



US00D717948S

(12) **United States Design Patent**
Strong et al.

(10) **Patent No.:** **US D717,948 S**

(45) **Date of Patent:** **** Nov. 18, 2014**

(54) **LOWER CAP FOR A LIQUID DISPENSING SYRINGE**

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(**) Term: **14 Years**

(21) Appl. No.: **29/439,879**

(22) Filed: **Dec. 17, 2012**

Related U.S. Application Data

(62) Division of application No. 29/422,820, filed on May 24, 2012, and a division of application No. 29/367,355, filed on Aug. 6, 2010, now Pat. No. Des. 663,023, and a division of application No. 29/326,873, filed on Oct. 27, 2008, now Pat. No. Des. 623,291, and a division of application No. 29/280,974, filed on Jun. 12, 2007, now Pat. No. Des. 588,693.

(51) **LOC (10) Cl.** **24-02**

(52) **U.S. Cl.**
USPC **D24/130**

(58) **Field of Classification Search**
USPC D24/127-131, 112-114, 133, 186;
606/181, 185; 604/232, 187, 158,
604/164.08, 192, 263, 163, 181, 184, 198,
604/227, 411; 600/101, 139, 143;
128/200.24, 207.14, 207.15; D9/435,
D9/445, 453

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,830,586 A 4/1958 Dann et al.
2,952,255 A 9/1960 Hein, Jr.
3,149,717 A 9/1964 Castelli
3,237,815 A 3/1966 Ogle

(Continued)

FOREIGN PATENT DOCUMENTS

GB 2020254 A 11/1979
JP 5208157 A 8/1993

(Continued)

OTHER PUBLICATIONS

Japanese Patent Office, Notification of Reason for Refusal in JP Application No. 2009-515601, Nov. 6, 2012.

(Continued)

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(57) **CLAIM**

The ornamental design for a lower cap for a liquid dispensing syringe, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of the lower cap for a liquid dispensing syringe according to the invention.

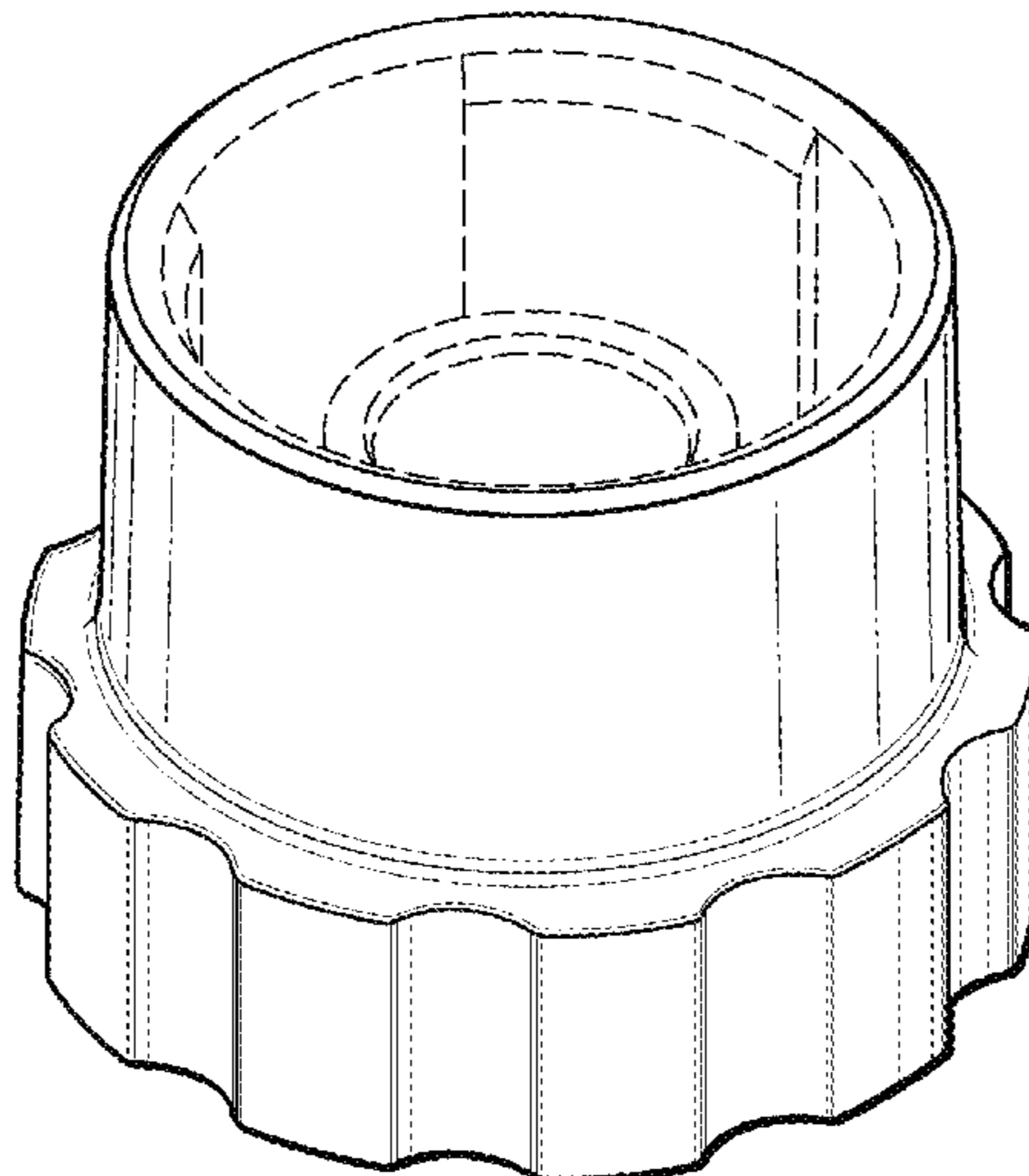
FIG. 2 is a front view of the lower cap with the rear, left and right views each being a mirror image thereof.

FIG. 3 is a top view of the lower cap; and,

FIG. 4 is a bottom view of the lower cap.

The broken lines in the figures are shown for the purpose of illustrating boundaries of the claimed design and the areas within the broken line boundaries form no part of the claimed design.

1 Claim, 2 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

4,067,332 A 1/1978 O'Leary
 D262,739 S 1/1982 Nitshke
 4,588,403 A 5/1986 Weiss et al.
 4,708,270 A 11/1987 Ruesch
 D294,640 S 3/1988 Wicken et al.
 D302,206 S 7/1989 McAlister et al.
 D303,010 S 8/1989 Jabbusch
 D306,069 S 2/1990 Kelly et al.
 D321,252 S 10/1991 Jepson et al.
 D321,759 S 11/1991 Buswell et al.
 5,098,416 A 3/1992 Imonti
 D338,957 S 8/1993 de Faire et al.
 5,238,003 A 8/1993 Baidwan et al.
 5,273,187 A 12/1993 Suzuki
 5,509,903 A 4/1996 Grendahl et al.
 5,531,710 A 7/1996 Dang et al.
 D401,324 S 11/1998 Hjertman et al.
 D425,198 S 5/2000 Porta
 D427,308 S 6/2000 Zinger
 D429,812 S 8/2000 Hjertman et al.
 D431,864 S 10/2000 Jansen
 D447,797 S 9/2001 Odell et al.
 D447,799 S 9/2001 Jun
 6,296,625 B1 10/2001 Vetter et al.
 D472,316 S 3/2003 Douglas et al.
 D481,801 S * 11/2003 Whitley D24/224
 D495,416 S 8/2004 Dimeo et al.
 D496,101 S 9/2004 Davison
 6,984,222 B1 1/2006 Hitchins et al.
 D518,373 S 4/2006 Schulthess
 7,070,581 B2 7/2006 Manera et al.
 D534,796 S 1/2007 Falkenburg
 D540,466 S 4/2007 Homra et al.
 D542,656 S * 5/2007 Szczesniak D9/453
 D543,278 S 5/2007 Numata et al.
 D544,959 S * 6/2007 Sudo D24/121
 D558,340 S 12/2007 Hochman et al.
 D581,048 S 11/2008 Kawamura

D584,407 S 1/2009 Kawamura
 D584,619 S * 1/2009 Lohrman et al. D9/453
 D588,693 S 3/2009 Strong et al.
 D589,612 S * 3/2009 Sudo D24/130
 D596,487 S 7/2009 Batton et al.
 D606,401 S * 12/2009 Kamath et al. D9/453
 D608,000 S 1/2010 Kawamura
 D616,090 S 5/2010 Kawamura
 D629,895 S 12/2010 Demleitner et al.
 D630,318 S 1/2011 Goodwin
 D630,732 S 1/2011 Lev et al.
 D631,350 S * 1/2011 Beach et al. D9/453
 D638,294 S * 5/2011 Heidel et al. D9/452
 D638,707 S * 5/2011 Stoffers et al. D9/453
 D649,242 S 11/2011 Kosinski et al.
 D651,709 S * 1/2012 Zeyfang D24/127
 D657,462 S 4/2012 Siroky
 D665,498 S * 8/2012 Tamura et al. D24/130
 D668,760 S 10/2012 Kawamura
 D677,161 S * 3/2013 Titherington D9/453
 2001/0021823 A1 9/2001 Nemoto
 2002/0123736 A1 9/2002 Fowles et al.
 2005/0029306 A1 2/2005 Brennan
 2006/0089594 A1 4/2006 Landau
 2007/0000951 A1 1/2007 Springhom

FOREIGN PATENT DOCUMENTS

JP 7204557 A 8/1995
 JP 8105197 A 4/1996
 JP 8266624 A 10/1996
 JP 10118556 A 5/1998

OTHER PUBLICATIONS

European Patent Office, Invitation to Pay Additional Fees in PCT Application No. PCT/US2007/070971, Dec. 13, 2007.
 European Patent Office, International Search Report and Written Opinion in PCT/US2007/070971, Nov. 29, 2007.

* cited by examiner

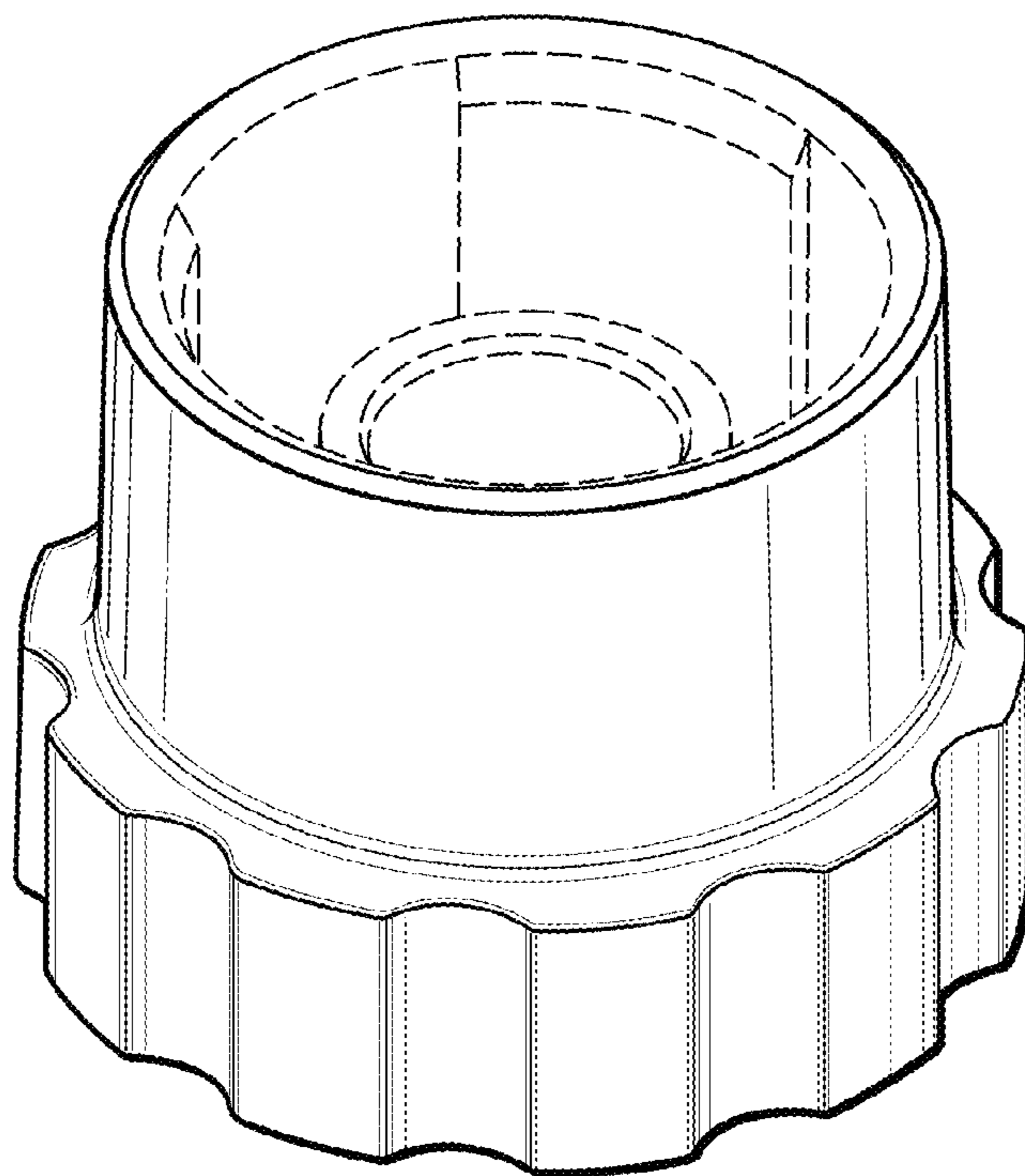


FIG. 1

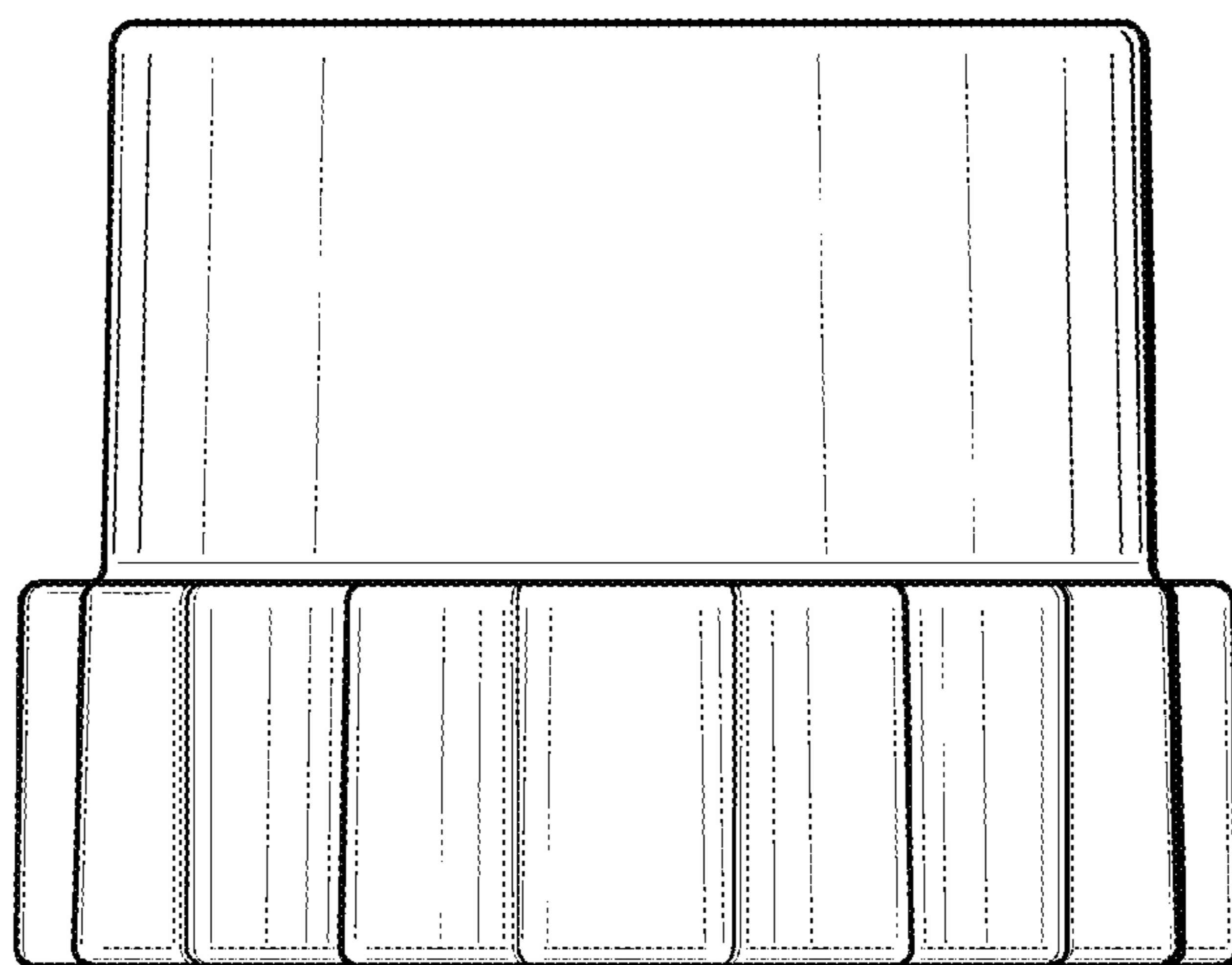


FIG. 2

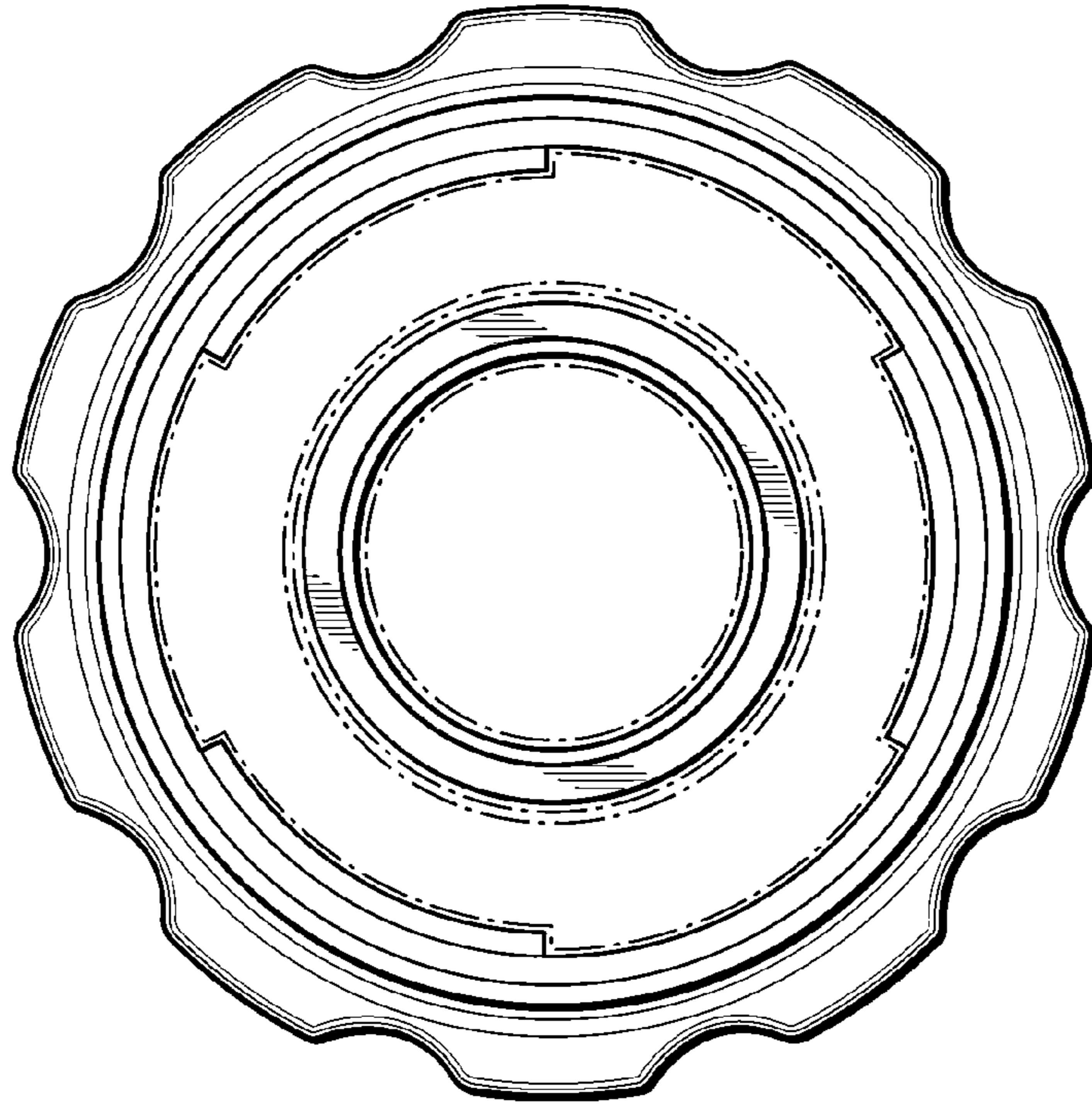


FIG. 3

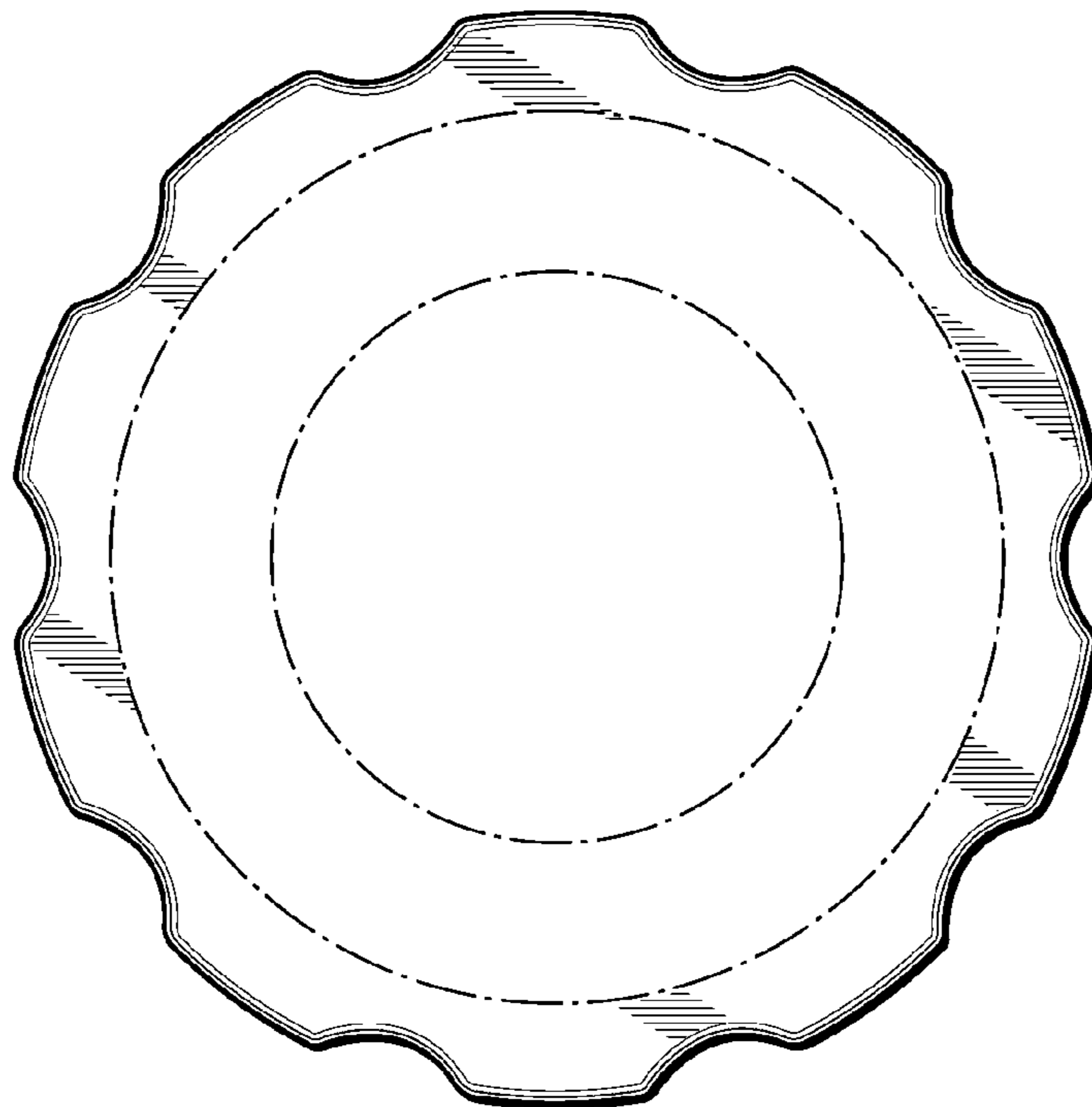


FIG. 4