



US00D819196S

(12) **United States Design Patent** (10) **Patent No.:** **US D819,196 S**
Kim et al. (45) **Date of Patent:** **** May 29, 2018**

(54) **HANDHELD ORAL IRRIGATOR**
(71) Applicant: **WATER PIK, INC.**, Fort Collins, CO (US)

1,669,889 A 5/1928 Andrews et al.
1,681,320 A 8/1928 Bergl et al.
1,933,454 A 10/1933 Sidney
(Continued)

(72) Inventors: **Hyunchul Kim**, Chicago, IL (US);
Jungwhan Chei, Chestnut Hill, MA (US)

FOREIGN PATENT DOCUMENTS

CA 851479 9/1970
CH 655237 4/1986
(Continued)

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

(**) Term: **15 Years**

OTHER PUBLICATIONS

(21) Appl. No.: **29/580,829**

US RE27,274, 01/1972, Mattingly (withdrawn)
(Continued)

(22) Filed: **Oct. 13, 2016**

Primary Examiner — Charles D Hanson
(74) *Attorney, Agent, or Firm* — Dorsey & Whitney LLP

Related U.S. Application Data

(62) Division of application No. 29/510,625, filed on Dec. 1, 2014, now Pat. No. Des. 772,396.

(57) **CLAIM**

We claim the ornamental design for a handheld oral irrigator, as shown and described.

(51) **LOC (11) Cl.** **24-01**

DESCRIPTION

(52) **U.S. Cl.**
USPC **D24/111**

(58) **Field of Classification Search**
USPC D24/111, 108, 127-130, 110
CPC . A61C 17/02; A61C 17/0202; A61C 17/0214;
A61C 17/0205; A61C 17/28; A61C
17/36; A61C 17/00; A61C 1/0092
See application file for complete search history.

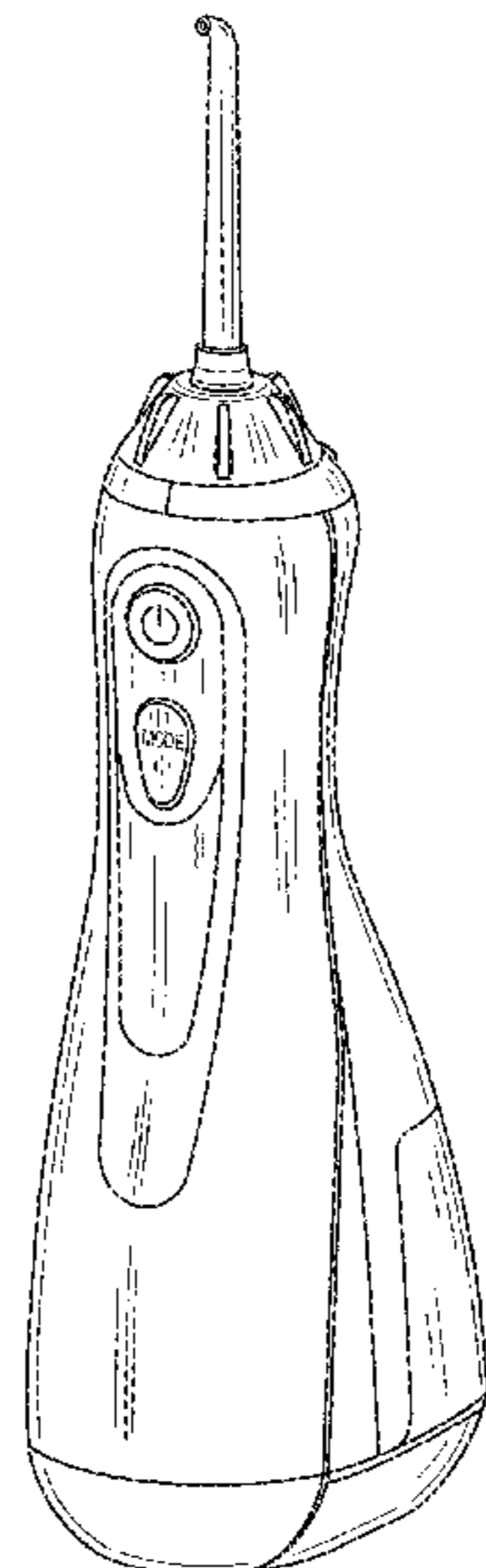
FIG. 1 is a front isometric view of a handheld oral irrigator. FIG. 2 is a rear isometric view of the handheld oral irrigator of FIG. 1. FIG. 3 is a front elevation view of the handheld oral irrigator of FIG. 1. FIG. 4 is a rear elevation view of the handheld oral irrigator of FIG. 1. FIG. 5 is a top plan view of the handheld oral irrigator of FIG. 1. FIG. 6 is a bottom plan view of the handheld oral irrigator of FIG. 1. FIG. 7 is a right-side elevation view of the handheld oral irrigator of FIG. 1; and, FIG. 8 is a left-side elevation view of the handheld oral irrigator of FIG. 1. The broken lines, which define the bounds of the claimed design, form no part of the claimed design.

(56) **References Cited**

U.S. PATENT DOCUMENTS

555,588 A 3/1896 Spencer
1,278,225 A 9/1918 Schamberg
1,452,258 A 4/1923 Smith
1,464,419 A 8/1923 Gill
1,480,310 A 1/1924 Smith
1,498,267 A 6/1924 Hachman
1,650,686 A 11/1927 Binks

1 Claim, 7 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

1,940,111 A	12/1933	Austin	3,820,532 A	6/1974	Eberhardt et al.
D93,019 S	8/1934	Hose	3,827,147 A	8/1974	Condon
1,977,782 A	10/1934	Roy	3,837,166 A	9/1974	Hiraoka
2,107,686 A	2/1938	Bramsen et al.	3,840,795 A	10/1974	Roszyk et al.
D159,872 S	8/1950	Skold	3,847,145 A	11/1974	Grossan
2,531,730 A	11/1950	Henderson	3,854,209 A	12/1974	Franklin et al.
2,595,666 A	5/1952	Hutson	3,863,628 A	2/1975	Vit
2,669,233 A	2/1954	Friend	3,871,560 A	3/1975	Crippa
2,709,227 A	5/1955	Foley et al.	3,874,506 A	4/1975	Hill et al.
2,783,919 A	3/1957	Ansell	3,912,125 A	10/1975	Acklin
2,794,437 A	6/1957	Tash	3,943,628 A	3/1976	Kronman et al.
2,870,932 A	1/1959	Davis	3,959,883 A	6/1976	Walls et al.
2,984,452 A	5/1961	Hooper	3,973,558 A	8/1976	Stouffer et al.
3,089,490 A	5/1963	Goldberg	3,977,084 A	8/1976	Sloan
3,096,913 A	7/1963	Jousson	4,001,526 A	1/1977	Olson
3,144,867 A	8/1964	Trupp et al.	4,004,302 A	1/1977	Hori
D202,041 S	8/1965	Burzlaff	4,007,739 A	2/1977	Bron et al.
3,209,956 A	10/1965	McKenzie	4,013,227 A	3/1977	Herrera
3,216,619 A	11/1965	Richards et al.	4,052,002 A	10/1977	Stouffer et al.
3,225,759 A	12/1965	Drapen et al.	D246,667 S	12/1977	Mackay et al.
3,227,158 A	1/1966	Mattingly	D246,668 S	12/1977	Mackay et al.
3,266,623 A	8/1966	Poferl	4,060,870 A	12/1977	Cannarella
3,297,558 A	1/1967	Hillquist	4,075,761 A	2/1978	Behne et al.
D208,778 S	10/1967	Koch	4,078,558 A	3/1978	Woog et al.
D209,204 S	11/1967	St. Clair et al.	4,094,311 A	6/1978	Hudson
D209,395 S	11/1967	Gilbert	4,108,167 A	8/1978	Hickman et al.
D210,018 S	1/1968	Mattingly et al.	4,108,178 A	8/1978	Betush
D210,019 S	1/1968	Johnson et al.	4,109,650 A	8/1978	Peclard
3,370,214 A	2/1968	Aymar	4,122,845 A	10/1978	Stouffer et al.
3,391,696 A	7/1968	Woodward	4,135,501 A	1/1979	Leunissan
3,393,673 A	7/1968	Mattingly et al.	4,141,352 A	2/1979	Ebner et al.
3,400,999 A	9/1968	Goldstein	4,144,646 A	3/1979	Takemoto et al.
3,418,552 A	12/1968	Holmes	4,149,315 A	4/1979	Page, Jr. et al.
3,420,228 A	1/1969	Kalbfeld	4,154,375 A	5/1979	Bippus
3,425,410 A	2/1969	Cammack	4,160,383 A	7/1979	Rauschenberger
3,453,969 A	7/1969	Mattingly	4,171,572 A	10/1979	Nash
3,465,751 A	9/1969	Powers	4,182,038 A	1/1980	Fleer
3,467,083 A	9/1969	Mattingly	4,200,235 A	4/1980	Monschke
D215,920 S	11/1969	McCarty et al.	4,201,200 A	5/1980	Hubner
3,487,828 A	1/1970	Troy	4,215,476 A	8/1980	Armstrong
3,489,268 A	1/1970	Meierhoefer	4,219,618 A	8/1980	Leonard
3,495,587 A	2/1970	Freedman	4,227,878 A	10/1980	Lohn
3,496,933 A	2/1970	Lloyd	4,229,634 A	10/1980	Hickman et al.
3,499,440 A	3/1970	Gibbs	4,236,889 A	12/1980	Wright
3,500,824 A	3/1970	Gilbert	D258,097 S	2/1981	Wistrand
3,501,203 A	3/1970	Falk	4,248,589 A	2/1981	Lewis
3,502,072 A	3/1970	Stillman	4,249,899 A	2/1981	Davis
3,517,669 A	6/1970	Buono et al.	4,257,458 A	3/1981	Kondo et al.
D218,270 S	8/1970	Soper	4,262,799 A	4/1981	Perrett
3,522,801 A	8/1970	Robinson	4,266,934 A	5/1981	Pernot
3,532,221 A	10/1970	Kaluhiokalani et al.	4,276,023 A	6/1981	Phillips et al.
3,536,065 A	10/1970	Moret	4,276,880 A	7/1981	Malmin
3,537,444 A	11/1970	Garn	4,302,186 A	11/1981	Cammack et al.
3,538,950 A	11/1970	Porteners	4,303,064 A	12/1981	Buffa
3,547,110 A	12/1970	Balamuth	4,303,070 A	12/1981	Ichikawa et al.
3,561,433 A	2/1971	Kovach	4,306,862 A	12/1981	Knox
D220,334 S	3/1971	Mackay et al.	4,315,741 A	2/1982	Reichl
3,570,525 A	3/1971	Borsum	4,319,568 A	3/1982	Tregoning
3,572,375 A	3/1971	Rosenberg	4,331,422 A	5/1982	Heyman
3,578,884 A	5/1971	Jacobson	4,337,040 A	6/1982	Cammack et al.
D220,996 S	6/1971	Irons	4,340,365 A	7/1982	Pisanu
3,583,609 A	6/1971	Oppenheimer	4,340,368 A	7/1982	Lococo
3,590,813 A	7/1971	Roszyk	D266,117 S	9/1982	Oberheim
3,608,548 A	9/1971	Lewis	4,353,694 A	10/1982	Pelerin
D222,862 S	1/1972	Cook	4,363,626 A	12/1982	Schmidt et al.
3,636,947 A	1/1972	Balamuth	4,365,376 A	12/1982	Oda et al.
3,651,576 A	3/1972	Massa	4,370,131 A	1/1983	Banko
3,669,101 A	6/1972	Kleiner	4,374,354 A	2/1983	Petrovic et al.
3,703,170 A	11/1972	Ryckman, Jr.	4,382,167 A	5/1983	Maruyama et al.
3,747,595 A	7/1973	Grossan	4,382,786 A	5/1983	Lohn
3,768,472 A	10/1973	Hodosh et al.	D270,000 S	8/1983	Ketler
3,783,364 A	1/1974	Gallanis et al.	4,412,823 A	11/1983	Sakai et al.
3,809,506 A	5/1974	Malcosky	4,416,628 A	11/1983	Cammack
3,809,977 A	5/1974	Balamuth et al.	4,442,830 A	4/1984	Markau
3,811,432 A	5/1974	Moret	4,442,831 A	4/1984	Trenary
			4,452,238 A	6/1984	Kerr
			4,454,866 A	6/1984	Fayen
			4,512,769 A	4/1985	Kozam et al.
			4,517,962 A	5/1985	Heckele

(56)

References Cited

U.S. PATENT DOCUMENTS

4,531,912 A	7/1985	Schuss et al.	5,014,884 A	5/1991	Wunsch
4,531,913 A	7/1985	Taguchi	5,019,054 A	5/1991	Clement et al.
4,534,340 A	8/1985	Kerr et al.	5,027,798 A	7/1991	Primiano
4,552,130 A	11/1985	Kinoshita	5,029,576 A	7/1991	Evans, Sr.
4,561,214 A	12/1985	Inoue	5,033,617 A	7/1991	Hartwein et al.
D283,374 S	4/1986	Cheuk-Yiu	5,033,961 A	7/1991	Kandler et al.
4,585,415 A	4/1986	Hommann	D318,918 S	8/1991	Hartwein
4,591,777 A	5/1986	McCarty et al.	5,046,486 A	9/1991	Grulke et al.
4,592,728 A	6/1986	Davis	5,049,071 A	9/1991	Davis et al.
4,602,906 A	7/1986	Grunenfelder	5,060,825 A	10/1991	Palmer et al.
4,607,627 A	8/1986	Leber et al.	5,061,180 A	10/1991	Wiele
4,613,074 A	9/1986	Schulze	5,062,795 A	11/1991	Woog
4,619,009 A	10/1986	Rosenstatter	5,064,168 A	11/1991	Raines et al.
4,619,612 A	10/1986	Weber et al.	D322,314 S	12/1991	Ohbayashi
4,629,425 A	12/1986	Detsch	5,071,346 A	12/1991	Domaas
4,636,198 A	1/1987	Stade	5,082,115 A	1/1992	Hutcheson
4,642,037 A	2/1987	Fritchman	5,082,443 A	1/1992	Lohn
4,644,937 A	2/1987	Hommann	5,085,317 A	2/1992	Jensen et al.
4,645,488 A	2/1987	Matukas	5,086,756 A	2/1992	Powell
4,647,831 A	3/1987	O'Malley et al.	5,095,893 A	3/1992	Rawden, Jr.
4,648,838 A	3/1987	Schlachter	5,098,291 A	3/1992	Curtis et al.
4,650,475 A	3/1987	Smith et al.	5,098,676 A	3/1992	Brooks, Jr.
4,655,198 A	4/1987	Hommann	5,100,319 A	3/1992	Baum
4,669,453 A	6/1987	Atkinson et al.	5,117,871 A	6/1992	Gardner et al.
4,672,953 A	6/1987	DiVito	5,125,835 A	6/1992	Young
4,673,396 A	6/1987	Urbaniak	5,127,831 A	7/1992	Bab
D291,354 S	8/1987	Camens	5,142,723 A	9/1992	Lustig et al.
4,716,352 A	12/1987	Hurn et al.	5,150,841 A	9/1992	Silvenis et al.
4,749,340 A	6/1988	Ikeda et al.	5,172,810 A	12/1992	Brewer
4,770,632 A	9/1988	Ryder et al.	5,173,273 A	12/1992	Brewer
D298,565 S	11/1988	Kohler, Jr. et al.	5,183,035 A	2/1993	Weir
4,783,321 A	11/1988	Spence	5,197,458 A	3/1993	Ito et al.
4,787,845 A	11/1988	Valentine	5,197,460 A	3/1993	Ito et al.
4,787,847 A	11/1988	Martin et al.	5,199,871 A	4/1993	Young
4,798,292 A	1/1989	Hauze	5,203,697 A	4/1993	Malmin
4,803,974 A	2/1989	Powell	5,203,769 A	4/1993	Clement et al.
4,804,364 A	2/1989	Dieras et al.	5,204,004 A	4/1993	Johnston et al.
4,818,229 A	4/1989	Vasile	5,208,933 A	5/1993	Lustig et al.
4,820,152 A	4/1989	Warrin et al.	5,215,193 A	6/1993	Dennis
4,821,923 A	4/1989	Skorka	5,218,956 A	6/1993	Handler et al.
4,824,368 A	4/1989	Hickman	5,220,914 A	6/1993	Thompson
4,826,431 A	5/1989	Fujimura et al.	5,228,646 A	7/1993	Raines
4,827,551 A	5/1989	Maser et al.	5,230,624 A	7/1993	Wolf et al.
4,832,683 A	5/1989	Idemoto et al.	5,232,687 A	8/1993	Geimer
4,854,869 A	8/1989	Lawhorn	5,235,968 A	8/1993	Woog
4,861,340 A	8/1989	Smith et al.	5,241,714 A	9/1993	Barry
4,862,876 A	9/1989	Lih-Sheng	5,246,367 A	9/1993	Ito et al.
4,869,720 A	9/1989	Chernack	5,252,064 A	10/1993	Baum et al.
4,880,382 A	11/1989	Moret et al.	D341,200 S	11/1993	Yoshimoto
4,886,452 A	12/1989	Lohn	5,257,933 A	11/1993	Jousson
4,900,252 A	2/1990	Liefke et al.	5,261,448 A	11/1993	Furuya et al.
4,902,225 A	2/1990	Lohn	D341,943 S	12/1993	Si-Hoe
4,903,687 A	2/1990	Lih-Sheng	5,267,586 A	12/1993	Jankavaara
4,906,187 A	3/1990	Amadera	5,269,684 A	12/1993	Fischer
4,907,744 A	3/1990	Jousson	5,281,137 A	1/1994	Jousson
4,925,450 A	5/1990	Imonti et al.	5,281,139 A	1/1994	Frank et al.
4,928,675 A	5/1990	Thornton	5,282,745 A	2/1994	Wiltrout et al.
4,930,660 A	6/1990	Porteous	5,286,192 A	2/1994	Dixon
4,941,459 A	7/1990	Mathur	5,286,201 A	2/1994	Yu
4,950,159 A	8/1990	Hansen	5,295,832 A	3/1994	Evans
4,958,629 A	9/1990	Peace et al.	5,297,962 A	3/1994	O'Connor et al.
4,958,751 A	9/1990	Curtis et al.	D346,212 S	4/1994	Hosl
4,959,199 A	9/1990	Brewer	5,301,381 A	4/1994	Klupt
4,961,698 A	10/1990	Vlock	5,302,123 A	4/1994	Bechard
4,966,551 A	10/1990	Betush	5,317,691 A	5/1994	Traeger
4,969,874 A	11/1990	Michel et al.	5,321,865 A	6/1994	Kaesar
4,973,246 A	11/1990	Black	5,331,704 A	7/1994	Rosen et al.
4,973,247 A	11/1990	Varnes et al.	5,344,317 A	9/1994	Pacher et al.
4,973,250 A	11/1990	Milman	5,346,677 A	9/1994	Risk
4,975,054 A	12/1990	Esrock	D351,892 S	10/1994	Wolf et al.
4,979,503 A	12/1990	Chernack	5,360,338 A	11/1994	Waggoner
4,979,504 A	12/1990	Mills	5,368,548 A	11/1994	Jousson
4,989,590 A	2/1991	Baum et al.	5,370,534 A	12/1994	Wolf et al.
4,998,880 A	3/1991	Nerli	D354,168 S	1/1995	Hartwein
5,013,241 A	5/1991	Von Gutfeld et al.	D354,559 S	1/1995	Knute
			5,378,149 A	1/1995	Stropko
			5,380,201 A	1/1995	Kawata
			D356,864 S	3/1995	Woog
			5,399,089 A	3/1995	Eichman et al.

(56)

References Cited

U.S. PATENT DOCUMENTS

D358,883 S	5/1995	Vos	D425,981 S *	5/2000	Bachman	D24/111
5,456,672 A	10/1995	Diederich et al.	6,056,710 A	5/2000	Bachman et al.	
5,465,445 A	11/1995	Yeh	D426,633 S	6/2000	Bachman et al.	
5,467,495 A	11/1995	Boland et al.	6,089,865 A	7/2000	Edgar	
5,468,148 A	11/1995	Ricks	6,116,866 A	9/2000	Tomita et al.	
5,470,305 A	11/1995	Arnett et al.	6,120,755 A	9/2000	Jacobs	
5,474,450 A	12/1995	Chronister	6,124,699 A	9/2000	Suzuki et al.	
5,474,451 A	12/1995	Dalrymple et al.	D434,500 S	11/2000	Pollock et al.	
5,476,379 A	12/1995	Disel	6,159,006 A	12/2000	Cook et al.	
5,484,281 A	1/1996	Renow et al.	6,164,967 A	12/2000	Sale et al.	
5,487,877 A	1/1996	Choi	D435,905 S	1/2001	Bachman et al.	
5,490,779 A	2/1996	Malmin	D437,049 S	1/2001	Hartwein	
5,505,916 A	4/1996	Berry, Jr.	6,193,512 B1	2/2001	Wallace	
D369,656 S	5/1996	Vos	6,193,932 B1	2/2001	Wu et al.	
D370,125 S	5/1996	Craft et al.	6,199,239 B1	3/2001	Dickerson	
5,525,058 A	6/1996	Gallant et al.	6,200,134 B1	3/2001	Kovac	
5,526,841 A	6/1996	Detsch et al.	D439,781 S	4/2001	Spore	
5,540,587 A	7/1996	Malmin	6,217,835 B1	4/2001	Riley et al.	
5,547,374 A	8/1996	Coleman	D441,861 S	5/2001	Haffliger	
D373,631 S	9/1996	Maeda et al.	6,233,773 B1	5/2001	Karge et al.	
5,554,014 A	9/1996	Becker	6,234,205 B1	5/2001	D'Amelio et al.	
5,554,025 A	9/1996	Kinsel	6,237,178 B1	5/2001	Krammer et al.	
5,556,001 A	9/1996	Weissman et al.	6,247,929 B1	6/2001	Bachman et al.	
5,564,629 A	10/1996	Weissman et al.	6,280,190 B1	8/2001	Hoffman	
D376,893 S	12/1996	Gornet	D448,236 S	9/2001	Murray	
D377,091 S	12/1996	Scott, Sr.	6,293,792 B1	9/2001	Hanson	
5,613,259 A	3/1997	Craft et al.	D449,884 S *	10/2001	Tobin	D24/111
5,616,028 A	4/1997	Hafele et al.	D453,453 S	2/2002	Lun	
5,626,472 A	5/1997	Pennetta	D455,201 S	4/2002	Jones	
5,634,791 A	6/1997	Matsuura et al.	D455,203 S	4/2002	Jones	
5,636,987 A	6/1997	Serfaty	6,363,565 B1	4/2002	Paffrath	
5,640,735 A	6/1997	Manning	D457,949 S	5/2002	Krug	
D382,407 S	8/1997	Craft et al.	D464,799 S	10/2002	Crossman et al.	
5,653,591 A	8/1997	Loge	6,468,482 B1	10/2002	Frieze et al.	
5,659,995 A	8/1997	Hoffman	6,475,173 B1	11/2002	Bachman et al.	
5,667,483 A	9/1997	Santos	6,485,451 B1	11/2002	Roberts et al.	
D386,576 S	11/1997	Wang et al.	6,497,375 B1	12/2002	Srinath et al.	
5,683,192 A	11/1997	Kilfoil	6,497,572 B2	12/2002	Hood et al.	
5,685,829 A	11/1997	Allen	6,502,584 B1	1/2003	Fordham	
5,685,851 A	11/1997	Murphy et al.	D470,660 S	2/2003	Schaber	
5,697,784 A	12/1997	Hafele et al.	6,558,344 B2	5/2003	McKinnon et al.	
D388,612 S *	1/1998	Stutzer	6,561,808 B2	5/2003	Neuberger et al.	
D388,613 S *	1/1998	Stutzer	D475,346 S	6/2003	McCurrach et al.	
D389,091 S	1/1998	Dickinson	D476,743 S	7/2003	D'Silva	
5,709,545 A	1/1998	Johnston et al.	6,589,477 B1	7/2003	Frieze et al.	
D390,934 S	2/1998	McKeone	6,602,071 B1	8/2003	Ellion et al.	
5,716,007 A	2/1998	Nottingham et al.	6,632,091 B1	10/2003	Cise et al.	
5,718,668 A	2/1998	Arnett et al.	D482,451 S	11/2003	Page et al.	
5,746,595 A	5/1998	Ford	6,640,999 B2	11/2003	Peterson	
5,749,726 A	5/1998	Kinsel	6,647,577 B2	11/2003	Tam	
5,759,502 A	6/1998	Spencer et al.	6,659,674 B2	12/2003	Carlucci et al.	
5,779,471 A	7/1998	Tseng et al.	6,669,059 B2	12/2003	Mehta	
5,779,654 A	7/1998	Foley et al.	D484,971 S *	1/2004	Hartwein	D24/111
5,795,153 A	8/1998	Rechmann	6,681,418 B1	1/2004	Bierend	
5,796,325 A	8/1998	Lundell et al.	D486,573 S *	2/2004	Callaghan	D24/111
5,833,065 A	11/1998	Burgess	6,689,078 B1	2/2004	Rehkemper et al.	
5,836,030 A	11/1998	Hazeu et al.	6,699,208 B2	3/2004	Bachman et al.	
D402,744 S	12/1998	Zuege	6,719,561 B2	4/2004	Gugel et al.	
5,851,079 A	12/1998	Horstman et al.	D489,183 S	5/2004	Akahori et al.	
D403,511 S	1/1999	Serbinski	6,739,782 B1	5/2004	Rehkemper et al.	
D406,334 S	3/1999	Rosenthal et al.	6,740,053 B2	5/2004	Kaplowitz	
5,876,201 A	3/1999	Wilson et al.	D490,899 S	6/2004	Gagnon	
D408,511 S	4/1999	Allen et al.	D491,728 S	6/2004	Jimenez	
5,901,397 A	5/1999	Häfele et al.	D492,996 S	7/2004	Rehkemper et al.	
5,934,902 A	8/1999	Abahusayn	6,761,324 B2	7/2004	Chang	
D413,975 S	9/1999	Maeda	6,766,549 B2	7/2004	Klupt	
D416,999 S	11/1999	Miyamoto	D495,142 S	8/2004	Berde	
D417,082 S	11/1999	Classen et al.	D495,143 S	8/2004	Berde	
5,993,402 A	11/1999	Sauer et al.	6,779,216 B2	8/2004	Davies et al.	
6,030,215 A	2/2000	Ellion et al.	6,783,004 B1	8/2004	Rinner	
6,038,960 A	3/2000	Fukushima et al.	6,783,505 B1	8/2004	Lai	
6,039,180 A	3/2000	Grant	6,796,796 B2	9/2004	Segal	
6,047,429 A	4/2000	Wu	D498,643 S	11/2004	Pryor	
D424,181 S	5/2000	Caplow	6,814,259 B1	11/2004	Foster et al.	
D425,615 S	5/2000	Bachman et al.	D499,885 S	12/2004	Xi	
			6,835,181 B2	12/2004	Hippensteel	
			D500,599 S	1/2005	Callaghan	
			6,837,708 B2	1/2005	Chen et al.	
			6,884,069 B2	4/2005	Goldman	

(56)

References Cited

U.S. PATENT DOCUMENTS

6,902,337 B1	6/2005	Kuo		D686,311 S	7/2013	Mori	
6,907,879 B2	6/2005	Drinan et al.		D694,378 S	11/2013	Bates	
D509,585 S	9/2005	Kling et al.		D694,398 S	11/2013	Taylor	
D513,638 S	1/2006	Pan		D700,343 S	2/2014	Liu	
D515,215 S	2/2006	Wang		D702,819 S	4/2014	Garland	
D522,652 S	6/2006	Massey		D702,821 S	4/2014	Garland	
7,080,980 B2	7/2006	Klupt		D707,350 S	6/2014	Woodard	
D529,661 S	10/2006	Schmidt		D709,183 S	7/2014	Kemlein	
D530,010 S	10/2006	Luetzgen et al.		D714,929 S	10/2014	Kim et al.	
7,117,555 B2	10/2006	Fattori et al.		D714,930 S	10/2014	Kim et al.	
D532,570 S	11/2006	Vizcarra		D717,412 S	11/2014	Bucher	
7,131,838 B2	11/2006	Suzuki et al.		D717,427 S	11/2014	Kim	
D533,720 S	12/2006	Vu		D718,855 S	* 12/2014	Kim	A61H 13/005
D538,474 S	3/2007	Sheppard et al.					D24/111
D548,334 S	8/2007	Izumi		D723,387 S	3/2015	Fath	
D550,097 S	9/2007	Lepoitevin		D725,770 S	* 3/2015	Kim	D24/111
D553,980 S	10/2007	VerWeyst et al.		D731,640 S	6/2015	Kim et al.	
7,276,035 B2	10/2007	Lu		D735,305 S	7/2015	Obara	
7,314,456 B2	1/2008	Shaw		D740,936 S	* 10/2015	Kim	D24/111
D565,175 S	* 3/2008	Boyd	D24/111	D745,329 S	12/2015	Ong	
7,344,510 B1	3/2008	Yande		D746,975 S	1/2016	Schenck	
D565,713 S	4/2008	Gao		D747,464 S	1/2016	Taylor	
7,367,803 B2	5/2008	Egeresi		D754,330 S	4/2016	Kim et al.	
D574,952 S	8/2008	Boyd et al.		D756,122 S	5/2016	Taylor	
D577,198 S	9/2008	Jimenez		D764,051 S	8/2016	Wang	
D577,814 S	9/2008	Seki et al.		D766,423 S	9/2016	Kim et al.	
D581,279 S	11/2008	Oates		D772,396 S	11/2016	Kim et al.	
7,455,521 B2	11/2008	Fishburne, Jr.		D782,326 S	3/2017	Fath	
7,469,440 B2	12/2008	Boland et al.		2002/0090252 A1	7/2002	Hall et al.	
D585,132 S	1/2009	Pukall		2002/0108193 A1	8/2002	Gruber	
D588,262 S	3/2009	Pukall		2002/0119415 A1	8/2002	Bailey	
7,500,584 B2	3/2009	Schutz		2002/0152565 A1	10/2002	Klupt	
D590,492 S	4/2009	Powell		2003/0060743 A1	3/2003	Chang	
D592,748 S	5/2009	Boulton		2003/0098249 A1	5/2003	Rollock	
D595,136 S	6/2009	Canamasas Puigbo		2003/0204155 A1	10/2003	Egeresi	
D601,694 S	10/2009	Rocklin		2003/0213075 A1	11/2003	Hui et al.	
D601,697 S	10/2009	Sobeich et al.		2004/0045107 A1	3/2004	Egeresi	
D603,708 S	11/2009	Handy		2004/0076921 A1	4/2004	Gofman et al.	
D608,430 S	1/2010	Slothower		2004/0122377 A1	6/2004	Fischer et al.	
7,670,141 B2	3/2010	Thomas et al.		2004/0126730 A1	7/2004	Panagotacos	
7,677,888 B1	3/2010	Halm		2004/0209222 A1	10/2004	Snyder	
D613,550 S	4/2010	Picozza et al.		2005/0049620 A1	3/2005	Chang	
D621,949 S	8/2010	Seki et al.		2005/0064371 A1	3/2005	Soukos et al.	
D622,928 S	9/2010	Griebel		2005/0101894 A1	5/2005	Hippensteel	
D623,376 S	9/2010	Griebel		2005/0102773 A1	5/2005	Obermann et al.	
D625,406 S	* 10/2010	Seki	D24/111	2005/0144745 A1	7/2005	Russell	
7,814,585 B1	10/2010	Reich		2005/0177079 A1	8/2005	Pan	
D629,884 S	12/2010	Stephens		2005/0271531 A1	12/2005	Brown et al.	
7,857,623 B2	12/2010	Grez		2006/0008373 A1	1/2006	Schutz	
7,862,536 B2	1/2011	Chen et al.		2006/0010624 A1	1/2006	Cleland	
7,959,597 B2	6/2011	Baker et al.		2006/0026784 A1	2/2006	Moskovich et al.	
D640,872 S	7/2011	Nanda		2006/0057539 A1	3/2006	Sodo	
D648,539 S	11/2011	Wai		2006/0078844 A1	4/2006	Goldman et al.	
D651,409 S	1/2012	Papenfu		2006/0079818 A1	4/2006	Yande	
D651,805 S	1/2012	Hay		2007/0082316 A1	4/2007	Zhadanov et al.	
D653,340 S	1/2012	Goerge et al.		2007/0082317 A1	4/2007	Chuang	
8,113,832 B2	2/2012	Snyder et al.		2007/0113360 A1	5/2007	Tsai	
D655,380 S	3/2012	Taylor		2007/0202459 A1	8/2007	Boyd et al.	
D658,381 S	5/2012	Gebski		2007/0203439 A1	8/2007	Boyd et al.	
D658,538 S	5/2012	Korzeniowski		2007/0254260 A1	11/2007	Alden	
8,220,726 B2	7/2012	Qiu et al.		2008/0189951 A1	8/2008	Molema et al.	
D666,912 S	9/2012	Kawai		2008/0213719 A1	9/2008	Giniger et al.	
8,256,979 B2	9/2012	Hilscher et al.		2009/0070949 A1	3/2009	Sagel et al.	
D668,339 S	10/2012	Luoto		2009/0082706 A1	3/2009	Shaw	
D669,169 S	10/2012	Washington et al.		2009/0124945 A1	5/2009	Reich et al.	
8,297,534 B2	10/2012	Li et al.		2009/0163839 A1	6/2009	Alexander	
D670,373 S	11/2012	Taylor et al.		2009/0188780 A1	7/2009	Watanabe	
D670,958 S	11/2012	Picozza et al.		2009/0281454 A1	11/2009	Baker et al.	
D671,637 S	11/2012	Gebski et al.		2010/0010524 A1	1/2010	Barrington	
D672,018 S	12/2012	Bucher		2010/0015566 A1	1/2010	Shaw	
8,366,024 B2	2/2013	Leber et al.		2010/0190132 A1	7/2010	Taylor et al.	
8,403,577 B2	3/2013	Khoshnevis		2010/0239998 A1	9/2010	Snyder et al.	
8,403,665 B2	3/2013	Thomas et al.		2010/0261134 A1	10/2010	Boyd et al.	
8,408,483 B2	* 4/2013	Boyd	A61C 1/0084	2010/0261137 A1	10/2010	Boyd et al.	
			239/124	2010/0326536 A1	12/2010	Nan	
				2010/0330527 A1	12/2010	Boyd et al.	
				2011/0027749 A1	2/2011	Syed	
				2011/0076090 A1	3/2011	Wu et al.	

(56)

References Cited

U.S. PATENT DOCUMENTS

2011/0097683	A1	4/2011	Boyd et al.
2011/0139826	A1	6/2011	Hair et al.
2011/0144588	A1	6/2011	Taylor et al.
2011/0184341	A1	7/2011	Baker et al.
2011/0307039	A1	12/2011	Cornell
2012/0021374	A1	1/2012	Cacka et al.
2012/0045730	A1	2/2012	Snyder et al.
2012/0064480	A1	3/2012	Hegemann
2012/0077145	A1	3/2012	Tsurukawa
2012/0141952	A1	6/2012	Snyder et al.
2012/0179118	A1	7/2012	Hair
2012/0189976	A1	7/2012	McDonough et al.
2012/0266396	A1	10/2012	Leung
2012/0277677	A1	11/2012	Taylor et al.
2012/0277678	A1	11/2012	Taylor et al.
2012/0279002	A1	11/2012	Sokol et al.
2012/0295220	A1	11/2012	Thomas et al.
2013/0295520	A1	11/2013	Hsieh
2014/0106296	A1	4/2014	Woodard et al.
2014/0193774	A1	7/2014	Snyder et al.
2014/0259474	A1	9/2014	Sokol et al.
2014/0272769	A1	9/2014	Luetzgen et al.
2014/0272782	A1	9/2014	Luetzgen et al.
2014/0352088	A1	12/2014	Wu
2015/0004559	A1	1/2015	Luetzgen et al.
2015/0147717	A1	5/2015	Taylor et al.
2015/0173850	A1	6/2015	Garrigues et al.
2015/0182319	A1	7/2015	Wagner et al.
2016/0151133	A1	6/2016	Luetzgen et al.

FOREIGN PATENT DOCUMENTS

CN	204049908	12/2014
DE	1466963	5/1969
DE	2019003	11/1971
DE	2409752	9/1975
DE	2545936	4/1977
DE	2714876	10/1978
DE	2910982	2/1980
EP	0023672	7/1980
EP	0515983	2/1992
FR	2556954	6/1985
FR	2654627	5/1991
GB	838564	6/1960
GB	1182031	2/1970
GB	2018605	10/1979
JP	2-134150	5/1990
JP	2009-39455	2/2009
KR	20120126265	11/2012
WO	WO95/016404	6/1995
WO	WO01/10327	2/2001
WO	WO04/021958	3/2004
WO	WO04/039205	5/2004
WO	WO2004/060259	7/2004
WO	WO2004/062518	7/2004
WO	WO2008/070730	6/2008
WO	WO2008/157585	12/2008
WO	WO2013/124691	8/2013

OTHER PUBLICATIONS

The Right Tool, Electron Fusion Devices, Inc., 2 pages, at least as early as Feb. 1991.

Japanese Packaging, 2 pages, at least as early as Dec. 2002.
 Japanese Instruction Brochure, 20 pages, at least as early as Dec. 2002.
 Brochure: Woog International, "You have a 98% chance of getting gum disease. Unless you read this.", Lancaster, Pennsylvania, 5 pages, Feb. 1987.
 Brochure: Woog International, "We put the control of home dental care back into the hands of the professional", Lancaster, Pennsylvania, 2 pages, Feb. 1987.
 Brochure: WOOG International, "Products at a Glance: Home Dental Care System" WOOG OraJet, 3 pages, at least as early as Dec. 18, 1998.
 Website: http://www.just4teeth.com/product/Panasonic/Panasonic_Portable_Irrigator.htm, 2 pages, at least as early as Jun. 20, 2003.
 Website: http://www.videodirectstore.com/store/merchant.mv?Screen=PROD&Product_Code=EW1'..., 2 pages, at least as early as Jun. 20, 2003.
 Website: <http://products.consumerguide.com/cp/family/review/index.cfm/id/18742>, 2 pages, at least as early as Jun. 20, 2003.
 Website: <http://www.racekarteng.com/images/walbroparts.gif> and <http://www.muller.net/mullermachine/docs/walbro1.html>, 4 pages, at least as early as Jun. 20, 2003.
 European Search Report, EPO Application No. 07250799.9, dated Jul. 5, 2007.
 European Search Report, EPO Application No. 07252693.2, 14 pages, dated Apr. 28, 2008.
 European Examination Report, EPO Application No. 07250799.9, dated Feb. 5, 2009.
 International Search Report, Application No. PCT/US2010/028180, 2 pages, dated May 18, 2010.
 International Search Report, PCT/US2010/060800, 2 pages, dated Feb. 11, 2011.
 International Search Report, PCT/US2011/052795, 10 pages, dated Jan. 17, 2012.
 Waterpik SinuSense Website: <http://www.insightsbyapril.com/2012/03/waterpik-natural-remedy-for-sinus.html>, 8 pages, retrieved on May 31, 2012.
 Website: <https://www.waterpik.com/about-us/>, 3 pages.
 Waterpik WP350W Oral Irrigator. Dentist.net. Copyright date 2013. Date accessed: Mar. 30, 2017, 2 pages <<http://www.dentalthoo.com/waterpik-wp350.asp>>.
 iPik Portable Oral Irrigator. AliExpress. Date reviewed: Oct. 5, 2016. <https://www.aliexpress.com/...e-Oral-Care-Product-Nasal-Irrigator-Tooth-Flosser-Water/1525541997.html?aff_platform=aaf&cpt=1490913714609&sk=yfAeyJa&aff_trace_key=c5a300c4f02e46d08c042f5292e1762f-1490913714609-07517-yfAeyJa>, 18 pages.
 Brite Leafs Professional Portable 2-in-1 Nasal Sinus & Oral Irrigator. Brite Leafs. Copyright date 2012, <<http://www.briteleafs.com/product6.html>>, 1 page.
 AliExpress. Date reviewed: Jan. 12, 2017. <<https://www.aliexpress.com/item/Cordless-Water-Floss-Portable-Oral-Irrigator-Dental-Water-Flosser-Waterpic-Whatpick-Dental-Water-Pic-Whater-Pick/32769416341.html?spm=2114.40010308.4.75.Owuzfj>>.

* cited by examiner

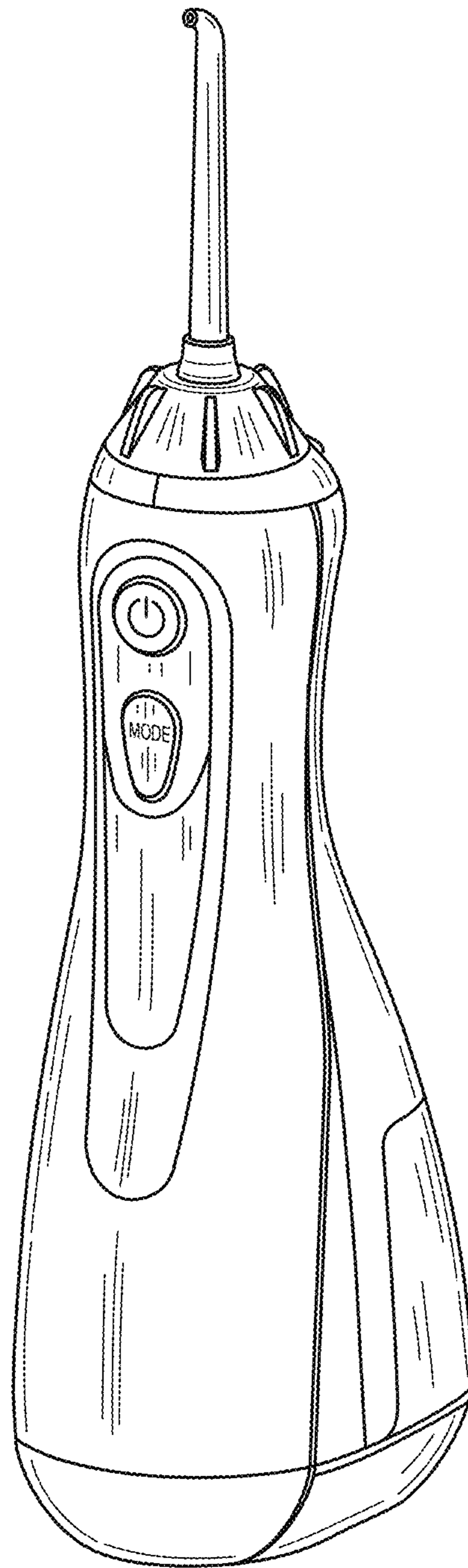


FIG.1

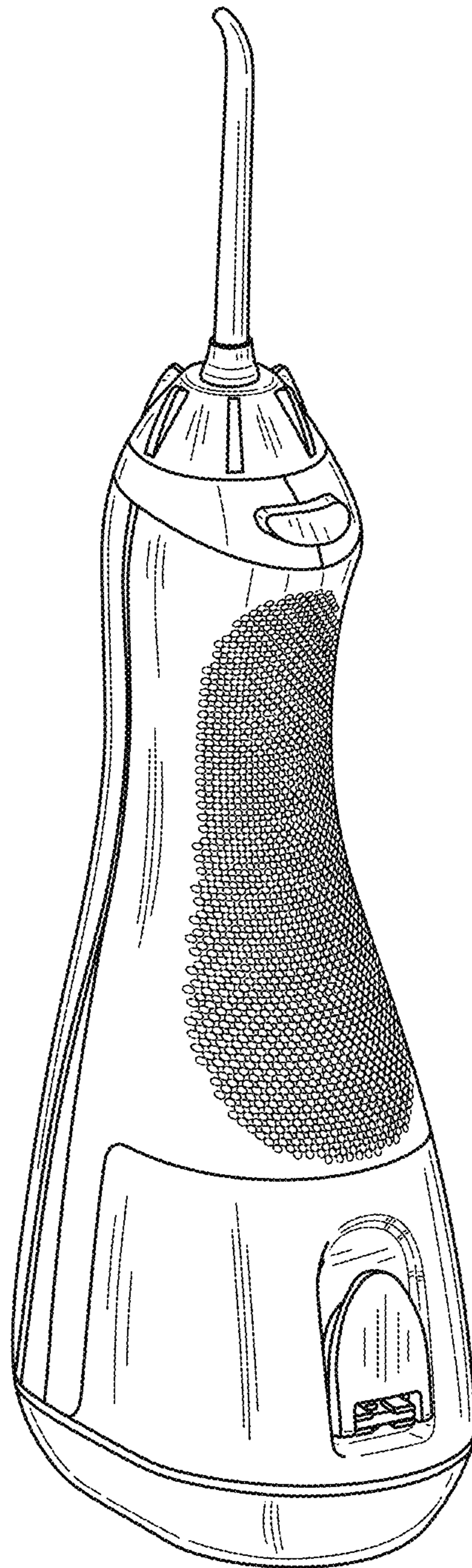


FIG. 2

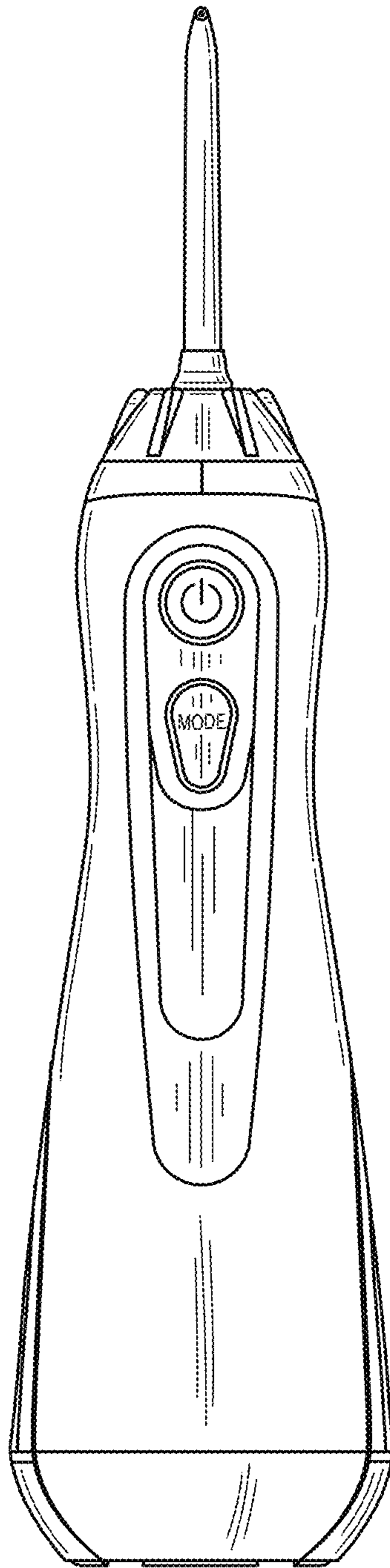


FIG. 3

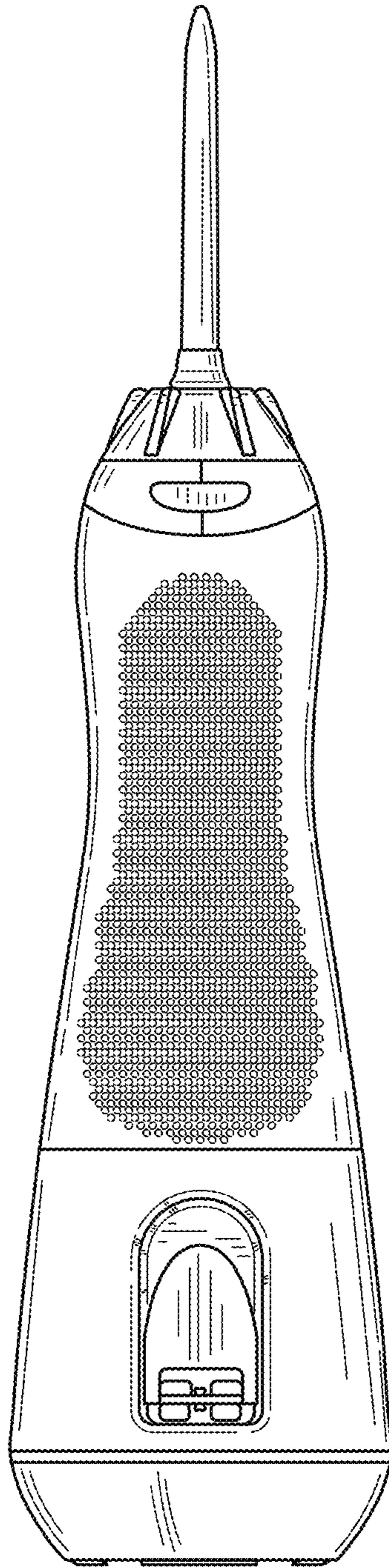


FIG. 4

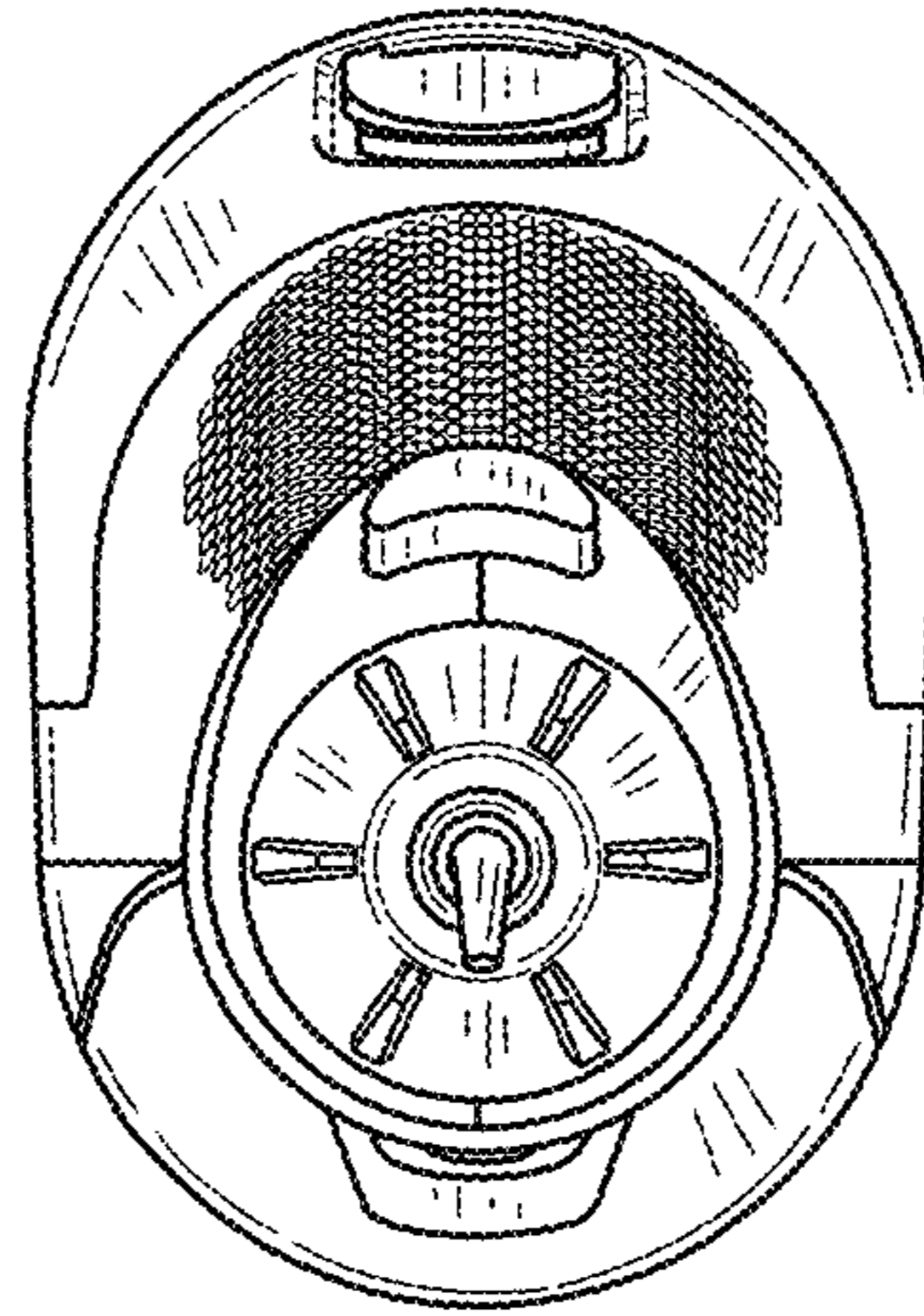


FIG. 5

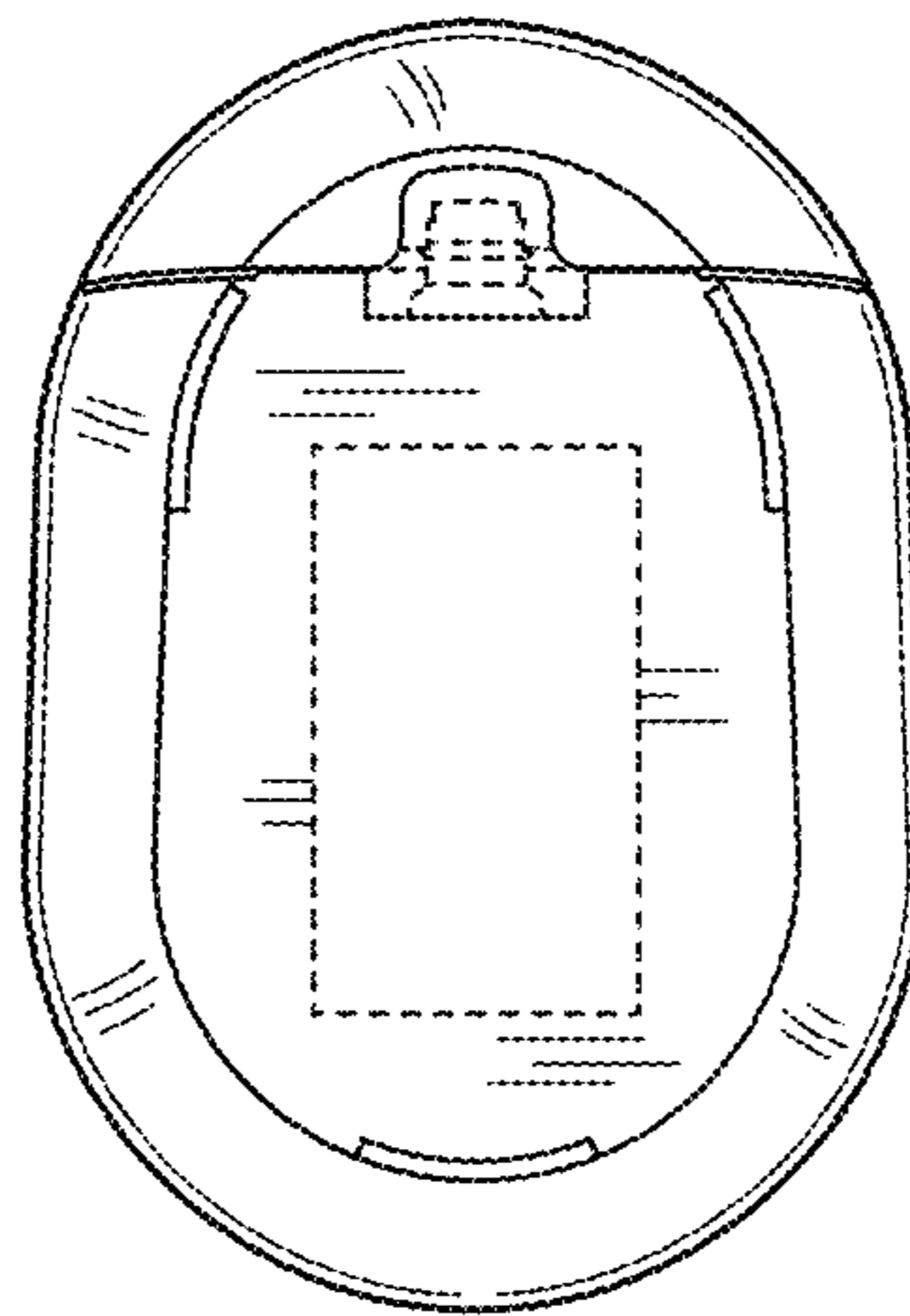


FIG. 6

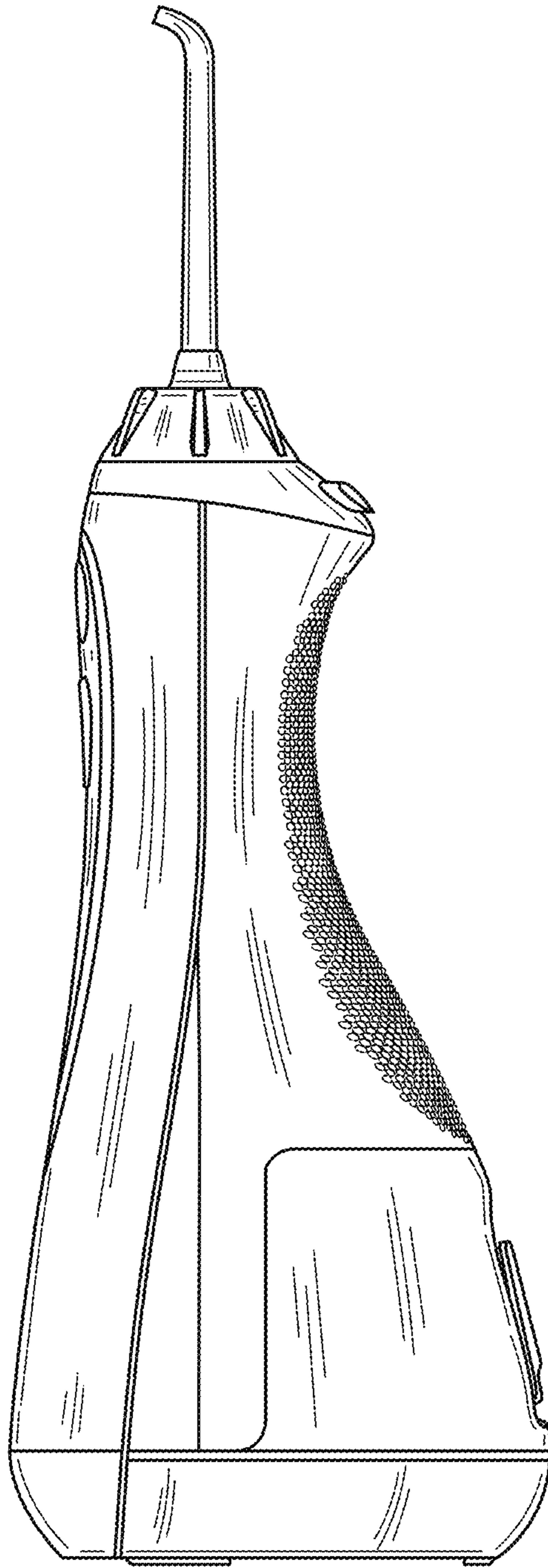


FIG. 7

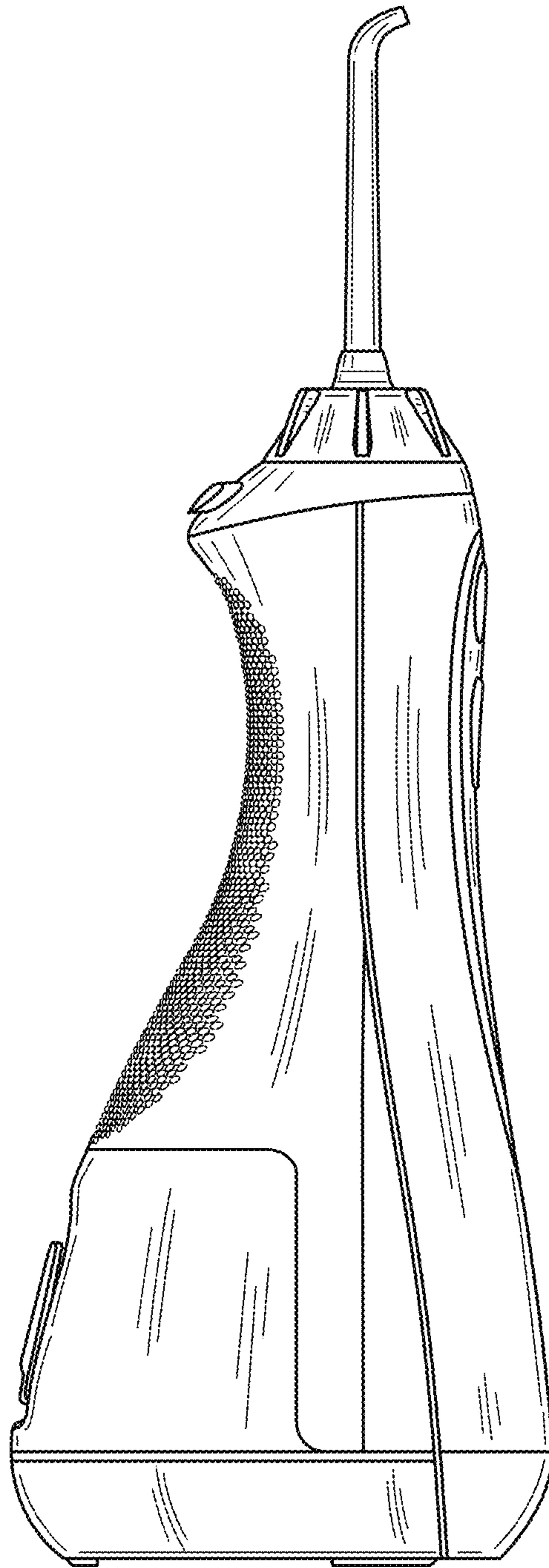


FIG. 8