



US00D933619S

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

(10) **Patent No.:** **US D933,619 S**
(45) **Date of Patent:** **** Oct. 19, 2021**

(54) **SEAL MEMBER FOR SEMICONDUCTOR PRODUCTION APPARATUS**

5,184,107 A 2/1993 Maurer
5,289,932 A 3/1994 Dimeo et al.
5,464,355 A 11/1995 Rothenberger
5,621,189 A 4/1997 Dodds

(71) Applicant: **Valqua, Ltd.**, Tokyo (JP)

(Continued)

(72) Inventors: **Nobuhiro Yoshida**, Gojo (JP); **Ippei Nakagawa**, Gojo (JP)

FOREIGN PATENT DOCUMENTS

(73) Assignee: **Valqua, Ltd.**, Tokyo (JP)

TW D127505 S 2/2009
TW D149670 S 10/2012

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

(Continued)

(21) Appl. No.: **29/751,350**

OTHER PUBLICATIONS

(22) Filed: **Sep. 21, 2020**

“High Performance FKM” found by RMS on the internet at: https://valqua-america.com/products/semiconductor_b.html reference dated Mar. 24, 2021.*

Related U.S. Application Data

(62) Division of application No. 35/507,485, filed on Apr. 1, 2019 (U.S. filing date under 35 U.S.C. 384), and having an international filing date of Apr. 1, 2019, now Pat. No. Des. 909,323.

Primary Examiner — Rhea Shields

(74) *Attorney, Agent, or Firm* — The Webb Law Firm

(30) **Foreign Application Priority Data**

(57) **CLAIM**

Oct. 12, 2018 (JP) 2018-022470
Oct. 12, 2018 (JP) 2018-022471
Oct. 12, 2018 (JP) 2018-022472
Oct. 12, 2018 (JP) 2018-022473

The ornamental design for a seal member for semiconductor production apparatus, as shown and described.

(51) **LOC (13) Cl.** **13-03**

DESCRIPTION

(52) **U.S. Cl.**
USPC **D13/182**

(58) **Field of Classification Search**
USPC D13/199; D4/137; D9/416; D23/269;
D15/7
CPC C08K 5/0025; F16K 3/0227; F16K 51/02;
F16J 15/062; F16J 15/025; F16J 15/3488
See application file for complete search history.

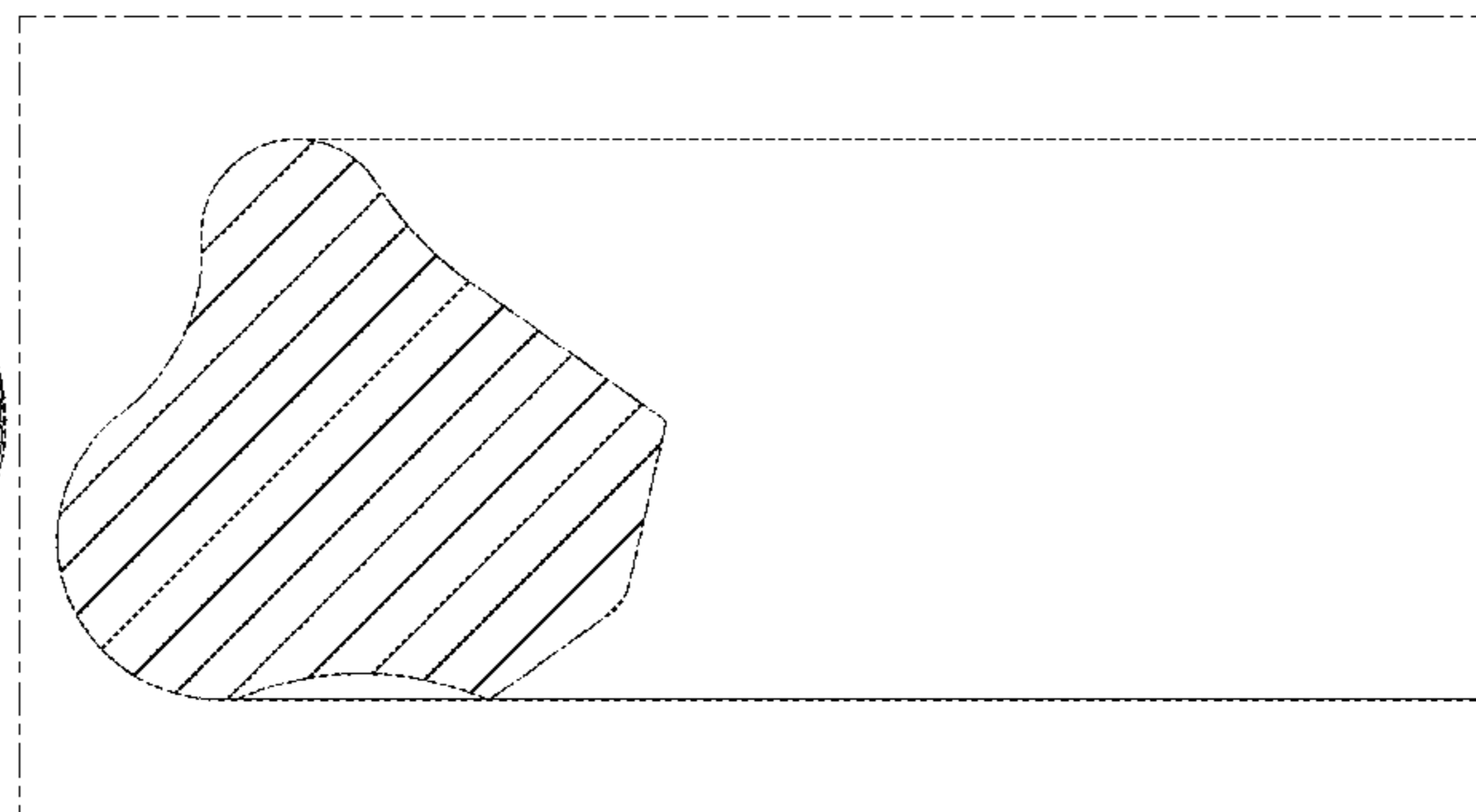
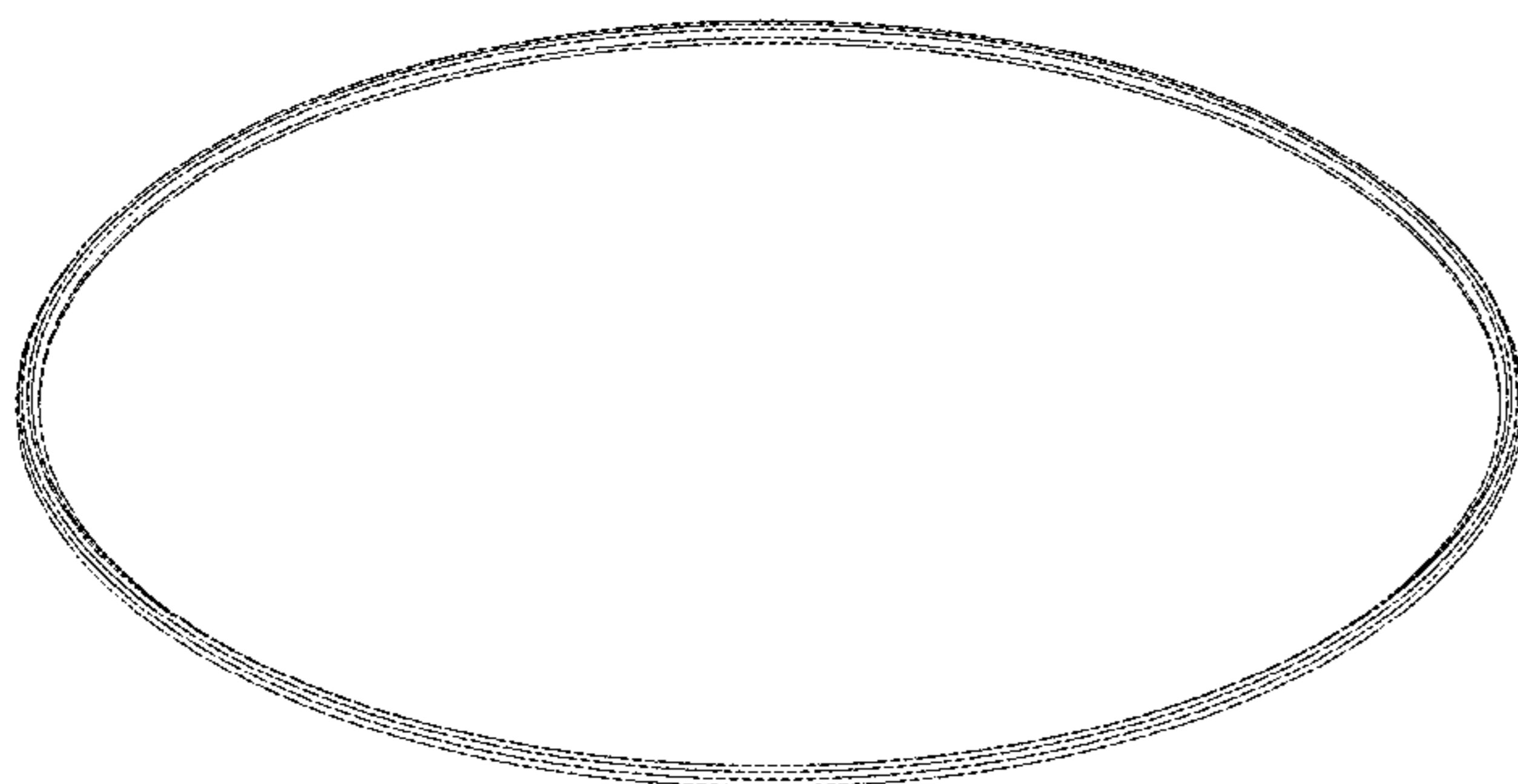
FIG. 1 is a perspective view of a seal member for semiconductor production apparatus, showing our new design;
FIG. 2 is a front elevation view thereof;
FIG. 3 is a rear elevation view thereof;
FIG. 4 is a left side elevation view thereof;
FIG. 5 is a right side elevation view thereof;
FIG. 6 is a top view thereof;
FIG. 7 is a bottom view thereof;
FIG. 8 is a cross-sectional view thereof taken along line 8-8 shown in FIG. 6; and,
FIG. 9 is an enlarged cross-sectional view of a portion thereof taken from area 9-9 shown in FIG. 8.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,815,802 A 6/1974 Stevens
5,057,648 A 10/1991 Blough et al.

1 Claim, 9 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D499,025 S 11/2004 Houk et al.
 7,306,237 B2* 12/2007 Tsuji F16J 15/062
 277/644
 D562,684 S 2/2008 Brashear
 D633,043 S 2/2011 Wada
 D633,991 S * 3/2011 Nakagawa D23/269
 D638,522 S 5/2011 Yoshida et al.
 D655,401 S * 3/2012 Muramatsu D23/269
 D655,797 S * 3/2012 Muramatsu D23/269
 8,181,972 B2* 5/2012 Tsuji F16K 51/02
 277/644
 D689,653 S 9/2013 Lowther
 D733,263 S 6/2015 Fujii et al.
 D738,111 S 9/2015 Otto et al.
 D751,380 S * 3/2016 Torrison D9/416
 D751,381 S * 3/2016 Torrison D9/416
 D751,382 S * 3/2016 Torrison D9/416
 D751,383 S * 3/2016 Torrison D9/416
 D751,384 S * 3/2016 Torrison D9/416
 D754,308 S * 4/2016 Nakagawa D23/269
 D767,234 S 9/2016 Kirkland et al.
 D774,887 S * 12/2016 Torrison D9/416
 9,587,744 B2* 3/2017 Yoshida F16J 15/025
 D783,922 S 4/2017 Kirkland
 9,611,940 B2* 4/2017 Khan F16K 3/0227
 D800,549 S 10/2017 Delle Cese et al.
 D802,723 S 11/2017 Miyamoto
 9,892,945 B2 2/2018 Nakagawa
 D813,181 S 3/2018 Okajima et al.
 D818,089 S * 5/2018 Kim D23/269
 D819,187 S * 5/2018 Yamamoto D23/269
 D821,552 S * 6/2018 Nakagawa D23/269
 D822,181 S * 7/2018 Nakagawa D23/269
 D836,186 S * 12/2018 Takahashi D23/269
 D839,091 S 1/2019 Torrison et al.
 D848,585 S * 5/2019 Yamamoto D23/269

D849,211 S 5/2019 Yamamoto
 D849,559 S 5/2019 Swenson et al.
 D851,940 S * 6/2019 Weber D4/137
 D862,404 S 10/2019 Murata et al.
 D864,361 S * 10/2019 Kim D23/269
 D865,920 S * 11/2019 Takahashi D23/269
 D871,561 S * 12/2019 Kang D23/269
 D873,981 S 1/2020 Yoshida et al.
 D875,899 S 2/2020 Yoshida et al.
 D875,900 S 2/2020 Yoshida et al.
 D877,739 S 3/2020 Maus et al.
 D877,865 S * 3/2020 Nakagawa D23/269
 D881,822 S 4/2020 Wladyka et al.
 D884,746 S * 5/2020 Tsuji D15/7
 D885,443 S * 5/2020 Tsuji D15/7
 D885,444 S * 5/2020 Tsuji D15/7
 D888,888 S 6/2020 Widom et al.
 10,675,847 B2* 6/2020 Iwaki C08K 5/0025
 D895,075 S * 9/2020 Kang D23/269
 D895,076 S * 9/2020 Kuroda D23/269
 D896,353 S * 9/2020 Nakagawa D23/269
 D897,504 S * 9/2020 Kang D23/269
 D898,170 S * 10/2020 Yoshida D23/269
 D901,648 S * 11/2020 Yoshida D23/269
 D905,761 S * 12/2020 Tsuji D15/7
 D909,322 S * 2/2021 Yoshida D13/199
 D909,323 S * 2/2021 Yoshida D13/199
 10,907,736 B2* 2/2021 Minami F16J 15/3488
 2015/0279706 A1 10/2015 Nakagawa

FOREIGN PATENT DOCUMENTS

TW D163769 S 10/2014
 TW D164826 S 12/2014
 TW D164827 S 12/2014
 TW D166713 S 3/2015
 TW D180129 S 12/2016
 TW D183422 S 6/2017

* cited by examiner

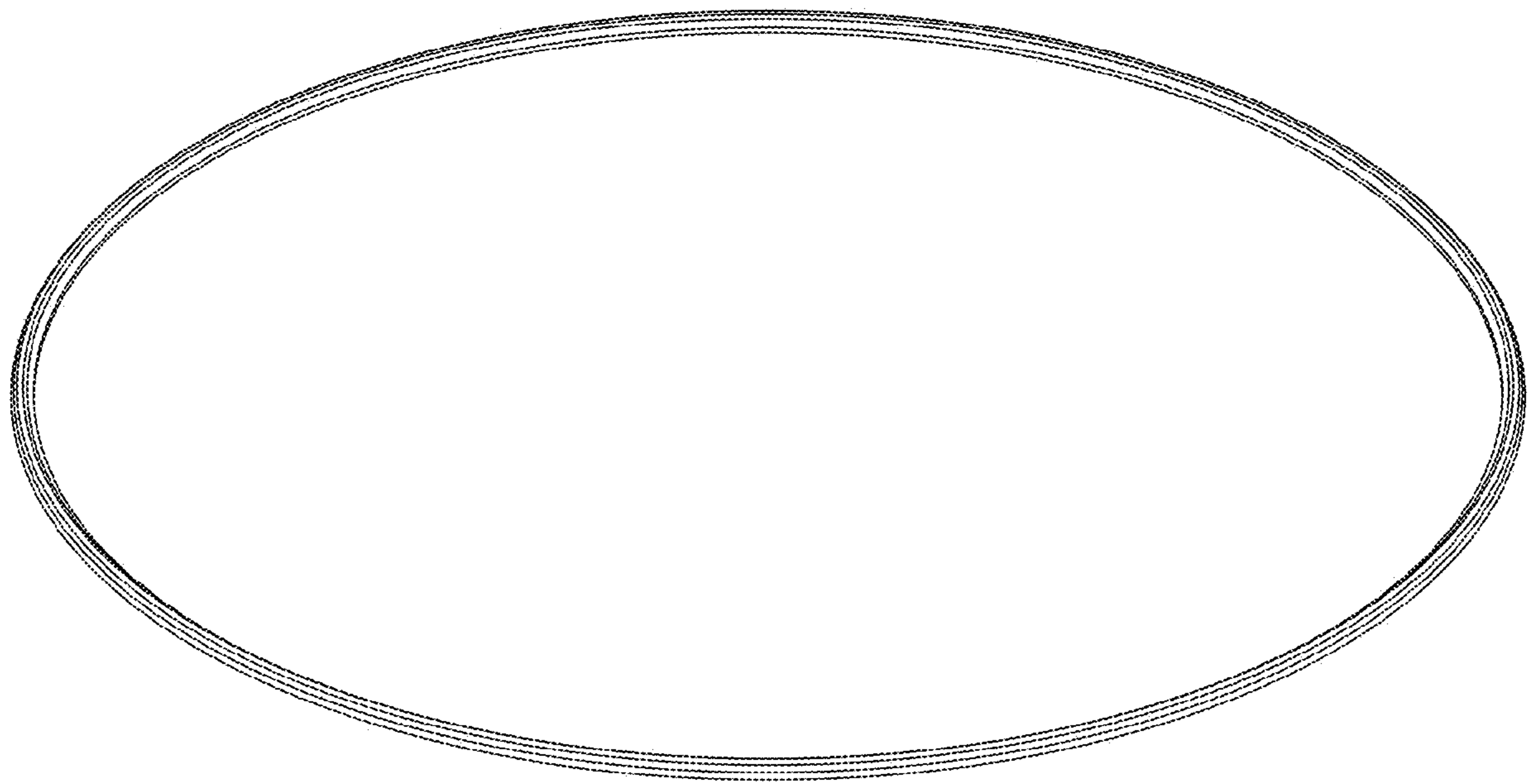


FIG. 1

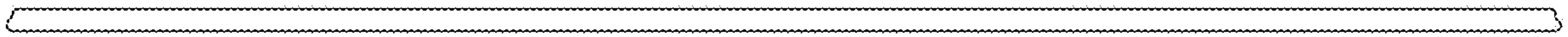


FIG. 2

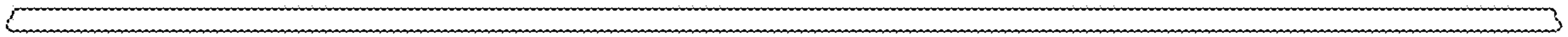


FIG. 3

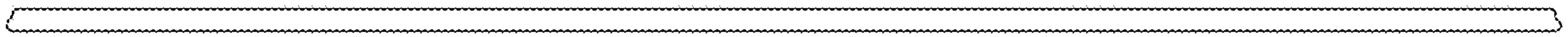


FIG. 4

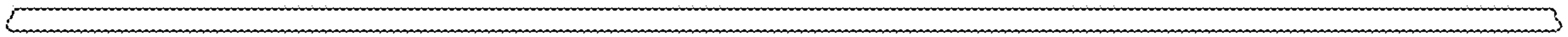


FIG. 5

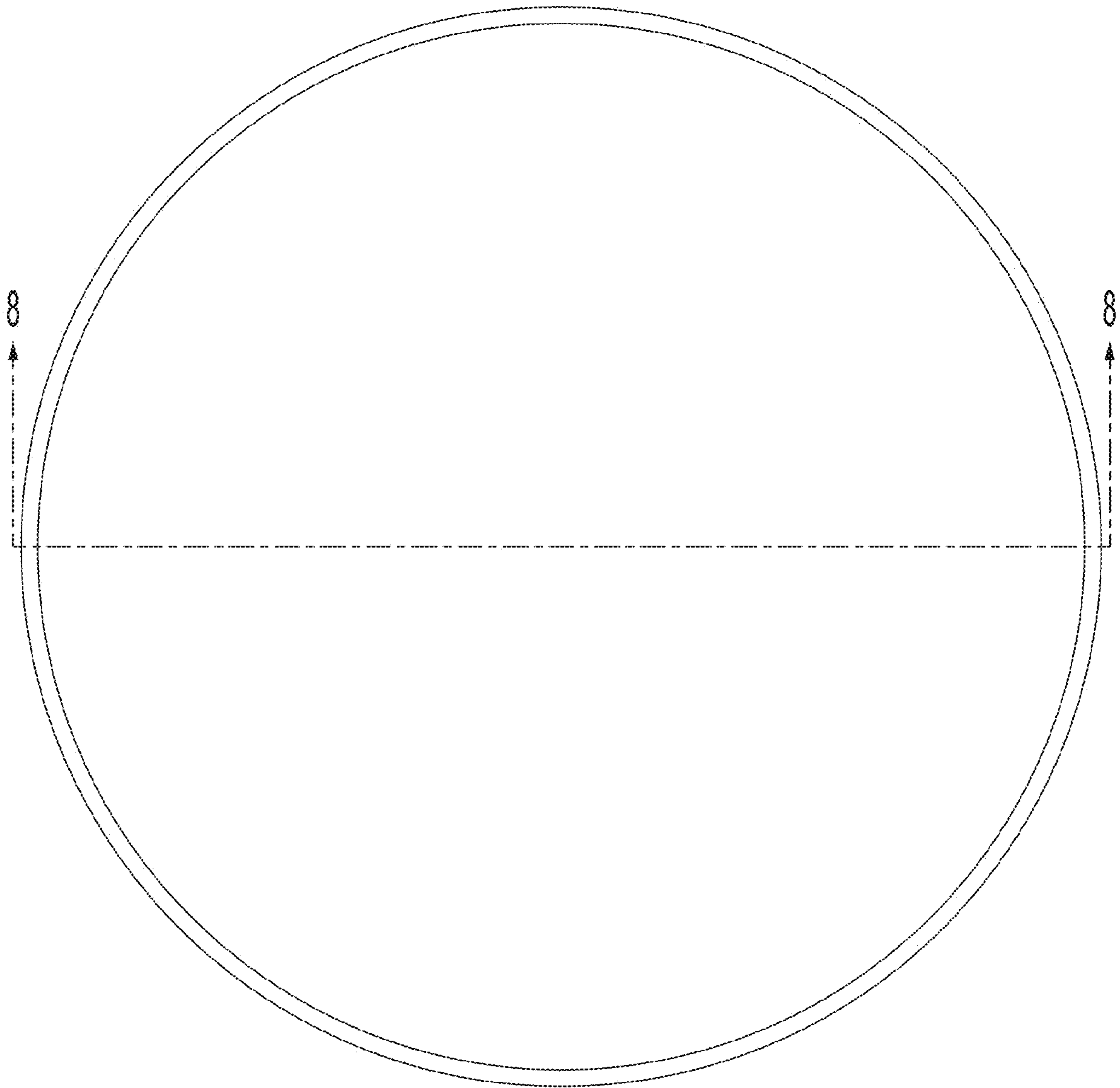


FIG. 6

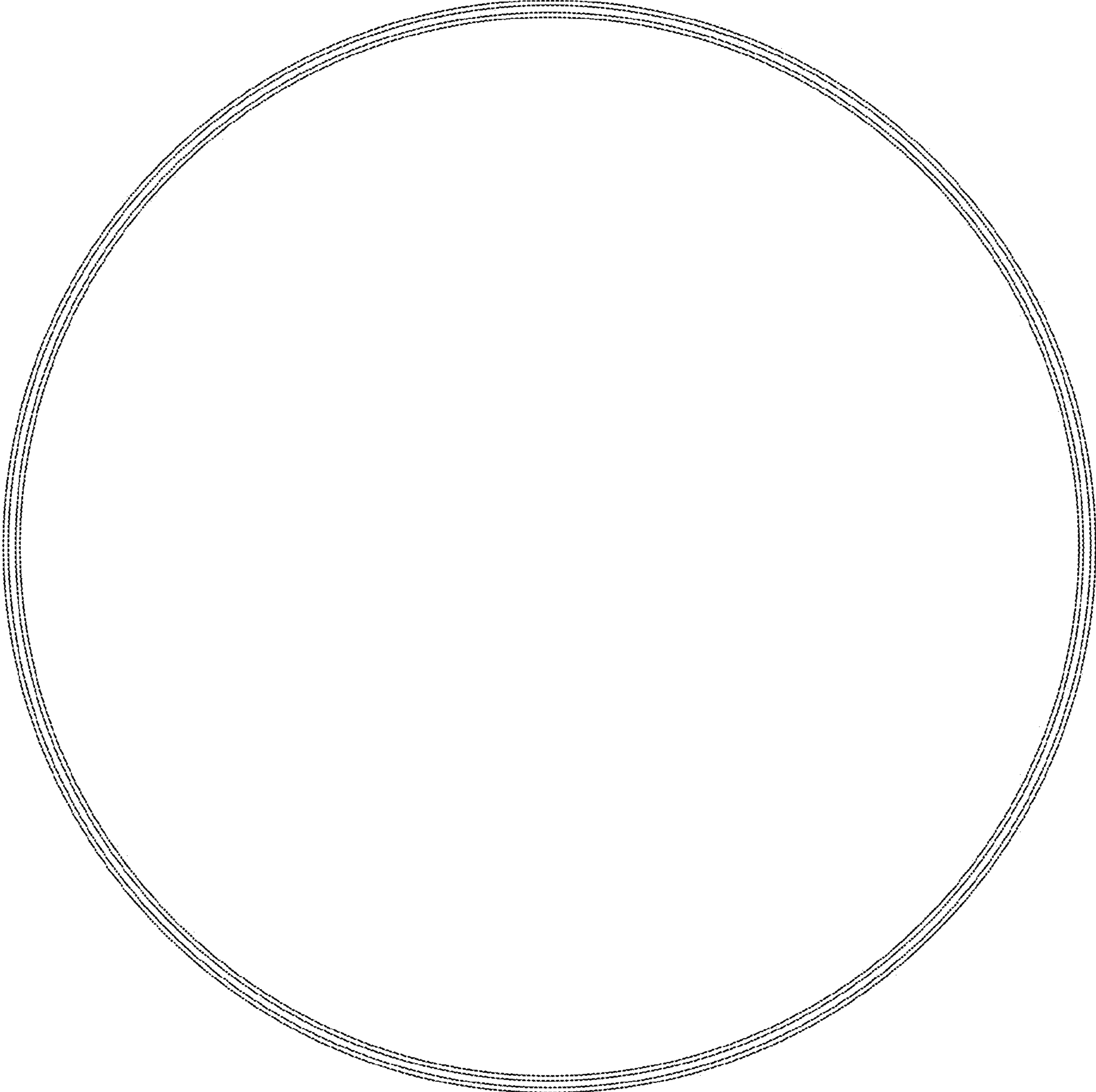


FIG. 7

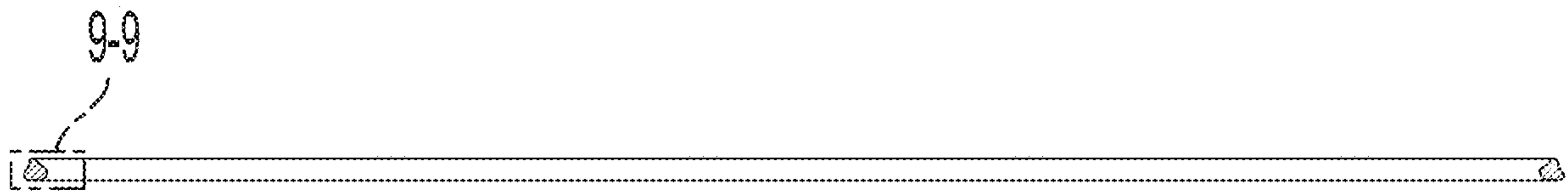


FIG. 8

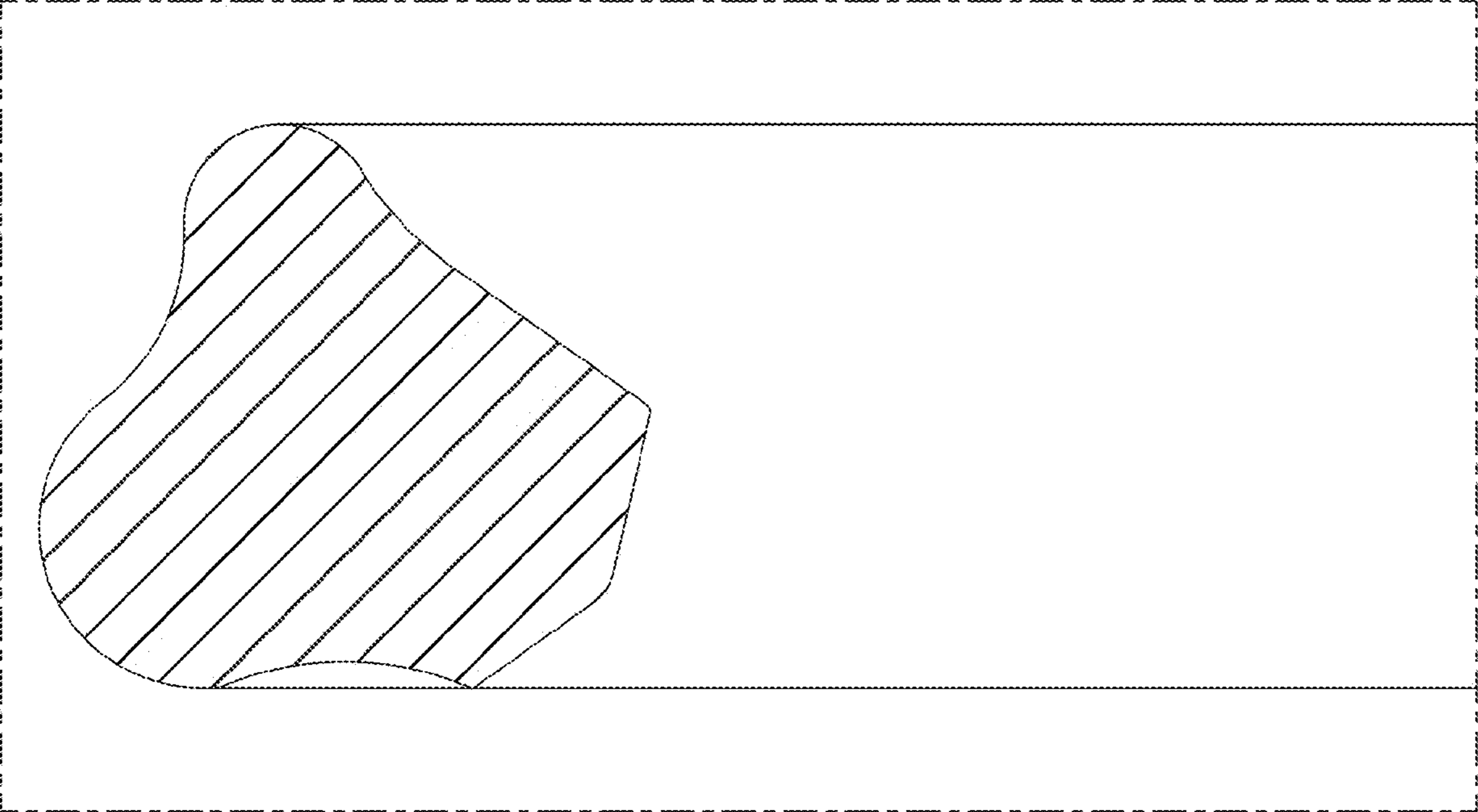


FIG. 9