



US00D883344S

(12) **United States Design Patent** (10) **Patent No.:** **US D883,344 S**
Bleeker (45) **Date of Patent:** **** May 5, 2020**

(54) **TILT HOUSING OF A DOWNHOLE
ADJUSTABLE DRILLING INCLINATION
TOOL**

FOREIGN PATENT DOCUMENTS

AU 2013399114 A 2/2016
CA 1157005 A1 11/1983

(Continued)

(71) Applicant: **Smart Downhole Tools B.V.**, Alkmaar
(NL)

OTHER PUBLICATIONS

(72) Inventor: **Johannes Thomas Bleeker**, Hilversum
(NL)

International Search Report of the International Searching Authority
(EPO) for international application PCT/EP2016/069046 dated Mar.
17, 2017.

(73) Assignee: **SMART DOWNHOLE TOOLS B. V.**,
Alkmaar (NL)

(Continued)

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

Primary Examiner — Mark A Goodwin

(21) Appl. No.: **29/715,359**

(74) *Attorney, Agent, or Firm* — Basil M. Angelo; Angelo
IP

(22) Filed: **Dec. 2, 2019**

(57) **CLAIM**

The ornamental design for a tilt housing of a downhole
adjustable drilling inclination tool, as shown.

Related U.S. Application Data

DESCRIPTION

(62) Division of application No. 29/571,601, filed on Jul.
20, 2016, now Pat. No. Des. 871,460.

FIG. 1 shows a rear elevation view of a tilt housing of a
downhole adjustable drilling inclination tool showing my
new design;

(51) **LOC (12) Cl.** **15-03**

FIG. 2 shows a front elevation view thereof;

(52) **U.S. Cl.**
USPC **D15/21**

FIG. 3 shows a left side elevation view thereof;

(58) **Field of Classification Search**

USPC D15/21; 175/73, 74, 61

CPC E21B 7/067; E21B 7/068; E21B 7/062;

E21B 7/04-10; E21B 21/08; E21B

47/02-026; E21B 23/006; E21B 23/04;

(Continued)

FIG. 4 shows a right side elevation view thereof;

FIG. 5 shows a top plan view thereof;

FIG. 6 shows a bottom plan view thereof;

FIG. 7 shows a rear perspective view thereof;

FIG. 8 shows a front perspective view thereof; and,

FIG. 9 shows a reduced front perspective view thereof in
condition of use.

The broken line showing of the downhole adjustable drilling
inclination tool is for environmental purposes only and
forms no part of the claimed design.

(56) **References Cited**

The broken line showing of various surface features on
FIGS. 1-9 is included for the purpose of illustrating portions
of a tilt housing of a downhole adjustable drilling inclination
tool that forms no part of the claimed design.

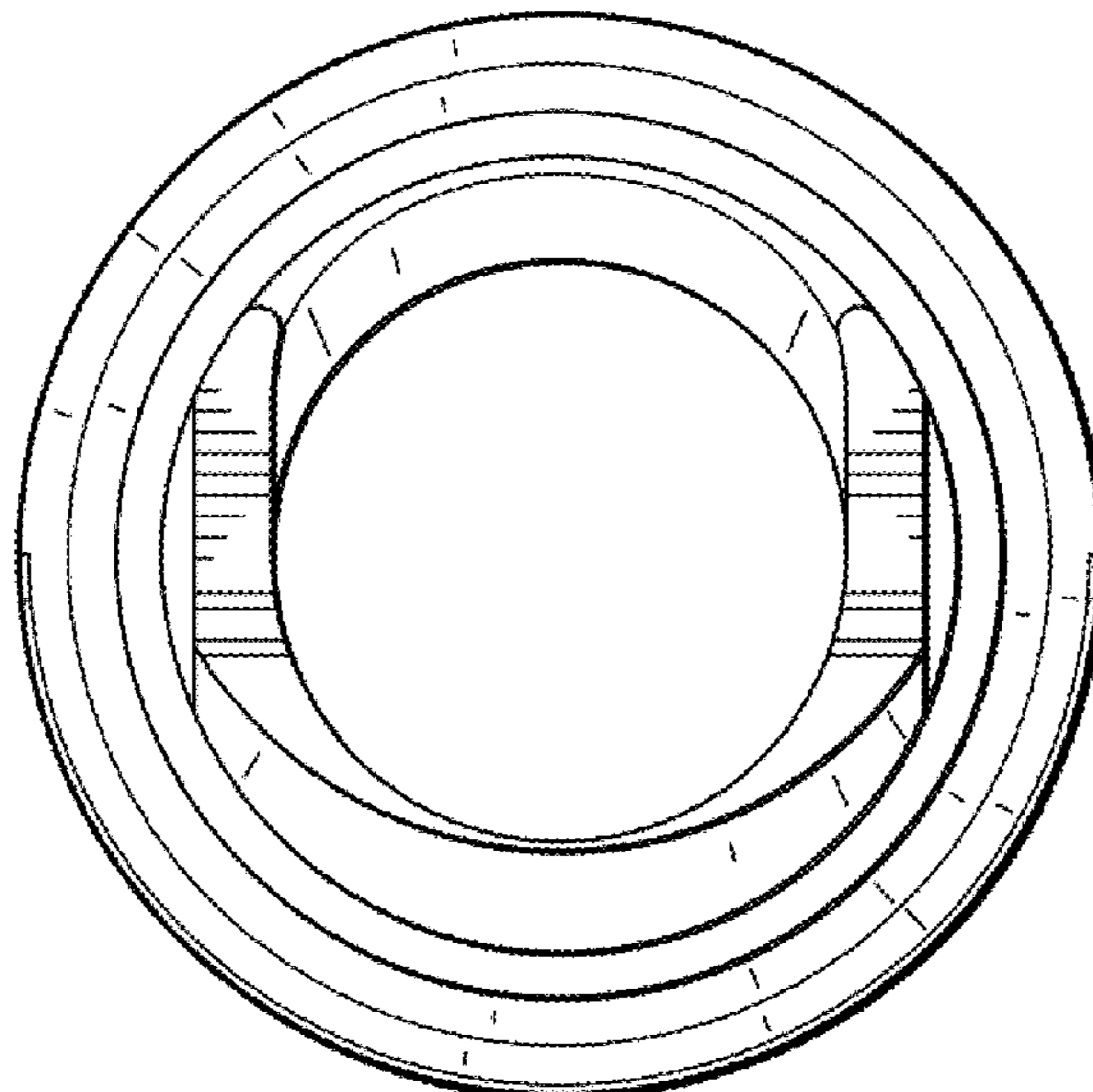
U.S. PATENT DOCUMENTS

2,819,039 A 1/1958 G et al.

4,884,643 A 12/1989 Wawrzynowski et al.

(Continued)

1 Claim, 6 Drawing Sheets



(58) **Field of Classification Search**
 CPC E21B 23/06; E21B 23/08; E21B 17/1014;
 E21B 17/00; E21B 3/00
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,932,482 A * 6/1990 DeLucia E21B 4/02
 175/107
 5,029,654 A * 7/1991 Wilson E21B 7/067
 175/256
 5,125,463 A * 6/1992 Livingstone E21B 7/067
 166/237
 5,363,929 A * 11/1994 Williams E21B 4/02
 175/107
 5,450,914 A 9/1995 Coram
 5,503,235 A 4/1996 Falgout
 5,535,835 A * 7/1996 Walker E21B 7/067
 175/73
 5,542,482 A * 8/1996 Eddison E21B 7/068
 175/61
 5,617,926 A * 4/1997 Eddison E21B 7/067
 175/61
 5,638,910 A * 6/1997 Noe E21B 7/067
 175/320
 5,725,061 A * 3/1998 Van Steenwyk E21B 4/02
 175/104
 5,727,641 A * 3/1998 Eddison E21B 7/068
 175/76
 5,735,357 A * 4/1998 Palm E21B 7/067
 175/61
 5,857,531 A * 1/1999 Estep E21B 4/02
 175/101
 5,893,413 A * 4/1999 Lembcke E21B 23/04
 166/66.6
 5,894,896 A * 4/1999 Smith E21B 7/06
 175/322
 5,899,281 A * 5/1999 Gynz-Rekowski E21B 7/067
 175/101
 5,934,383 A * 8/1999 Jurgens E21B 7/06
 173/91
 5,941,323 A * 8/1999 Warren E21B 7/062
 175/74

6,109,372 A * 8/2000 Dorel E21B 47/08
 175/61
 6,328,119 B1 12/2001 Gillis et al.
 RE39,970 E 1/2008 Askew
 D647,540 S * 10/2011 Drenth D15/21
 D649,167 S * 11/2011 Drenth D15/21
 D664,566 S * 7/2012 Drenth D15/21
 D664,567 S * 7/2012 Drenth D15/21
 D673,182 S * 12/2012 Frazier D15/21
 D673,183 S * 12/2012 Frazier D15/21
 8,919,458 B2 * 12/2014 Plop E21B 7/062
 175/61
 9,556,678 B2 * 1/2017 Schaaf E21B 7/067
 9,605,481 B1 3/2017 Bleeker
 D789,425 S * 6/2017 Smith D15/21
 D824,429 S * 7/2018 Stewart D15/13
 2018/0023347 A1 1/2018 Bleeker

FOREIGN PATENT DOCUMENTS

CA 2072552 A1 12/1992
 CN 102080503 B 11/2013
 EP 0497421 A1 8/1992
 EP 3488070 2/2019
 GB 2442303 A 4/2008
 WO 2008037947 A1 4/2008
 WO 2010016862 A1 2/2010
 WO 2014137543 3/2015
 WO 2015061047 A1 4/2015
 WO 2015057217 3/2016
 WO 2016043719 A1 3/2016
 WO 2018014981 A1 1/2018

OTHER PUBLICATIONS

Non-final office action in U.S. Appl. No. 15/214,690 dated Oct. 26, 2016.
 Non-final office action in U.S. Appl. No. 15/449,964 dated Feb. 19, 2019.
 Notice of Allowance in U.S. Appl. No. 15/214,690 dated Nov. 18, 2016.
 Notice of Allowance in U.S. Appl. No. 15/449,964 dated Aug. 29, 2019.
 Written Opinion of the International Searching Authority (EPO) for international application PCT/EP2016/069046 dated Mar. 17, 2017.

* cited by examiner

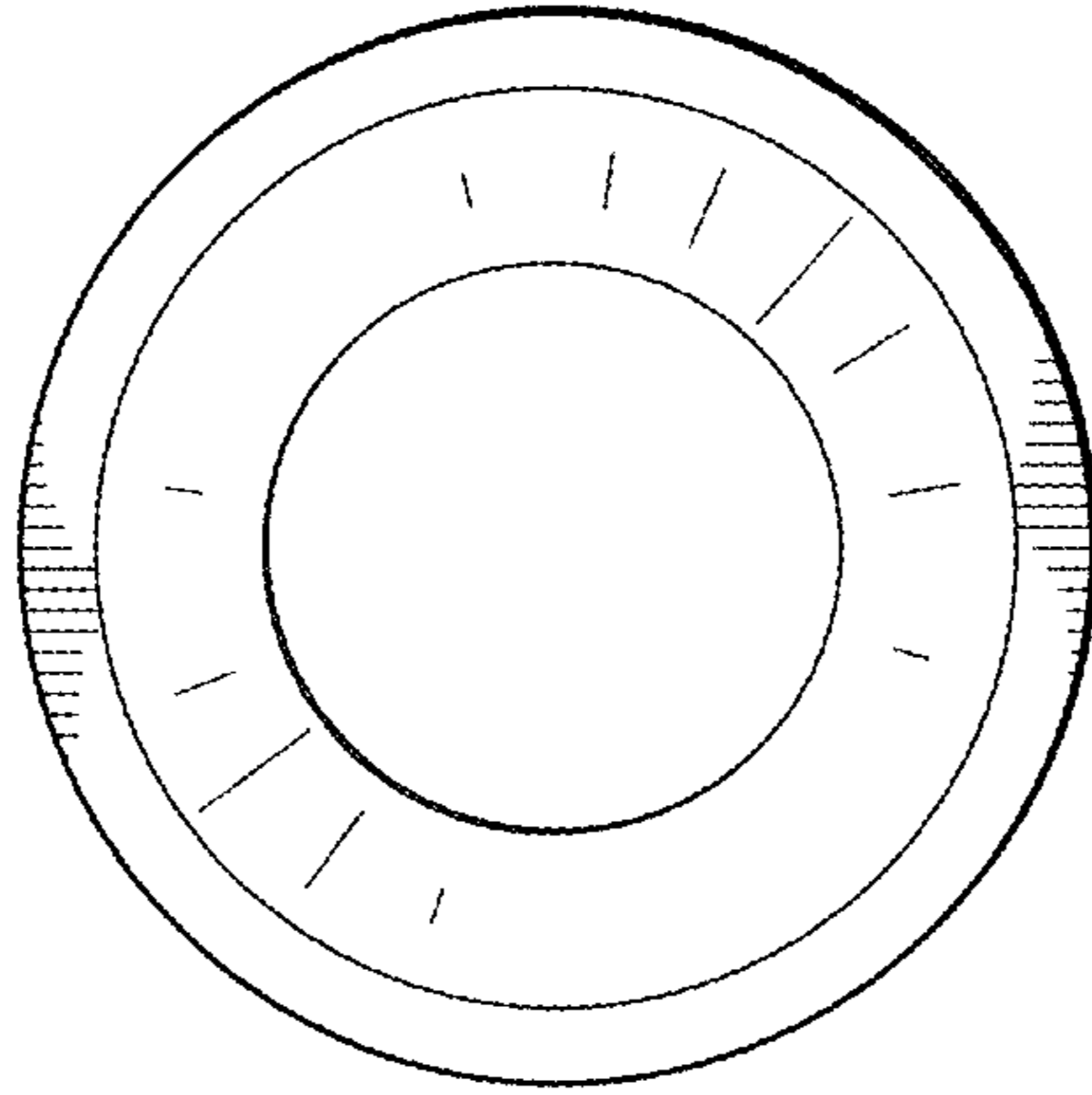


FIG. 2

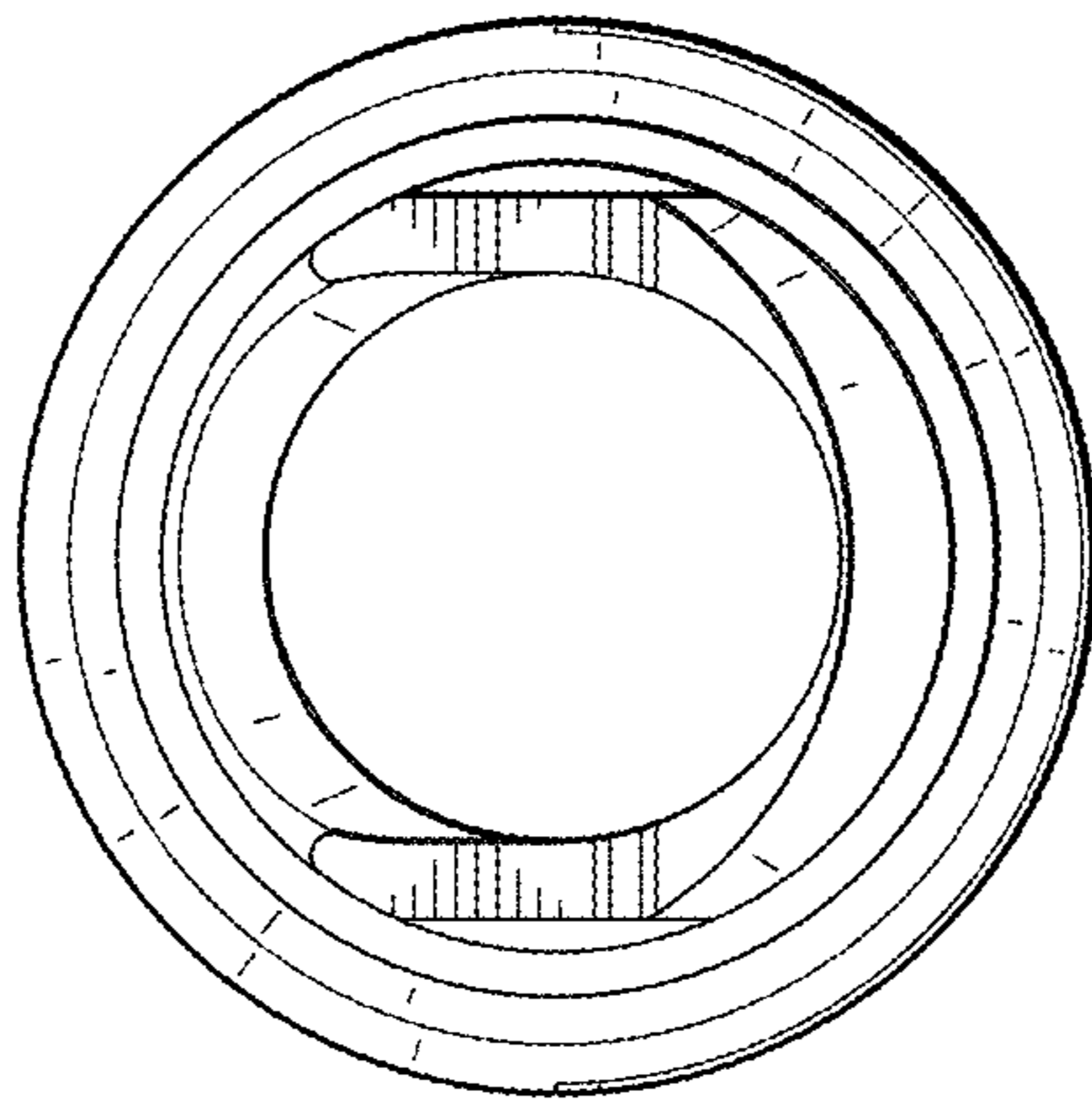


FIG. 1

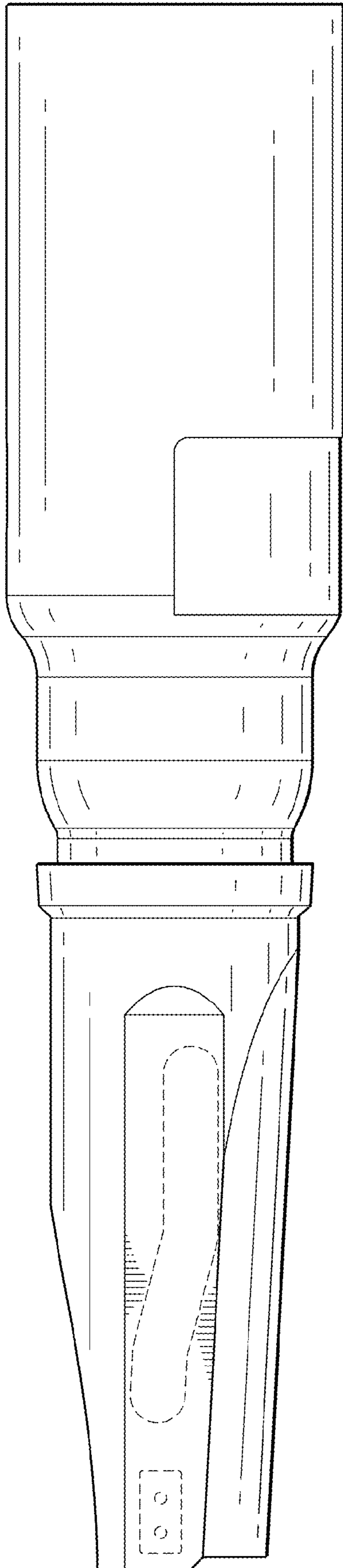


FIG. 3

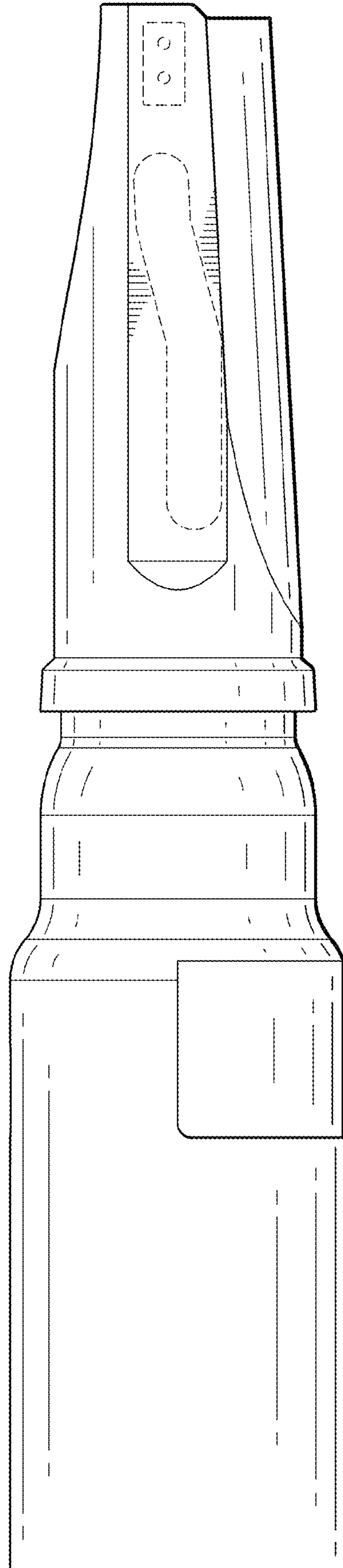


FIG. 4

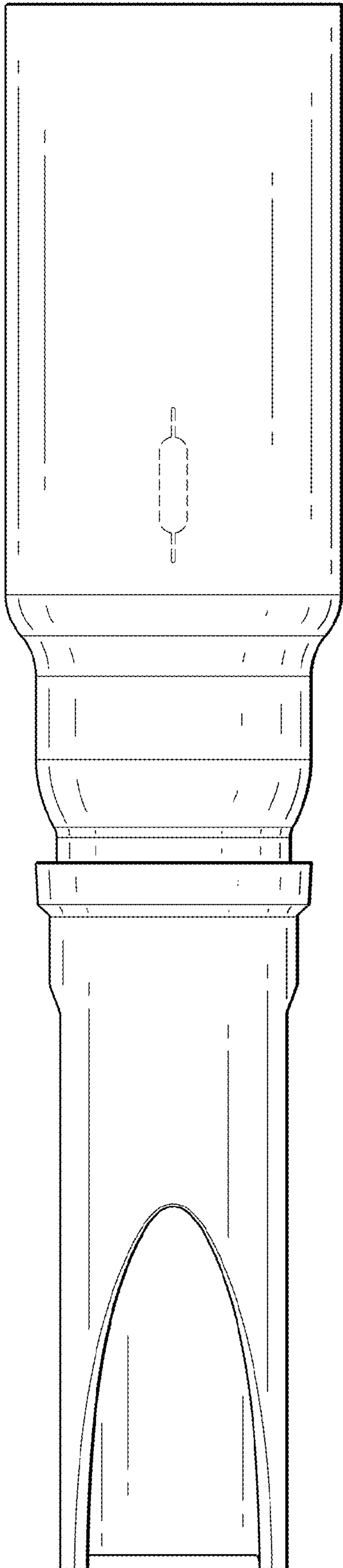


FIG. 5

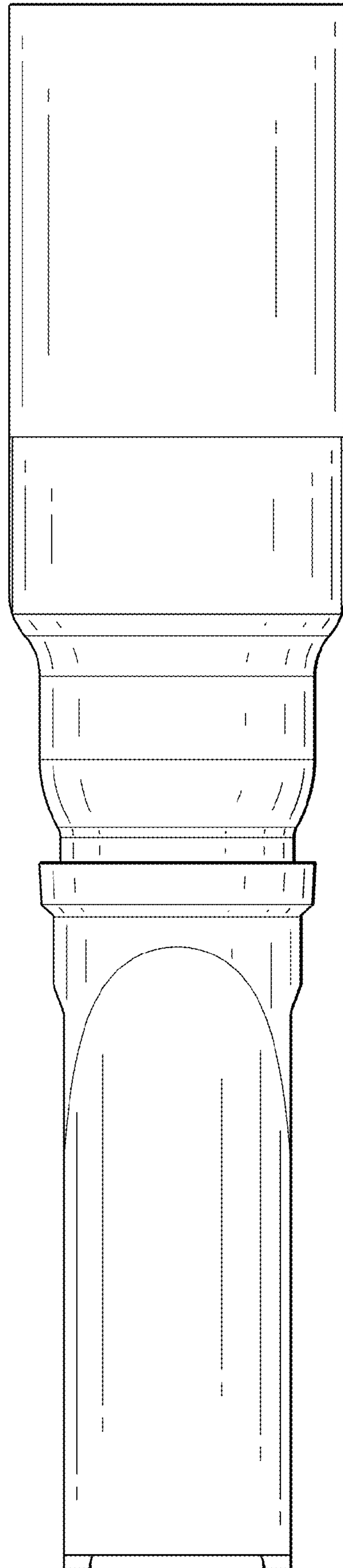


FIG. 6

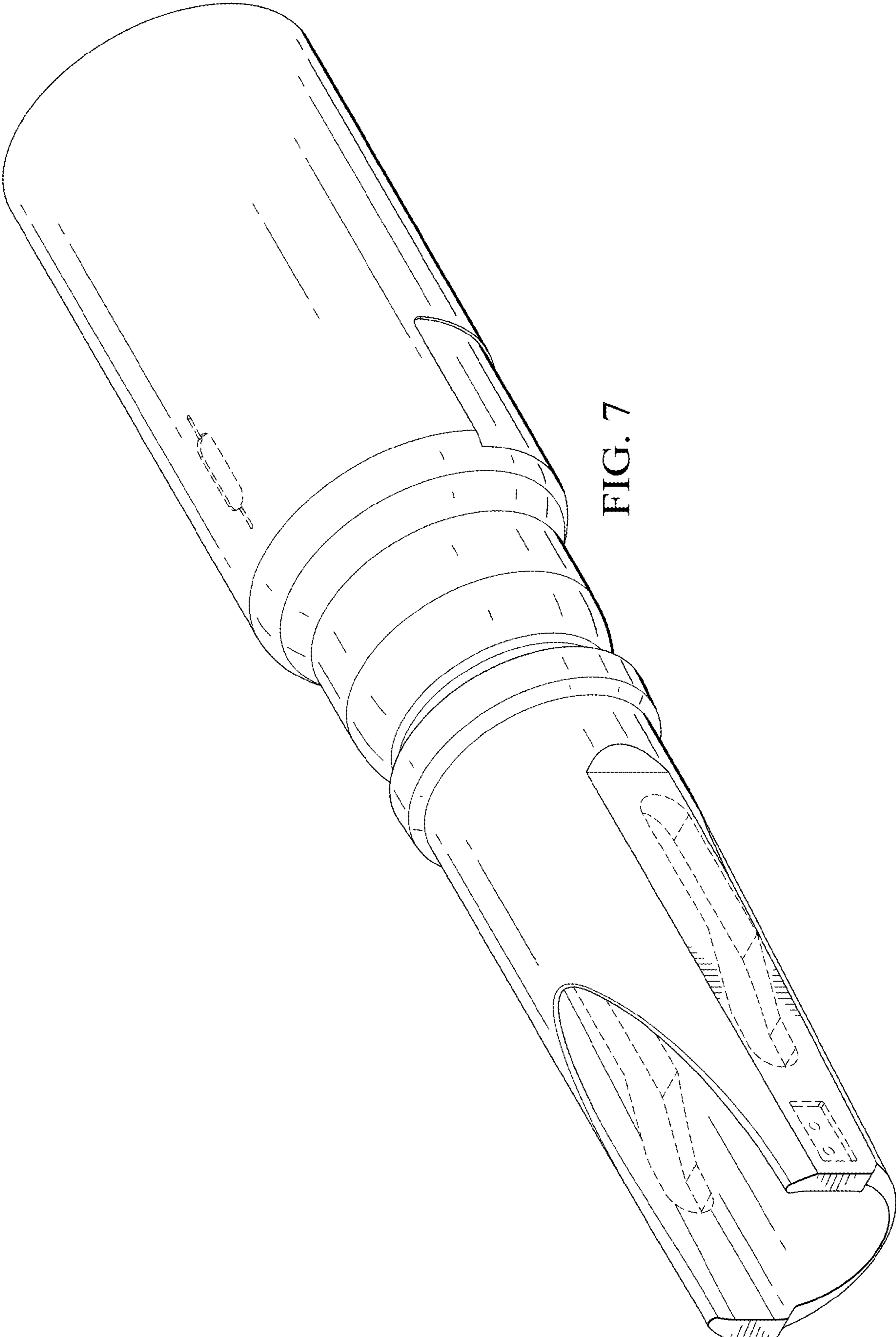


FIG. 7

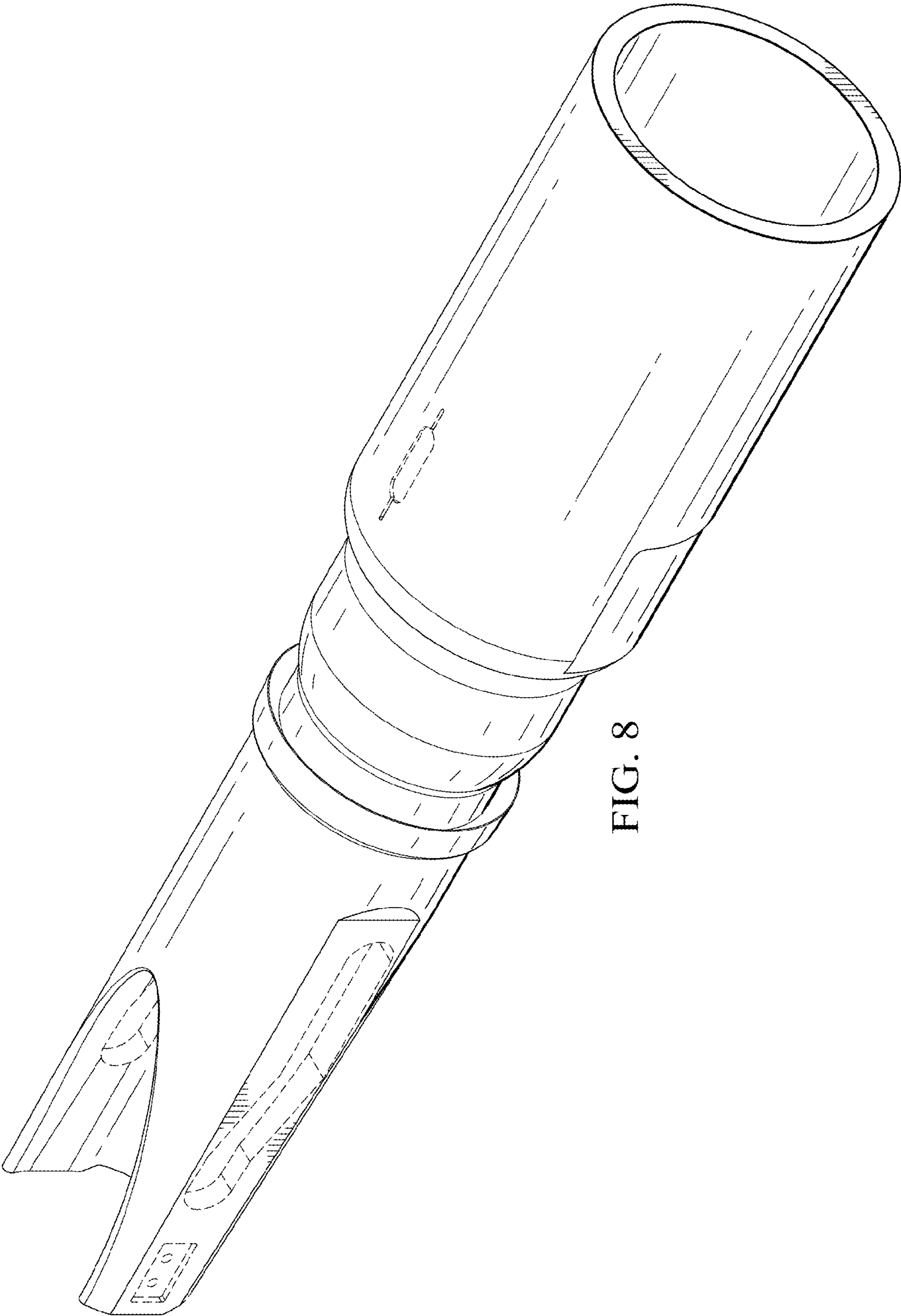


FIG. 8

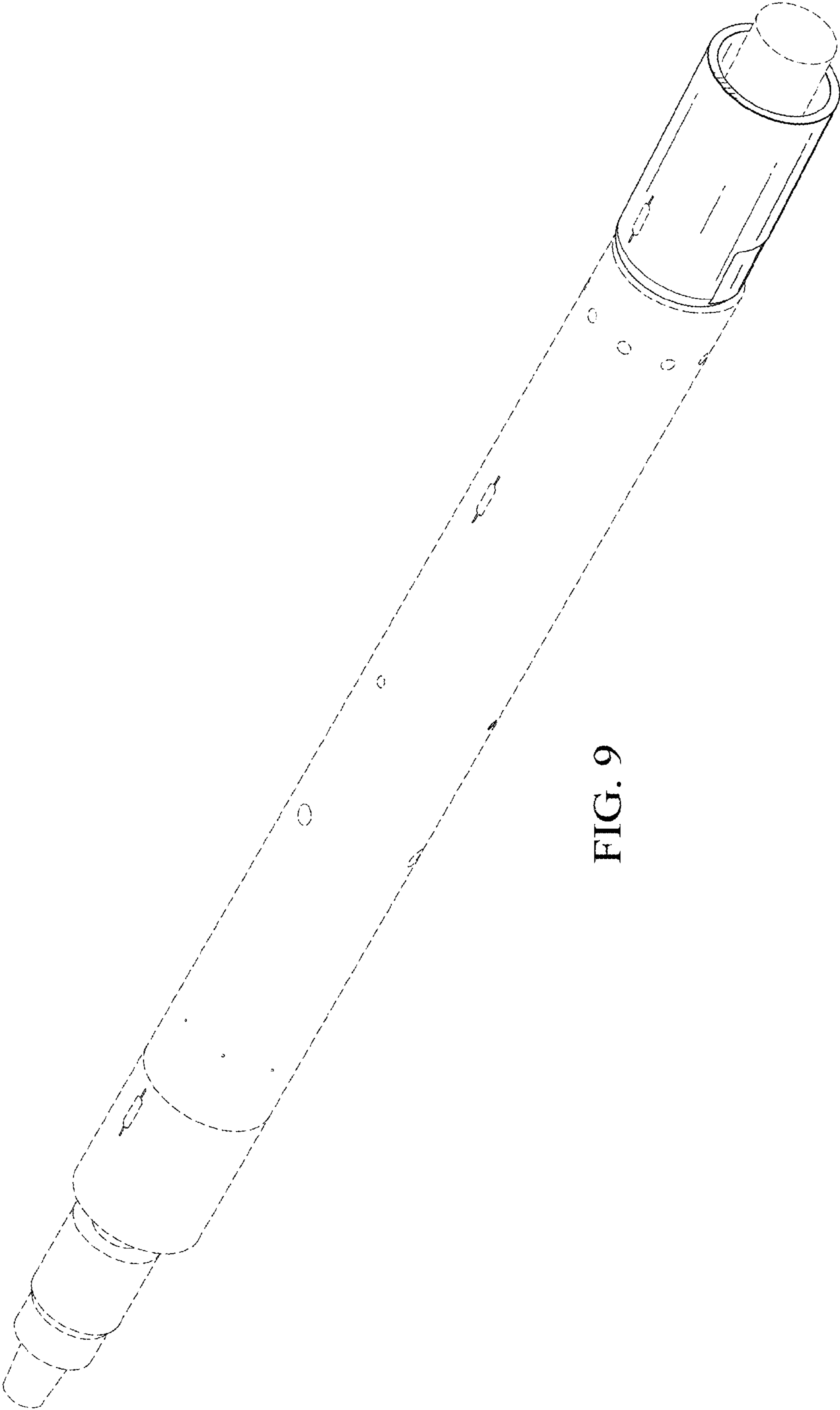


FIG. 9