



US00D908849S

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

(10) **Patent No.:** **US D908,849 S**
(45) **Date of Patent:** **** Jan. 26, 2021**

(54) **ELBOW PIPE FITTING**

(71) Applicant: **Lubrizol Advanced Materials, Inc.**,
Cleveland, OH (US)

(72) Inventors: **Domenic C. Decaria**, Brecksville, OH
(US); **James A. Michalenko**, Avon
Lake, OH (US); **Andrew J. Midlik**,
Parma, OH (US); **Mark D. Julius**,
Avon, OH (US)

(73) Assignee: **Lubrizol Advanced Materials, Inc.**,
Cleveland, OH (US)

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

(21) Appl. No.: **29/517,500**

(22) Filed: **Feb. 13, 2015**

(51) **LOC (13) Cl.** **23-01**

(52) **U.S. Cl.**
USPC **D23/263**

(58) **Field of Classification Search**
USPC D23/233-237, 249, 259-269, 393, 499;
D24/129; D13/149, 155; D8/356,
D8/382-383, 394, 396-397, 399;
D32/25; D12/607
CPC F16L 43/001; F16L 19/04; F16L 19/005;
F16L 19/0218; F16L 55/1152; F16L
27/04; F16L 27/073; F16L 25/14; E21B
17/042; B29C 70/345; B29C 70/462;
H01R 4/58; F16N 21/06; F16B 39/24;
F16B 39/26; F16B 37/02; F16B 31/02;
D06F 58/10; A62C 3/00; H01M 6/26
See application file for complete search history.

D132,939 S 6/1942 Corley
D137,384 S 2/1944 Corley
D179,768 S 2/1957 Giles
2,988,385 A * 6/1961 Foelester F16L 43/001
285/179

3,441,292 A 4/1969 Gross
3,844,586 A 10/1974 Olen
D296,816 S * 7/1988 Budzinski D23/262
D434,834 S 12/2000 Goto
D462,112 S 8/2002 Koizu
6,447,019 B1 * 9/2002 Hosono F16L 37/091
285/148.19

D482,103 S * 11/2003 Snyder, Sr. D23/263
D533,259 S 12/2006 Lewis
D549,804 S 8/2007 Lewis
D552,221 S 10/2007 Beutler
D554,237 S 10/2007 Lewis
D564,642 S 3/2008 Pipe
D606,388 S * 12/2009 Werschmidt D8/382
D617,428 S 6/2010 Bachmann
D634,816 S 3/2011 Qian
D634,820 S 3/2011 Leroyer
D648,005 S 11/2011 Morishita
D648,006 S 11/2011 Morishita
D675,289 S 1/2013 Freudendahl
D675,290 S 1/2013 Mitchell
D675,291 S 1/2013 Mitchell
D675,292 S 1/2013 Mitchell
D675,293 S 1/2013 Mitchell
D675,294 S 1/2013 Mitchell
D676,941 S 2/2013 Kluss
D705,402 S * 5/2014 Yu D23/262
D706,126 S * 6/2014 Orow D8/397
D712,015 S * 8/2014 Yu D23/263
D727,472 S * 4/2015 Bednarz D23/263
D739,509 S * 9/2015 Bazemore D23/263
9,227,252 B2 * 1/2016 Horiguchi B23C 3/16
2012/0074687 A1 3/2012 Mitchell

FOREIGN PATENT DOCUMENTS

CN	ZL201030189447.0	11/2010
MX	9159	12/1997
MX	22550	4/2007
MX	23308	8/2007
MX	23309	8/2007
MX	34093	8/2011
MX	37761	2/2012
WO	DM/052171	8/2000

* cited by examiner

Primary Examiner — Amy C Wierenga

(56) **References Cited**

U.S. PATENT DOCUMENTS

682,250 A * 9/1901 Glauber F16L 19/0218
285/148.28
1,293,409 A * 2/1919 Goodhue F16L 43/001
285/183
D132,938 S 6/1942 Corley

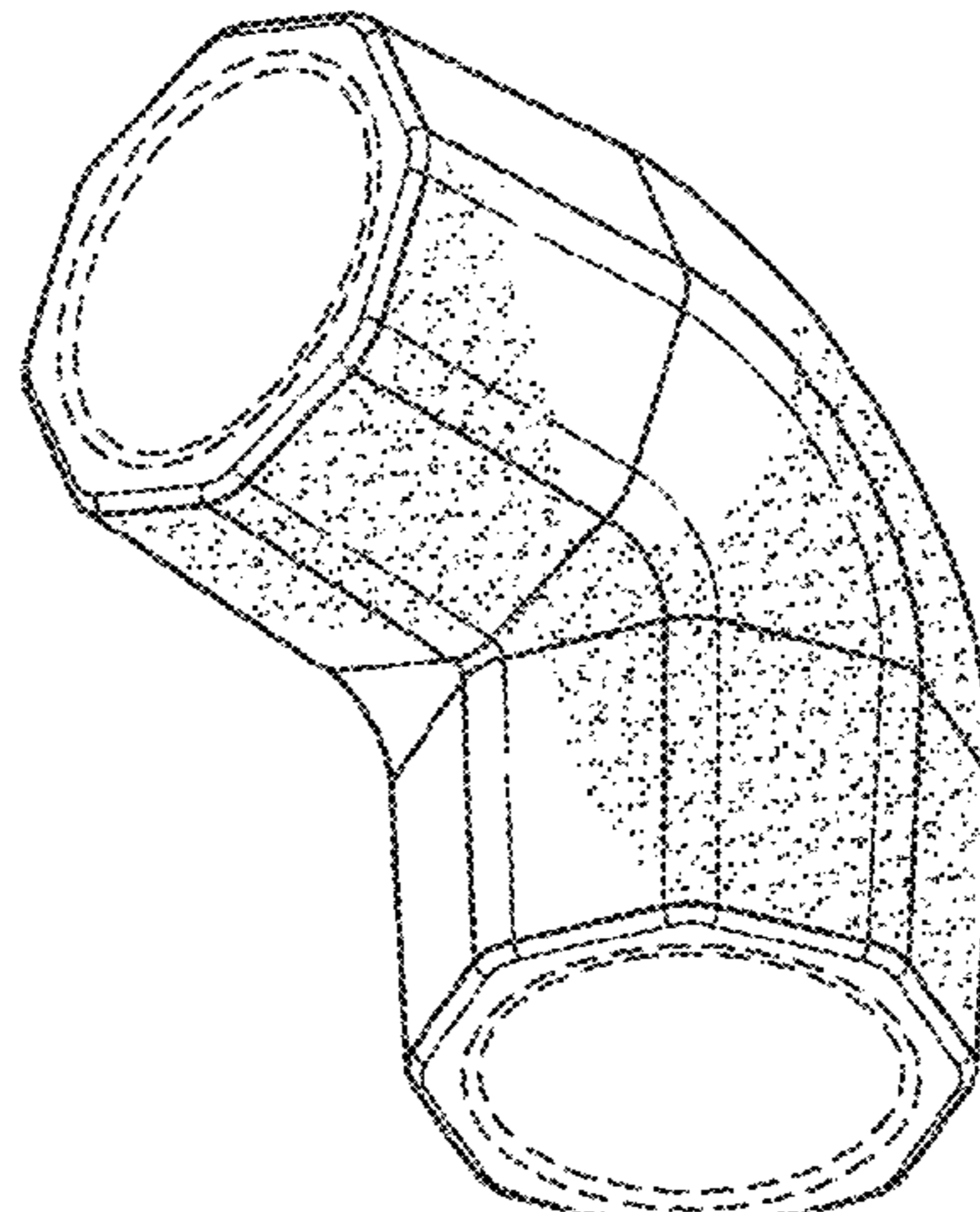
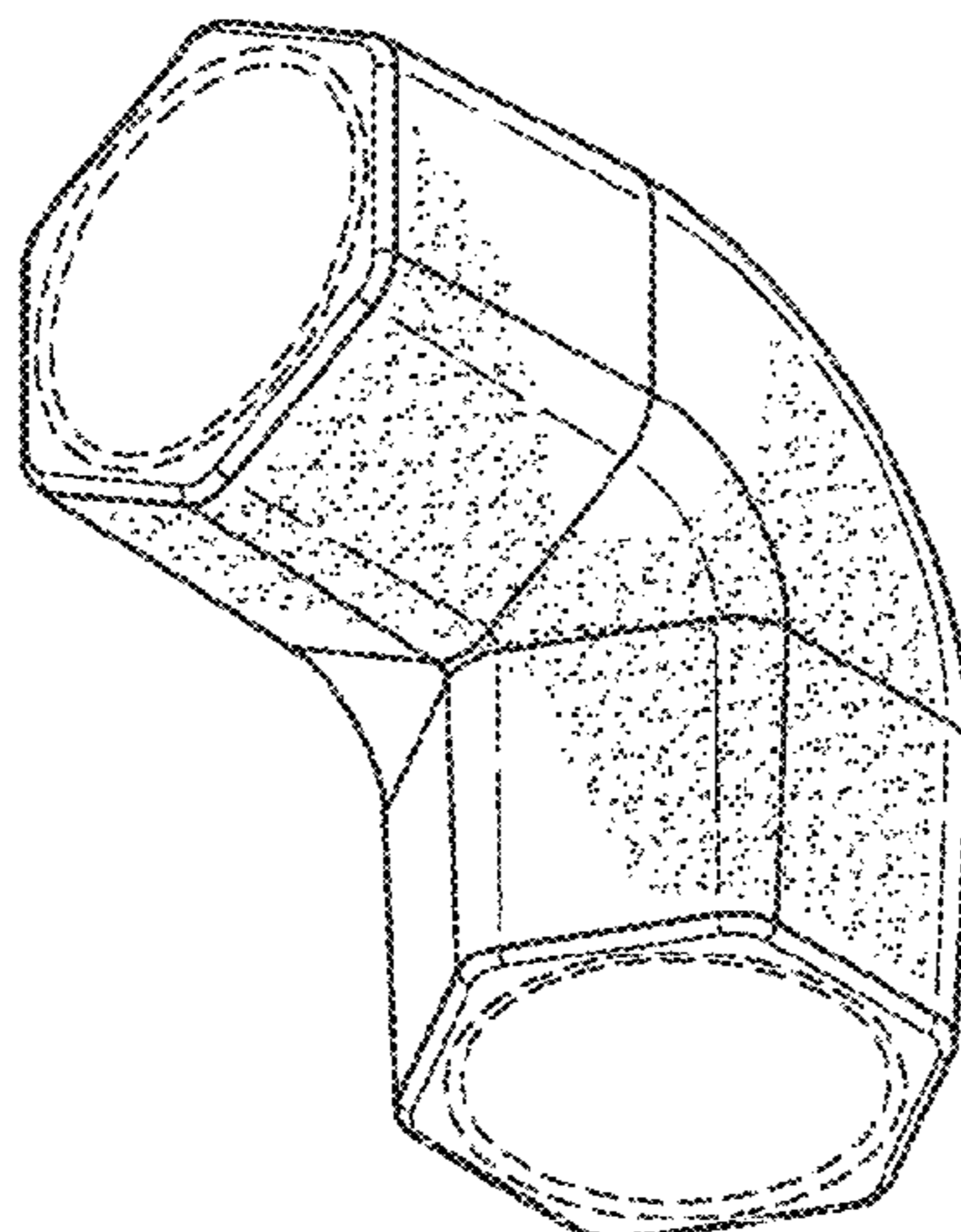


FIG. 40 is a bottom perspective view of a multi-faceted thermoplastic 90° elbow pipe fitting having a dodecagonal outer shell with sharp edges on the front and rear planes. The broken lines are for the purpose of illustrating portions of the article that form no part of the claim.

1 Claim, 12 Drawing Sheets

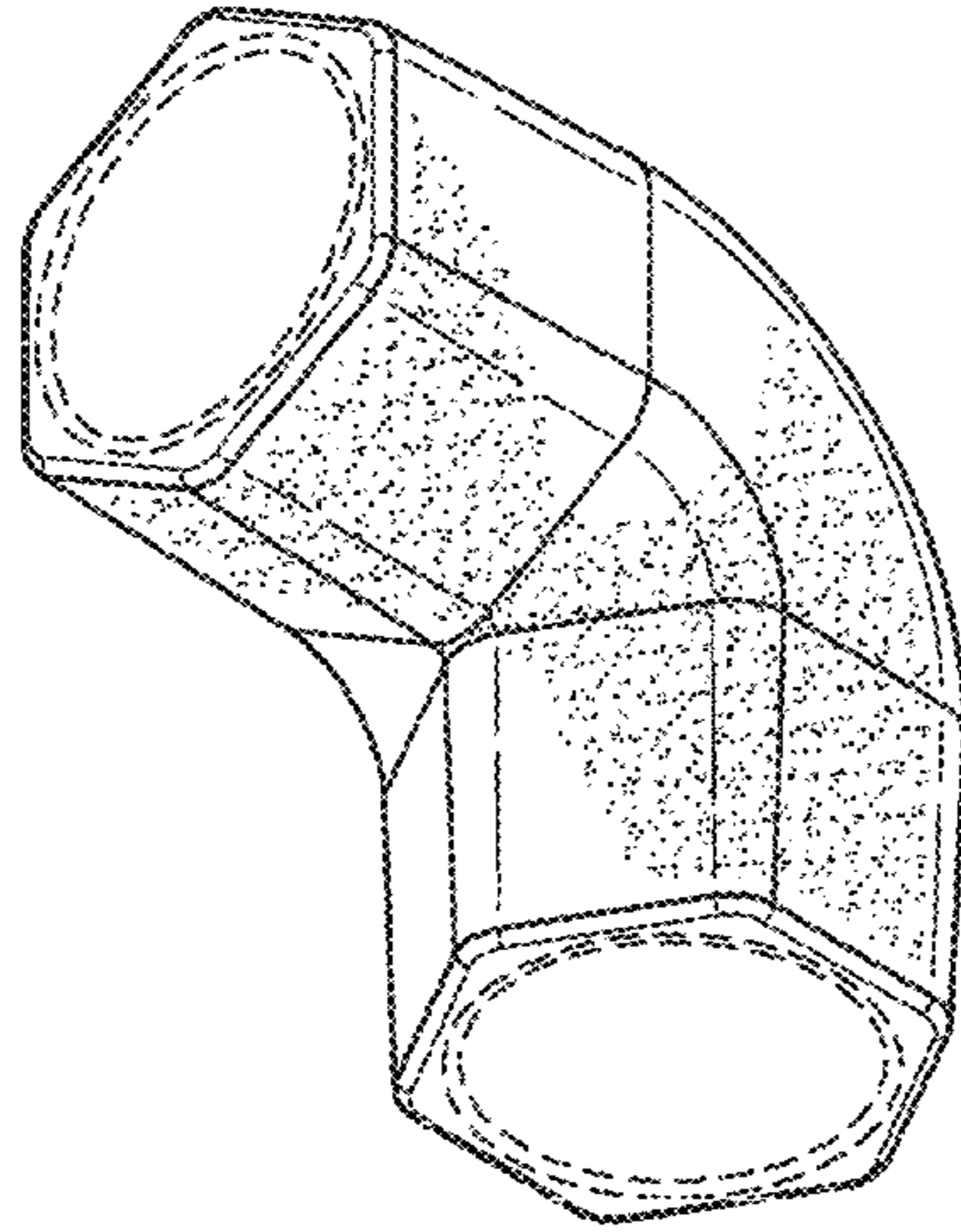


FIG. 1

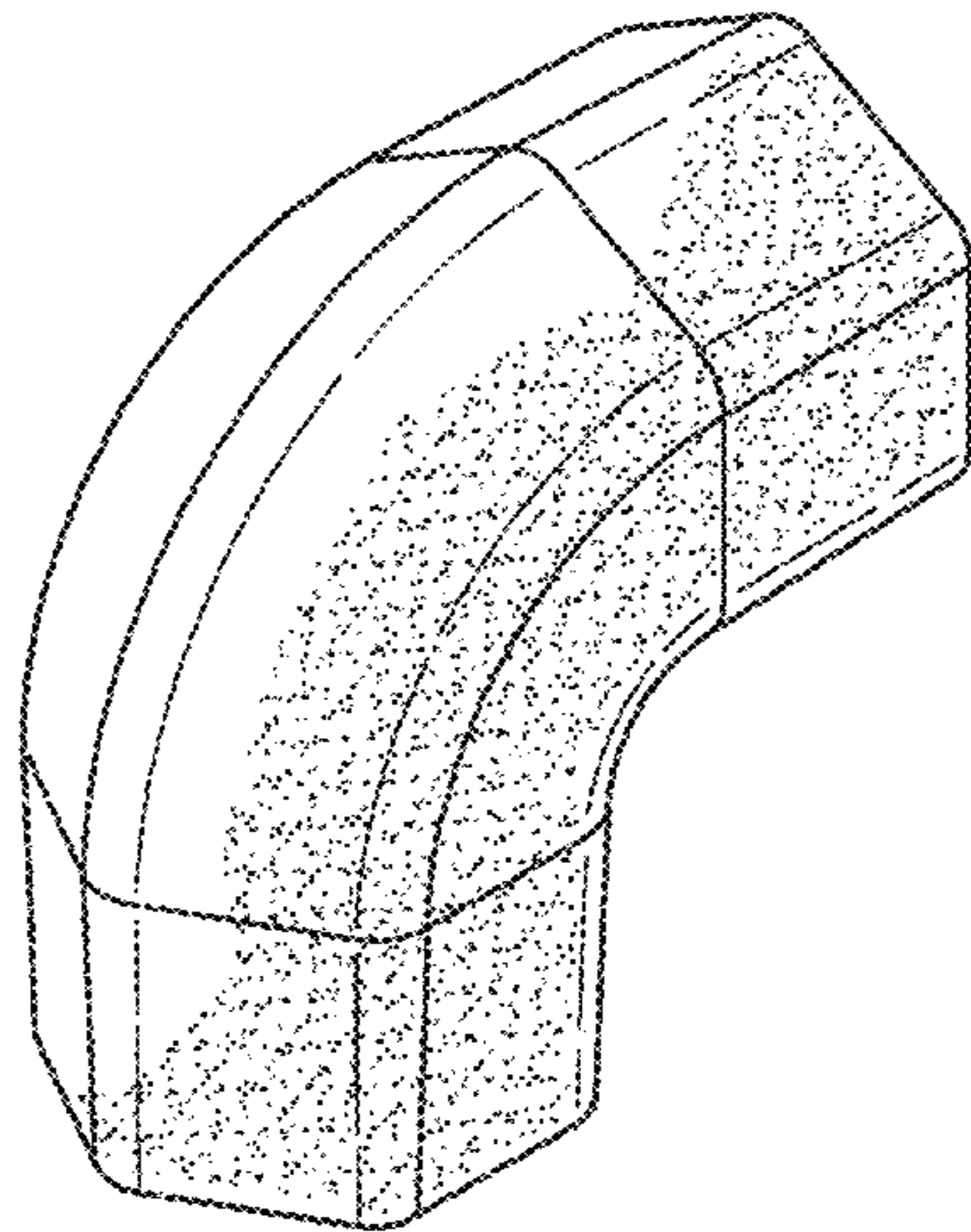


FIG. 2

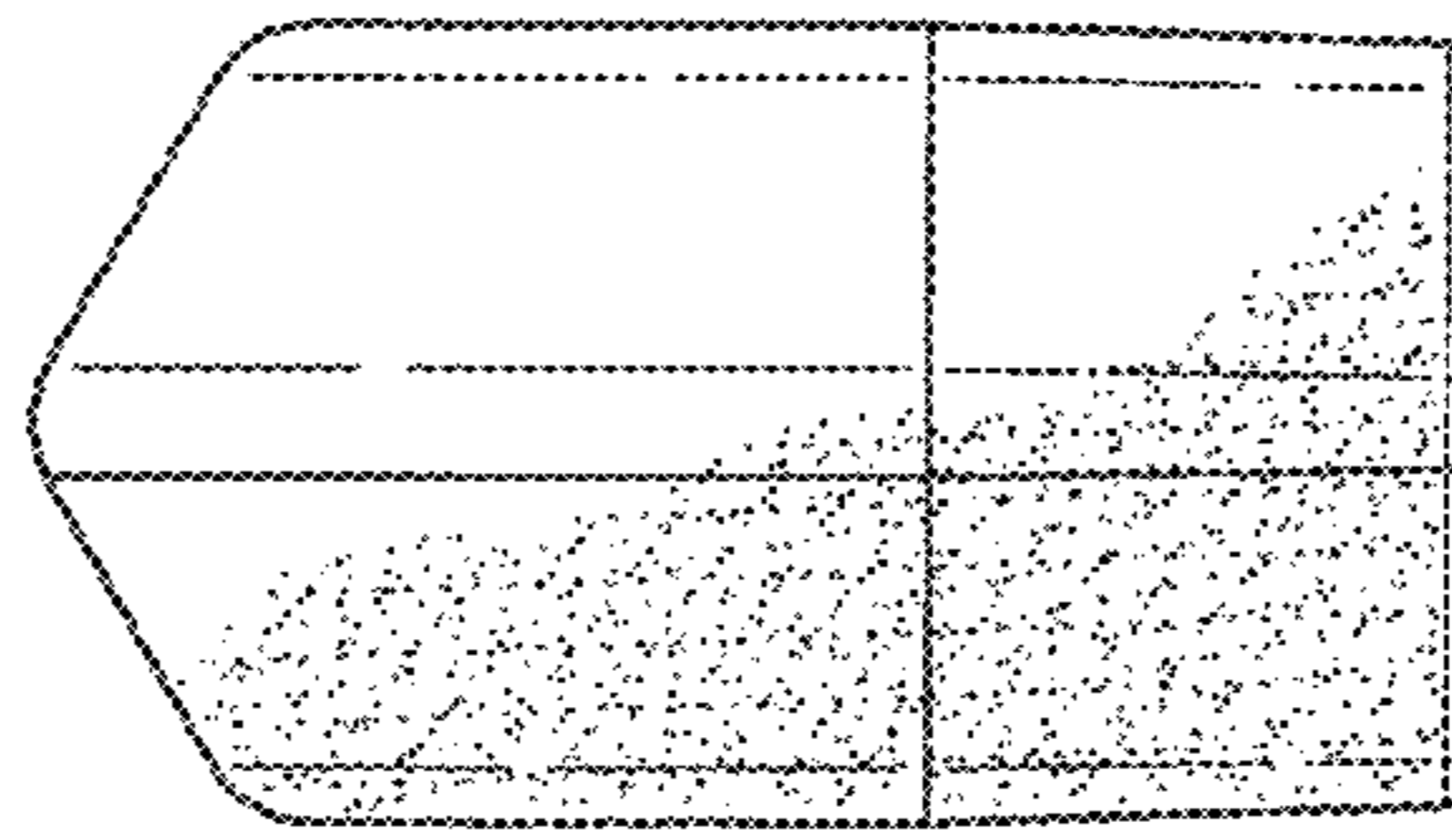


FIG. 3

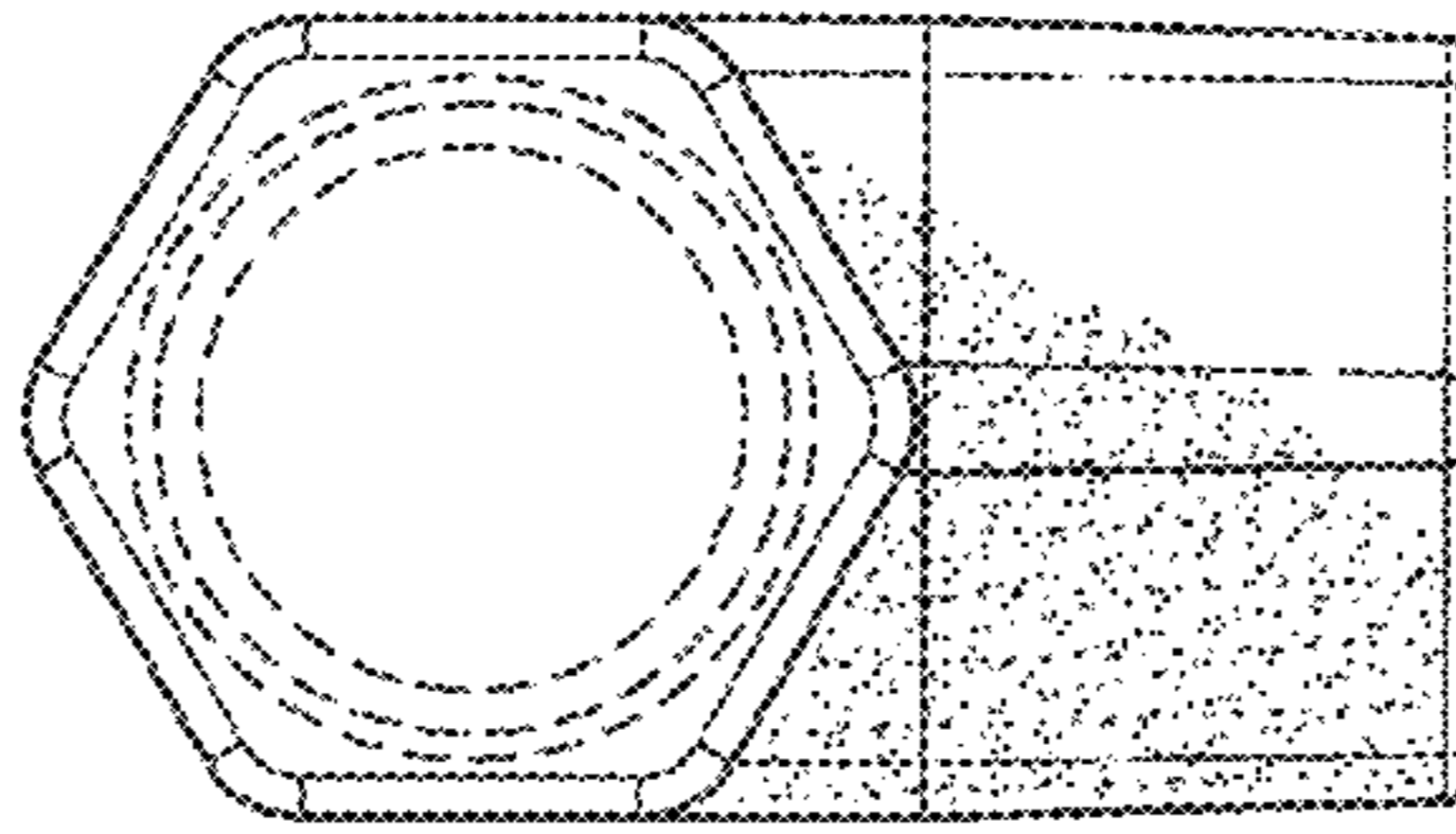


FIG. 4

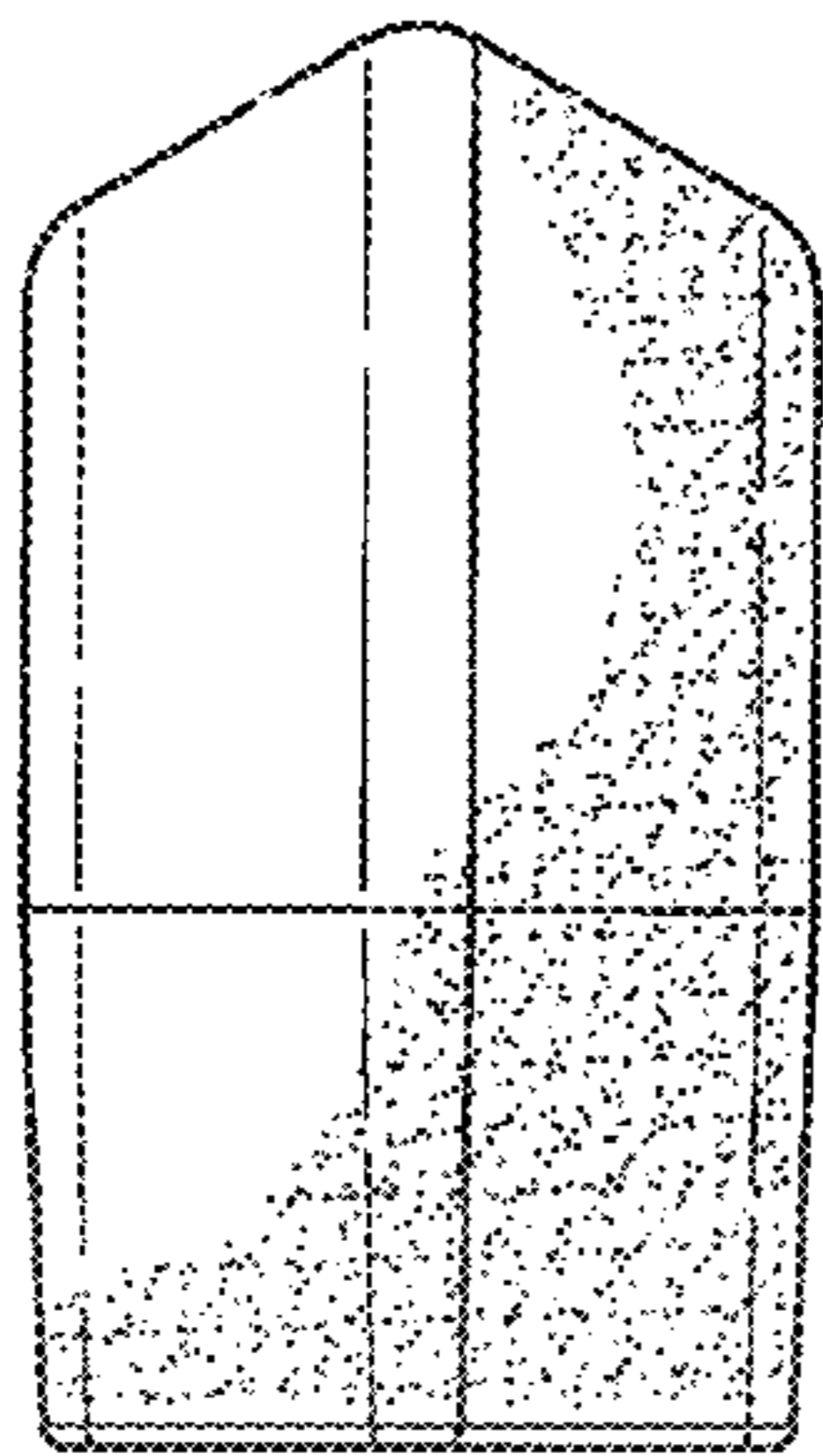


FIG. 5

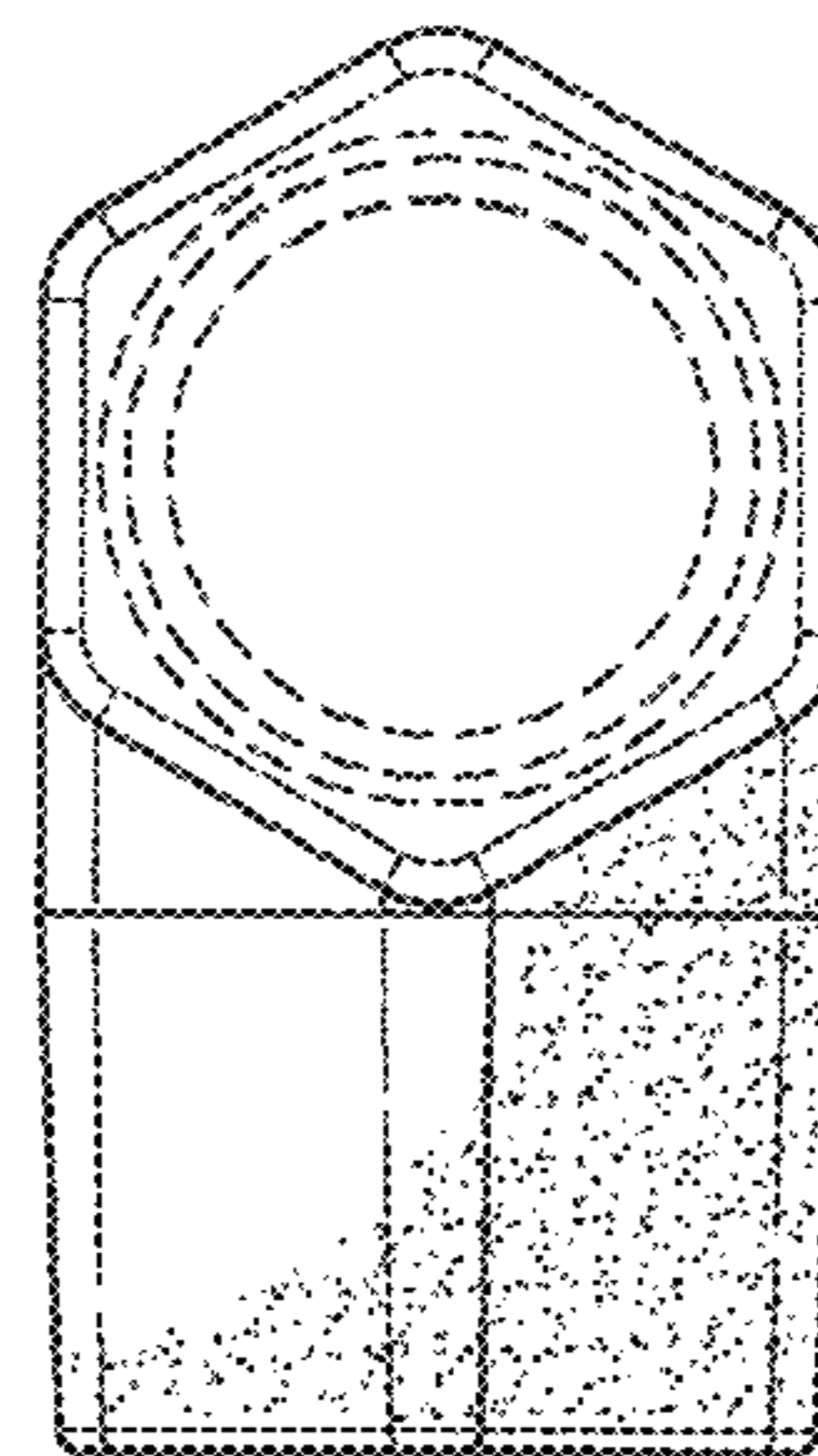


FIG. 6

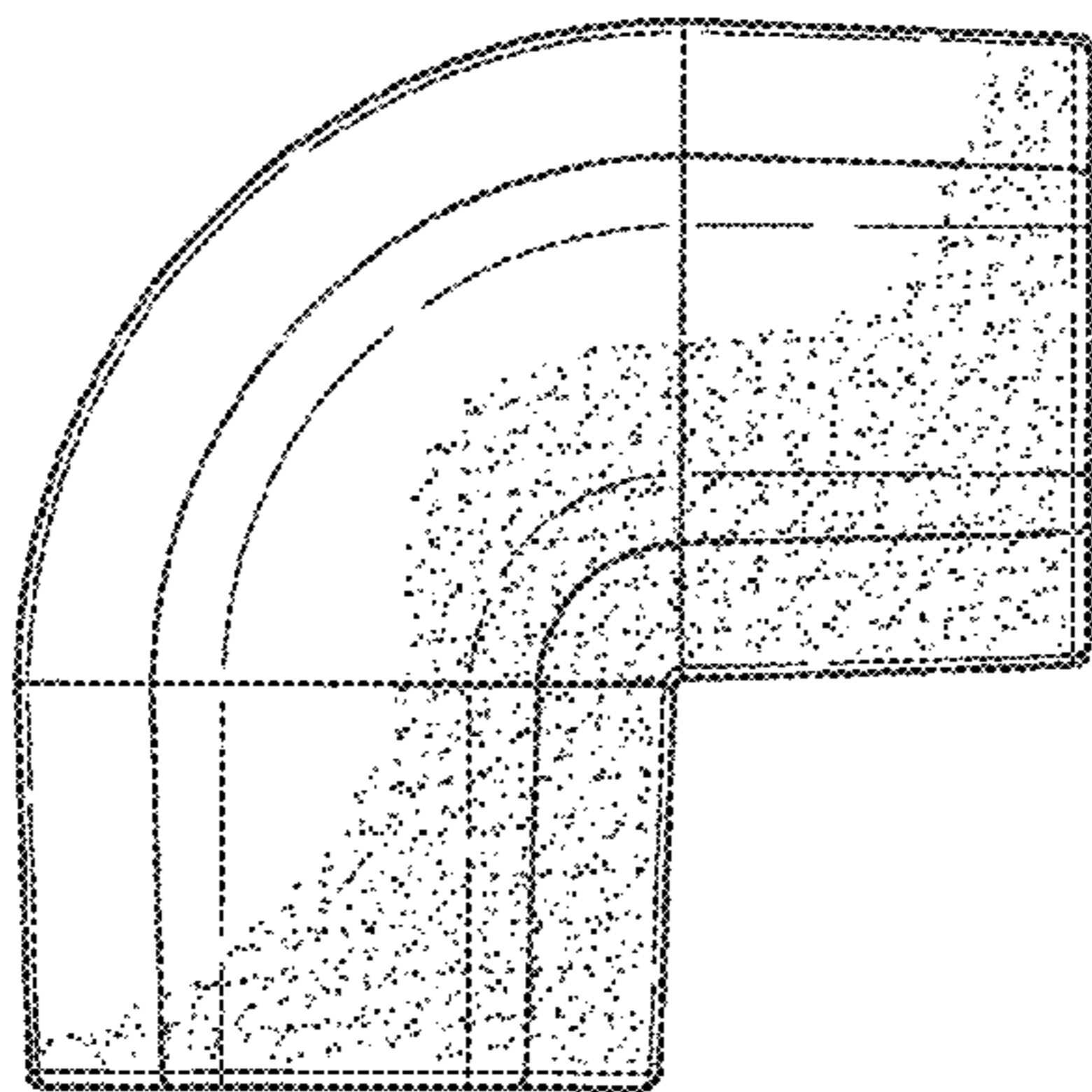


FIG. 7

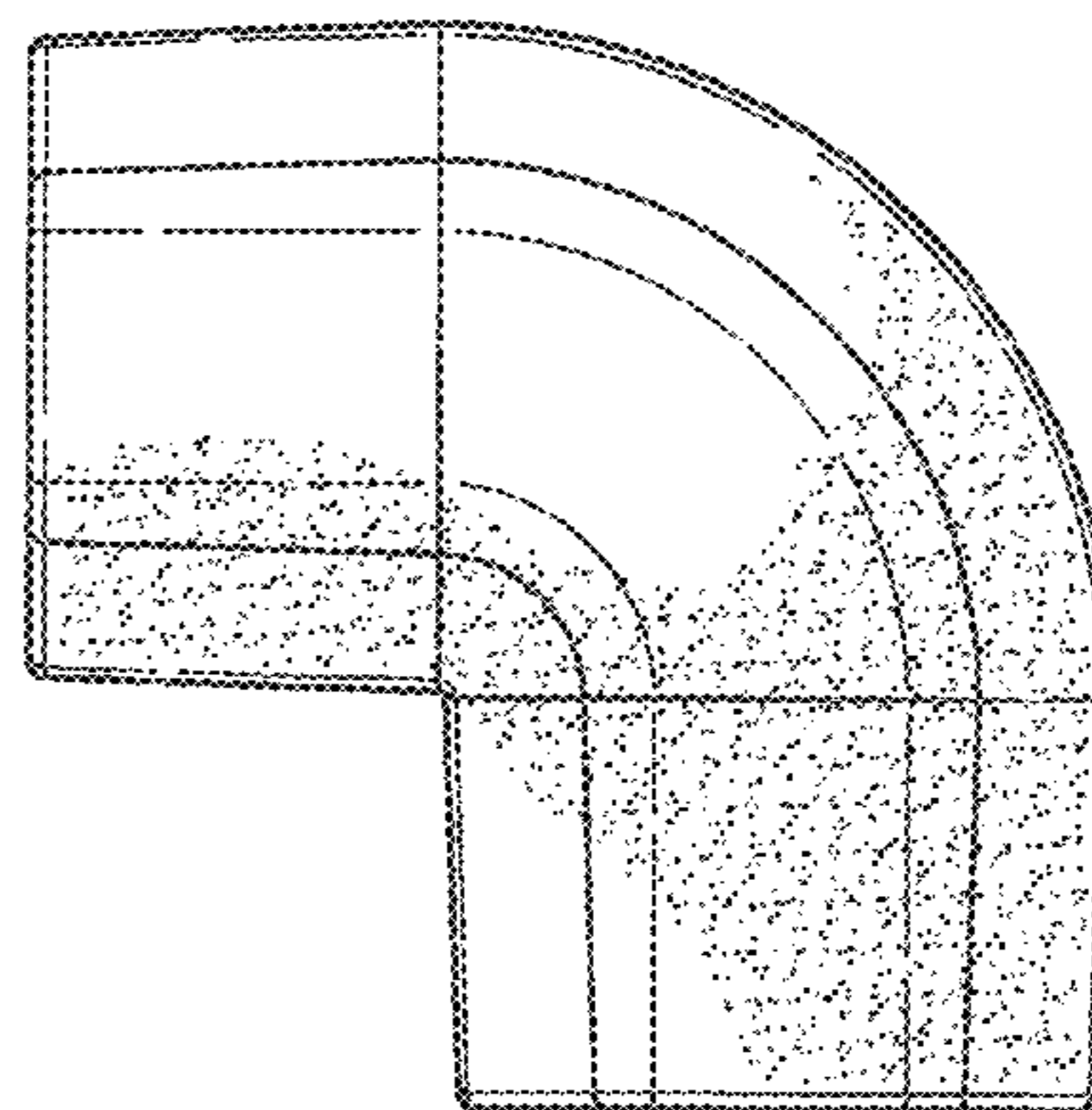


FIG. 8

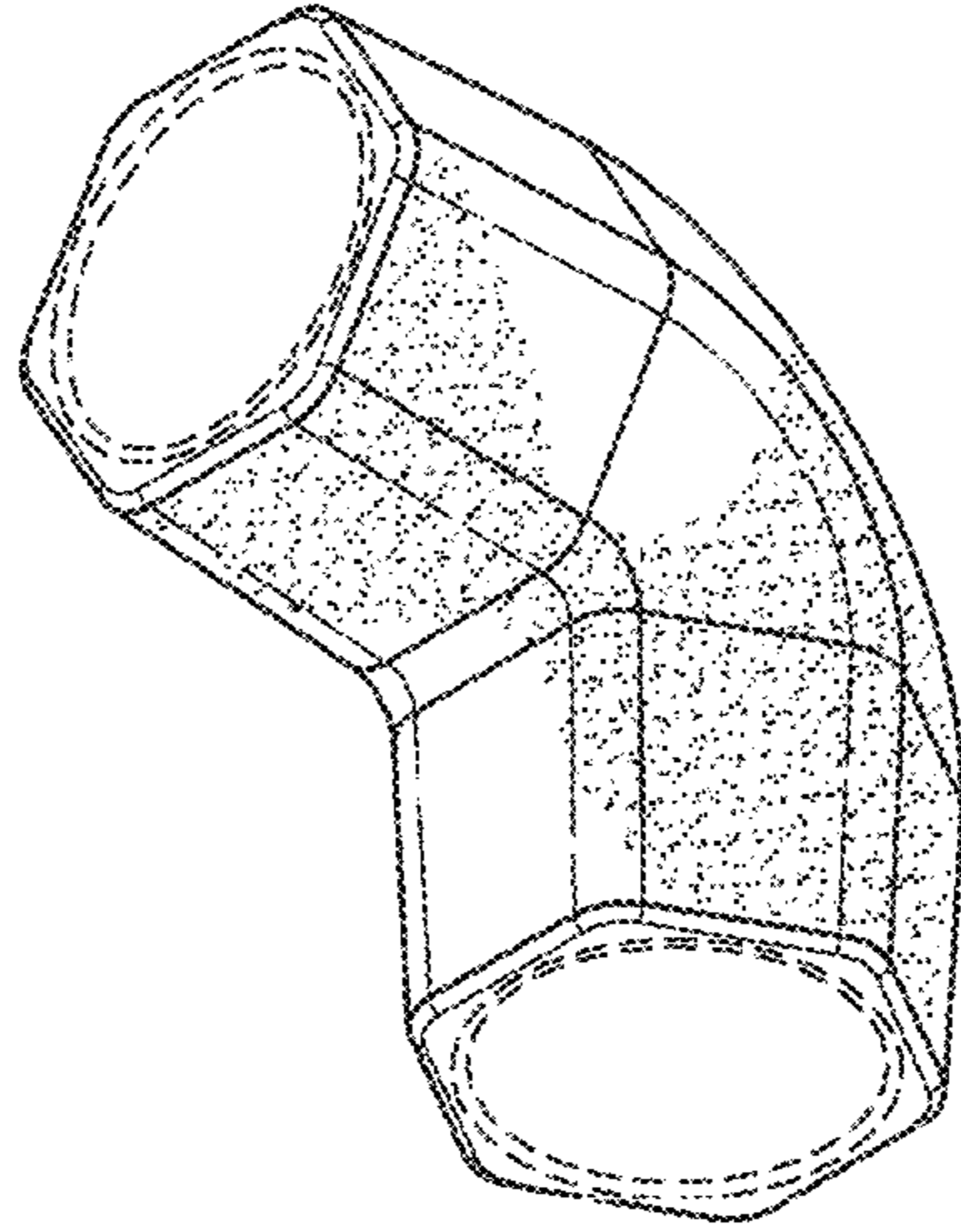


FIG. 9

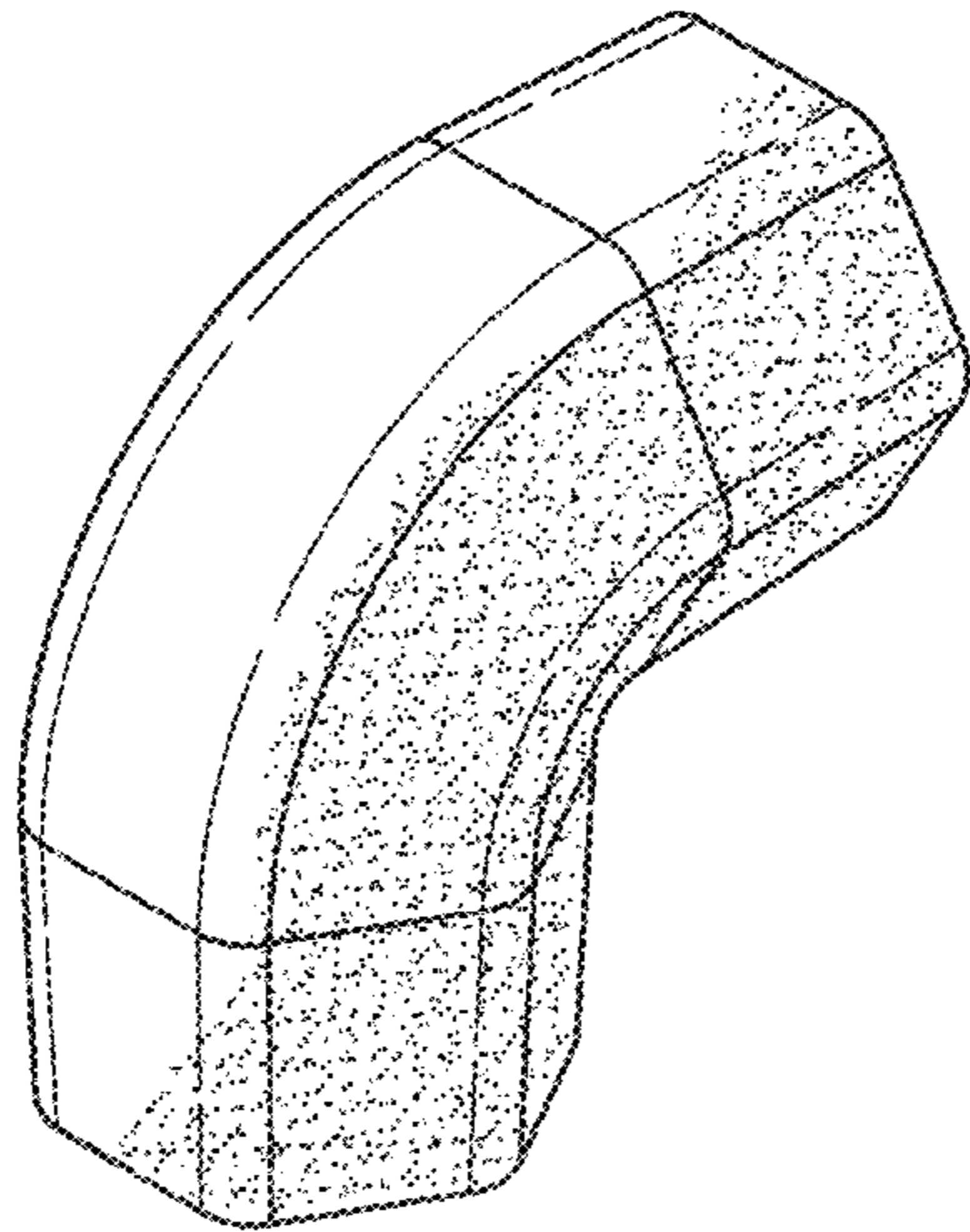


FIG. 10

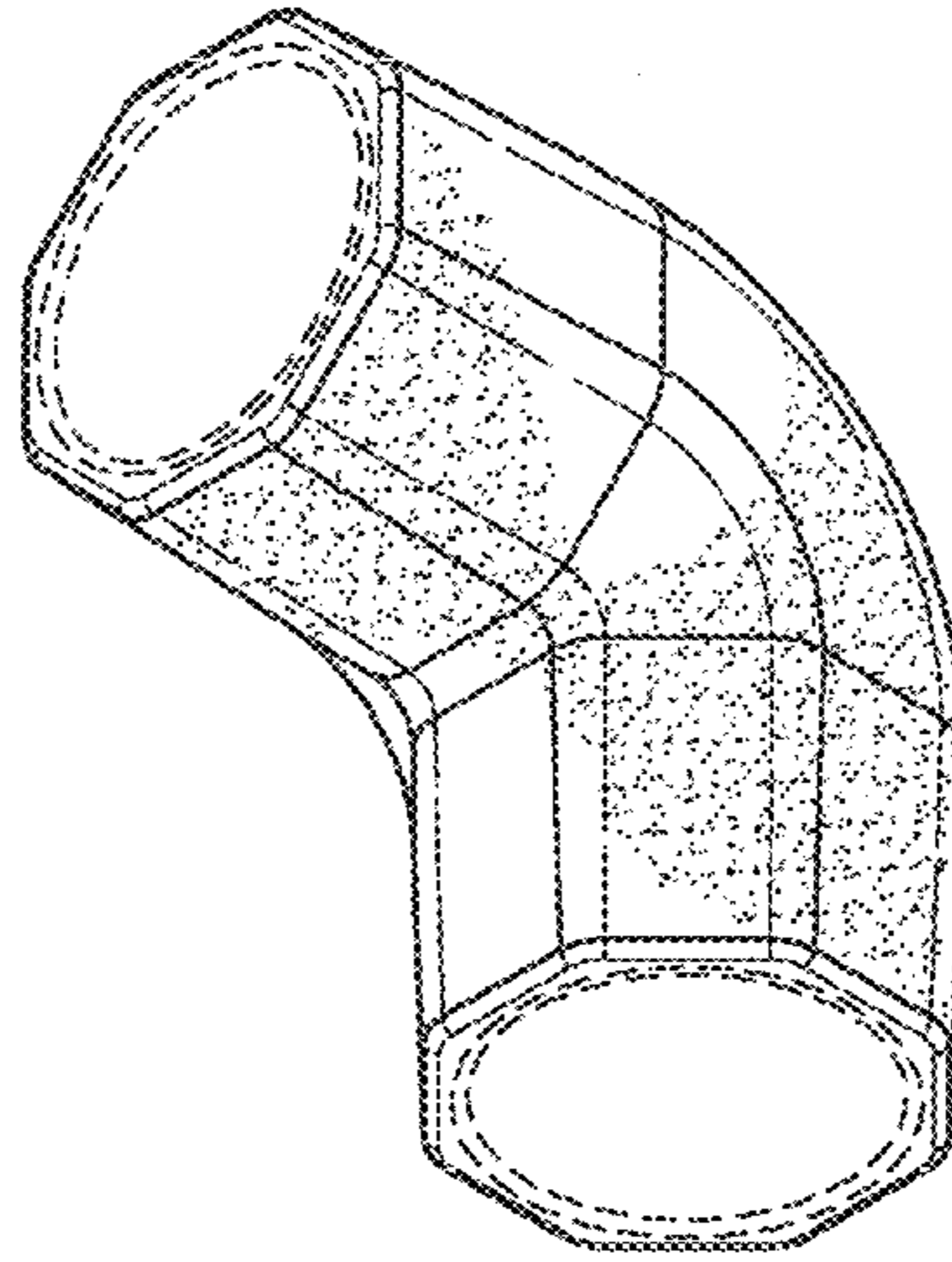


FIG. 11

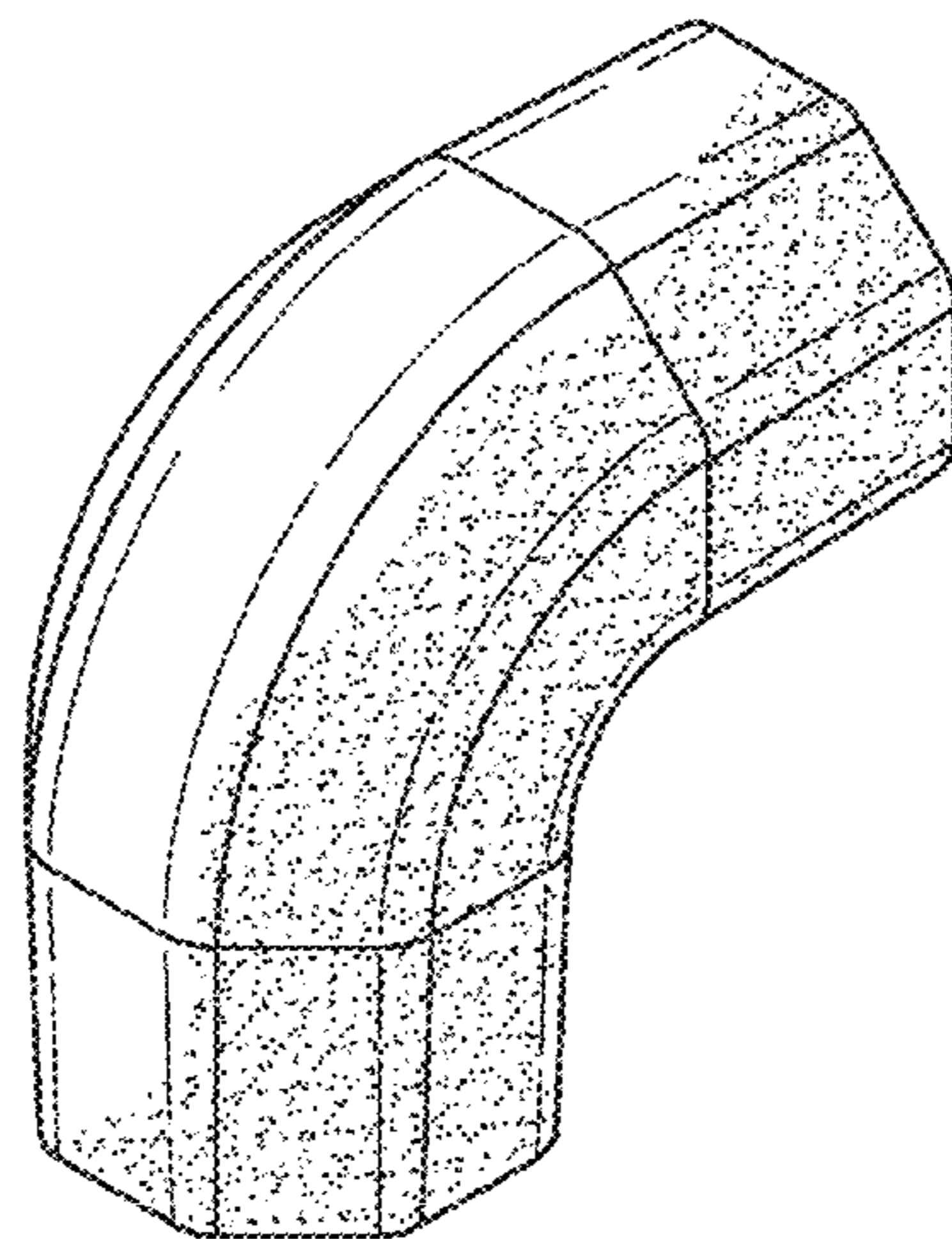


FIG. 12

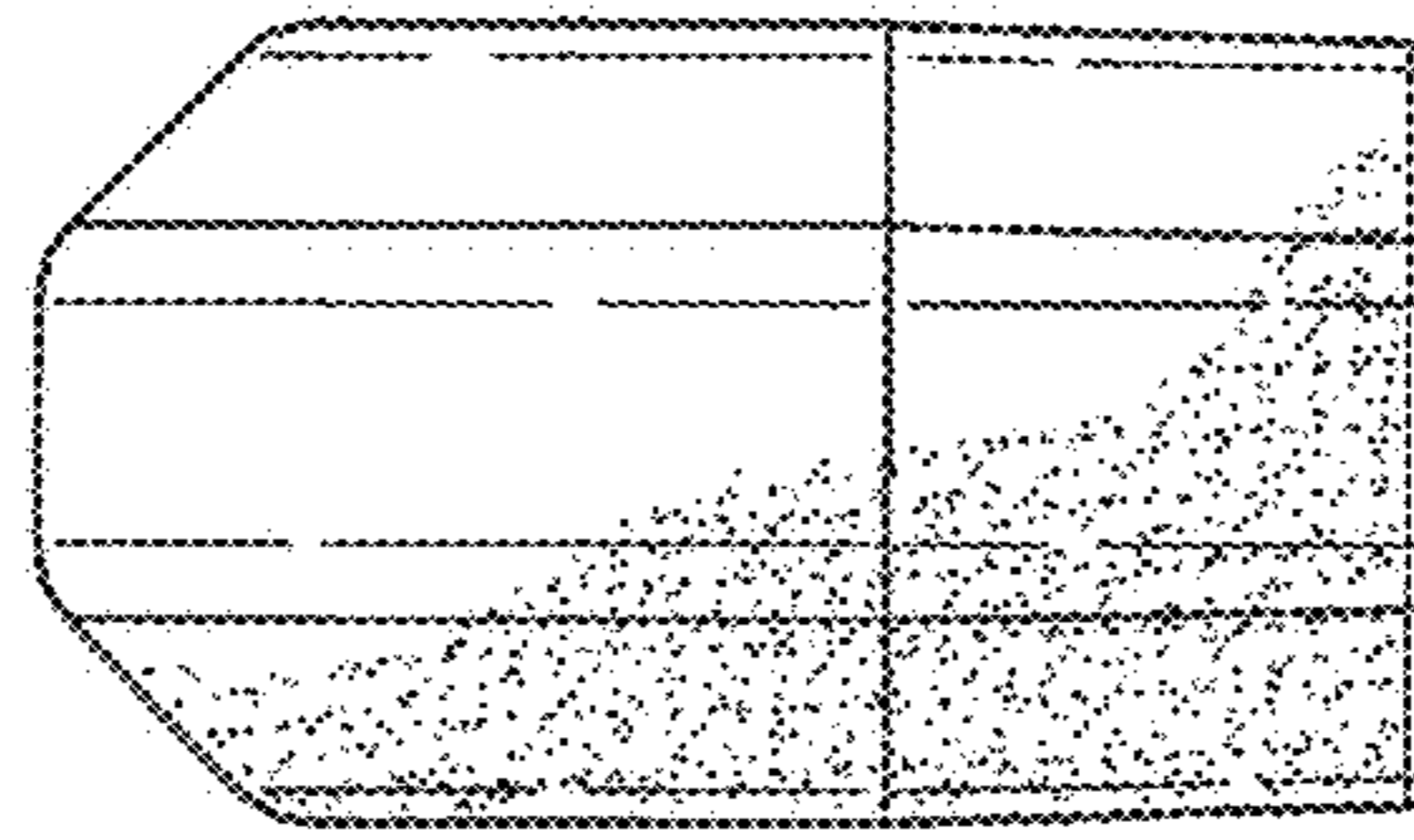


FIG. 13

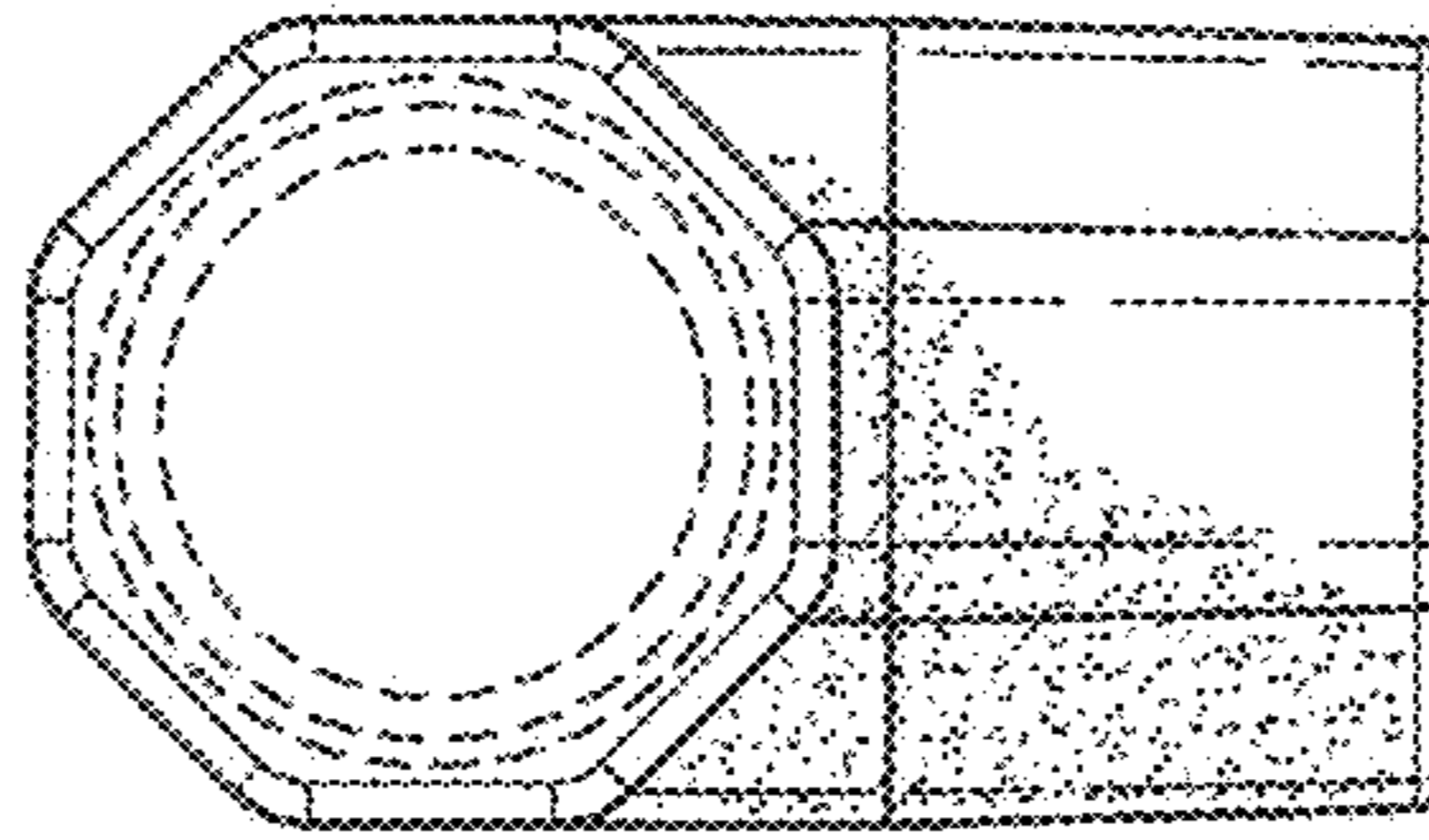


FIG. 14

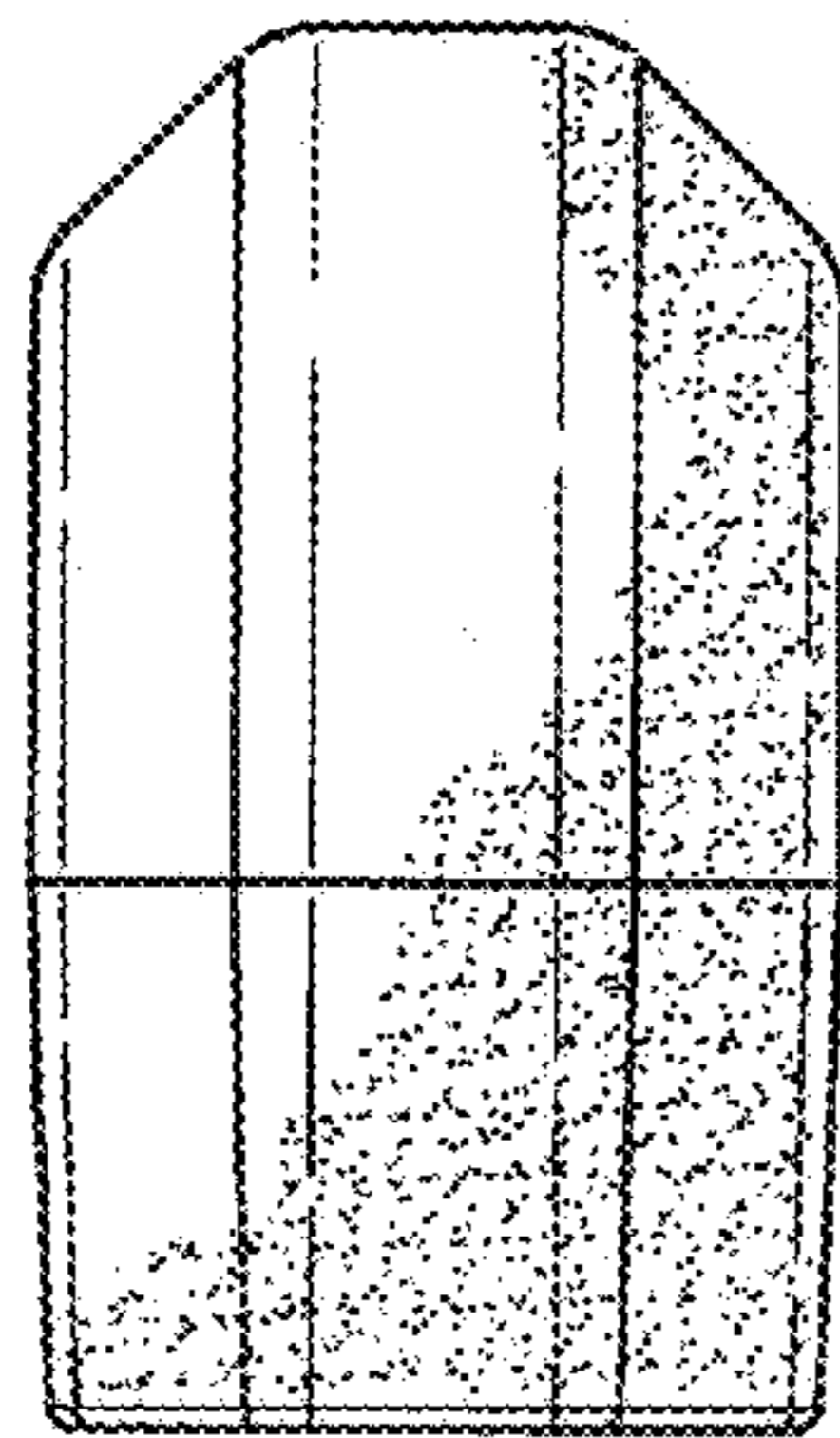


FIG. 15

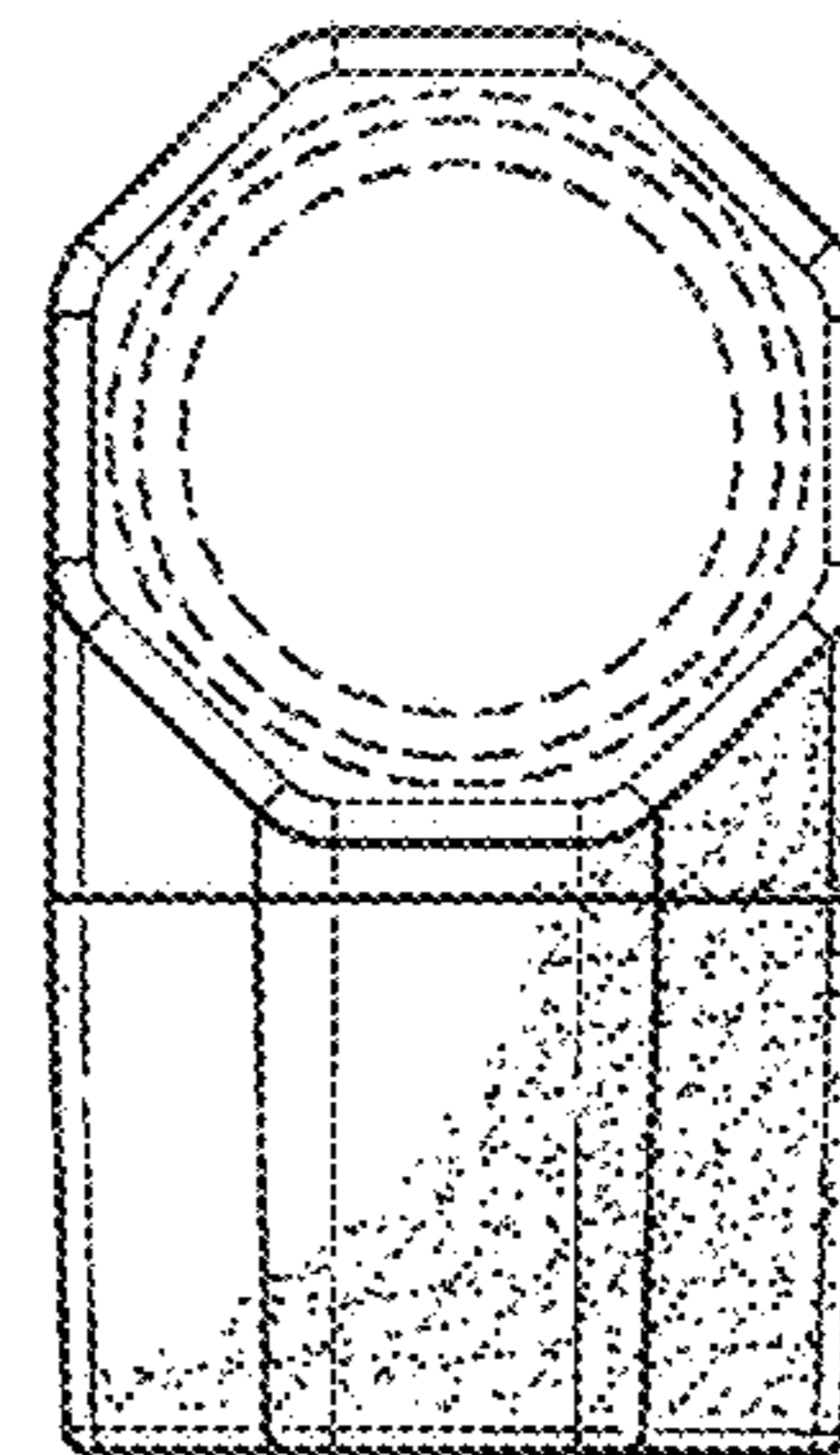


FIG. 16

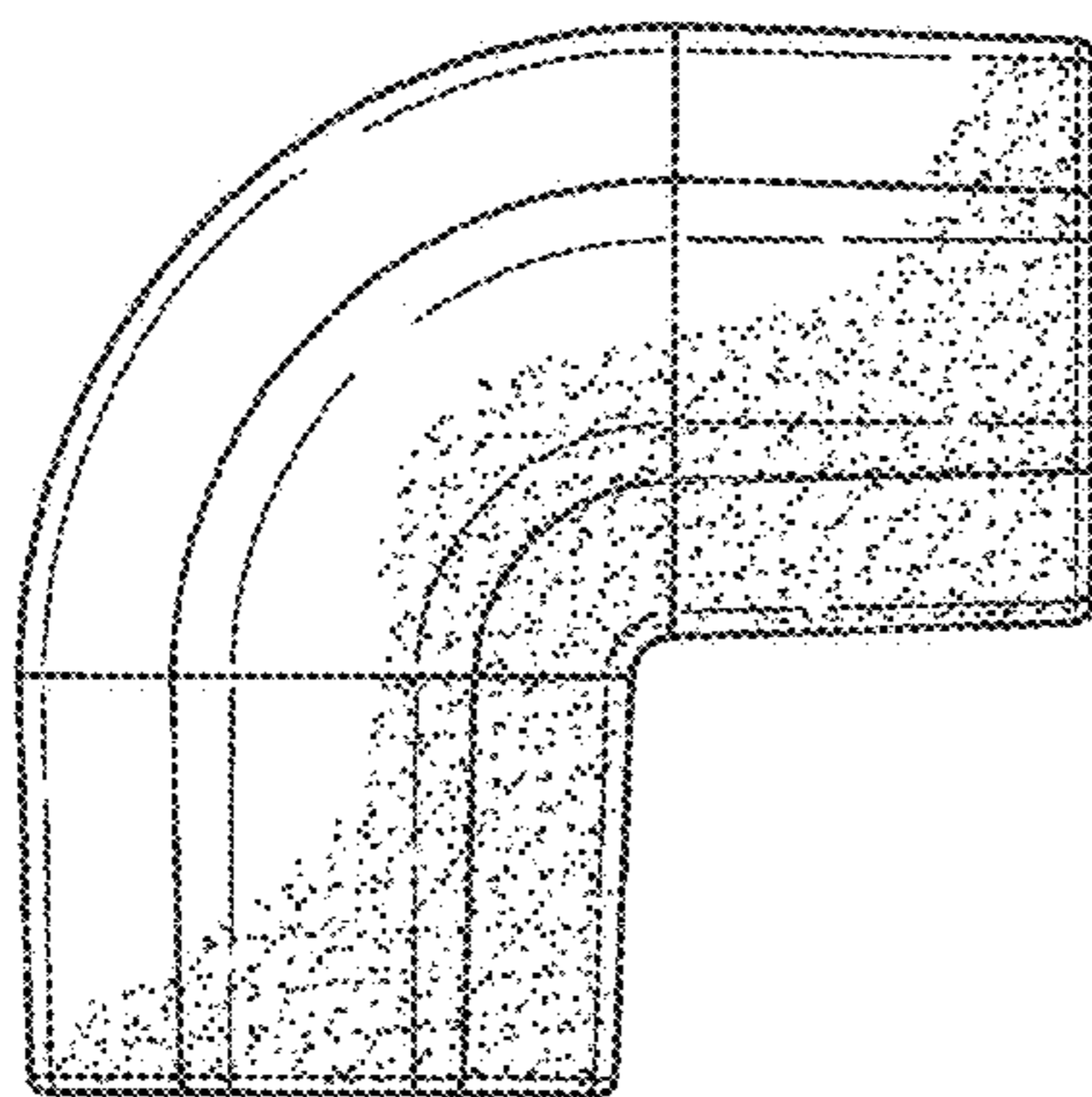


FIG. 17

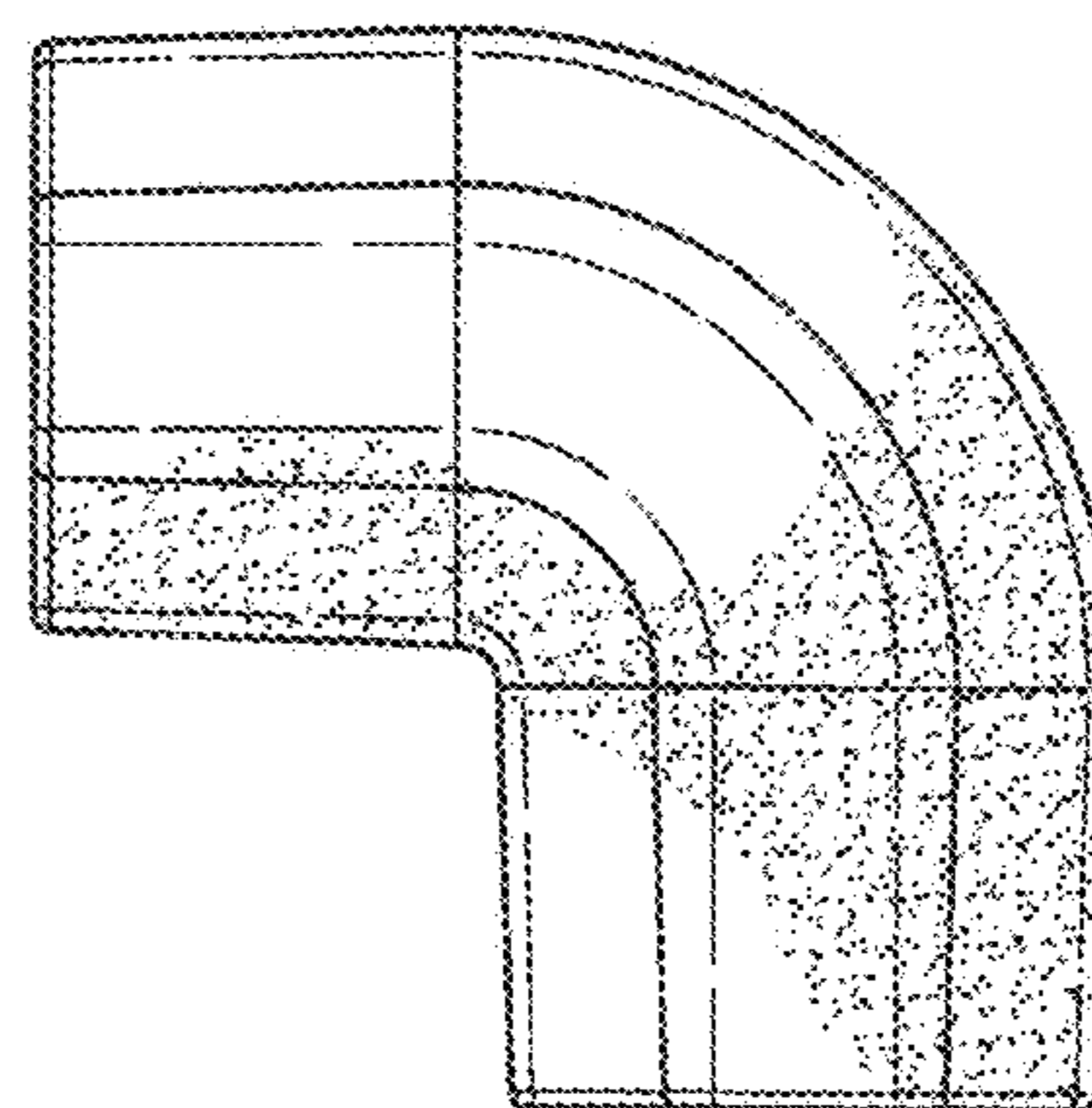


FIG. 18

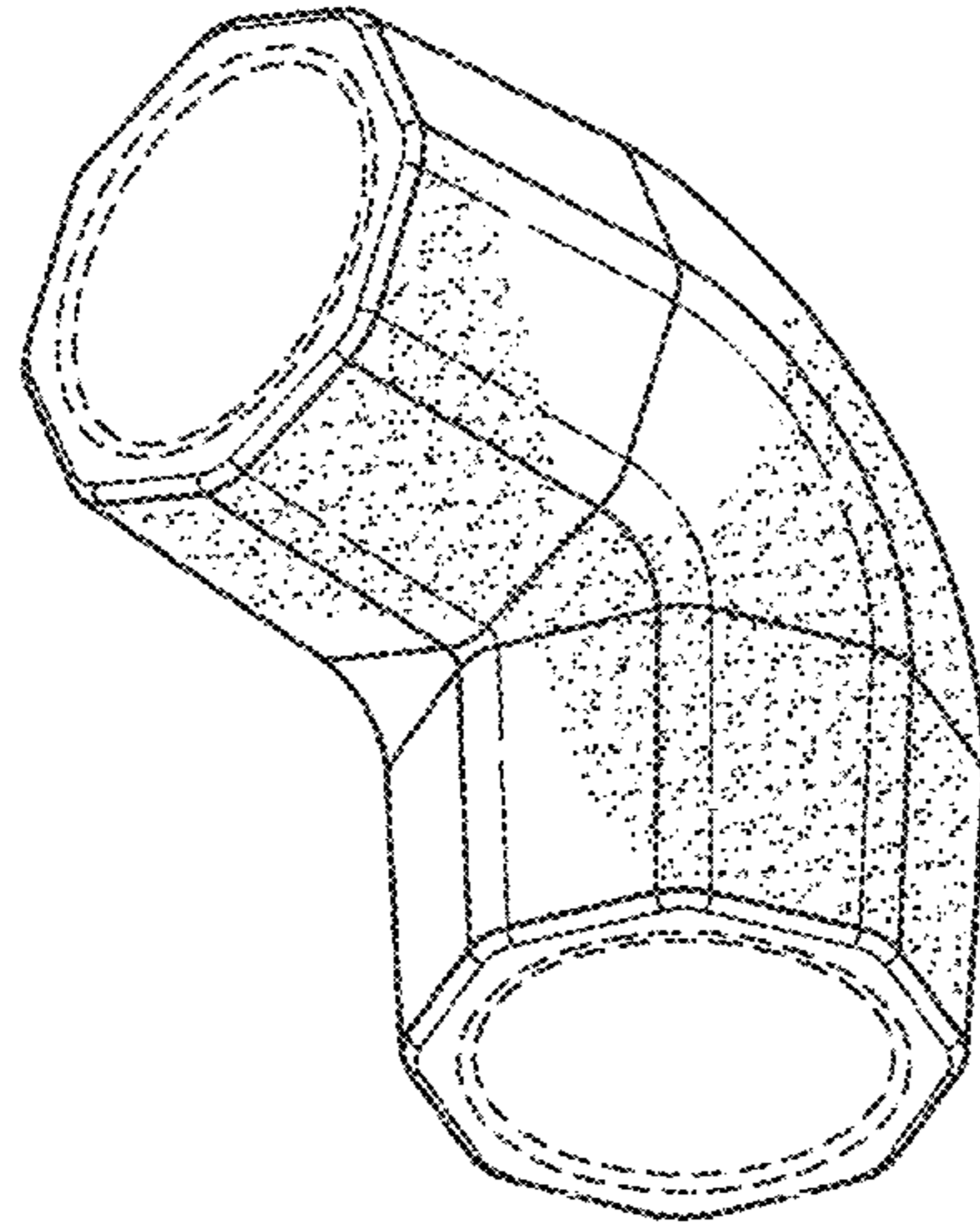


FIG. 19

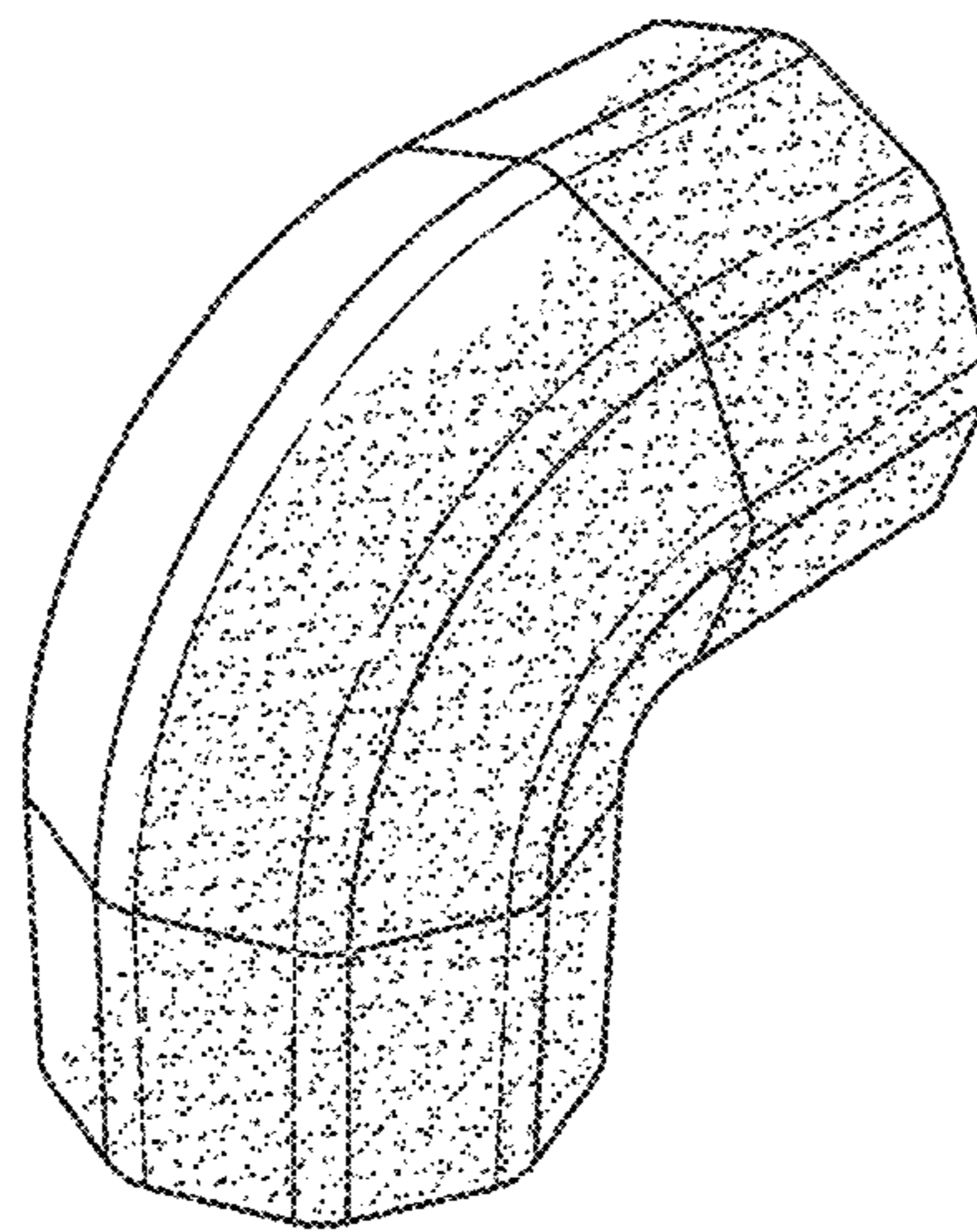


FIG. 20

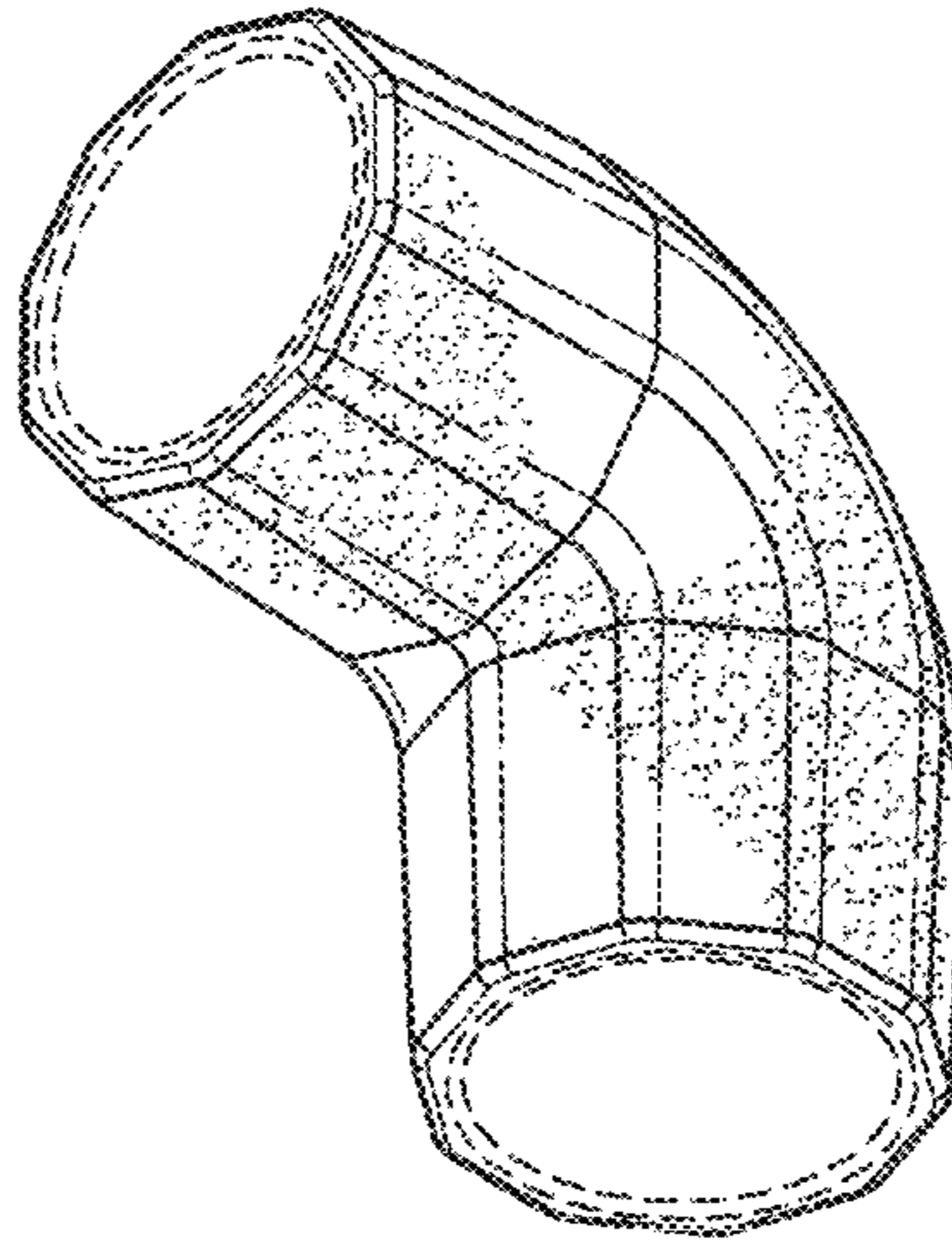


FIG. 21

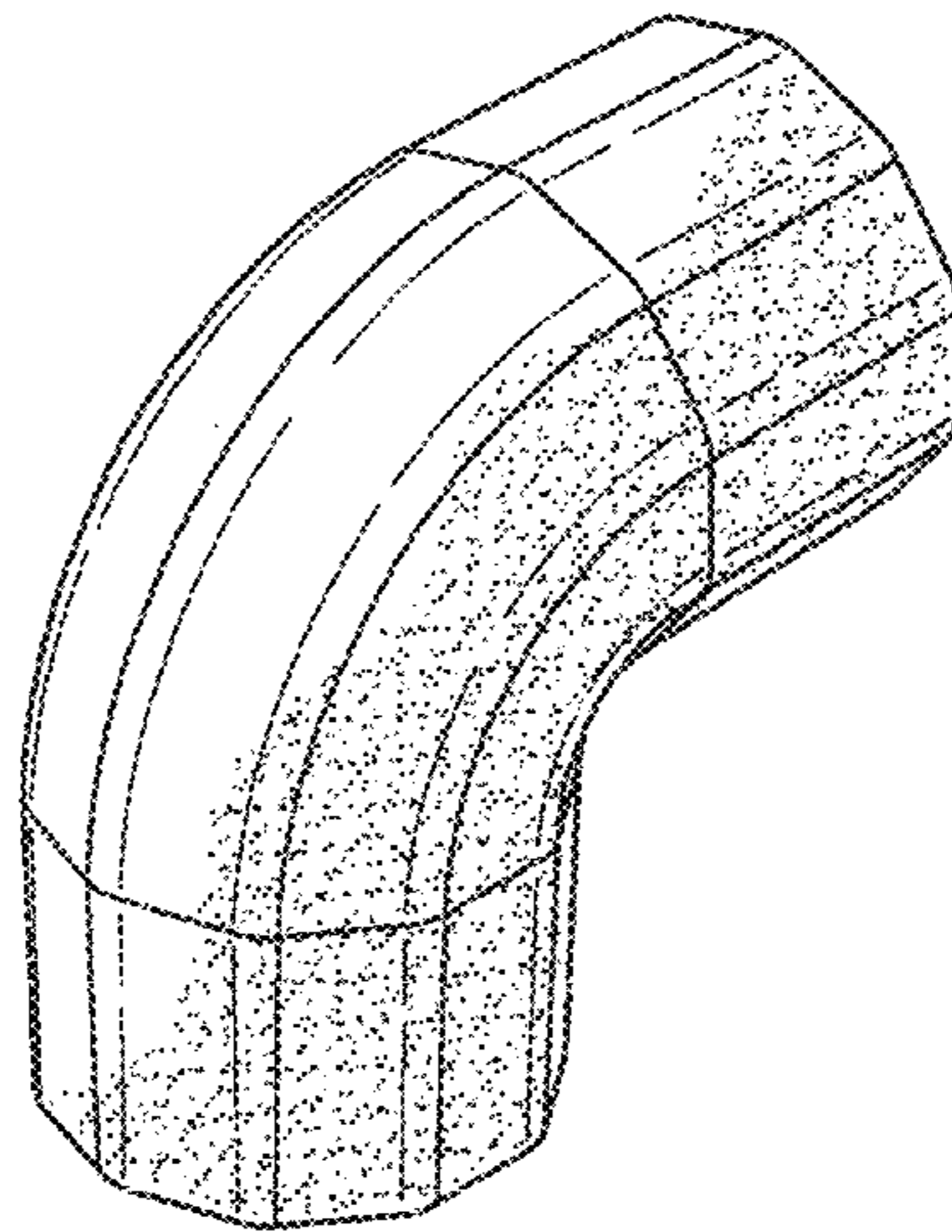


FIG. 22

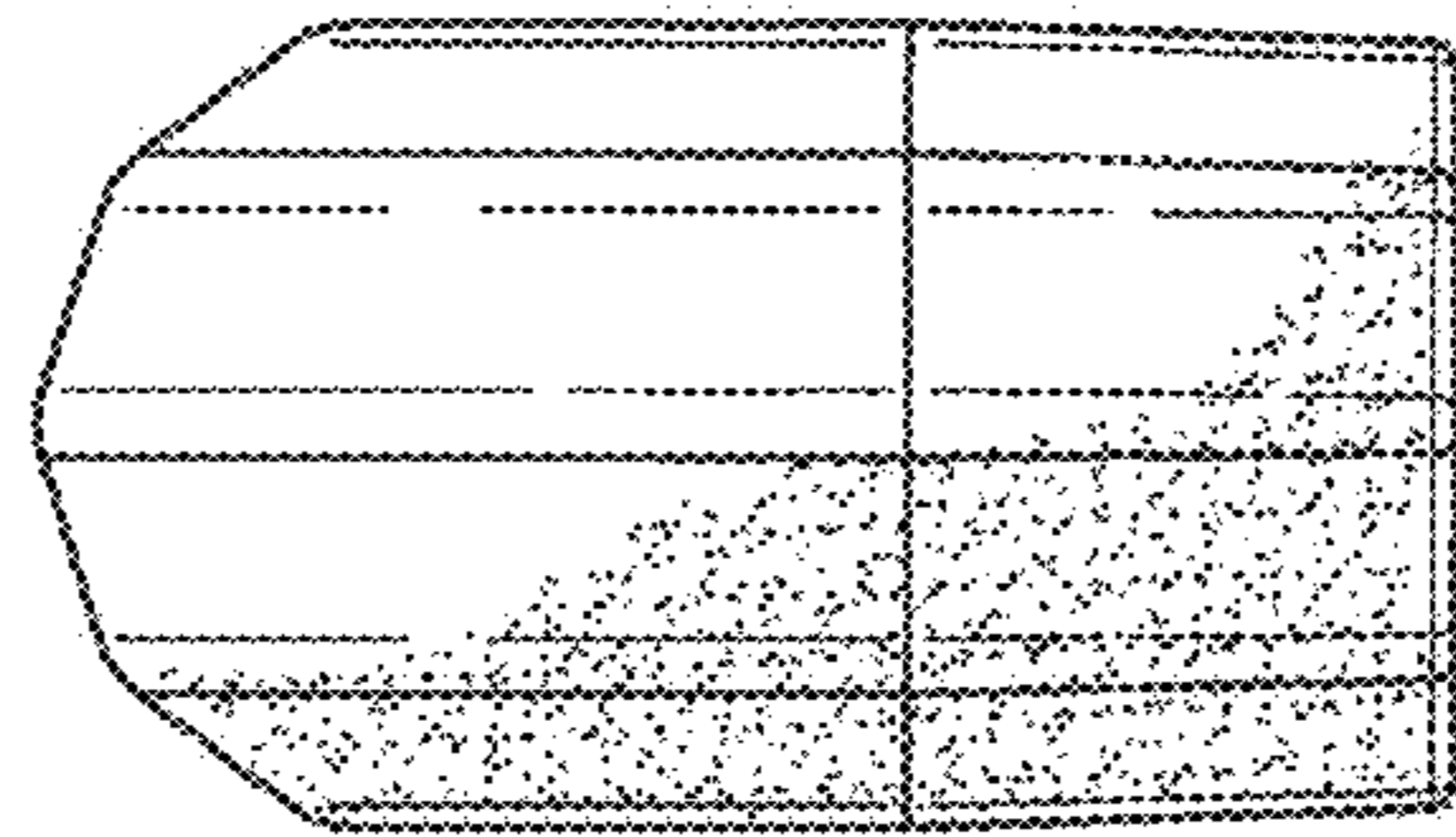


FIG. 23

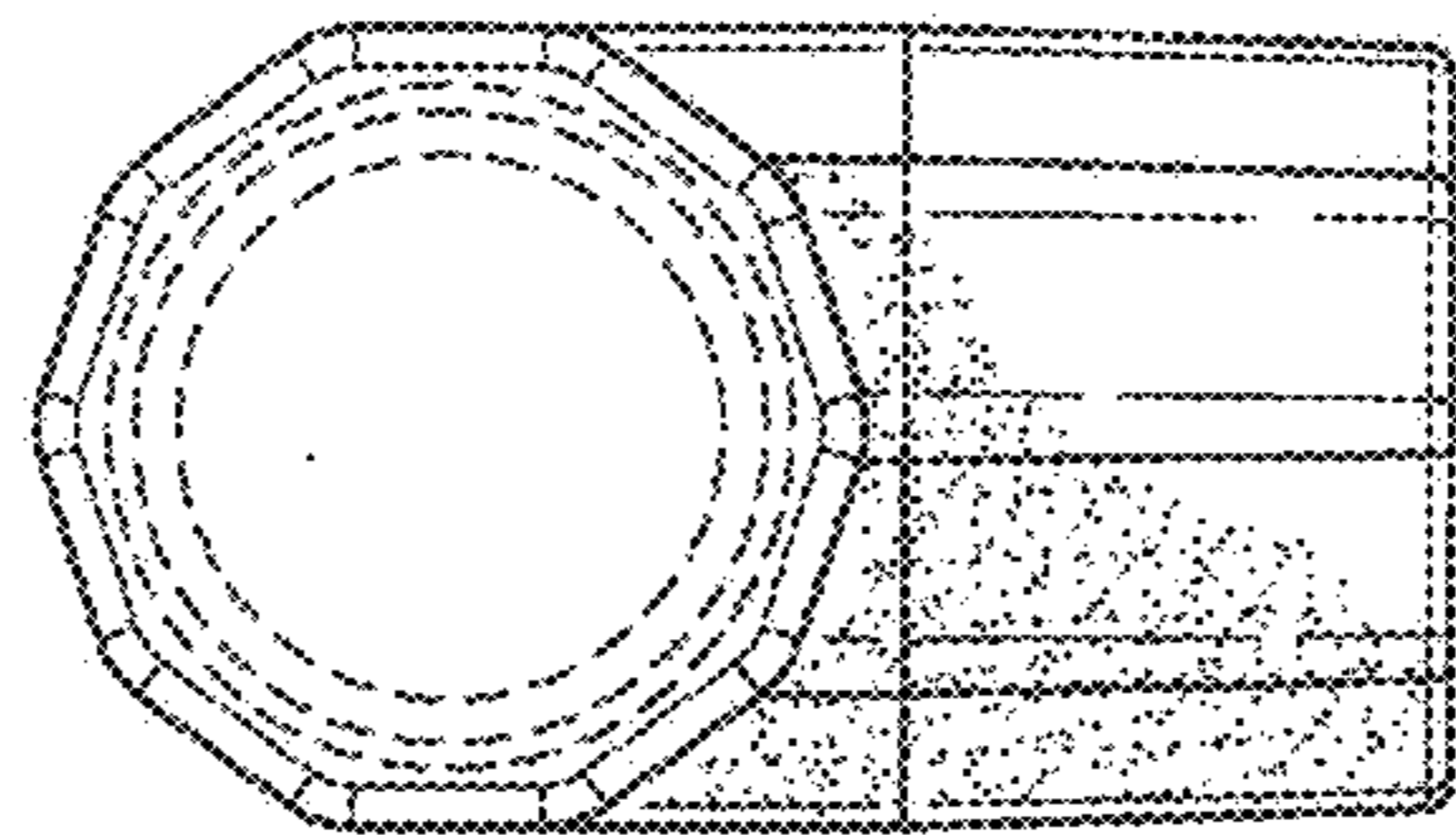


FIG. 24

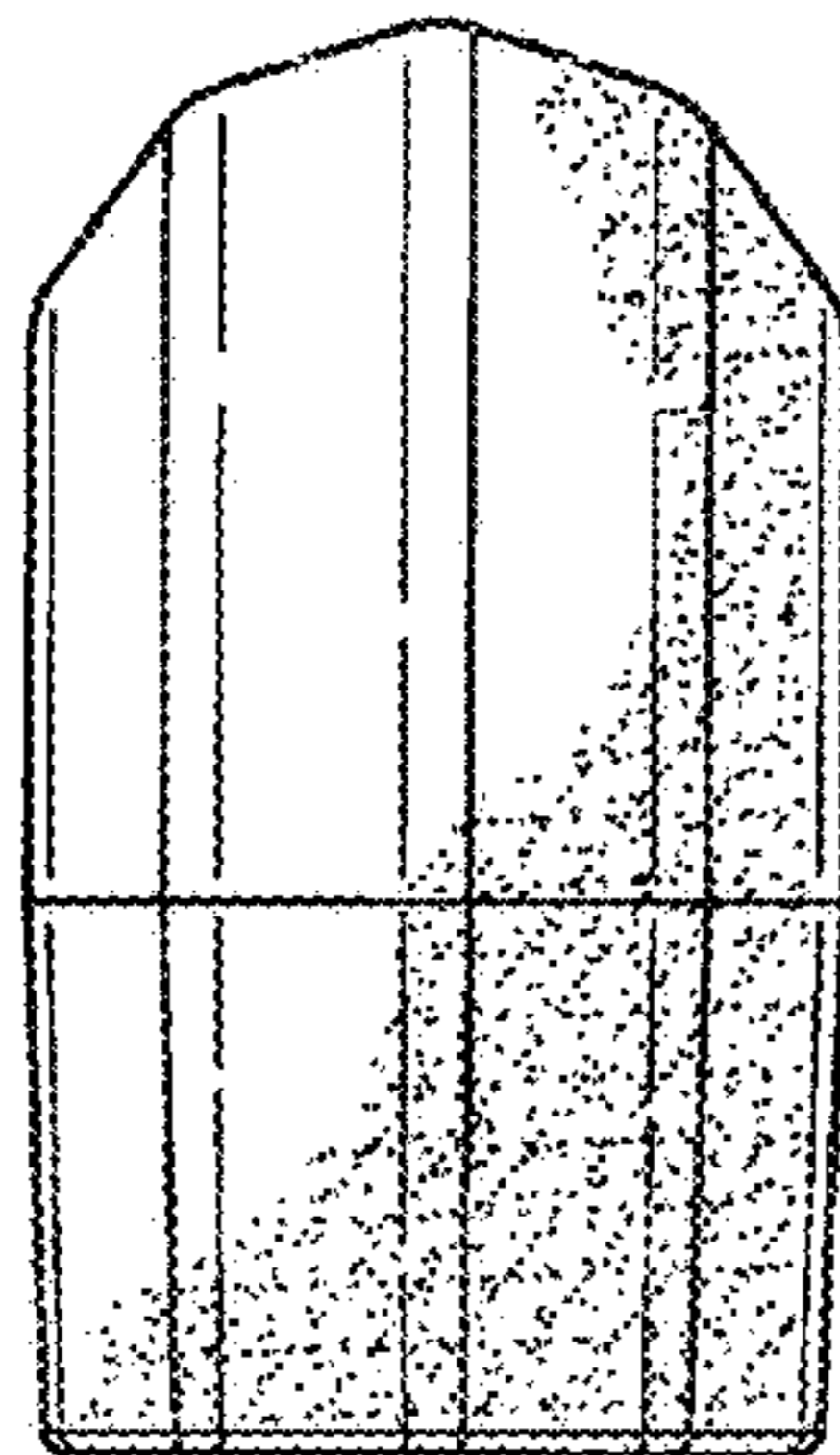


FIG. 25

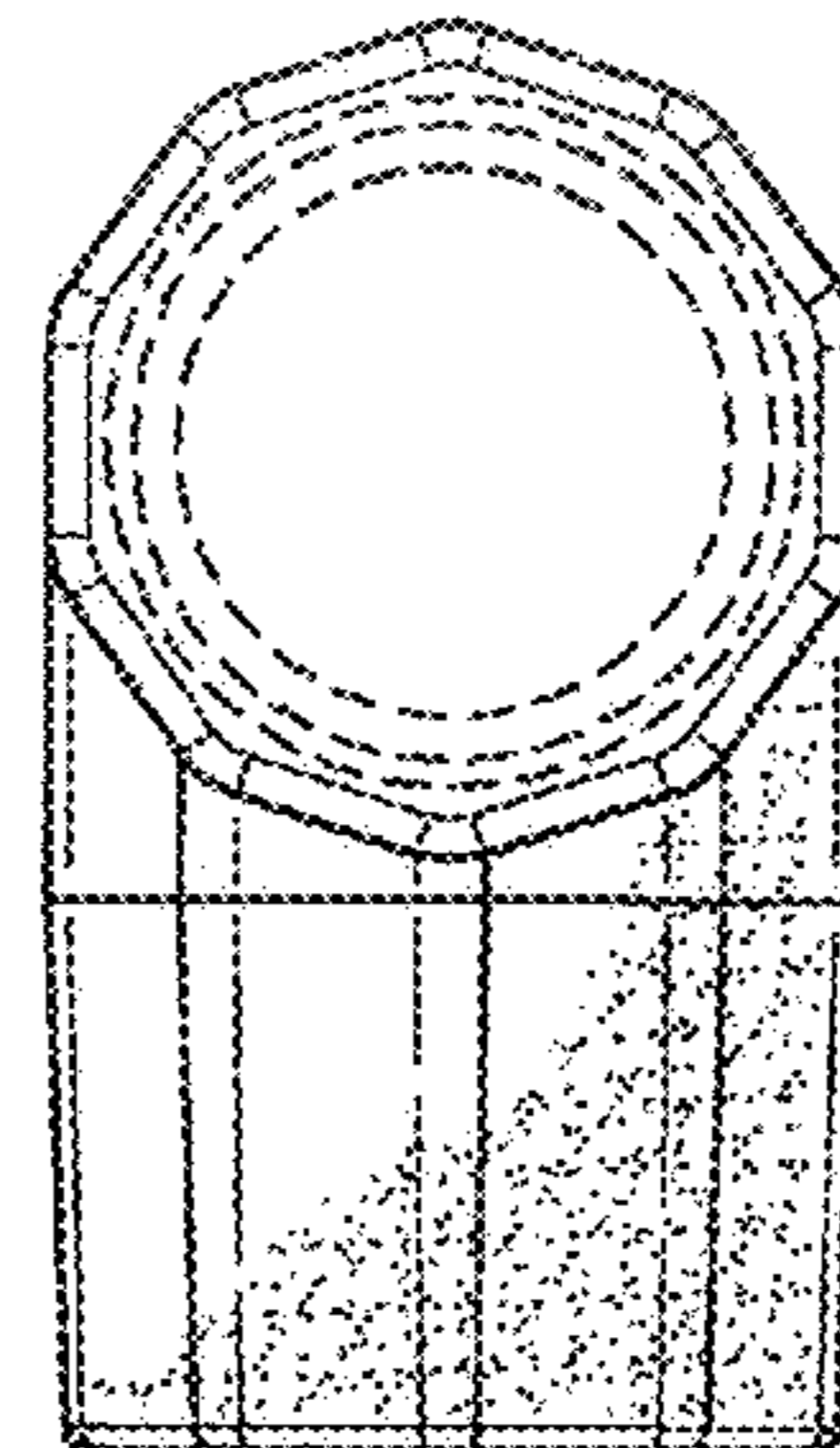


FIG. 26

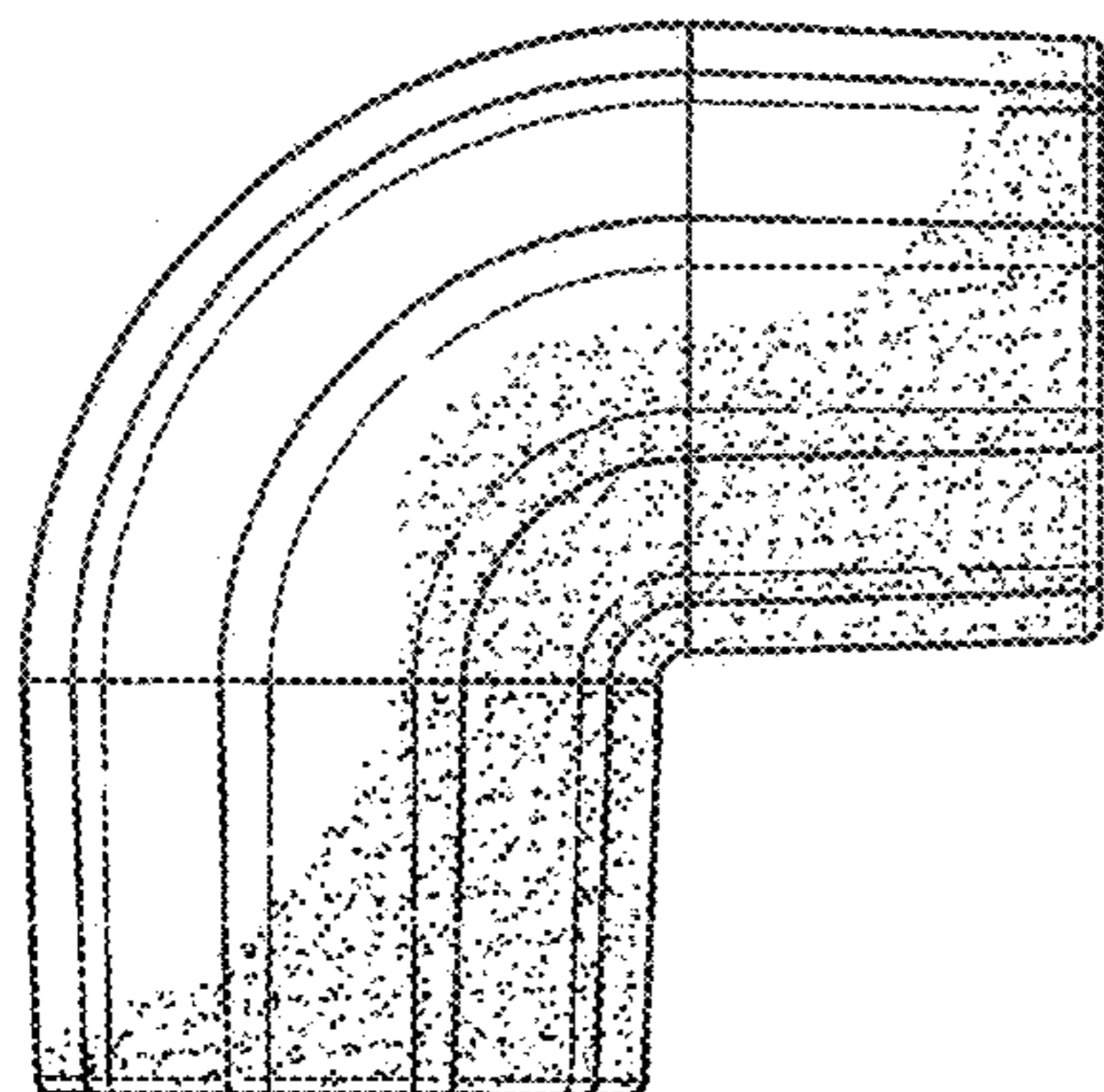


FIG. 27

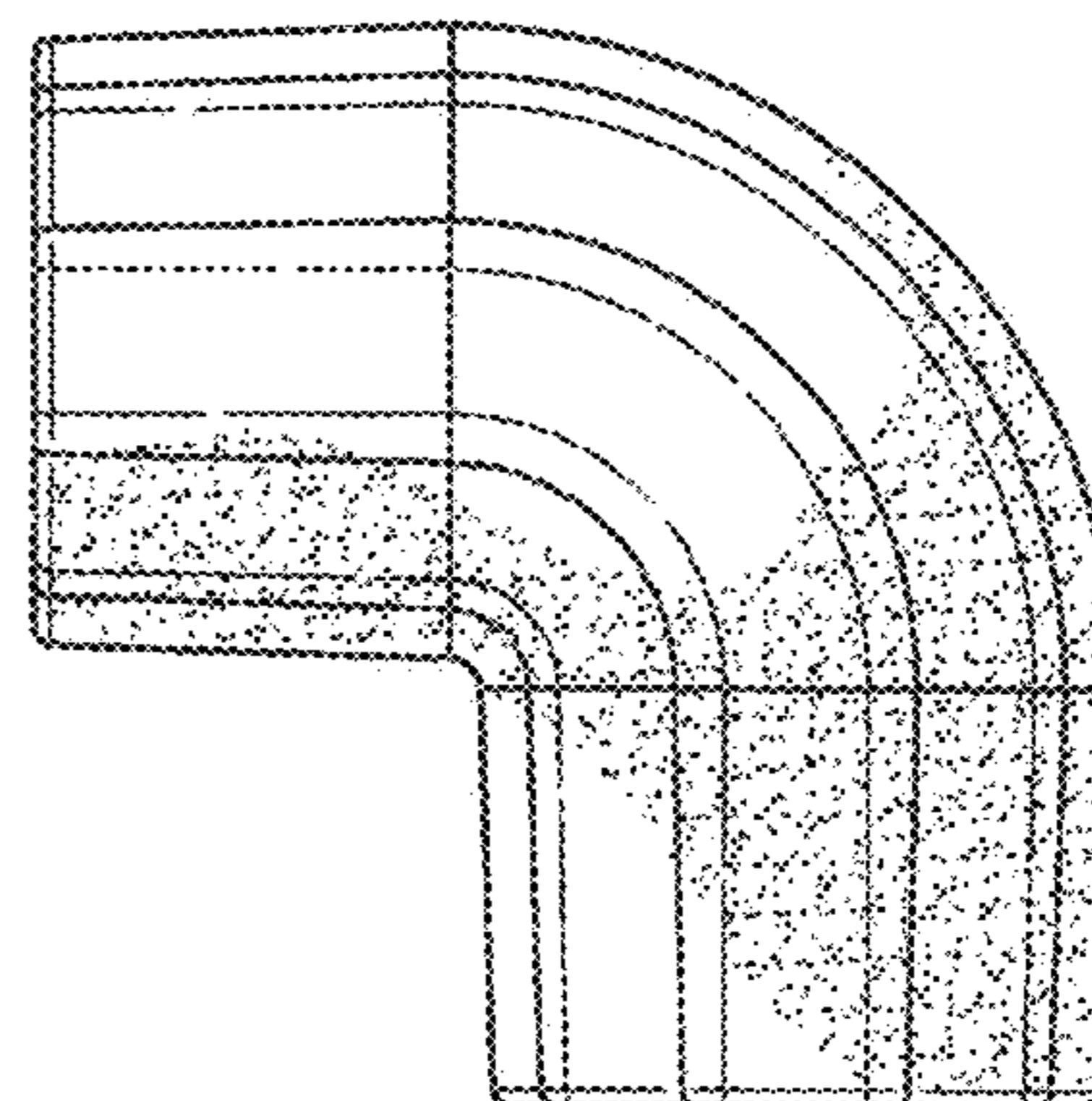


FIG. 28

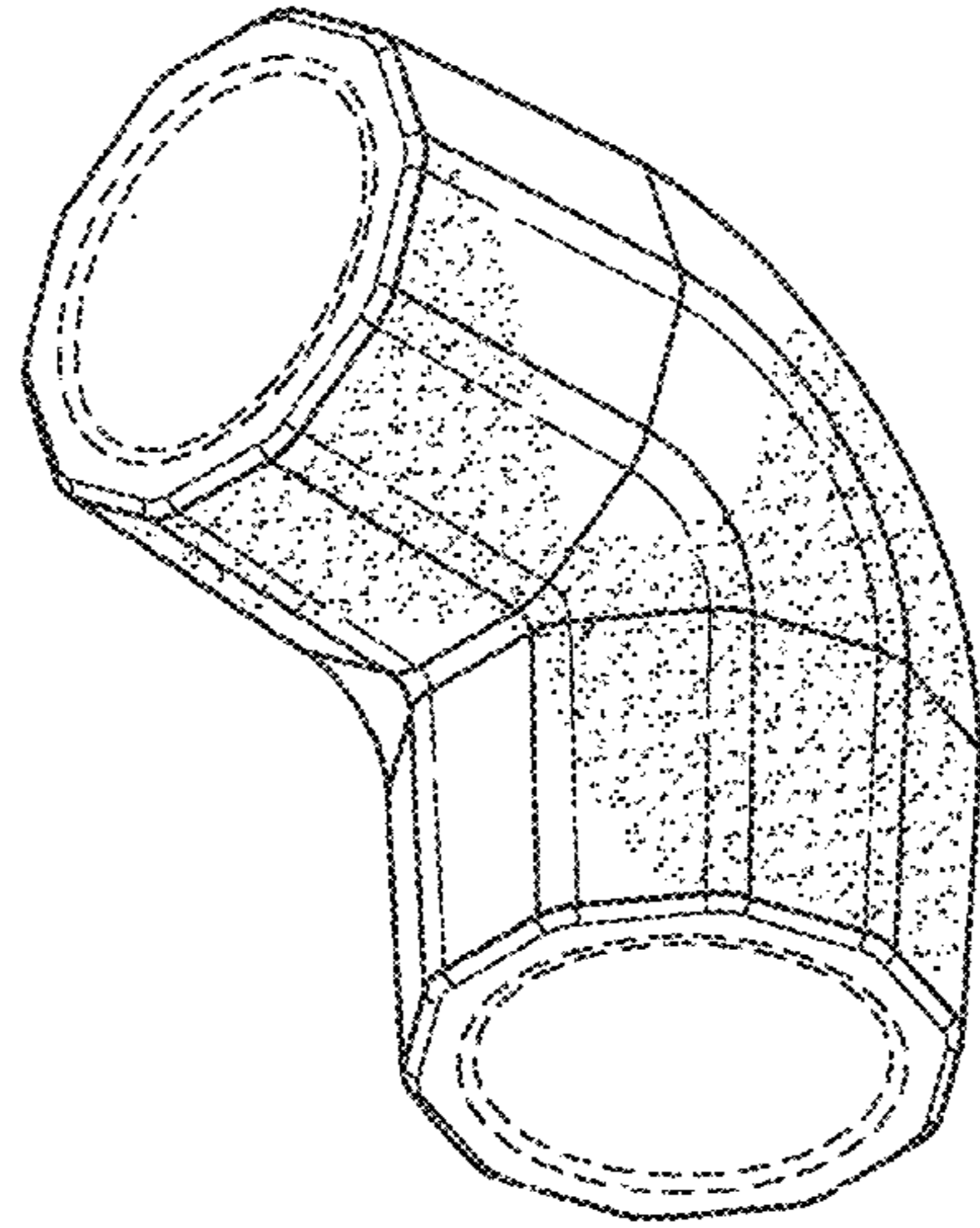


FIG. 29

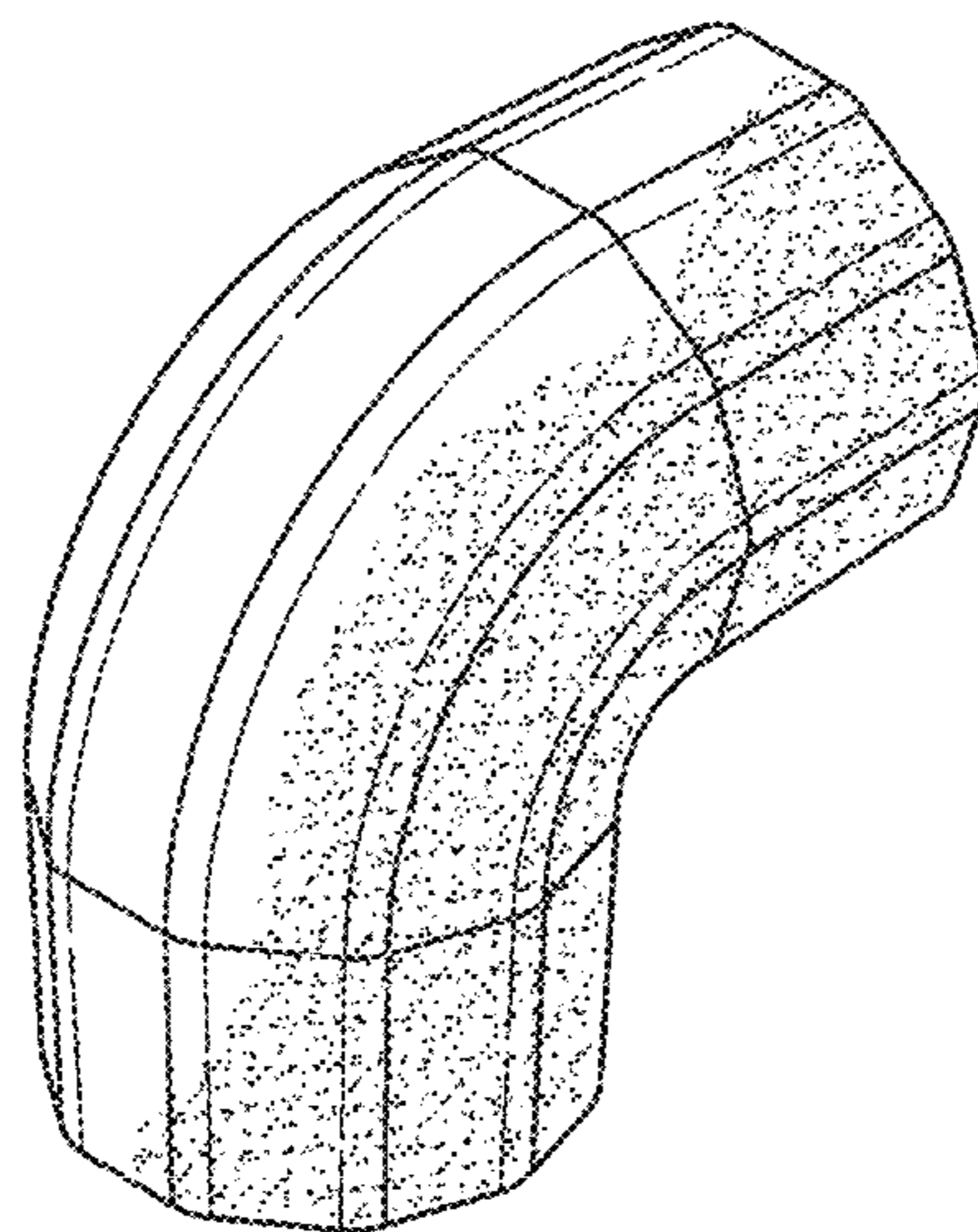


FIG. 30

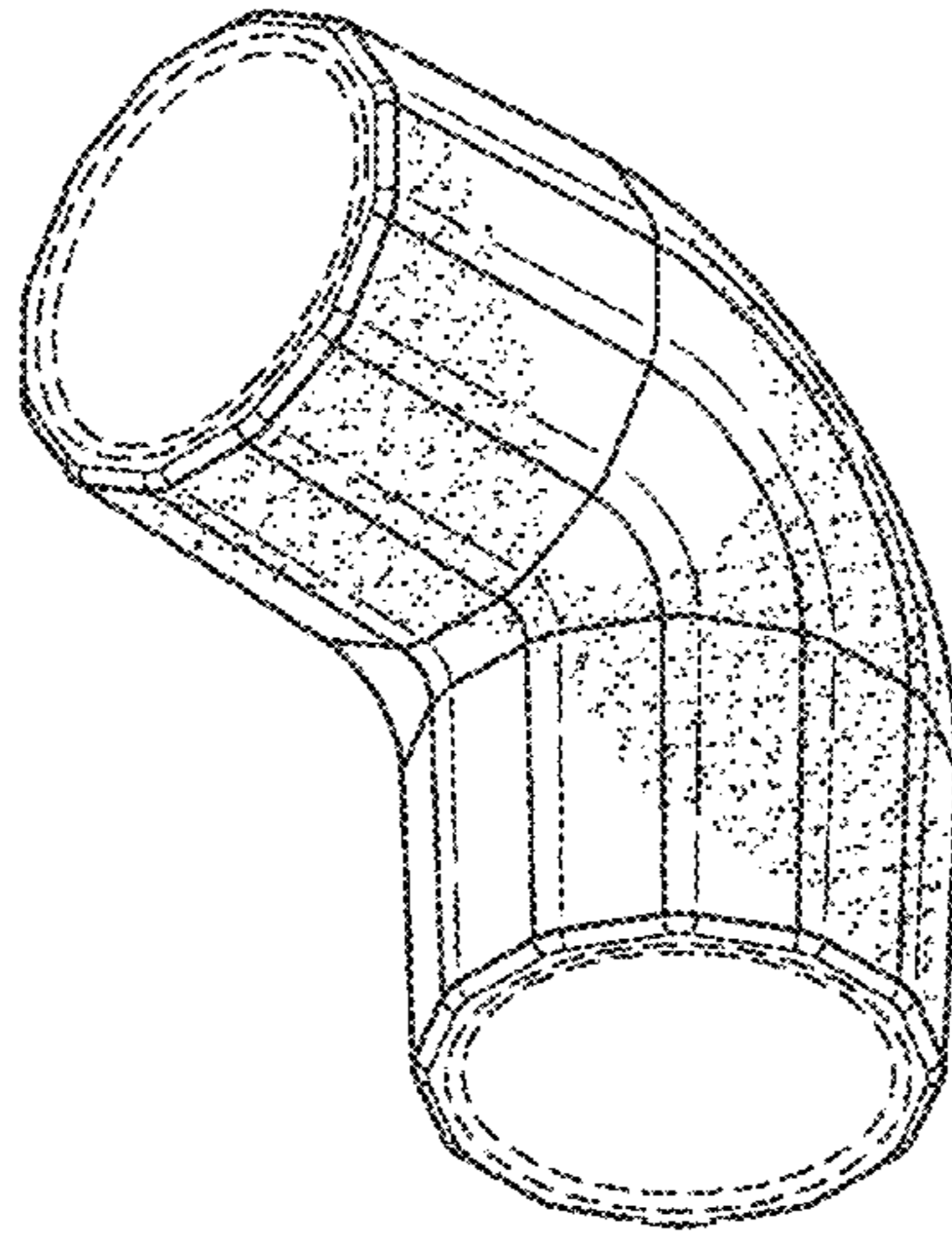


FIG. 31

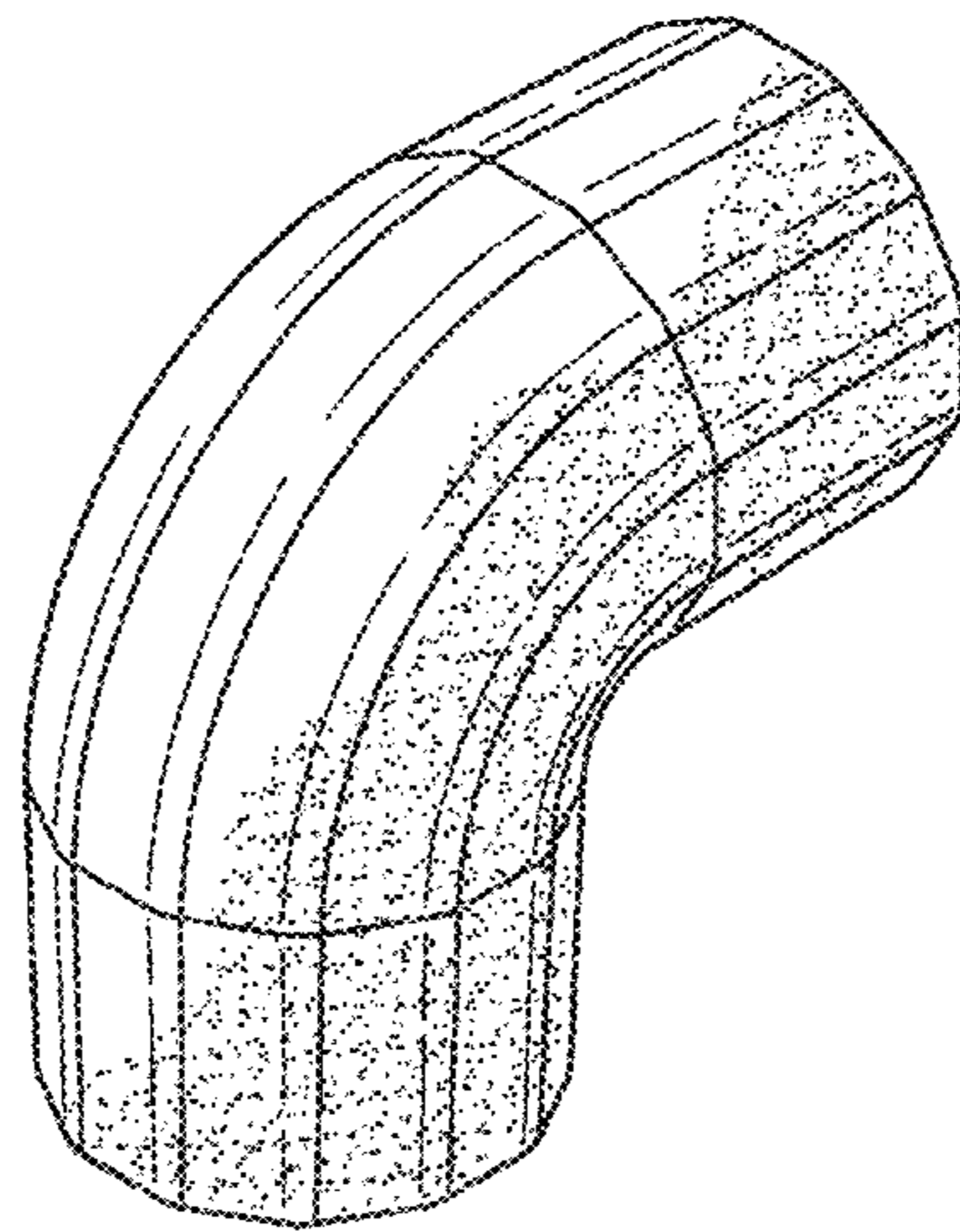


FIG. 32

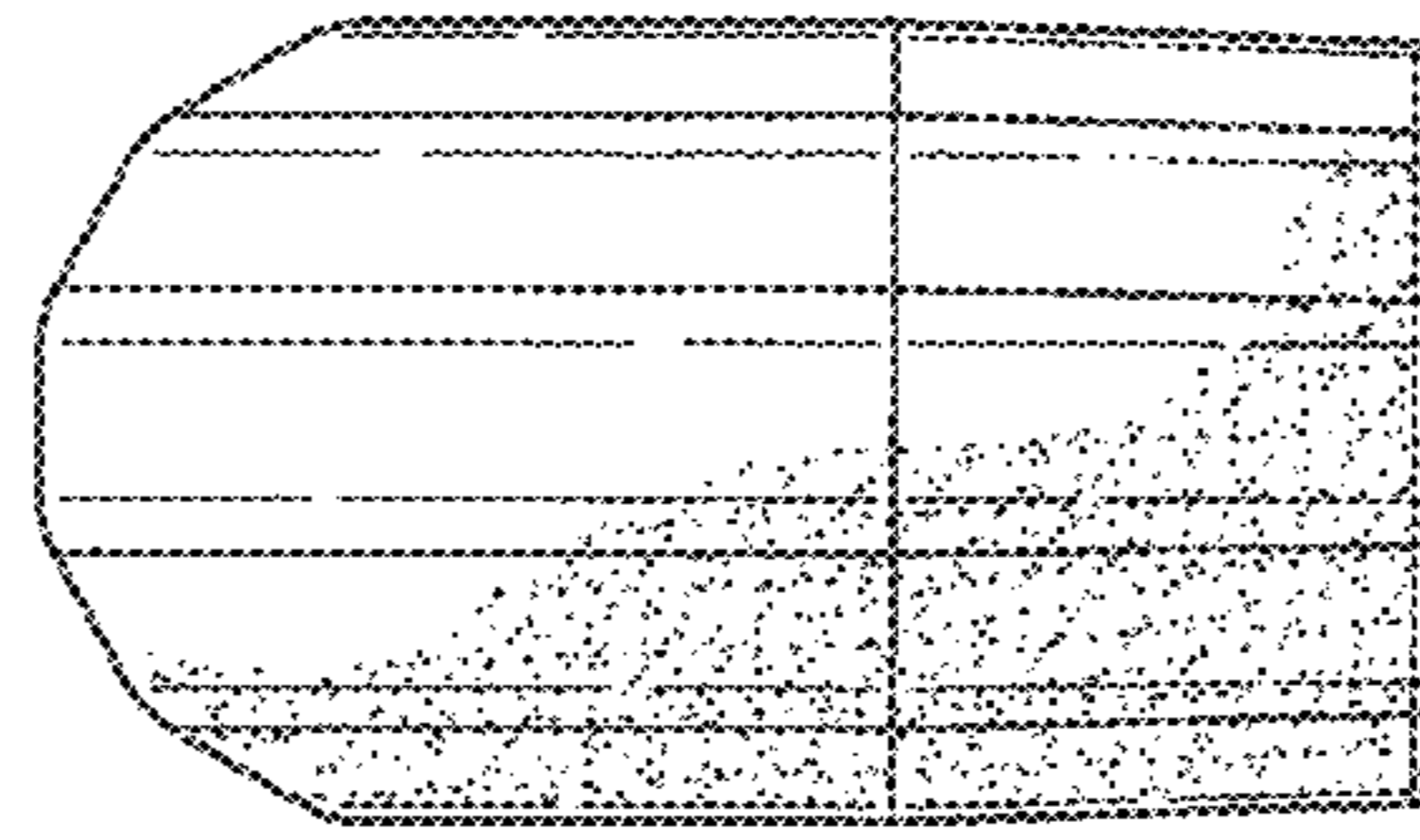


FIG. 33

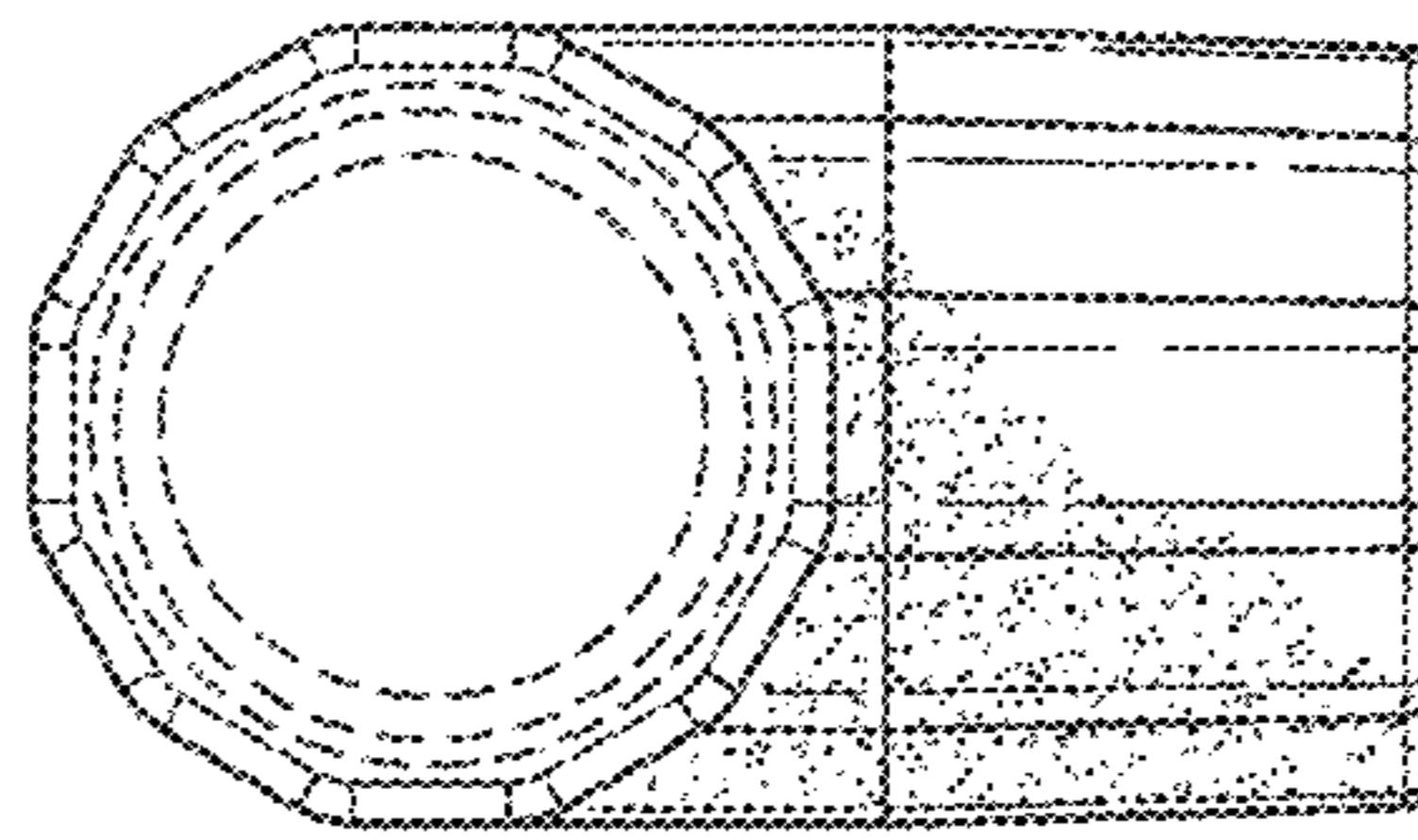


FIG. 34

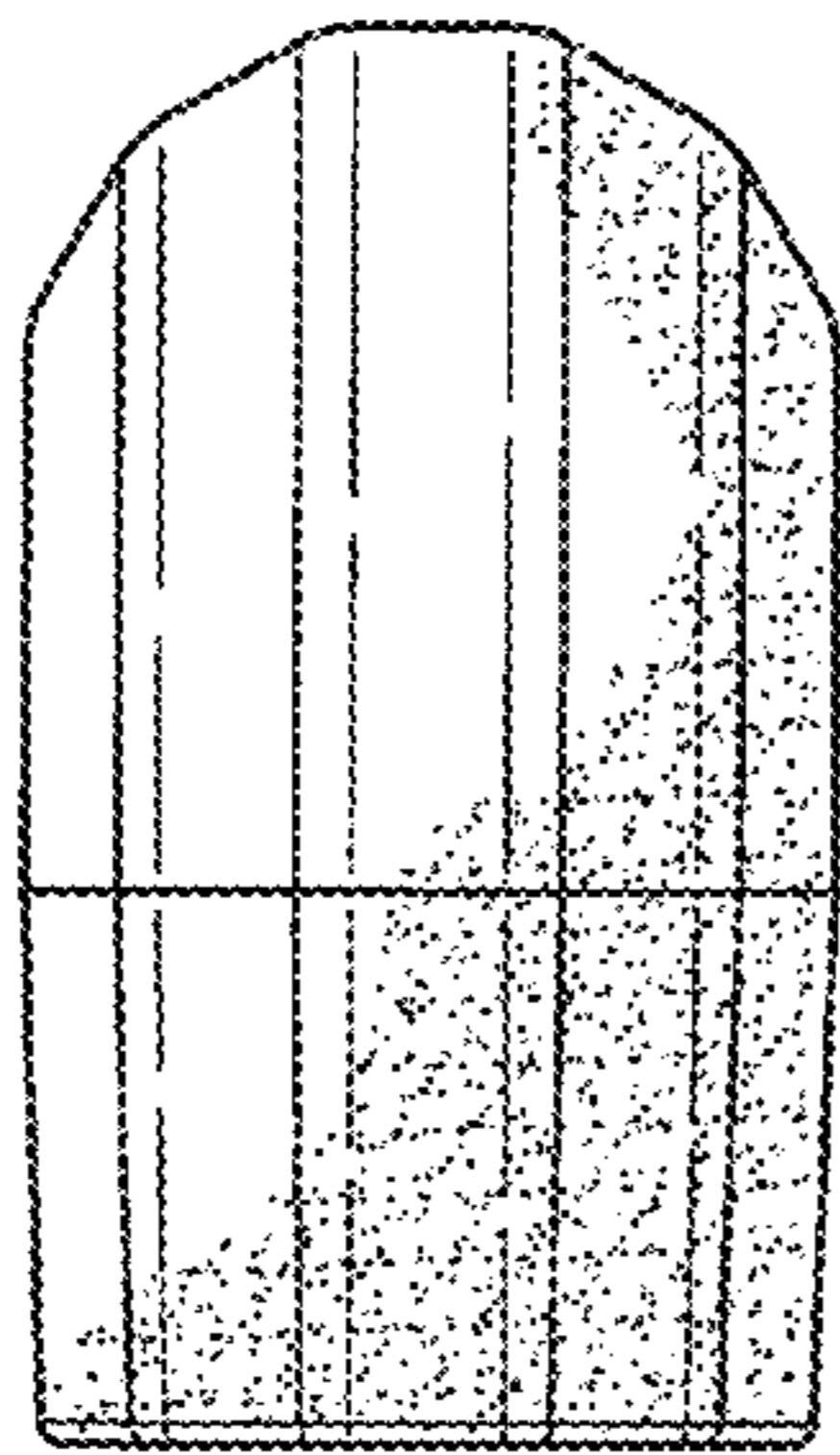


FIG. 35

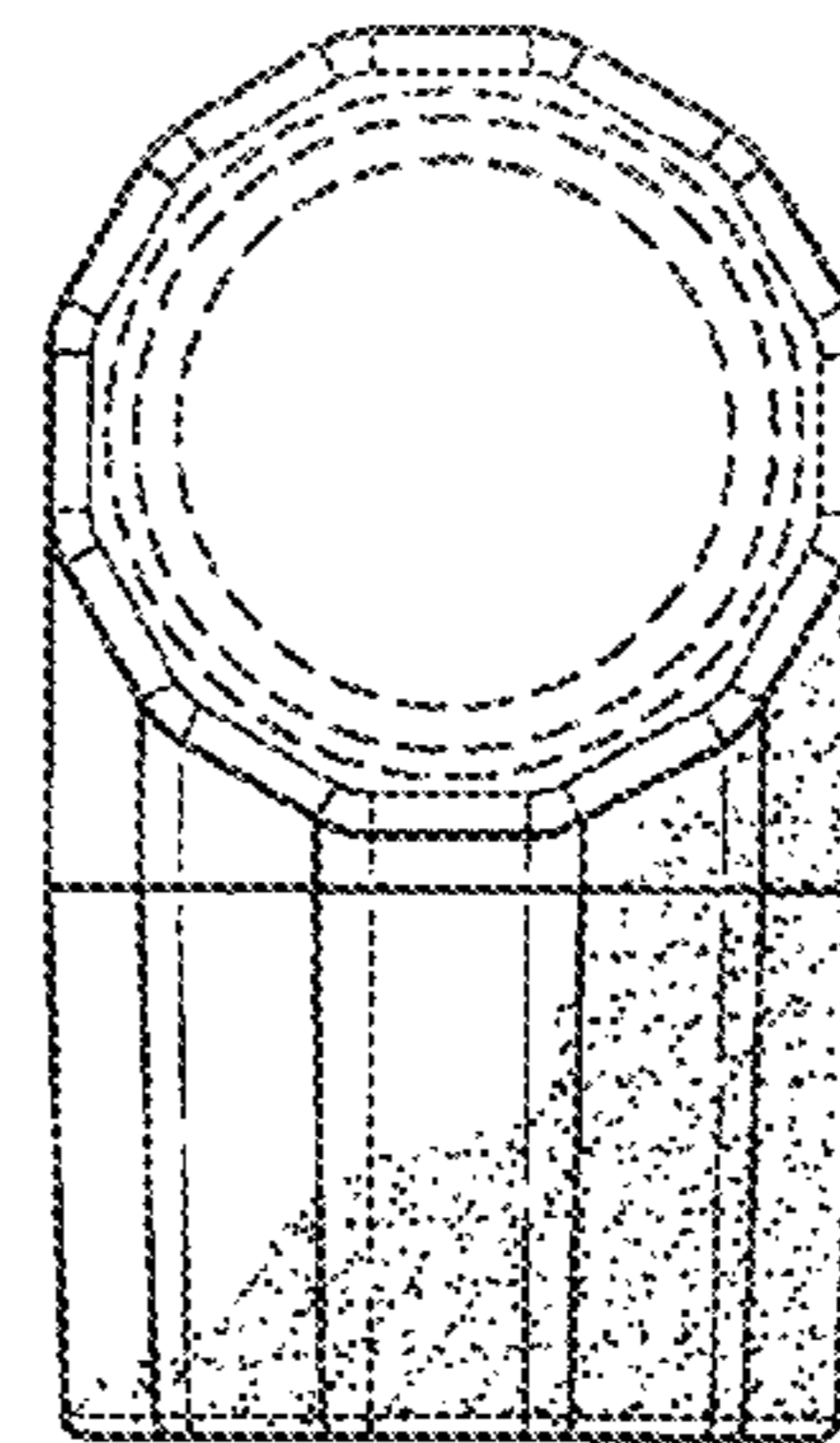


FIG. 36

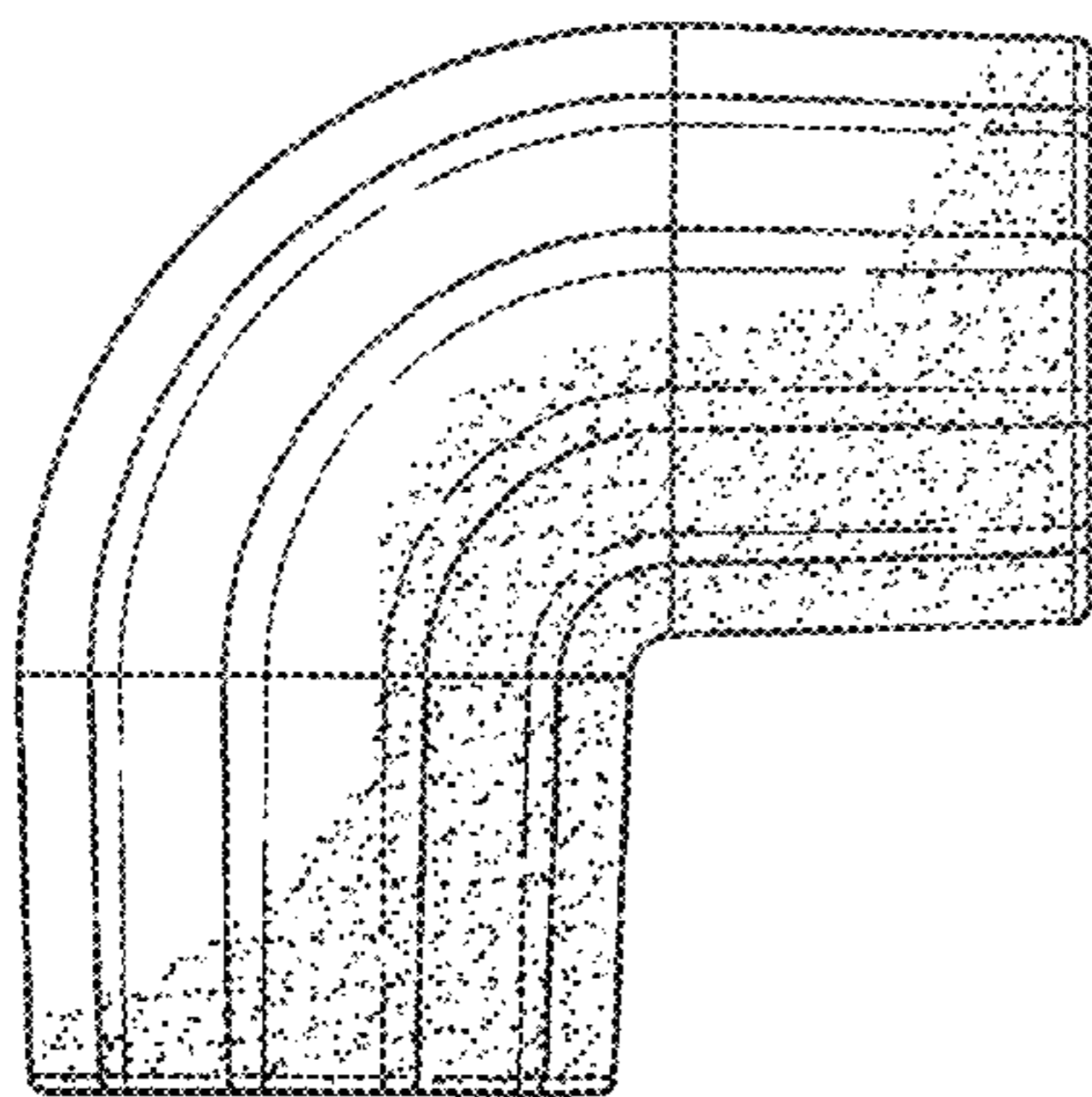


FIG. 37

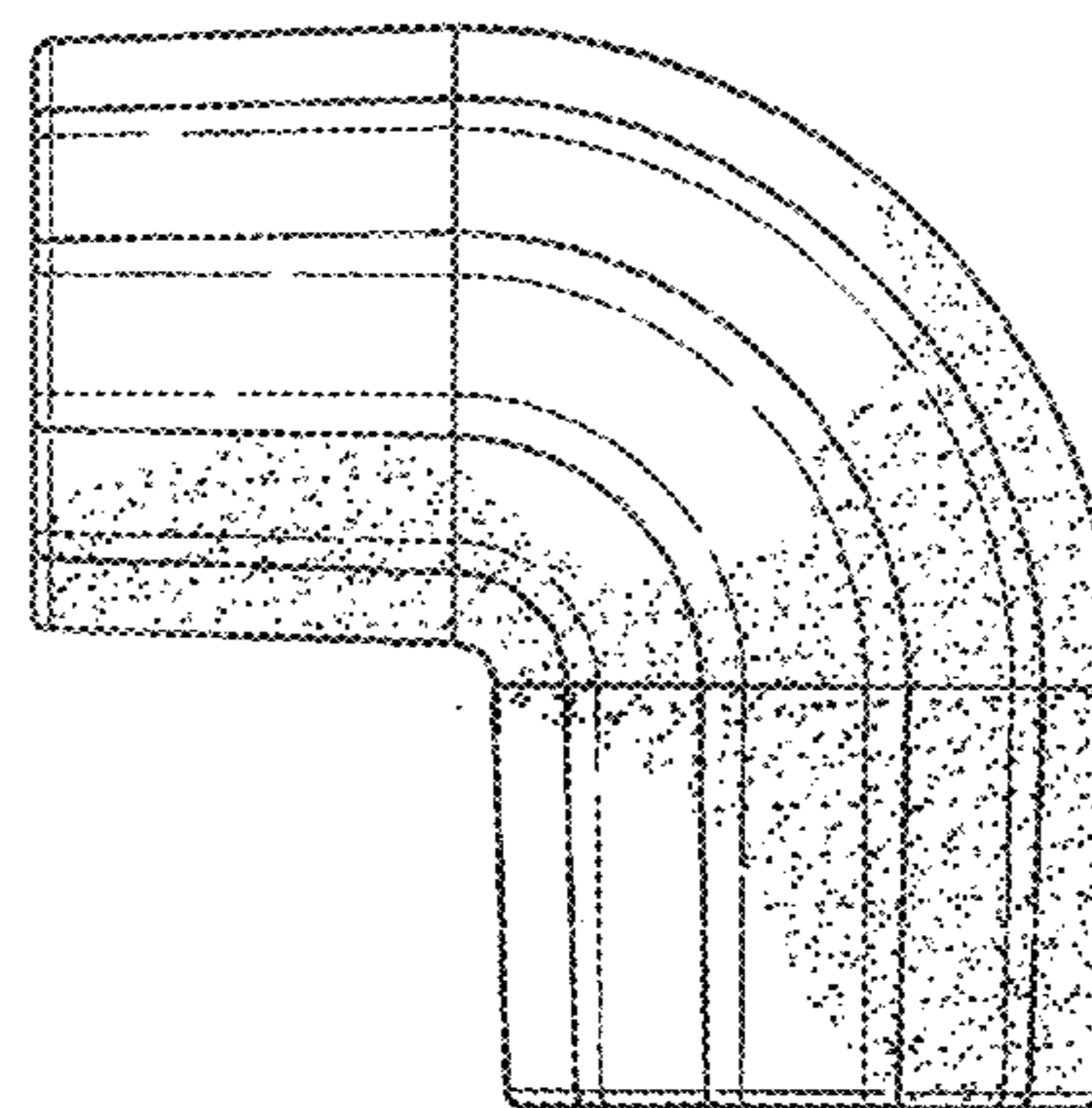


FIG. 38

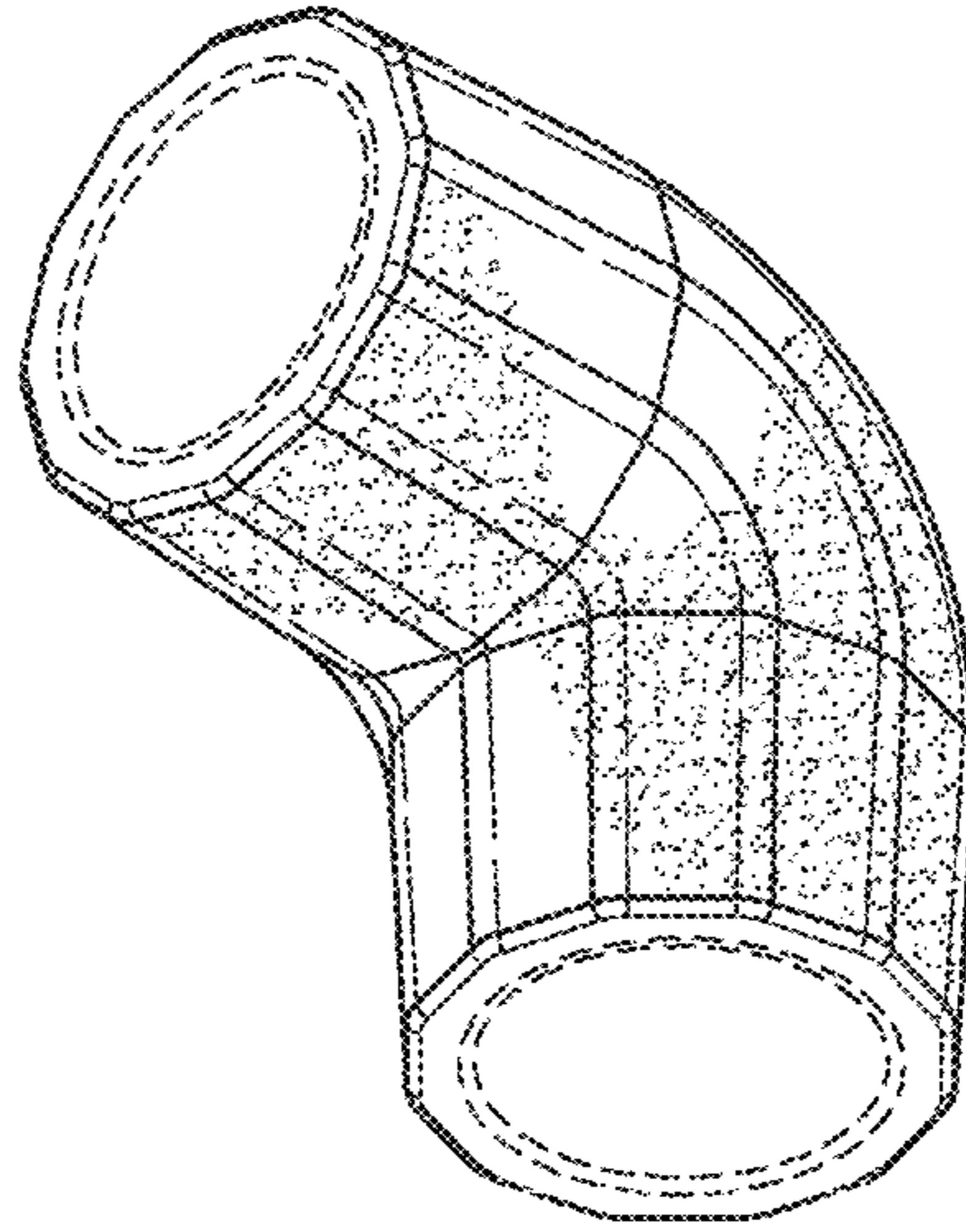


FIG. 39

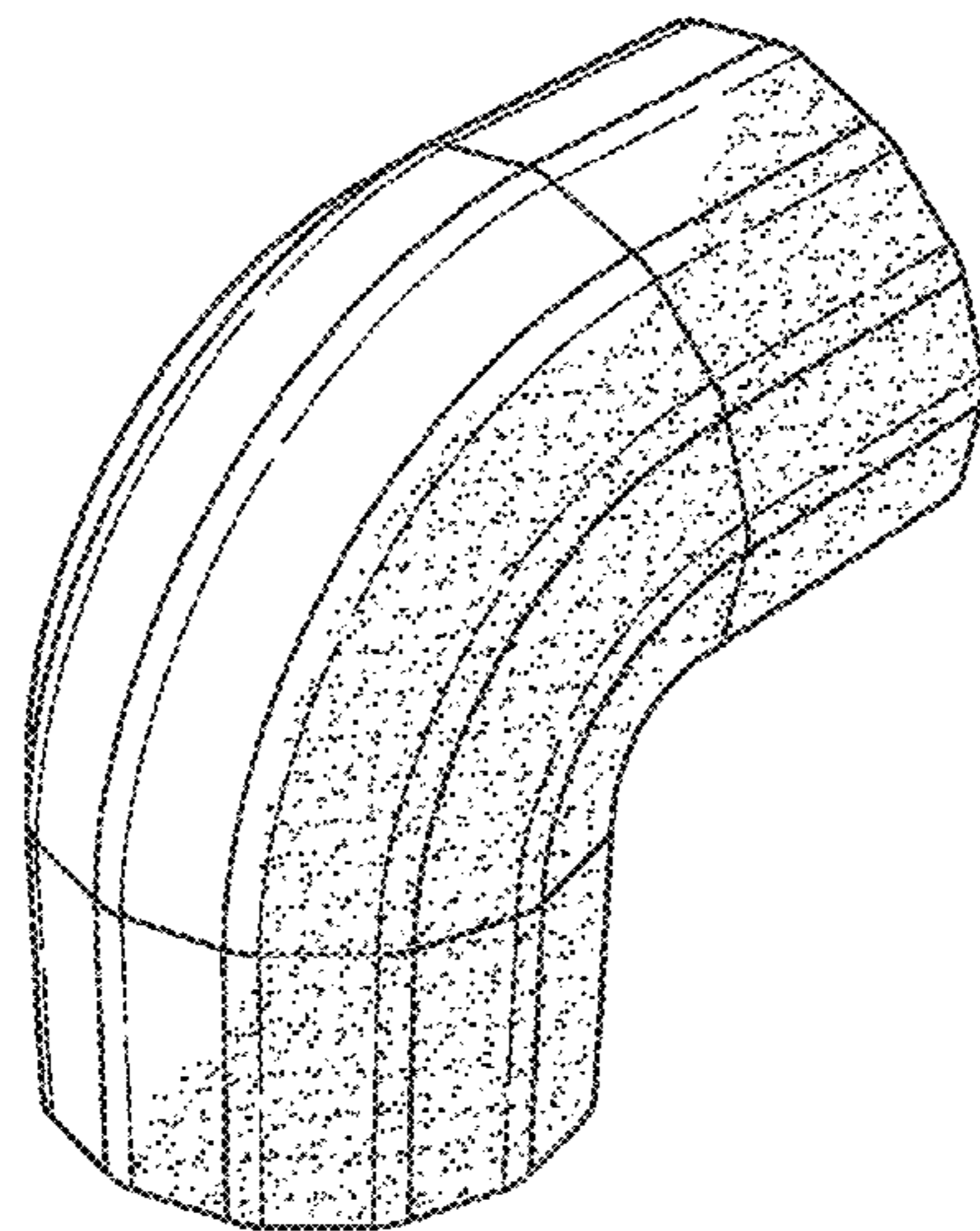


FIG. 40