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(12) **United States Design Patent** (10) **Patent No.:** **US D911,813 S**
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(54) **CAM LOCK** 4,599,011 A * 7/1986 Tashiro F16B 12/2036
403/245
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403/231
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(US) (Continued)

FOREIGN PATENT DOCUMENTS

DE 202010013164 3/2011

OTHER PUBLICATIONS

Ikea CAM, https://www.ebay.co.uk/itm/Ikea-CAM-LOCK-BOLT-Screw-Nut-Flat-Pack-Furniture-Connector-Pax-Billy-Cupboard/223345655604?_trkparms=aid%3D1110006%26algo%3DHOMESPLICE.SIM%26ao%3D1%26asc%3D225114%26meid%3Ddeb89a8f86e504b52b093fd26f27c8f3f%26pid%3D100623%26rk%3D4%26rkt%3D5%26mehot%3Dpp%26sd%3D223 (Year: 2020).*

(Continued)

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(51) **LOC (13) Cl.** **08-07**

(52) **U.S. Cl.**
USPC **D8/343**

(58) **Field of Classification Search**
USPC D8/330, 331, 343, 344, 349, 374, 382,
D8/394, 397, 399, 499, 387
CPC F16B 12/00; F16B 12/02; F16B 12/10;
F16B 2012/106; F16B 12/14; F16B
12/20; F16B 12/2009; F16B 12/54; Y10T
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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,796,502 A 3/1931 Raymond
2,708,147 A 5/1955 Duggan et al.
3,791,709 A 2/1974 Cross
3,879,096 A 4/1975 Blodee
3,914,892 A 10/1975 Mohr
D241,008 S * 8/1976 Di Loreto et al. D8/354
4,131,376 A * 12/1978 Busse F16B 12/2036
312/263
D264,680 S * 6/1982 Widen D8/343
D272,718 S * 2/1984 Knudson D8/382

(57) **CLAIM**

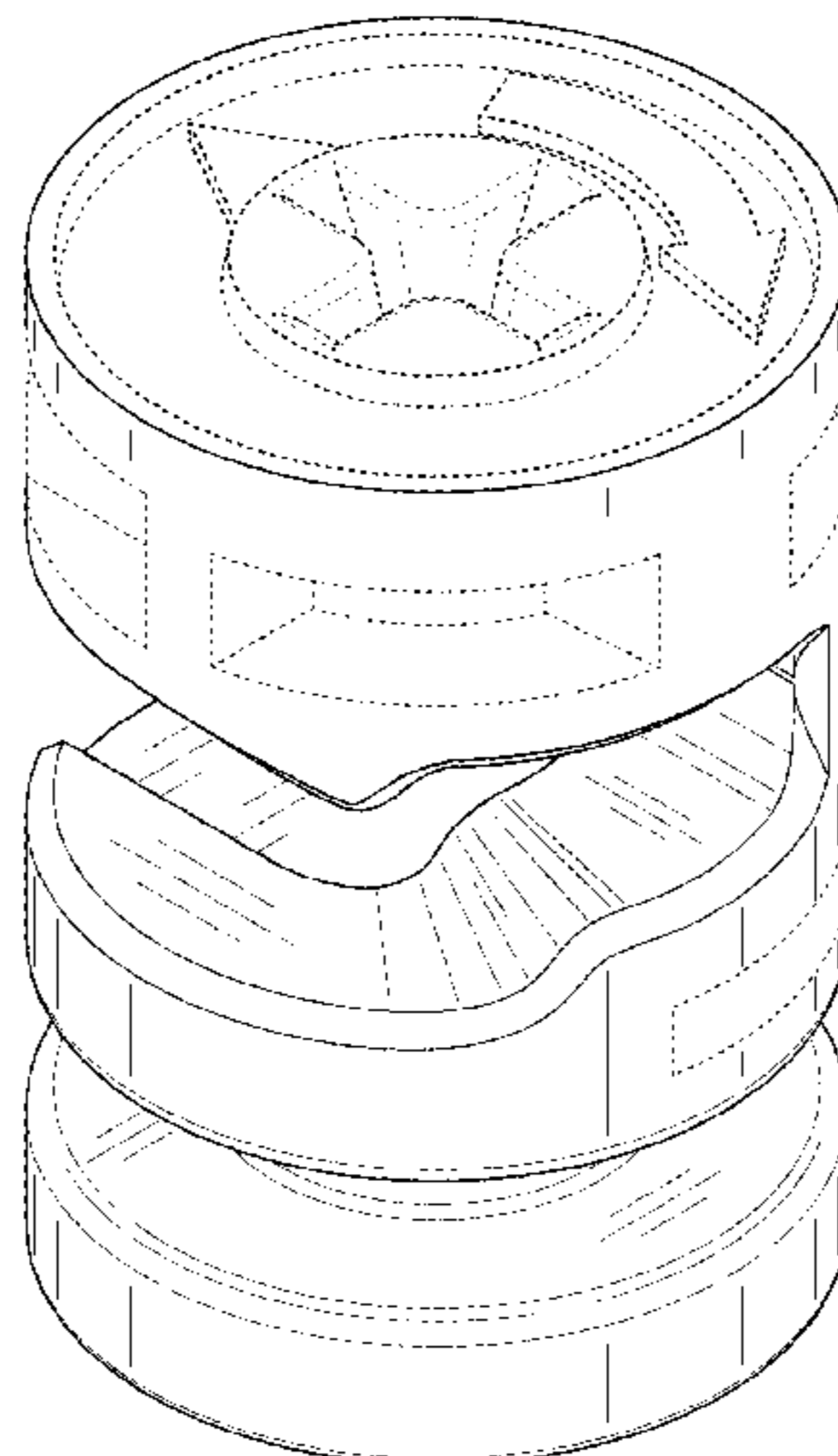
The claim the ornamental design for a cam lock, as shown and described.

DESCRIPTION

FIG. 1 is a top front perspective view of a cam lock;
FIG. 2 is a top rear perspective view thereof;
FIG. 3 is a bottom front perspective view thereof;
FIG. 4 is a bottom rear perspective view thereof;
FIG. 5 is a front view thereof;
FIG. 6 is a rear view thereof;
FIG. 7 is a left side view thereof;
FIG. 8 is a right side view thereof;
FIG. 9 is a top view thereof; and,
FIG. 10 is a bottom view thereof.

The broken lines depict portions of the article that form no part of the claimed design.

1 Claim, 10 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

5,222,611 A 6/1993 Wood et al.
 5,392,934 A 2/1995 Fox
 5,590,975 A * 1/1997 Horntvedt F16B 12/2036
 312/348.2
 5,624,168 A 8/1997 Licciardello, Sr.
 5,667,327 A * 9/1997 Salice F16B 12/2063
 403/231
 D391,844 S * 3/1998 Ropponen D8/382
 5,762,442 A * 6/1998 Salice F16B 12/16
 403/231
 5,788,395 A * 8/1998 Grieser F16B 12/2036
 403/231
 5,927,671 A 7/1999 Pynenburg
 D422,200 S * 4/2000 Maruyama D8/382
 6,478,518 B1 * 11/2002 Hwang F16B 12/14
 411/104
 6,848,855 B2 * 2/2005 Hasler F16B 12/2036
 403/409.1
 6,945,414 B1 9/2005 Stevens et al.
 D573,453 S * 7/2008 Buckley D8/382
 D583,224 S * 12/2008 Holdsworth D8/382
 7,624,479 B1 * 12/2009 Lin F16B 9/054
 24/135 N
 D622,582 S * 8/2010 Lottner D8/387
 D627,490 S * 11/2010 Janish D25/199
 7,886,496 B1 2/2011 Spransy
 D633,782 S * 3/2011 Tompkins D8/382
 7,954,914 B2 6/2011 Kendall et al.
 8,434,835 B2 5/2013 Hardy et al.
 8,840,080 B1 9/2014 Gordon
 D719,820 S * 12/2014 McGrath D8/382
 D721,266 S * 1/2015 Sun D8/382
 8,955,266 B2 2/2015 Zhang
 D727,138 S * 4/2015 Cross D8/382
 9,010,033 B2 4/2015 Woods et al.
 D730,717 S * 6/2015 Moreau D8/343
 D746,461 S * 12/2015 Butler D24/155
 9,211,004 B2 12/2015 Diemel, Jr. et al.
 9,511,334 B2 12/2016 Kral et al.
 9,668,576 B2 6/2017 Trunkle
 D793,840 S * 8/2017 Richardson D8/330
 D799,949 S * 10/2017 Stevenson A61B 17/7038
 D8/387
 D805,367 S * 12/2017 Winslow D8/331
 9,944,217 B2 4/2018 Schroeder et al.
 D818,806 S * 5/2018 Copeland D8/387
 D832,094 S * 10/2018 Omori D8/397
 D835,978 S * 12/2018 Ikeda D8/397
 D843,197 S * 3/2019 Dempsey D8/343
 D844,421 S * 4/2019 McClure F16B 13/045
 D8/382

D859,134 S * 9/2019 Iacono D8/382
 D864,702 S * 10/2019 Hagspiel D8/387
 D866,309 S * 11/2019 McGrath D8/382
 D867,117 S * 11/2019 McGrath D8/382
 D874,257 S * 2/2020 Cheng D8/399
 D875,517 S * 2/2020 Cheng D8/399
 D883,769 S * 5/2020 Siegel D8/343
 D885,880 S * 6/2020 Li D8/397
 2004/0016080 A1 1/2004 DeOliveira
 2008/0069631 A1 * 3/2008 Zillmann F16B 12/2027
 403/108
 2008/0084143 A1 * 4/2008 Ho F16B 12/2009
 312/111
 2010/0004693 A1 * 1/2010 Miller A61B 17/7001
 606/308
 2010/0322740 A1 * 12/2010 Vestergaard-Jensen
 F16B 12/54
 411/321
 2013/0020920 A1 1/2013 Weber
 2013/0096618 A1 * 4/2013 Chandanson A61B 17/7032
 606/278
 2013/0131734 A1 * 5/2013 Longtain A61B 17/7037
 606/305
 2013/0180202 A1 7/2013 Woods et al.
 2013/0345754 A1 * 12/2013 Doubler A61B 17/704
 606/266
 2014/0140758 A1 * 5/2014 Liu F16B 12/14
 403/299
 2015/0112390 A1 * 4/2015 Fang A61B 17/7037
 606/266
 2015/0230829 A1 * 8/2015 Harris A61B 17/7037
 606/270
 2016/0245321 A1 * 8/2016 Yu F16B 12/00
 2017/0023042 A1 * 1/2017 Grabher F16B 12/2036
 2018/0135677 A1 * 5/2018 Cattaneo F16B 12/10
 2018/0235366 A1 * 8/2018 Pyle A47B 95/008
 2018/0238366 A1 * 8/2018 Cattaneo F16B 12/2063
 2019/0142175 A1 * 5/2019 Cantrell F16B 12/32
 5/9.1

OTHER PUBLICATIONS

Hafele Cam Lock, <https://www.screwfix.ie/c/screws-nails-fixings/cam-dowels-locks/cat7280104> (Year: 2020).
 Supplementary Partial European Search Report for European Appln. No. 18708321 dated Nov. 18, 2019.
 Home-Dzine. What are Cam or Locking Screws? Sep. 13, 2016. (May 29, 2018). Retrieved from internet: <URL: <https://www.archive.org/web/20160913065128/https://www.home-dzine.co.za/diy/diy-camscrews.htm>>.
 Search Report for Corresponding International Application No. PCT/US2018/019336, dated Jun. 22, 2018. WO.

* cited by examiner

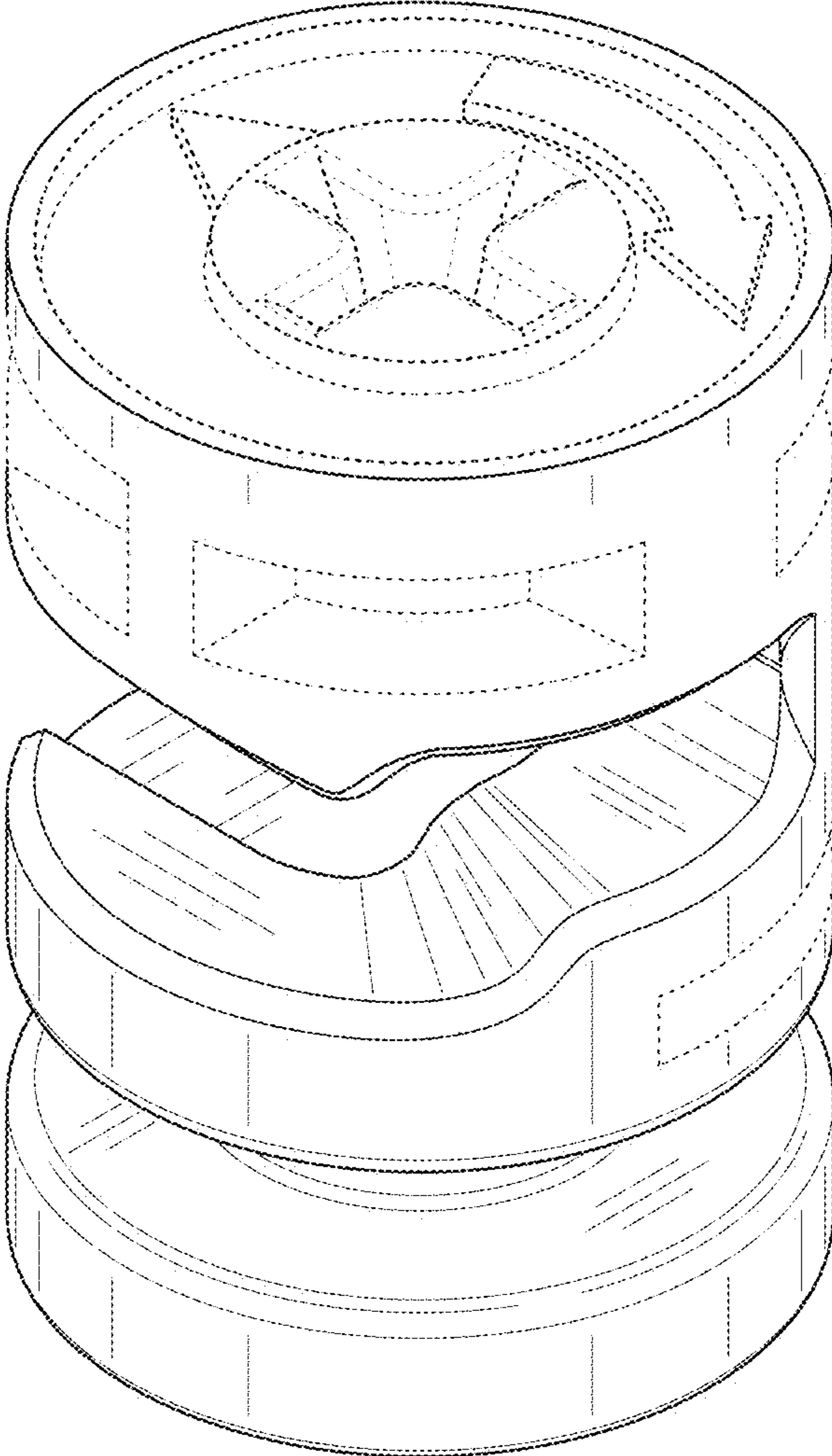


FIG. 1

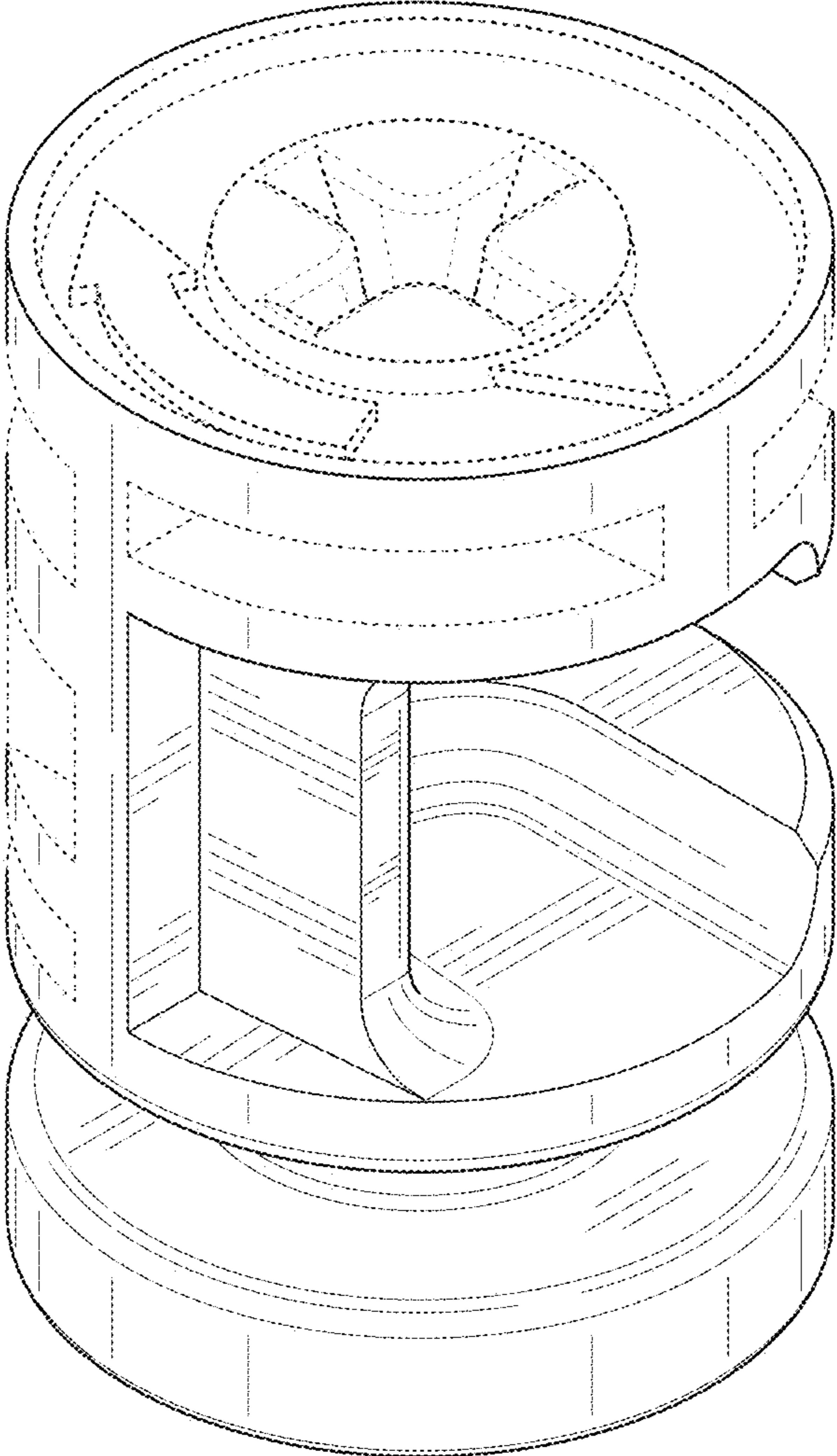


FIG. 2

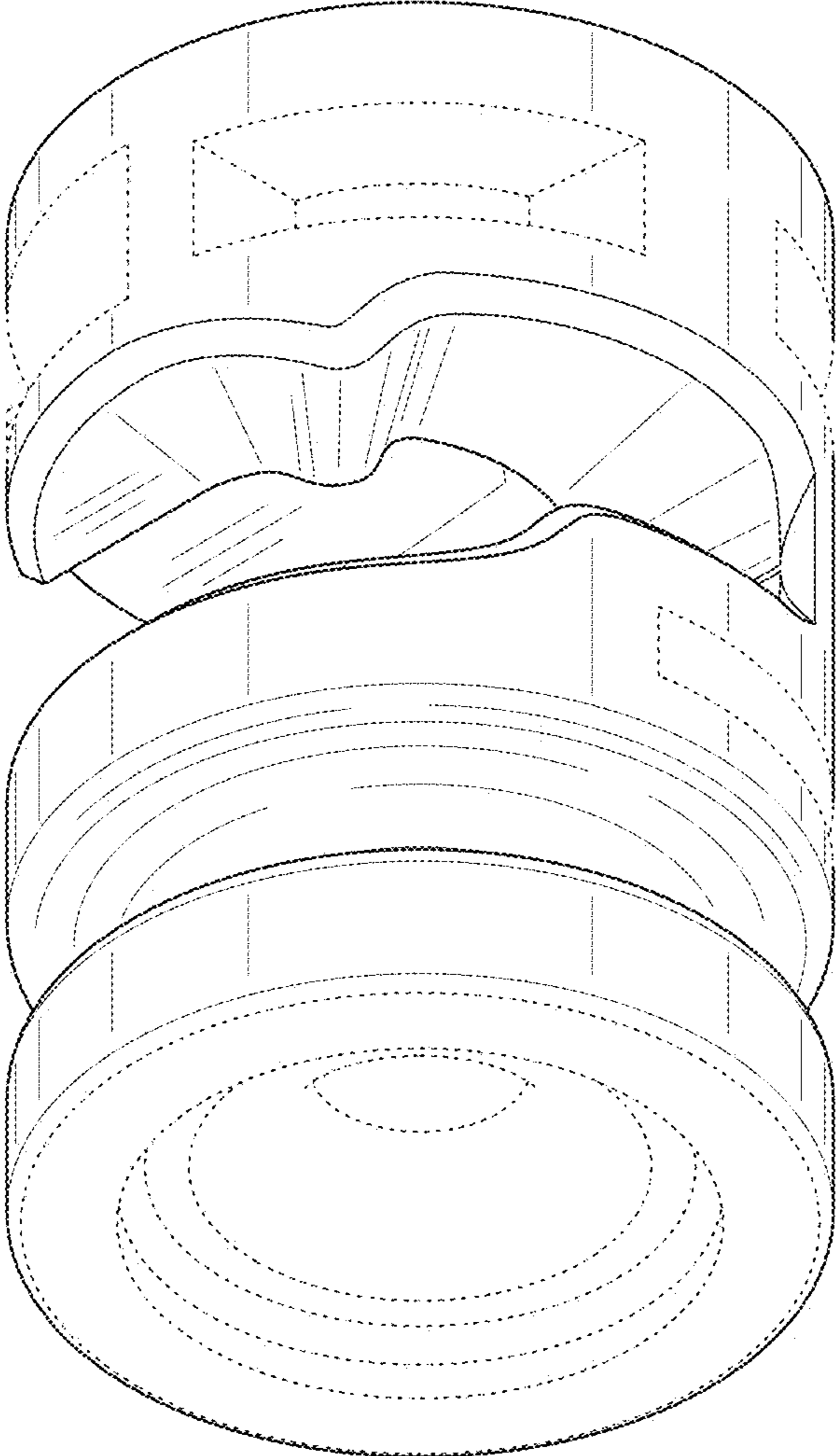


FIG. 3

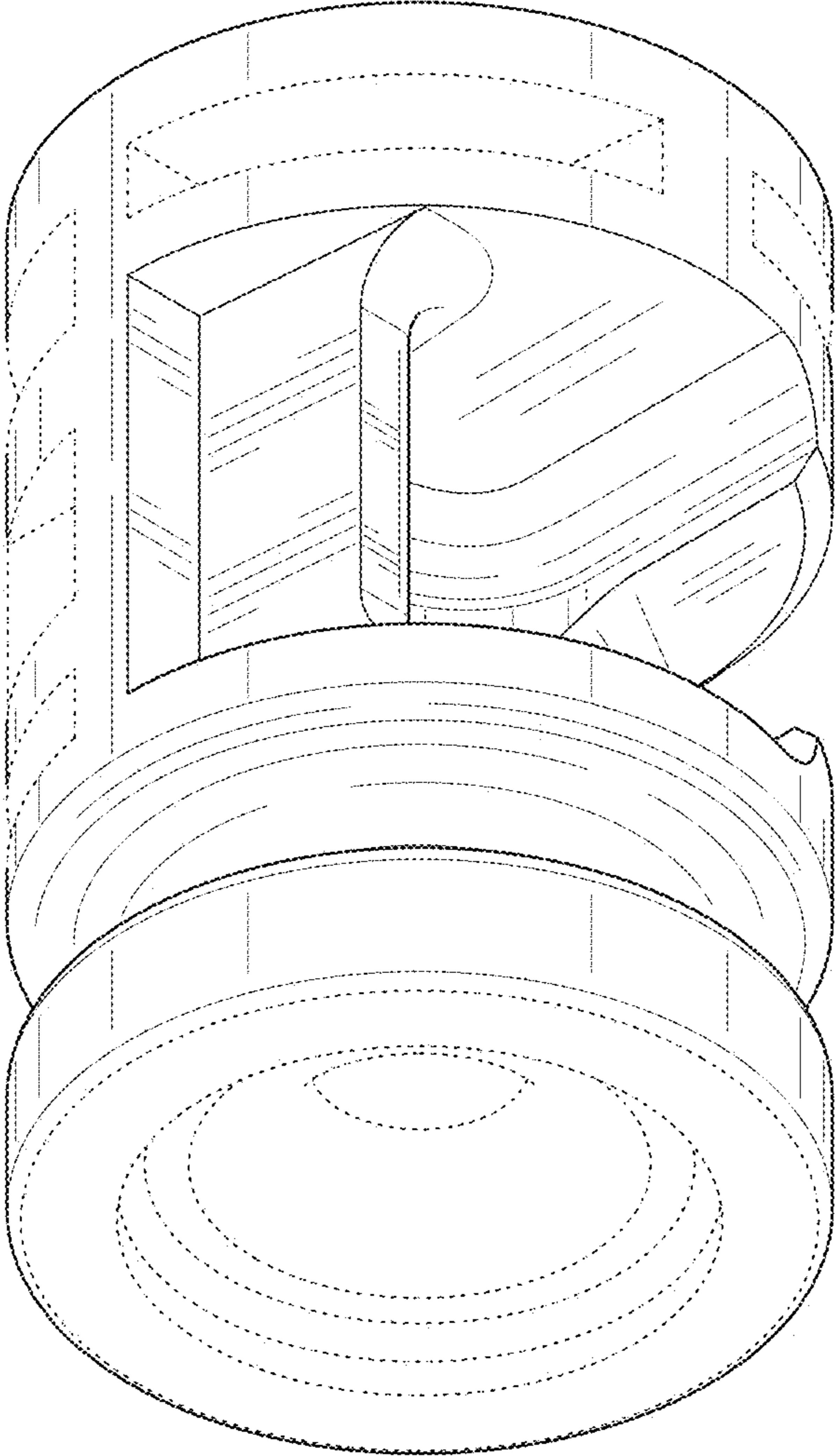


FIG. 4

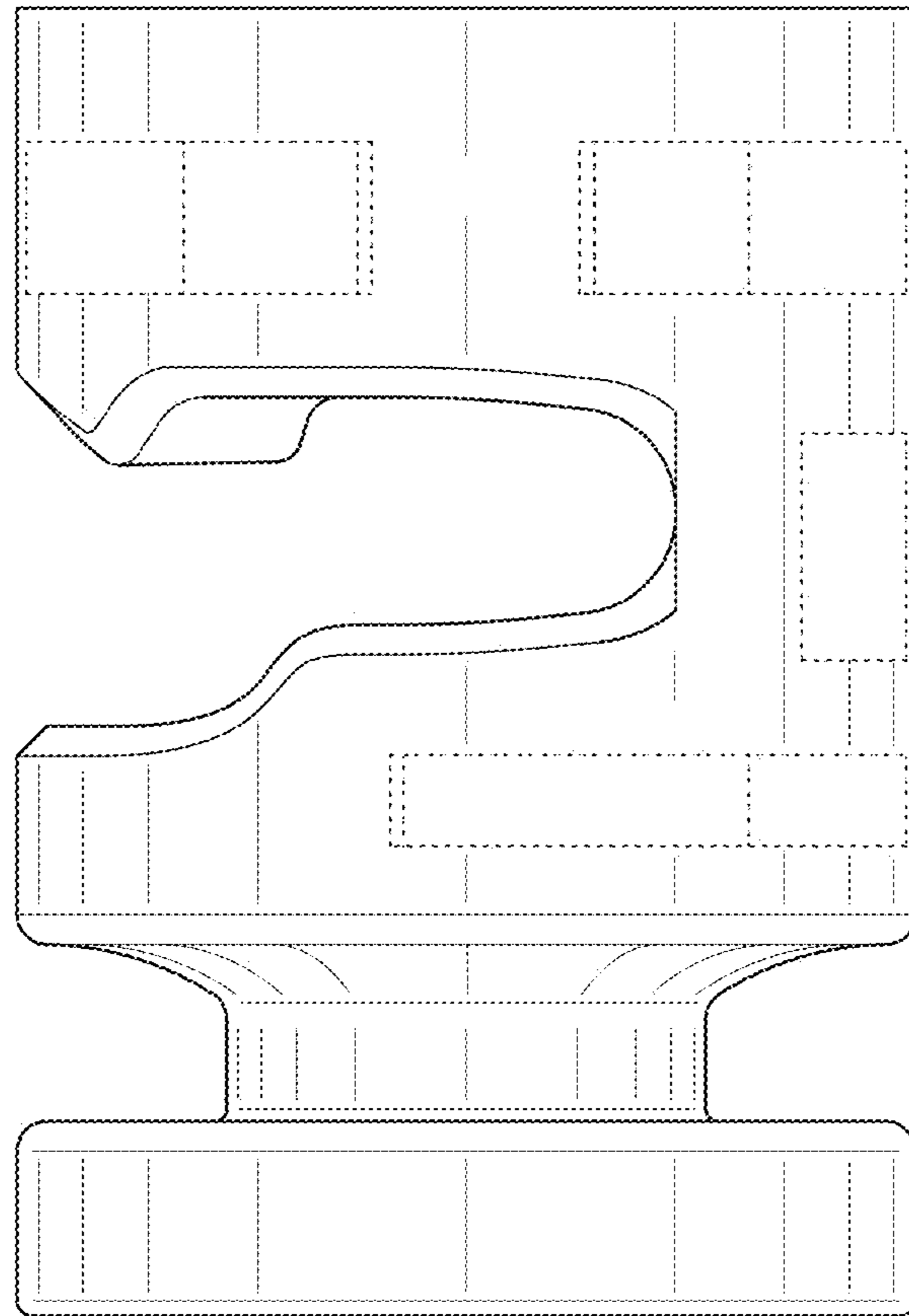


FIG. 5

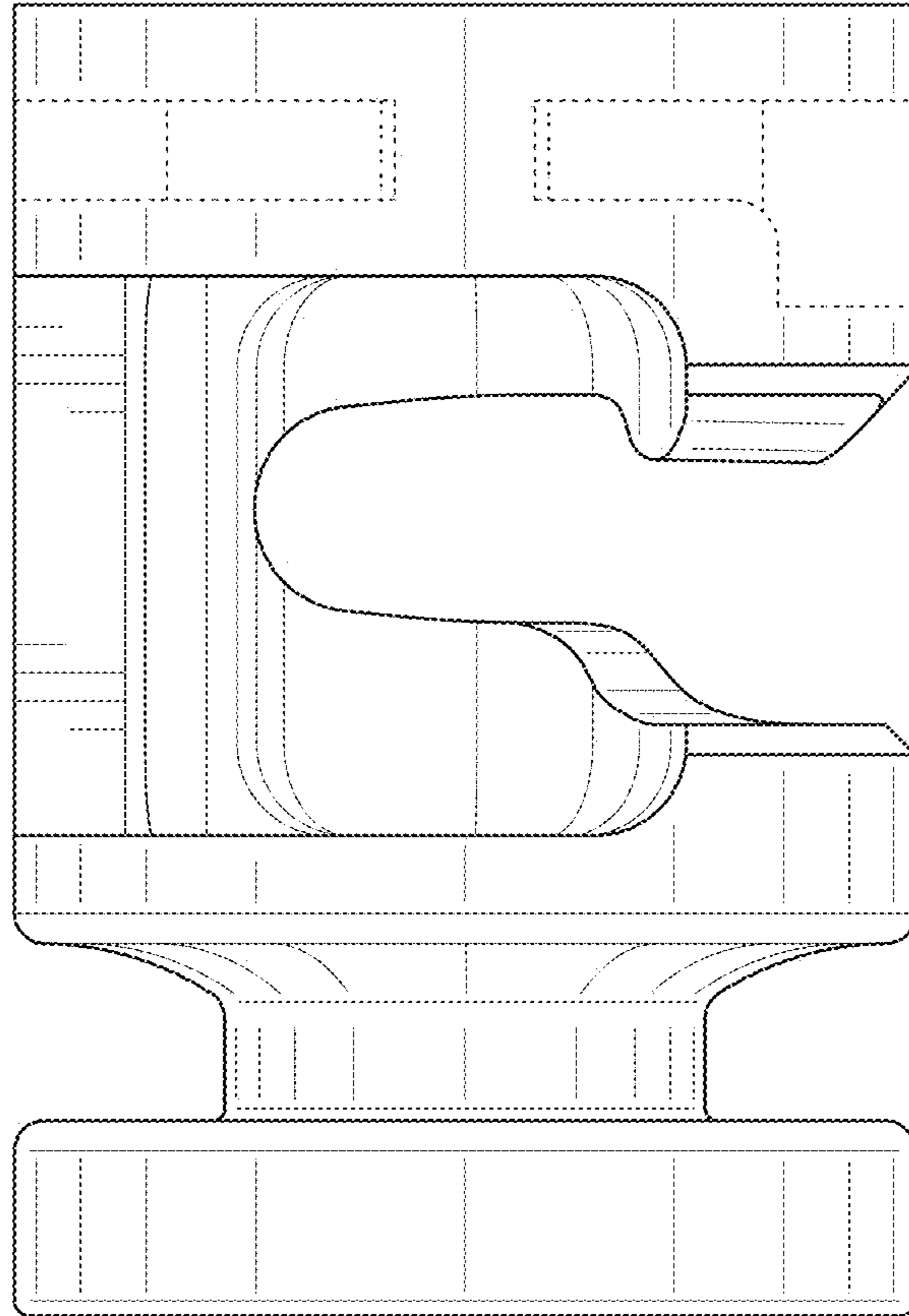


FIG. 6

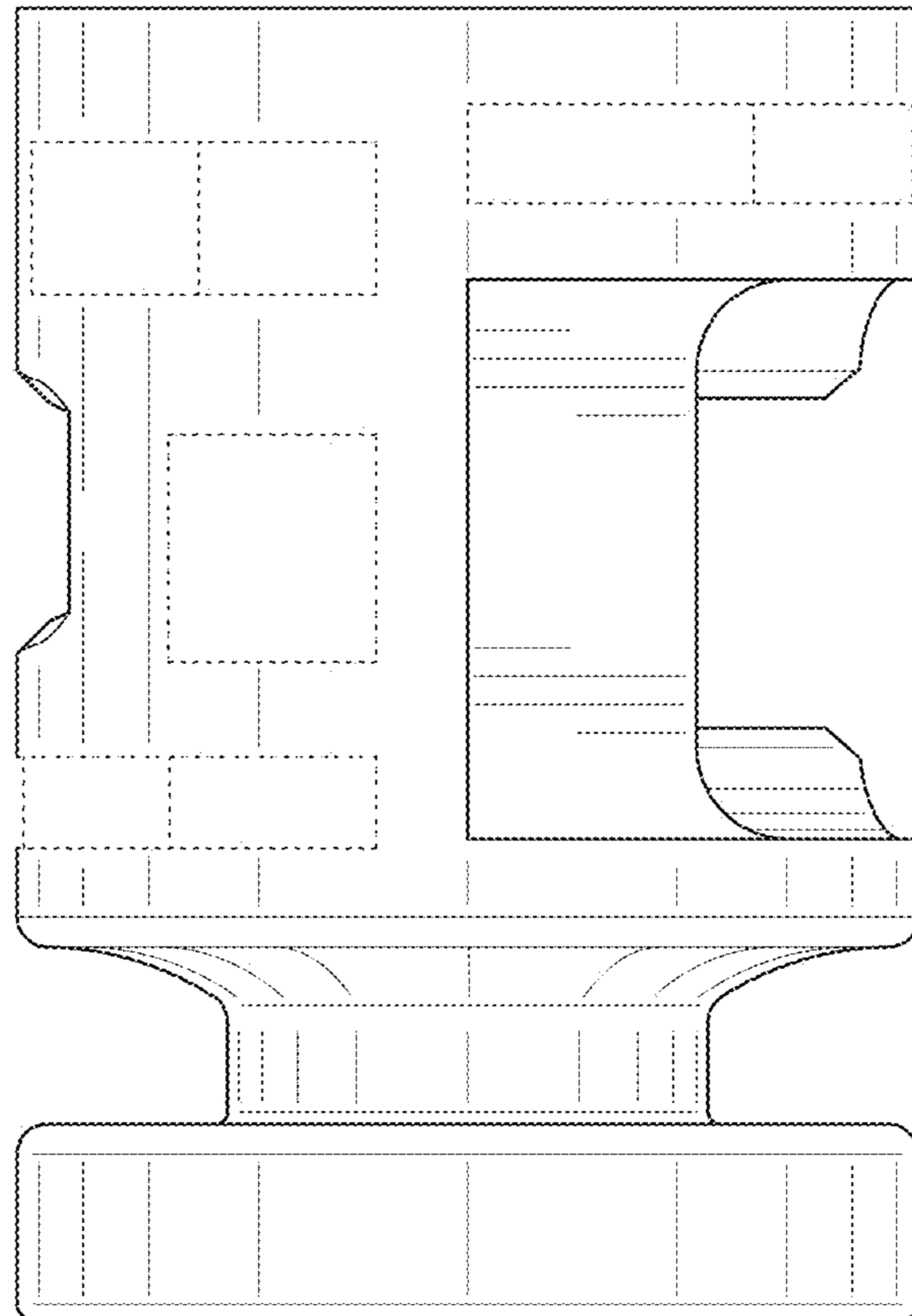


FIG. 7

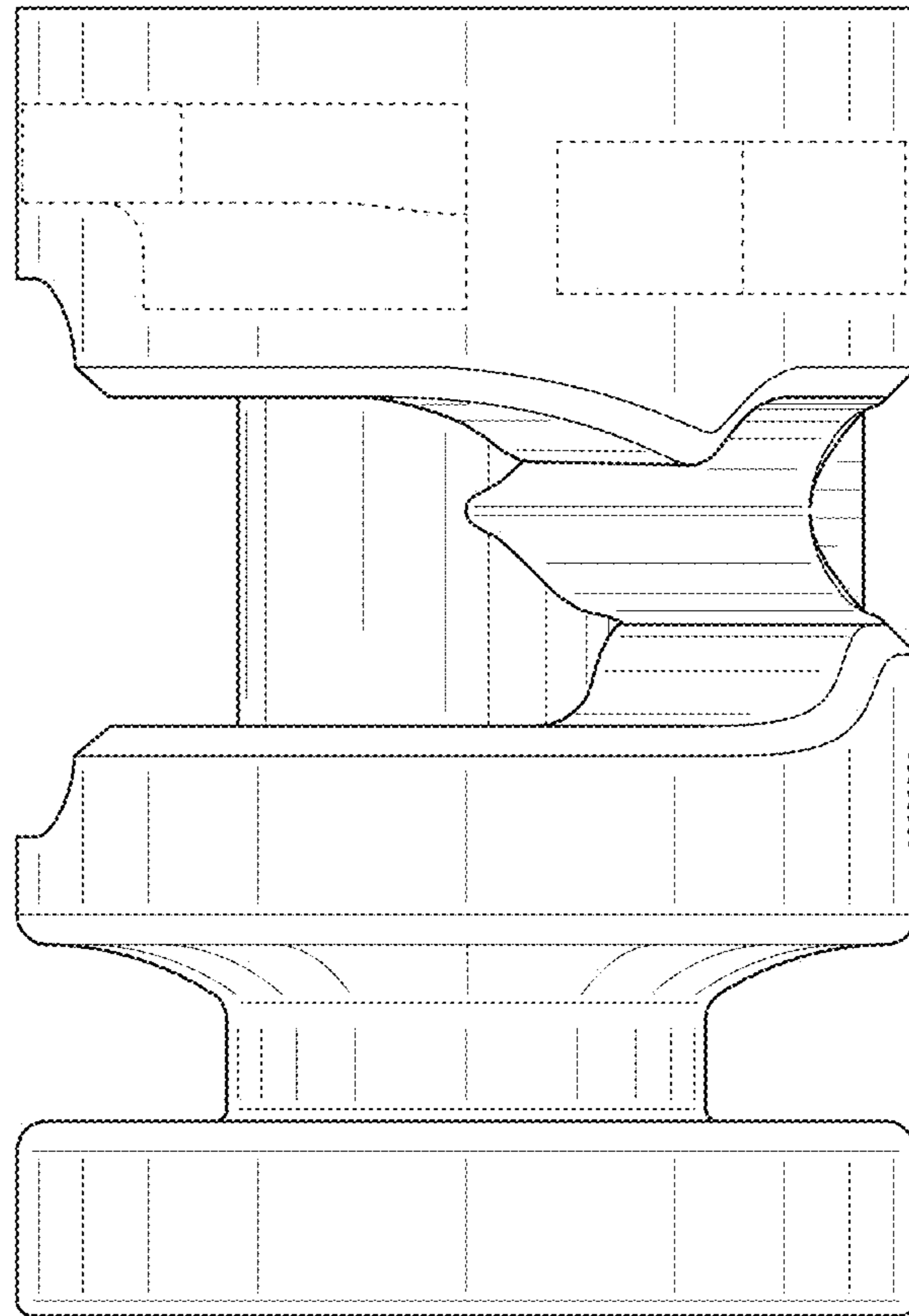


FIG. 8

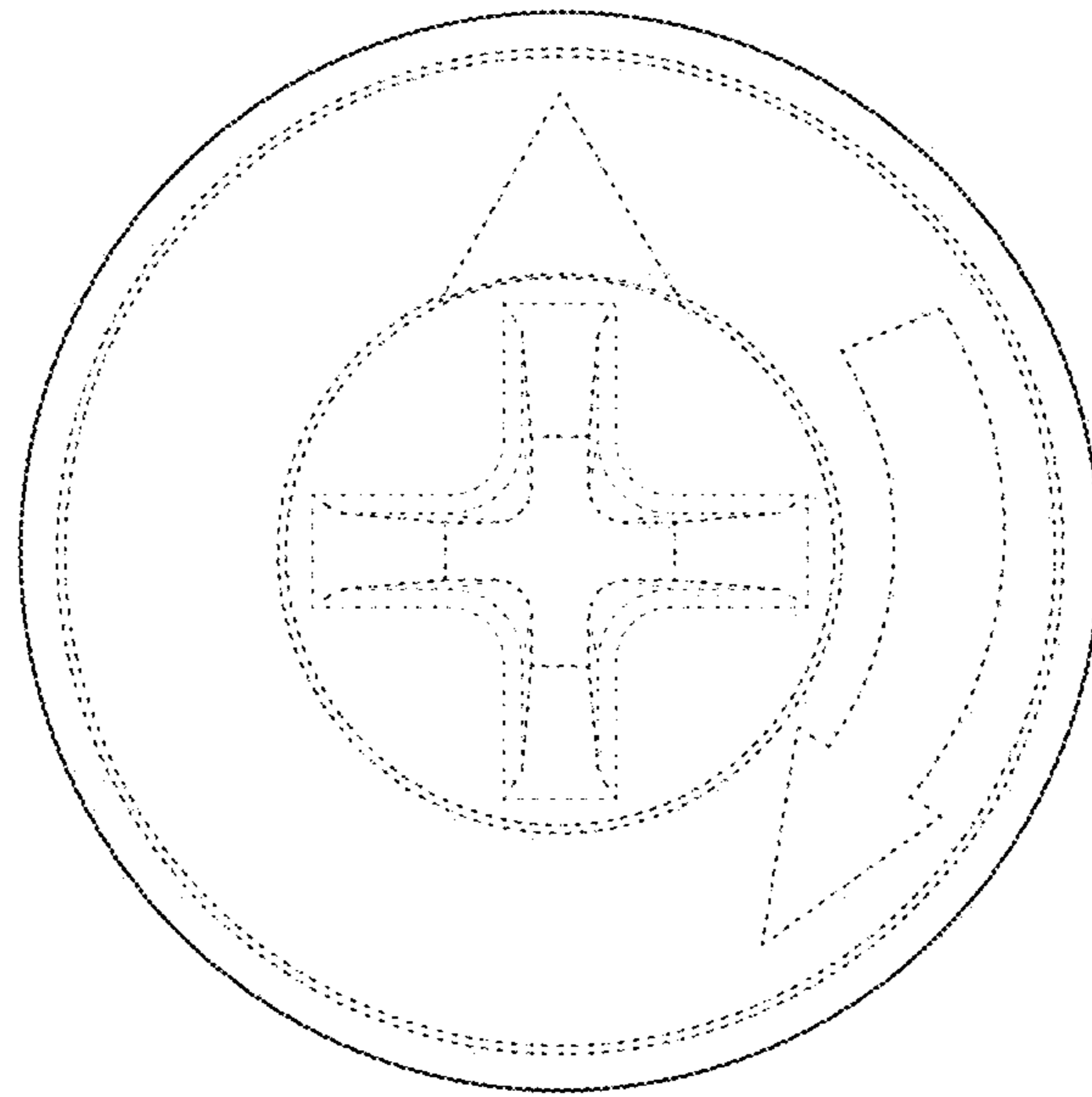


FIG. 9

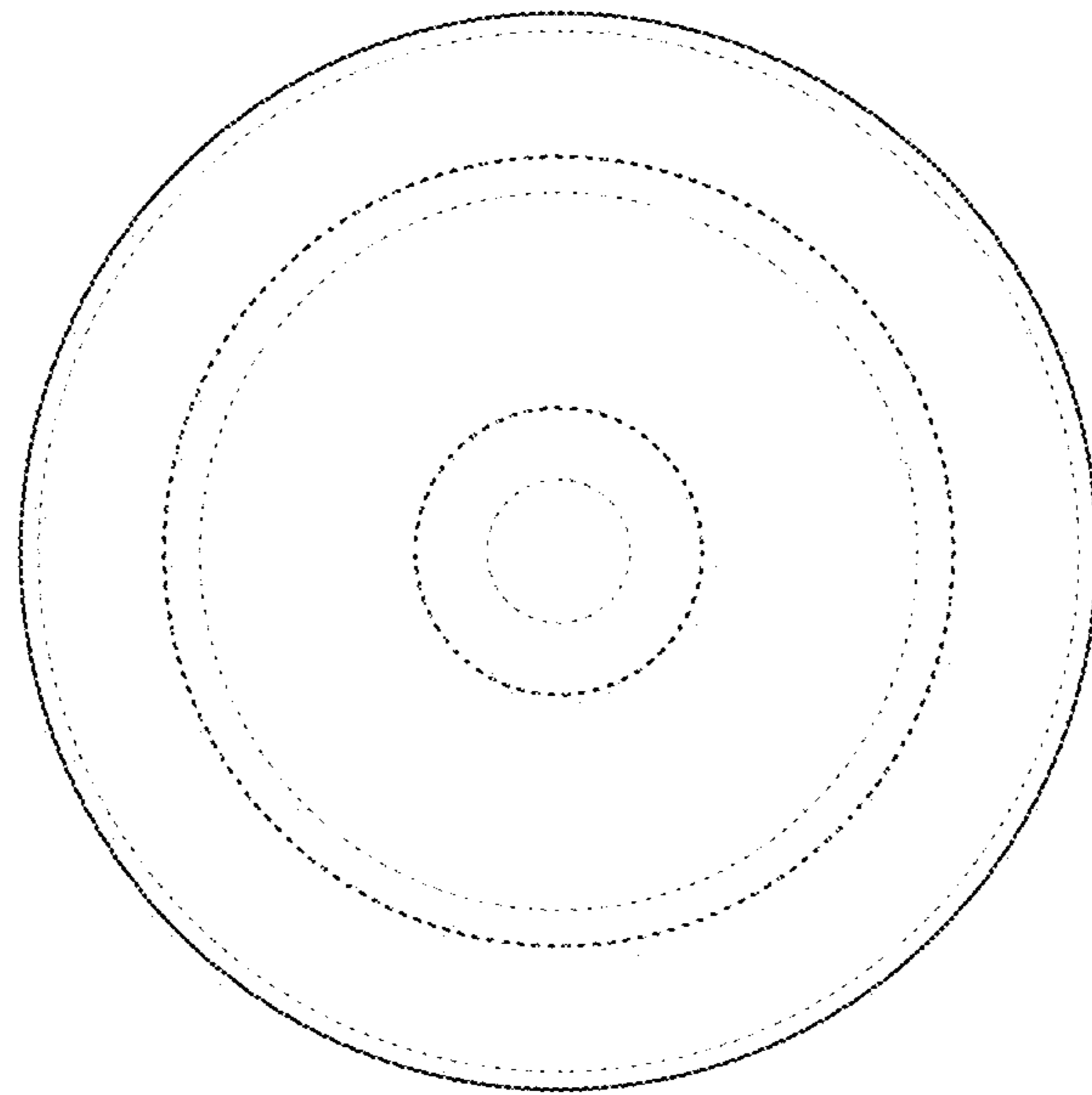


FIG. 10