



US00D908755S

(12) **United States Design Patent**
de Lore

(10) **Patent No.:** **US D908,755 S**

(45) **Date of Patent:** **** Jan. 26, 2021**

(54) **IDLER ROLLER**

(57) **CLAIM**

(71) Applicant: **Joy Global Underground Mining LLC, Warrendale, PA (US)**

I claim the ornamental design for an idler roller, as shown and described.

(72) Inventor: **Andrew P. de Lore, Yattalunga (AU)**

DESCRIPTION

(73) Assignee: **Joy Global Underground Mining LLC, Warrendale, PA (US)**

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

(21) Appl. No.: **29/662,249**

(22) Filed: **Sep. 4, 2018**

Related U.S. Application Data

(62) Division of application No. 29/555,599, filed on Feb. 23, 2016, now Pat. No. Des. 828,419.

(51) **LOC (13) Cl.** **15-09**

(52) **U.S. Cl.**
USPC **D15/143**

(58) **Field of Classification Search**
USPC D15/143, 199

(Continued)

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Primary Examiner — Patricia A Palasik

(74) *Attorney, Agent, or Firm* — Michael Best & Friedrich LLP

FIG. 1 is a perspective view of a first embodiment of an idler roller showing our new design.
FIG. 2 is a cross-section view of the idler roller shown in FIG. 1.
FIG. 3 is a side view of the idler roller shown in FIG. 1.
FIG. 4 is an end view of the idler roller shown in FIG. 1.
FIG. 5 is a perspective view of a second embodiment for an idler roller showing our new design.
FIG. 6 is a cross-section view of the idler roller shown in FIG. 5.
FIG. 7 is a side view of the idler roller shown in FIG. 5.
FIG. 8 is an end view of the idler roller shown in FIG. 5.
FIG. 9 is a perspective view of a third embodiment for an idler roller showing our new design.
FIG. 10 is a cross-section view of the idler roller shown in FIG. 9.
FIG. 11 is a side view of the idler roper shown in FIG, 9.
FIG. 12 is an end view of the idler roper shown in FIG, 9.
FIG. 13 is a perspective view of a fourth embodiment for an idler roller showing our new design.
FIG. 14 is a cross-section view of the idler roller shown in FIG. 13.
FIG. 15 is a side view of the idler roller shown in FIG. 13.
FIG. 16 is an end view of the idler roller shown in FIG. 13.
FIG. 17 is a perspective view of a fifth embodiment for an idler roller showing our new design.
FIG. 18 is a cross-section view of the idler roller shown in FIG. 17.
FIG. 19 is a side view of the idler roller shown in FIG. 17.
FIG. 20 is an end view of the idler roller shown in FIG. 17.
FIG. 21 is a perspective view of a sixth embodiment for an idler roller showing our new design.
FIG. 22 is a cross-section view of the idler roller shown in FIG. 21.
FIG. 23 is a side view of the idler roller shown in FIG. 21.
FIG. 24 is an end view of the idler roller shown in FIG. 21.

(Continued)

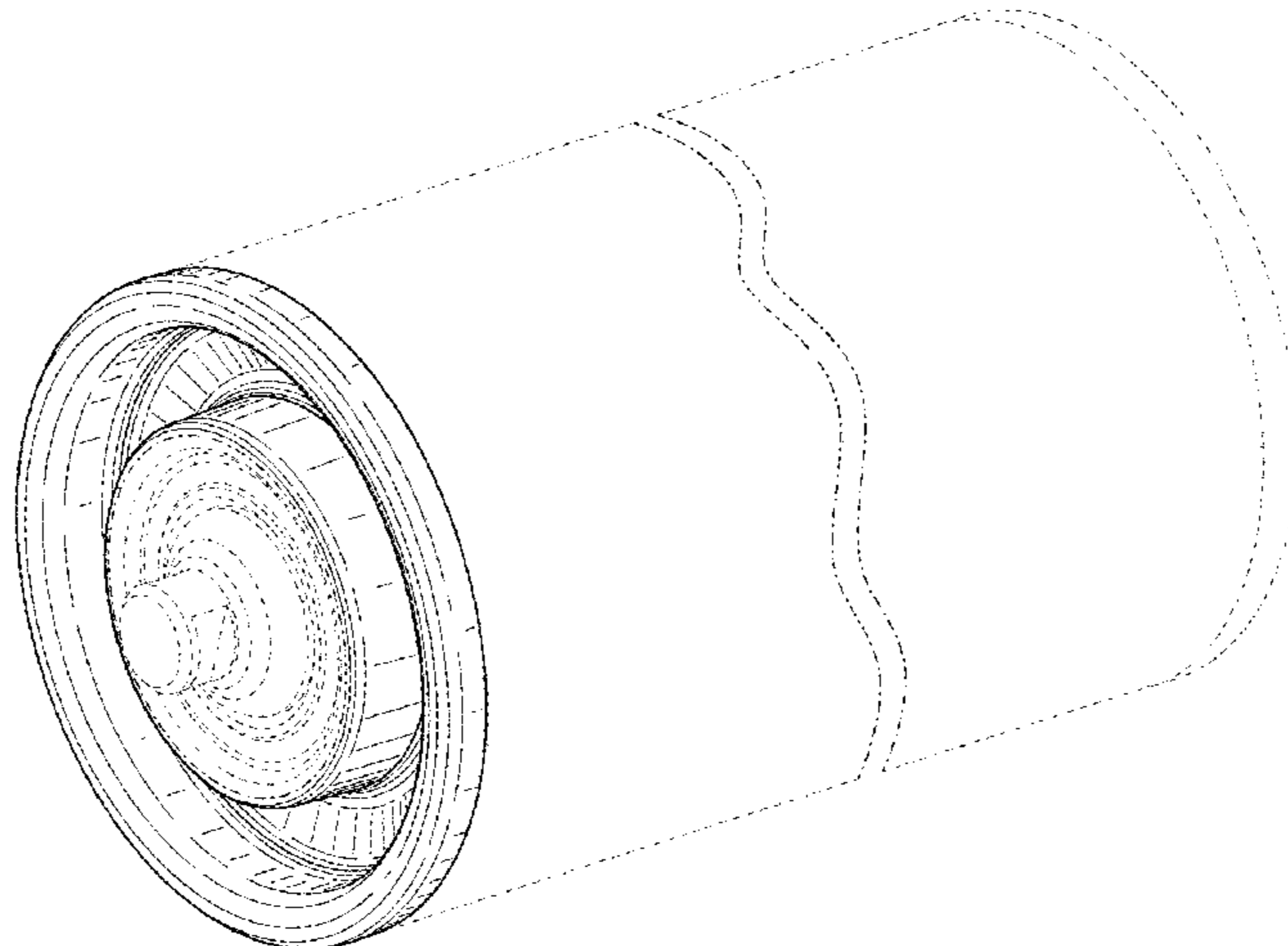


FIG. 25 is a perspective view of a seventh embodiment for an idler roller showing our new design.
FIG. 26 is a cross-section view of the idler roller shown in FIG. 25.
FIG. 27 is a side view of the idler roller shown in FIG. 25.
FIG. 28 is an end view of the idler roller shown in FIG. 25.
FIG. 29 is a perspective view of an eighth embodiment an idler roller showing our new design.
FIG. 30 is a cross-section view of the idler roller shown in FIG. 29.
FIG. 31 is a side view of the idler roller shown in FIG. 29.
FIG. 32 is an end view of the idler roper shown in FIG. 29.
FIG. 33 is a perspective view of a ninth embodiment for an idler roller showing our new design.
FIG. 34 is a cross-section view of the idler roller shown in FIG. 33.
FIG. 35 is a side view of the idler roller shown in FIG. 33.
FIG. 36 is an end view of the idler roller shown in FIG. 33.
FIG. 37 is a perspective view of a tenth embodiment for an idler roller showing our new design.
FIG. 38 is a cross-section view of the idler roller shown in FIG. 37.
FIG. 39 is a side view of the idler roller shown in FIG. 37; and,

FIG. 40 is an end view of the idler roller shown in FIG. 37. The elements shown in broken lines are included for the purpose of illustrating portions of the idler roller that form no part of the claimed design.

1 Claim, 40 Drawing Sheets

(58) **Field of Classification Search**

CPC F16C 19/30; F16C 19/305; F16C 33/37;
F16C 33/51; F16C 33/49; F16C 33/50;
F16C 33/541; F16C 33/543; F16C
33/546; F16C 33/565; F16C 33/4676;
F16C 33/4682; F16C 33/6696

See application file for complete search history.

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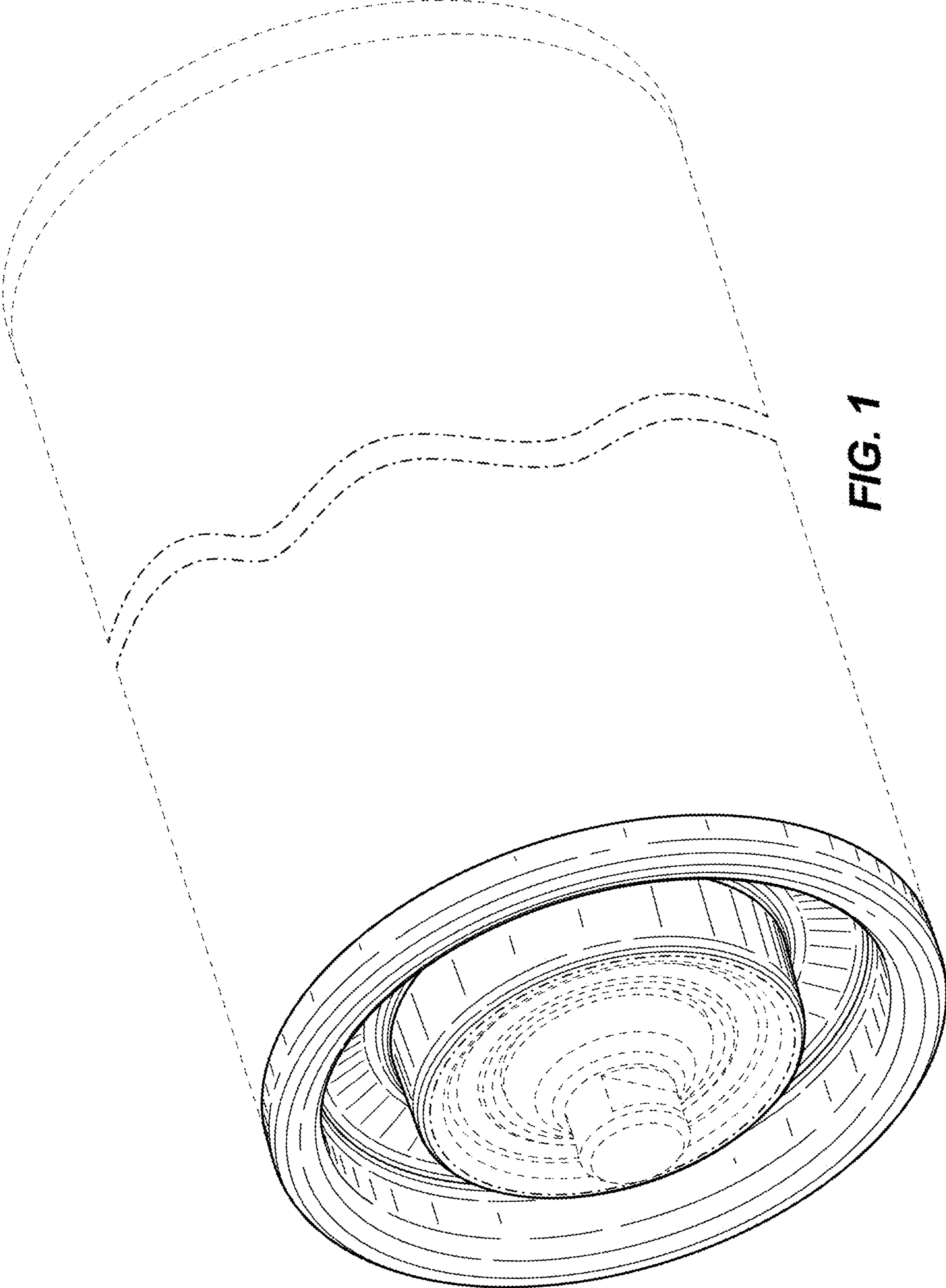


FIG. 1

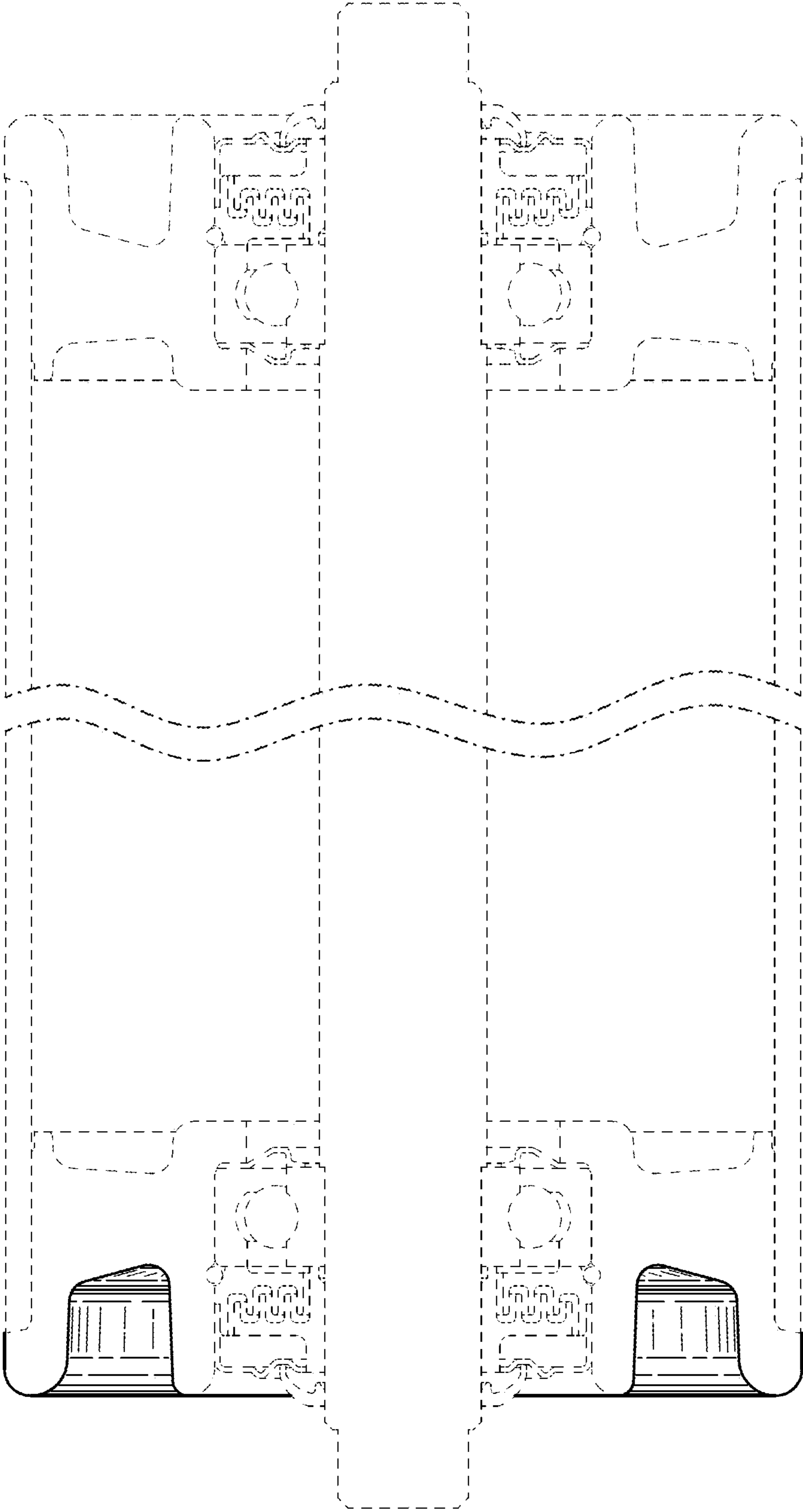


FIG. 2

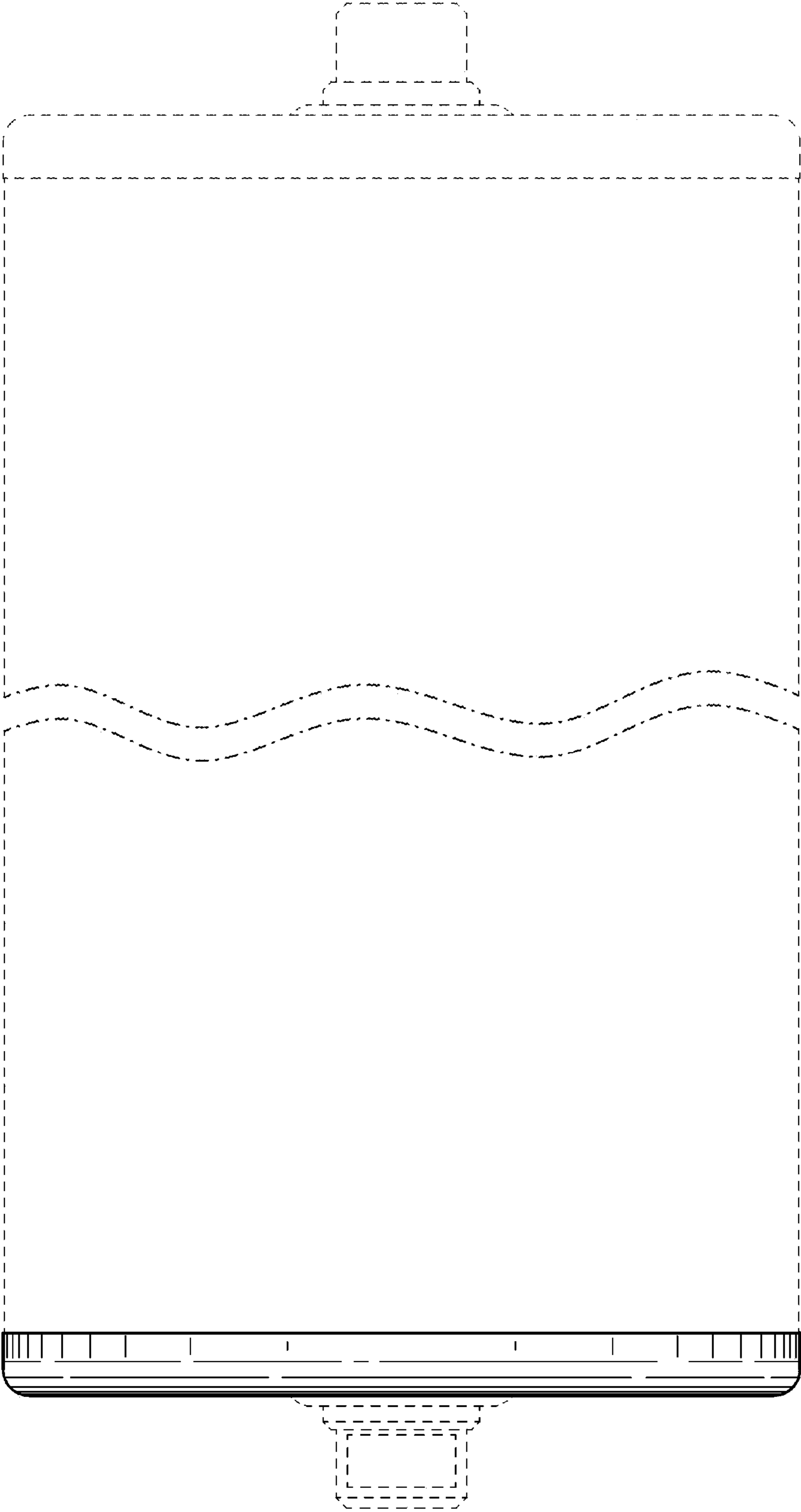


FIG. 3

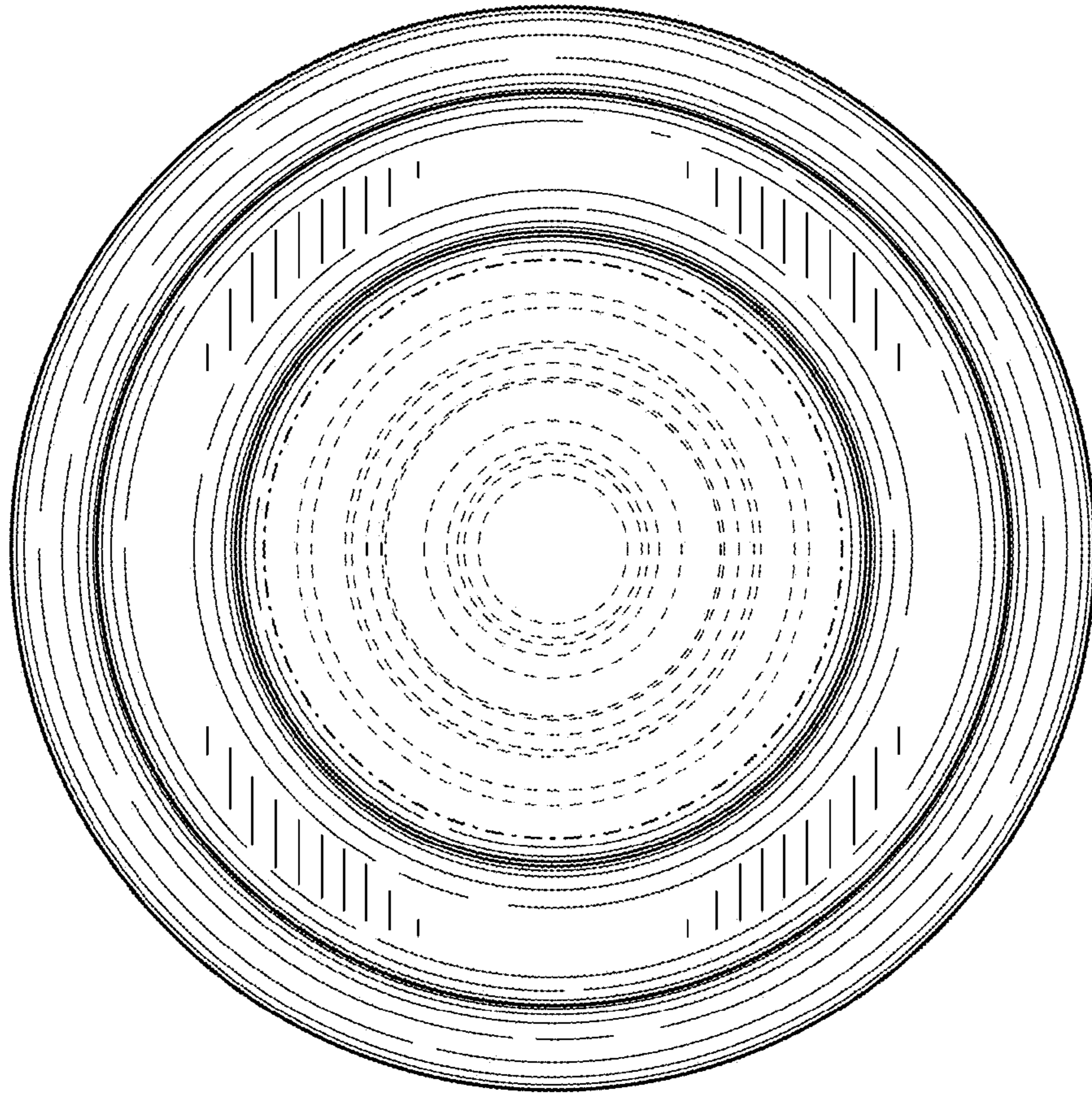


FIG. 4

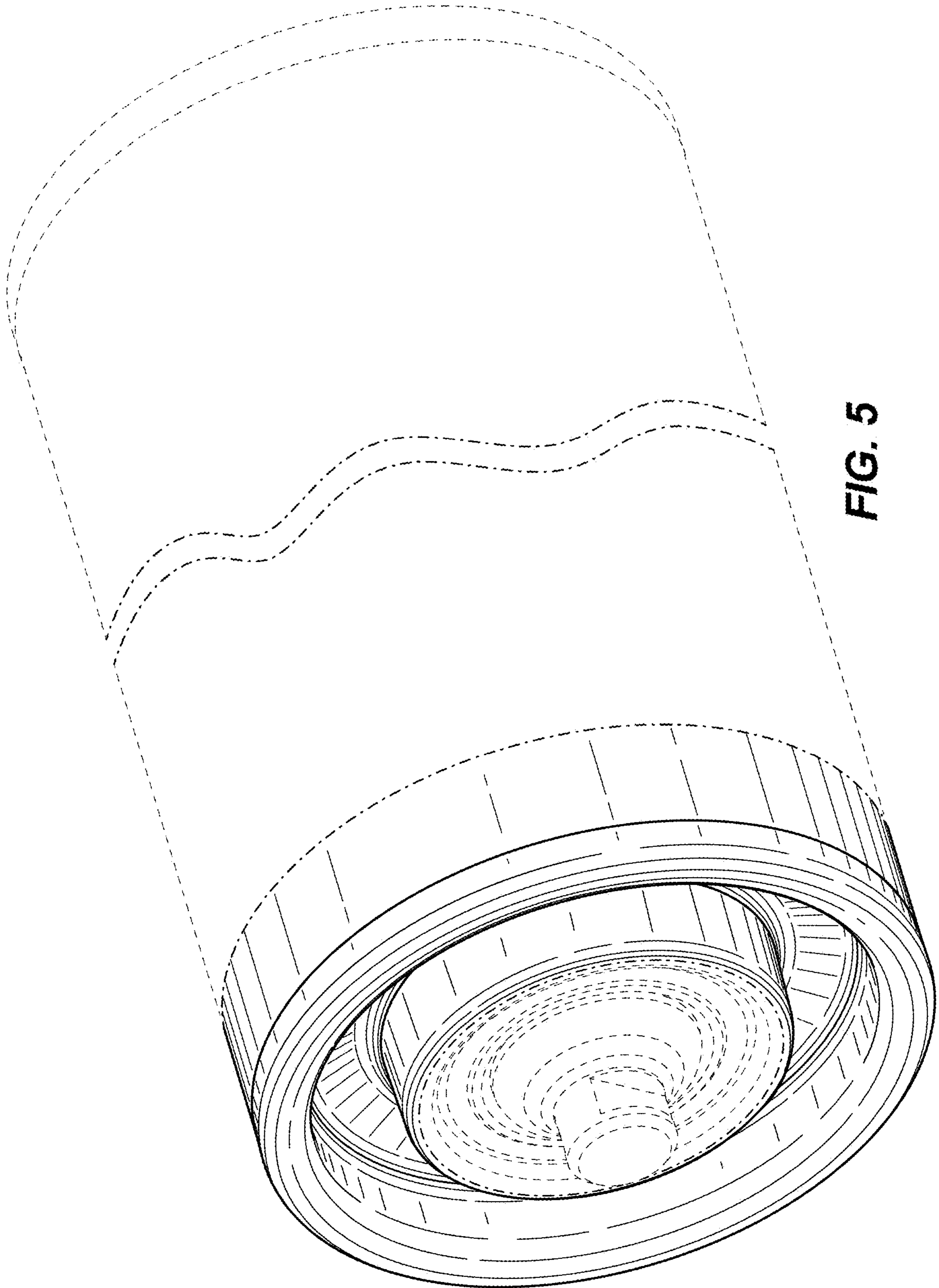


FIG. 5

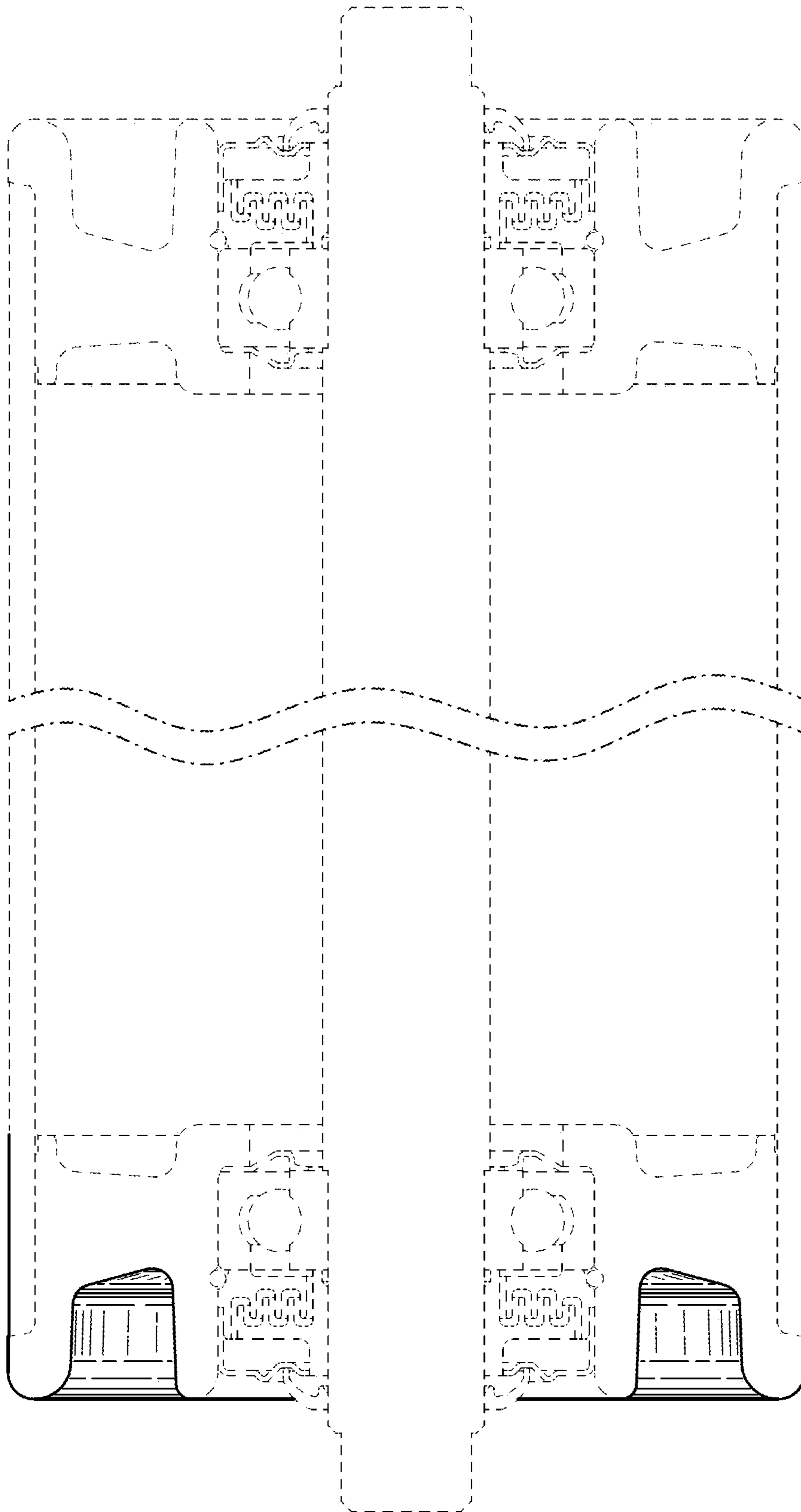


FIG. 6

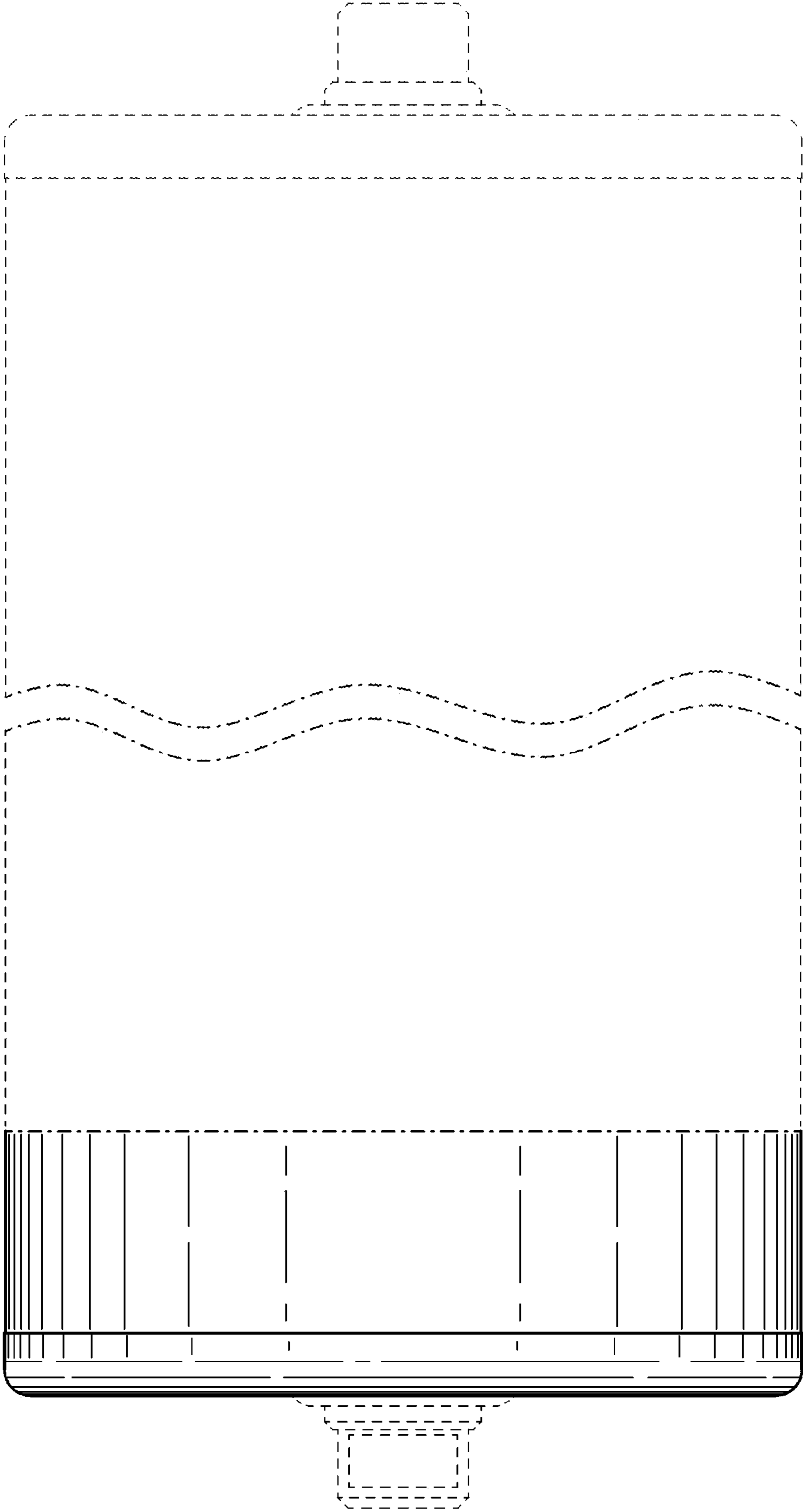


FIG. 7

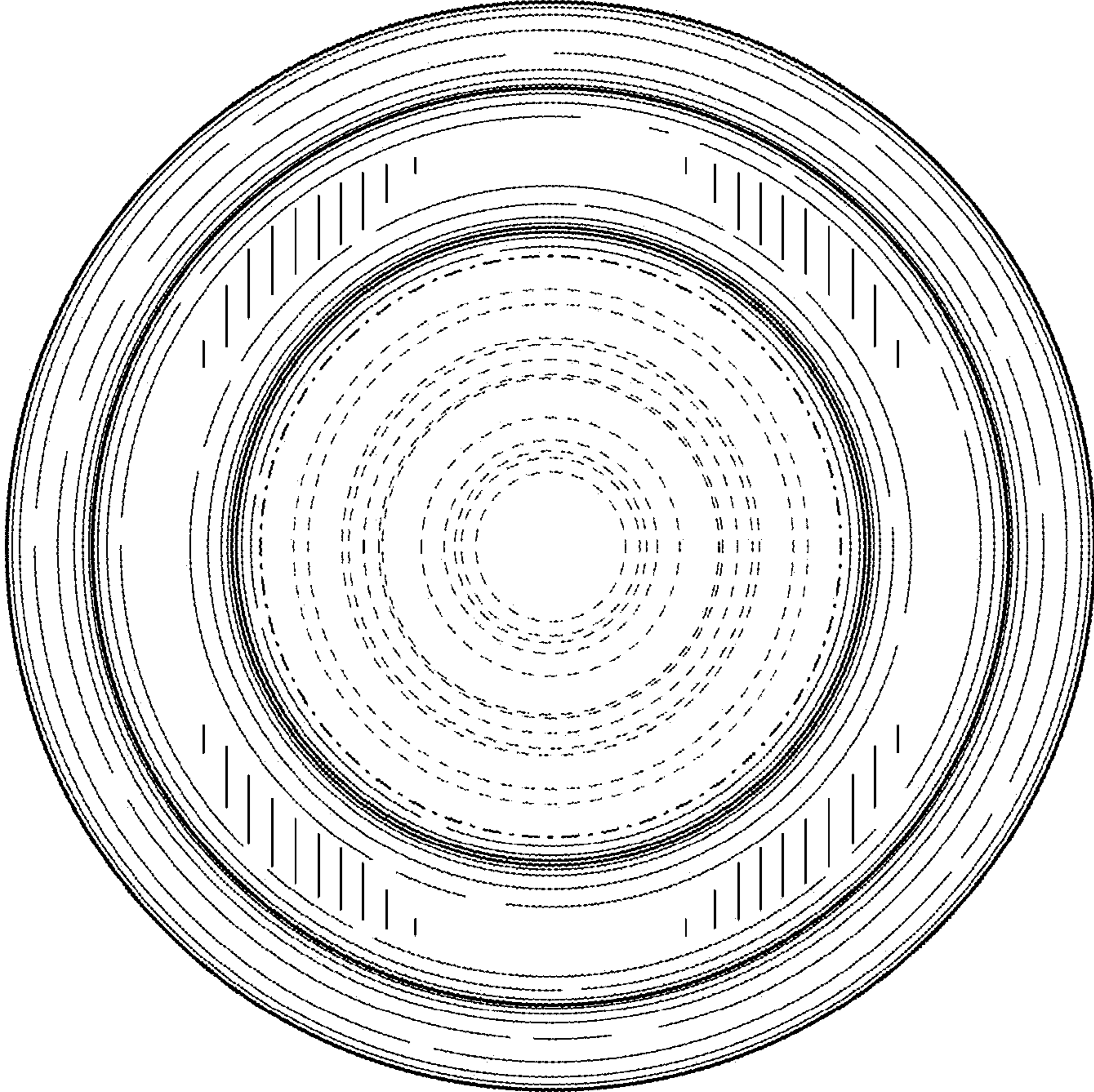


FIG. 8

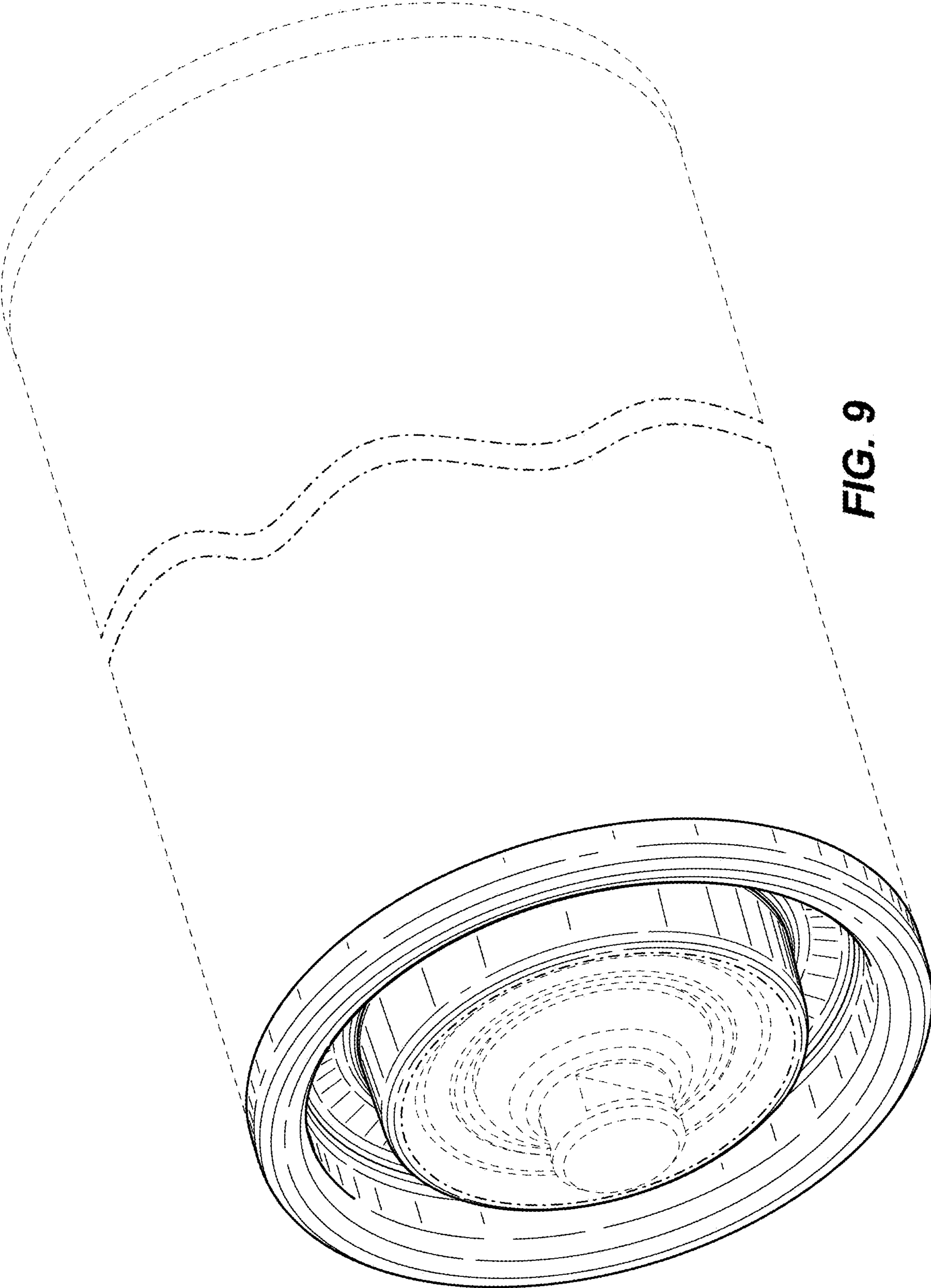


FIG. 9

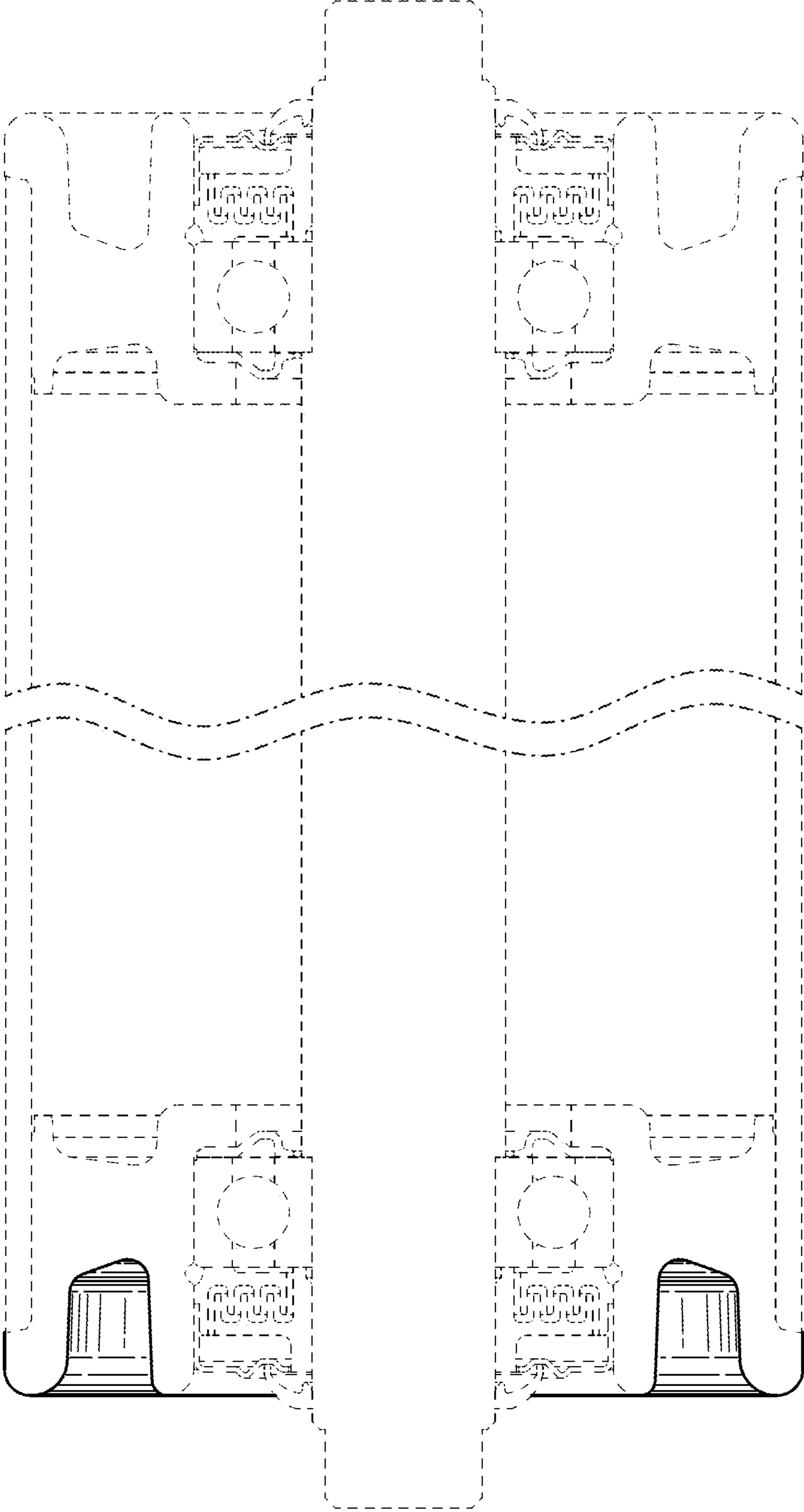


FIG. 10

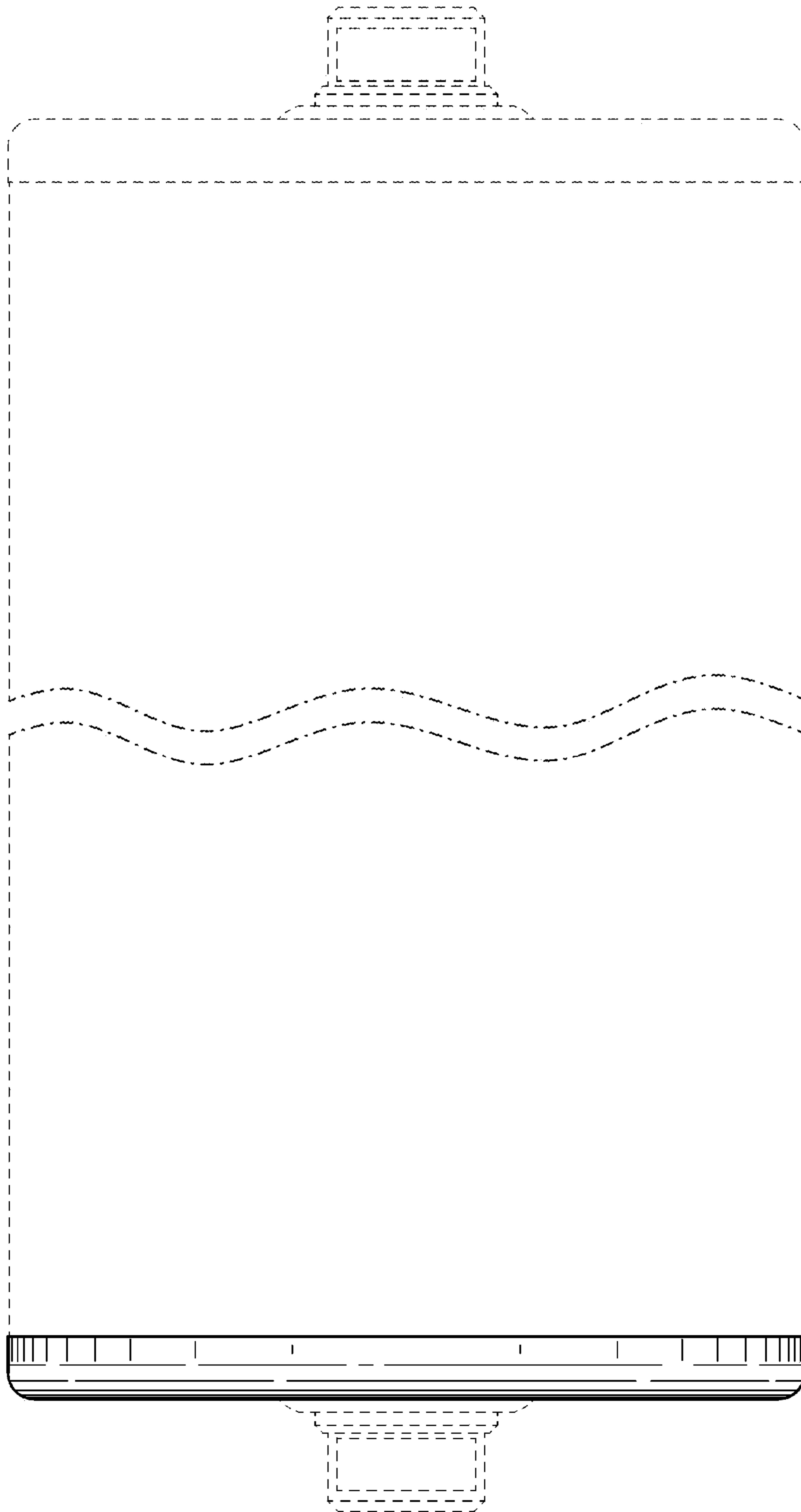


FIG. 11

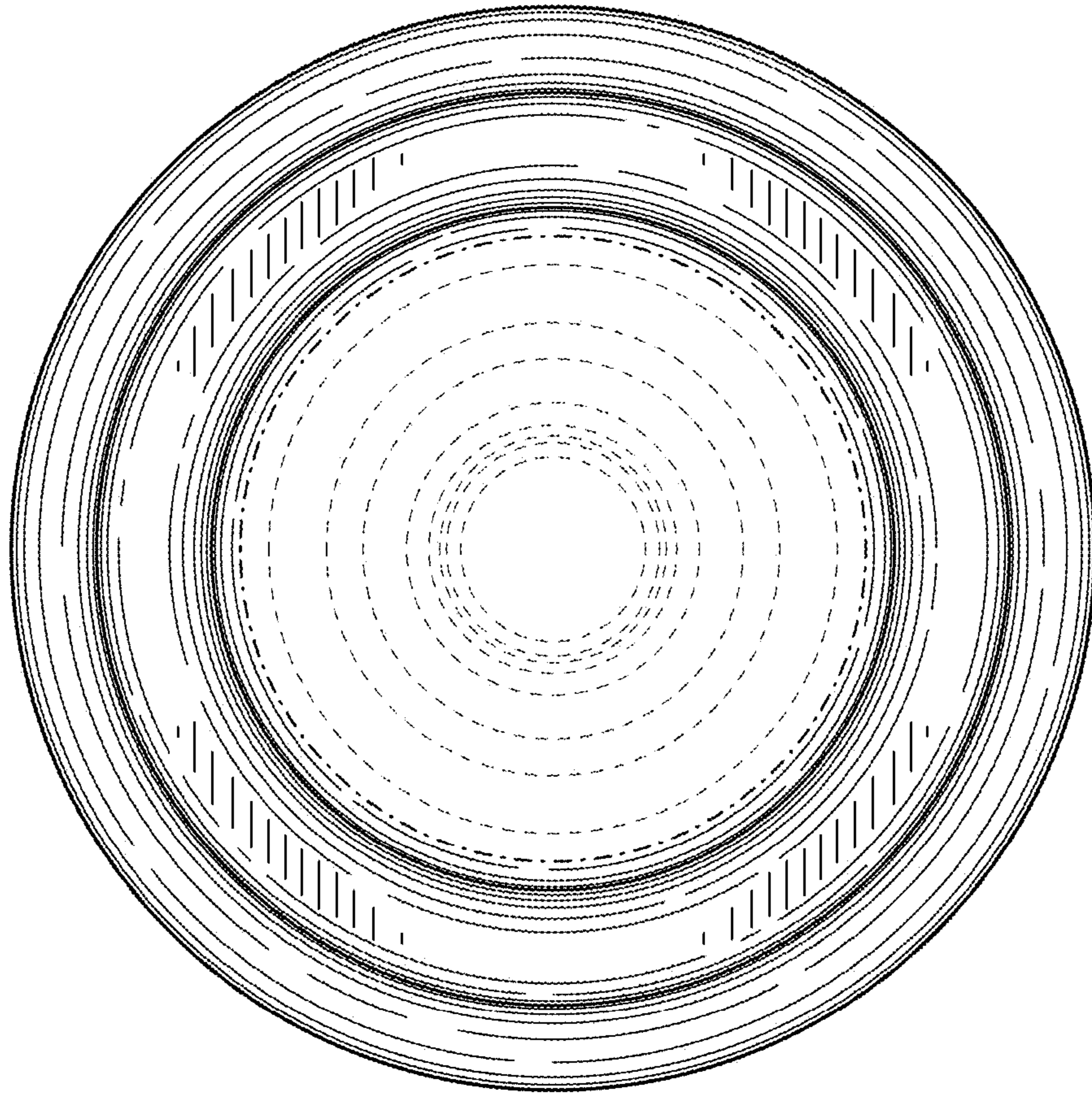


FIG. 12

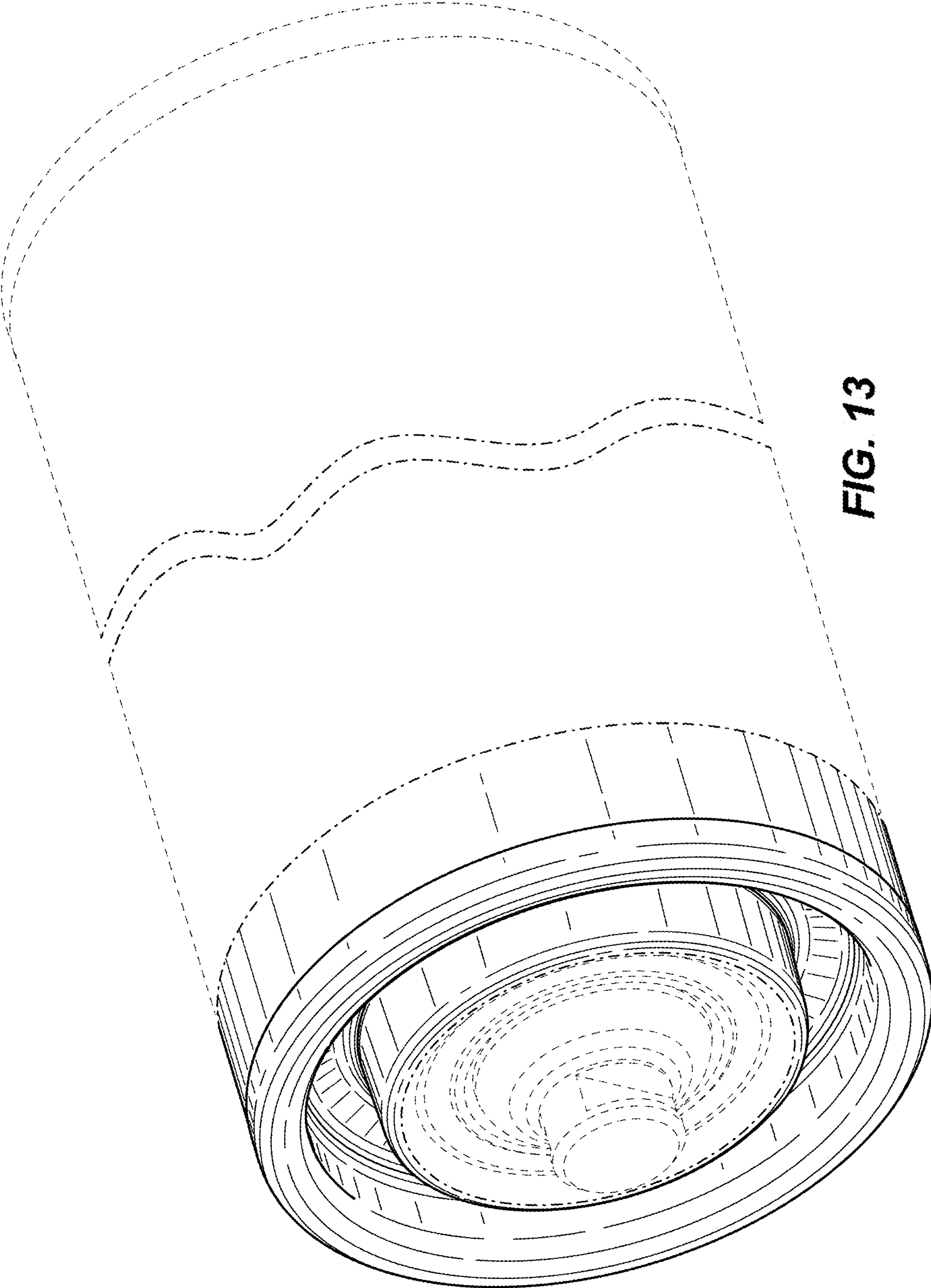


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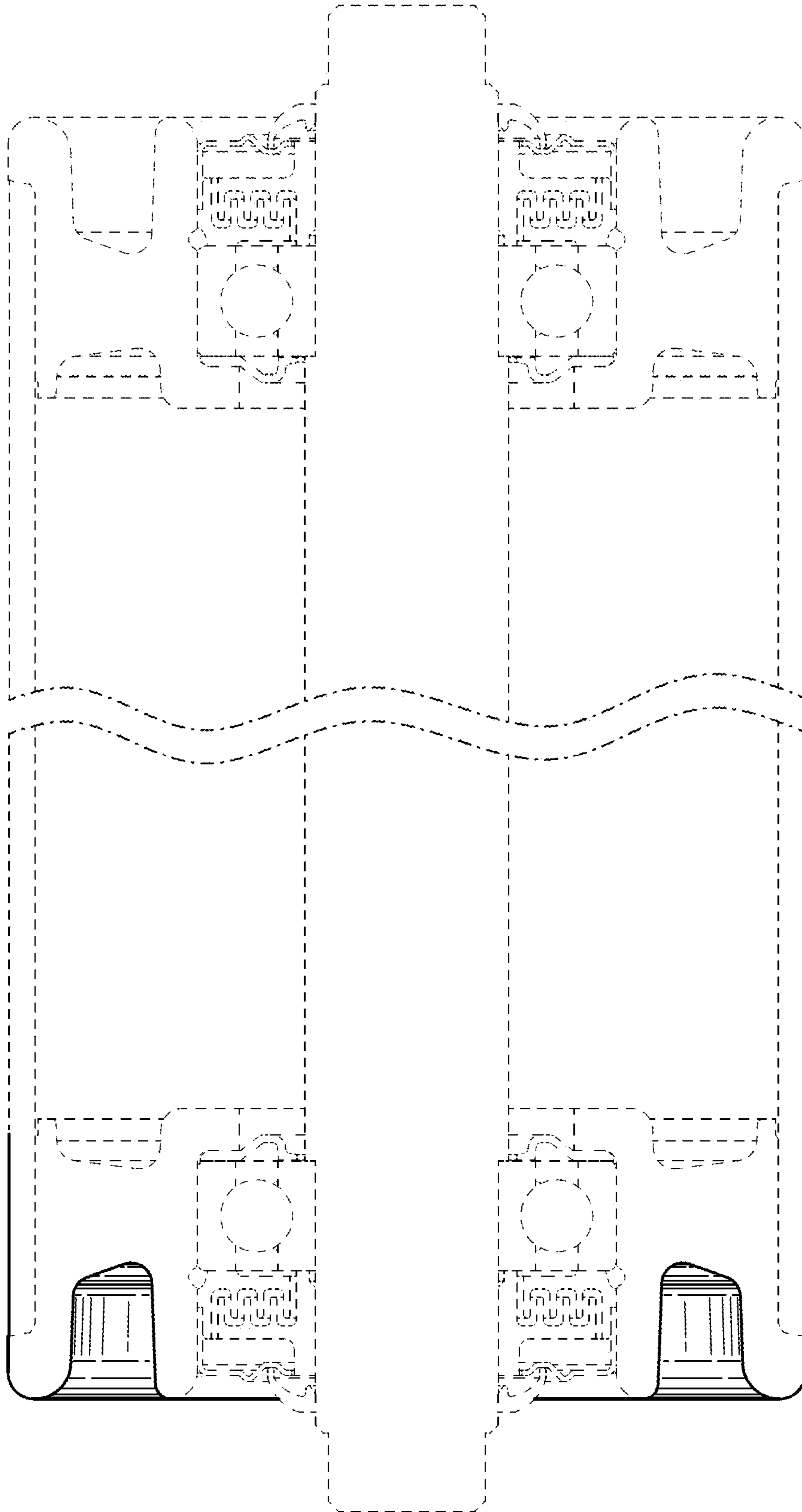


FIG. 14

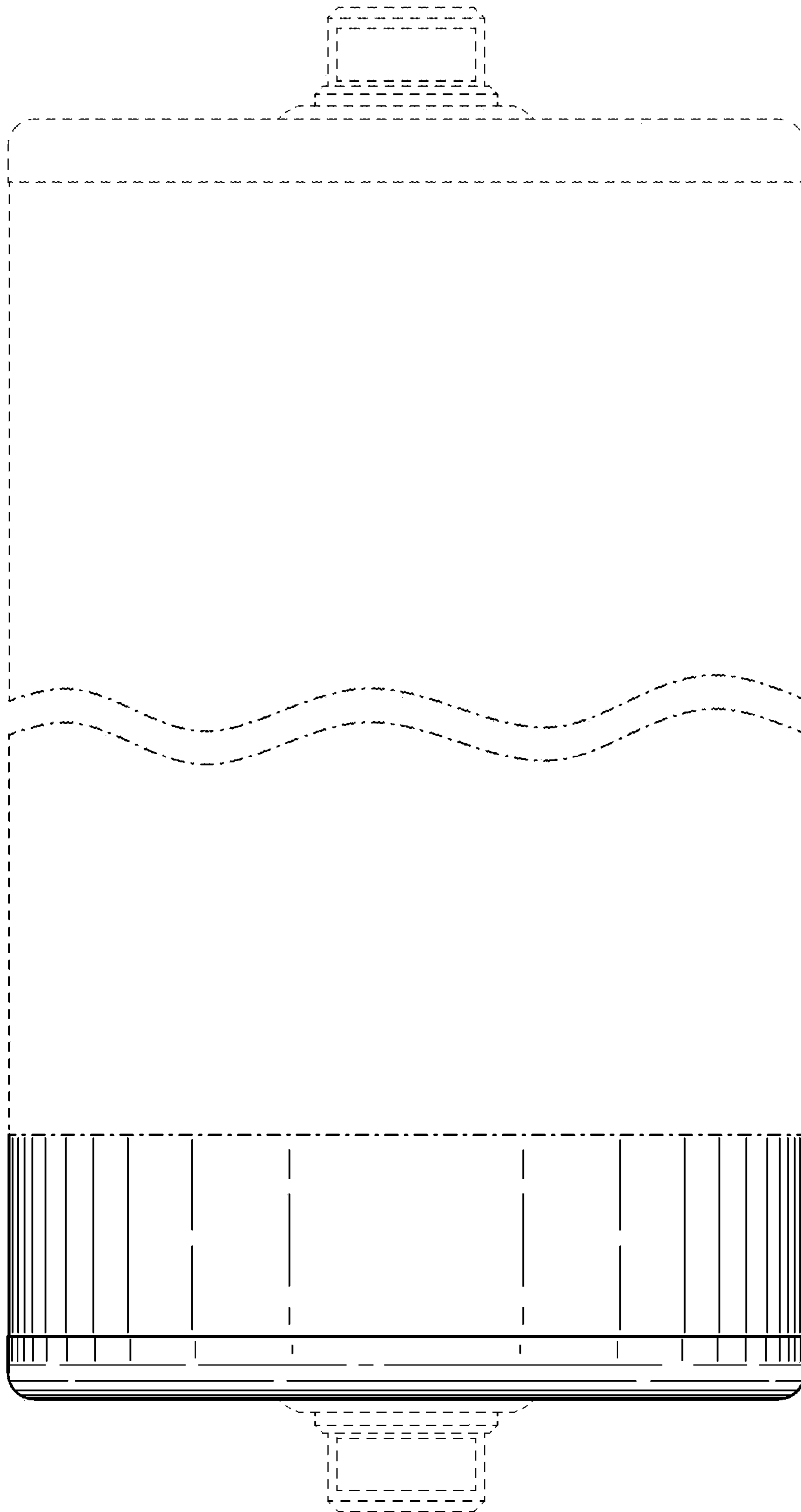


FIG. 15

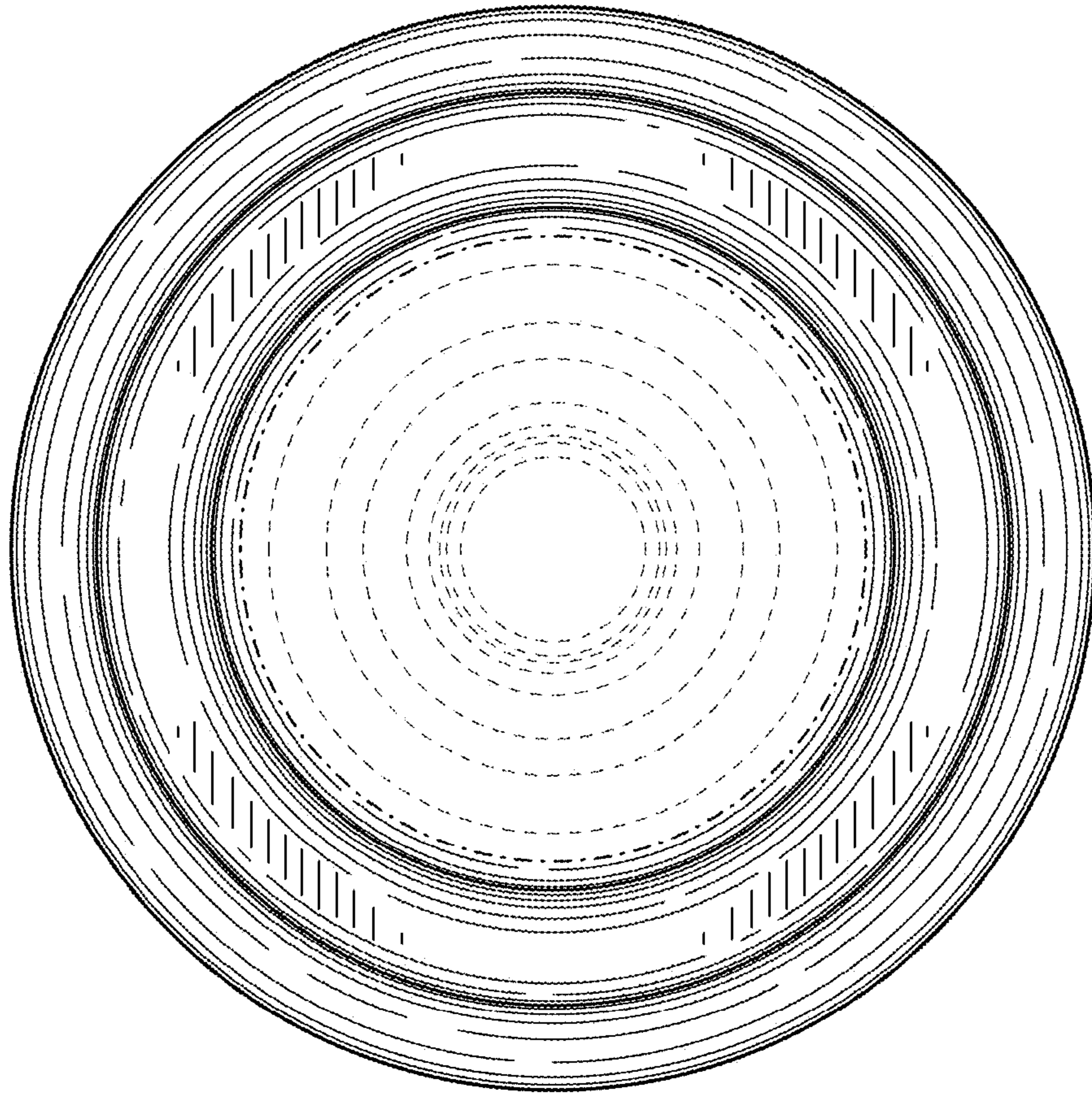


FIG. 16

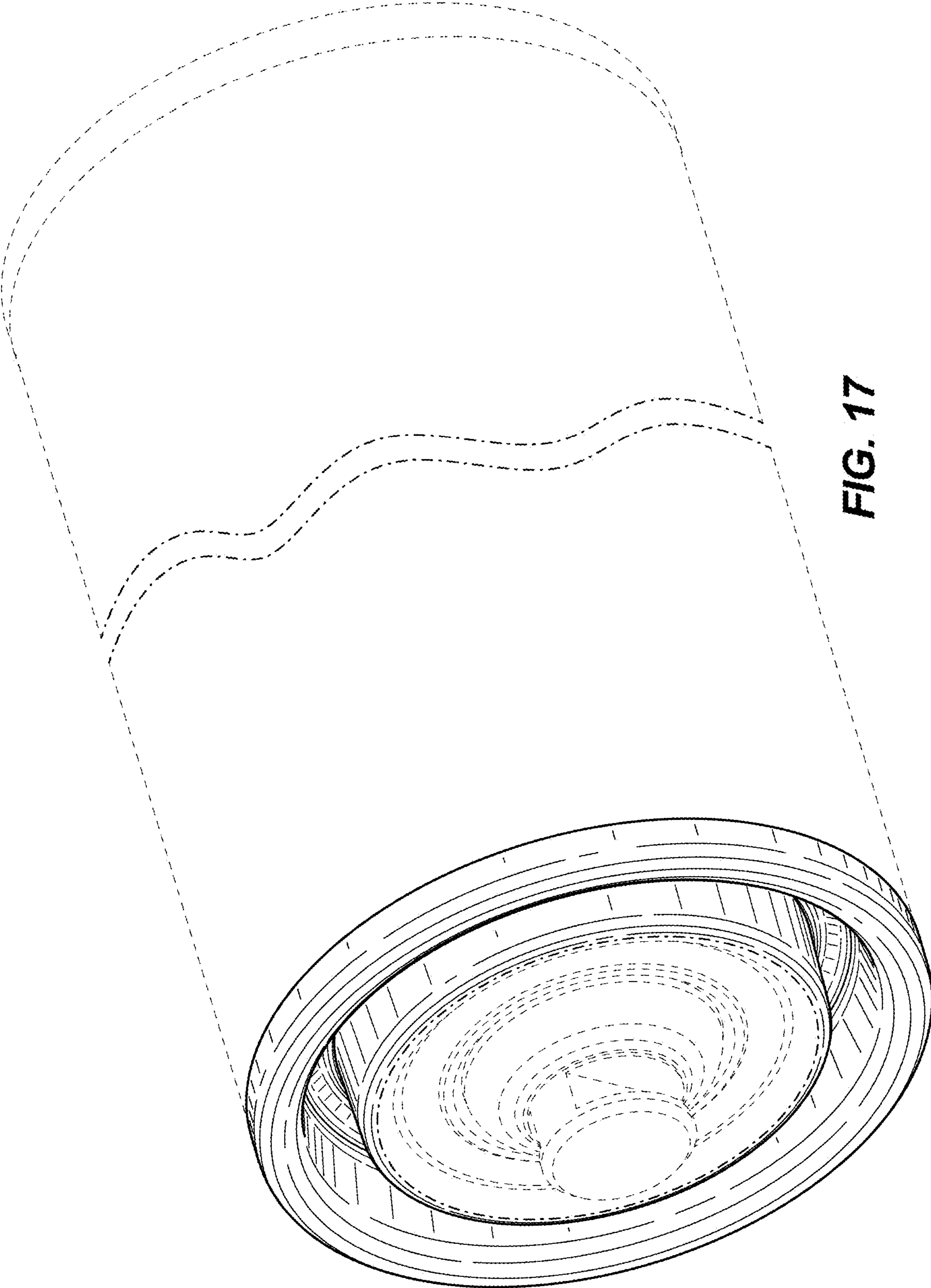


FIG. 17

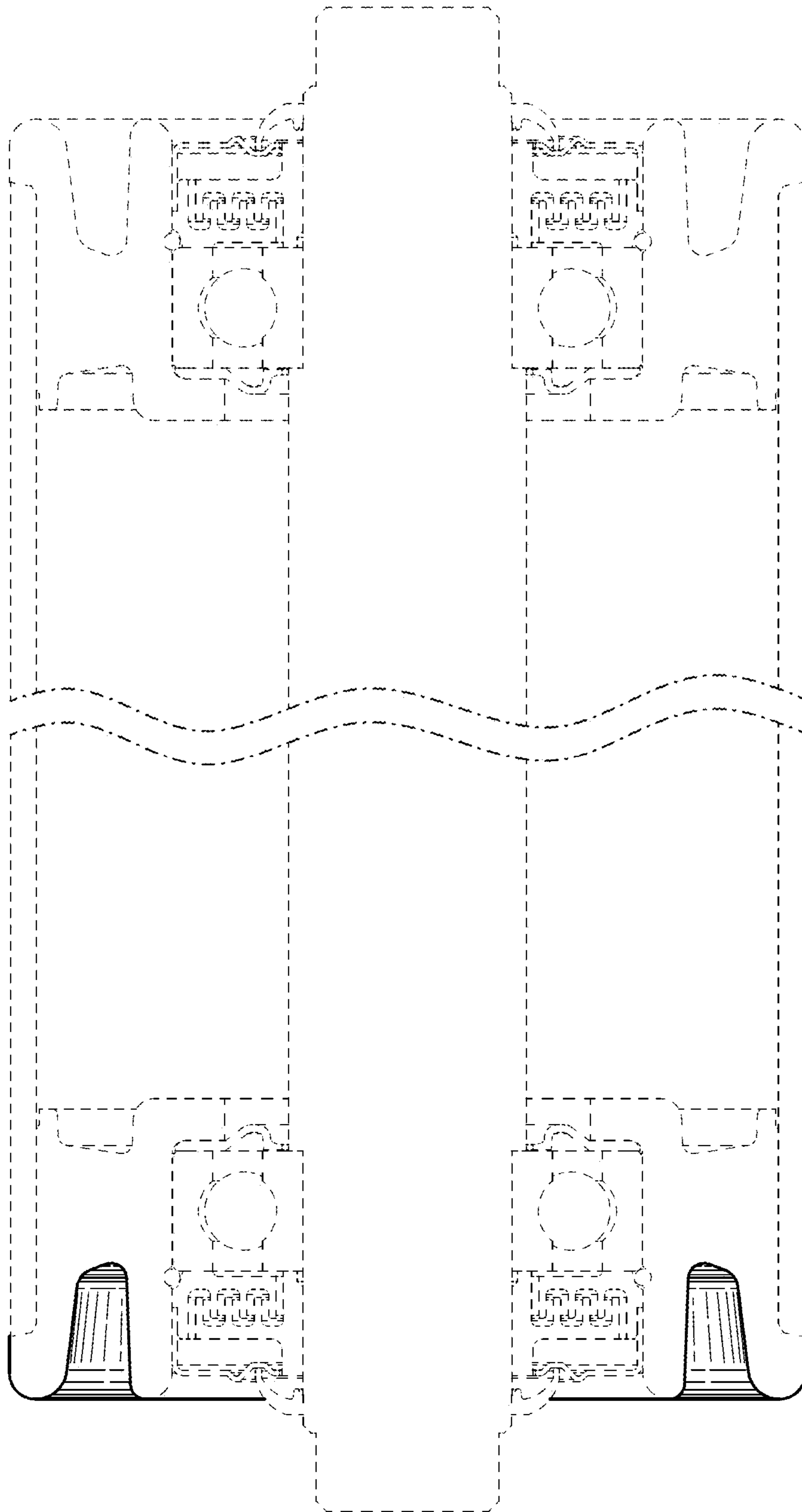


FIG. 18

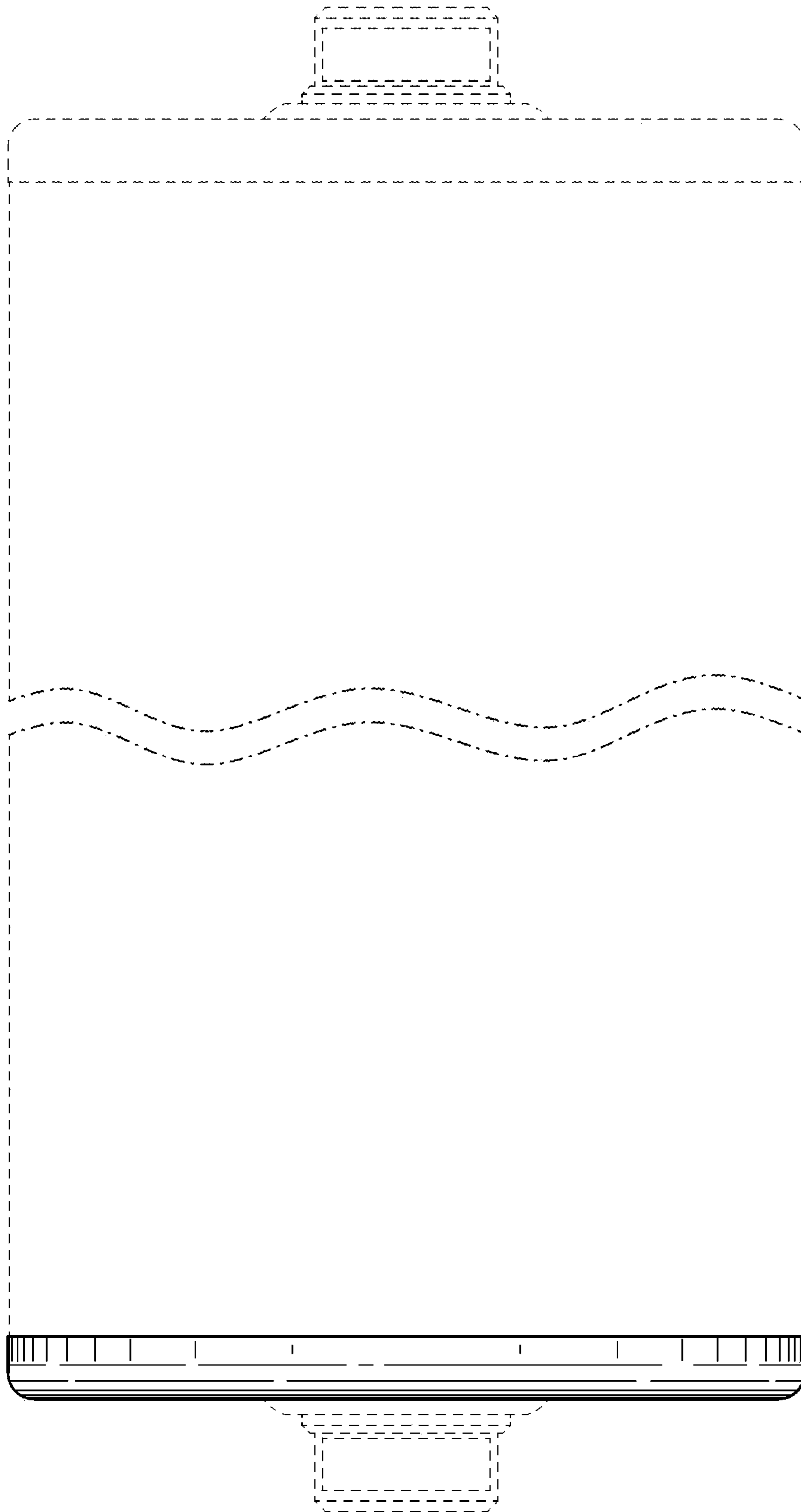


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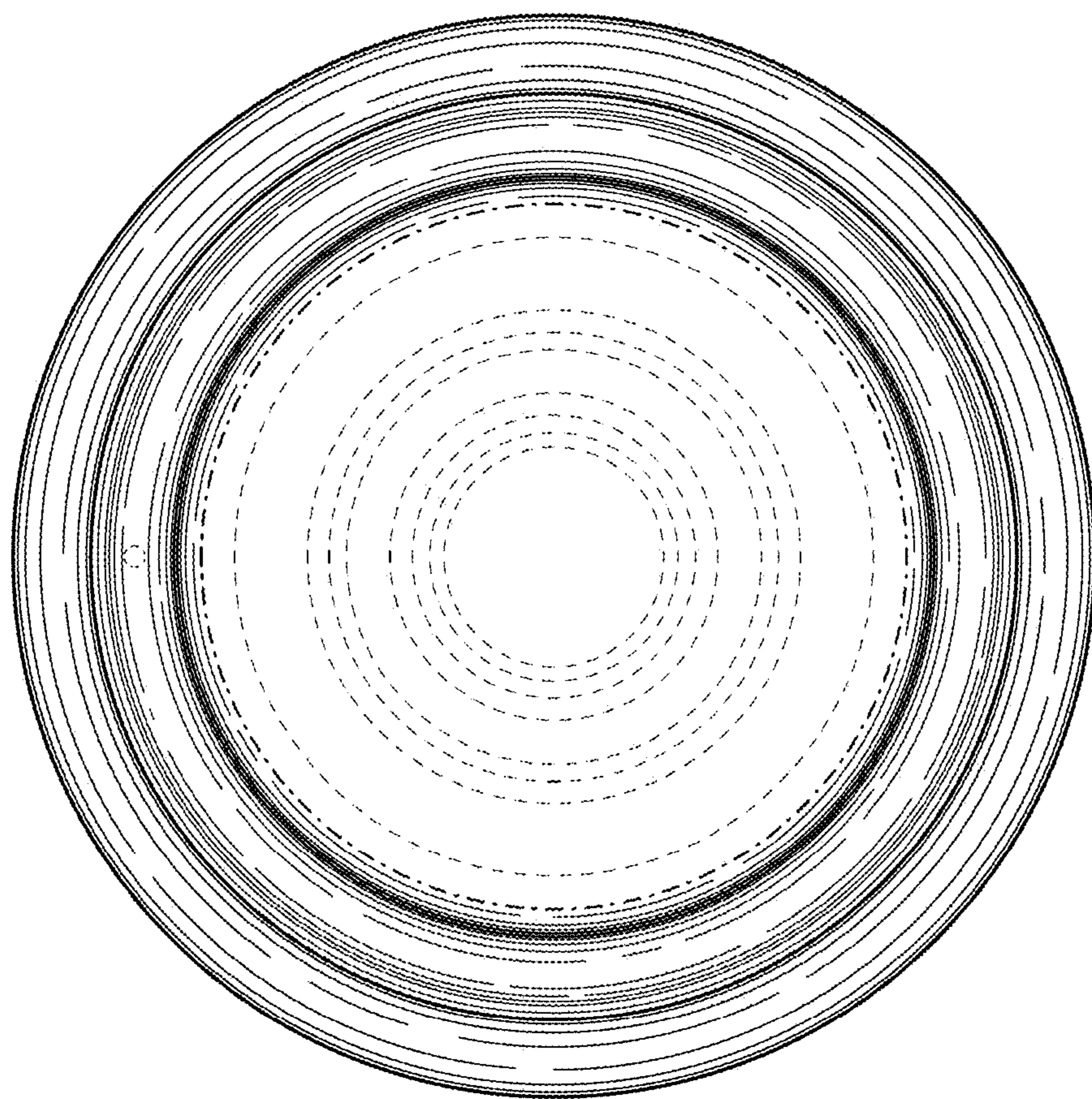


FIG. 20

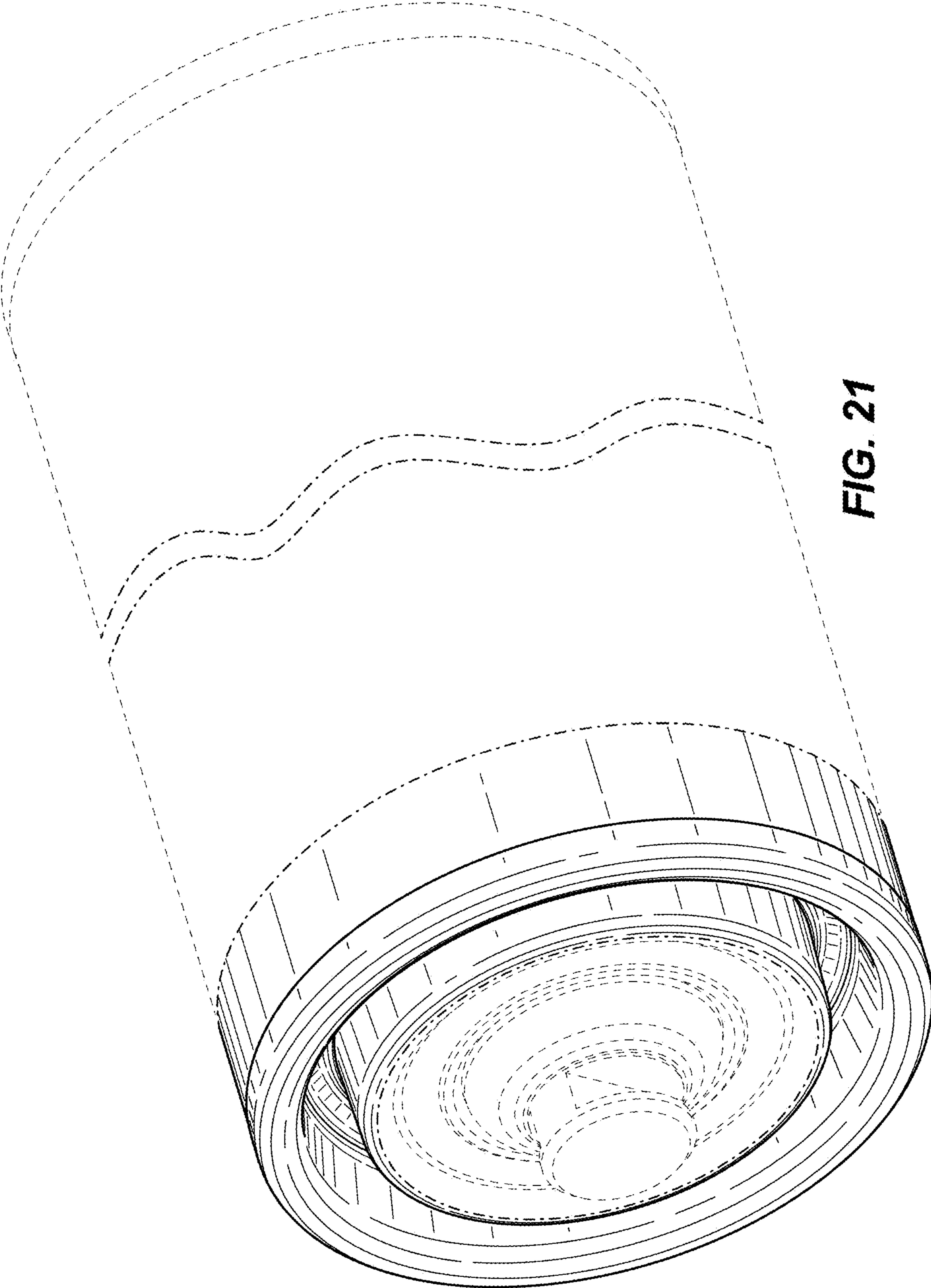


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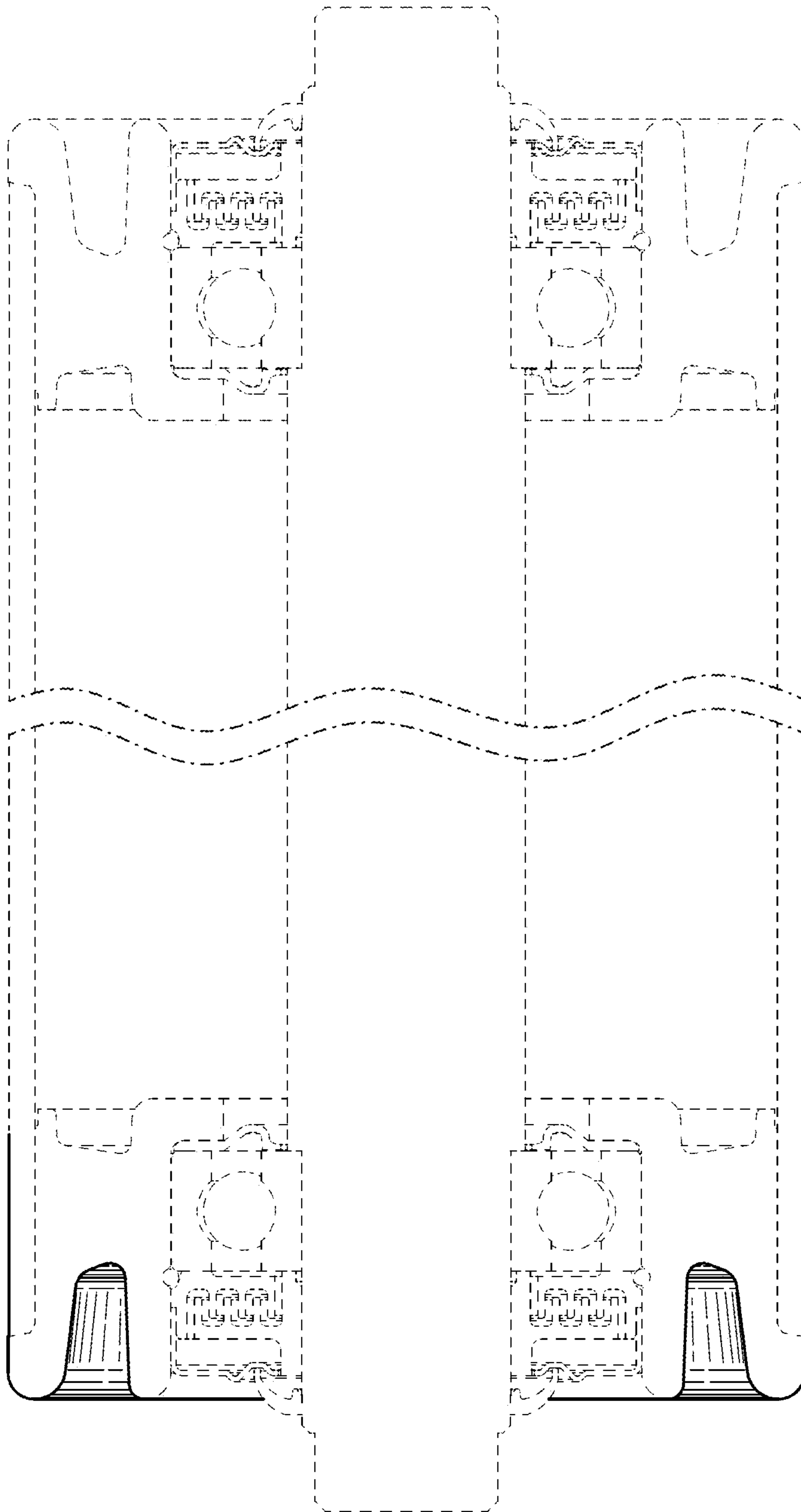


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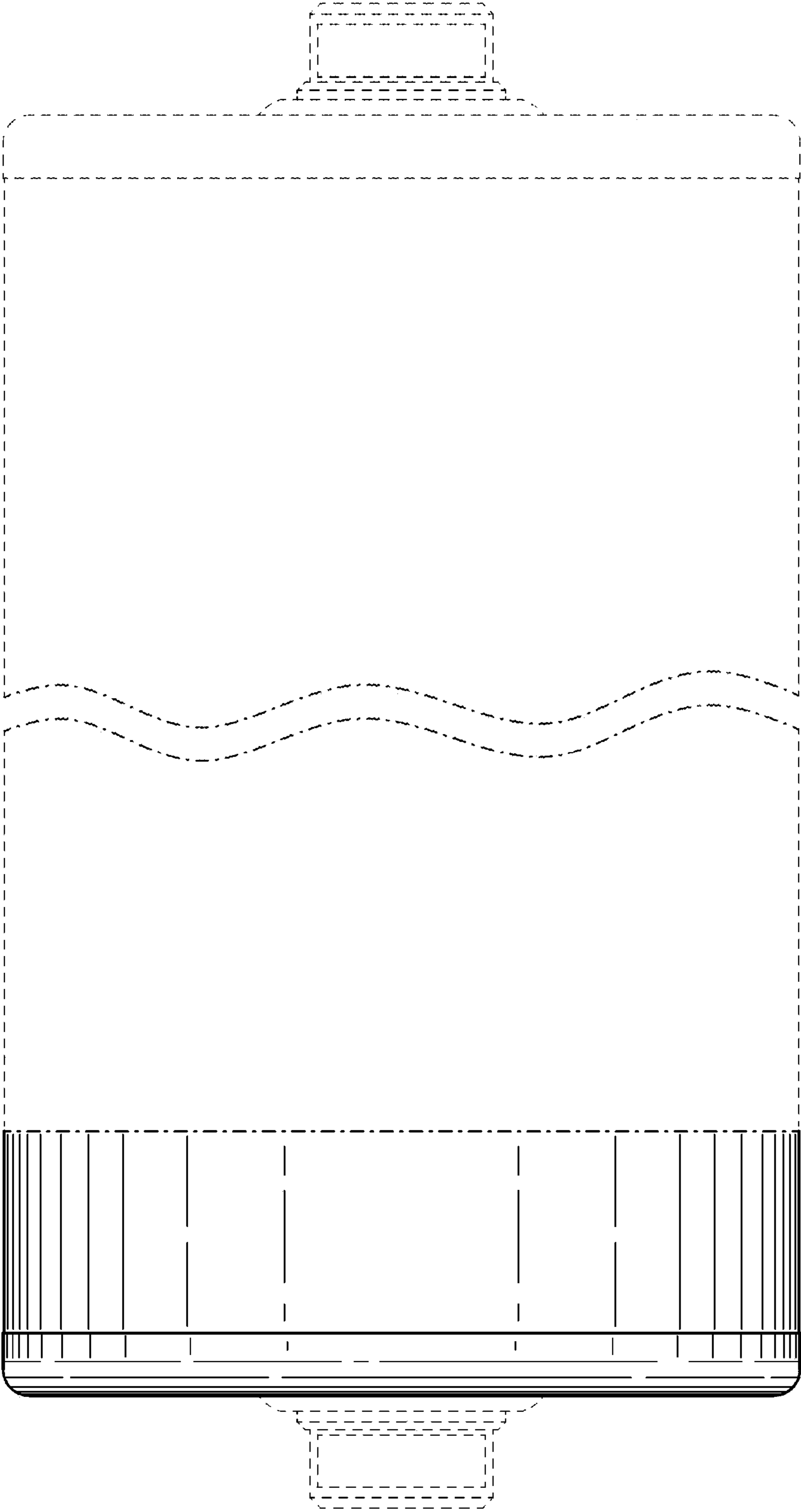


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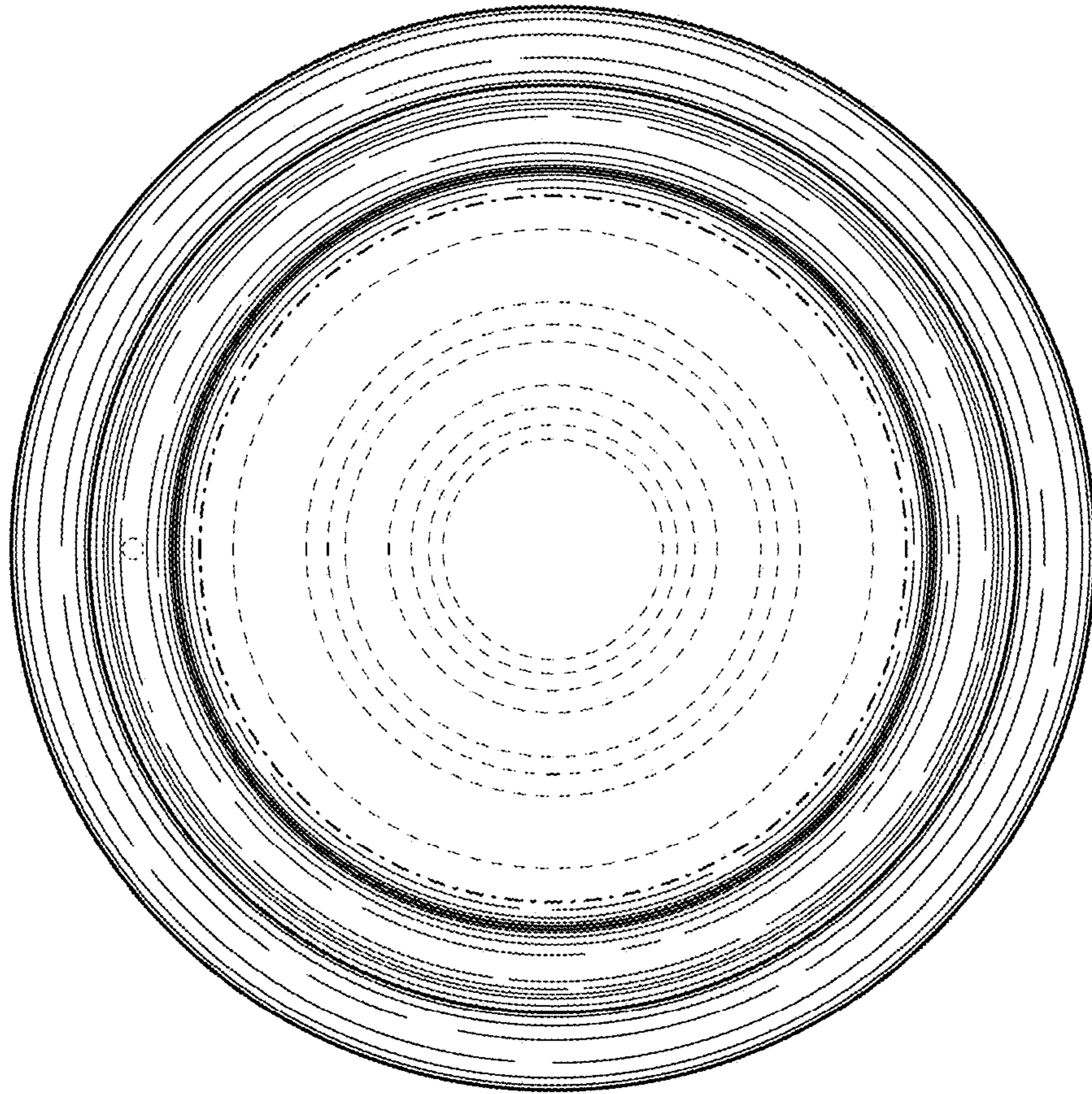


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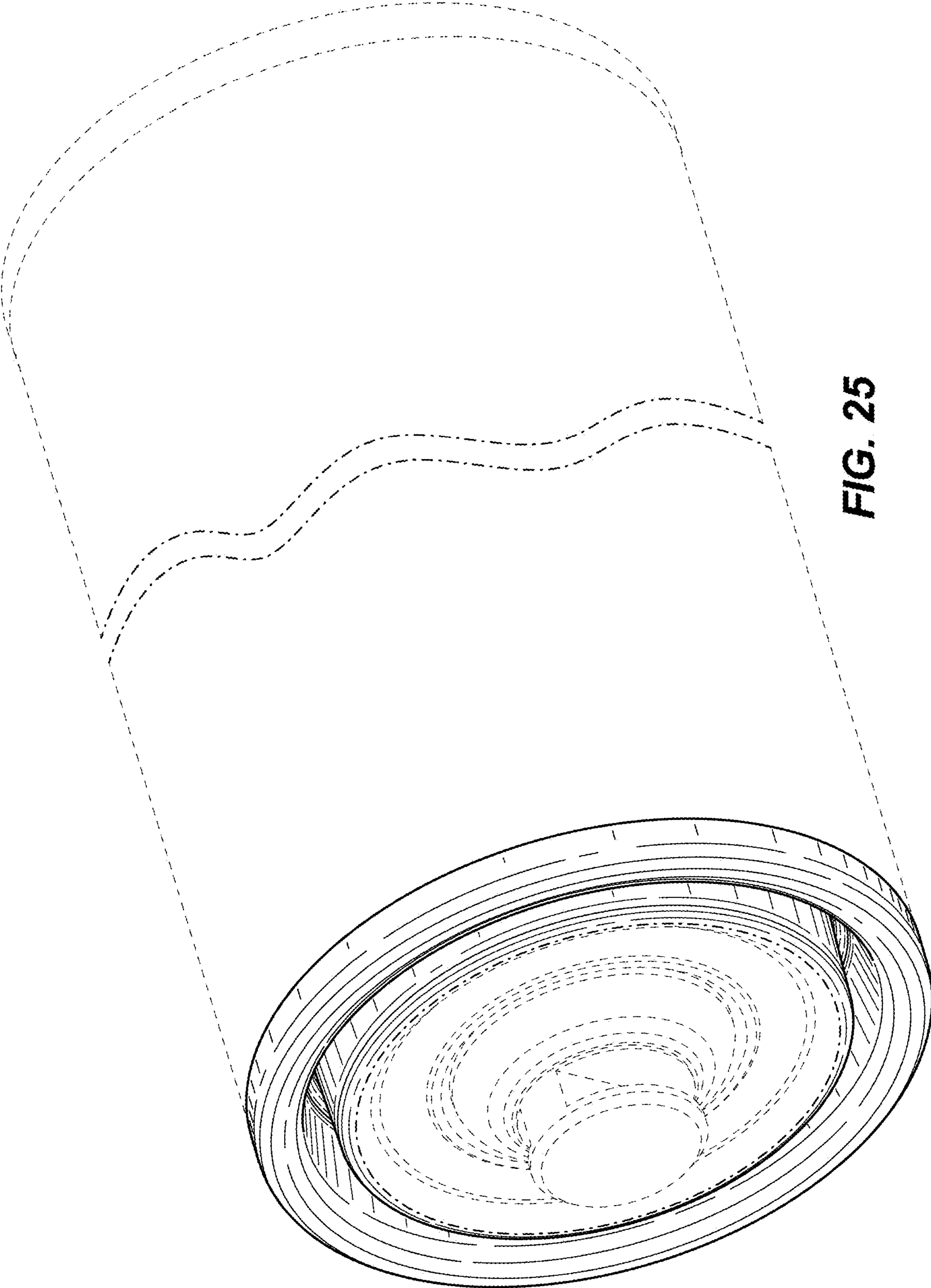


FIG. 25

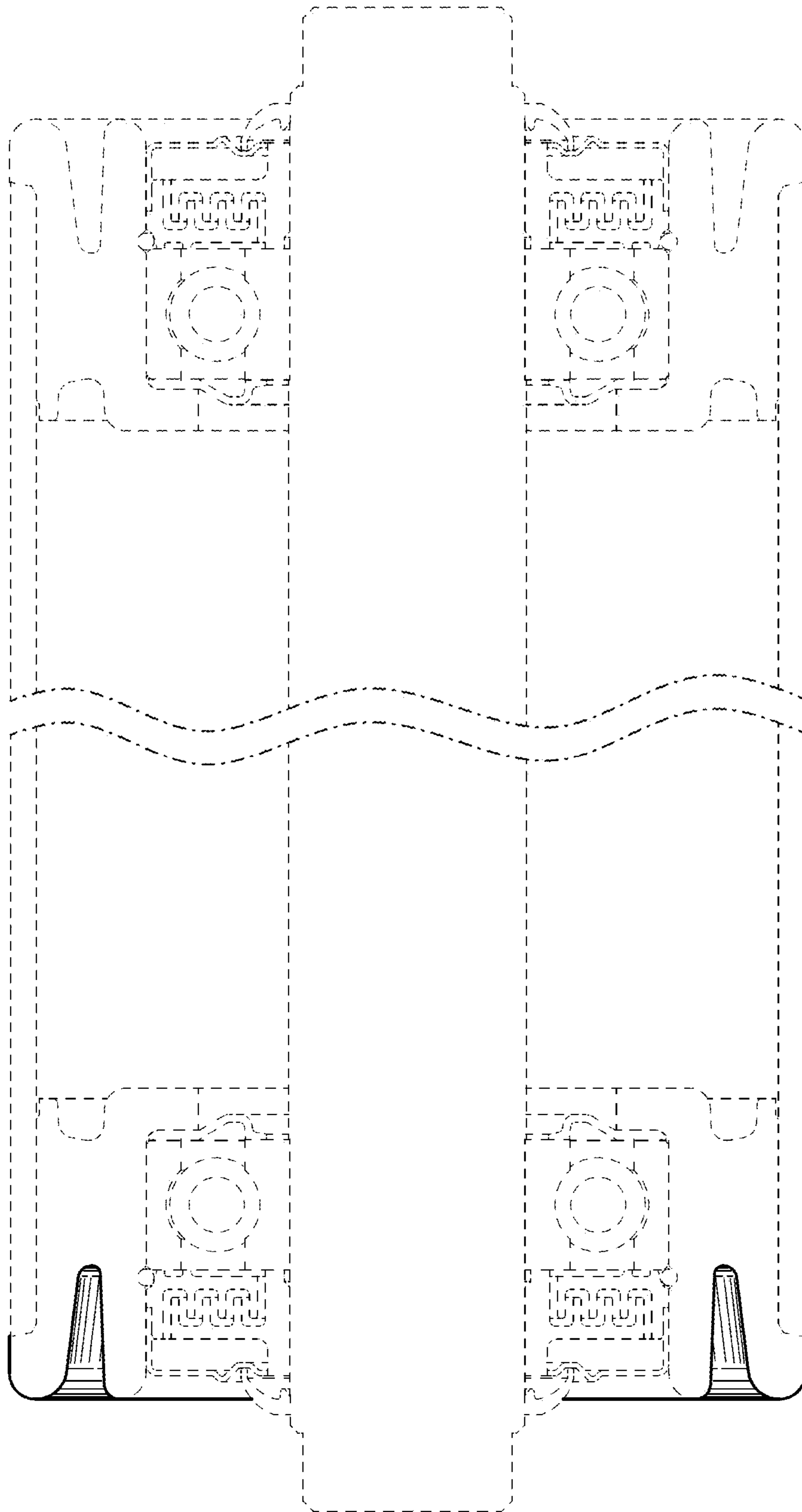


FIG. 26

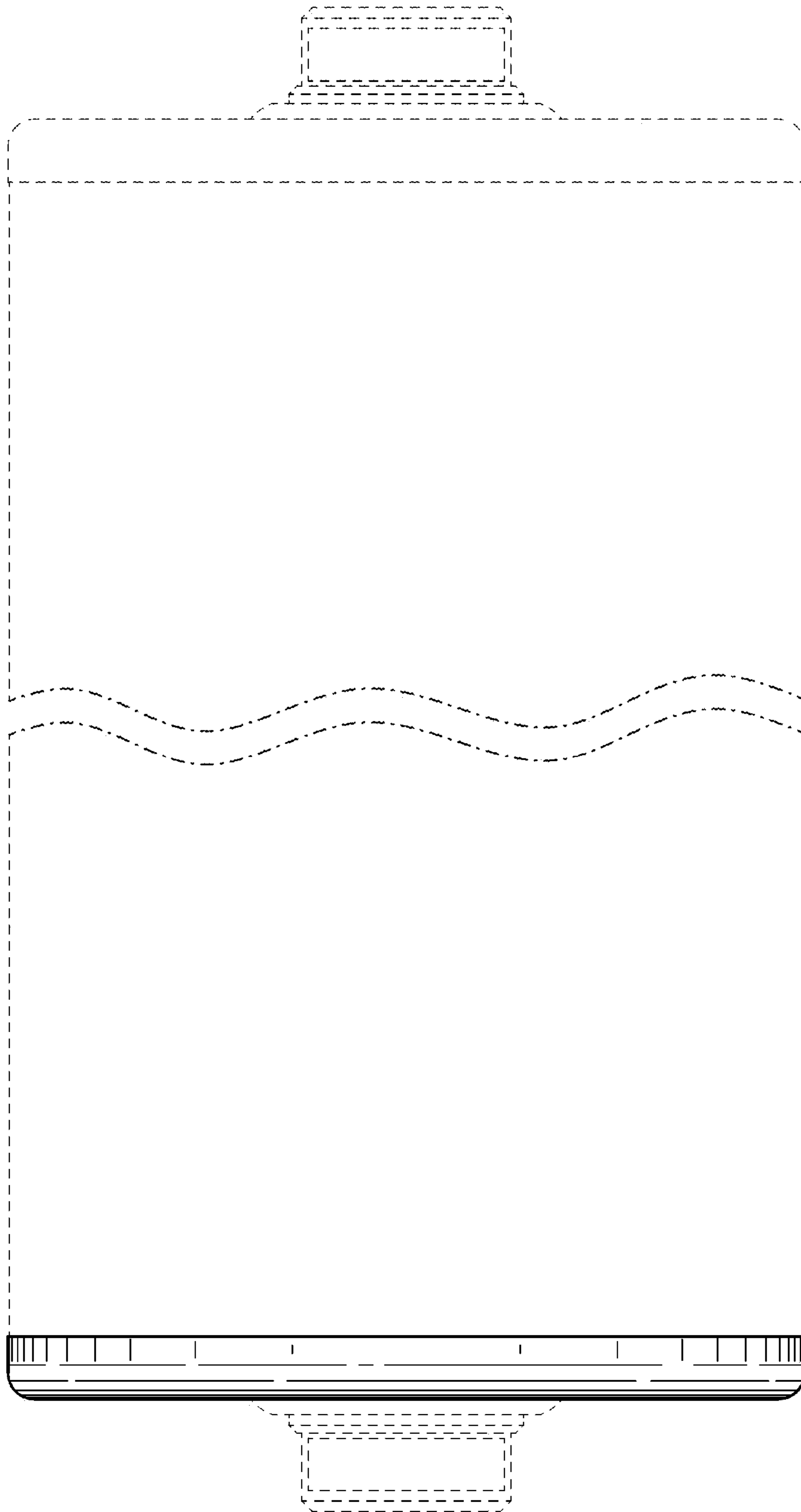


FIG. 27

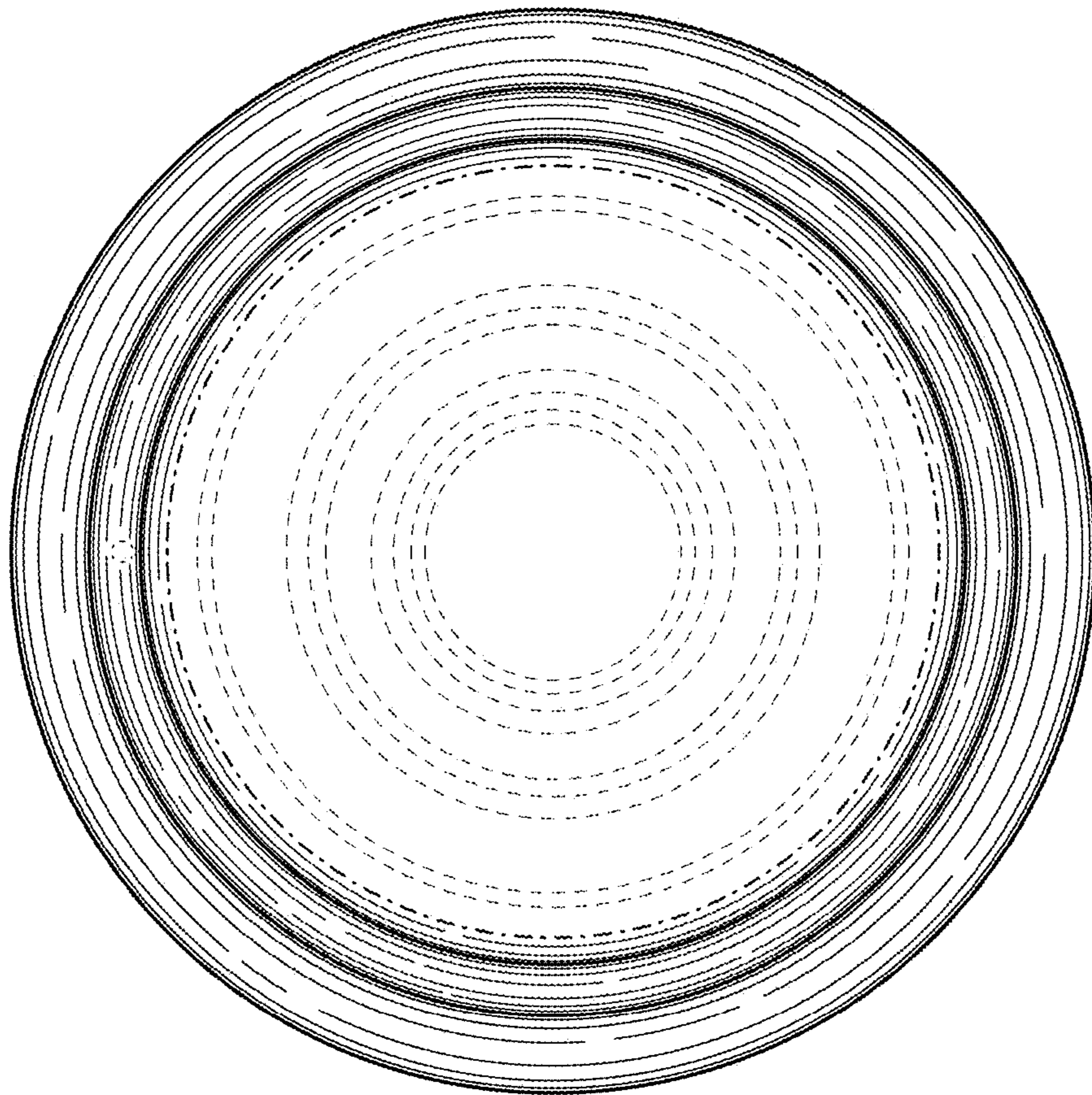


FIG. 28

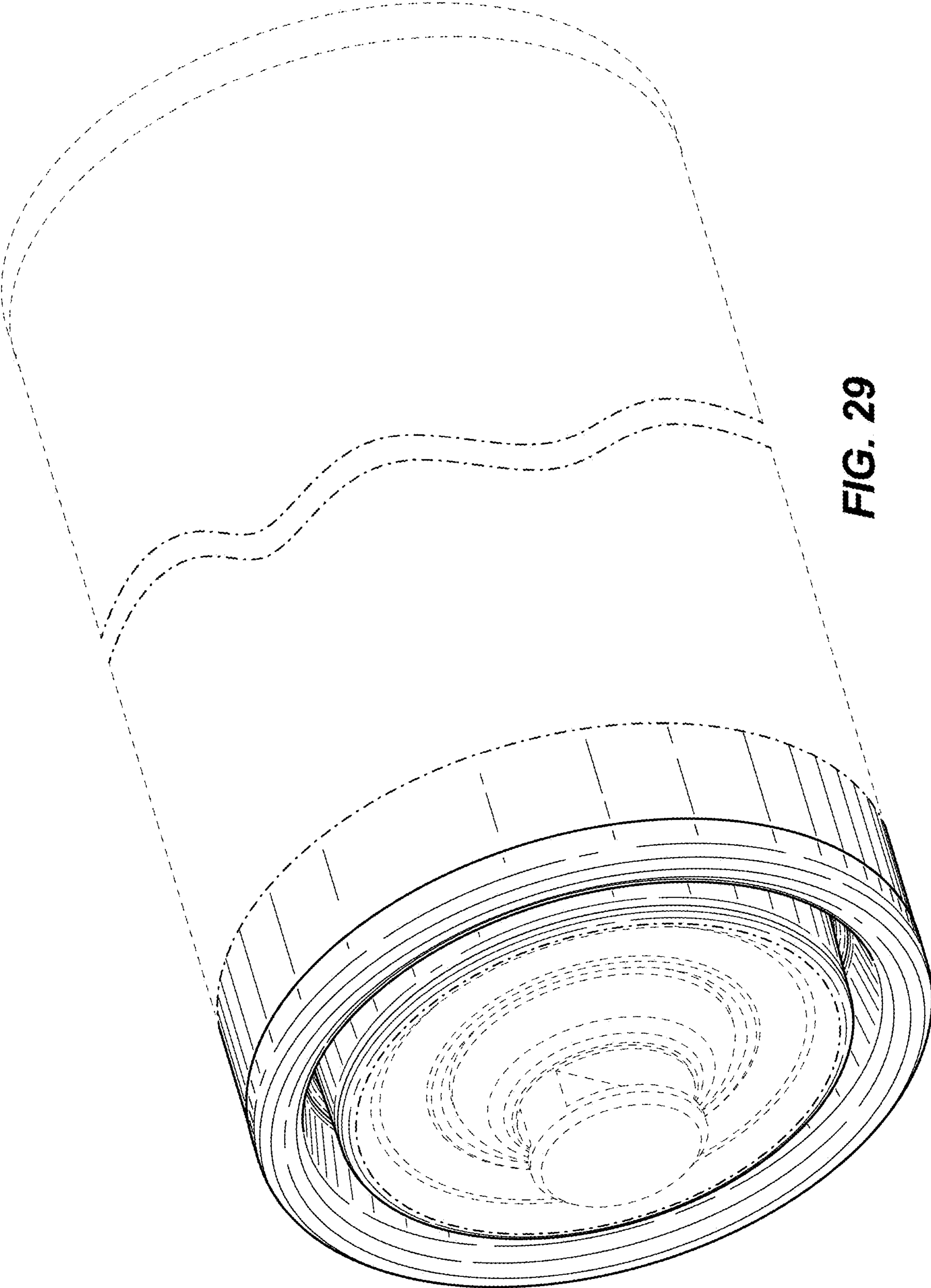


FIG. 29

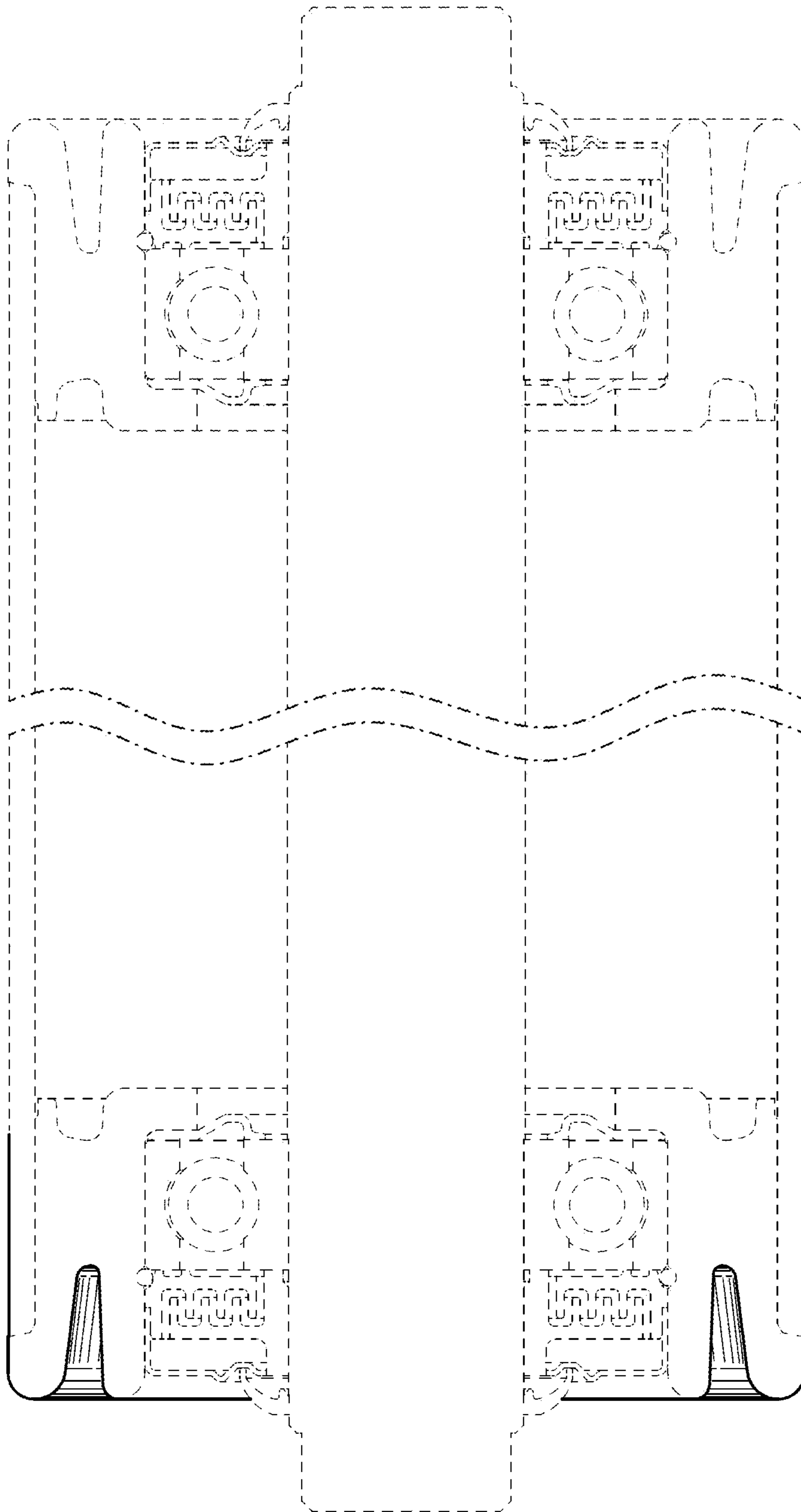


FIG. 30

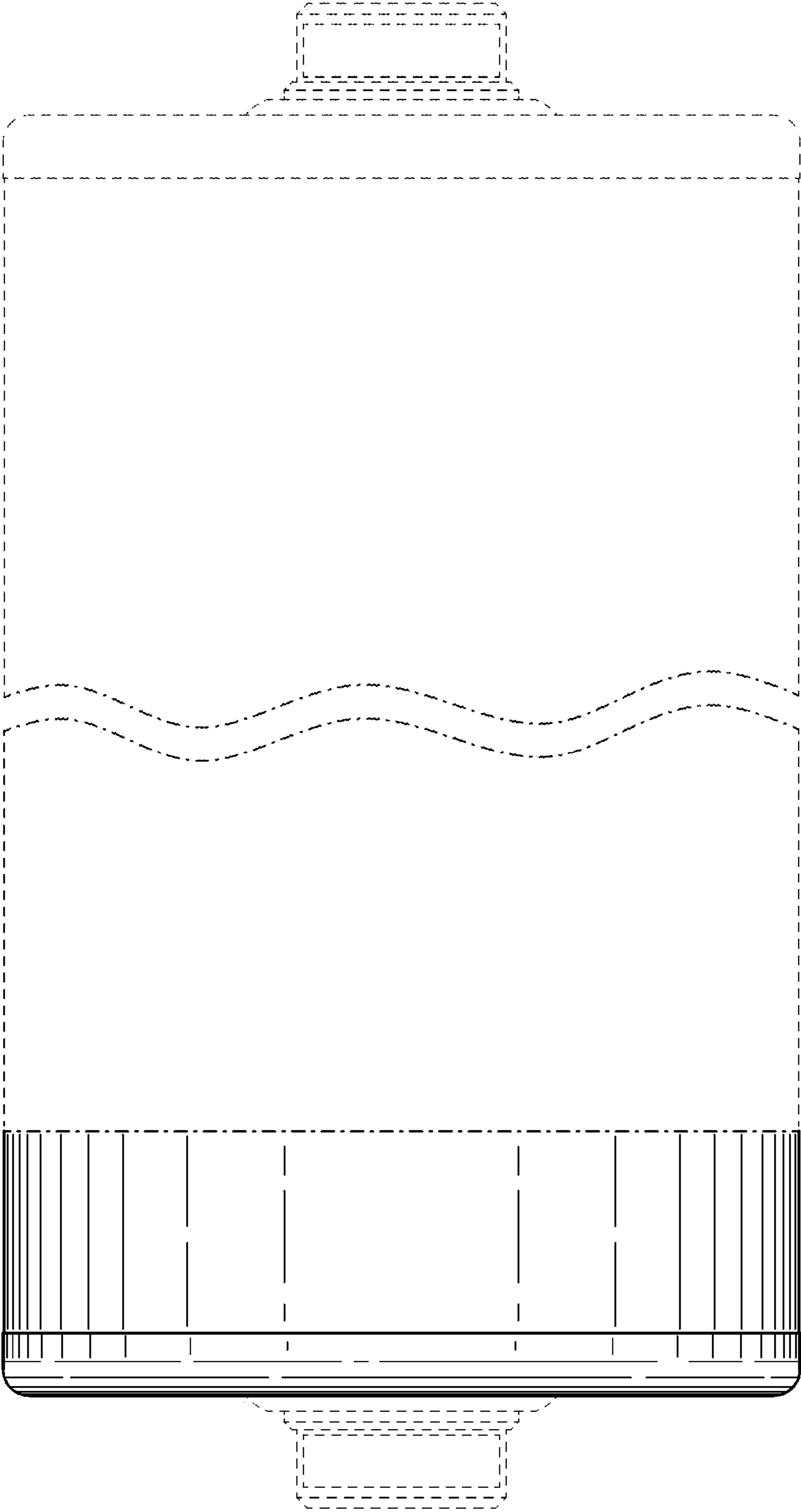


FIG. 31

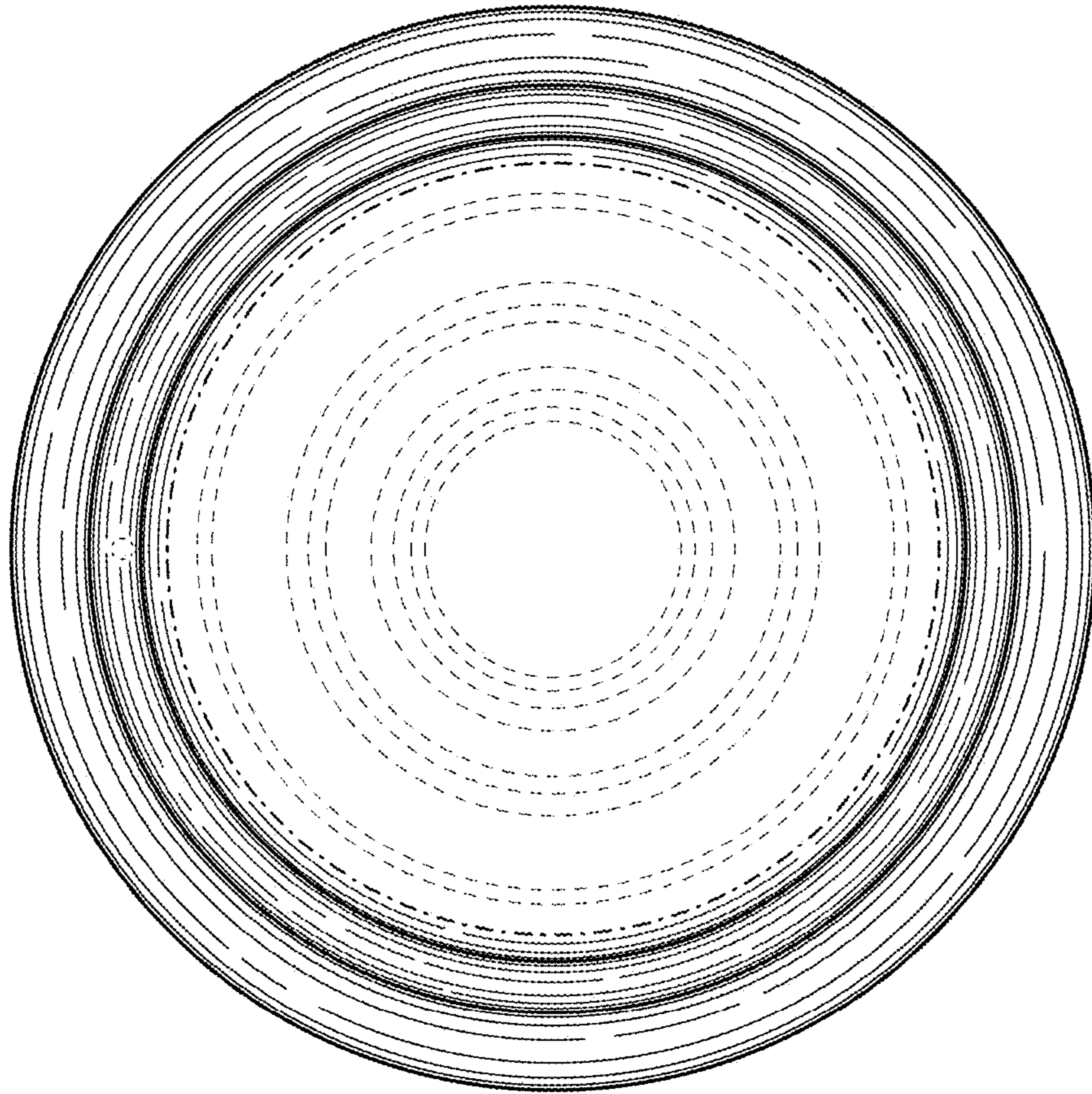


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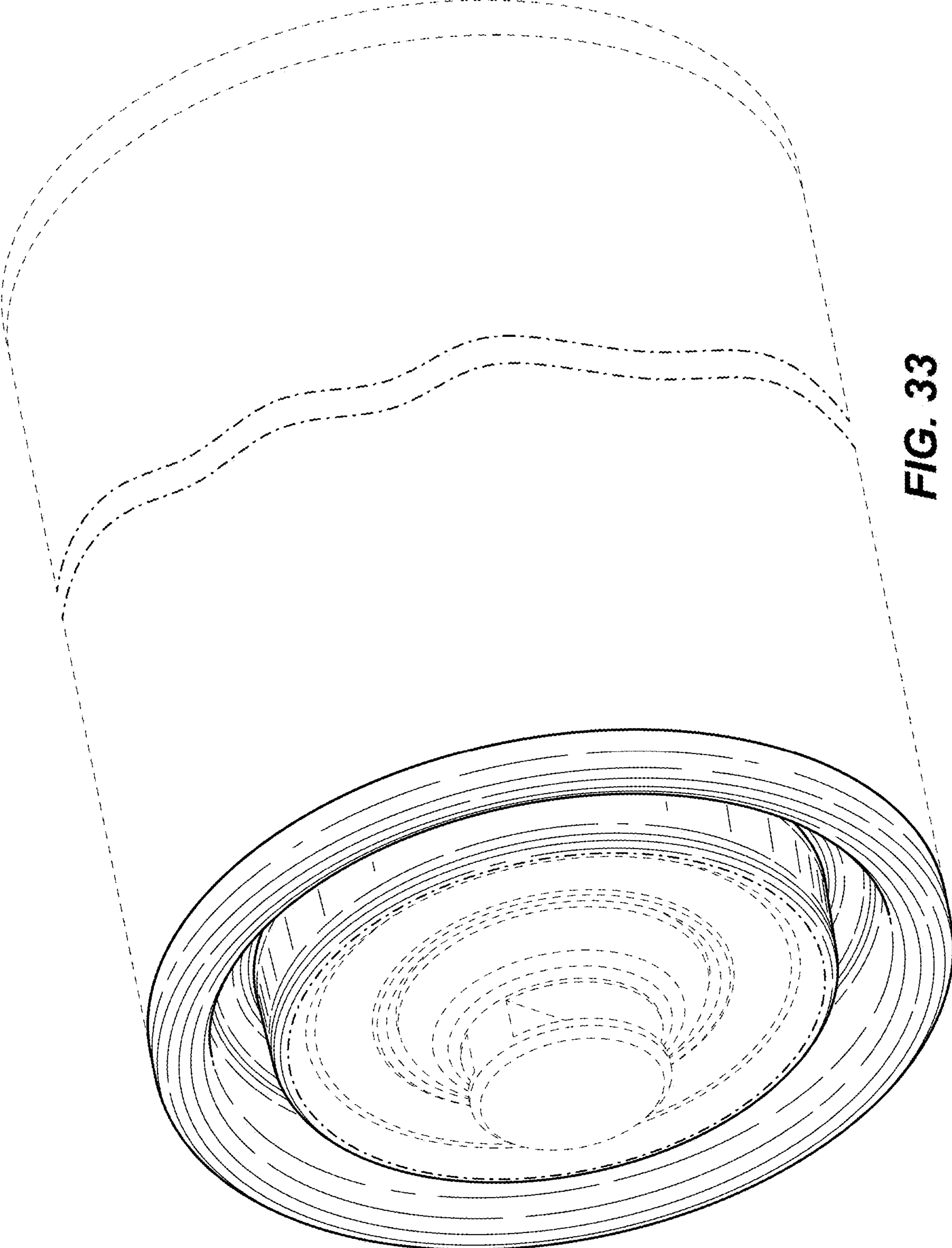


FIG. 33

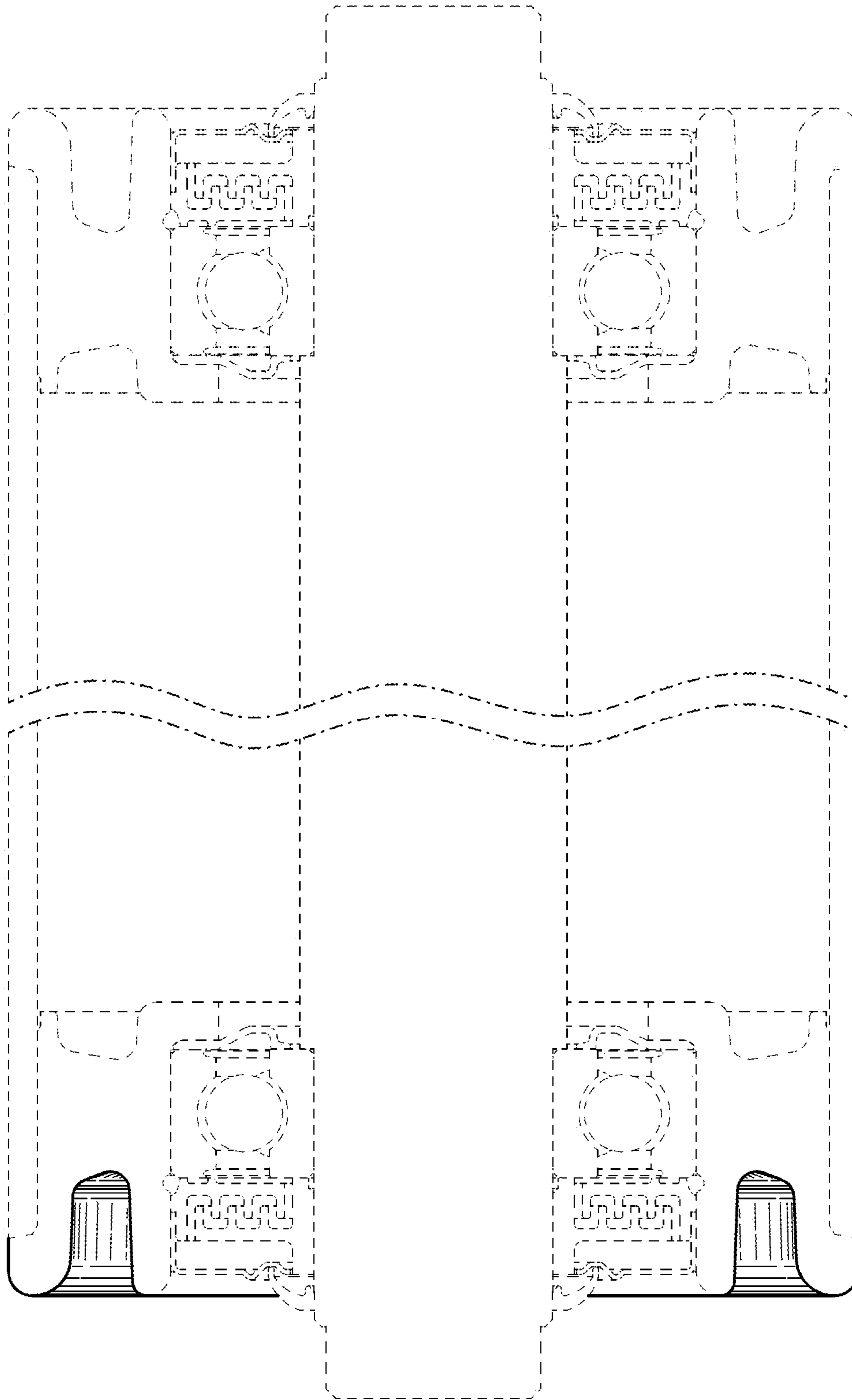


FIG. 34

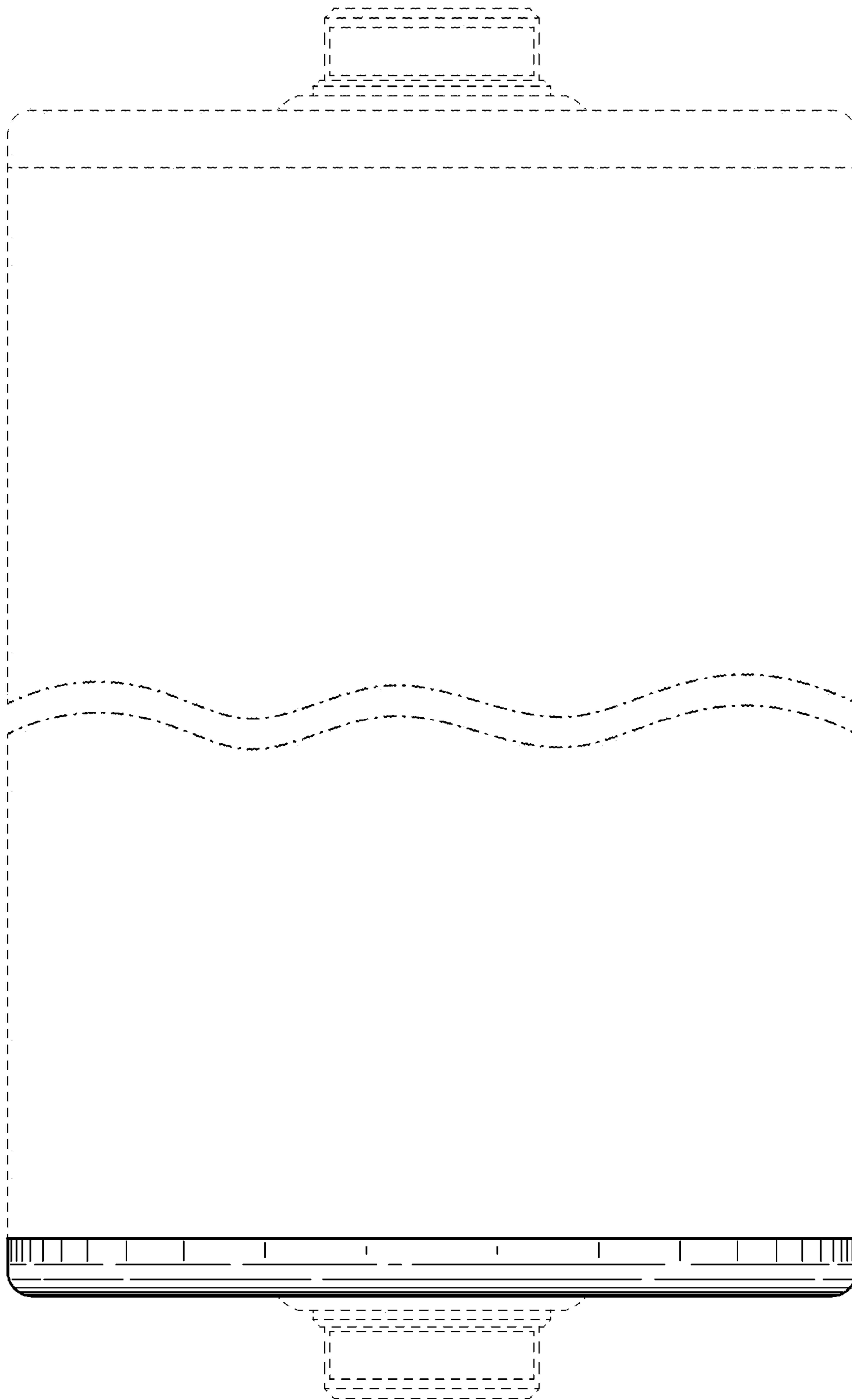


FIG. 35

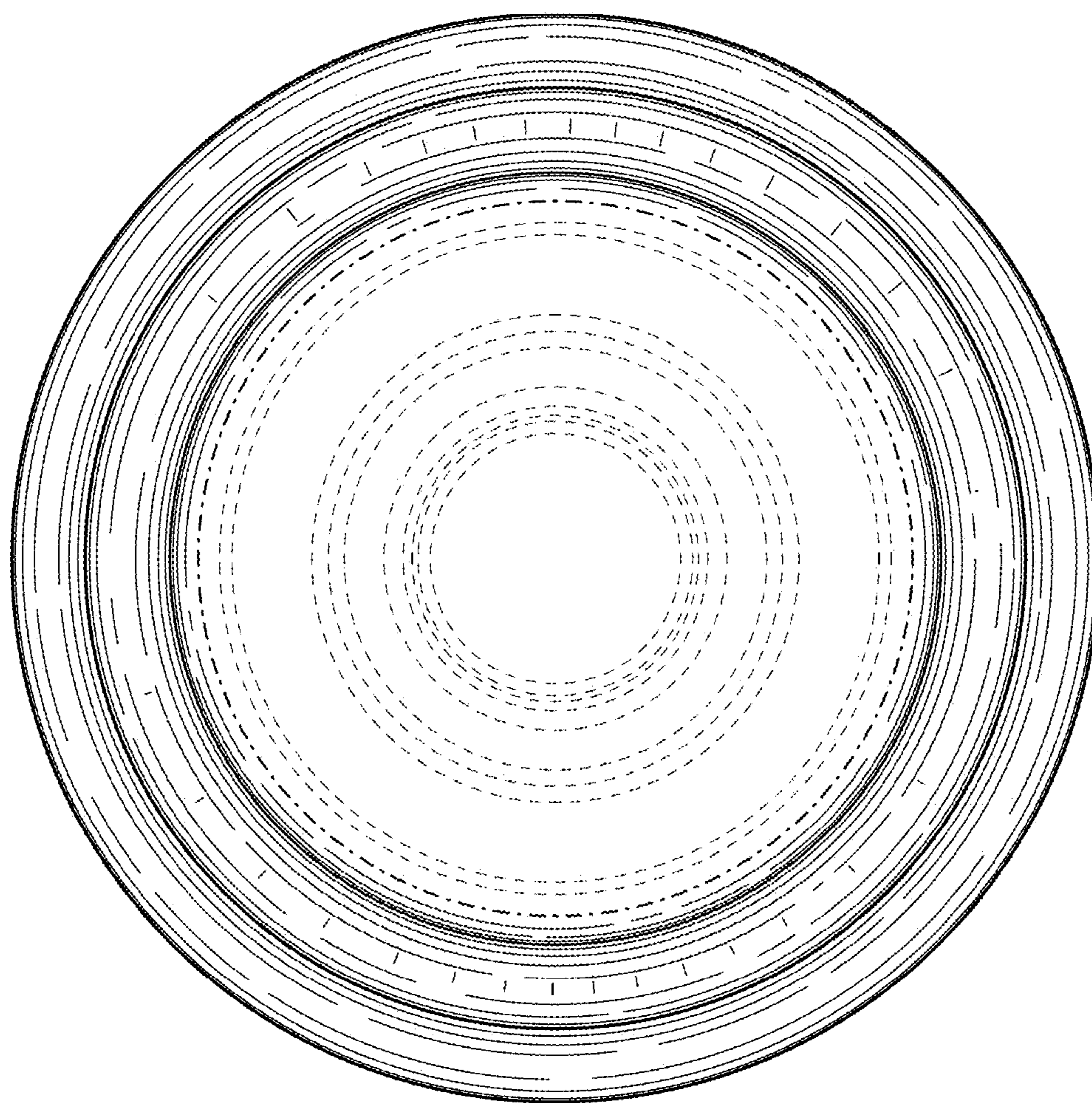


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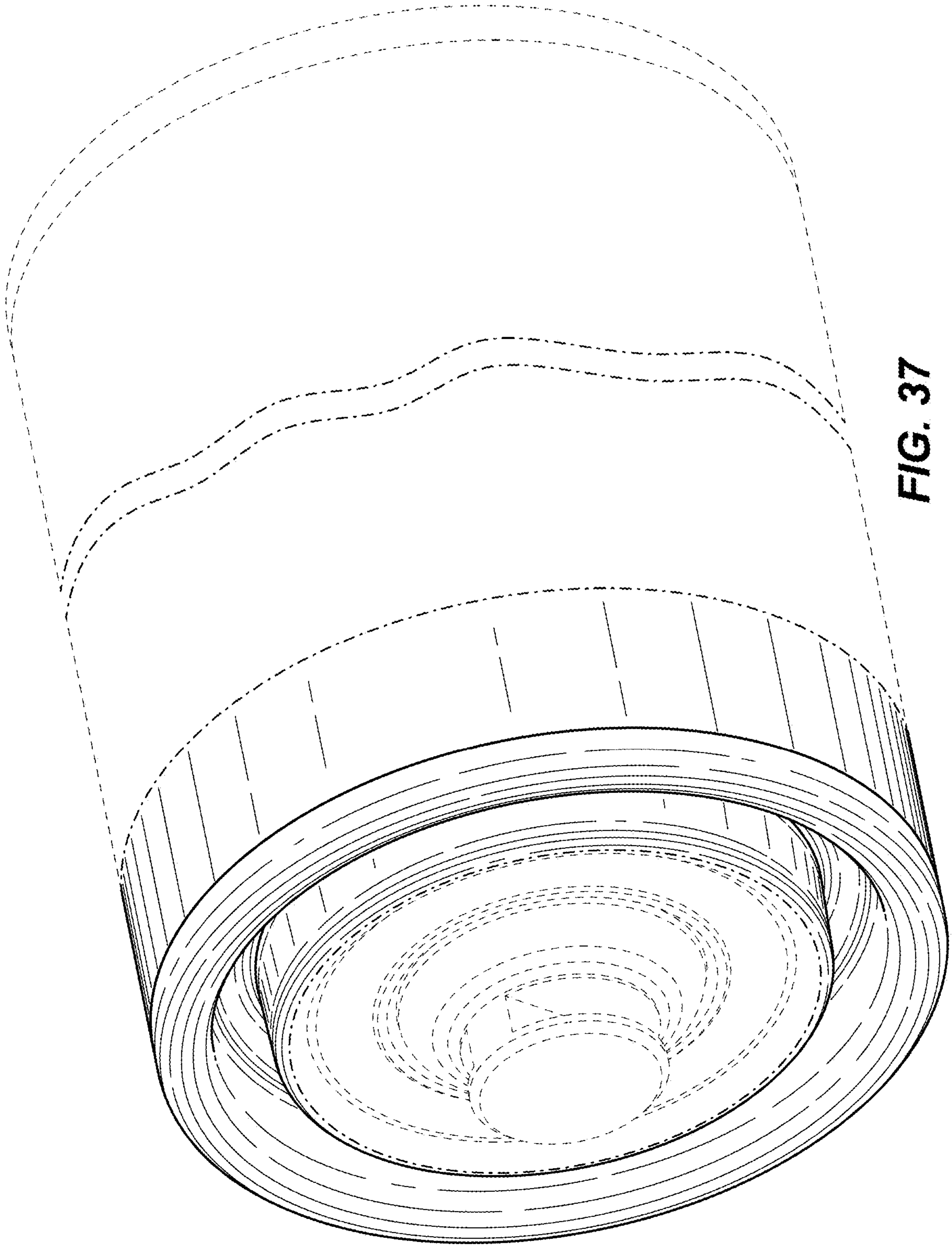


FIG. 37

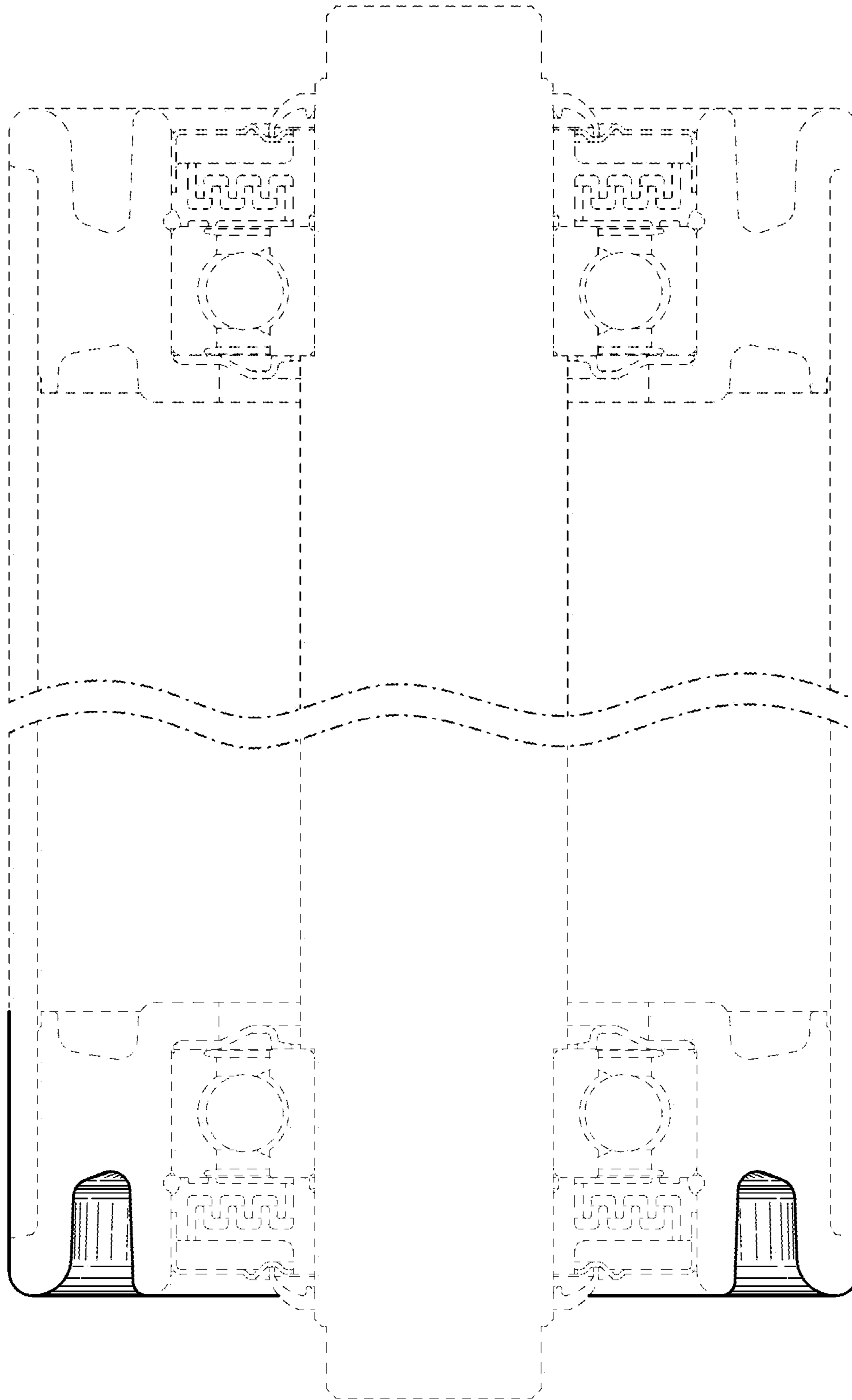


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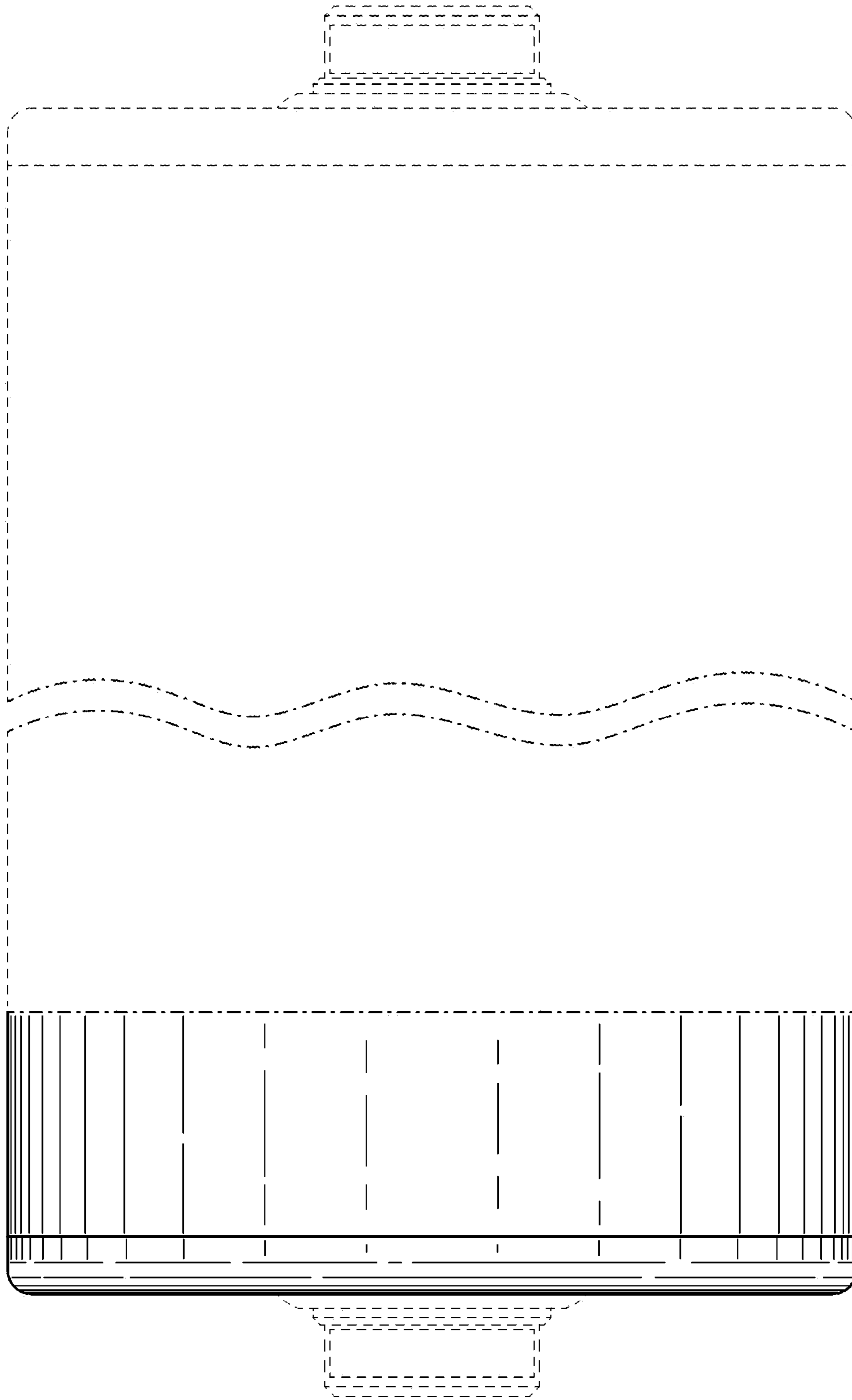


FIG. 39

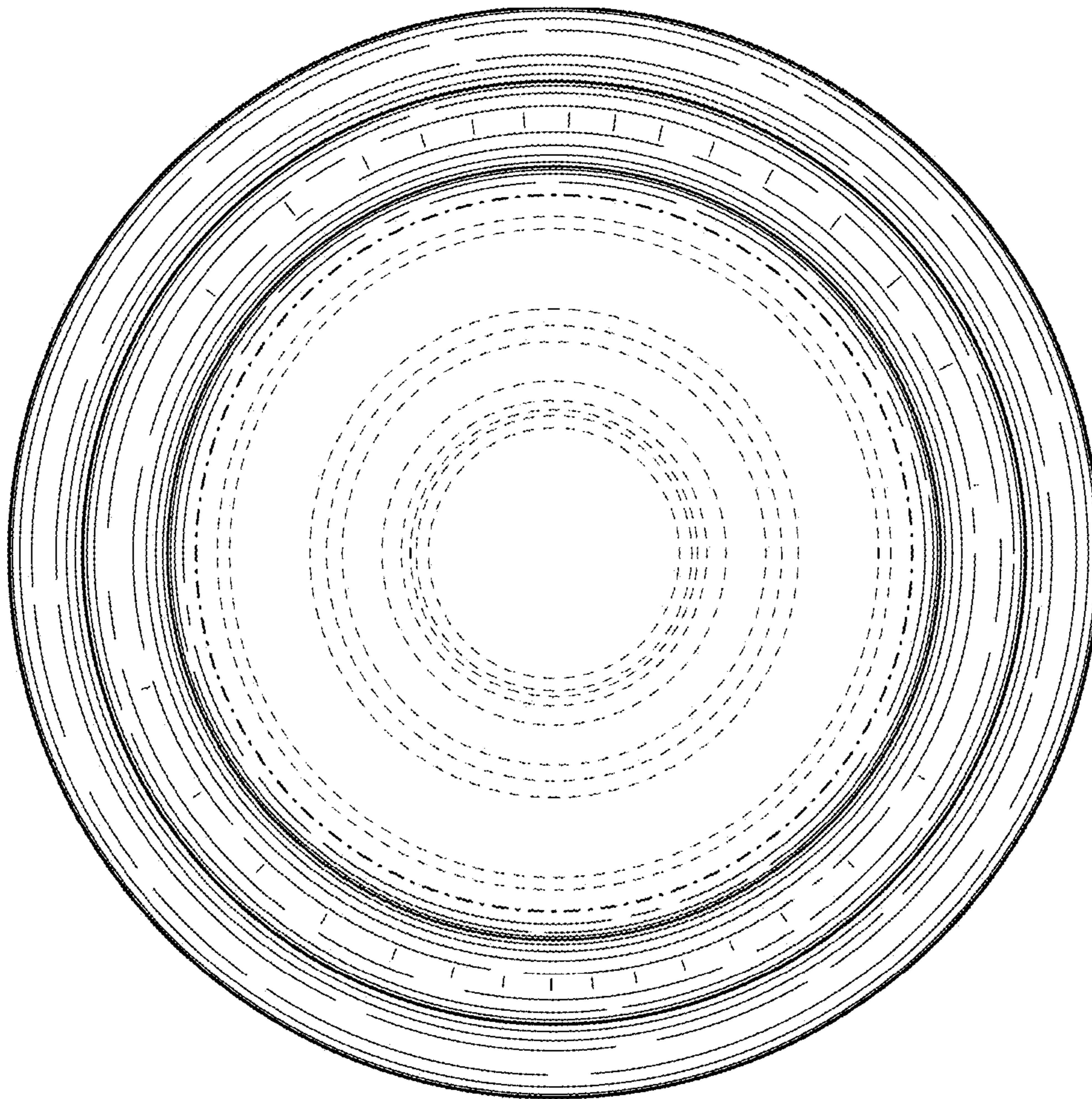


FIG. 40