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(12) **United States Design Patent** (10) **Patent No.:** **US D915,593 S**
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(54) **ENDODONTIC BIOACTIVE MATERIALS OBTURATOR**
(71) Applicant: **KING SAUD UNIVERSITY**, Riyadh (SA)
(72) Inventors: **Mohammad Ahmad Alenezi**, Riyadh (SA); **Mohammad Ibraheem Alobaida**, Riyadh (SA)
(73) Assignee: **KING SAUD UNIVERSITY**, Riyadh (SA)

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(52) **U.S. Cl.**
USPC **D24/152; D24/147**

(58) **Field of Classification Search**
USPC D8/98, 99, 102; D24/112, 130, 133, 144, D24/146-148, 152
CPC A61B 17/3211; A61B 17/3213; A61B 17/3215; A61B 17/3217; A61B 2017/32113; A61B 2090/061; A61C 3/00; A61C 5/40; A61C 5/50
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D32,945 S * 7/1900 Kerr D24/147
D224,672 S * 8/1972 Geraci D24/147
D250,544 S * 12/1978 Leonard D24/147
4,457,710 A * 7/1984 McSpadden A61C 5/50
433/164
D283,840 S * 5/1986 Matsutani D24/147
5,118,297 A * 6/1992 Johnson A61C 5/50
433/224
RE34,439 E * 11/1993 Heath A61C 5/50
433/102
5,833,457 A 11/1998 Johnson

6,293,794 B1 * 9/2001 McSpadden A61C 5/42
433/102
D524,939 S * 7/2006 Huttner D24/133
D597,670 S * 8/2009 Maissami D24/152
D605,764 S * 12/2009 Griffis, III D24/145
D625,412 S * 10/2010 Garito D24/144
7,967,605 B2 6/2011 Goodis
D710,008 S * 7/2014 Yoo D24/147
D710,009 S * 7/2014 Maupin D24/152
D750,246 S * 2/2016 Scianamblo D24/152
9,248,005 B2 2/2016 Klee et al.
9,492,360 B2 11/2016 Jia et al.
2002/0058232 A1 5/2002 Weiss et al.

(Continued)

FOREIGN PATENT DOCUMENTS

WO 2018035535 A1 2/2018

OTHER PUBLICATIONS

Arango et al., "Coating and Surface Treatments on Orthodontic Metallic Materials," Coatings, vol. 3, pp. 1-15, Dec. 27, 2012.

Primary Examiner — L. A. Grabenstetter
(74) *Attorney, Agent, or Firm* — Nath, Goldberg & Meyer; Richard C. Litman

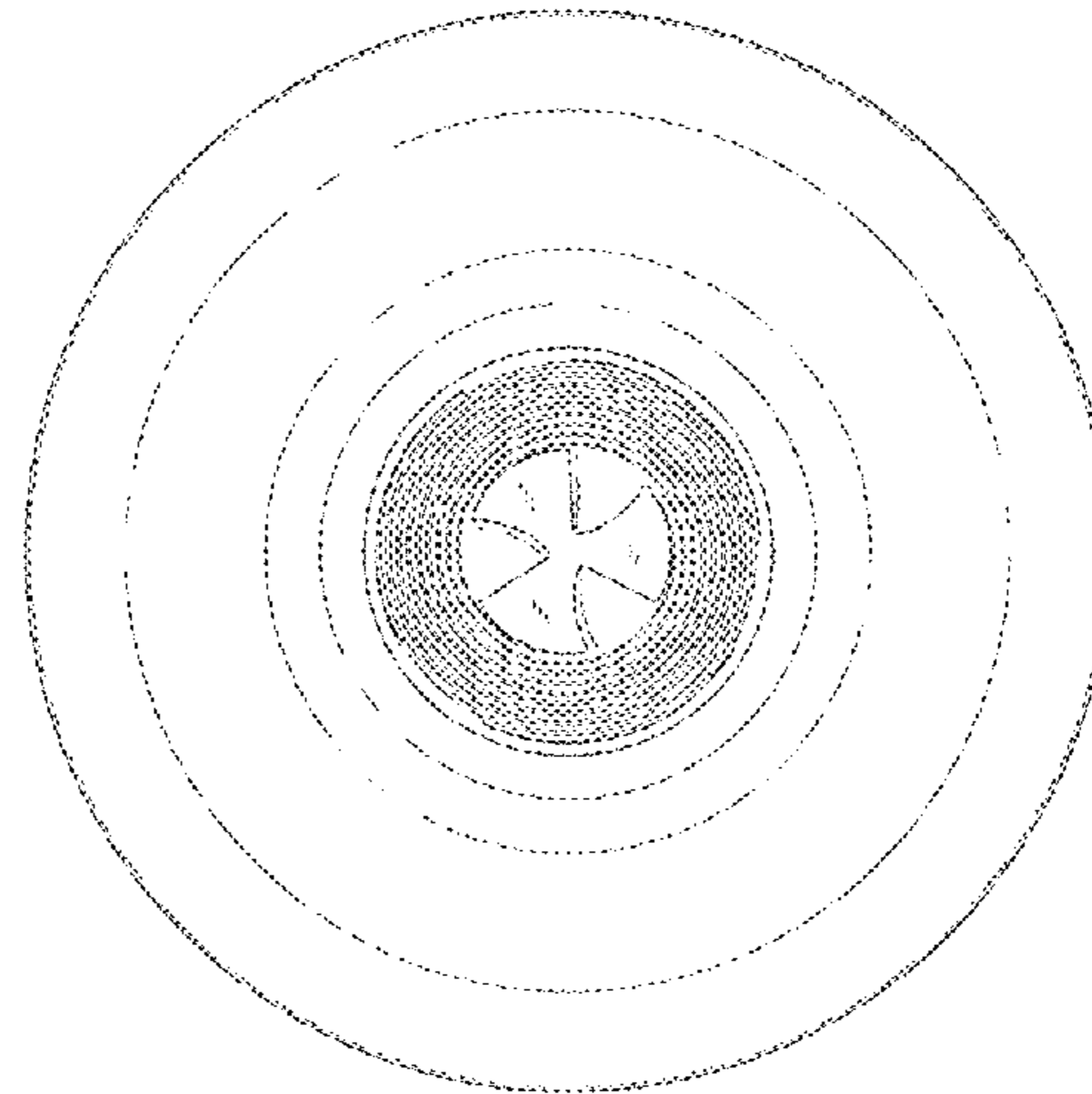
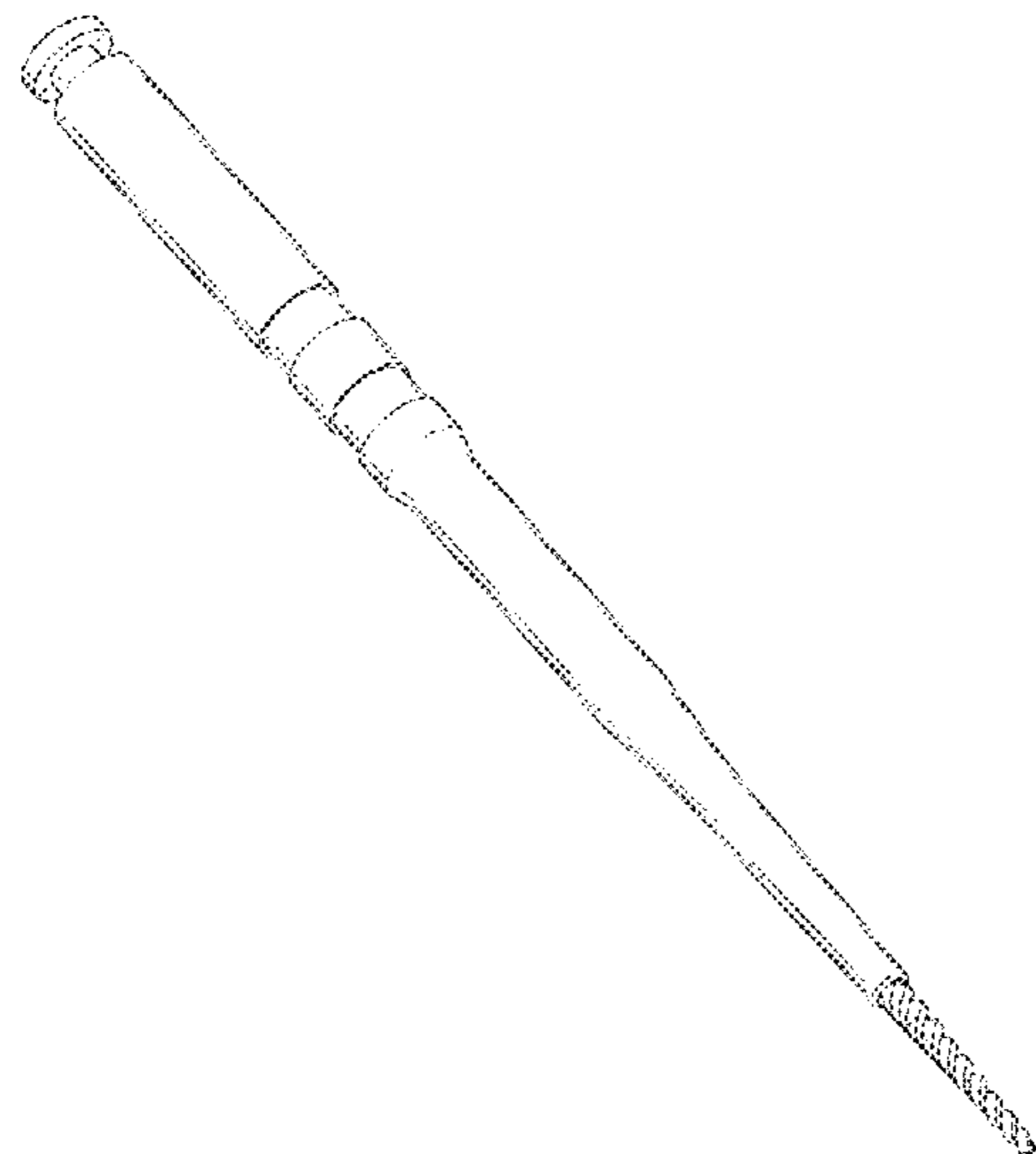
(57) **CLAIM**

The ornamental design for an endodontic bioactive materials obturator, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of an endodontic bioactive materials obturator showing our new design;
FIG. 2 is a front elevational view thereof, with the back view being a mirror image thereof;
FIG. 3 is a top view thereof;
FIG. 4 is a bottom view thereof; and,
FIG. 5 is an enlarged top view, showing the details thereof.

1 Claim, 3 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

2005/0272004 A1* 12/2005 Desrosiers A61C 8/0089
433/102
2005/0282112 A1 12/2005 Kumar
2006/0206134 A1 9/2006 Conquergood et al.
2007/0031784 A1* 2/2007 Berutti A61C 5/42
433/102
2012/0107766 A1* 5/2012 Borgschulte A61C 1/0007
433/102
2015/0366635 A1 12/2015 Shotton et al.
2017/0135786 A1* 5/2017 Jaunberzins A61C 5/42
2020/0078136 A1* 3/2020 Alenezi A61C 5/40

* cited by examiner

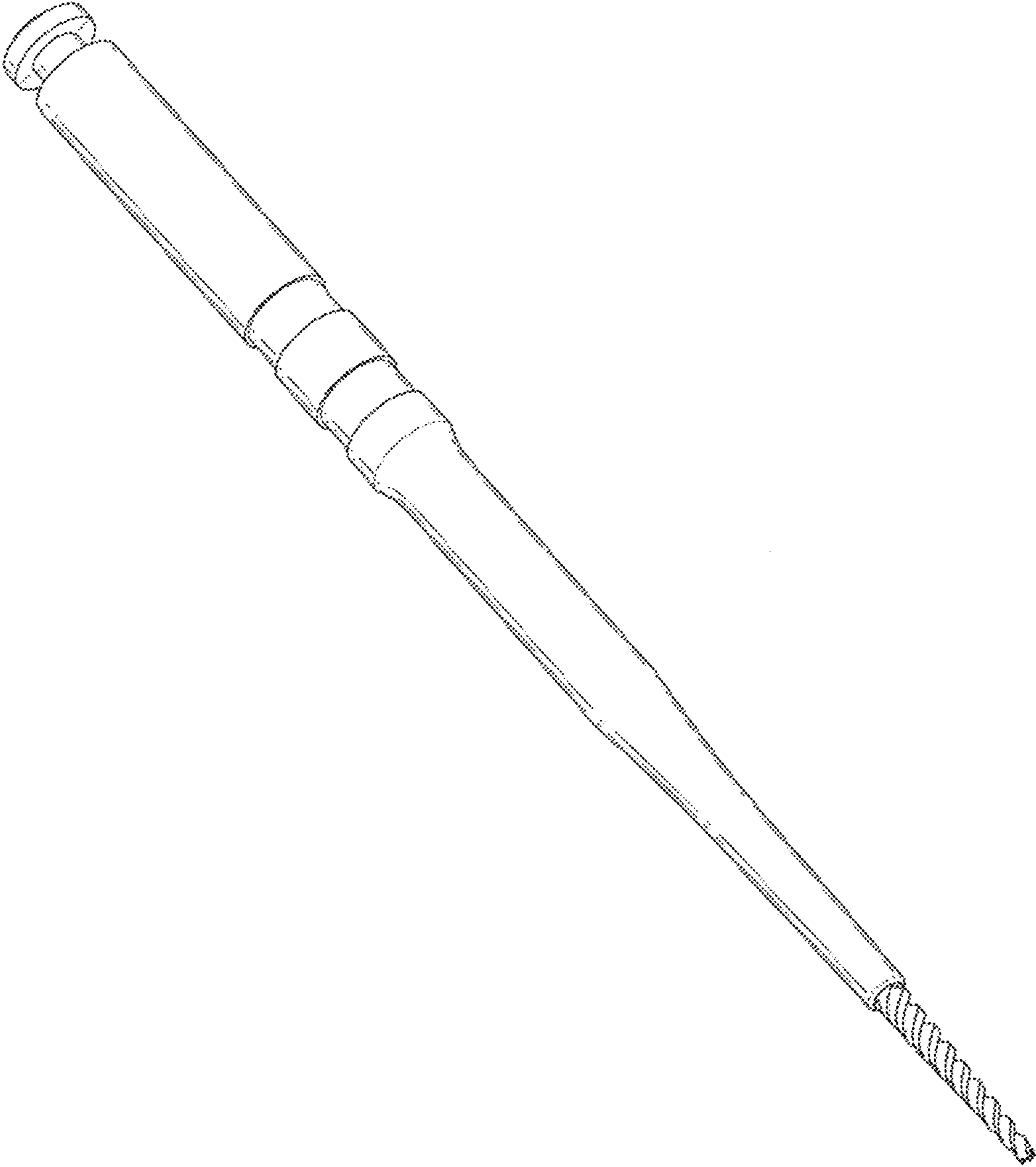


FIG. 1

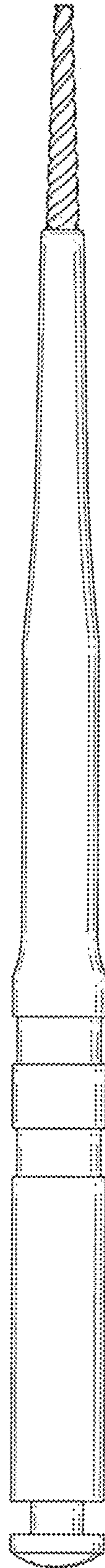


FIG. 2

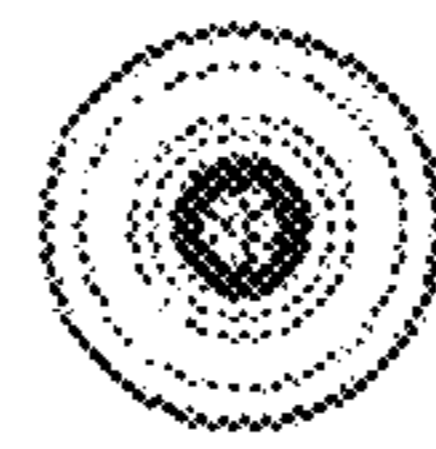


FIG. 3



FIG. 4

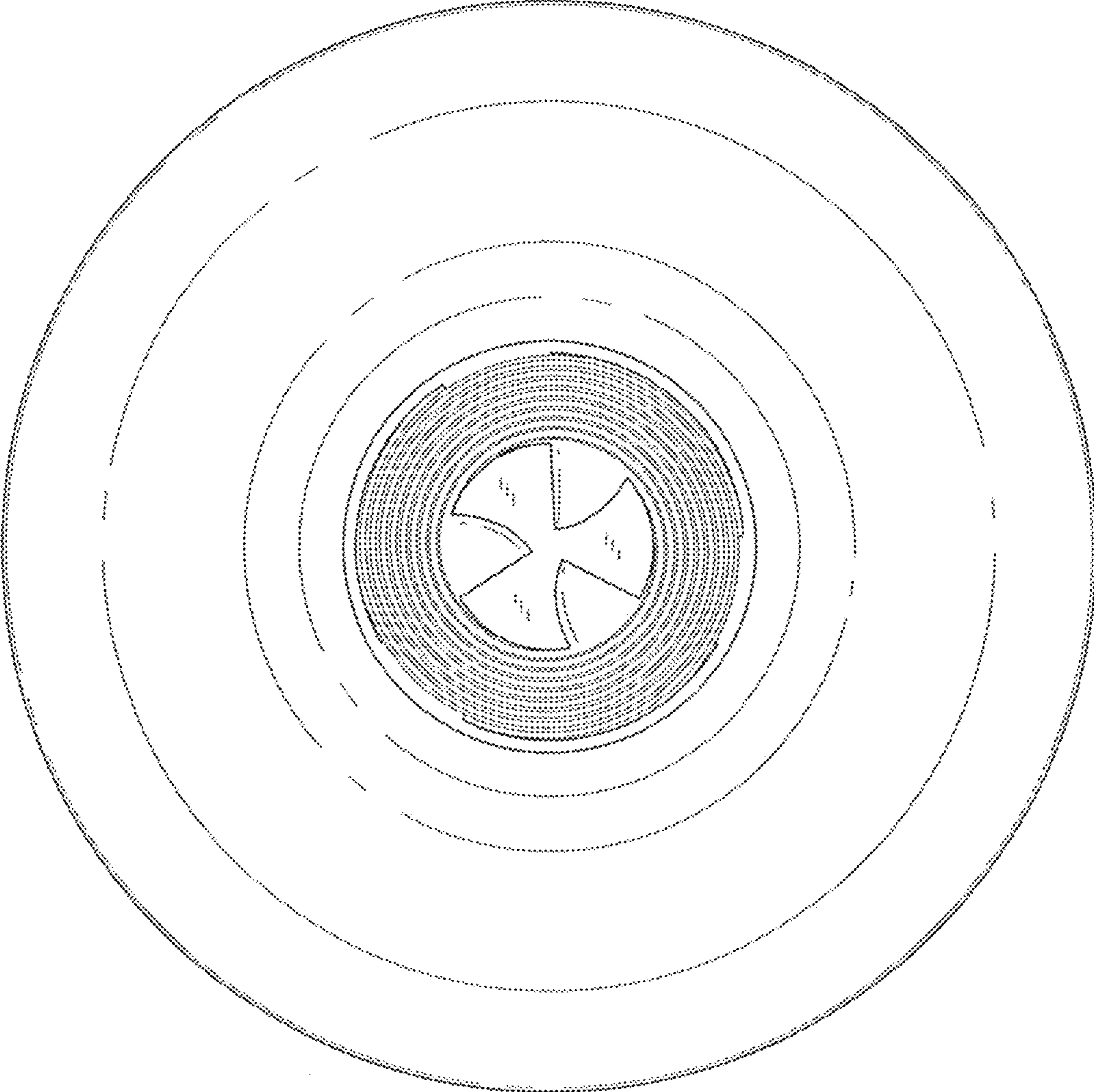


FIG. 5