



US00D934443S

(12) **United States Design Patent** (10) **Patent No.:** **US D934,443 S**
Vogt et al. (45) **Date of Patent:** **** *Oct. 26, 2021**

(54) **MIXING DEVICE FOR BONE CEMENT**

B01F 9/0001; B01F 13/0001; B01F 13/00; B01F 2215/0029; B01F 2215/0032; B01F

(71) Applicant: **Heraeus Medical GmbH**, Wehrheim (DE)

(Continued)

(72) Inventors: **Sebastian Vogt**, Erfurt (DE); **Thomas Kluge**, Vallendar (DE)

(56) **References Cited**

U.S. PATENT DOCUMENTS

(73) Assignee: **HERAEUS MEDICAL GMBH**, Wehrheim (DE)

D849,267 S * 5/2019 Rokitta D24/232
2008/0304355 A1* 12/2008 Sattig B01F 15/027
366/133

(*) Notice: This patent is subject to a terminal disclaimer.

(Continued)

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

OTHER PUBLICATIONS

(21) Appl. No.: **29/686,047**

Which Medical Device, "Palamix Duo Cement Mixing System", first available Sep. 23, 2010. (<https://www.whichmedicaldevice.com/by-manufacturer/106/180/palamix-duo-cement-mixing-system>) (Year: 2010).*

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

(Continued)

(30) **Foreign Application Priority Data**

Oct. 25, 2018 (EM) 005808730

(51) **LOC (13) Cl.** **24-00**

(52) **U.S. Cl.**
USPC **D24/220**

(58) **Field of Classification Search**

USPC D3/201, 203.1, 203.2, 203.3; D7/300.1, D7/372, 376, 377, 378, 414, 591, 667, D7/679, 688; D24/100, 101, 102, 103, D24/104, 141, 163, 220, 221, 231, 232; D27/100, 101, 163, 164, 165, 166, 167, D27/168, 169, 194

CPC .. A24B 9/00; A24B 13/00; A24D 1/00; A24D 1/008; A24D 1/12; A24D 1/14; A24D 1/22; A61B 17/8802; A61J 1/00; A61J 1/03; A61K 2300/00; B01F 3/00; B01F 3/08; B01F 3/0853; B01F 3/0865; B01F 3/12; B01F 3/1221; B01F 3/18; B01F 3/184; B01F 3/20; B01F 3/2071; B01F 3/22; B01F 3/2276; B01F 7/00; B01F 7/00008; B01F 7/002; B01F 7/0075; B01F 7/02; B01F 7/021; B01F 9/00;

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Assistant Examiner — Justin A Johnson

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(57) **CLAIM**

The ornamental design for a mixing device for bone cement, as shown.

DESCRIPTION

FIG. 1 is an overhead, front and side, perspective view of a mixing device for bone cement according to our new design. FIG. 2 is an underneath, rear and side, perspective view thereof.

FIG. 3 is a left side elevation view thereof.

FIG. 4 is a right side elevation view thereof.

FIG. 5 is a front elevation view thereof.

FIG. 6 is a rear elevation view thereof.

FIG. 7 is a top plan view thereof; and,

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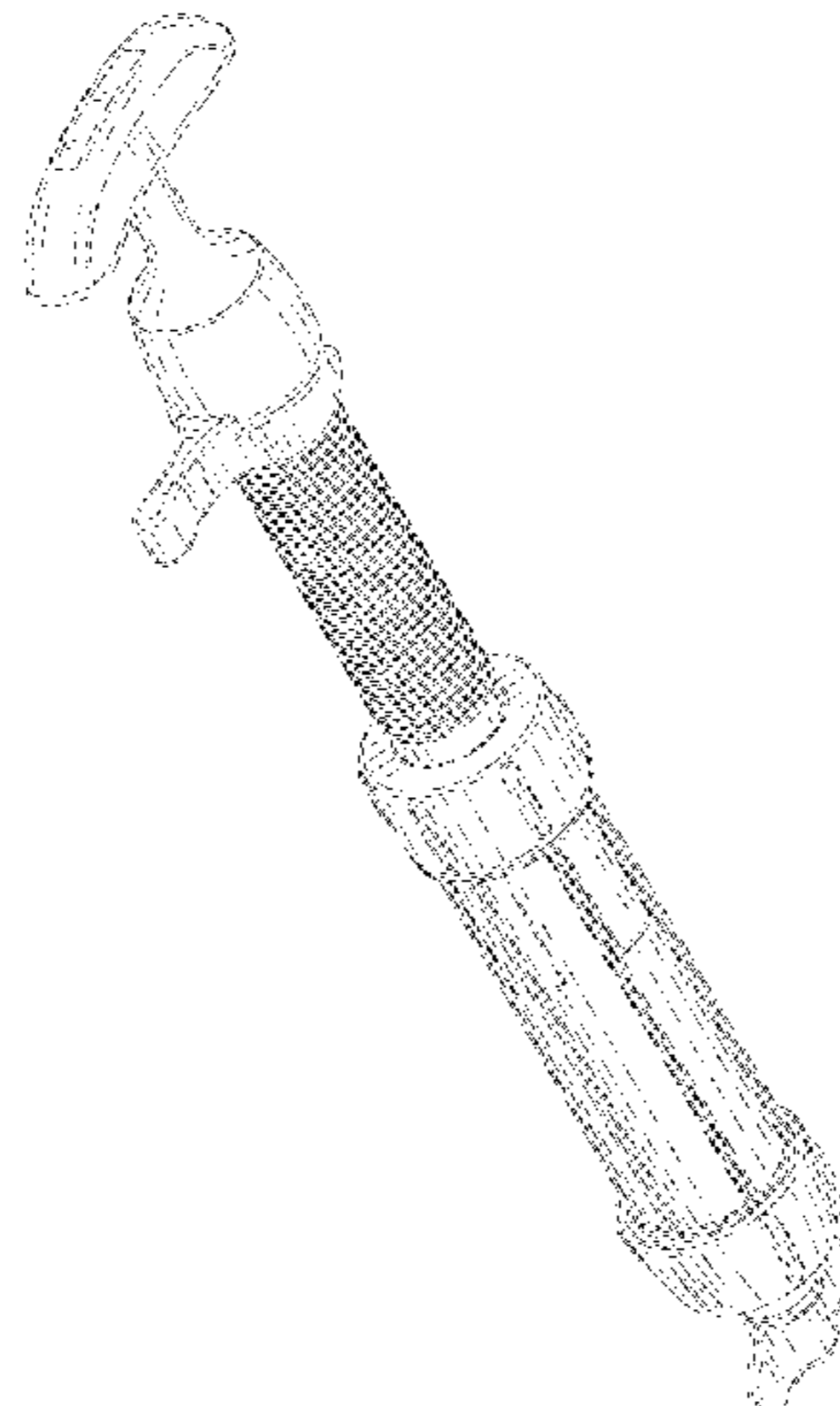


FIG. 8 is a bottom plan view thereof.

1 Claim, 7 Drawing Sheets

(58) Field of Classification Search

CPC 2215/0034; B01F 2215/0036; B01F
2215/0037; B01F 2215/0045; B01F
2215/0049; B28C 5/0881

See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

2017/0095283 A1* 4/2017 Vogt B01F 15/0279
2017/0291153 A1* 10/2017 Vogt B01F 15/0278
2017/0354942 A1* 12/2017 Vogt B01F 7/007
2018/0028247 A1* 2/2018 Giffard B01F 15/00506
2019/0038331 A1* 2/2019 Purdy B01F 5/00

2020/0061558 A1* 2/2020 Chaligne F04F 5/24
2020/0085479 A1* 3/2020 Dewey B01F 13/0023
2020/0129216 A1* 4/2020 Vogt B01F 15/0279
2020/0179023 A1* 6/2020 Vogt B01F 15/0223
2020/0179024 A1* 6/2020 Vogt B01F 13/0023
2020/0261133 A1* 8/2020 Vogt B01F 3/1214

OTHER PUBLICATIONS

Youtube, "Syringe Mixer for Bone Cement", first available May 19, 2015. (<https://www.youtube.com/watch?v=7PHghYvJeHQ>) (Year: 2015).*

Net32, "Charisma A2 Syringe", first available May 14, 2015 (<https://www.net32.com/ec/charisma-a2-syringe-lightcure-universal-microglass-composite-d-20724>) (Year: 2015).*

Youtube, "Teknimed HighV+ Spinal Cement System", first available Jan. 9, 2018 (<https://www.youtube.com/watch?v=kZkdyNHNawA>) (Year: 2018).*

* cited by examiner

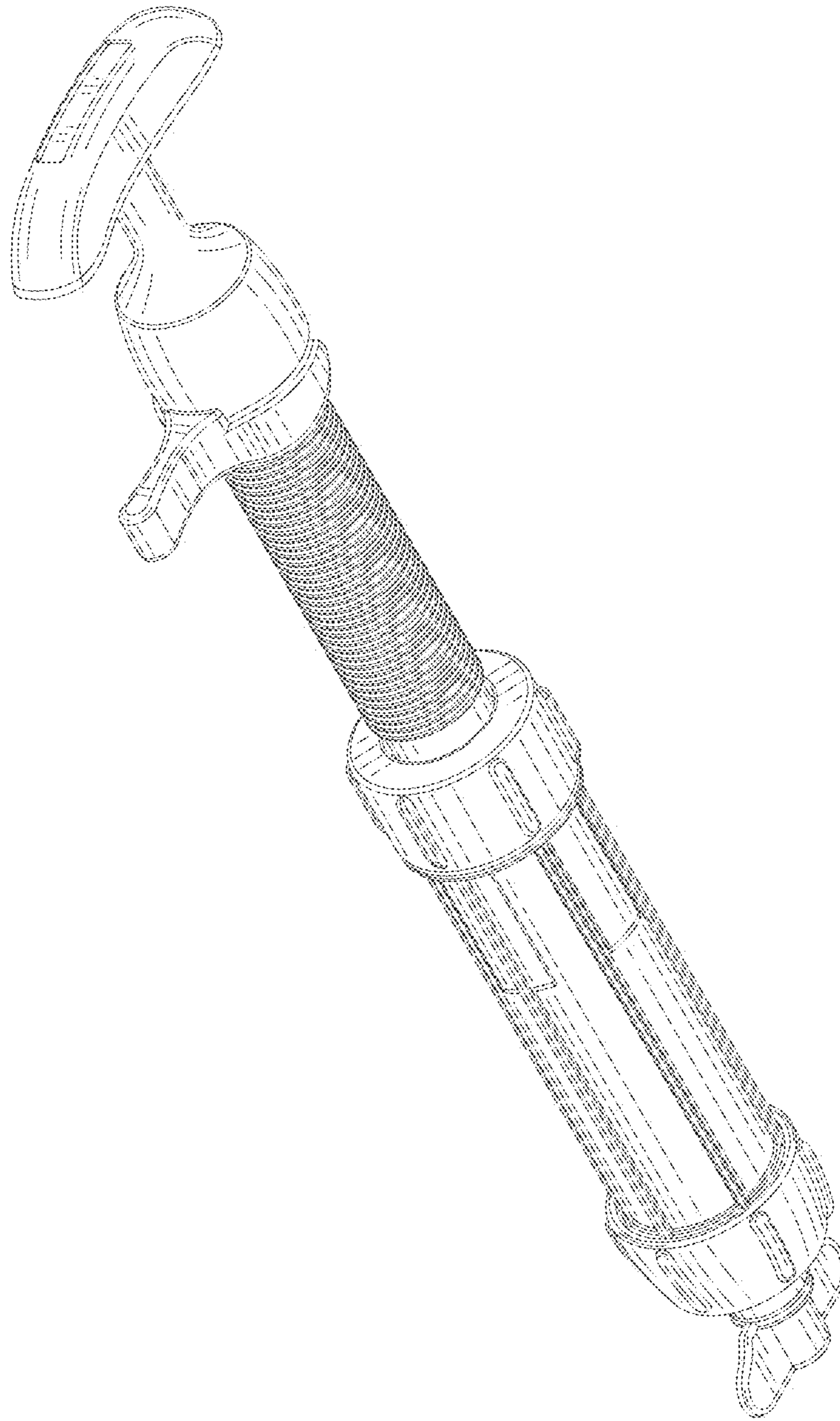


FIG. 1

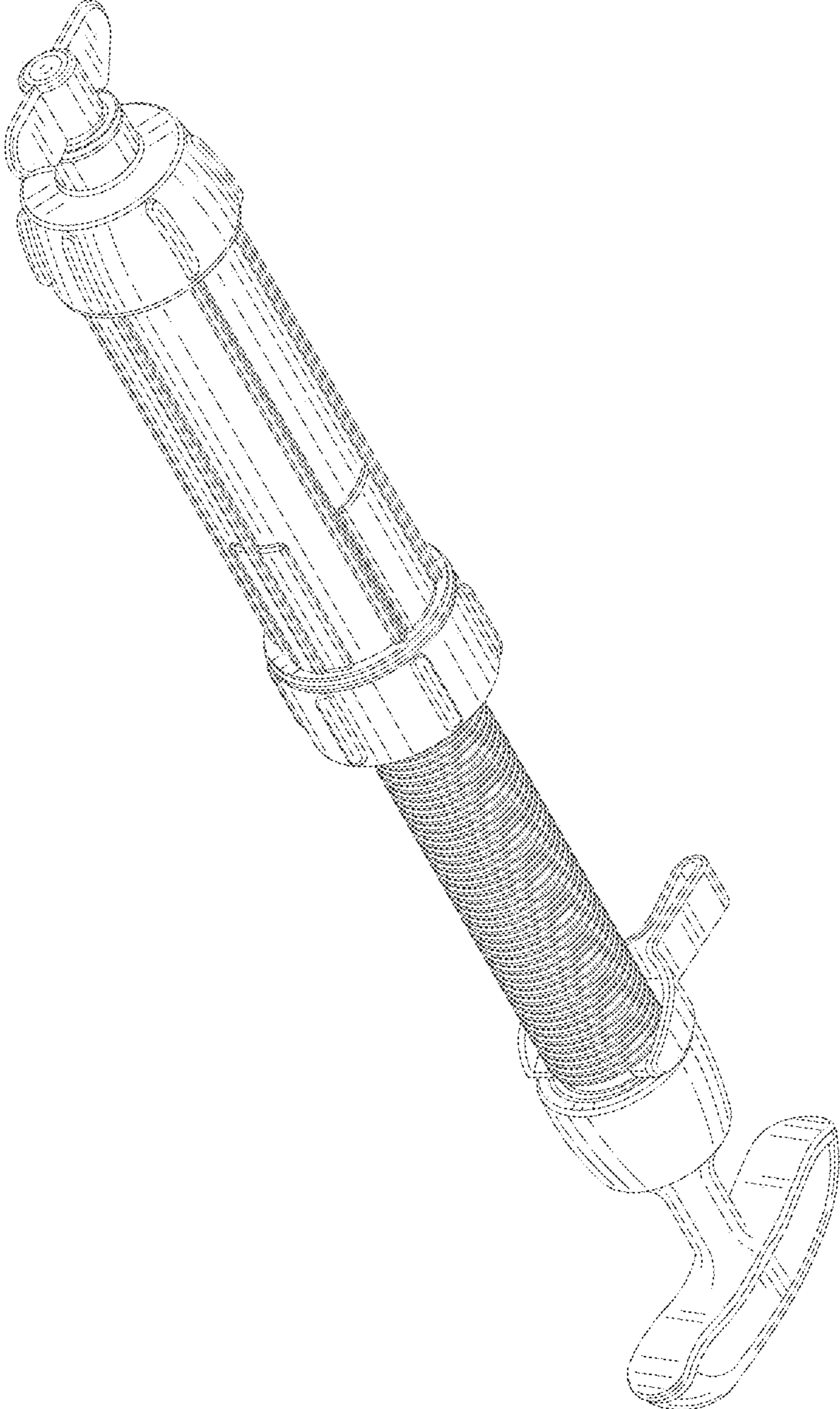


FIG. 2

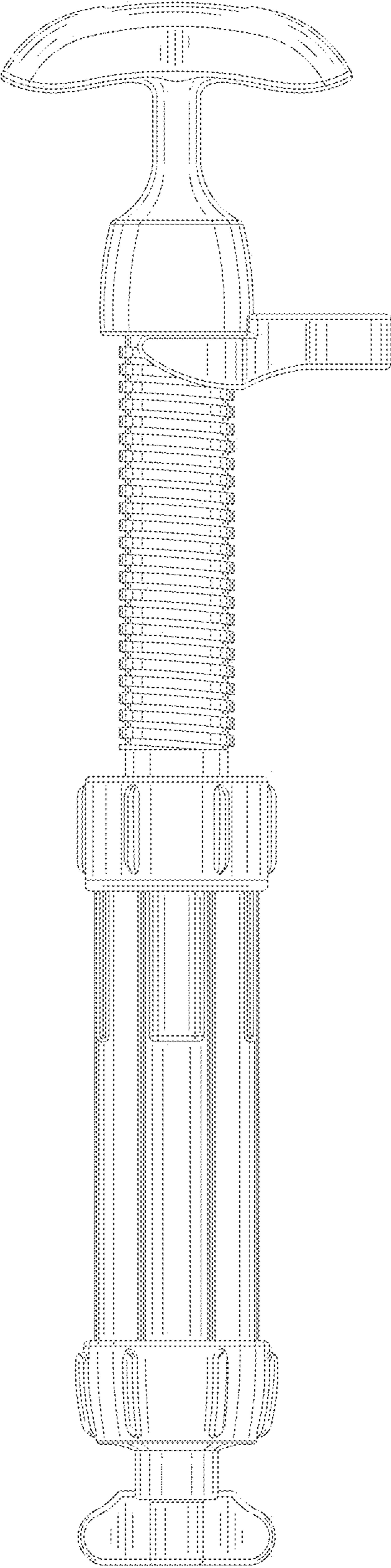


FIG. 3

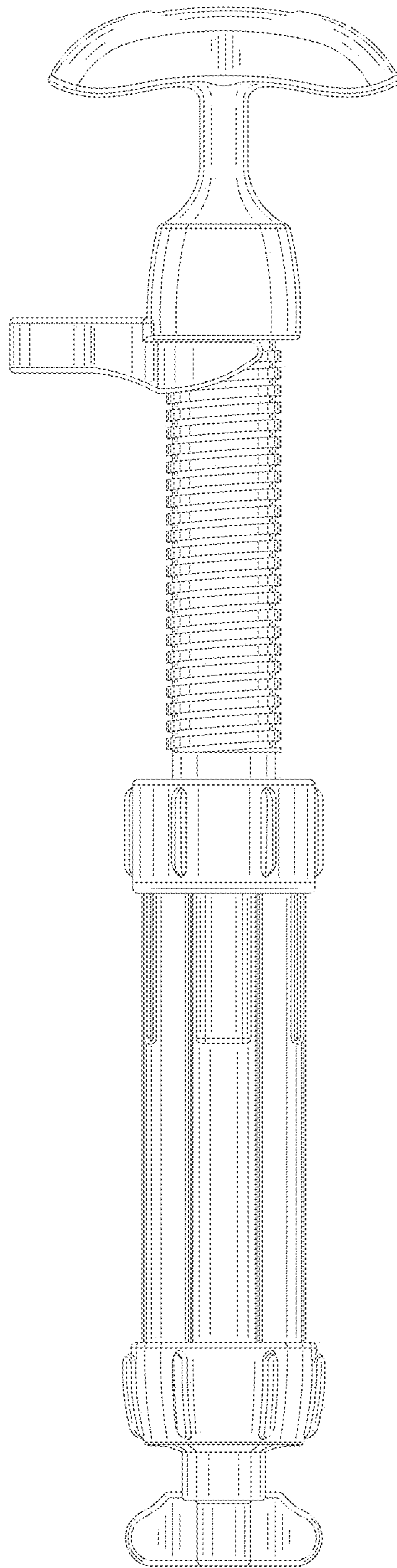


FIG. 4

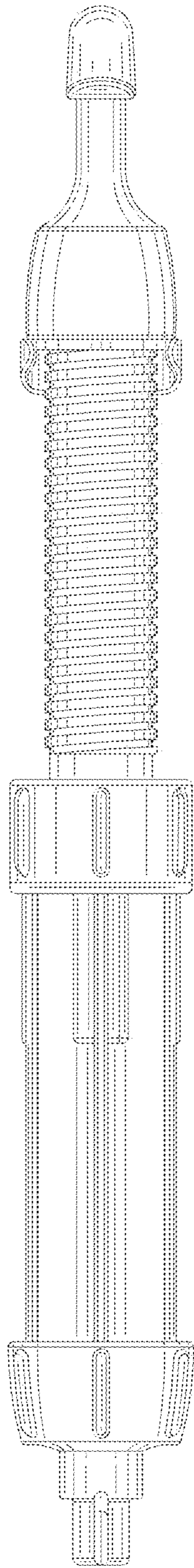


FIG. 5

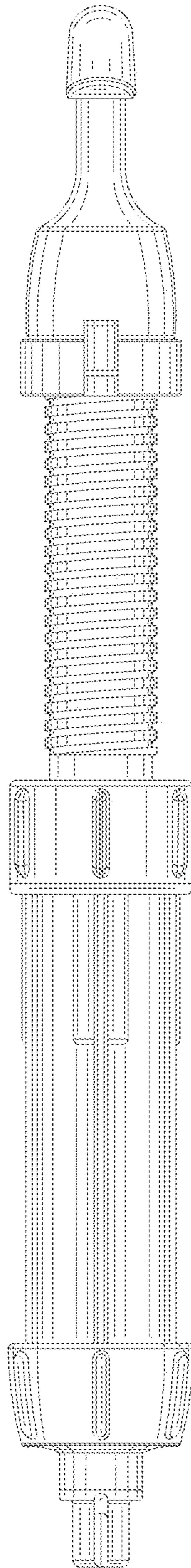


FIG. 6

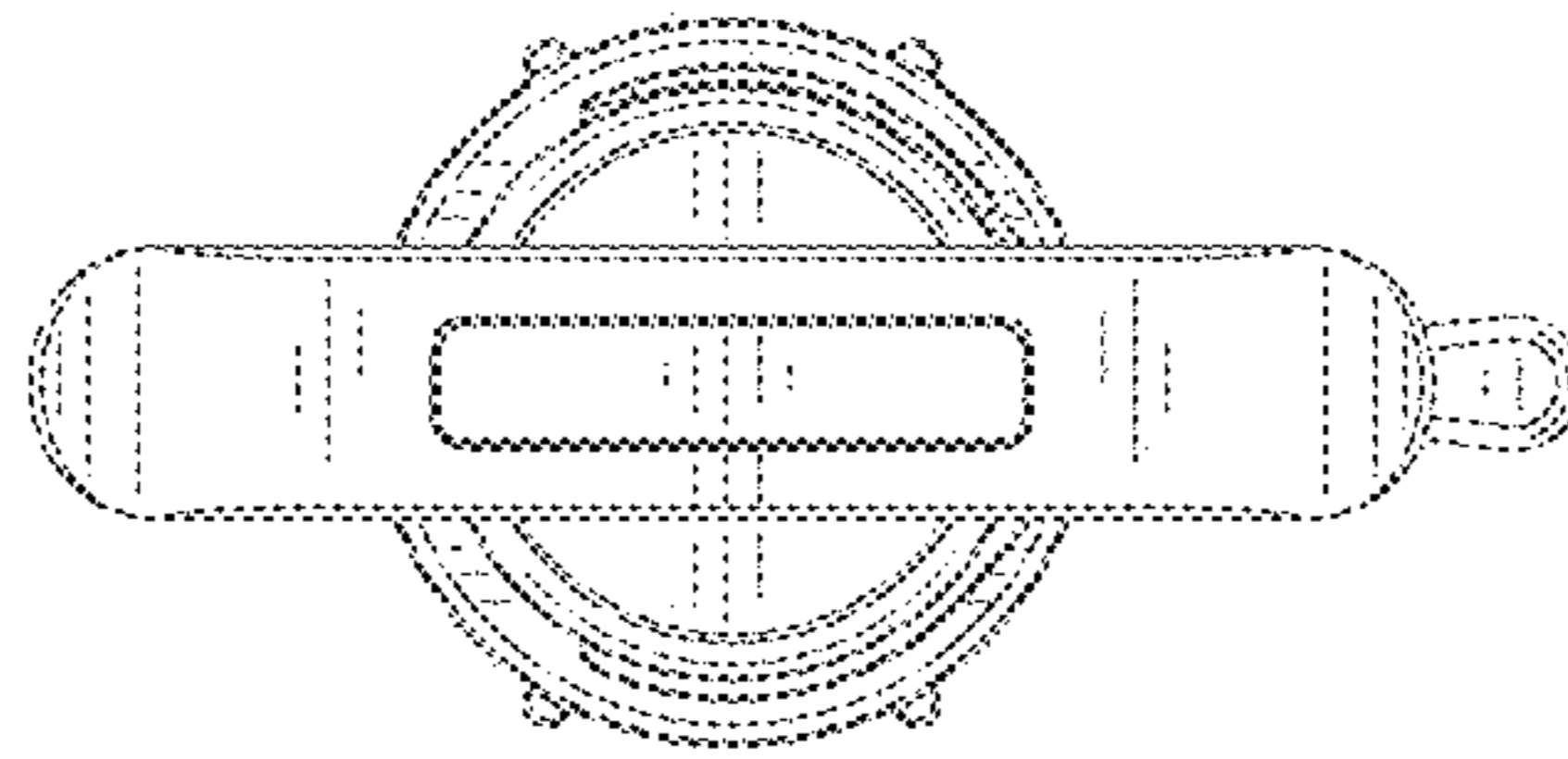


FIG. 7

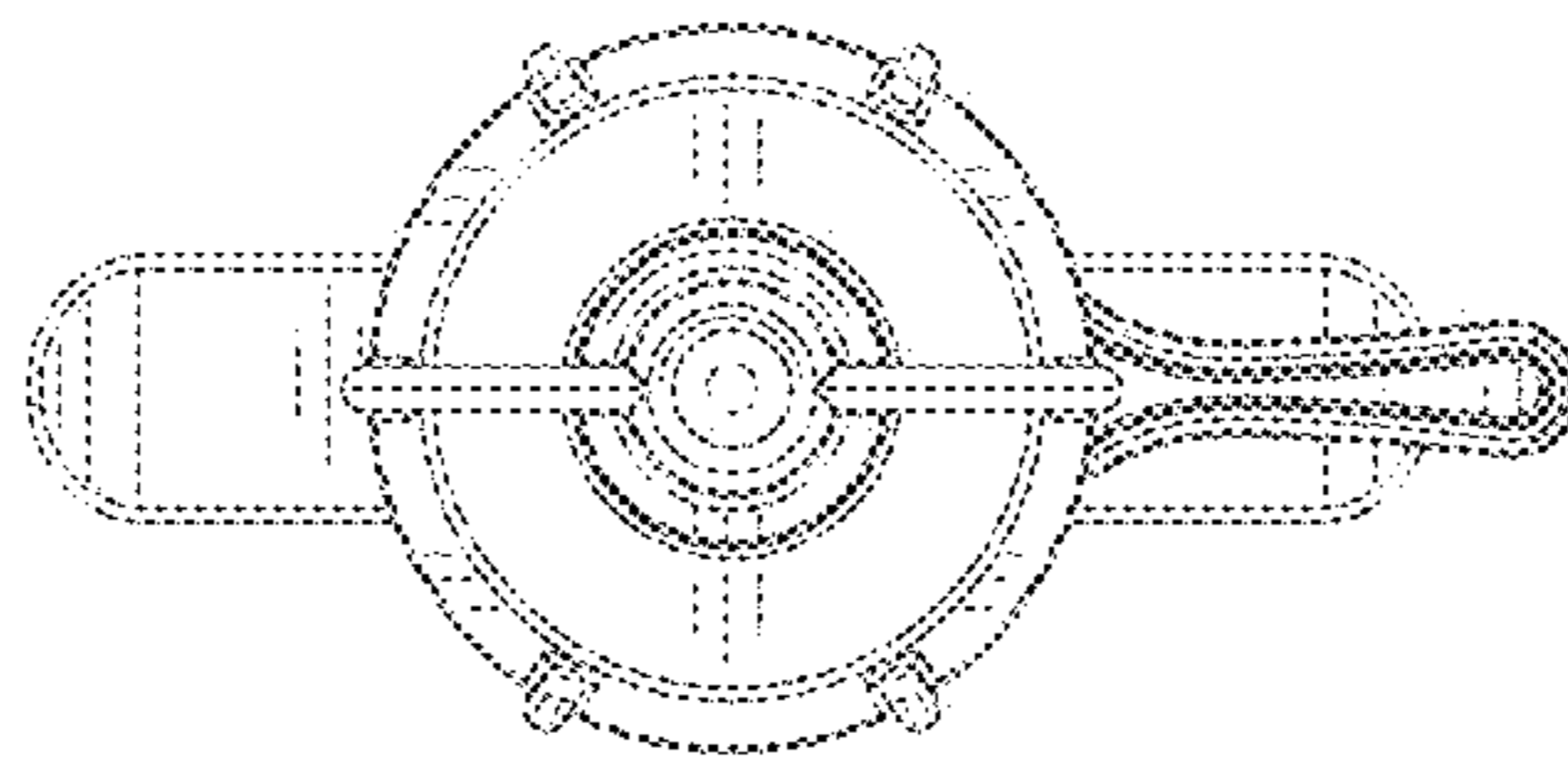


FIG. 8