



US00D819096S

(12) **United States Design Patent** (10) **Patent No.:** **US D819,096 S**
Terabe et al. (45) **Date of Patent:** **** May 29, 2018**

(54) **MOLD RELEASE DISCHARGE NOZZLE FOR TIGHT-FLASK MOLDING MACHINE**

(71) Applicant: **SINTOKOGIO, LTD.**, Nagoya-shi, Aichi (JP)

(72) Inventors: **Tokiya Terabe**, Toyokawa (JP); **Katsuhito Sato**, Toyokawa (JP)

(73) Assignee: **Sintokogio, Ltd.**, Nagoya-shi, Aichi (JP)

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

(21) Appl. No.: **29/583,642**

(22) Filed: **Nov. 8, 2016**

(30) **Foreign Application Priority Data**

May 17, 2016 (JP) 2016-010453

(51) **LOC (11) Cl.** **15-07**

(52) **U.S. Cl.**
USPC **D15/135**

(58) **Field of Classification Search**
USPC D15/122, 135, 136, 137, 138, 141, 142, D15/199, 89, 91; D12/1, 2, 8; D8/313; D7/339-341, 348-349, 402-404
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,277,739 A * 10/1966 Morse H01H 19/06 200/302.1
D479,884 S 9/2003 Berryman
(Continued)

FOREIGN PATENT DOCUMENTS

TW 343567 U 10/1998
TW D141728 S 8/2011
(Continued)

OTHER PUBLICATIONS

Taiwan Patent Office, Notice of Allowance in counterpart Taiwan Application No. 105306709, dated Aug. 4, 2017.
(Continued)

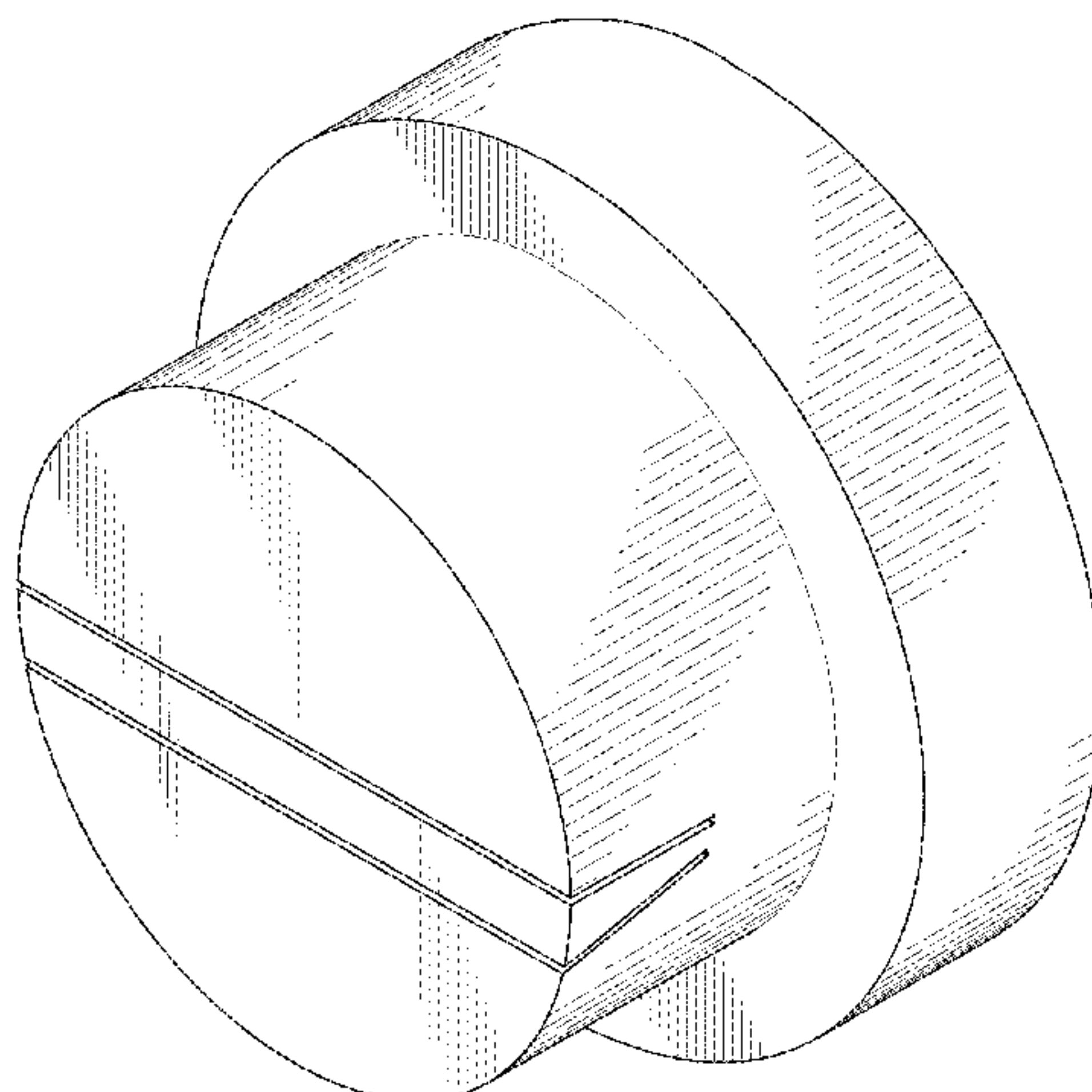
Primary Examiner — Ian Simmons
Assistant Examiner — Khawaja Anwar
(74) *Attorney, Agent, or Firm* — Leydig Voit & Mayer

(57) **CLAIM**

The ornamental design for a mold release discharge nozzle for tight-flask molding machine, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a mold release discharge nozzle for tight-flask molding machine of the present invention.
FIG. 2 is a front view of the mold release discharge nozzle for tight-flask molding machine of FIG. 1.
FIG. 3 is a rear view of the mold release discharge nozzle for tight-flask molding machine of FIG. 1.
FIG. 4 is a top plan view of the mold release discharge nozzle for tight-flask molding machine of FIG. 1.
FIG. 5 is a bottom view of the mold release discharge nozzle for tight-flask molding machine of FIG. 1.
FIG. 6 is a right side view of the mold release discharge nozzle for tight-flask molding machine of FIG. 1.
FIG. 7 is a left side view of the mold release discharge nozzle for tight-flask molding machine of FIG. 1.
FIG. 8 is a sectional view taken along the line 8-8 of the mold release discharge nozzle for tight-flask molding machine of FIG. 2; and,
FIG. 9 is a reference perspective view of the mold release discharge nozzle for tight-flask molding machine of FIG. 1 in use, wherein the mold release discharge nozzle is attached to an upper overlay frame of a tight-flask molding machine for molding a cast, which is for illustrative purpose only and form no part of the claimed design.
The features shown in broken lines depict environmental subject matter and illustrate portions of the mold release
(Continued)



discharge nozzle for tight-flask molding machine and form no part of the claimed design.

1 Claim, 9 Drawing Sheets

(58) **Field of Classification Search**

CPC B29C 45/0001; B29C 2043/3427; B29C 2043/3494; B29C 2045/0006; B29C 2045/0043; B29C 2045/0049; B29C 2045/14803; B29C 2945/76444; B29C 43/24; B29C 45/0005; B29C 45/0025; B29C 45/006; B29C 45/14311; B29C 45/14778; B29C 45/14811; B29C 45/14819; B29C 45/1657; B29C 45/1671; B29C 45/1761; B29C 45/2708; B29C 45/40; B29C 45/401; B29C 45/42; B29C 45/84; B29C 47/0004; B29C 47/0021

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,709,188 B2 * 3/2004 Ushimaru G05G 1/10
16/441
D498,542 S 11/2004 Brushaber
D499,190 S 11/2004 Garelick et al.
D506,693 S * 6/2005 Kaczmarek D10/104.1
D527,611 S * 9/2006 Sato D8/307
D547,336 S 7/2007 Kai
D612,364 S * 3/2010 Kwolek D14/215
D617,356 S 6/2010 Wang
D690,331 S 9/2013 Kitamura

D707,853 S 6/2014 Lafontaine
D723,715 S 3/2015 Lafontaine
D733,603 S * 7/2015 Graf D10/128
D736,449 S * 8/2015 Getty D26/110
D749,156 S 2/2016 Sugiura et al.
D750,980 S * 3/2016 Takach D10/50
D755,004 S * 5/2016 Bock D7/376
D758,462 S 6/2016 Bell
D759,840 S 6/2016 Grovender
D766,696 S * 9/2016 Kemker D8/310
D766,844 S * 9/2016 Turksu D10/104.1
D768,216 S 10/2016 Funakoshi et al.
D768,741 S 10/2016 Funakoshi et al.
D777,367 S * 1/2017 Ma D26/104
D779,977 S * 2/2017 Jacob D10/50
D782,727 S * 3/2017 Weiss D26/110
D783,422 S * 4/2017 Kashimoto D10/50
D793,808 S * 8/2017 Weaden D7/378
2008/0303183 A1 12/2008 Rote et al.
2013/0292481 A1 * 11/2013 Filson G05D 23/1902
236/10

FOREIGN PATENT DOCUMENTS

TW 151847 2/2013
TW M459232 U 8/2013

OTHER PUBLICATIONS

United States Patent and Trademark Office, Notice of Allowance in U.S. Appl. No. 29/583,635, dated Oct. 16, 2017.
Taiwan Patent Office, Notice of Allowance in counterpart Taiwan Application No. 105306707, dated Aug. 4, 2017.
United States Patent and Trademark Office, Office Action in U.S. Appl. No. 29/583,645, dated Nov. 29, 2017.

* cited by examiner

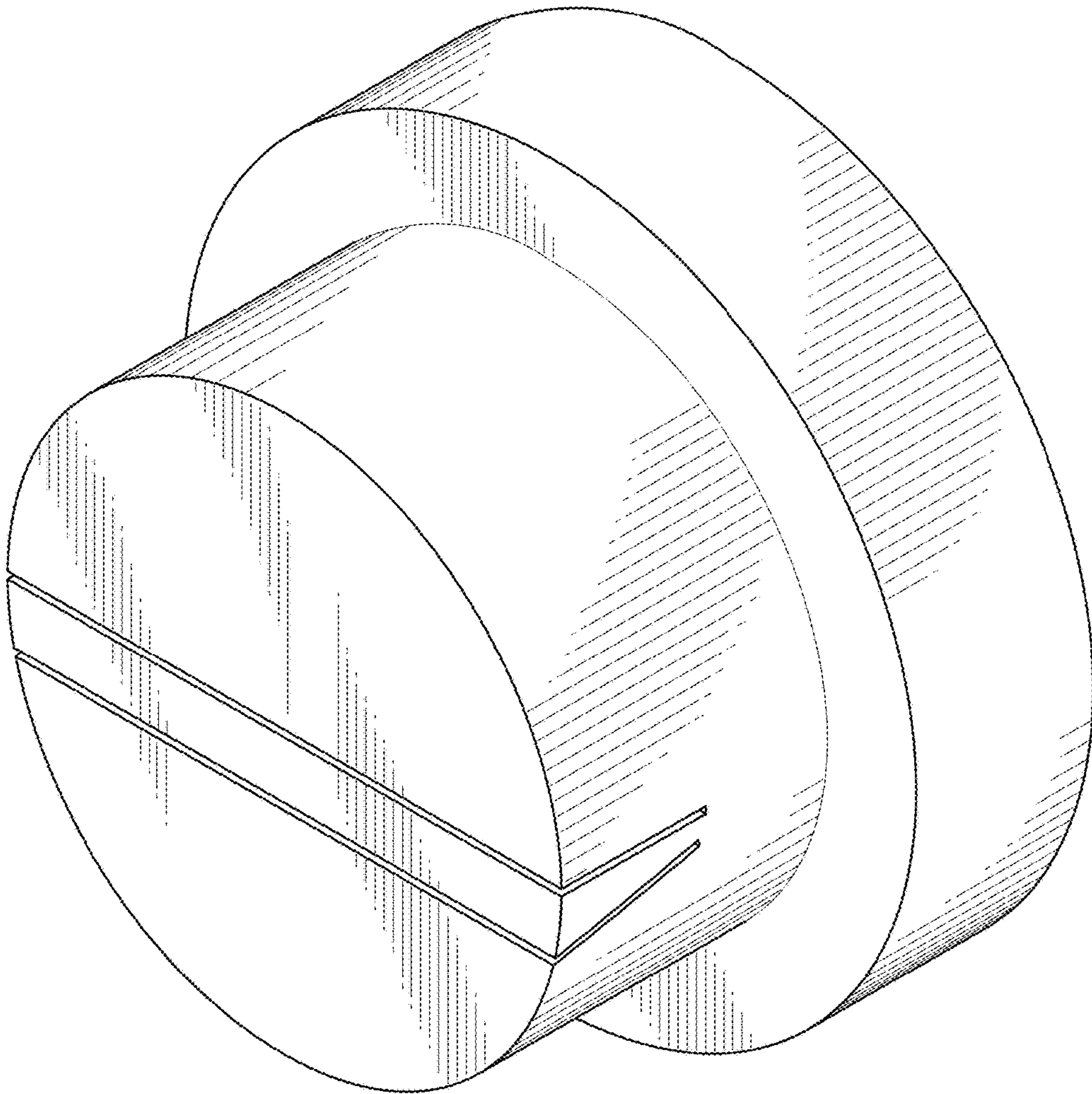


FIG. 1

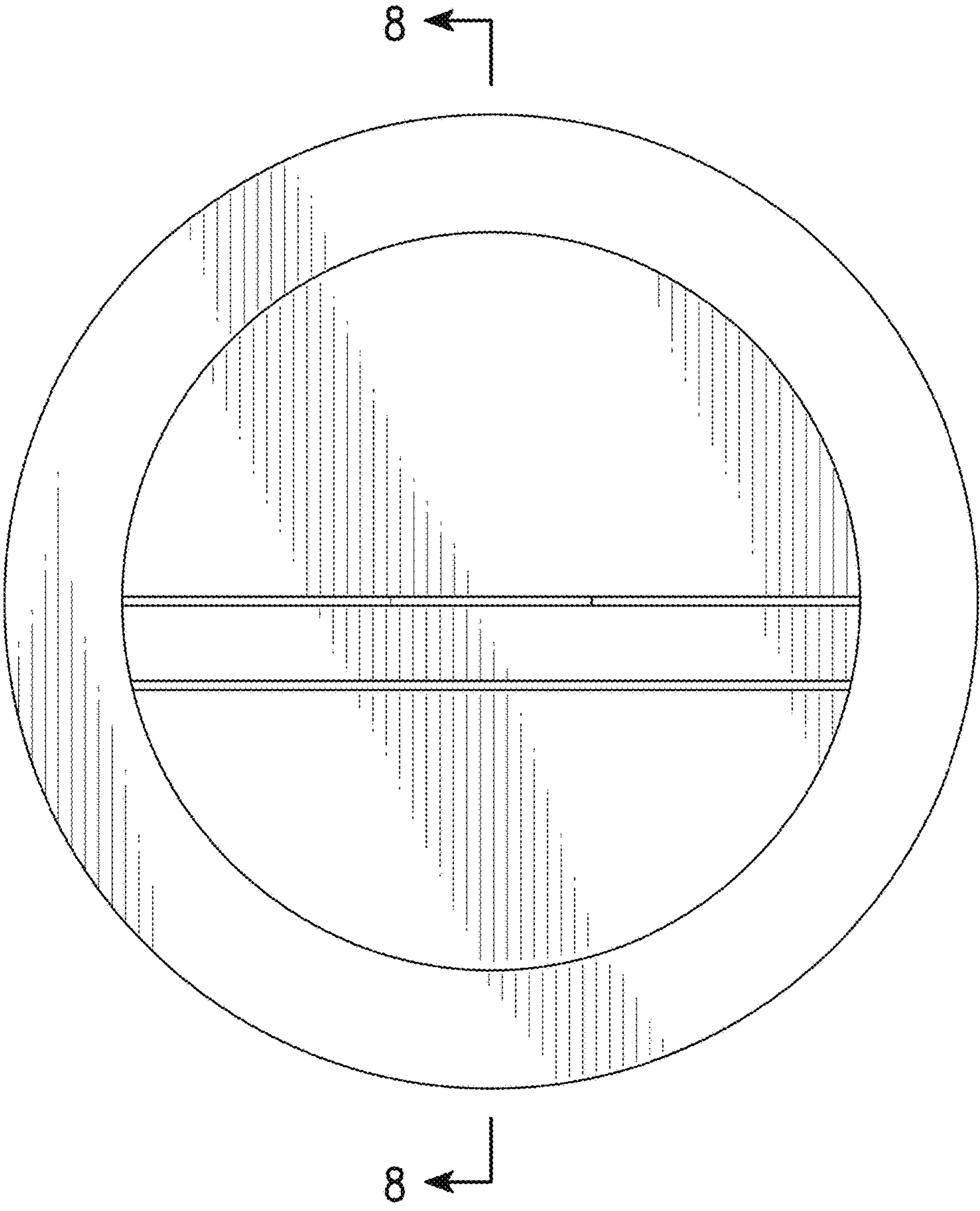


FIG. 2

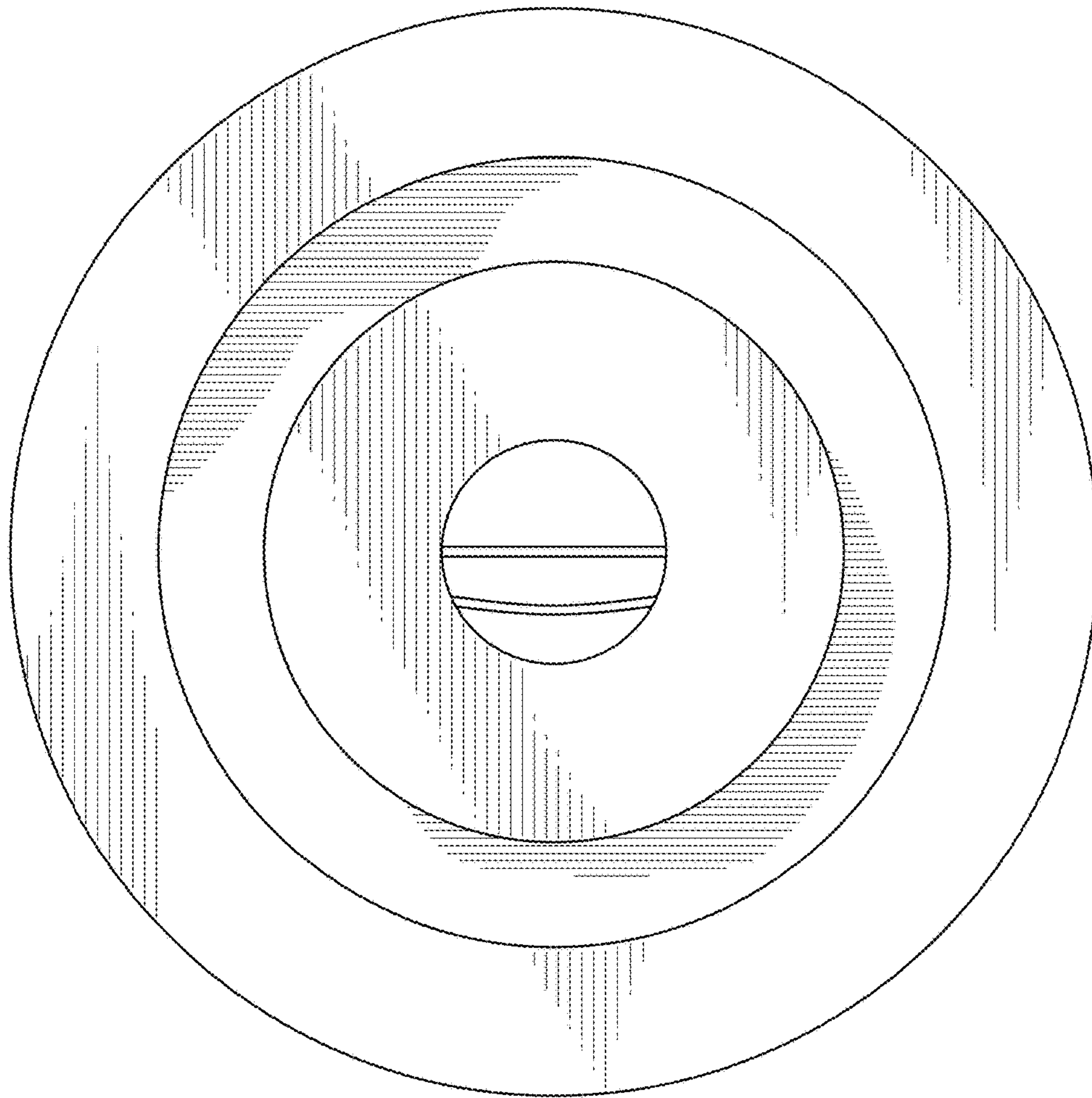


FIG. 3

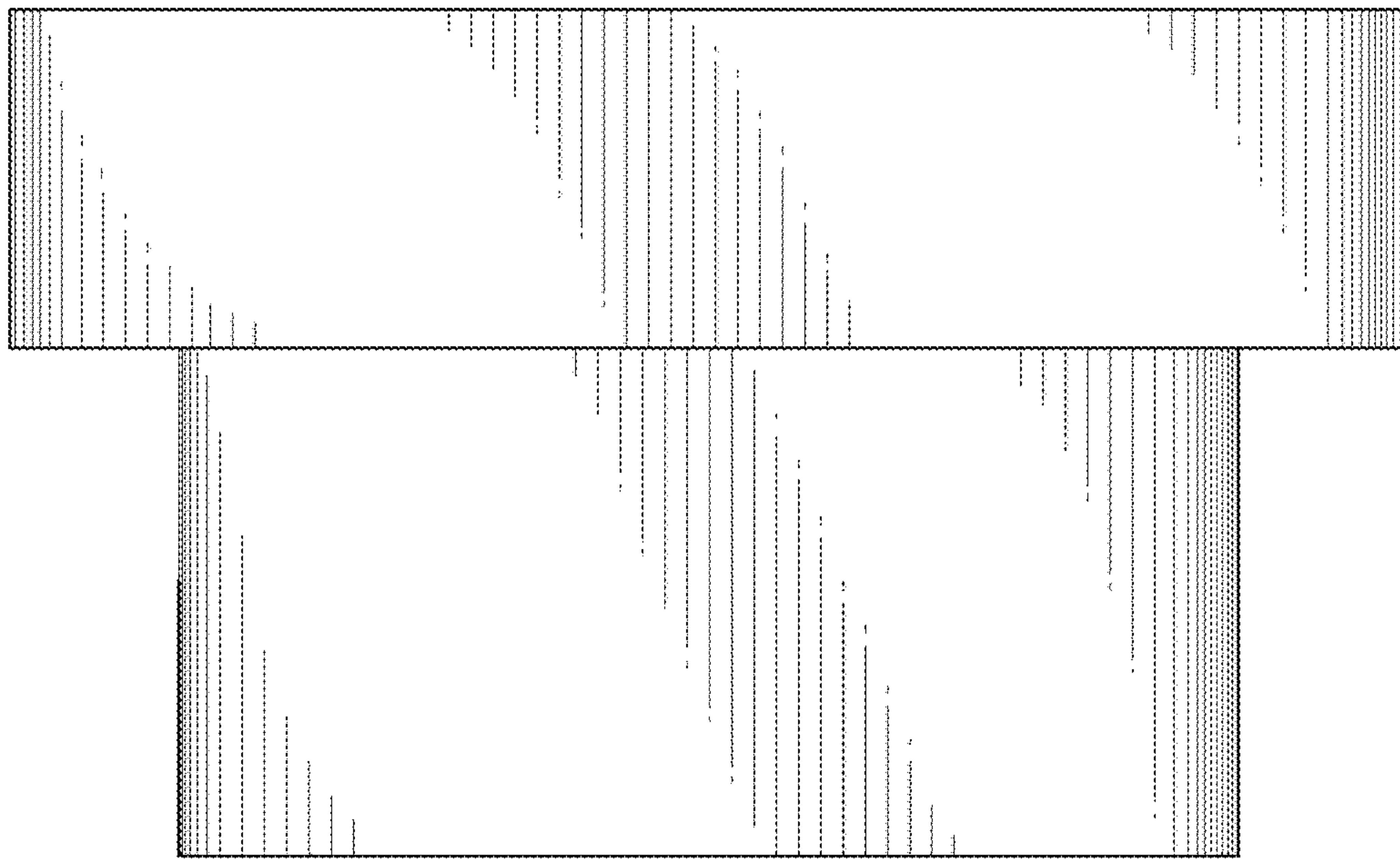


FIG. 4

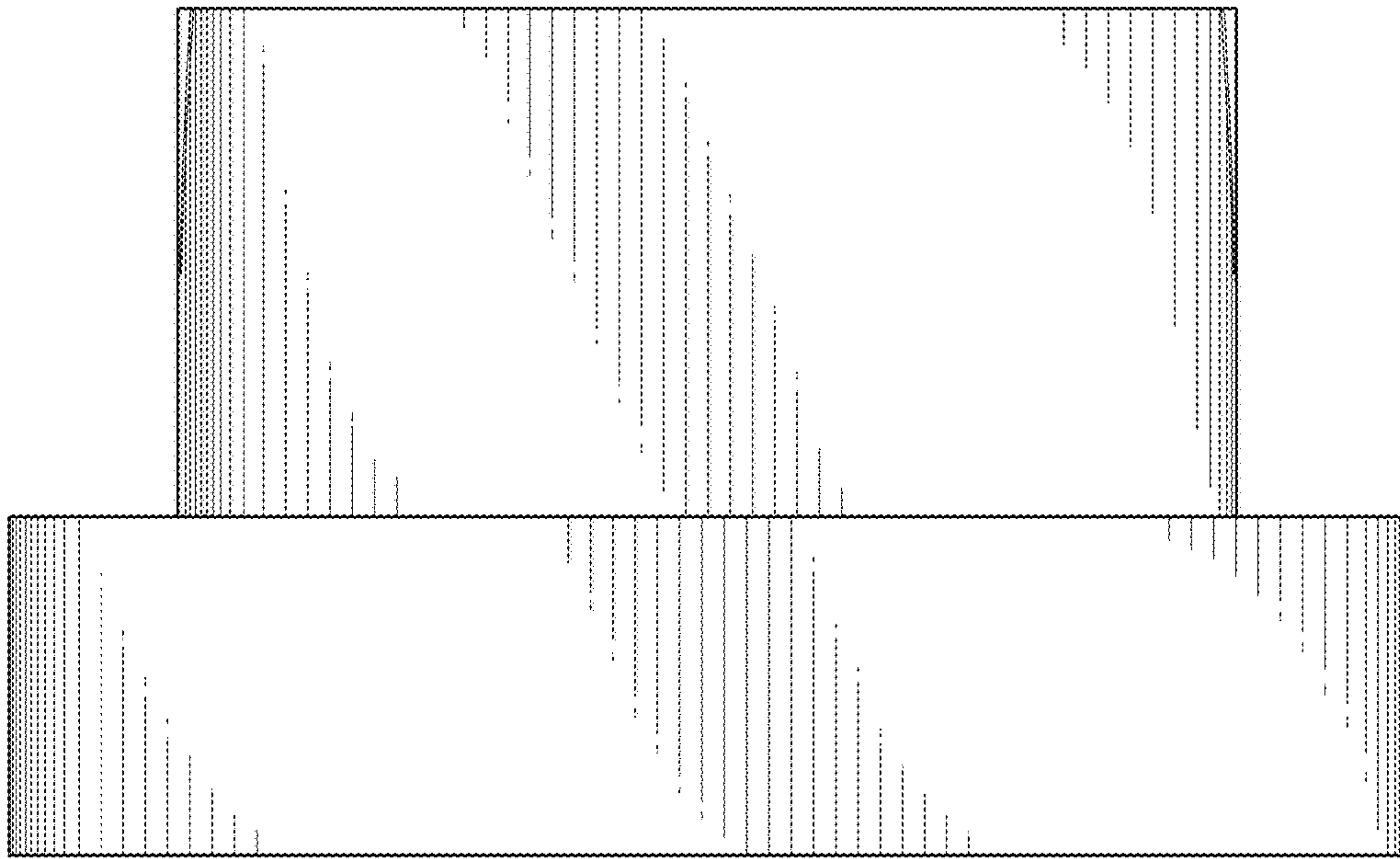


FIG. 5

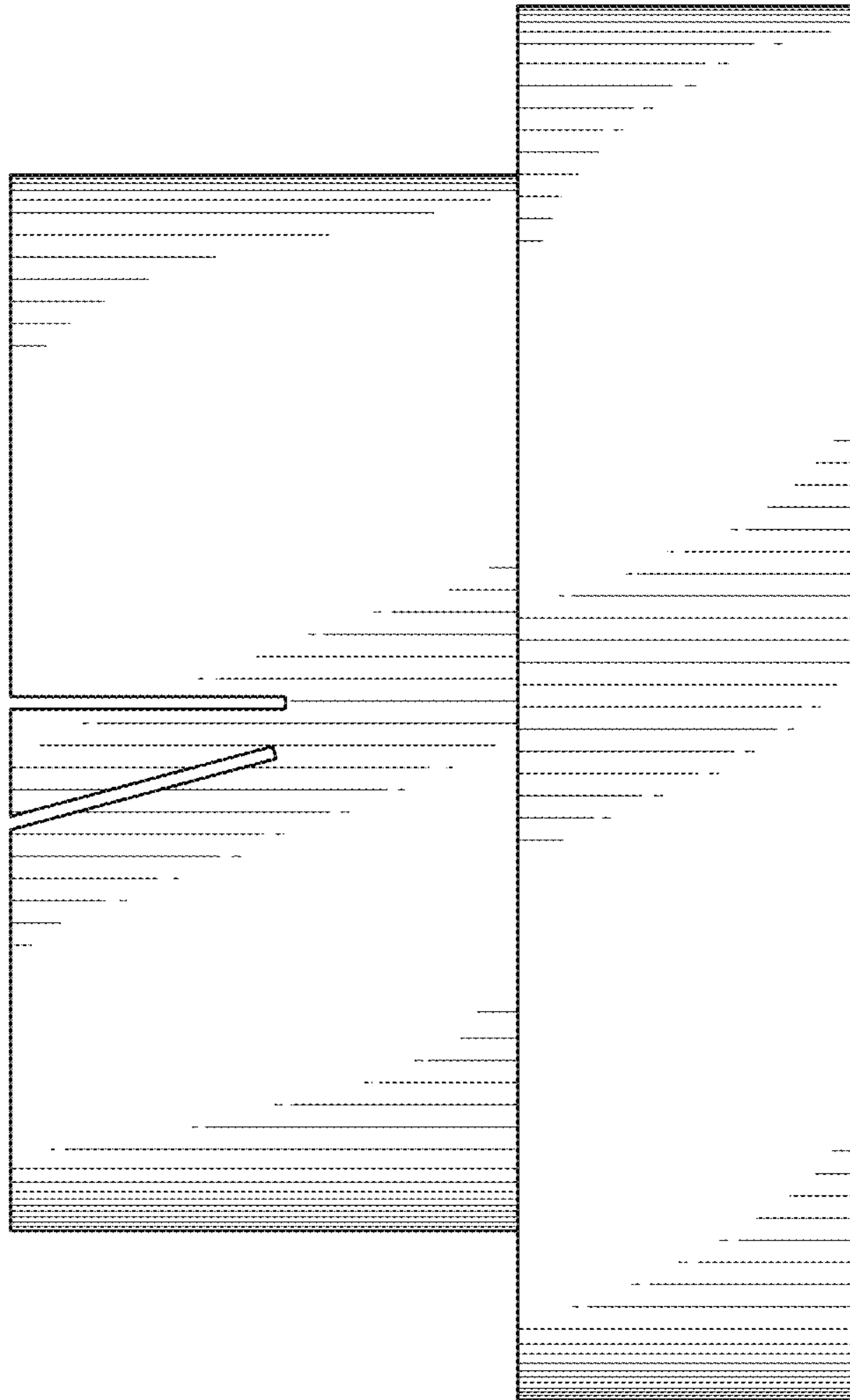


FIG. 6

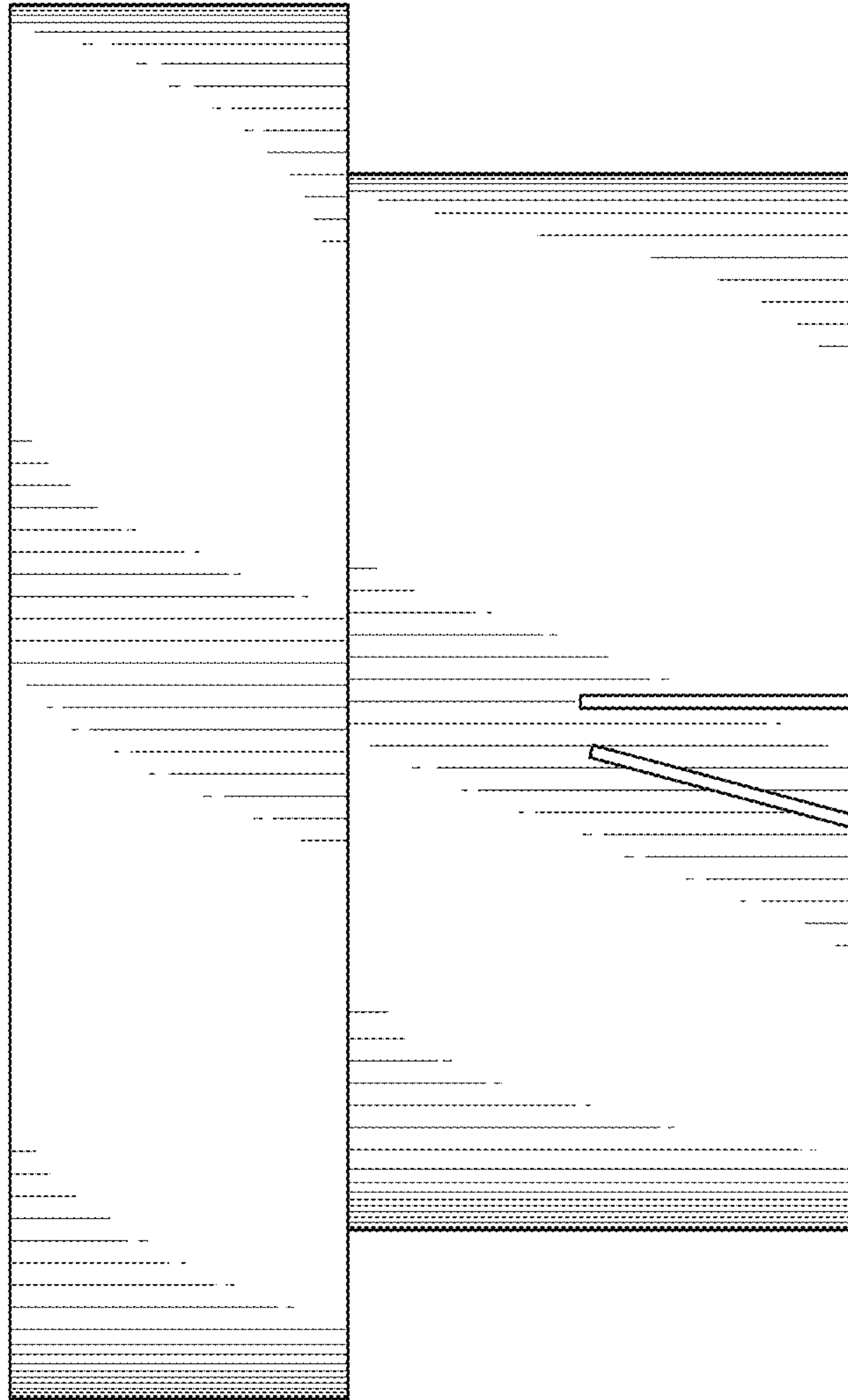


FIG. 7

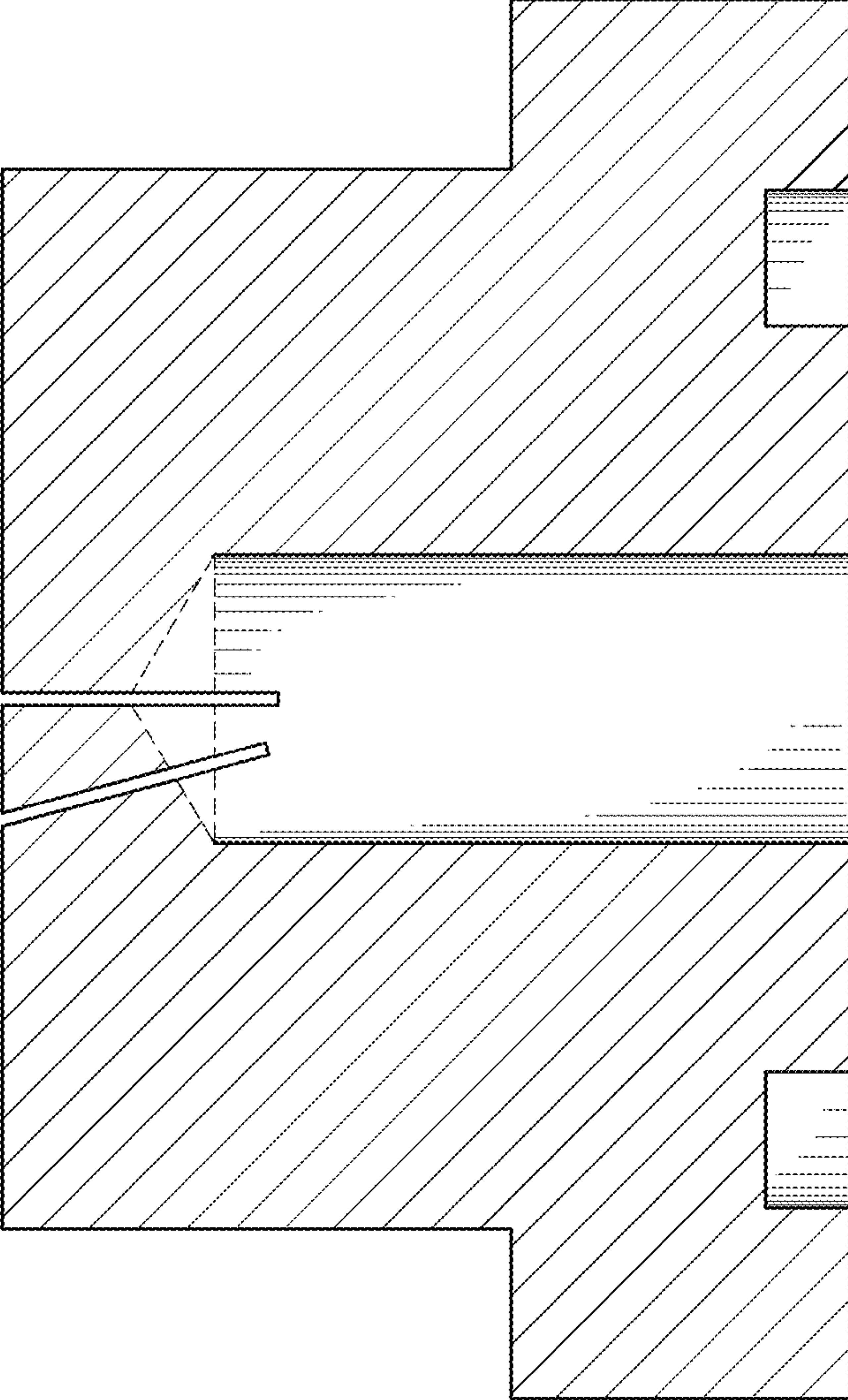


FIG. 8

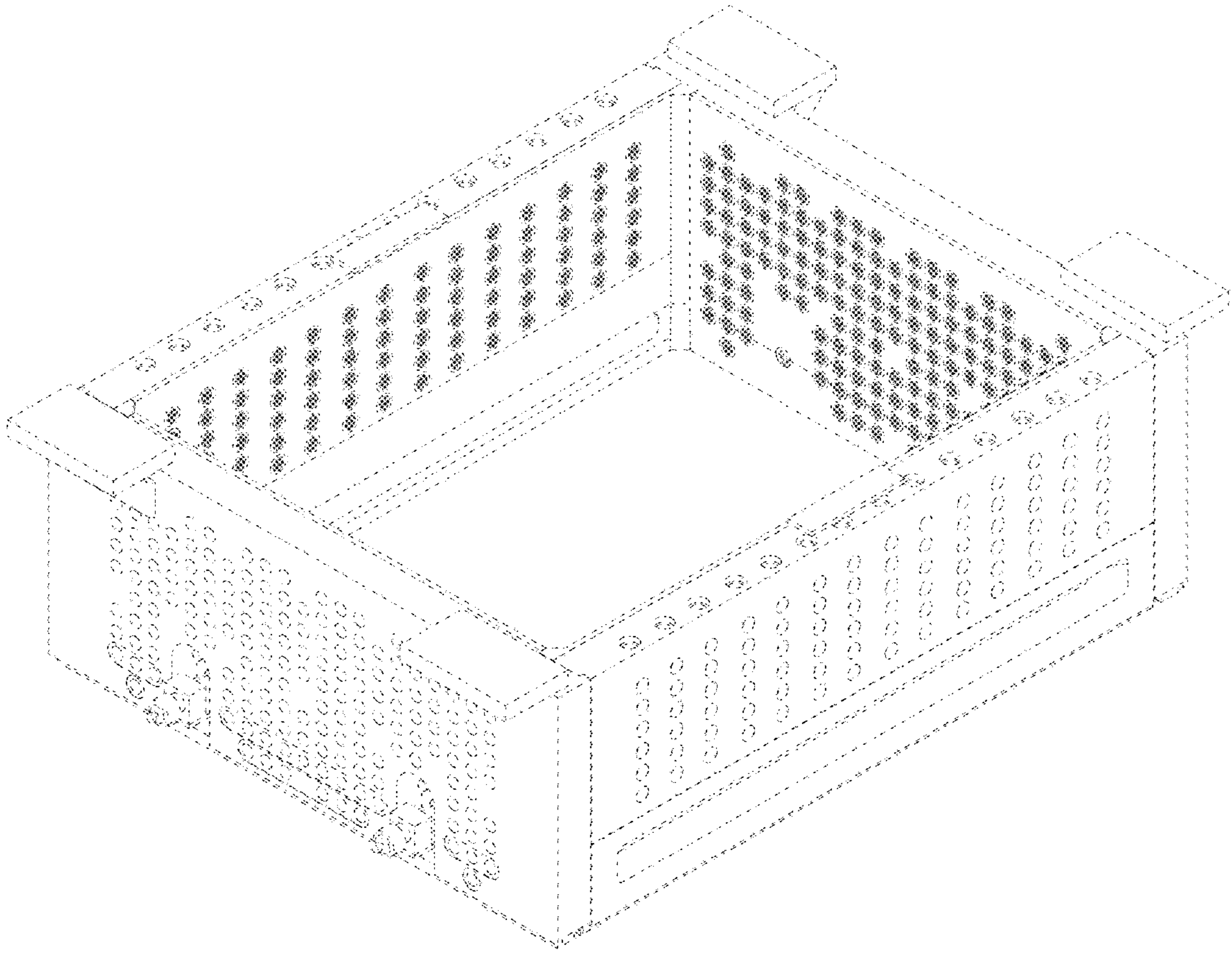


FIG. 9