5,143,381 A	9/1992	Temple
4,541,457 A	9/1985	Blenkush	5,160,177 A	11/1992	Washizu
4,541,657 A	9/1985	Smyth	5,160,474 A	11/1992	Huff
4,553,587 A	11/1985	Traylor	5,165,733 A	11/1992	Sampson
D282,962 S	3/1986	Gerber	5,169,161 A	12/1992	Jones
4,580,816 A	4/1986	Campbell et al.	D332,482 S	1/1993	Petty et al.
4,603,888 A	8/1986	Goodall et al.	5,176,406 A	1/1993	Straghan
4,603,890 A	8/1986	Huppee	5,178,303 A	1/1993	Blenkush et al.
4,613,112 A	9/1986	Philipot et al.	5,181,752 A	1/1993	Benson et al.
4,616,859 A *	10/1986	Brunet 285/317	D333,178 S	2/1993	Novy
4,626,001 A	12/1986	Lee	5,190,224 A	3/1993	Hamilton
4,630,847 A	12/1986	Blenkush	5,222,279 A	6/1993	Frano et al.
4,632,436 A	12/1986	Kimura	5,228,724 A	7/1993	Godeau
4,635,972 A	1/1987	Lyll	5,232,020 A	8/1993	Mason et al.
4,658,326 A	4/1987	Clark et al.	D339,417 S	9/1993	Sampson et al.
4,659,116 A	4/1987	Cameron	5,251,025 A	10/1993	Cooper et al.
4,694,544 A	9/1987	Chapman	5,273,053 A	12/1993	Pohndorf
4,699,298 A	10/1987	Grant et al.	5,297,826 A	3/1994	Percebois et al.
4,700,926 A	10/1987	Hansen	5,316,041 A	5/1994	Ramacier, Jr. et al.
4,703,957 A	11/1987	Blenkush	5,318,332 A	6/1994	Hohmann et al.
4,706,847 A	11/1987	Sankey et al.	5,330,235 A	7/1994	Wagner et al.
4,712,280 A	12/1987	Fildan	5,348,051 A	9/1994	Kallenbach
4,733,890 A	3/1988	Vyse	5,348,354 A	9/1994	Badoureaux
4,738,401 A	4/1988	Filicicchia	5,353,836 A	10/1994	deCler et al.
4,753,268 A	6/1988	Palau	5,356,183 A	10/1994	Cole
4,768,558 A	9/1988	Weber	5,374,088 A	12/1994	Moretti et al.
4,776,067 A	10/1988	Sorensen	5,385,311 A	1/1995	Morikawa et al.
4,790,567 A	12/1988	Kawano et al.	5,385,331 A	1/1995	Allread et al.
4,790,569 A	12/1988	Chaffee	D357,307 S *	4/1995	Ramacier et al. D23/262
4,792,115 A	12/1988	Jindra et al.	5,405,333 A	4/1995	Richmond
4,793,637 A	12/1988	Laipply et al.	5,405,339 A	4/1995	Kohnen et al.
D300,361 S	3/1989	Tokarz	5,405,340 A	4/1995	Fageol et al.
4,824,148 A	4/1989	Grabowski	5,411,300 A	5/1995	Mitsui
4,827,921 A	5/1989	Rugheimer	5,417,442 A	5/1995	Jornhagen
4,832,237 A	5/1989	Hurford, Jr.	5,421,622 A	6/1995	Godeau
4,834,423 A	5/1989	DeLand	5,437,650 A	8/1995	Larkin et al.
4,844,512 A *	7/1989	Gahwiler 285/39	5,462,313 A	10/1995	Rea et al.
4,863,201 A	9/1989	Carstens	5,494,074 A	2/1996	Ramacier, Jr. et al.
4,863,202 A	9/1989	Oldford	D369,409 S	4/1996	Salter
4,896,402 A	1/1990	Jansen et al.	5,507,733 A	4/1996	Larkin et al.
4,900,065 A	2/1990	Houck	5,511,527 A	4/1996	Lorraine et al.
4,903,995 A	2/1990	Blenkush et al.	D372,093 S	7/1996	Sampson et al.
4,923,228 A	5/1990	Laipply et al.	5,536,258 A	7/1996	Folden
4,928,859 A	5/1990	Krahn et al.	5,542,712 A	8/1996	Klinger et al.
4,928,999 A	5/1990	Landriault et al.	5,547,166 A	8/1996	Engdahl
4,934,655 A	6/1990	Blenkush et al.	5,547,230 A	8/1996	Bank et al.
4,935,992 A	6/1990	Due	5,553,895 A	9/1996	Karl et al.
4,946,200 A	8/1990	Blenkush et al.	D375,160 S	10/1996	Sampson et al.
4,946,204 A	8/1990	Boticki	5,568,946 A	10/1996	Jackowski
4,949,745 A	8/1990	McKeon	5,595,217 A	1/1997	Gillen et al.
4,966,398 A	10/1990	Peterson	5,601,317 A	2/1997	Crouse et al.
4,969,879 A	11/1990	Lichte	5,607,190 A	3/1997	Hutchinson
D313,067 S	12/1990	Kotake et al.	5,617,609 A	4/1997	Bently
D313,277 S	12/1990	Haining	5,620,025 A	4/1997	Lewin
D314,050 S	1/1991	Sone	5,628,726 A	5/1997	Cotter
D314,233 S *	1/1991	Medvick D23/262	D380,262 S	6/1997	Van Funderburk et al.
4,982,736 A	1/1991	Schneider	5,639,064 A	6/1997	deCler et al.
4,991,880 A	2/1991	Bernart	D382,639 S	8/1997	Musgrave et al.
5,009,252 A	4/1991	Faughn	D384,731 S	10/1997	Ramacier, Jr. et al.
5,015,014 A	5/1991	Sweeney	5,681,062 A	10/1997	Fukao et al.
5,029,908 A	7/1991	Belisaire	5,682,662 A	11/1997	Coules et al.
5,033,777 A	7/1991	Blenkush	5,683,117 A	11/1997	Corbett et al.
D319,312 S	8/1991	Schneider	D387,147 S *	12/1997	Vandermast et al. D23/262
5,052,725 A	10/1991	Meyer et al.	5,695,223 A	12/1997	Boticki
5,074,601 A *	12/1991	Spors et al. 285/308	D388,876 S	1/1998	Sampson
5,076,615 A	12/1991	Sampson	5,709,244 A	1/1998	Patriquin et al.
5,078,429 A	1/1992	Braut et al.	5,725,258 A *	3/1998	Kujawski 285/308
5,085,472 A	2/1992	Guest	5,737,810 A	4/1998	Krauss
5,090,448 A	2/1992	Truchet	5,745,957 A	5/1998	Khokhar et al.
5,090,747 A	2/1992	Kotake	5,746,414 A	5/1998	Weldon et al.
5,094,482 A	3/1992	Petty et al.	5,762,646 A	6/1998	Cotter
5,104,158 A	4/1992	Meyer et al.	5,784,750 A	7/1998	Sankovic et al.

US D654,573 S

5,799,987 A	9/1998	Sampson	6,485,483 B1	11/2002	Fujii
5,820,614 A	10/1998	Erskine et al.	6,505,866 B1	1/2003	Nakamura et al.
5,837,180 A	11/1998	Linder et al.	6,508,807 B1	1/2003	Peters
5,845,943 A	12/1998	Ramacier, Jr. et al.	6,520,546 B2 *	2/2003	Szabo 285/308
5,855,568 A	1/1999	Battiato et al.	D471,261 S	3/2003	Kozu
5,879,033 A	3/1999	Hansel et al.	6,540,263 B1	4/2003	Sausner
5,882,047 A	3/1999	Ostrander et al.	6,543,745 B1	4/2003	Enerson
5,884,531 A	3/1999	Koenig	6,595,964 B2	7/2003	Finley et al.
D407,803 S	4/1999	Redman	6,609,696 B2	8/2003	Enerson
5,897,142 A	4/1999	Kulevsky	6,612,634 B1	9/2003	Zoppas
5,911,367 A	6/1999	McInerney	6,626,419 B2	9/2003	DeCler et al.
5,911,403 A	6/1999	deCler et al.	6,626,465 B2	9/2003	Lacroix et al.
5,911,404 A	6/1999	Cheng	D481,125 S	10/2003	Hayamizu
5,930,424 A	7/1999	Heimberger et al.	6,641,177 B1	11/2003	Pinciario
5,937,501 A	8/1999	Imgram	6,649,829 B2	11/2003	Garber et al.
5,938,244 A	8/1999	Meyer	6,652,007 B1	11/2003	Hwang
5,941,577 A	8/1999	Musellec	D484,241 S	12/2003	Peters et al.
D413,967 S *	9/1999	Yuen D23/262	6,669,681 B2	12/2003	Jepson et al.
5,957,898 A	9/1999	Jepson et al.	6,676,172 B2	1/2004	Alksnis
5,961,157 A	10/1999	Baron et al.	D486,909 S	2/2004	Cise et al.
5,964,485 A	10/1999	Hame et al.	6,688,654 B2 *	2/2004	Romero 285/308
5,965,077 A	10/1999	Rowley et al.	6,692,038 B2	2/2004	Braun
5,975,489 A	11/1999	deCler et al.	6,695,817 B1	2/2004	Fangrow
5,984,378 A	11/1999	Ostrander et al.	6,705,591 B2	3/2004	deCler
5,988,704 A	11/1999	Ryhman	6,722,705 B2	4/2004	Korkor
6,012,743 A	1/2000	Godeau et al.	6,722,708 B2	4/2004	Morohoshi et al.
6,015,171 A	1/2000	Schorn	6,762,365 B2	7/2004	Inoue et al.
D419,861 S	2/2000	Khokhar	6,767,017 B2	7/2004	Crapart et al.
6,019,348 A	2/2000	Powell	D495,050 S	8/2004	Guala
6,024,124 A	2/2000	Braun et al.	6,783,520 B1	8/2004	Candray et al.
6,029,701 A	2/2000	Chaffardon et al.	D497,428 S	10/2004	Hayamizu
6,032,691 A	3/2000	Powell et al.	6,799,747 B1	10/2004	Lai
6,041,805 A	3/2000	Gydesen et al.	6,814,726 B1	11/2004	Lauer
D422,487 S	4/2000	Khokhar	6,840,277 B1	1/2005	Nimberger
6,050,297 A	4/2000	Ostrowski et al.	6,846,021 B2	1/2005	Rohde et al.
6,076,234 A	6/2000	Khokhar et al.	6,848,602 B2	2/2005	deCler et al.
6,077,245 A	6/2000	Heinrich et al.	6,848,723 B2	2/2005	Lamich
6,077,259 A	6/2000	Caizza et al.	6,863,314 B2	3/2005	Guest
6,082,401 A	7/2000	Braun et al.	6,871,669 B2	3/2005	Meyer et al.
6,086,044 A	7/2000	Guest	6,871,878 B2	3/2005	Miros
6,089,540 A	7/2000	Heinrichs et al.	D503,778 S	4/2005	Wicks
6,099,045 A	8/2000	Pirona	6,886,803 B2	5/2005	Mikiya et al.
6,112,855 A	9/2000	Camacho et al.	6,897,374 B2	5/2005	Garber et al.
6,123,690 A	9/2000	Mejslov	6,899,315 B2	5/2005	Maiville et al.
6,135,150 A	10/2000	Powell et al.	6,902,144 B2	6/2005	deCler
6,135,992 A	10/2000	Wang	D507,647 S	7/2005	Beck et al.
6,142,538 A	11/2000	Volgstadt et al.	6,916,007 B2	7/2005	deCler et al.
6,145,896 A	11/2000	Vitel et al.	6,916,050 B2	7/2005	Milhas
6,152,914 A	11/2000	Van De Kerkhof et al.	6,926,311 B2	8/2005	Chang et al.
6,155,610 A	12/2000	Godeau et al.	6,929,246 B2	8/2005	Arzenton et al.
6,161,578 A	12/2000	Braun et al.	6,945,273 B2	9/2005	Reid
6,176,523 B1	1/2001	Winslett	6,949,084 B2	9/2005	Marggi et al.
6,182,694 B1	2/2001	Sievers et al.	6,962,275 B2	11/2005	deCler et al.
6,189,560 B1	2/2001	Reynolds	6,978,800 B2	12/2005	deCler et al.
6,199,915 B1	3/2001	Becker	6,981,547 B2	1/2006	Maguire et al.
6,199,919 B1	3/2001	Kawasaki et al.	6,997,486 B2	2/2006	Milhas
6,199,920 B1	3/2001	Neustadtl	6,997,919 B2	2/2006	Olsen et al.
6,221,064 B1	4/2001	Nadal	7,005,581 B2	2/2006	Burnette
6,231,089 B1	5/2001	DeCler et al.	7,011,342 B2	3/2006	Guivarc'h et al.
D444,054 S	6/2001	Bernard et al.	7,014,214 B2	3/2006	Kaneko
6,250,688 B1	6/2001	Kirby	D522,109 S	5/2006	White et al.
6,257,626 B1	7/2001	Campau	7,044,161 B2	5/2006	Tiberghien
6,260,851 B1	7/2001	Baron	7,044,506 B2 *	5/2006	Dong 285/319
6,261,282 B1	7/2001	Jepson et al.	D523,553 S	6/2006	Beck et al.
6,293,596 B1	9/2001	Kinder	7,080,665 B2	7/2006	Whall
6,296,796 B1	10/2001	Gordon	7,081,223 B2	7/2006	Khoury
6,302,147 B1	10/2001	Rose et al.	7,108,297 B2 *	9/2006	Takayanagi et al. 285/319
6,318,764 B1	11/2001	Trede et al.	7,118,138 B1	10/2006	Rowley et al.
6,344,033 B1	2/2002	Jepson et al.	7,128,348 B2	10/2006	Kawamura et al.
6,382,593 B1	5/2002	deCler et al.	7,137,654 B2	11/2006	Segal et al.
D459,206 S	6/2002	Caveney et al.	7,140,592 B2	11/2006	Phillips
6,402,207 B1	6/2002	Segal et al.	7,147,252 B2	12/2006	Teuscher et al.
6,422,574 B1	7/2002	Mooklar	7,150,478 B2	12/2006	Poirier et al.
6,423,053 B1	7/2002	Lee	7,153,296 B2	12/2006	Mitchell
6,439,620 B1	8/2002	Guest	7,163,022 B2	1/2007	Whall
6,454,314 B1	9/2002	Grosspietsch et al.	D540,944 S	4/2007	Guala
6,481,758 B1	11/2002	Andre et al.	7,210,917 B2	5/2007	Lai et al.
6,481,759 B1	11/2002	Kawasaki et al.	D547,446 S	7/2007	Racz et al.
6,485,064 B1	11/2002	Davidson	D550,355 S	9/2007	Racz et al.

US D654,573 S

D557,409 S	12/2007	Veliss et al.	2005/0242579 A1	11/2005	Bright et al.
7,316,428 B2	1/2008	Takayanagi et al.	2005/0275220 A1	12/2005	Shu
D564,660 S	3/2008	Hayashi	2006/0066100 A1	3/2006	Nakashima et al.
7,343,931 B2	3/2008	Packham	2006/0152003 A1	7/2006	Slunick et al.
D567,340 S	4/2008	Tiberghien	2006/0264814 A1	11/2006	Sage
7,352,771 B2	4/2008	Garber	2006/0293629 A1	12/2006	Cote, Sr. et al.
D569,507 S	5/2008	Blanchard	2007/0025811 A1	2/2007	Wilhelm
D569,955 S *	5/2008	Chen D23/262	2007/0029795 A1	2/2007	Moner et al.
7,377,553 B2	5/2008	Takayanagi	2007/0029796 A1*	2/2007	Bibby 285/308
D570,457 S *	6/2008	Brown D23/262	2007/0106213 A1	5/2007	Spera et al.
7,390,029 B2 *	6/2008	Matsubara 285/321	2007/0137718 A1	6/2007	Rushlander et al.
7,394,375 B2	7/2008	Johnson	2007/0169825 A1	7/2007	Packham et al.
7,434,842 B2	10/2008	Schmidt	2007/0209716 A1	9/2007	Rankin
7,434,846 B2	10/2008	Baumgartner	2007/0284875 A1	12/2007	Salomon-Bahls et al.
7,448,653 B2	11/2008	Jensen et al.	2008/0007051 A1	1/2008	Jensen et al.
7,464,970 B2	12/2008	Yamada et al.	2008/0011703 A1	1/2008	Schmeisser et al.
7,467,813 B2	12/2008	Gunderson	2008/0012314 A1	1/2008	Harger et al.
7,469,472 B2	12/2008	DeCler et al.	2008/0018105 A1	1/2008	Le Bars
7,478,840 B2	1/2009	Youssefifar	2008/0048448 A1	2/2008	Jamison et al.
7,488,446 B2	2/2009	Meyer et al.	2008/0078464 A1	4/2008	Loewe
7,494,156 B2	2/2009	Okada	2008/0111371 A1	5/2008	Feger et al.
7,503,595 B2	3/2009	McKay	2008/0111372 A1	5/2008	Trede et al.
7,516,990 B2	4/2009	Jamison et al.	2008/0129047 A1	6/2008	Blivet et al.
7,546,857 B2	6/2009	Chadbourne et al.	2008/0164694 A1	7/2008	Zdroik et al.
7,547,047 B2	6/2009	deCler et al.	2008/0191466 A1	8/2008	Knipple et al.
D595,845 S	7/2009	Mros et al.	2008/0200901 A1	8/2008	Rasmussen et al.
D595,846 S	7/2009	Racz et al.	2008/0277923 A1	11/2008	Brandt et al.
D596,288 S	7/2009	Racz et al.	2008/0277924 A1	11/2008	Jensen et al.
D596,739 S	7/2009	Ng et al.	2008/0284167 A1	11/2008	Lim et al.
7,562,906 B2	7/2009	Schmidt	2008/0287920 A1	11/2008	Fangrow et al.
7,566,077 B2	7/2009	Tsurumi	2009/0079187 A1	3/2009	Malone
7,581,763 B2	9/2009	Salomon-Bahls	2009/0127847 A1	5/2009	Hagen et al.
D602,128 S	10/2009	Williams et al.	2009/0129047 A1	5/2009	Park et al.
7,614,666 B2	11/2009	Eggert et al.	2009/0140519 A1	6/2009	Pavnaskar et al.
7,631,660 B2	12/2009	deCler et al.	2009/0167018 A1	7/2009	Lien
7,647,954 B2	1/2010	Garber et al.	2009/0187166 A1	7/2009	Young
7,666,178 B2	2/2010	McMichael	2009/0188575 A1	7/2009	Williams et al.
D612,019 S	3/2010	Williams et al.	2009/0256355 A1	10/2009	Wicks et al.
D612,021 S	3/2010	Schmidt	2010/0001516 A1	1/2010	Pisula, Jr. et al.
7,677,608 B2 *	3/2010	Takayanagi 285/319	2010/0056975 A1	3/2010	Dale et al.
D613,853 S	4/2010	Ng et al.	2010/0078934 A1	4/2010	Matsunaga
7,695,020 B2	4/2010	Schmidt	2010/0185040 A1	7/2010	Uber, Iii et al.
7,708,025 B2	5/2010	Johnson	2010/0194100 A1	8/2010	Koch
7,731,244 B2	6/2010	Miros et al.	2010/0276922 A1	11/2010	Rehder et al.
D619,706 S	7/2010	Schon et al.	2010/0295295 A1	11/2010	Schmidt
7,841,357 B2	11/2010	Rankin	2010/0301599 A1	12/2010	Jensen et al.
D629,894 S	12/2010	Lombardi, III et al.	2010/0319796 A1	12/2010	Whitaker
7,849,877 B2	12/2010	Tan et al.	2011/0012340 A1	1/2011	Packham et al.
D630,320 S	1/2011	Lombardi, III et al.	2011/0127767 A1	6/2011	Wicks et al.
D632,783 S	2/2011	Maesarapu	2011/0204621 A1	8/2011	Whitaker et al.
D634,840 S	3/2011	Wicks et al.	2011/0204622 A1	8/2011	Lewis et al.
D639,398 S	6/2011	Wilhelm			
7,954,374 B2	6/2011	Rankin			
7,954,515 B2	6/2011	Gerst			
D642,244 S	7/2011	Wilhelm			
7,976,071 B2	7/2011	Bibby			
D645,547 S	9/2011	Lombardi, III et al.			
2001/0017466 A1	8/2001	Braun			
2002/0022762 A1	2/2002	Beane et al.			
2002/0093192 A1	7/2002	Matkovich			
2002/0140172 A1	10/2002	Platusich			
2002/0156344 A1	10/2002	Pasricha et al.			
2002/0185861 A1	12/2002	Inoue			
2003/0004397 A1	1/2003	Kameya et al.			
2003/0067162 A1	4/2003	Welsh et al.			
2003/0193188 A1	10/2003	Miros			
2003/0230894 A1	12/2003	Cleveland et al.			
2004/0021318 A1	2/2004	Fritze et al.			
2004/0195830 A1	10/2004	Gilmour			
2004/0199143 A1	10/2004	Lauer			
2004/0227346 A1	11/2004	Jamison et al.			
2004/0232696 A1	11/2004	Andre			
2005/0033237 A1	2/2005	Fentress et al.			
2005/0046184 A1	3/2005	Chang et al.			
2005/0057042 A1	3/2005	Wicks			
2005/0082828 A1	4/2005	Wicks et al.			
2005/0087981 A1	4/2005	Yamada et al.			
2005/0209583 A1	9/2005	Powers et al.			
2005/0217265 A1	10/2005	Popp et al.			
FOREIGN PATENT DOCUMENTS					
			DE	3439522	8/1985
			DE	3533000	3/1987
			DE	4122455	1/1993
			DE	19800050	7/1998
			DE	02005015343	10/2006
			EP	0360634	3/1990
			EP	0390746	10/1990
			EP	0267067	7/1991
			EP	0482277	4/1992
			EP	0592823	4/1994
			EP	0715111	6/1996
			EP	0865779	9/1998
			EP	0877891	11/1998
			EP	0890054	1/1999
			EP	0982525	3/2000
			EP	1497582	1/2005
			EP	1564469	8/2005
			EP	1843074	10/2007
			FR	2031965	11/1970
			FR	2429370	1/1980
			FR	280871	10/2001
			FR	2853043	10/2004
			FR	2870921	12/2005
			FR	2903164	1/2008
			GB	583459	12/1946
			GB	890775	3/1962

GB	2177769	1/1987
GB	2218166	11/1989
GB	2271157	4/1994
GB	2379253	3/2003
JP	53-006918	1/1978
JP	5-223189	8/1993
JP	7-145889	6/1995
JP	10-169869	6/1998
JP	11-82849	3/1999
JP	2003-42363	2/2003
JP	2003-42368	2/2003
WO	WO 93/17270	9/1993
WO	WO 95/08732	3/1995
WO	WO 00/79172	12/2000
WO	WO 2004/104466	12/2004
WO	WO 2005/064216	7/2005
WO	WO 2006/031958	3/2006
WO	WO 2006/073778	7/2006
WO	WO 2006/084171	8/2006
WO	WO 2006/135666	12/2006
WO	WO 2007/038222	4/2007
WO	WO 2007/116387	10/2007
WO	WO 2007/120620	10/2007
WO	WO 2008/023021	2/2008
WO	WO 2009/026441	2/2009

OTHER PUBLICATIONS

About Us [online], Thuro Metal Products [retrieved on Apr. 9, 2010], retrieved from the Internet: <URL: <http://www.thurometal.com/about.html>>, 2 pages.

Stainless Steel Overview: History [online], Stainless Steel Industry of North America, retrieved on Apr. 9, 2010, retrieved from the Internet: <URL: <http://www.ssina.com/overview/history.html>>, 1page.

Barbed Tee Adapter, 1/2 in to 2/8 in to 1/2 in [Item # F1728], http://www.horticulturesource.com/product_info.php/products_id/4016/language/en; dated accessed Sep. 14, 2009, 3 pages.

Capabilities [online], Jay Manufacturing Corp., retrieved on Apr. 9, 2010, retrieved from the Internet: <URL: <http://www.jaymfg.com/capabilities.htm>>, 2 pages.

Flojet "Quick Connect" Port System Adapter 90 Elbow Type Quad Port X 1/2" Hose Barb, http://www.amazon.com/Quick-Connect-Port-System-Quad-Barb-90/dp/B0000AZ771/ref=sr_1_16?s=sporting-goods&ie=UTF8&qid=1300220596&sr=1-16, date accessed Sep. 14, 2009; 3 pages.

Mills, The Process of Vacuum-forming Plastic Parts, IPFrontline.com [online], retrieved on Apr. 9, 2010, retrieved from the Internet: <URL: <http://www.ipfrontline.com/depts/article.asp?id=453&deptid=2>>, 3 pages.

Nylon, Polypropylene Kynar (PVDF) Plastic Fittings for Flexible Tubing & Hose, http://www.omega.com/pdf/tubing/fittings_tubing_hose/nylon_poly_kynar/nylon.asp; dated accessed Sep. 14, 2009, 2 pages.

Science of Hose Barbs, Colder Products Company, <http://www.pddnet.com/article-the-science-of-hose-barbs/>, date accessed Sep. 4, 2009, 6 pages.

High-Flow Quick Disconnect Couplings; http://www.coleparmer.com/catalog/product_view.asp?sku=3130355; date accessed Sep. 14, 2009, 3 pages.

Stackable Hose Barb Elbow—1/2" CTS x 1/2 ID Barb, http://www.freshwatersystems.com/p-1714-stackable-hose-barb-elbow-12-cts-x-12-id-barb.aspx?affiliated=10052&utm_source=shopzilla&utm_medium=Feed&utm_campaign=Product&utm_term=3512-1008, date accessed Sep. 14, 2009, 1 page.

U.S. Appl. No. 29/398,433, filed Jul. 29, 2011, Lombardi et al., Status Pending.

U.S. Appl. No. 29/398,437, filed Jul. 29, 2011, Cairns et al., Status Pending.

U.S. Appl. No. 29/398,440, filed Jul. 29, 2011, Lombardi et al., Status Pending.

U.S. Appl. No. 13/204,589, filed Aug. 5, 2011, Whitaker, Status Pending.

* cited by examiner

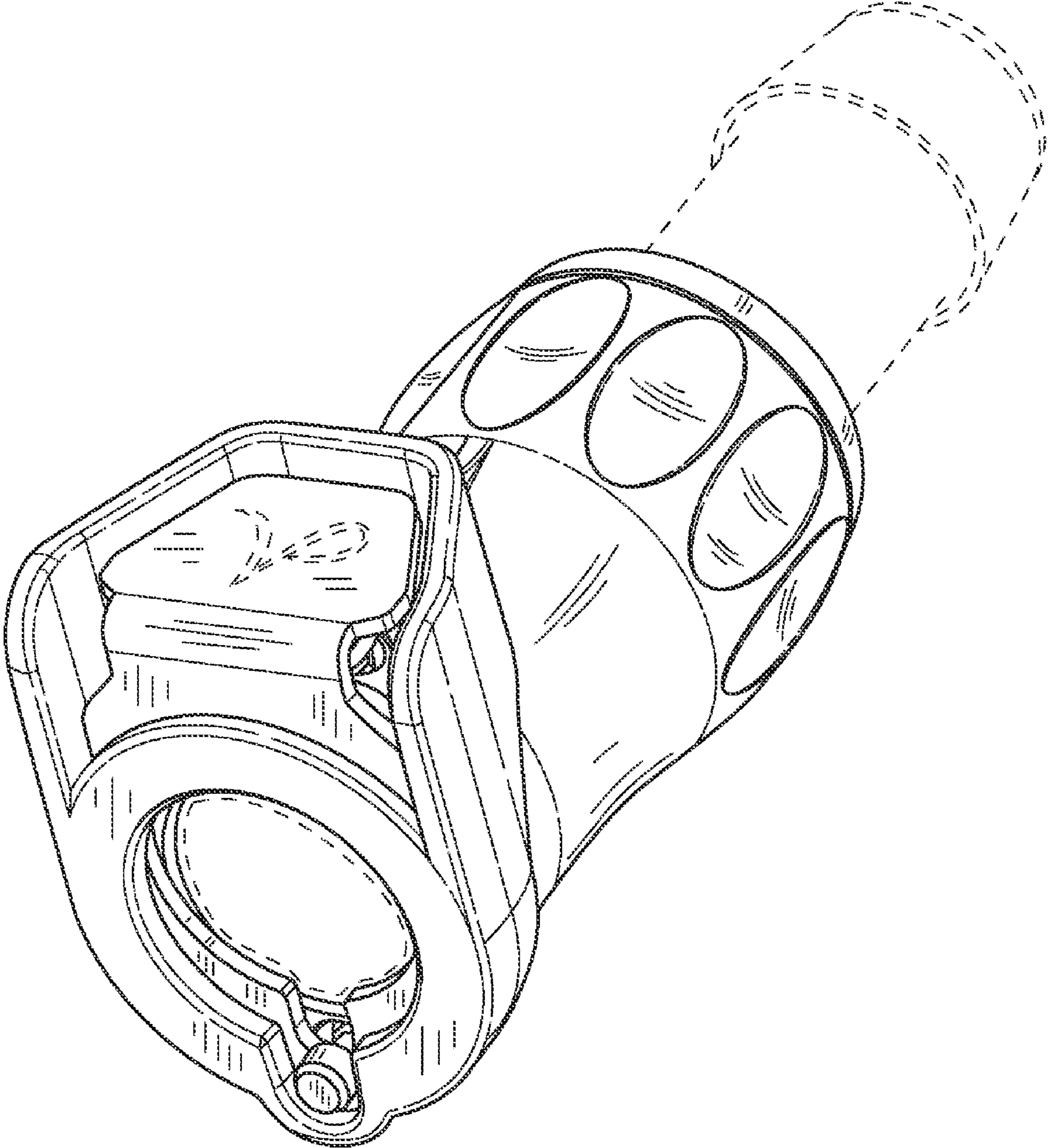


FIG.1

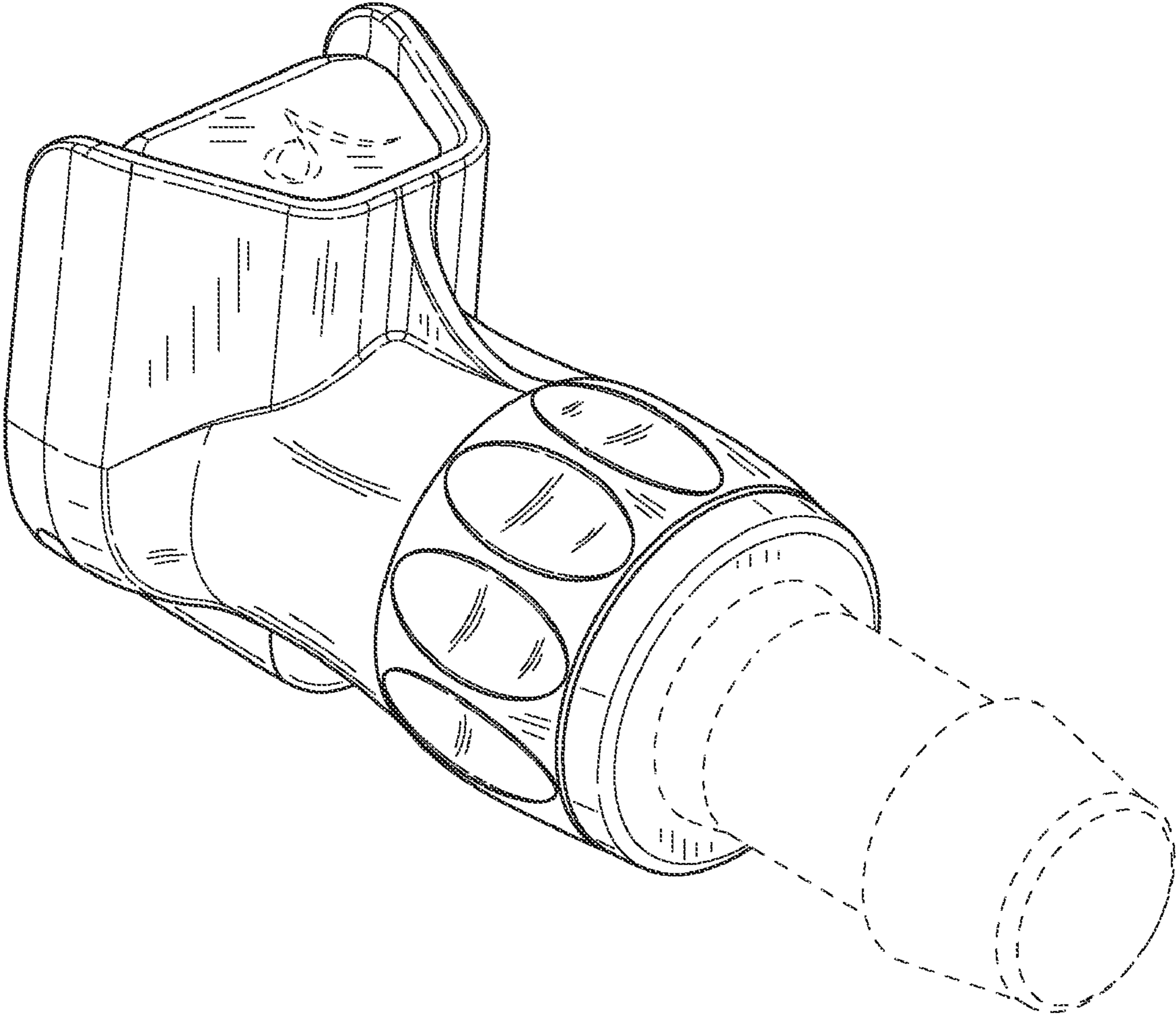


FIG.2

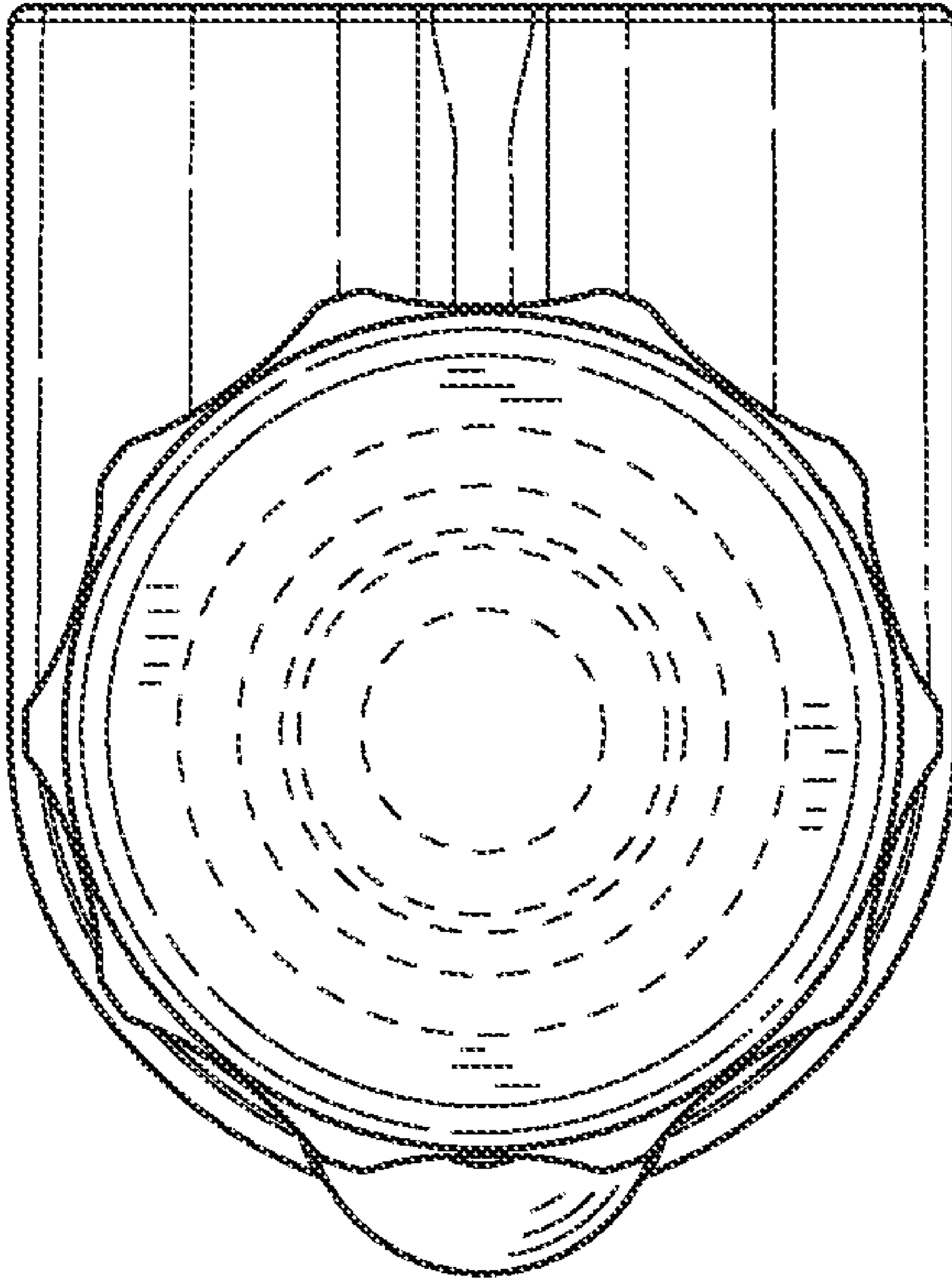


FIG. 3

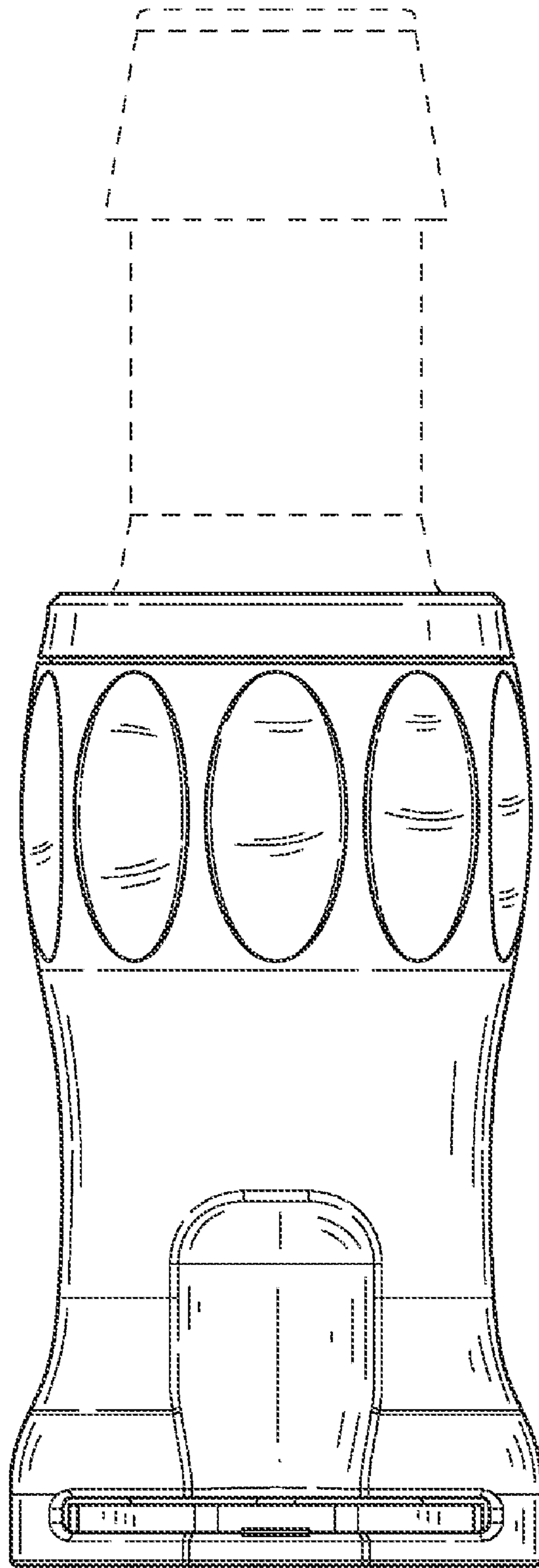


FIG. 4

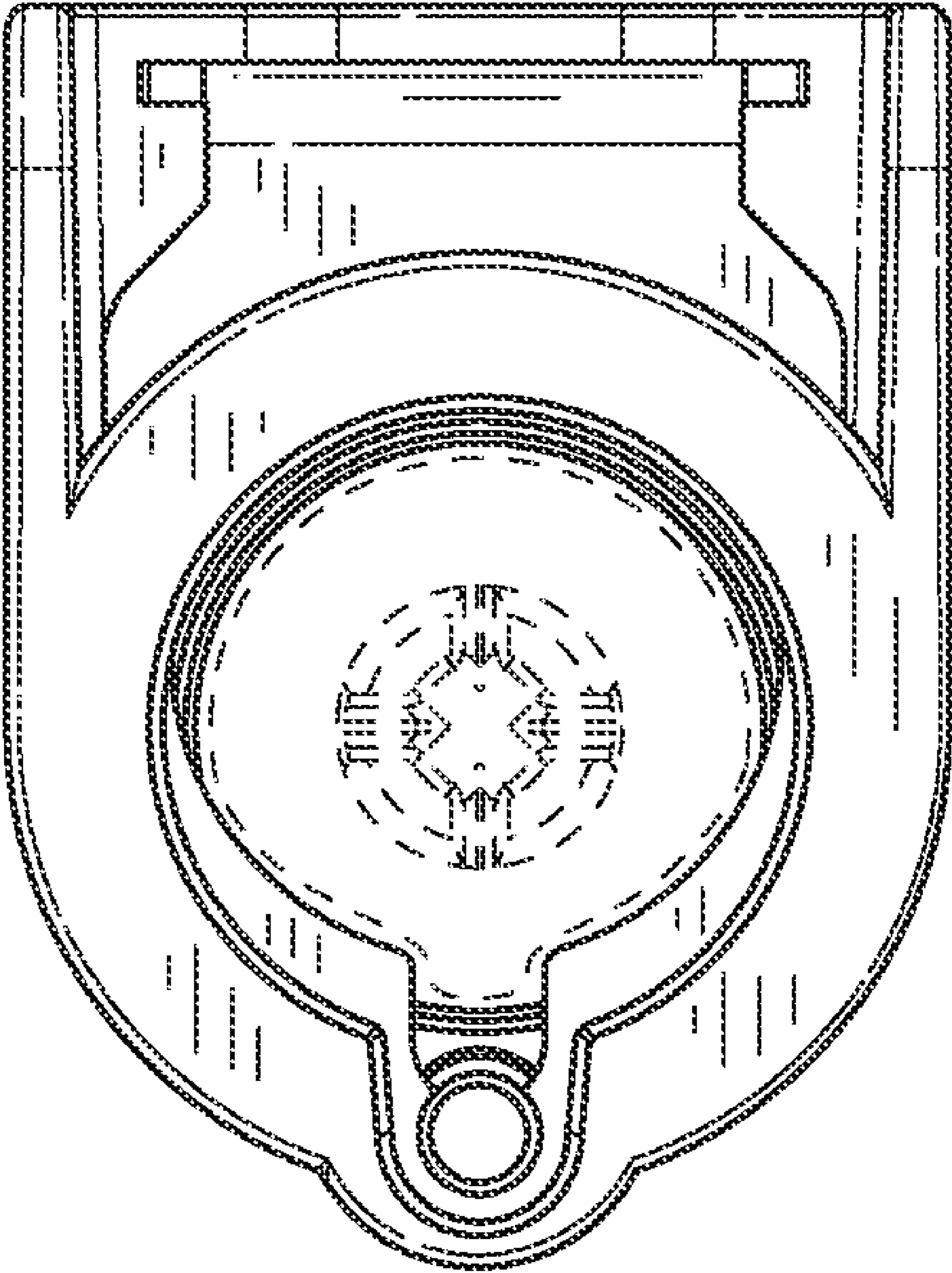


FIG. 5

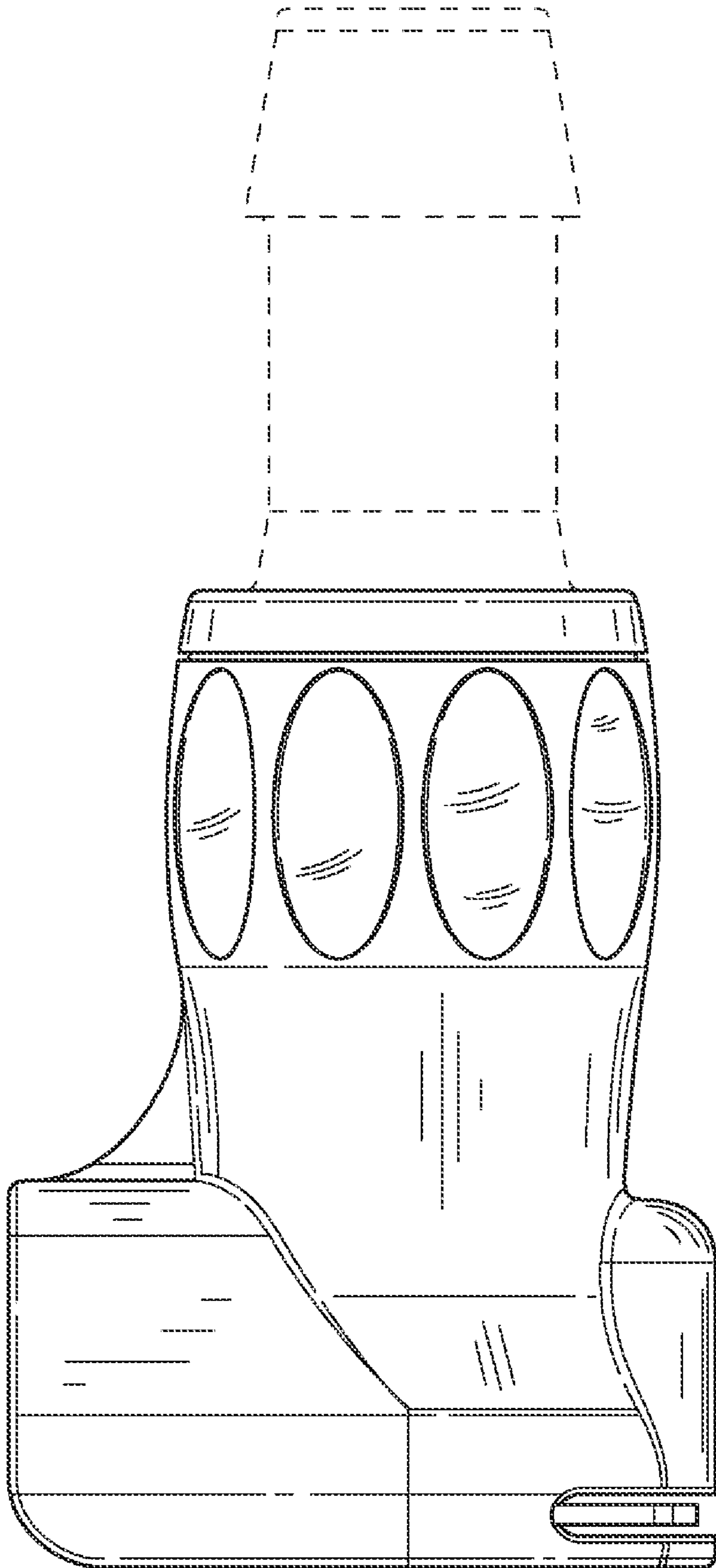


FIG. 6

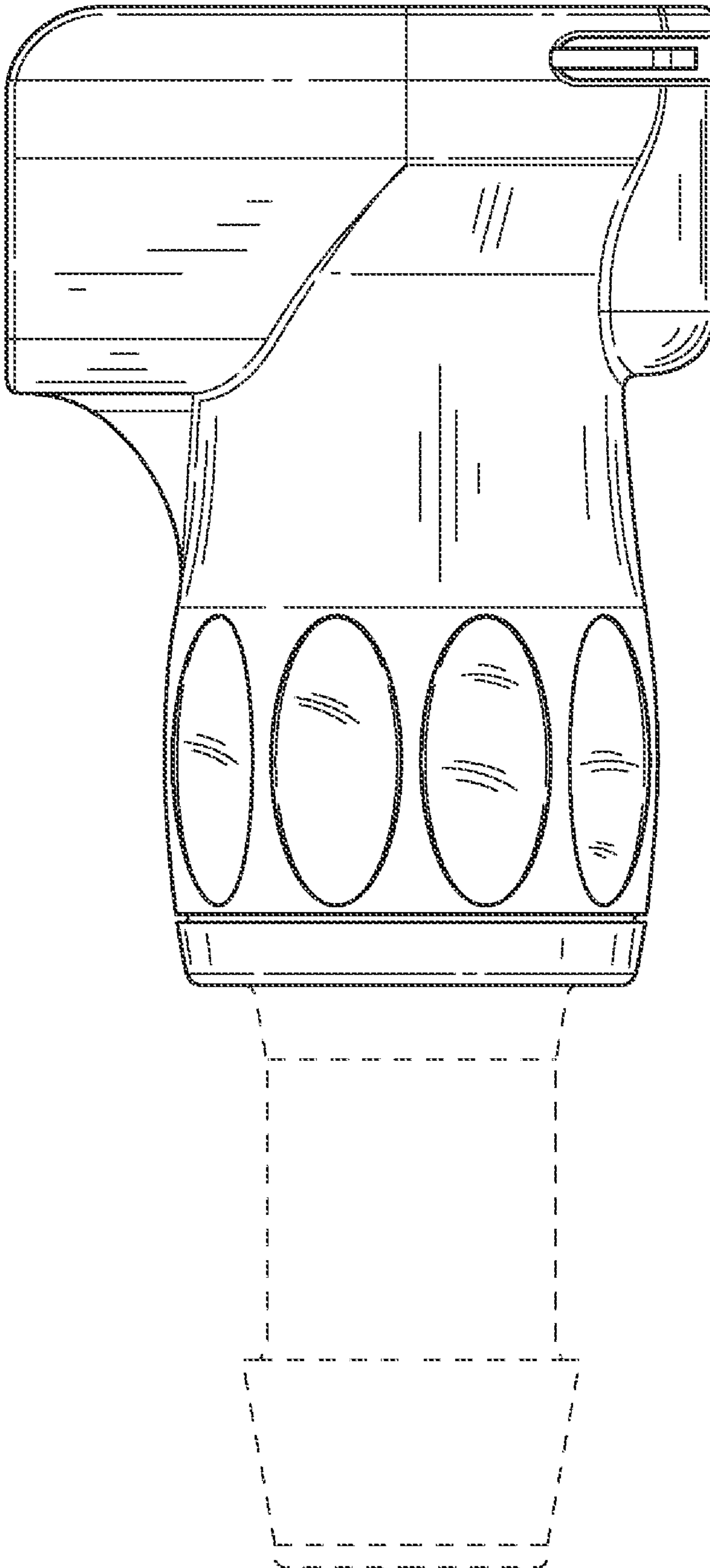


FIG. 7

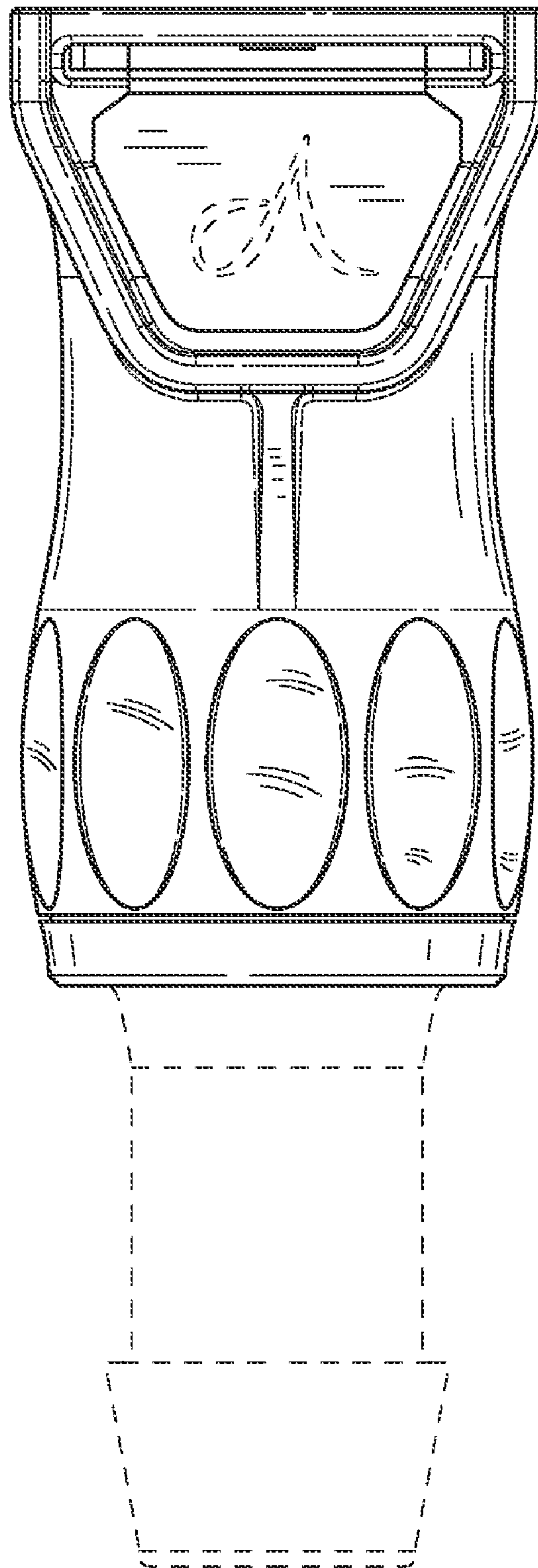


FIG.8

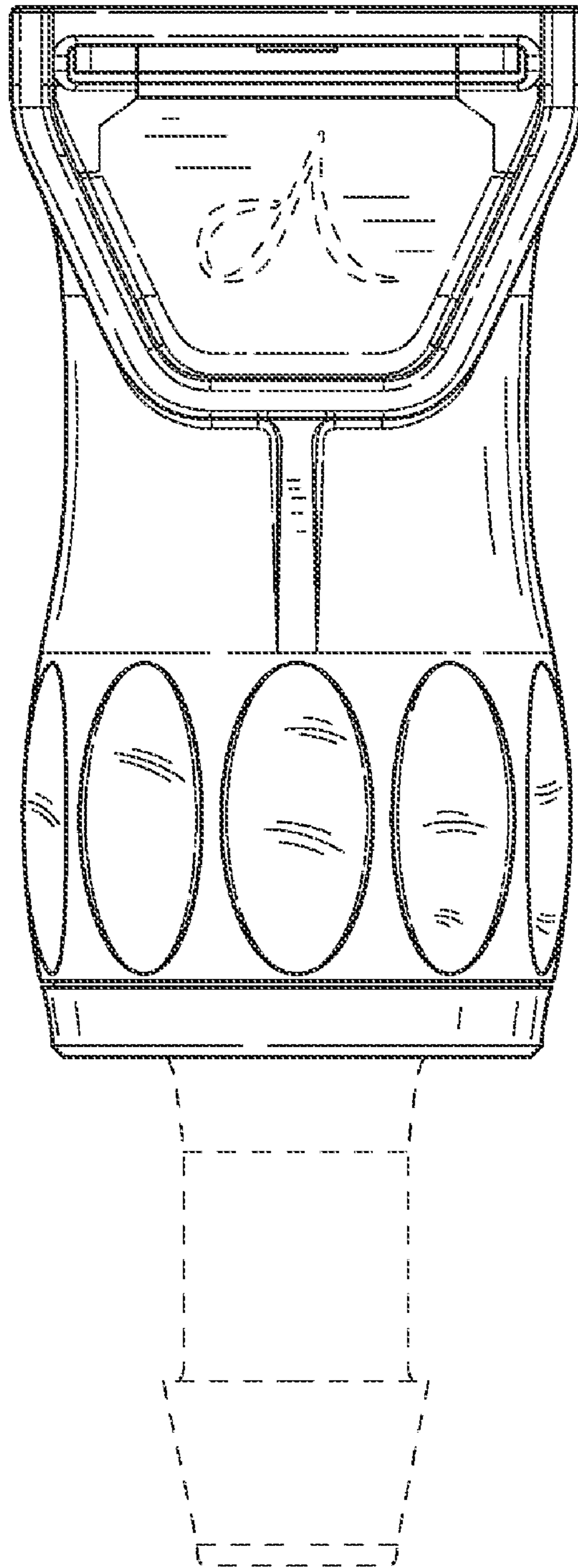


FIG.9