



US00D875053S

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

(10) **Patent No.:** **US D875,053 S**

(45) **Date of Patent:** **** Feb. 11, 2020**

- (54) **PLASMA CONNECTOR LINER**
- (71) Applicant: **Applied Materials, Inc.**, Santa Clara, CA (US)
- (72) Inventor: **Eric Kihara Shono**, San Mateo, CA (US)
- (73) Assignee: **APPLIED MATERIALS, INC.**, Santa Clara, CA (US)
- (**) Term: **15 Years**
- (21) Appl. No.: **29/602,213**
- (22) Filed: **Apr. 28, 2017**
- (51) **LOC (12) Cl.** **13-03**
- (52) **U.S. Cl.**
USPC **D13/182**
- (58) **Field of Classification Search**
USPC D13/182, 184, 199; D15/144, 144.1, D15/144.2, 199, 138; D8/349, 354, 382, D8/387, 394, 397, 399, 396; D7/624.1, D7/624.2; D9/558, 772; D28/41; 118/715, 728, 50, 500, 501, 428, 722, 118/504, 505, 506, 719, 733, 309, 725 R; 156/345.3, 345.51, 916
CPC C23C 16/4404; C23C 16/45574; C23C 16/45578; C23C 16/00; C23C 16/4401; C23C 16/0245; C23C 16/564; C23C 14/564; C23C 18/1621; C23C 18/1626; C23F 1/02; C23F 1/04; C23F 1/38; B65B 1/04; B65B 3/04; A01B 12/006
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

- D105,943 S * 9/1937 Fuerst D7/523
- 2,782,614 A * 2/1957 Currie B65D 25/20
220/718
- 2,831,948 A * 4/1958 Fraser H02B 1/048
200/295

- 3,194,993 A * 7/1965 Hackney H02K 3/32
310/43
- 3,506,519 A * 4/1970 Blumenkranz B29C 65/342
156/274.2
- 3,792,299 A * 2/1974 Hallerback H02K 1/16
310/216.057
- 3,988,698 A 10/1976 Crane et al.
- 4,988,130 A 1/1991 Obara et al.
- 5,396,137 A * 3/1995 Shinto H02K 29/03
310/156.44
- 5,477,620 A * 12/1995 Barnett B25H 7/04
33/644
- D405,609 S * 2/1999 Fu D3/302
- 5,909,821 A * 6/1999 Guridi B65D 81/3886
220/592
- 5,961,916 A 10/1999 Ohashi et al.
- 5,989,058 A * 11/1999 Norgaard H01R 4/56
439/394
- D448,729 S * 10/2001 Asao D13/122

(Continued)

Primary Examiner — Elizabeth J Oswecki

(74) *Attorney, Agent, or Firm* — Patterson + Sheridan LLP

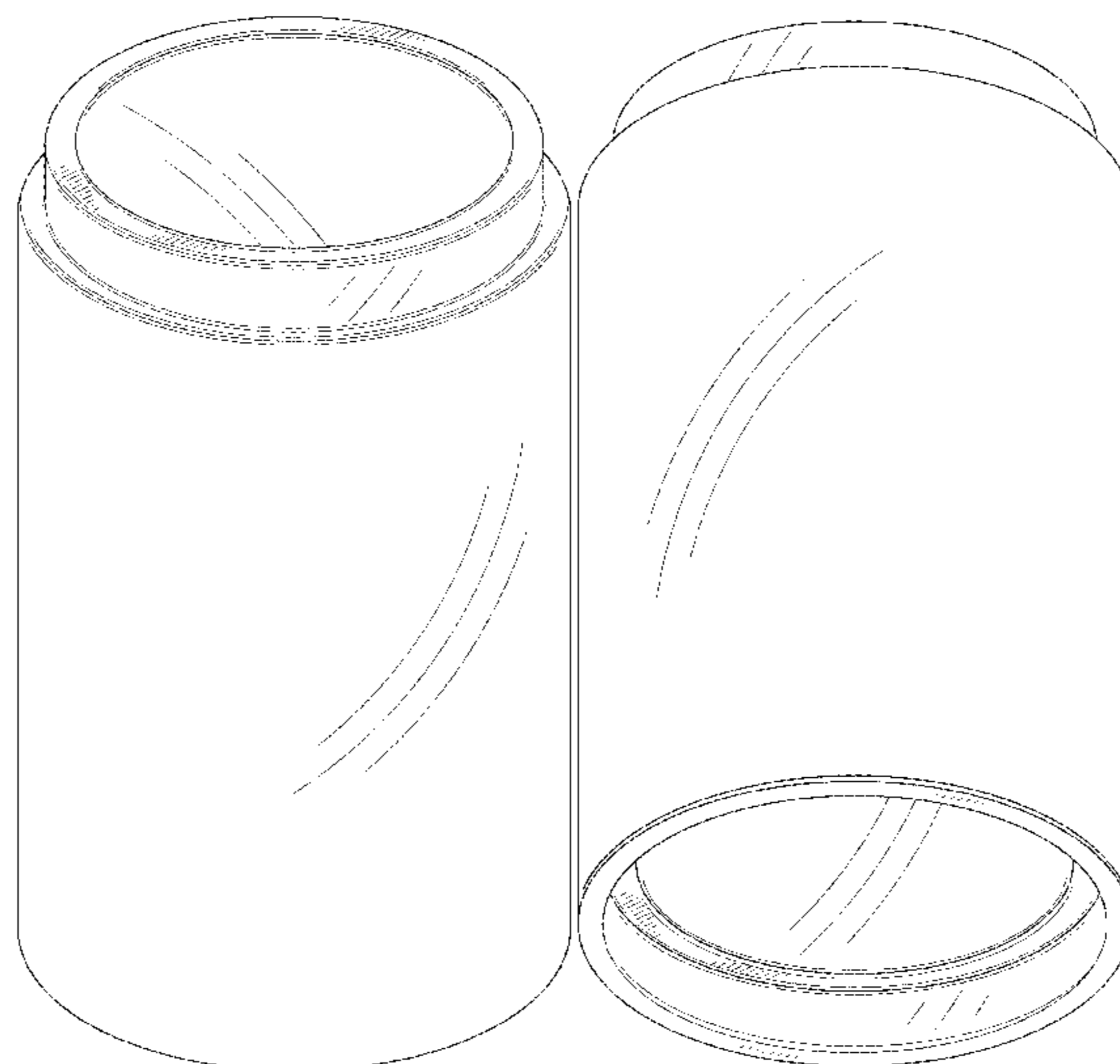
(57) **CLAIM**

The ornamental design for a plasma connector liner, as shown and described.

DESCRIPTION

FIG. 1 is an isometric top view of a plasma connector liner showing my new design;
 FIG. 2 is an isometric bottom view thereof;
 FIG. 3 is a side elevational view thereof, the opposite side elevational views being identical;
 FIG. 4 is a top view thereof;
 FIG. 5 is a bottom view thereof; and,
 FIG. 6 is a cross sectional view taken along lines 6-6 in FIG. 3.
 The surface shading in FIGS. 1-6 and the cross hatching in FIG. 6 indicate a refractory material.

1 Claim, 6 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

6,326,574 B1 12/2001 Huang et al.
 6,366,000 B1 * 4/2002 Higashino H02K 3/12
 310/208
 D458,222 S * 6/2002 Asao D13/122
 6,409,608 B1 * 6/2002 Garske A63B 57/357
 473/175
 D573,406 S * 7/2008 Thurmond, Jr. D7/509
 D592,529 S * 5/2009 Friebe D9/772
 7,537,136 B2 * 5/2009 Hechmati A47G 23/0216
 220/737
 D601,852 S * 10/2009 Newman D7/523
 D617,608 S * 6/2010 Yang D7/523
 D639,117 S * 6/2011 Jonsson D7/624.2
 8,056,757 B2 * 11/2011 Mansour B65D 81/3886
 220/737
 D662,767 S * 7/2012 Hotell D7/396.2
 8,617,672 B2 * 12/2013 Bhatnagar H01L 21/67115
 428/34.4
 D699,692 S * 2/2014 Yousif D13/182
 D703,160 S * 4/2014 Tanimura D13/182
 D711,331 S * 8/2014 Lau D13/182
 D716,239 S * 10/2014 Lau D13/182
 D716,240 S * 10/2014 Lau D13/182
 D717,746 S * 11/2014 Lau D13/182
 8,942,552 B2 * 1/2015 Pionetti F16L 1/15
 285/41
 8,980,005 B2 * 3/2015 Carlson C23C 16/4404
 118/715
 D727,688 S * 4/2015 Hewitt D7/608
 D741,823 S * 10/2015 Tateno D13/182
 D749,702 S * 2/2016 Rohn D23/259
 D749,888 S * 2/2016 Magistro D7/354
 D749,889 S * 2/2016 Magistro D7/354
 D779,285 S * 2/2017 Seiders D7/624.2
 D779,892 S * 2/2017 Seiders D7/624.2
 D780,530 S * 3/2017 Seiders D7/608

D780,531 S * 3/2017 Seiders D7/608
 D780,533 S * 3/2017 Seiders D7/608
 D786,025 S * 5/2017 Seiders D7/606
 D801,753 S * 11/2017 Piper D7/624.2
 D802,790 S * 11/2017 Tauchi D24/232
 D804,436 S * 12/2017 Tauchi D13/182
 D812,578 S * 3/2018 Uemura D13/182
 D818,447 S * 5/2018 Shono D13/182
 D832,734 S * 11/2018 Warren D11/26
 D837,754 S * 1/2019 Shono D13/182
 D838,681 S * 1/2019 Shono D13/182
 D840,365 S * 2/2019 Ichino D13/182
 10,217,615 B2 * 2/2019 Singh H01L 21/67248
 D842,259 S * 3/2019 Shono D13/182
 D845,083 S * 4/2019 Owen D7/608
 2001/0023821 A1 * 9/2001 Harris H01L 21/67017
 204/279
 2002/0069970 A1 * 6/2002 Noorbakhsh C23C 16/4401
 156/345.37
 2004/0033385 A1 * 2/2004 Kaushal H01J 37/32467
 428/627
 2004/0069223 A1 * 4/2004 Tzeng H01J 37/32477
 118/715
 2005/0229849 A1 * 10/2005 Silvetti C23C 16/4404
 118/715
 2007/0113783 A1 * 5/2007 Lee C23C 16/4404
 118/715
 2008/0121620 A1 * 5/2008 Guo C23C 14/3464
 216/67
 2008/0308230 A1 * 12/2008 Takahashi H01J 37/32431
 156/345.52
 2009/0188625 A1 * 7/2009 Carducci H01J 37/32467
 156/345.34
 2012/0018402 A1 * 1/2012 Carducci H01J 37/32082
 216/67
 2014/0322897 A1 * 10/2014 Samir H01L 21/67017
 438/478
 2016/0307743 A1 * 10/2016 Brown H01J 37/32816

* cited by examiner

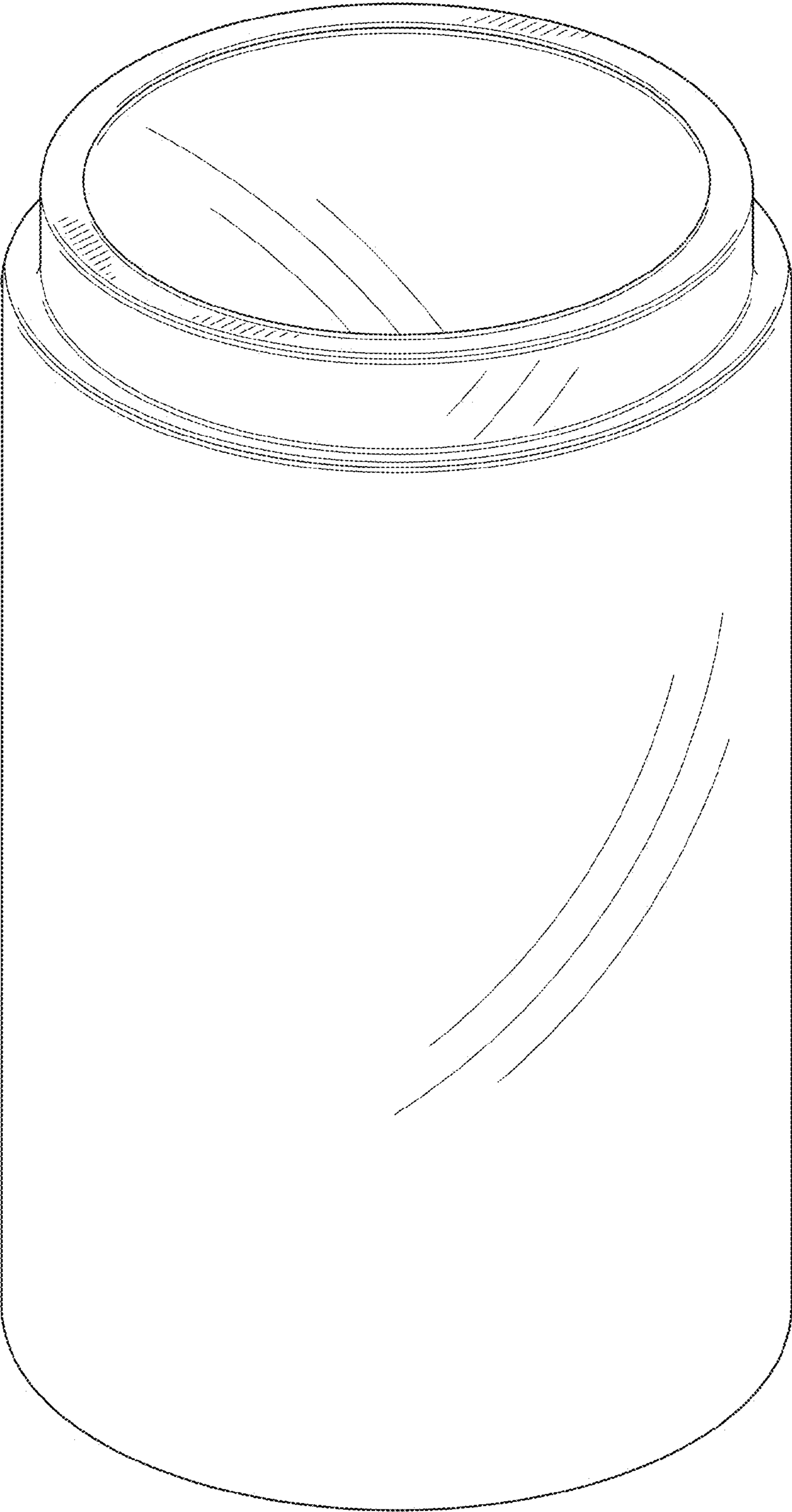


Fig. 1

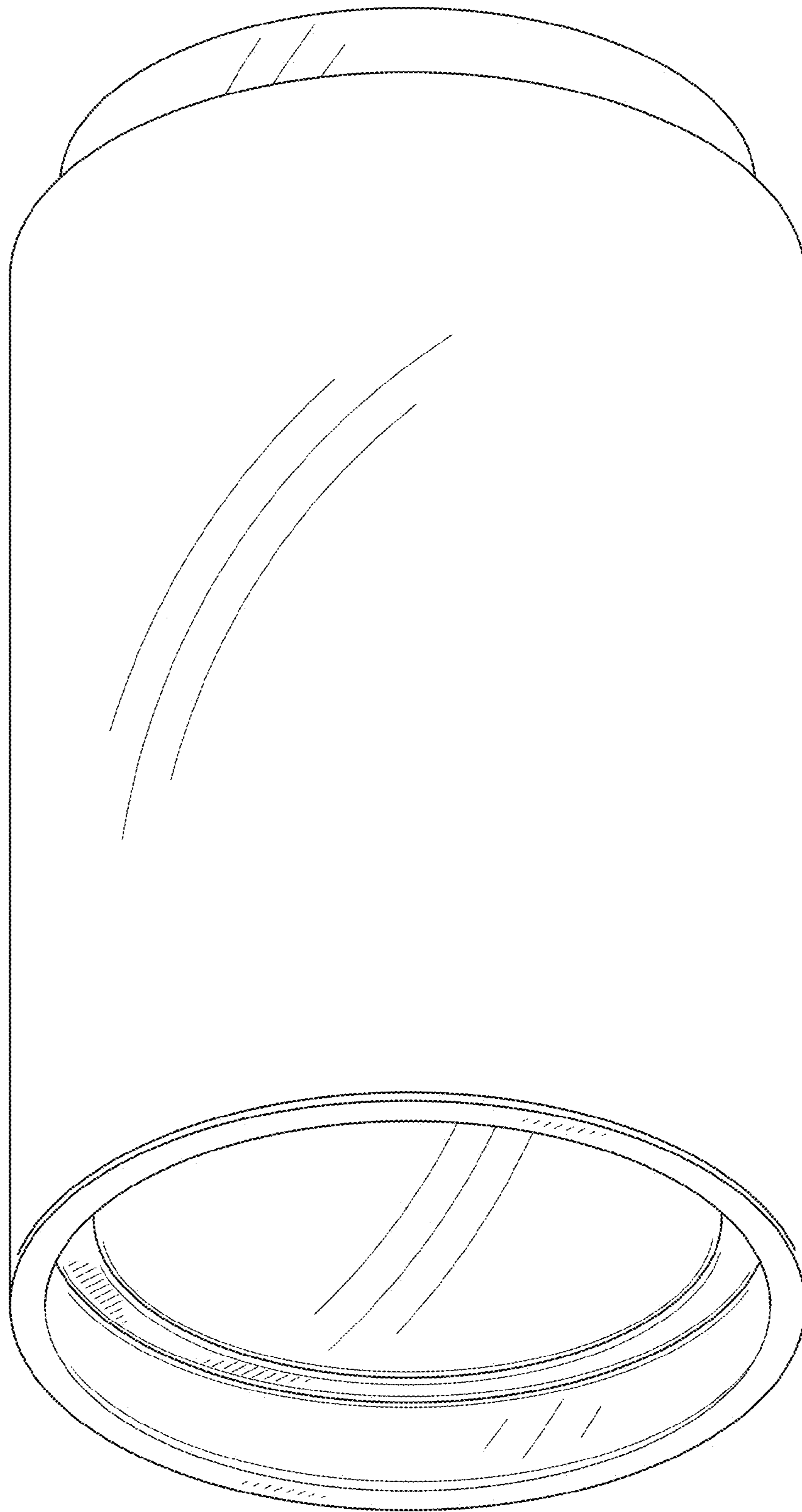


Fig. 2

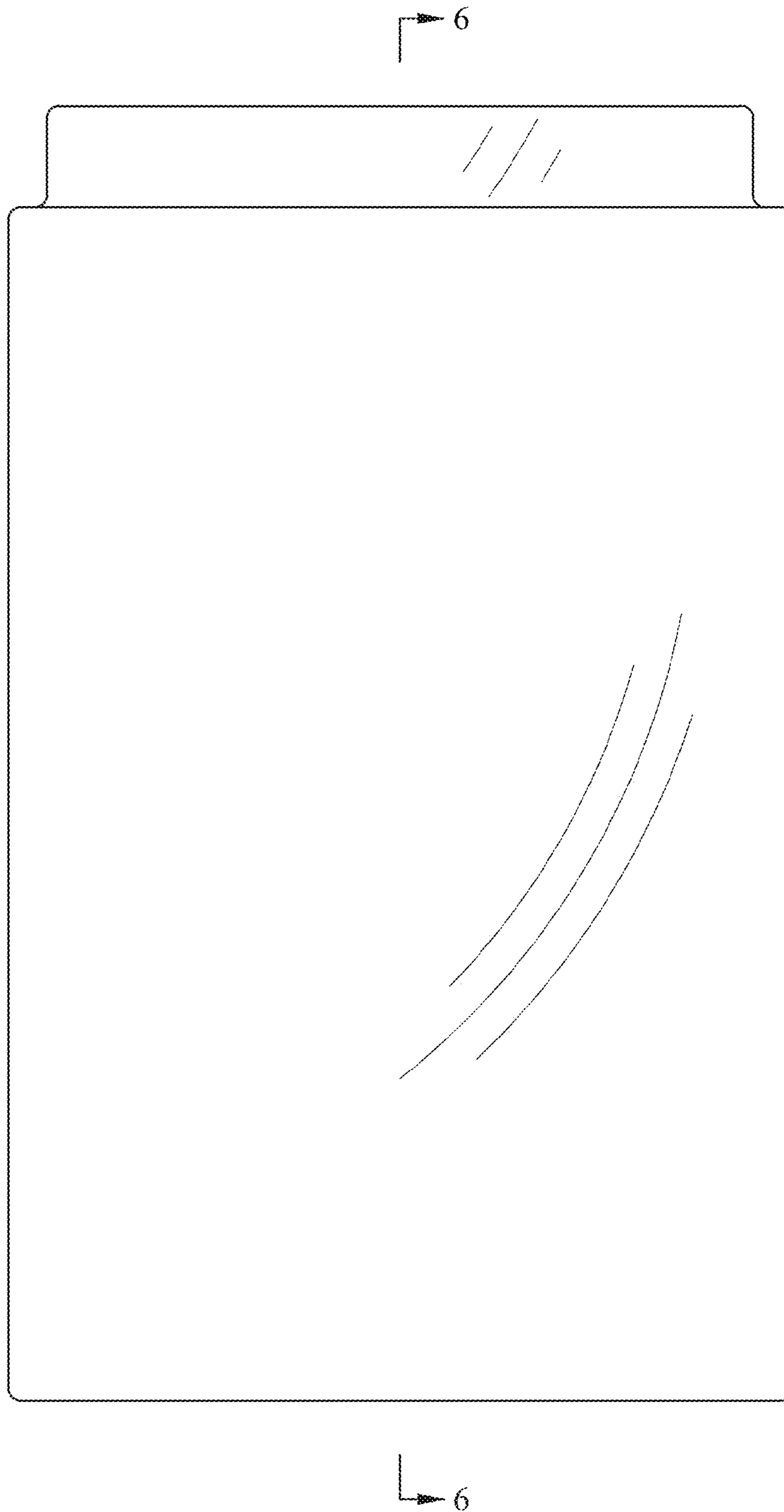


Fig. 3

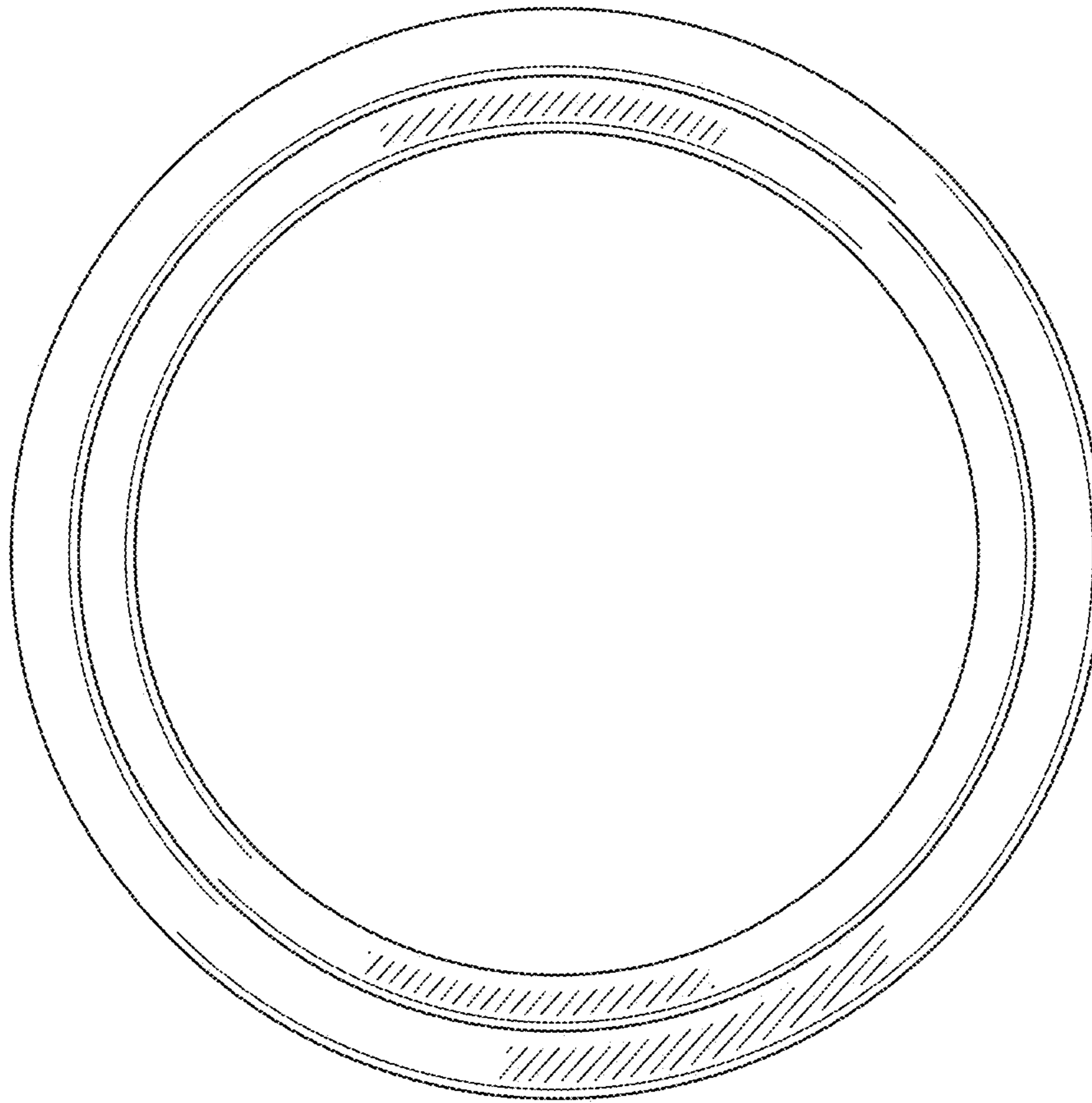


Fig. 4

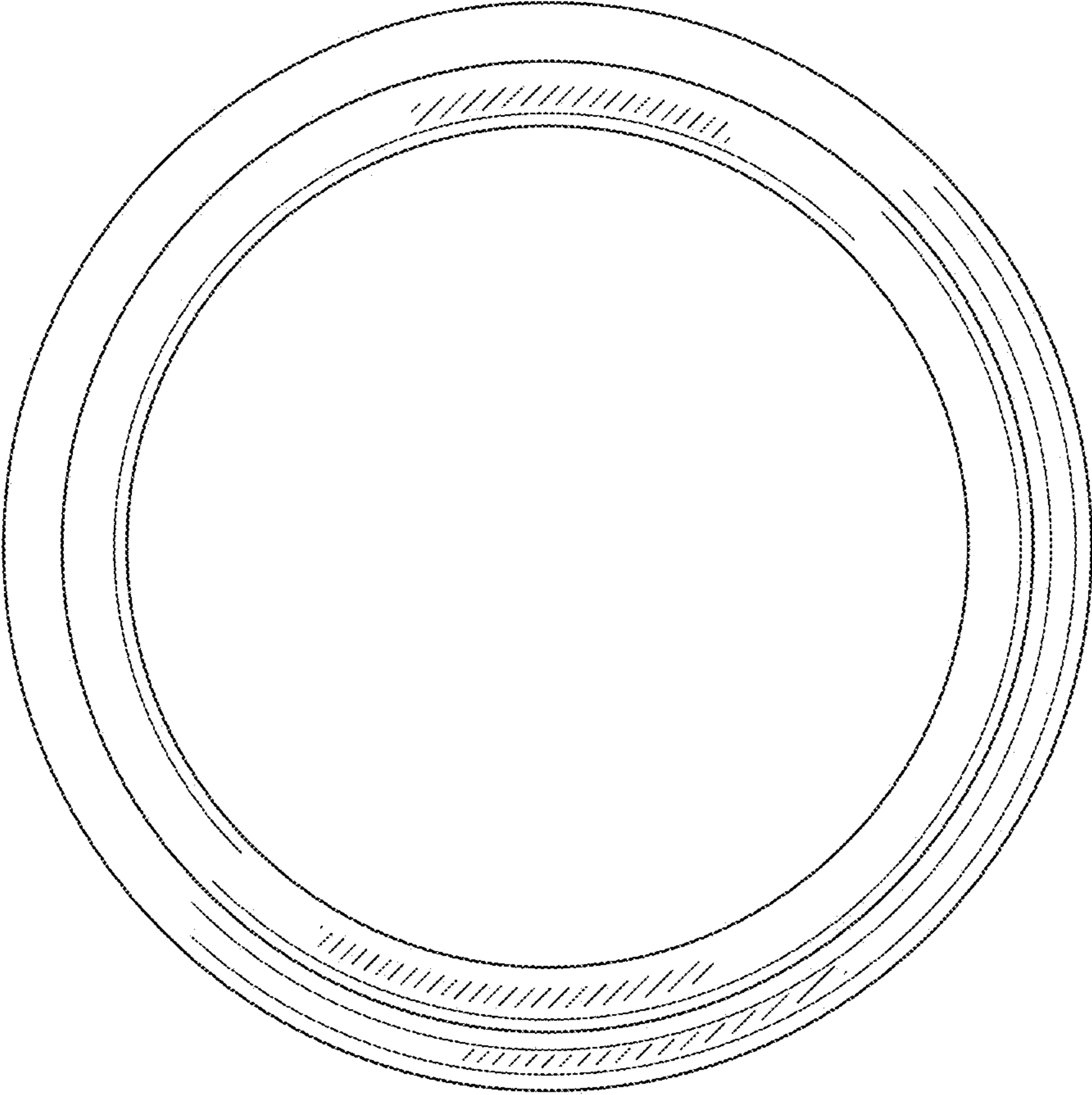


Fig. 5

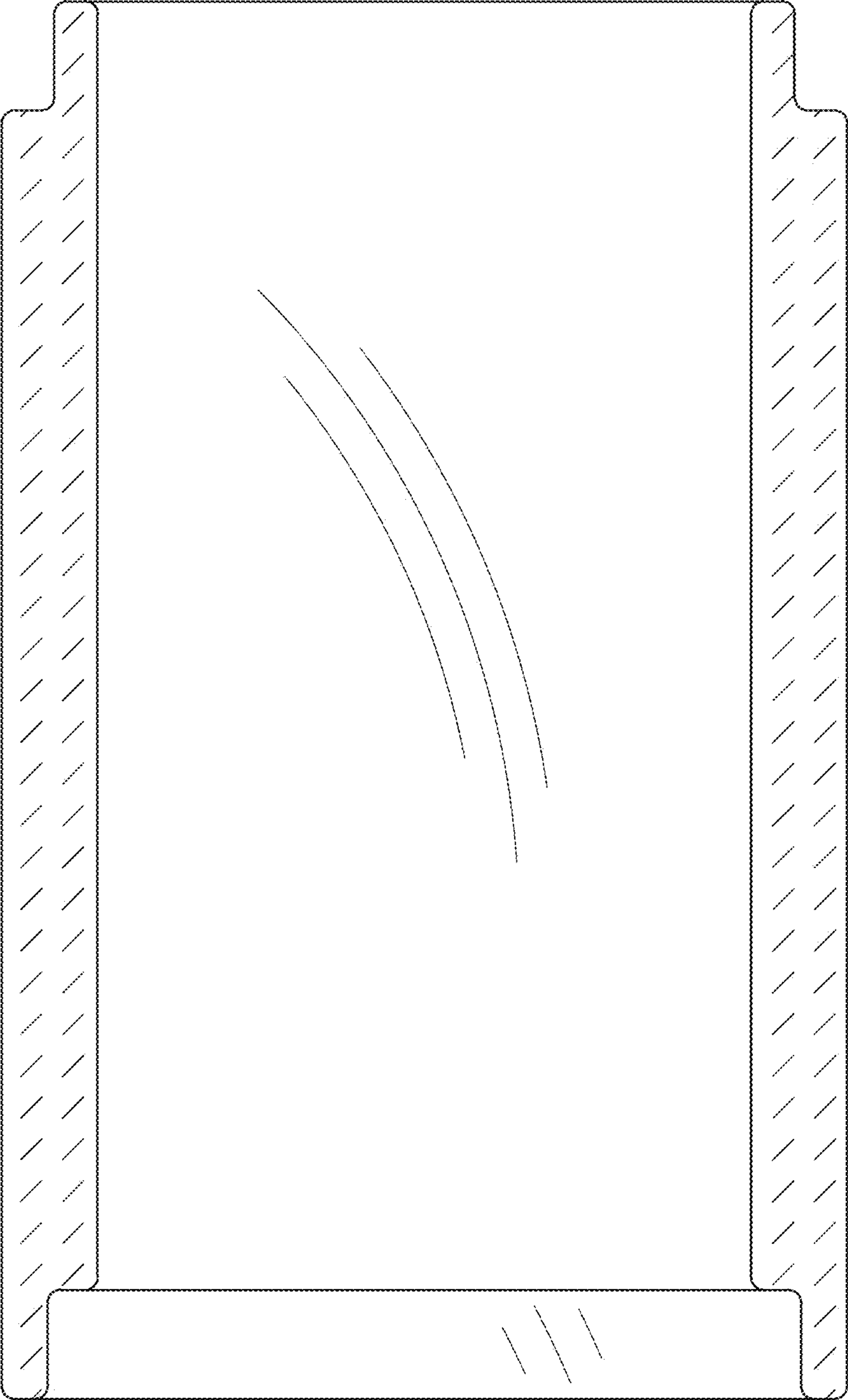


Fig. 6