



US00D987417S

(12) **United States Design Patent**
Zhou

(10) **Patent No.:** **US D987,417 S**
(45) **Date of Patent:** **** May 30, 2023**

- (54) **ANTI-LOOSENING WIRE PULLER**
- (71) Applicant: **QINGDAO CHANGHUAI MACHINERY CO., LTD.**, Qingdao (CN)
- (72) Inventor: **Daning Zhou**, Qingdao (CN)
- (73) Assignee: **QINGDAO CHANGHUAI MACHINERY CO., LTD.**, Qingdao (CN)
- (**) Term: **15 Years**
- (21) Appl. No.: **29/776,715**
- (22) Filed: **Mar. 31, 2021**
- (30) **Foreign Application Priority Data**

Oct. 9, 2020 (CN) 202022227838.8

- (51) **LOC (14) Cl.** **09-06**
- (52) **U.S. Cl.**
USPC **D8/356**
- (58) **Field of Classification Search**
USPC D8/71, 40, 44, 300, 307, 356, 357
CPC F16G 11/10; Y10T 24/3951
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 903,818 A * 11/1908 Herth F16G 11/10
24/134 P
- 1,927,193 A * 9/1933 White A01C 7/18
73/862.44
- 2,725,902 A * 12/1955 Giuliano B21F 15/04
D8/44
- 2,799,520 A * 7/1957 De Rocher A47L 9/242
285/259
- 2,943,650 A * 7/1960 Rubin A61B 17/8861
140/120

- 3,360,808 A * 1/1968 Taysom H02G 1/1204
140/124
- 3,655,165 A * 4/1972 Wright E04H 17/268
D8/44
- 4,084,625 A * 4/1978 Brinegar B21F 15/06
81/9.3
- D324,488 S * 3/1992 Fujimoto D8/356
- D339,729 S * 9/1993 Streeter D8/71
- 5,310,294 A * 5/1994 Perkins F16G 11/105
254/134.3 FT

(Continued)

Primary Examiner — Keli L Hill
Assistant Examiner — Harold E Blackwell, II
(74) *Attorney, Agent, or Firm* — J.C. Patents

(57) **CLAIM**

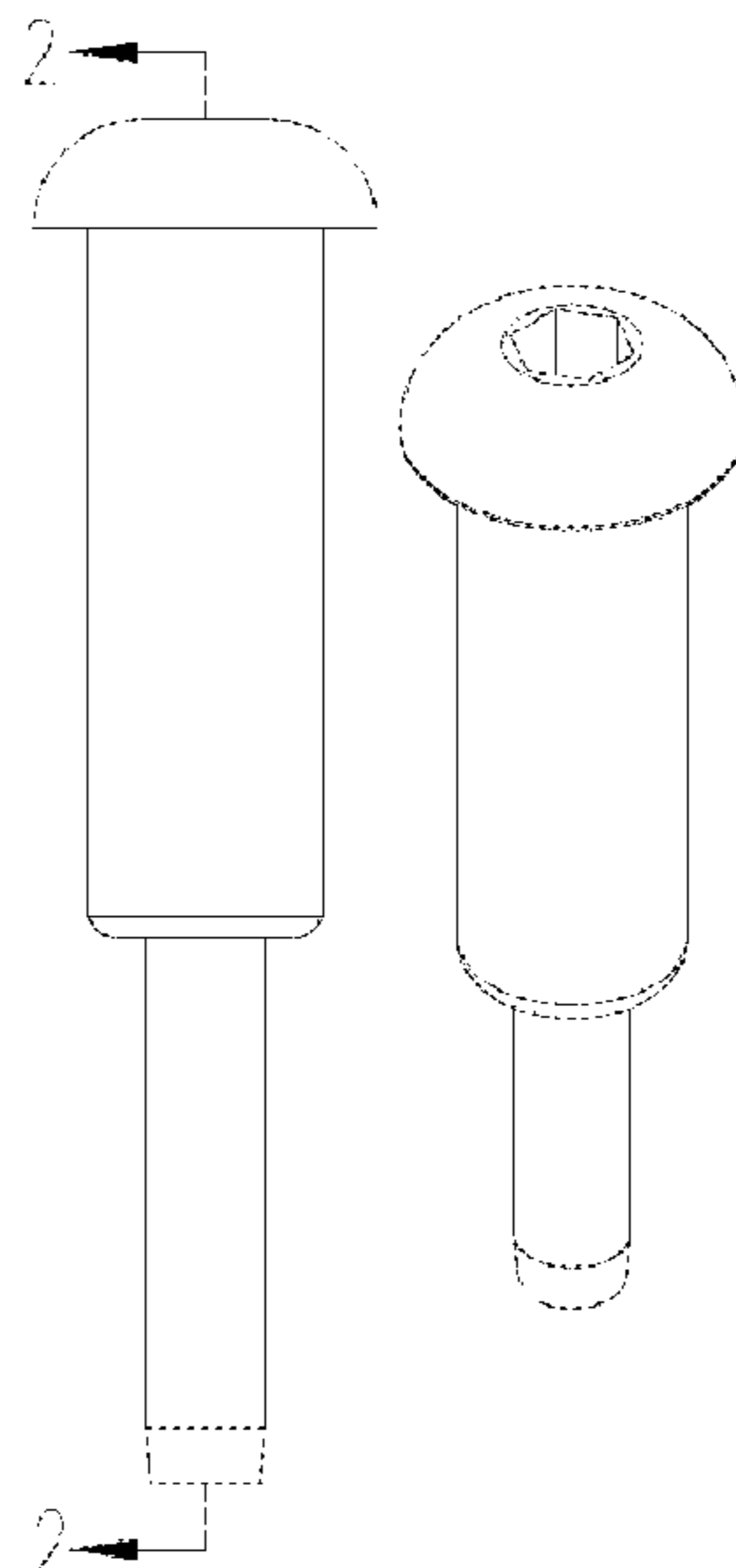
The ornamental design for an anti-loosening wire puller, as shown and described.

DESCRIPTION

FIG. 1 is a front view of an anti-loosening wire puller; FIG. 2 is a cross-sectional view thereof along 2-2 of FIG. 1; FIG. 3 is a top view thereof; FIG. 4 is a bottom view thereof; FIG. 5 is a perspective view thereof; FIG. 6 is a front view of component 1 of the anti-loosening wire puller; FIG. 7 is a cross-sectional view of component 1 along 7-7 of FIG. 6; FIG. 8 is a front view of component 2 of the anti-loosening wire puller; and, FIG. 9 is a cross-sectional view of component 2 along 9-9 of FIG. 8.

The anti-loosening wire puller is a combination of components 1 and 2. The right side view, the left side view and the rear view of the anti-loosening wire puller are the same as the front view of the anti-loosening wire puller.

1 Claim, 8 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

6,308,590	B1 *	10/2001	Berto	B62K 21/12 74/551.8
9,138,800	B2 *	9/2015	Harrison	B21F 15/04
9,531,178	B2 *	12/2016	Kimura	H02G 7/02
9,908,227	B1 *	3/2018	Yin	B25G 1/08
D855,427	S *	8/2019	Miyazawa	D8/44
D859,110	S *	9/2019	Miyazawa	D8/44
D877,585	S *	3/2020	Jensen	D8/44

* cited by examiner

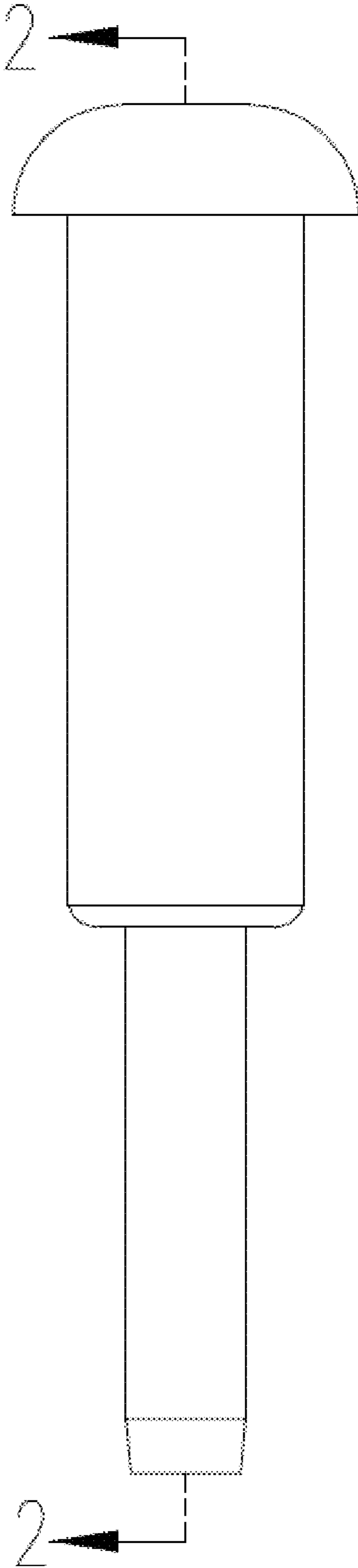


FIG. 1

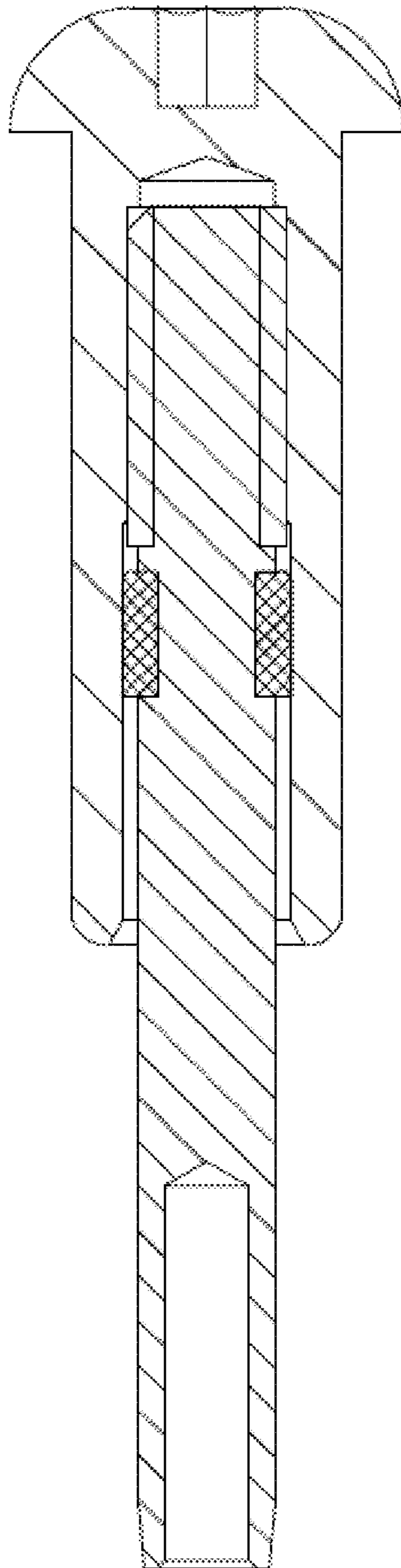


FIG. 2

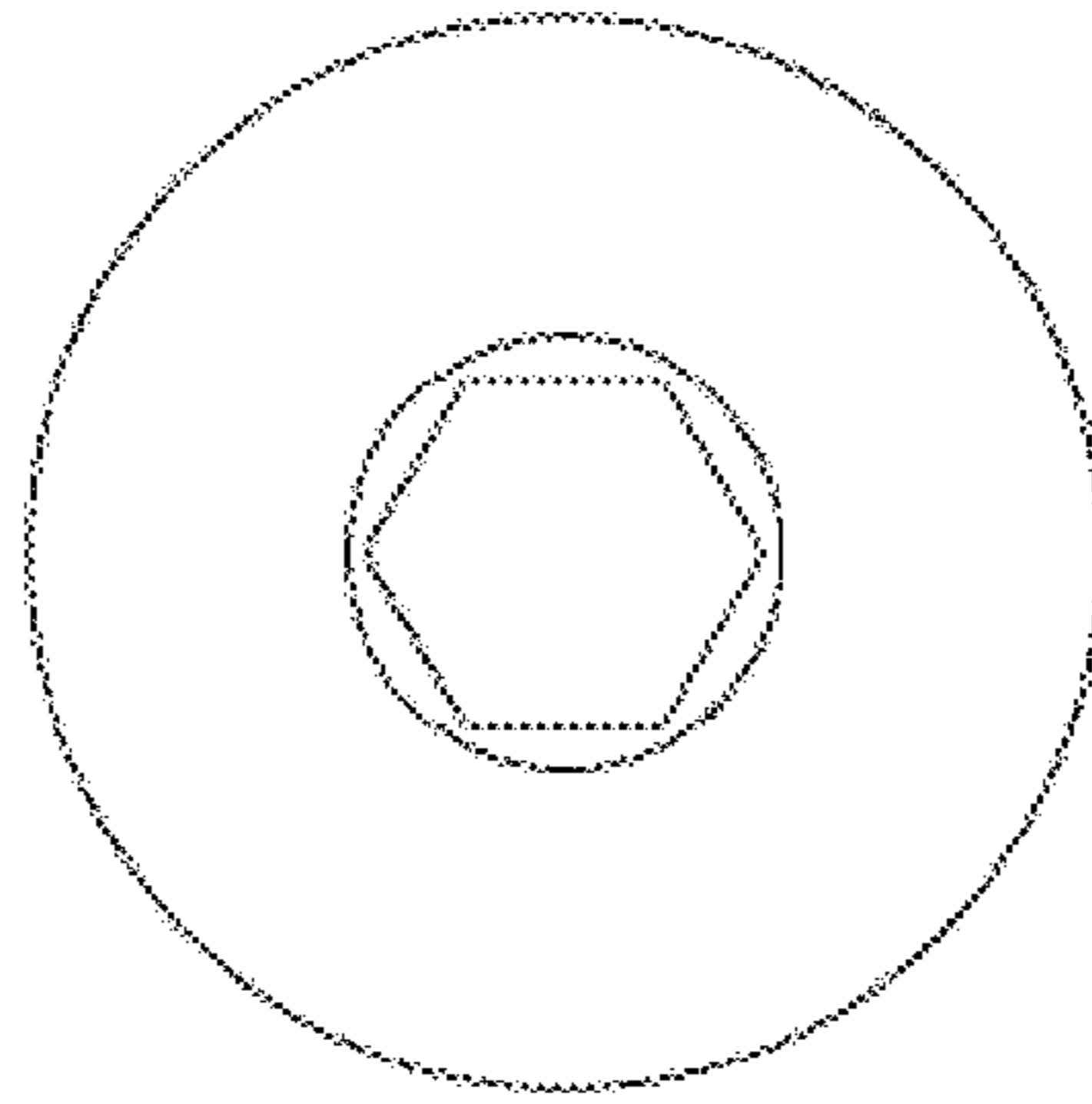


FIG. 3

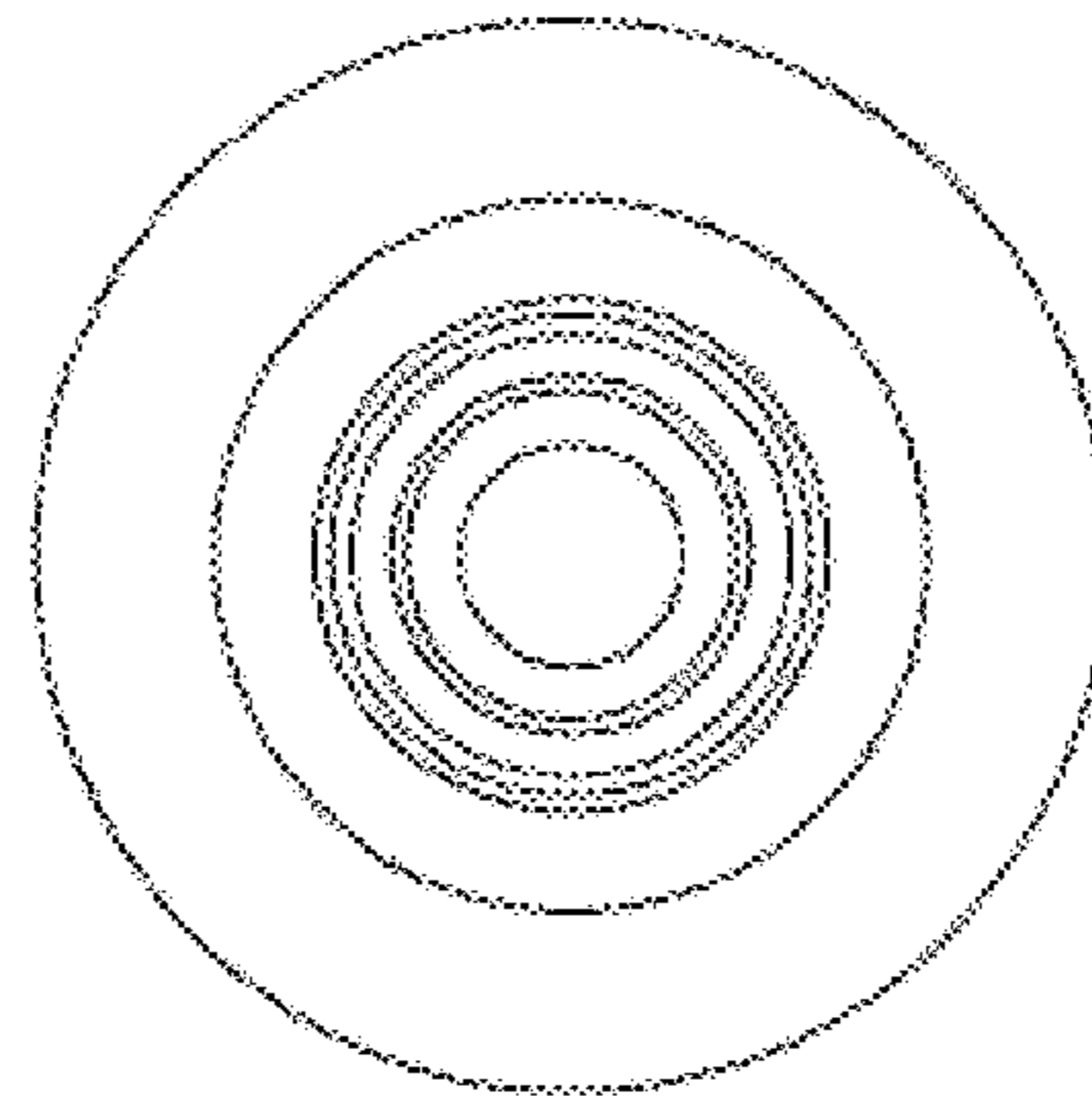


FIG. 4

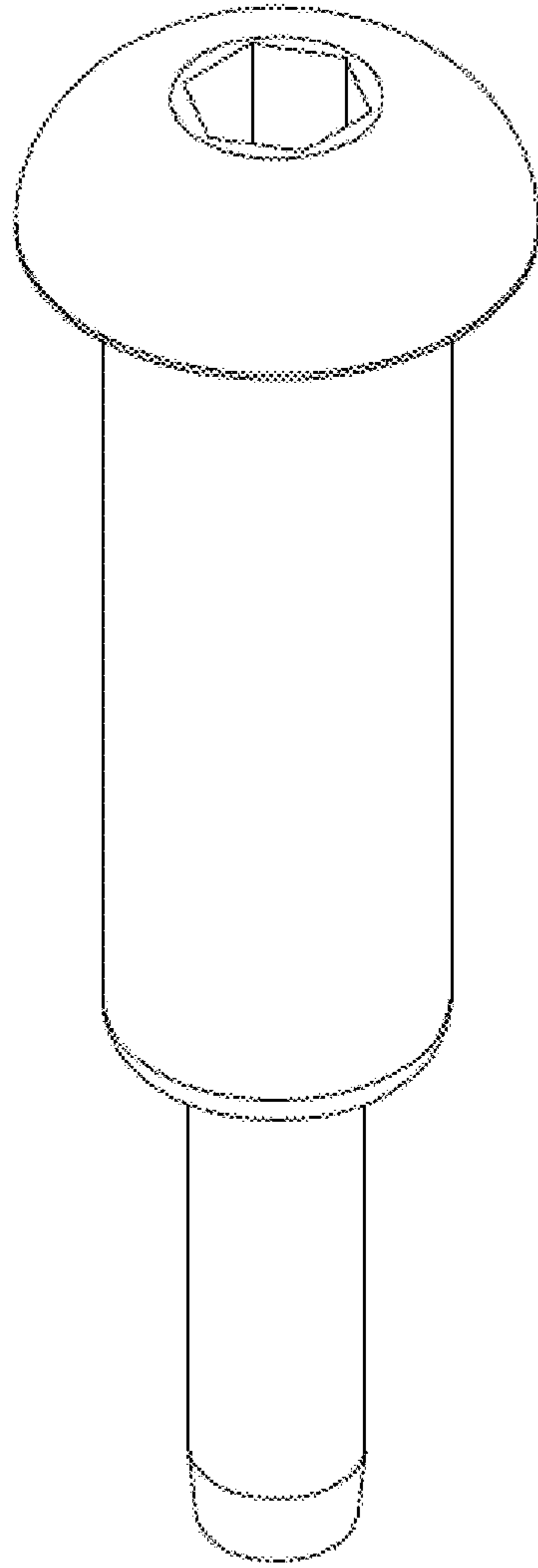


FIG. 5

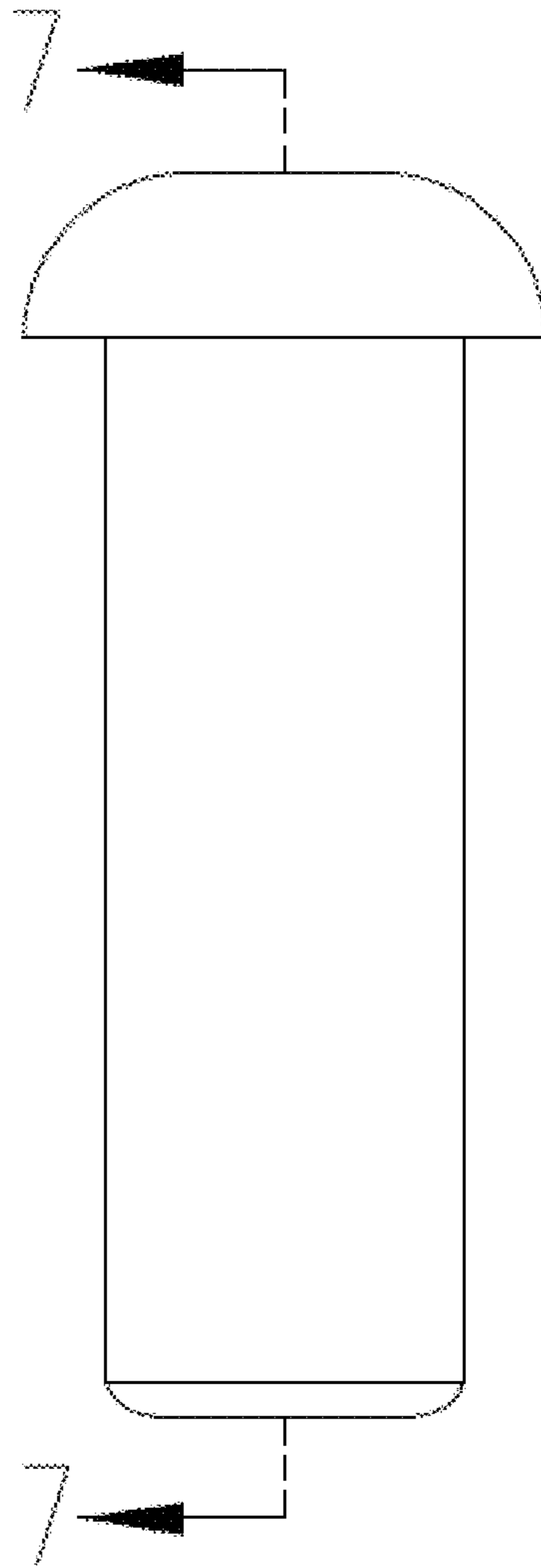


FIG. 6

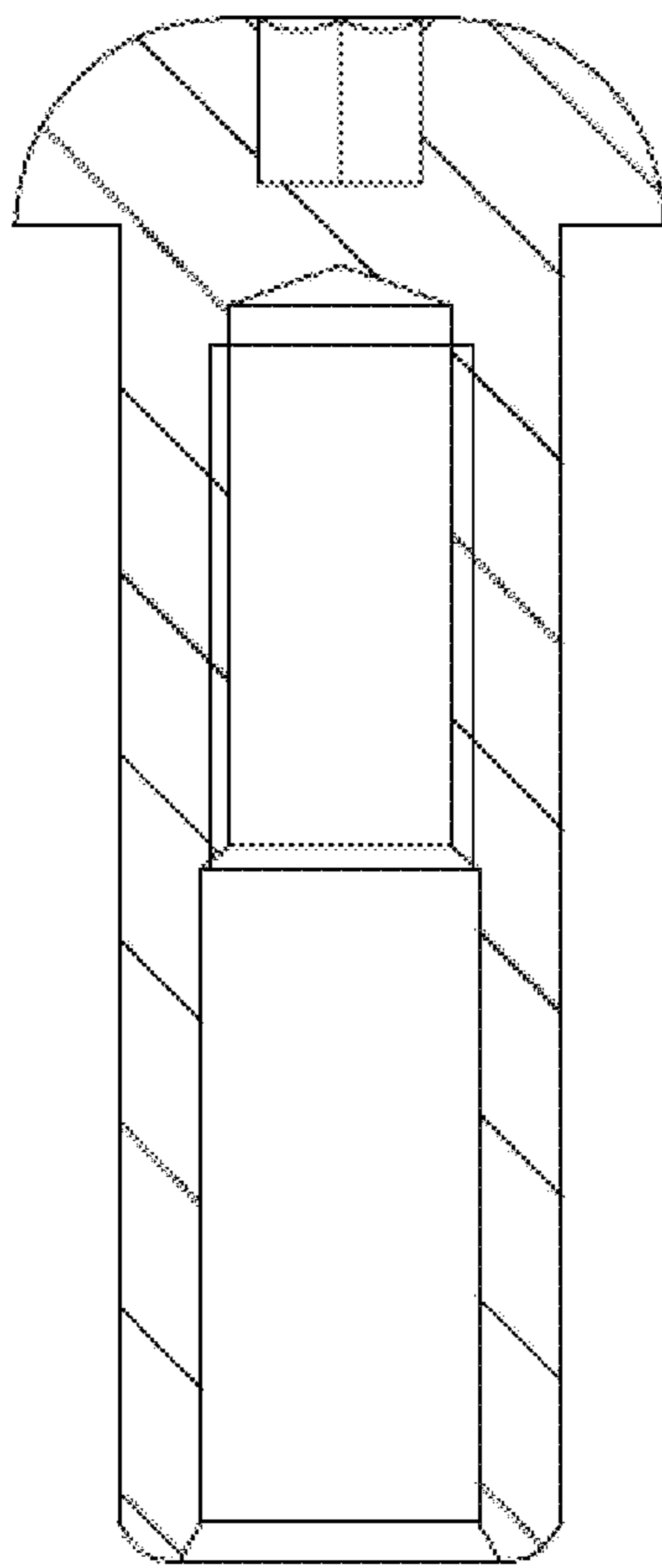


FIG. 7

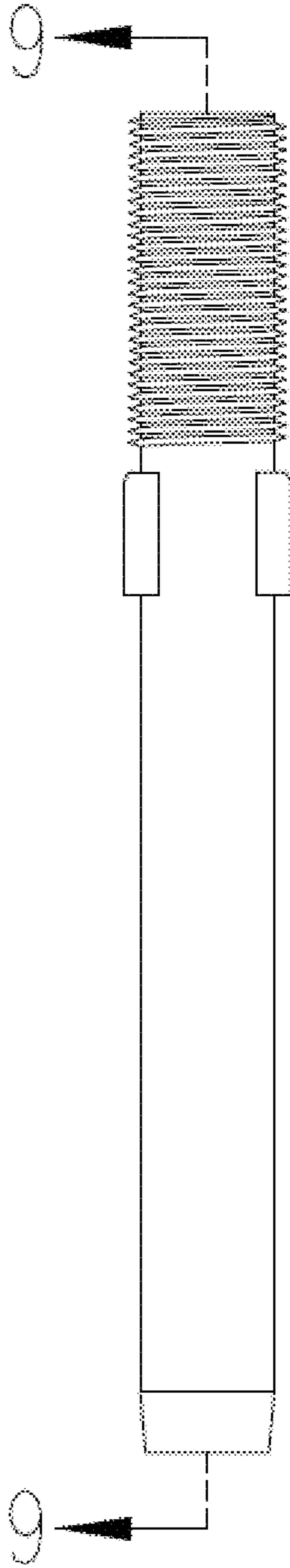


FIG. 8

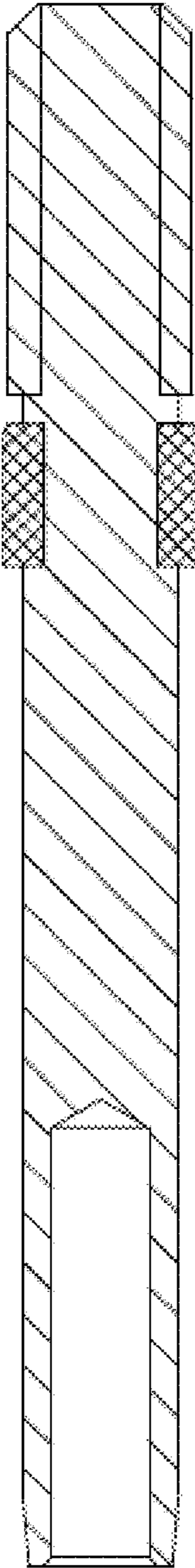


FIG. 9