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(12) **United States Design Patent**
Griffis

(10) **Patent No.:** **US D885,906 S**

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(54) **BOTTLE CAP**

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(72) Inventor: **Shawn Griffis**, La Jolla, CA (US)

(73) Assignee: **SZENT BEV CO.**, La Jolla, CA (US)

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

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(51) **LOC (12) Cl.** **09-07**

(52) **U.S. Cl.**
USPC **D9/454**

(58) **Field of Classification Search**

USPC D3/202, 272, 273; D7/323, 354, 391,
D7/392, 392.1, 396.1, 396.2, 396, 503,
D7/552.1, 553.1, 553.2, 554, 589, 600.1,
D7/602, 614, 704, 523, 529, 566, 568,
D7/603, 900; D9/414, 424, 427, 430,
D9/432, 433, 434, 435, 436, 437, 438,
D9/439, 440, 442, 443, 445, 446, 447,
D9/449, 450, 452, 453, 454, 499, 686,
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

D28,746 S 5/1898 Blount
D30,338 S 3/1899 Mann
(Continued)

FOREIGN PATENT DOCUMENTS

DE 102006038257 A1 2/2008
DE 102009020524 A1 11/2010
(Continued)

OTHER PUBLICATIONS

Szent Water: Announced Nov. 7, 2018 [online]. Site Visited [Mar. 22, 2019]. Available from Internet URL: <https://www.amazon.com/>

SZENT-Water-Passionfruit-Ounce-Pack/dp/B07G8LHBF2/ref=cm_cr_arp_d_product_top?ie=UTF8&th=1.*

(Continued)

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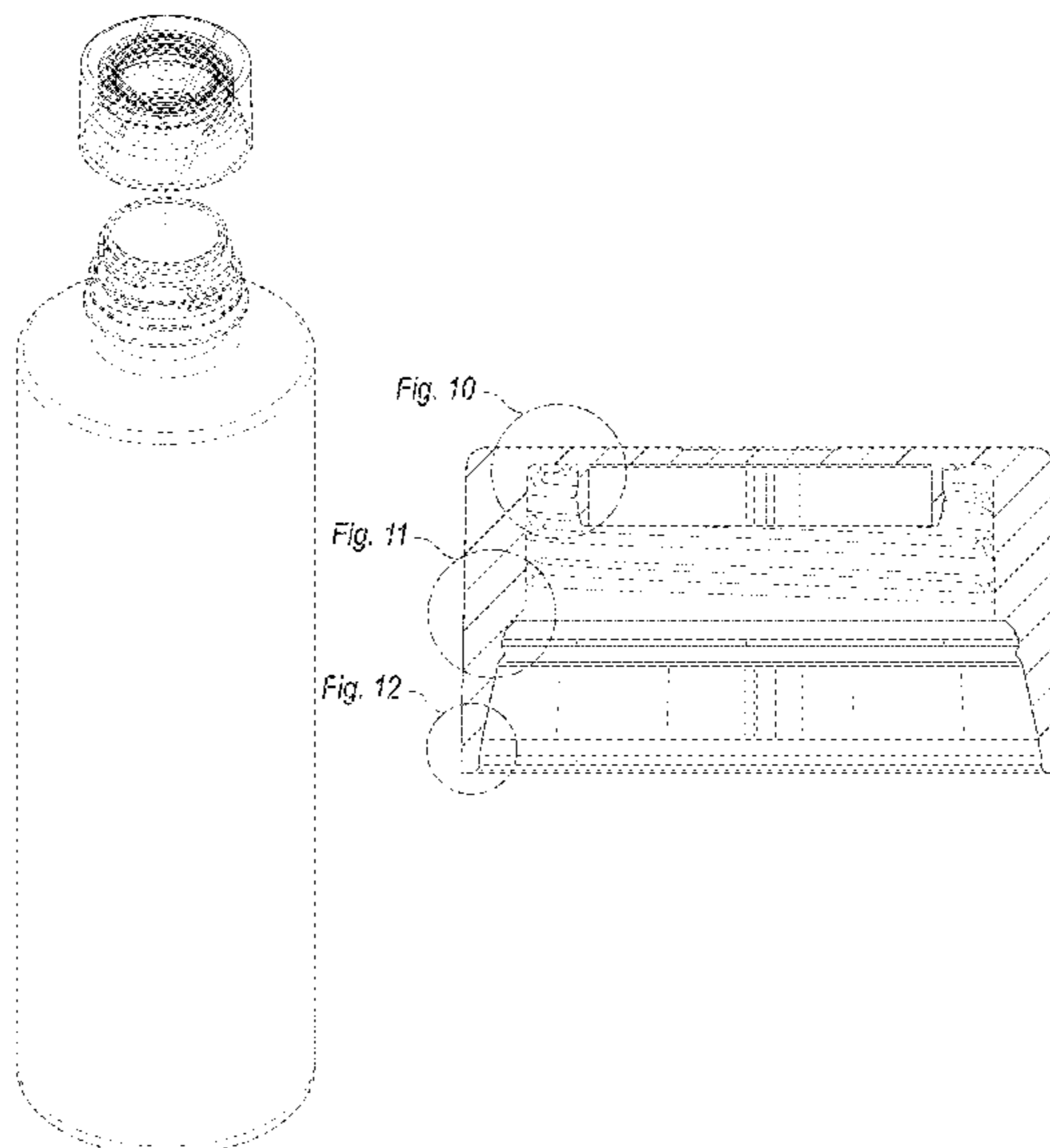
(57) **CLAIM**

The ornamental design for a bottle cap, as shown and described.

DESCRIPTION

FIG. 1 is a top isometric view of a bottle cap showing my new design, shown in a position of use with an exemplary bottle;
FIG. 2 is another top isometric view thereof, shown in an exploded position of use with an exemplary bottle;
FIG. 3 is a front view of the bottle cap as shown in FIG. 1;
FIG. 4 is an enlarged top isometric view of the bottle cap, with the exemplary bottle removed to show aspects of the design not visible when combined;
FIG. 5 is a bottom isometric view thereof;
FIG. 6 is a side view thereof;
FIG. 7 is a top view thereof;
FIG. 8 is a bottom view thereof;
FIG. 9 is a cross sectional view, taken in the direction of line 9-9 on FIG. 7;
FIG. 10 is an enlarged detail view of FIG. 9 thereof;
FIG. 11 is another enlarged detail view of FIG. 9 thereof;
and,
FIG. 12 is another enlarged detail view of FIG. 9 thereof.
The evenly broken lines are shown for the purpose of illustrating environmental subject matter of an exemplary bottle and parts of the article, none of which form part of the claim. The long dash-short dash lines represent the designation of enlargement views and form no part of the claim.

1 Claim, 10 Drawing Sheets



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<p>(58) Field of Classification Search</p> <p>USPC D9/688, 690, 708, 709, 723, 724, 763, D9/772</p> <p>CPC A47G 19/2205; A47G 19/2222; A47G 19/2266; A47G 19/2272; A47G 19/2294; A47G 19/00; B65D 85/72; B65D 2251/0093; B65D 2101/0015; B65D 51/224; B65D 51/24; B65D 51/245; B65D 47/065; B65D 51/212; B65D 51/18; B65D 51/04; B65D 47/265; B65D 1/0246; B65D 23/12; B65D 41/04; B65D 2517/5091; A61L 9/12</p> <p>See application file for complete search history.</p>	<p>6,112,749 A 9/2000 Hall et al.</p> <p>6,112,923 A * 9/2000 Ma B65D 41/3428 215/252</p> <p>6,290,914 B1 9/2001 LeJune et al.</p> <p>D453,000 S 1/2002 Shinjo</p> <p>D457,783 S 5/2002 Bodum</p> <p>D460,357 S * 7/2002 Kras D9/435</p> <p>D465,731 S 11/2002 Brant et al.</p> <p>6,484,873 B1 11/2002 Pizarro</p> <p>6,484,896 B2 * 11/2002 Ma B65D 41/3409 215/252</p> <p>6,497,337 B1 * 12/2002 Kehe C09K 3/10 156/307.5</p> <p>D468,492 S 1/2003 Wilhelm</p> <p>6,511,726 B1 1/2003 Kinigakis</p> <p>6,581,793 B1 6/2003 Racine et al.</p> <p>6,659,297 B2 12/2003 Gregory et al.</p> <p>6,677,397 B1 * 1/2004 Baranowski B65D 41/34 524/488</p> <p>D491,066 S 6/2004 Le Goff</p> <p>6,766,916 B2 * 7/2004 Ma B65D 41/3428 215/252</p> <p>D498,826 S 11/2004 Takahiro et al.</p> <p>D501,625 S 2/2005 Biggerstaff</p> <p>6,964,346 B1 * 11/2005 Taber B29C 45/0025 215/252</p> <p>6,981,602 B2 * 1/2006 Ma B29C 43/42 215/254</p> <p>D515,353 S 2/2006 Martin</p> <p>7,005,152 B2 2/2006 Landau</p> <p>D518,717 S 4/2006 German</p> <p>D518,718 S 4/2006 vonSpreckelsen et al.</p> <p>D522,368 S 6/2006 Darr et al.</p> <p>D533,747 S 12/2006 Jin</p> <p>D533,802 S 12/2006 Thompson et al.</p> <p>D534,428 S 1/2007 Reed et al.</p> <p>D534,802 S 1/2007 German</p> <p>D535,210 S 1/2007 Park</p> <p>D545,235 S 6/2007 Carter-Smith et al.</p> <p>D548,092 S 8/2007 Klemm</p> <p>D553,238 S 10/2007 Haggkvist</p> <p>D553,254 S 10/2007 Colin et al.</p> <p>7,284,711 B2 10/2007 Reed et al.</p> <p>7,306,108 B2 12/2007 Cleevly</p> <p>D576,047 S 9/2008 Reihle</p> <p>D578,889 S 10/2008 Sadiq et al.</p> <p>7,470,035 B1 12/2008 Benitez</p> <p>D584,149 S * 1/2009 Lohrman D9/453</p> <p>D587,118 S 2/2009 Sadiq et al.</p> <p>7,484,675 B2 2/2009 Brown</p> <p>D592,950 S 5/2009 Kopulos</p> <p>D595,581 S 7/2009 Brunson</p> <p>D600,115 S 9/2009 Trayser</p> <p>D606,864 S 12/2009 Robinson</p> <p>D614,247 S 4/2010 Clausen</p> <p>D615,816 S 5/2010 Joy et al.</p> <p>D617,426 S 6/2010 Leyfang</p> <p>7,748,557 B2 7/2010 Robinson</p> <p>D623,056 S 9/2010 Sessa</p> <p>7,798,320 B2 9/2010 Pham</p> <p>D633,386 S * 3/2011 Taber D9/453</p> <p>D633,387 S 3/2011 Gatto</p> <p>D634,199 S * 3/2011 Taber D9/453</p> <p>D634,200 S * 3/2011 Taber D9/453</p> <p>D635,352 S 4/2011 Himley et al.</p> <p>D643,912 S 8/2011 Bowman</p> <p>D646,600 S 10/2011 Minkinen et al.</p> <p>D650,677 S 12/2011 Wurster et al.</p> <p>D662,767 S 7/2012 Hotell et al.</p> <p>D671,406 S 11/2012 Sawicki et al.</p> <p>8,364,028 B1 1/2013 Vaske et al.</p> <p>D678,989 S 3/2013 Zerrer</p> <p>8,440,265 B2 5/2013 Duan</p> <p>D684,082 S 6/2013 Alvarez et al.</p> <p>D686,075 S 7/2013 Guerin et al.</p> <p>D686,101 S 7/2013 Dailey</p> <p>8,474,637 B2 7/2013 Zhang et al.</p> <p>D689,789 S 9/2013 Hardy</p> <p>D691,885 S 10/2013 Potts</p>
<p>(56) References Cited</p> <p>U.S. PATENT DOCUMENTS</p>	
<p>D31,451 S 8/1899 Norris</p> <p>D32,681 S 5/1900 Morgenthaler</p> <p>D44,392 S 7/1912 Whitney</p> <p>D99,688 S 5/1936 Tomlinson</p> <p>D159,985 S 9/1950 Heisey</p> <p>D172,090 S 5/1954 Pree</p> <p>3,043,464 A 3/1959 Cerasari</p> <p>D191,418 S 9/1961 Nassour</p> <p>D206,889 S 2/1967 Benes</p> <p>3,409,181 A 11/1968 McDonnell</p> <p>3,432,177 A 3/1969 Colwell</p> <p>3,590,989 A 7/1971 Wittwer</p> <p>D230,187 S 1/1974 Schultz</p> <p>D243,406 S 2/1977 Mooney et al.</p> <p>D256,003 S 7/1980 Barr</p> <p>D256,046 S 7/1980 Perrin</p> <p>D258,202 S 2/1981 Astor et al.</p> <p>4,540,721 A 9/1985 Staller</p> <p>D288,902 S 3/1987 Lewis</p> <p>4,687,203 A 8/1987 Spector</p> <p>4,717,017 A 1/1988 Sprinkel et al.</p> <p>D303,915 S 10/1989 Knutson</p> <p>D312,768 S 12/1990 Eastman</p> <p>4,981,230 A * 1/1991 Marshall B65D 41/3428 215/252</p> <p>D317,274 S 6/1991 Redina</p> <p>D319,035 S 8/1991 Kruse</p> <p>5,165,603 A 11/1992 Hahn</p> <p>5,197,620 A * 3/1993 Gregory B65D 41/3428 215/307</p> <p>5,249,676 A 10/1993 Ashcraft et al.</p> <p>D348,836 S 7/1994 McCallum et al.</p> <p>5,388,731 A * 2/1995 Mengeu B29C 45/4407 215/277</p> <p>5,477,640 A 12/1995 Holtkamp, Jr.</p> <p>D372,765 S 8/1996 Sisk</p> <p>D374,837 S 10/1996 Austin</p> <p>5,635,229 A 6/1997 Ray</p> <p>5,707,696 A 1/1998 Boxler</p> <p>D394,824 S 6/1998 Itzkowitz</p> <p>5,795,644 A 8/1998 Delarosa</p> <p>5,810,184 A * 9/1998 Adams B65D 5/746 215/252</p> <p>5,858,141 A * 1/1999 Repp B29C 65/3656 156/69</p> <p>5,865,535 A 2/1999 Edwards</p> <p>5,913,437 A * 6/1999 Ma B65D 41/3428 215/252</p> <p>5,954,247 A 9/1999 Savine</p> <p>5,957,312 A * 9/1999 Adams B65B 61/186 215/45</p> <p>6,006,472 A 12/1999 Holtkamp, Jr.</p> <p>D422,905 S 4/2000 Walker</p> <p>6,045,833 A 4/2000 Landau</p> <p>6,062,441 A * 5/2000 Mengeu B65D 47/242 222/521</p> <p>6,102,224 A 8/2000 Sun</p>	<p>D491,066 S 6/2004 Le Goff</p> <p>6,766,916 B2 * 7/2004 Ma B65D 41/3428 215/252</p> <p>D498,826 S 11/2004 Takahiro et al.</p> <p>D501,625 S 2/2005 Biggerstaff</p> <p>6,964,346 B1 * 11/2005 Taber B29C 45/0025 215/252</p> <p>6,981,602 B2 * 1/2006 Ma B29C 43/42 215/254</p> <p>D515,353 S 2/2006 Martin</p> <p>7,005,152 B2 2/2006 Landau</p> <p>D518,717 S 4/2006 German</p> <p>D518,718 S 4/2006 vonSpreckelsen et al.</p> <p>D522,368 S 6/2006 Darr et al.</p> <p>D533,747 S 12/2006 Jin</p> <p>D533,802 S 12/2006 Thompson et al.</p> <p>D534,428 S 1/2007 Reed et al.</p> <p>D534,802 S 1/2007 German</p> <p>D535,210 S 1/2007 Park</p> <p>D545,235 S 6/2007 Carter-Smith et al.</p> <p>D548,092 S 8/2007 Klemm</p> <p>D553,238 S 10/2007 Haggkvist</p> <p>D553,254 S 10/2007 Colin et al.</p> <p>7,284,711 B2 10/2007 Reed et al.</p> <p>7,306,108 B2 12/2007 Cleevly</p> <p>D576,047 S 9/2008 Reihle</p> <p>D578,889 S 10/2008 Sadiq et al.</p> <p>7,470,035 B1 12/2008 Benitez</p> <p>D584,149 S * 1/2009 Lohrman D9/453</p> <p>D587,118 S 2/2009 Sadiq et al.</p> <p>7,484,675 B2 2/2009 Brown</p> <p>D592,950 S 5/2009 Kopulos</p> <p>D595,581 S 7/2009 Brunson</p> <p>D600,115 S 9/2009 Trayser</p> <p>D606,864 S 12/2009 Robinson</p> <p>D614,247 S 4/2010 Clausen</p> <p>D615,816 S 5/2010 Joy et al.</p> <p>D617,426 S 6/2010 Leyfang</p> <p>7,748,557 B2 7/2010 Robinson</p> <p>D623,056 S 9/2010 Sessa</p> <p>7,798,320 B2 9/2010 Pham</p> <p>D633,386 S * 3/2011 Taber D9/453</p> <p>D633,387 S 3/2011 Gatto</p> <p>D634,199 S * 3/2011 Taber D9/453</p> <p>D634,200 S * 3/2011 Taber D9/453</p> <p>D635,352 S 4/2011 Himley et al.</p> <p>D643,912 S 8/2011 Bowman</p> <p>D646,600 S 10/2011 Minkinen et al.</p> <p>D650,677 S 12/2011 Wurster et al.</p> <p>D662,767 S 7/2012 Hotell et al.</p> <p>D671,406 S 11/2012 Sawicki et al.</p> <p>8,364,028 B1 1/2013 Vaske et al.</p> <p>D678,989 S 3/2013 Zerrer</p> <p>8,440,265 B2 5/2013 Duan</p> <p>D684,082 S 6/2013 Alvarez et al.</p> <p>D686,075 S 7/2013 Guerin et al.</p> <p>D686,101 S 7/2013 Dailey</p> <p>8,474,637 B2 7/2013 Zhang et al.</p> <p>D689,789 S 9/2013 Hardy</p> <p>D691,885 S 10/2013 Potts</p>

(56)

References Cited

U.S. PATENT DOCUMENTS

D694,107 S 11/2013 Didio
 D696,751 S 12/2013 Beagen, Jr.
 D696,952 S 1/2014 Sawicki et al.
 8,672,158 B2* 3/2014 Taber B65D 41/04
 215/228
 8,708,189 B2 4/2014 Reitzig
 D706,908 S 6/2014 Knapp
 D706,909 S 6/2014 van de Kipple et al.
 D723,919 S * 3/2015 Taber D9/438
 D730,734 S 6/2015 Rapparini
 D733,604 S 7/2015 Tan et al.
 D734,670 S 7/2015 Griffis
 9,108,763 B2 8/2015 Landau
 D743,513 S 11/2015 Yamagishi et al.
 D752,975 S 4/2016 Gatto
 D753,490 S 4/2016 O'Donahue
 9,302,830 B2 4/2016 Ramsey et al.
 D762,115 S 7/2016 Corvaglia et al.
 D766,716 S 9/2016 Logel et al.
 D776,529 S 1/2017 Torrison et al.
 D783,607 S 4/2017 Lee et al.
 D785,144 S 4/2017 Kitagawa
 D791,591 S 7/2017 Berge
 D792,219 S 7/2017 Bueno Nunez
 D795,021 S 8/2017 Lindloff
 9,801,969 B2 10/2017 Griffis
 D807,173 S 1/2018 Cooper et al.
 D815,951 S 4/2018 Solovy
 9,957,076 B2 5/2018 Tung
 D824,257 S 7/2018 Wood et al.
 D826,047 S 8/2018 Griffis
 D827,435 S 9/2018 Griffis
 D828,088 S 9/2018 Furneaux et al.
 D832,130 S 10/2018 Bostic
 10,086,104 B2 10/2018 Griffis
 D832,734 S 11/2018 Warren
 D838,171 S 1/2019 Wood et al.
 10,189,611 B2* 1/2019 Cox B65D 41/0471
 2001/0027957 A1 10/2001 Kano et al.
 2002/0139093 A1 10/2002 Landau
 2002/0158037 A1 10/2002 Kano et al.
 2002/0190023 A1 12/2002 Landau
 2003/0132244 A1 7/2003 Birkmayer et al.
 2004/0018278 A1 1/2004 Popplewell
 2004/0029750 A1 2/2004 Schudel et al.
 2005/0196571 A1 9/2005 Penny et al.
 2006/0246265 A1 11/2006 Rogers et al.
 2006/0255002 A1* 11/2006 Takamatsu B65D 41/0421
 215/252
 2006/0278542 A1 12/2006 Pham et al.
 2006/0278543 A1 12/2006 Pham
 2006/0291756 A1 12/2006 Thomas et al.
 2007/0023301 A1 2/2007 Pham
 2007/0051690 A1 3/2007 Hidding
 2007/0114142 A1 5/2007 Sine et al.
 2008/0067142 A1 3/2008 Druitt
 2008/0149586 A1 6/2008 Loughrin et al.
 2008/0173611 A1* 7/2008 Neputy B65D 41/3423
 215/256
 2008/0245757 A1 10/2008 Durand
 2009/0045158 A1 2/2009 Suriol
 2009/0078786 A1 3/2009 Slade
 2009/0098026 A1 4/2009 Wood
 2009/0155505 A1 6/2009 Wagenheim
 2009/0258118 A1 10/2009 Gillian
 2010/0323134 A1 12/2010 Bostian et al.
 2011/0253584 A1 10/2011 Duan
 2011/0290755 A1* 12/2011 Taber B65D 41/00
 215/329
 2012/0006909 A1 1/2012 Zhang et al.
 2012/0175016 A1 7/2012 Lopez et al.
 2013/0043245 A1 2/2013 Griffis
 2013/0056551 A1 3/2013 Zhang et al.
 2013/0062239 A1 3/2013 Key
 2013/0105066 A1 5/2013 Landau

2013/0205718 A1* 8/2013 Kapolas B65D 79/005
 53/408
 2013/0276339 A1 10/2013 Hernandez et al.
 2013/0313218 A1 11/2013 Cox et al.
 2014/0158660 A1 6/2014 Wood et al.
 2014/0263335 A1* 9/2014 Taber B65D 41/0421
 220/276
 2015/0027974 A1 1/2015 Niec
 2015/0076030 A1 3/2015 Smith
 2015/0102033 A1* 4/2015 Banovic B65D 1/0215
 220/288
 2015/0329247 A1 11/2015 Lou
 2016/0122066 A1* 5/2016 DiBiasio B29C 49/04
 215/6
 2017/0081095 A1* 3/2017 McPherson B29C 45/1704
 2017/0239382 A1 8/2017 Griffis
 2017/0240325 A1* 8/2017 Seelhofer B65D 51/2821
 2017/0326263 A1 11/2017 Griffis
 2018/0043047 A1 2/2018 Griffis
 2018/0079552 A1 3/2018 Ayeni
 2018/0141730 A1* 5/2018 Rognard B65D 41/34
 2018/0201414 A1* 7/2018 Rouquette B65D 41/3442
 2019/0009953 A1 1/2019 Edie et al.
 2019/0062007 A1 2/2019 Kim
 2019/0084728 A1* 3/2019 Bonfoey B65D 41/3438
 2019/0091363 A1 3/2019 Griffis
 2019/0118989 A1 4/2019 Kim
 2019/0224359 A1 7/2019 Griffis

FOREIGN PATENT DOCUMENTS

DE 202017001221 U1 7/2017
 GB 5000214 10/2015
 WO 2010068731 6/2010
 WO 2018085580 5/2018
 WO 2018203993 11/2018

OTHER PUBLICATIONS

High-Tech Cocktail Glass Lets You Experience Plain Water as the Perfect Cocktail, Oddity Central, available at <http://www.odditycentral.com/technology/high-tech-cocktail-glass-lets-you-experience-plain-water-as-the-perfect-cocktail.html>, Nov. 20, 2017.
 Etsy. Mini Orange Plastic Soda Bottle Rings/Safety Seals. Mar. 23, 2018 [earliest online date], [site visited Apr. 23, 2018]. Available from Internet, <URL:<https://etsy.me/2HSzu7f>>. (Year: 2018).
 The New York Times. Mystery in Sochi Doping Case Lies With Tamper-Proof Bottle by Rebecca R. Ruiz. May 13, 2016 [earliest online date], [site visited Apr. 23, 2018]. Available from Internet, <URL:<https://www.nytimes.com/2016/05/14/sports/russia-doping-bottles-olympics-2014.html>>. (Year: 2016).
 Forever Gifts. Beveled Edge Black Tungsten Wedding Band. Apr. 26, 2017 [earliest online date], [site visited Apr. 26, 2018]. Available from Internet, <URL:<https://www.forevergifts.com/beveled-edge-black-tungsten-wedding-band-free-engraving/>>. (Year: 2017).
 International Search Report and Written Opinion for International Application No. PCT/US18/24630, dated Apr. 23, 2018 (7 pages).
 Non-Final Office Action for U.S. Appl. No. 29/598,879, dated May 1, 2018 (26 pages).
 Non-Final Office Action for U.S. Appl. No. 29/298,882, dated May 1, 2018 (29 pages).
 First Action Interview Pilot Program Pre-Interview Communication for U.S. Appl. No. 15/782,720, dated Apr. 2, 2018 (6 pages).
 Non-Final Office Action for U.S. Appl. No. 15/663,534, dated Apr. 2, 2018 (26 pages).
 Flavour Bottle: The world's first flavored bottle, available at <https://www.kickstarter.com/projects/flavourtechnologies/flavour-bottle-the-worlds-first-flavored-bottle/description>.
 Examination Report received for European Union Design Application No. 005826559; dated Nov. 28, 2018 (2 pages).
 First Examiner's Report received for Canadian Application No. 177508; dated Jul. 23, 2018 (3 pages).
 Non-Final Office Action received for U.S. Appl. No. 15/663,534, dated Aug. 16, 2018 (26 pages).

(56)

References Cited

OTHER PUBLICATIONS

First Examiner's Report received for Australian Application No. 2018202261; dated Aug. 30, 2018 (5 pages).

Office Action for German Application No. 10 2018 003 090.4, dated Jan. 15, 2019 (8 pages).

Examiner's Report received for Canadian Application No. 2999583; dated Jan. 30, 2019 (3 pages).

Final Office Action received for U.S. Appl. No. 15/663,534; dated Feb. 13, 2019 (19 pages).

Non-Final Office Action received for U.S. Appl. No. 29/599,447, dated Mar. 28, 2019 (10 pages).

Notice of Allowance Received for U.S. Appl. No. 15/663,534, dated May 3, 2019.

Notification to Grant Patent Right for Design and Go through Formalities of Registration Received for Chinese Application No. 201830652933.8 dated Jul. 16, 2019.

International Search Report and Written Opinion for International Application No. PCT/US19/24708, dated Jun. 24, 2019 (9 pages).

Notice of Acceptance for Patent Application Received for Australia Application No. 2018202261, dated May 30, 2019.

Amazon. Szent Water Passionfruit Ounce Pack. Review by Brett Conway on Nov. 9, 2018. <https://www.amazon.com/SZENT-Water-Passionfruit-Ounce-Pack/dp/B07G8LHBF2?th=1>(Year: 2018).

Amazon. Oxford Ivy—Men's 14K White Gold 6MM Comfort Fit Beveled Edge Wedding Band Sep. 30, 2016. <https://www.amazon.com/White-Comfort-Beveled-Wedding-Available/dp/B01LYD52N4> (Year: 2016).

Non-Final Office Action received for U.S. Appl. No. 16/368,796 dated Sep. 16, 2019.

* cited by examiner

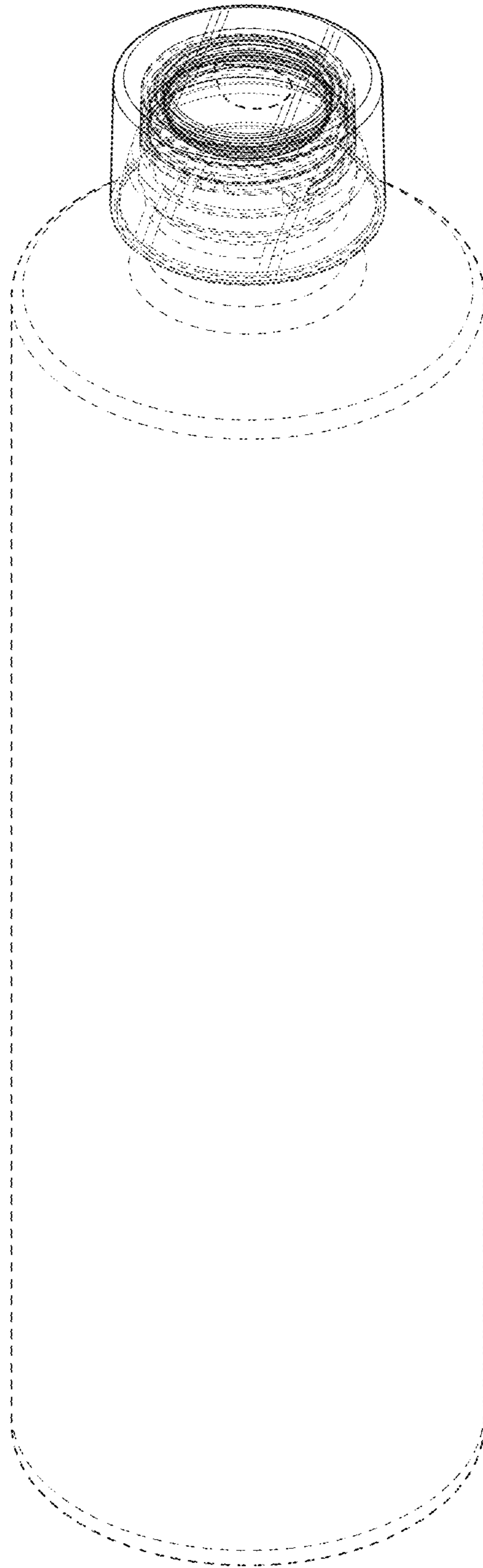


Fig. 1

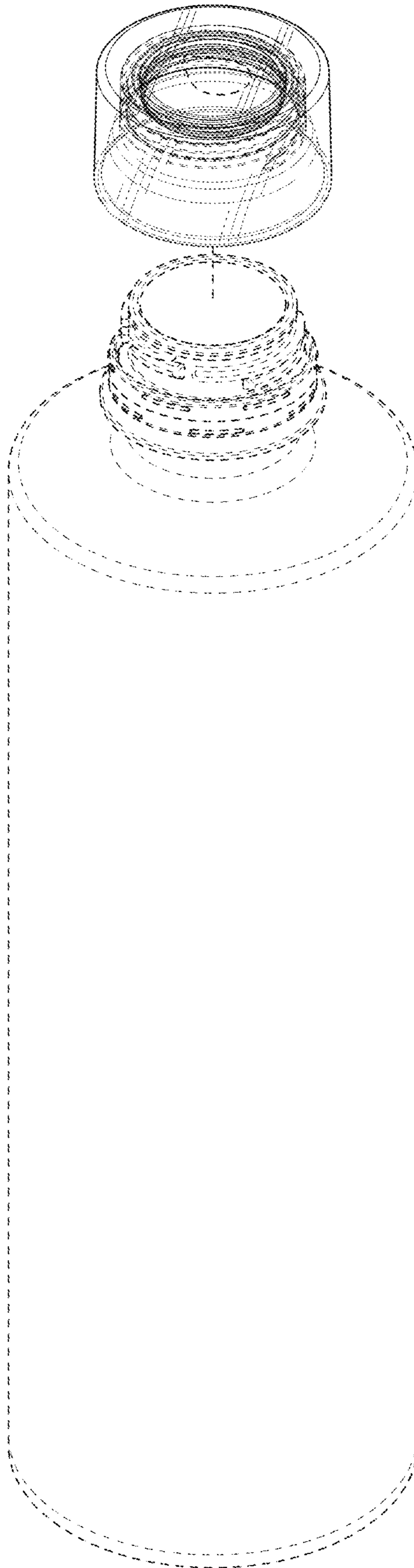


Fig. 2

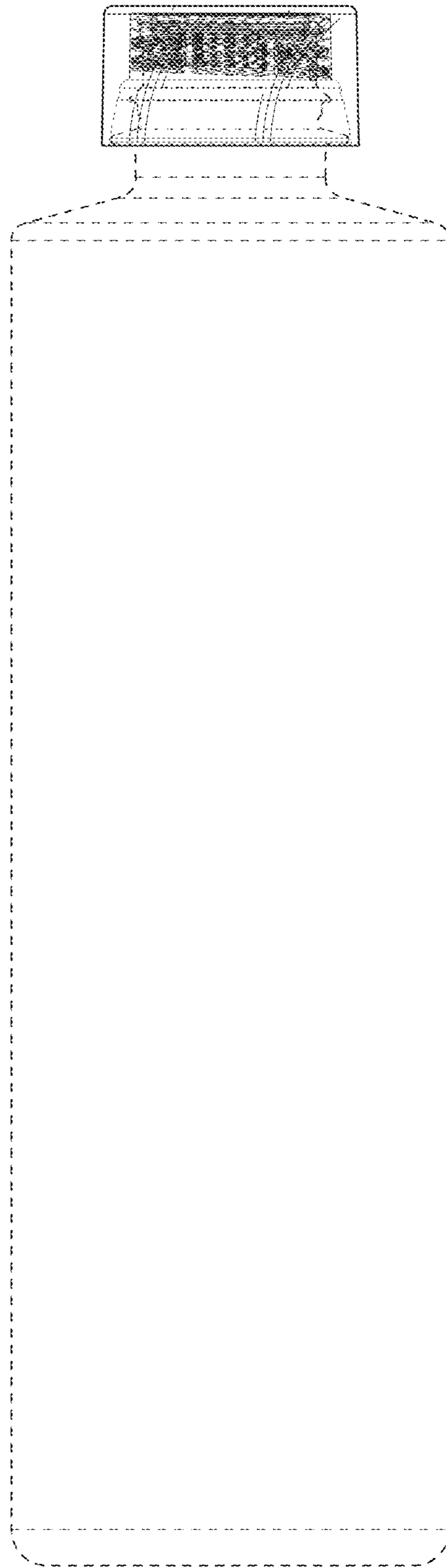


Fig. 3

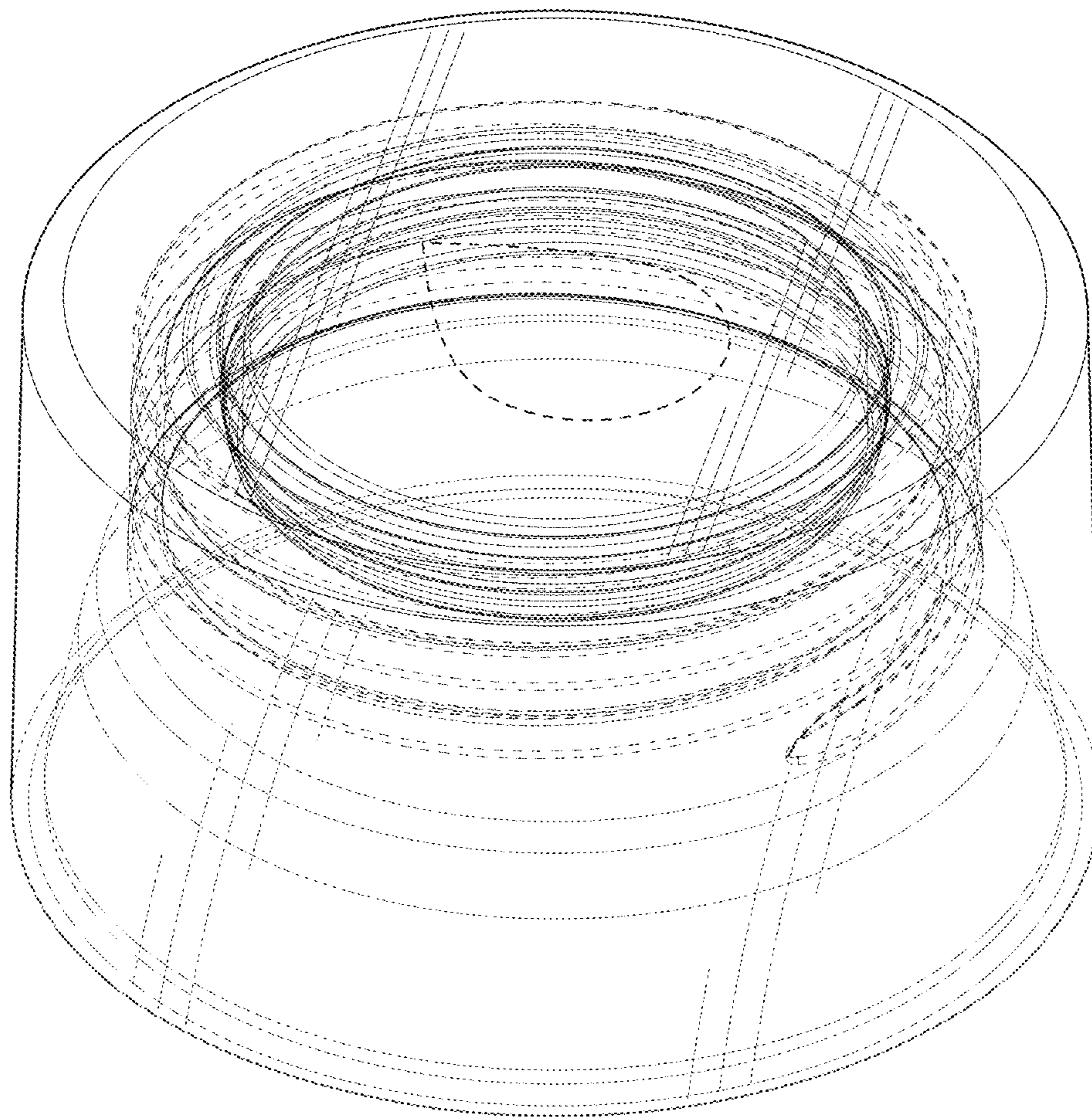


Fig. 4

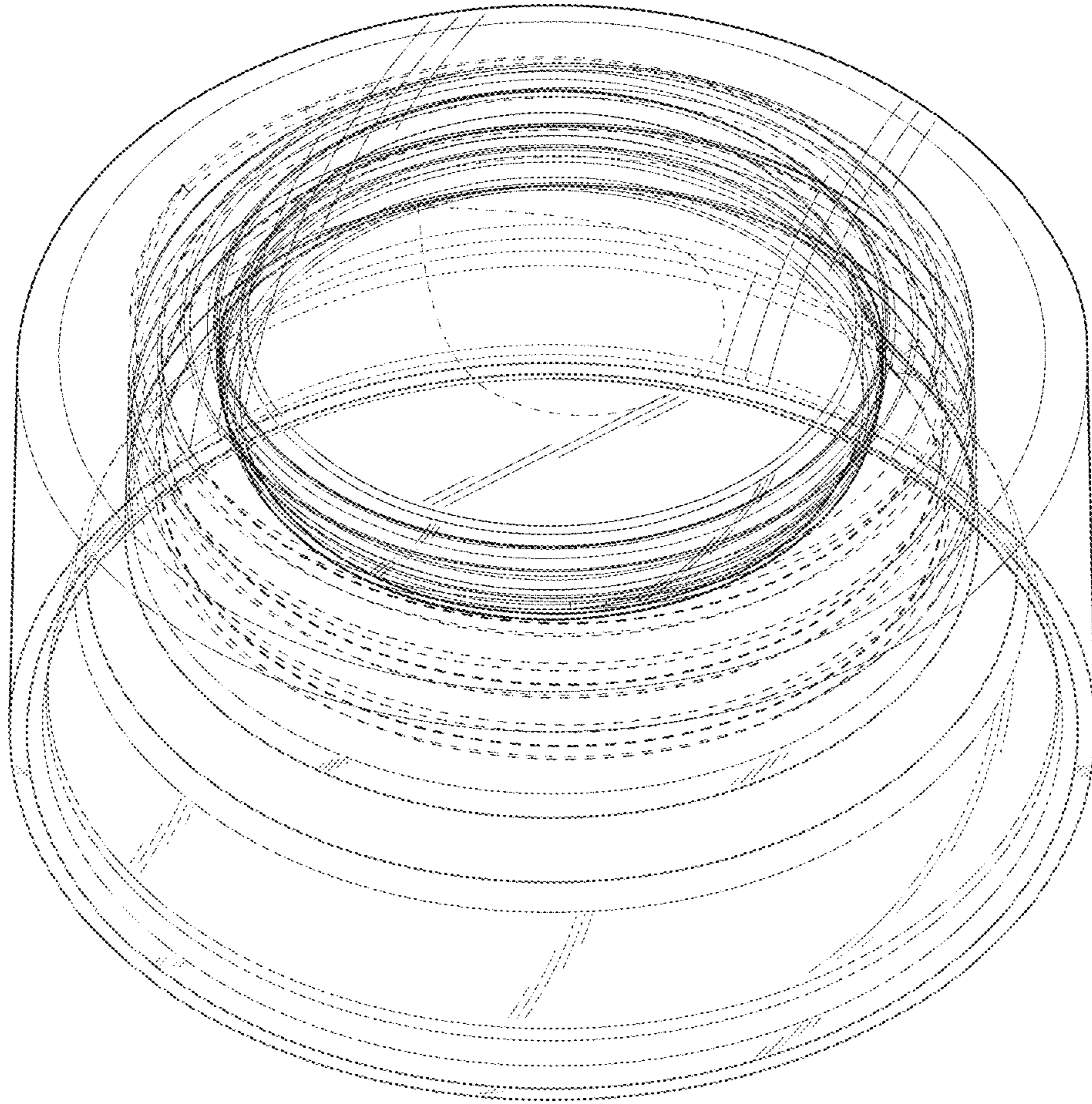


Fig. 5

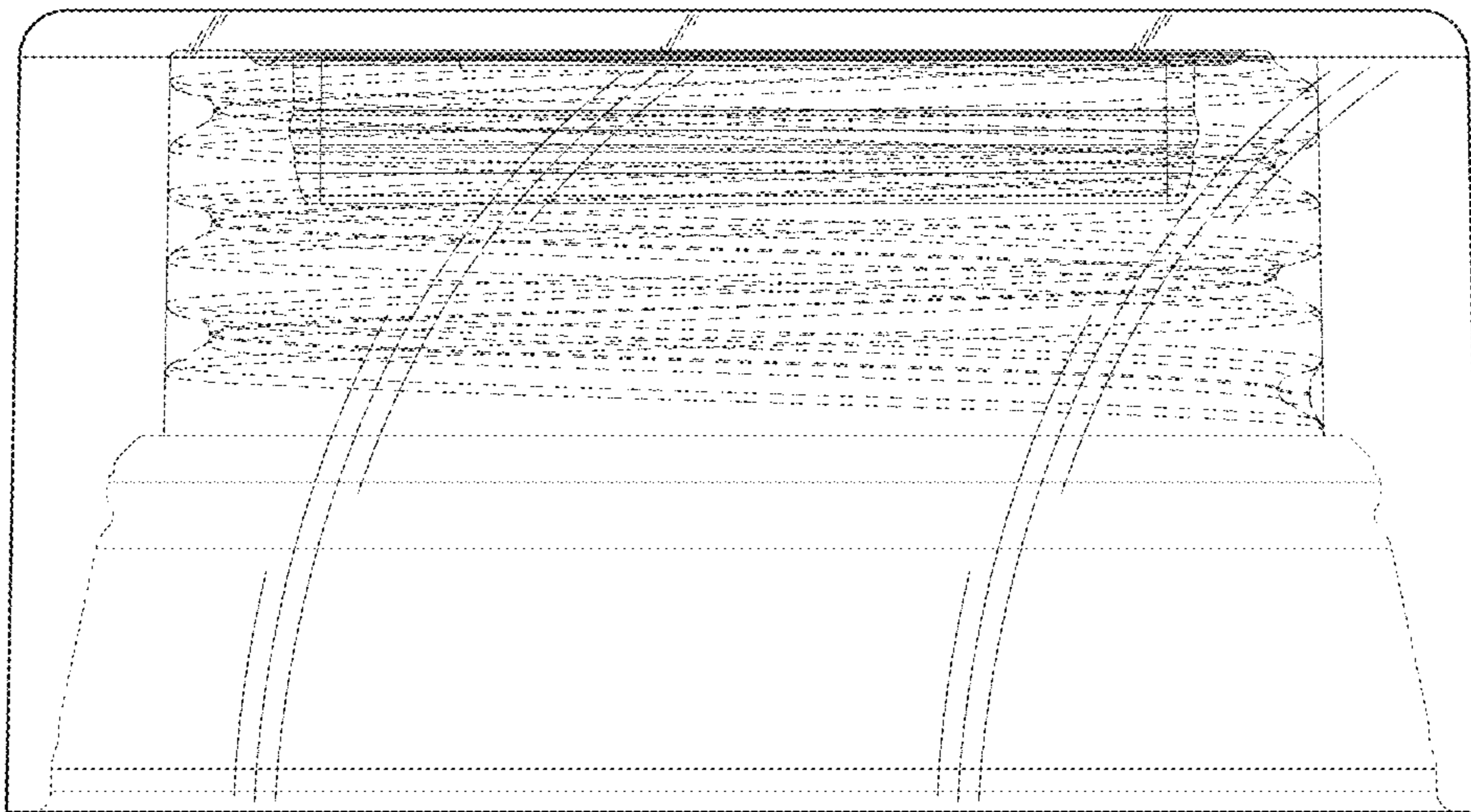


Fig. 6

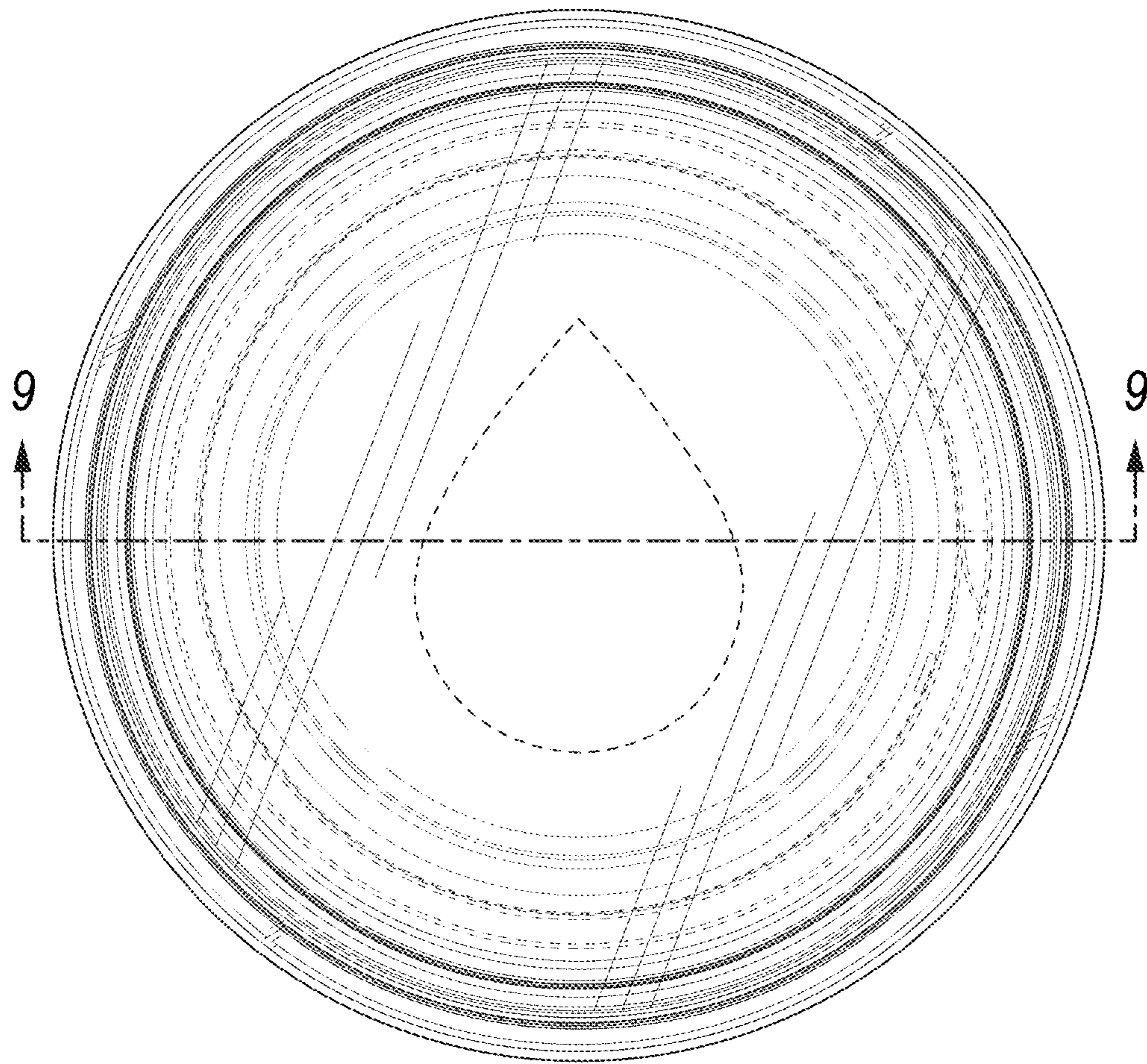


Fig. 7

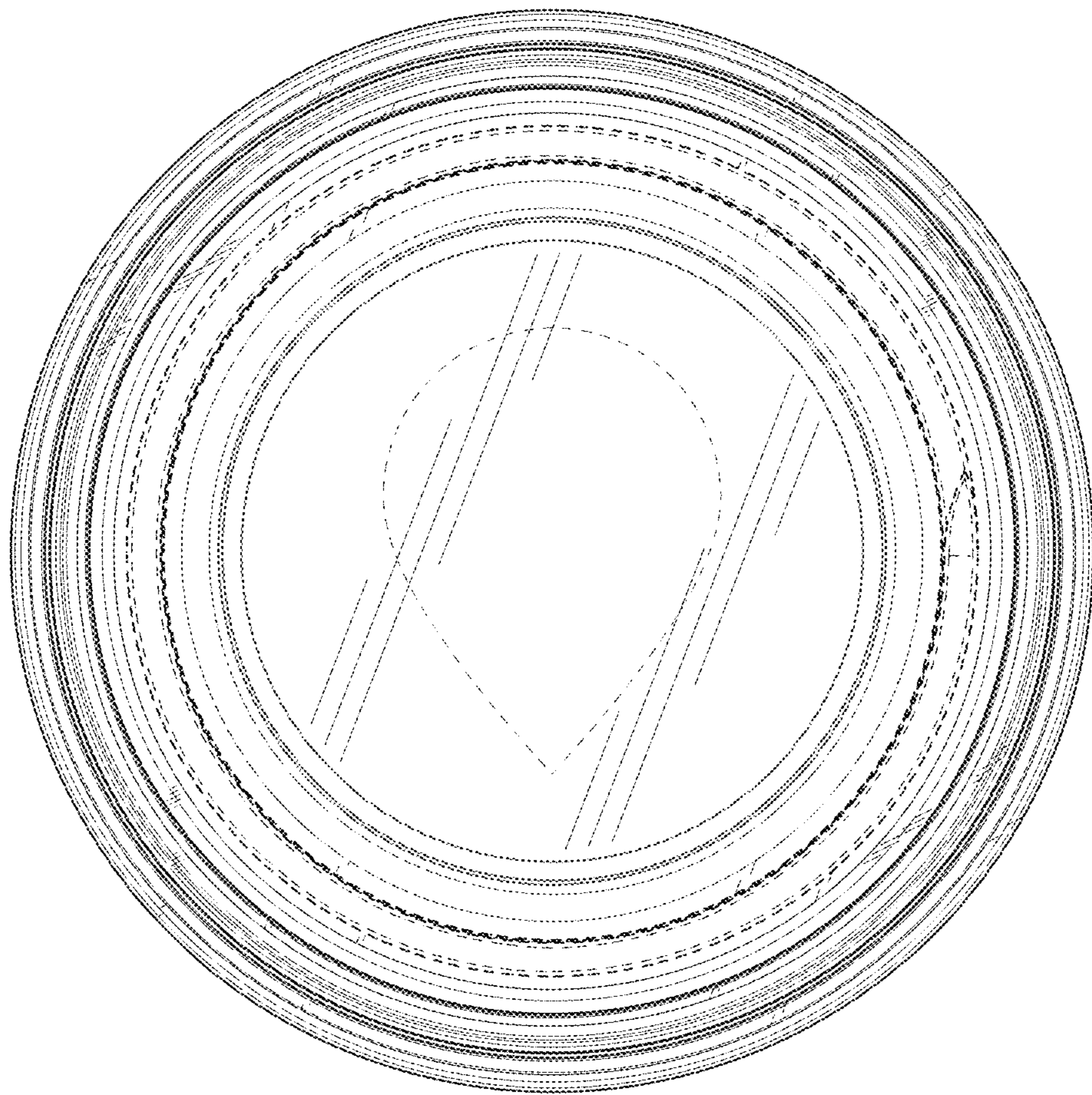


Fig. 8

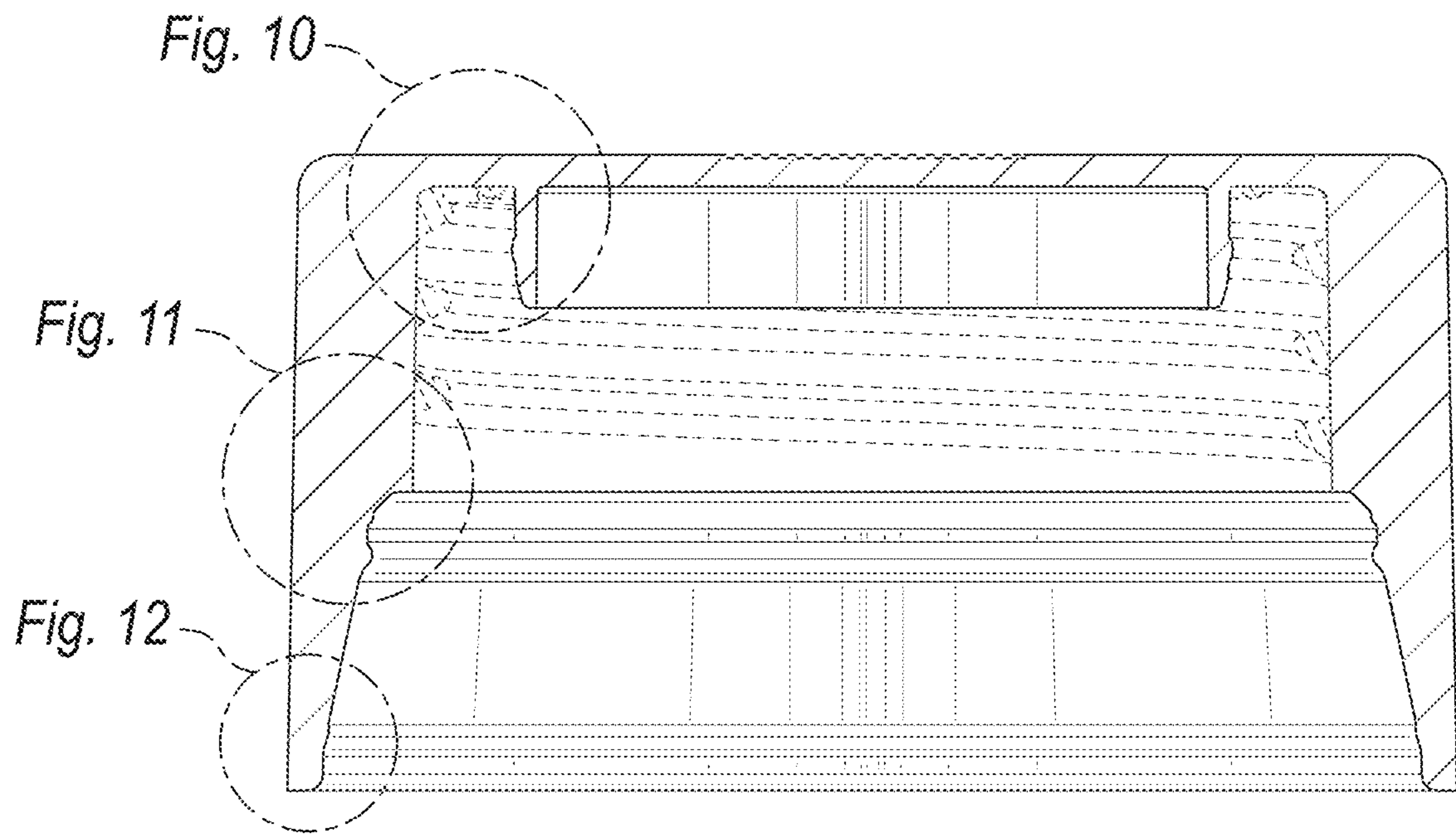


Fig. 9

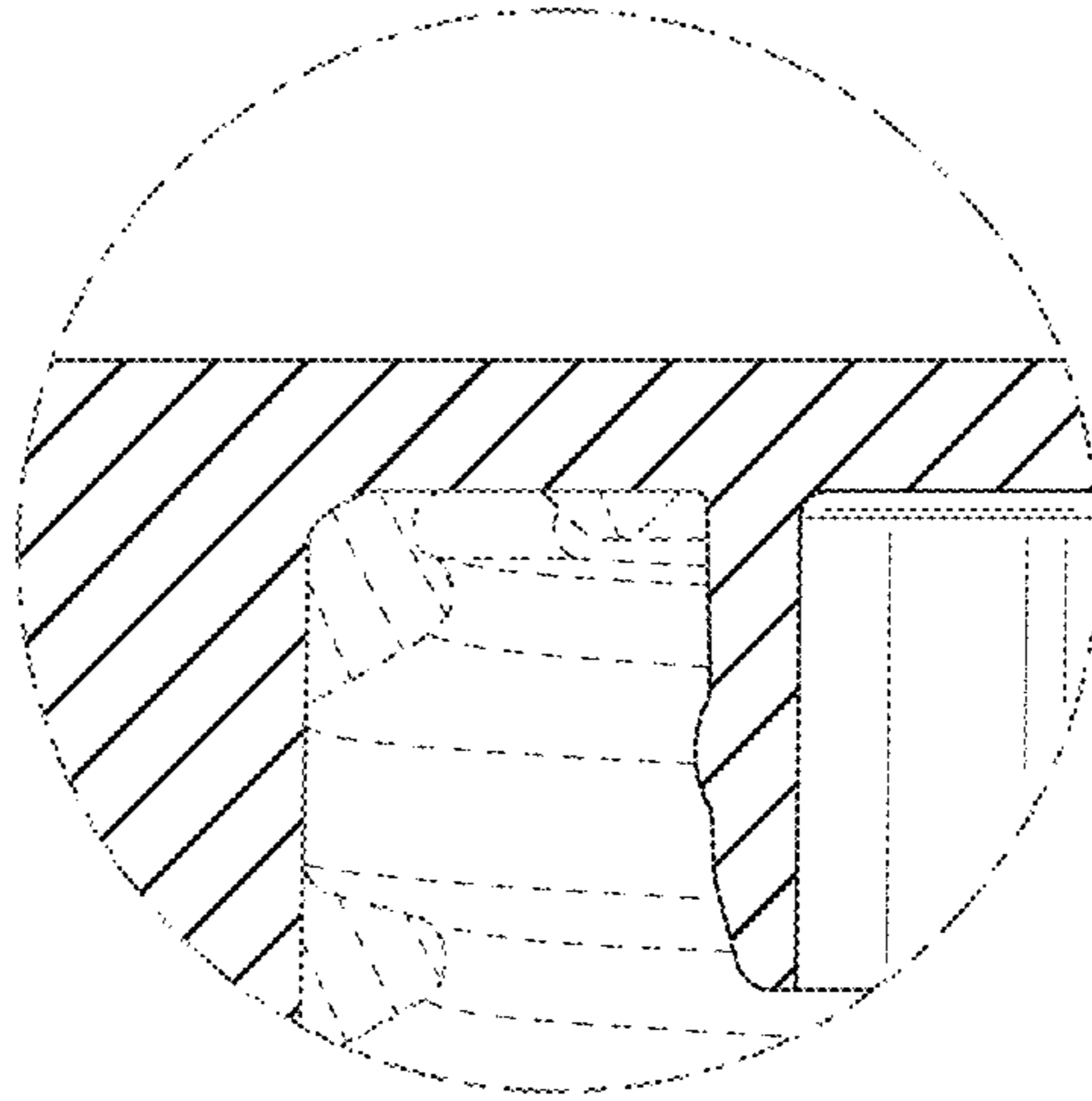


Fig. 10

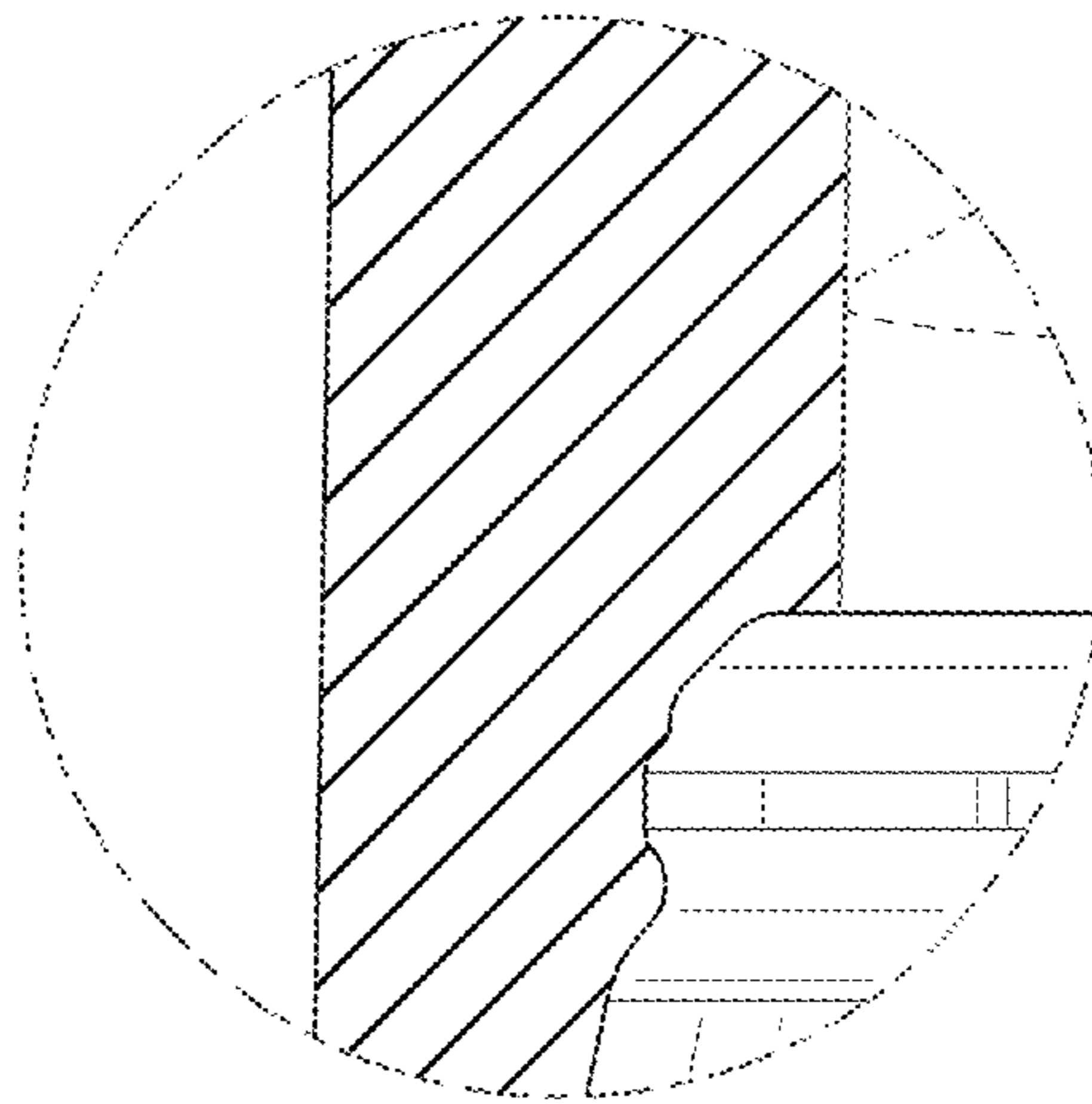


Fig. 11

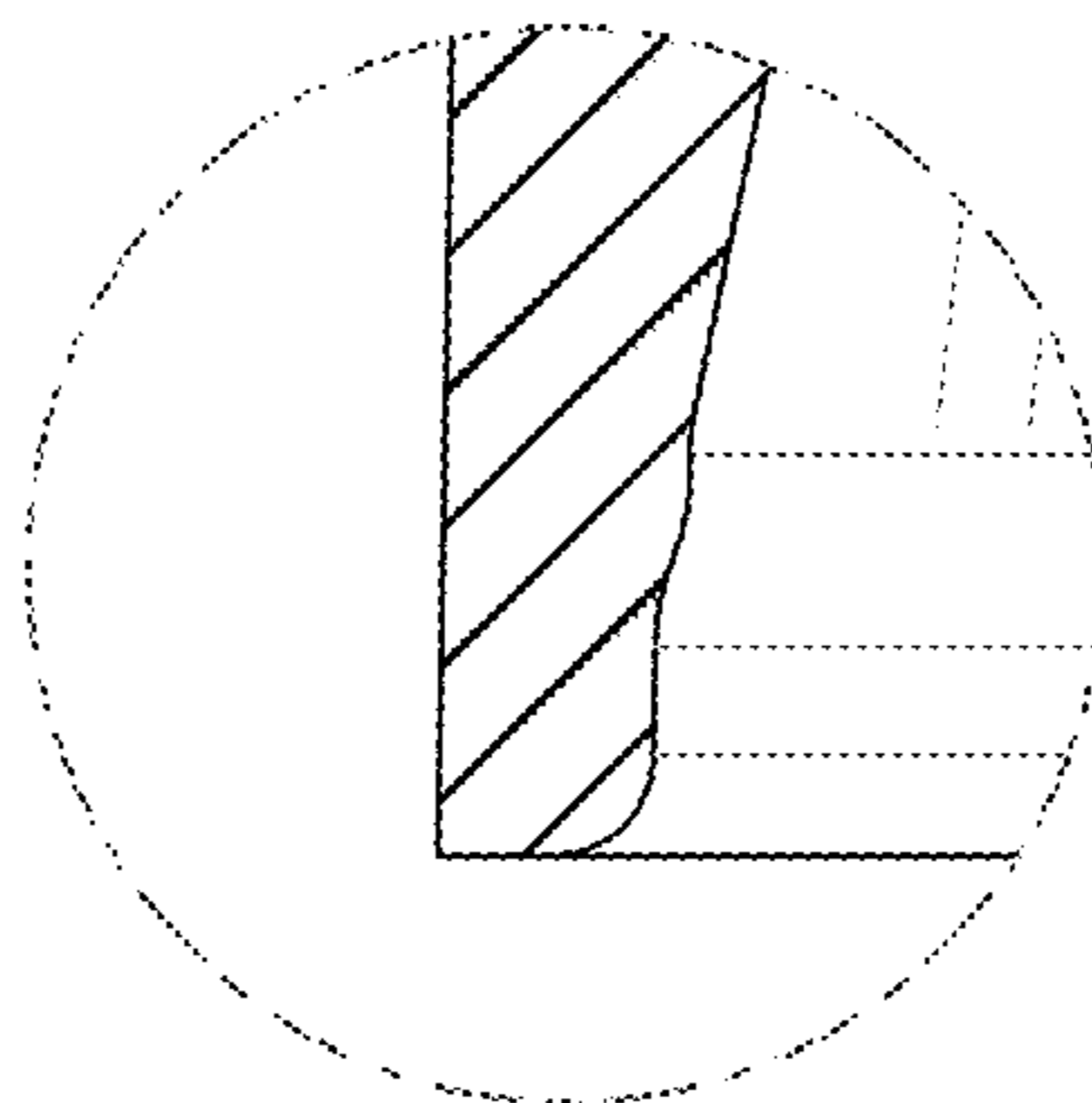


Fig. 12