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(12) **United States Design Patent** (10) **Patent No.:** **US D827,151 S**  
**Nakagawa et al.** (45) **Date of Patent:** **\*\* Aug. 28, 2018**

(54) **COLUMN END CAP**

(71) Applicant: **Hitachi High-Technologies Corporation**, Minato-ku, Tokyo (JP)

(72) Inventors: **Hiroaki Nakagawa**, Tokyo (JP); **Kengo Muramatsu**, Yokohama (JP)

(73) Assignee: **Hitachi High-Technologies Corporation**, Tokyo (JP)

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

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(51) **LOC (11) Cl.** ..... **24-02**

(52) **U.S. Cl.**  
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(58) **Field of Classification Search**  
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251/147-149; 285/39; D24/112, 129,  
D24/166, 232, 107-108, 165, 216, 231,  
D24/224; 73/23.39; 96/105-107;  
422/70, 405; D10/81  
CPC ..... F16L 33/225; F16L 37/091; F16L 35/00;  
F16L 21/035; F16L 41/02; F16K 49/002;  
B01D 15/22; G01N 30/02; G01N  
2030/022; G01N 2030/025; G01N  
2030/027

See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

D272,856 S \* 2/1984 Percarpio ..... D24/224  
D309,498 S \* 7/1990 Colvin, Jr. .... D24/232  
5,397,467 A \* 3/1995 Morgan ..... B01D 15/08  
210/101

D410,389 S \* 6/1999 Niedospial, Jr. .... D24/224  
D426,165 S \* 6/2000 Tuvim ..... D10/78  
D439,637 S \* 3/2001 Davies ..... D23/262  
D457,247 S \* 5/2002 Itheme ..... D24/216  
D495,060 S \* 8/2004 Hellstrom ..... D24/224  
D500,555 S \* 1/2005 Hellstrom ..... D10/81  
D506,261 S \* 6/2005 Hellstrom ..... D10/103  
D600,580 S \* 9/2009 Wounder ..... D10/81  
D718,121 S \* 11/2014 Yu ..... D8/382  
2017/0184225 A1\* 6/2017 Takemoto ..... F16L 7/02

\* cited by examiner

*Primary Examiner* — Eric L Goodman

*Assistant Examiner* — Amy C Wierenga

(74) *Attorney, Agent, or Firm* — Crowell & Moring LLP

(57) **CLAIM**

The ornamental design for a column end cap, as shown and described.

**DESCRIPTION**

This application contains subject matter related to the following co-pending U.S. design patent applications:

Application Ser. No. 29/594,886, filed herewith and entitled “Column”; and

Application Ser. No. 29/594,888, filed herewith and entitled “Column Pipe”.

FIG. 1 is a front and top perspective view of a column end cap according to the design;

FIG. 2 is a front elevational view thereof;

FIG. 3 is a right side elevational view thereof;

FIG. 4 is a top plan view thereof;

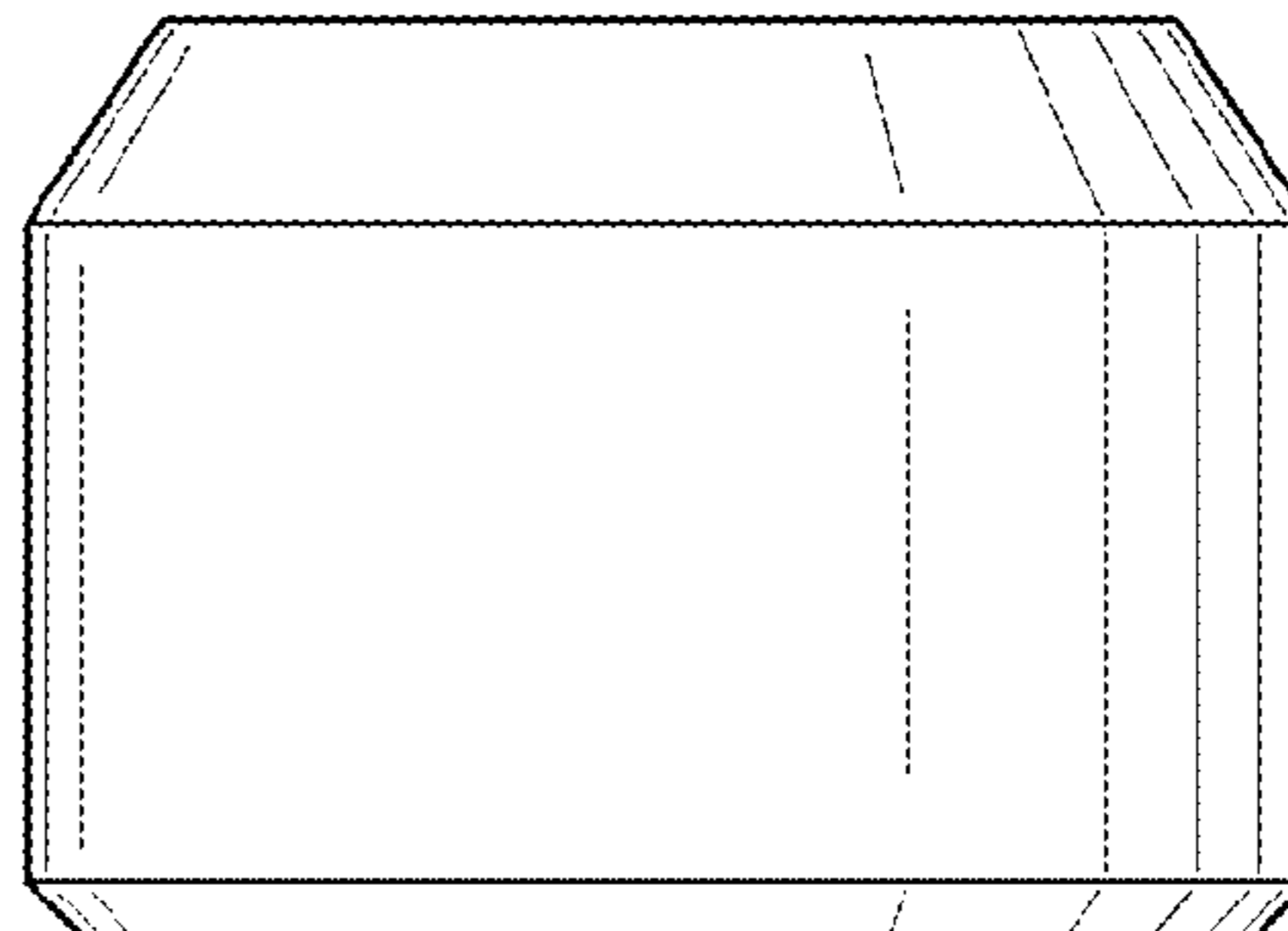
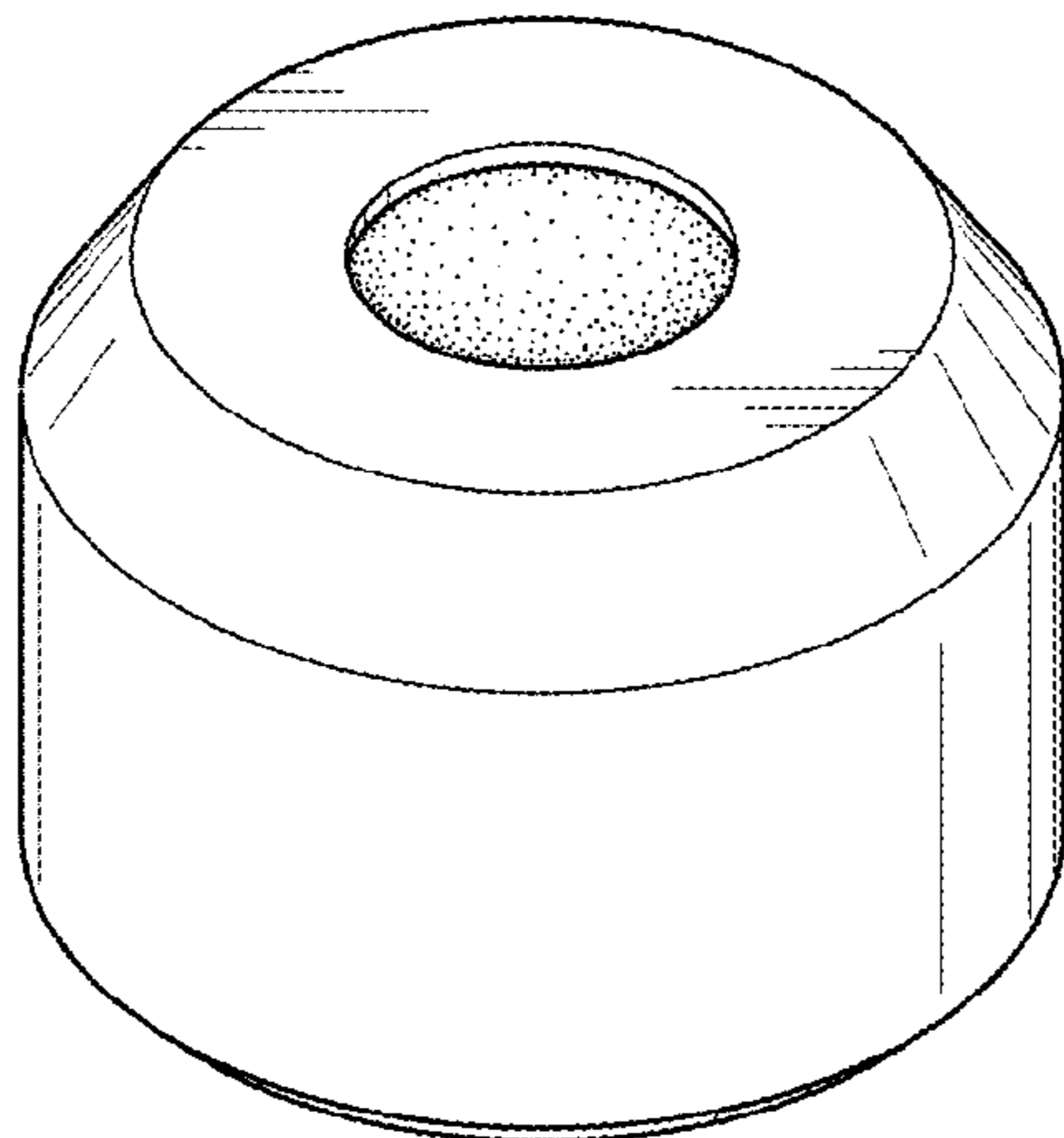
FIG. 5 is a bottom plan view thereof; and,

FIG. 6 is a cross-sectional view thereof taken along line 6-6 of FIG. 2.

A rear elevational view is the same as the front elevational view.

A left side elevational view is the same as the right side elevational view.

**1 Claim, 1 Drawing Sheet**



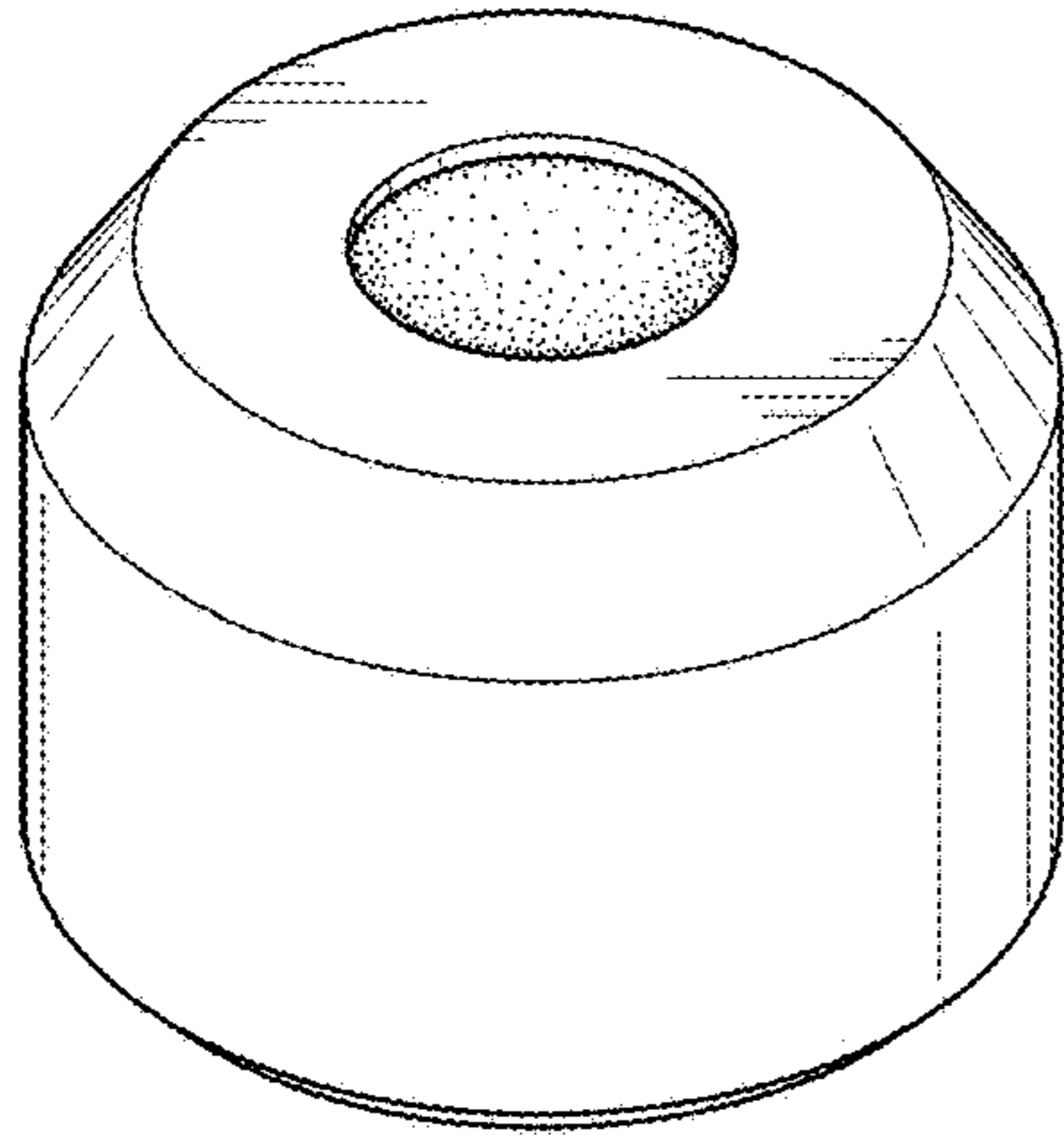


FIG. 1

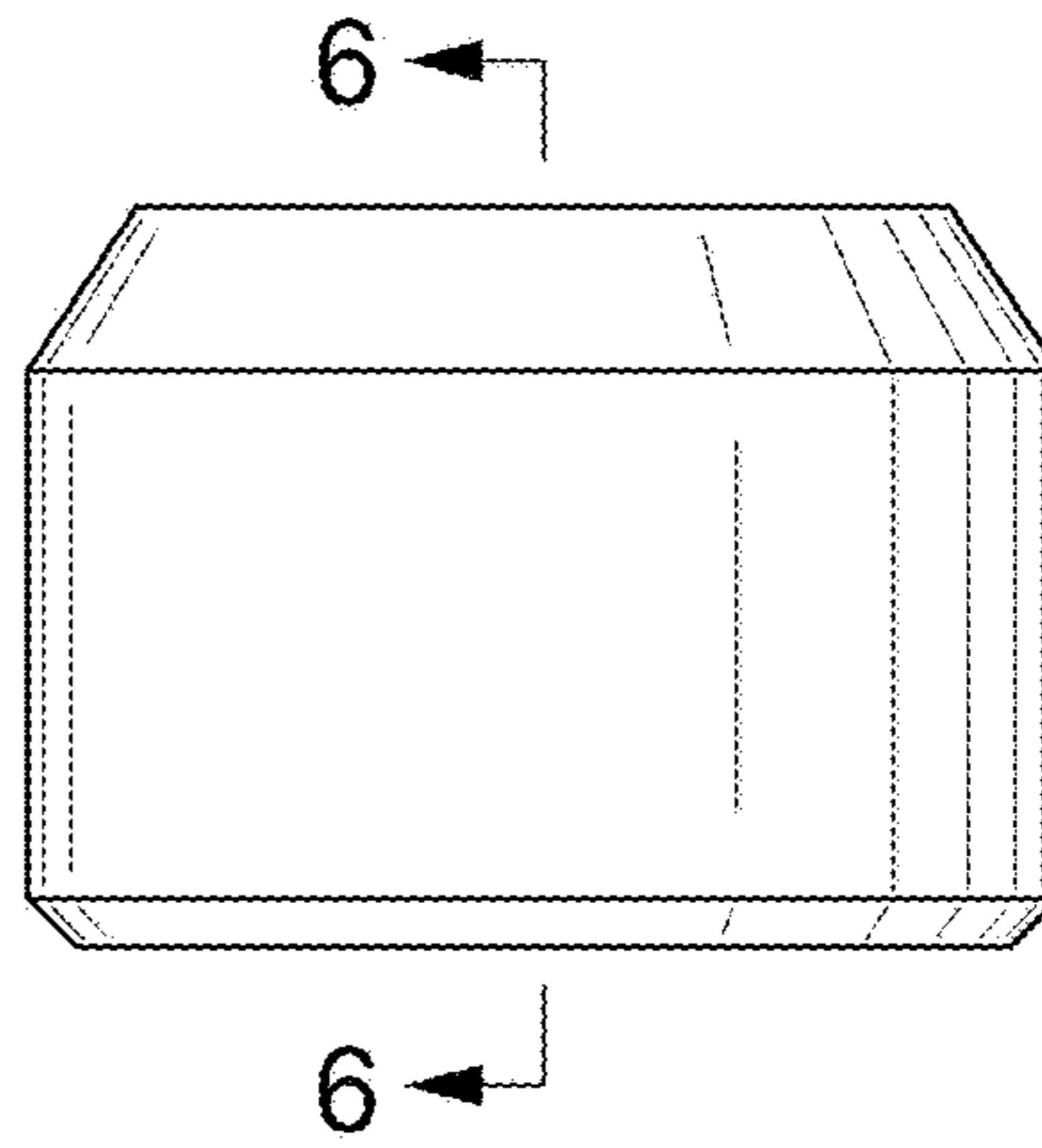


FIG. 2

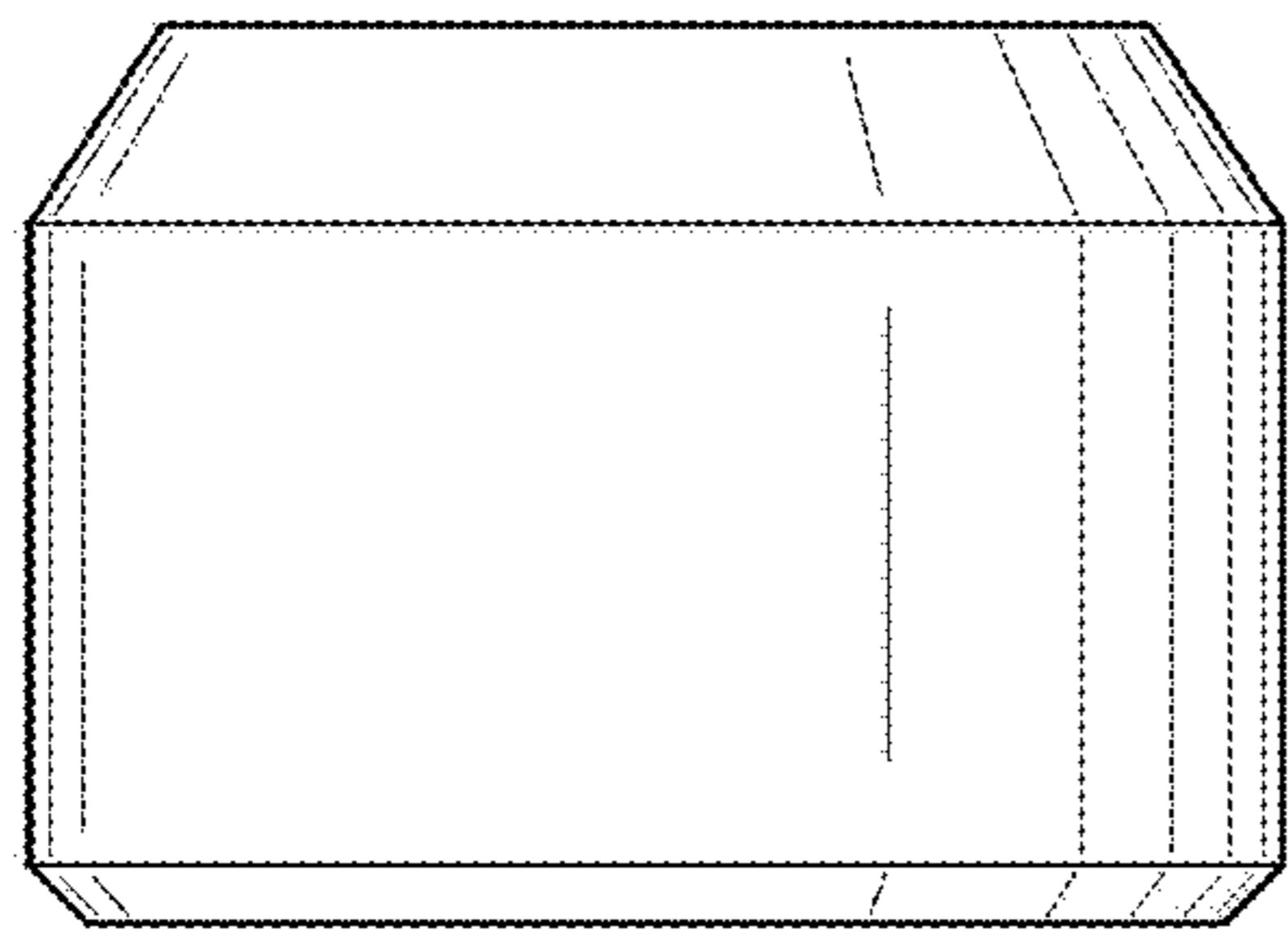


FIG. 3

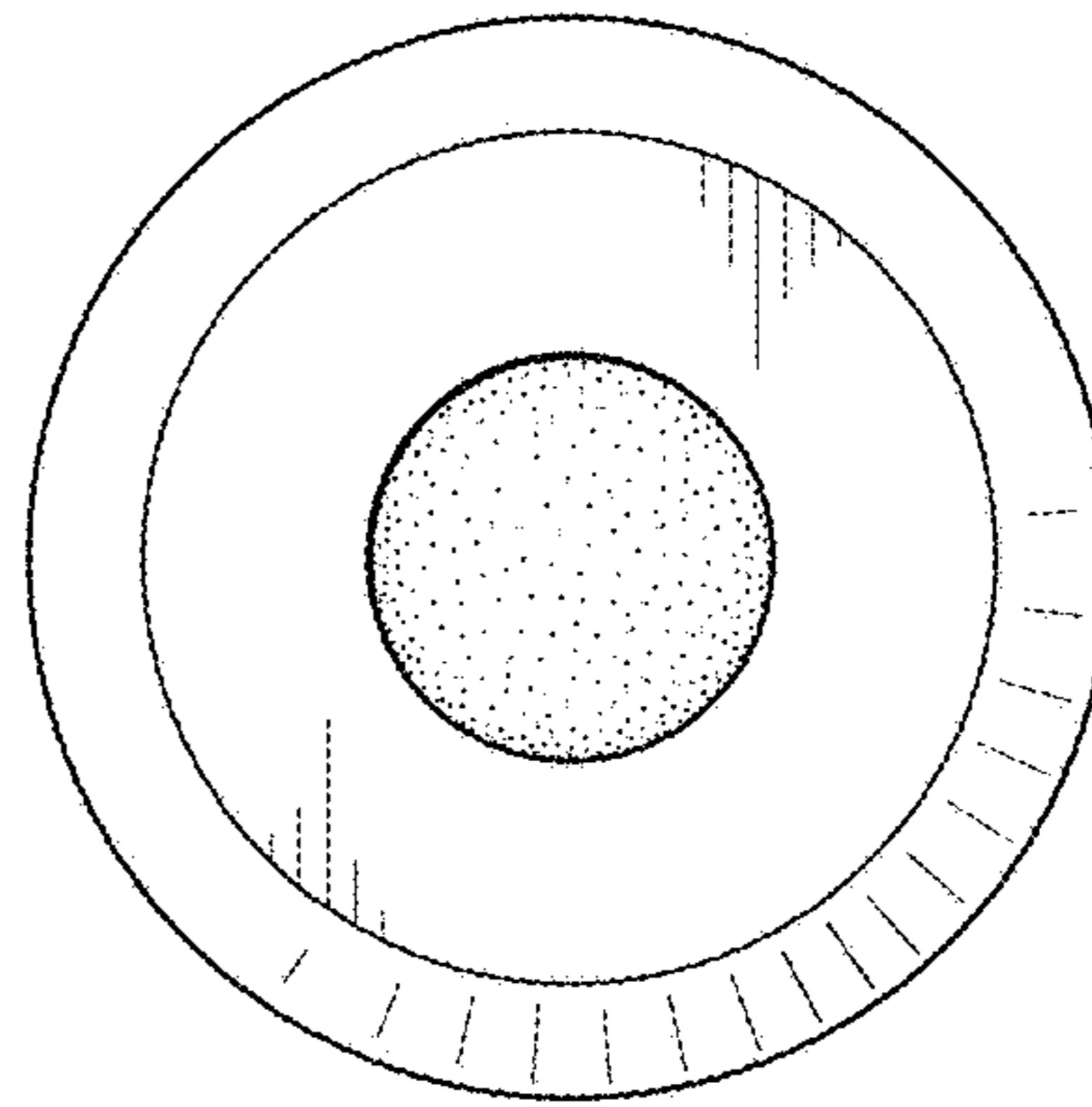


FIG. 4

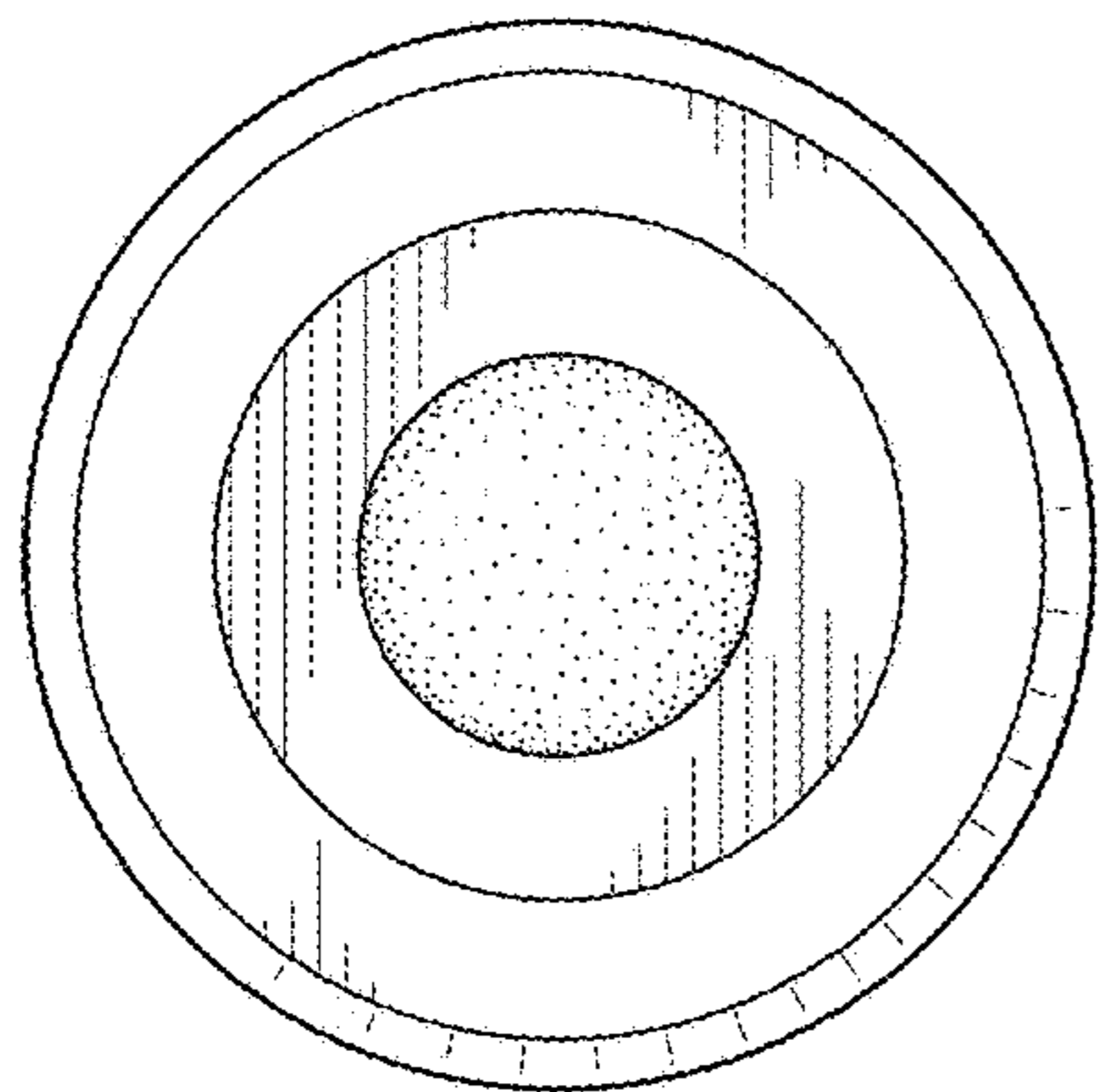


FIG. 5

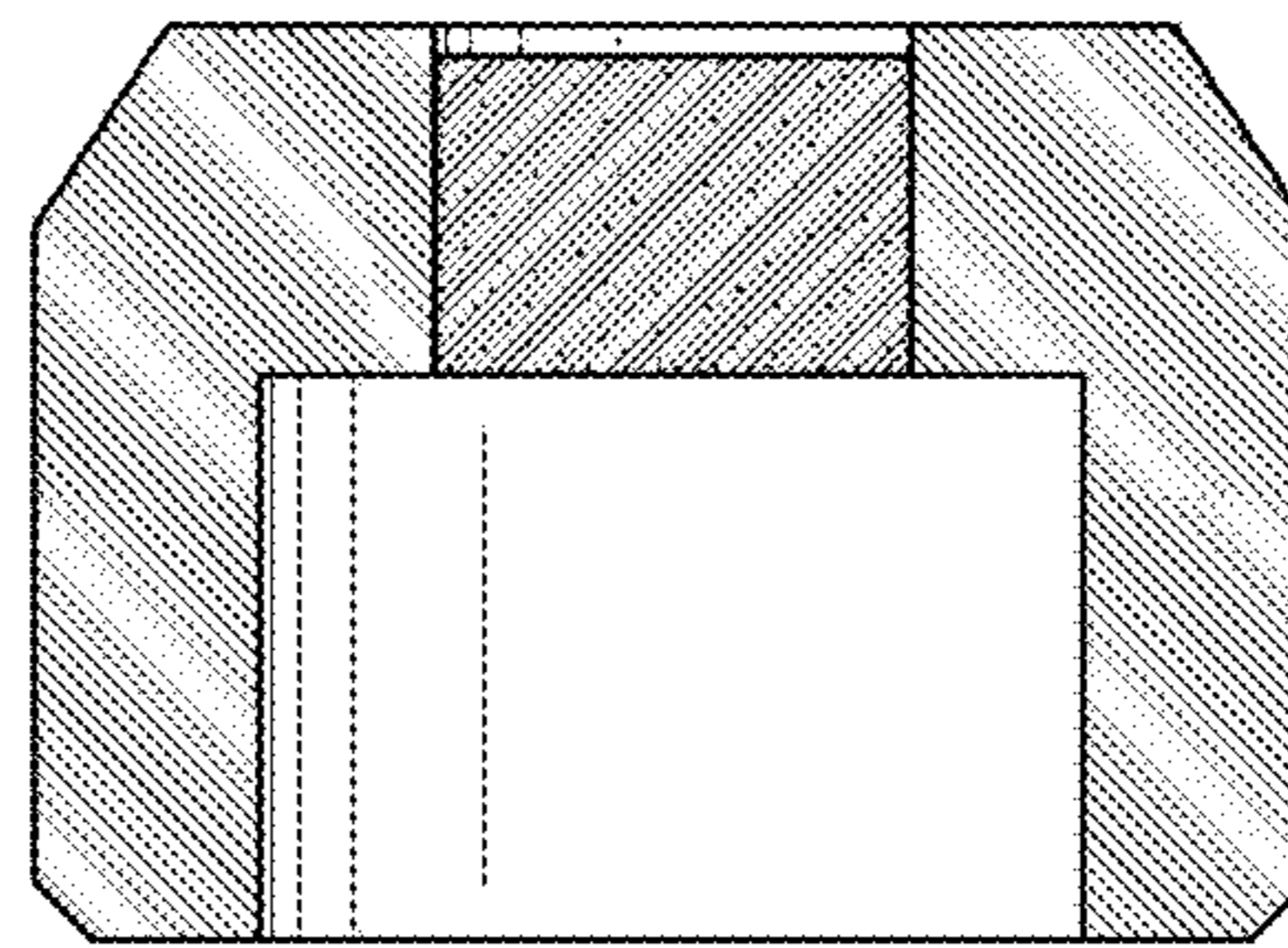


FIG. 6