



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

(10) **Patent No.:** **US D733,880 S**
(45) **Date of Patent:** **** Jul. 7, 2015**

- (54) **SURGICAL TROCAR**
- (71) Applicant: **KARL STORZ GmbH & Co. KG**,
Tuttlingen (DE)
- (72) Inventor: **Annika Mueller**, Geislingen (DE)
- (73) Assignee: **KARL STORZ GmbH & Co. KG**,
Tuttlingen (DE)
- (**) Term: **14 Years**
- (21) Appl. No.: **29/508,954**
- (22) Filed: **Nov. 12, 2014**
- (30) **Foreign Application Priority Data**
 - May 12, 2014 (EM) 002461954-0002
 - May 12, 2014 (EM) 002461954-0004
 - May 12, 2014 (EM) 002461954-0006
- (51) **LOC (10) Cl.** **24-02**
- (52) **U.S. Cl.**
USPC **D24/147**
- (58) **Field of Classification Search**
USPC D7/649; D8/93, 97, 300, 310, 311, 313;
D19/110, 115; D24/127, 130, 133,
D24/146, 147, 148
CPC B26B 3/00; B26B 1/10; B26B 5/005;
A61B 17/809; A61B 17/1617; A61B 17/3211;
A61B 5/1411; A61B 17/3417
See application file for complete search history.

- (56) **References Cited**
U.S. PATENT DOCUMENTS
5,261,891 A 11/1993 Brinkerhoff et al.
5,346,459 A 9/1994 Allen
(Continued)
Primary Examiner — Robert M Spear
Assistant Examiner — Marissa J Cash
(74) *Attorney, Agent, or Firm* — Muncy, Geissler, Olds &
Lowe, P.C.

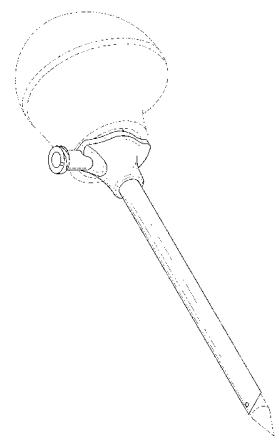
(57) **CLAIM**
The ornamental design for a surgical trocar, as shown and described.

DESCRIPTION

FIG. 1 is a bottom perspective view of a surgical trocar shown in an environment of use.

FIG. 2 is a front view of the surgical trocar of FIG. 1.
 FIG. 3 is a rear view of the surgical trocar of FIG. 1.
 FIG. 4 is a right side view of the surgical trocar of FIG. 1.
 FIG. 5 is a left side view of the surgical trocar of FIG. 1.
 FIG. 6 is a rear view of the surgical trocar of FIG. 1.
 FIG. 7 is a front plan view of the surgical trocar of FIG. 1.
 FIG. 8 is a bottom perspective view of a surgical trocar shown in an alternate environment of use.
 FIG. 9 is a front view of the surgical trocar of FIG. 1.
 FIG. 10 is a rear view of the surgical trocar of FIG. 1.
 FIG. 11 is a right side view of the surgical trocar of FIG. 1.
 FIG. 12 is a left side view of the surgical trocar of FIG. 1.
 FIG. 13 is a rear view of the surgical trocar of FIG. 1.
 FIG. 14 is a front plan view of the surgical trocar of FIG. 1.
 FIG. 15 is a bottom perspective view of a surgical trocar shown in a second alternate environment of use.
 FIG. 16 is a front view of the surgical trocar of FIG. 15.
 FIG. 17 is a rear view of the surgical trocar of FIG. 15.
 FIG. 18 is a right side view of the surgical trocar of FIG. 15.
 FIG. 19 is a left side view of the surgical trocar of FIG. 15.
 FIG. 20 is a rear view of the surgical trocar of FIG. 15.
 FIG. 21 is a front plan view of the surgical trocar of FIG. 15.
 FIG. 22 is a bottom perspective view of a surgical trocar.
 FIG. 23 is a front view of the surgical trocar of FIG. 22.
 FIG. 24 is a rear view of the surgical trocar of FIG. 22.
 FIG. 25 is a right side view of the surgical trocar of FIG. 22.
 FIG. 26 is a left side view of the surgical trocar of FIG. 22.
 FIG. 27 is a rear view of the surgical trocar of FIG. 22; and,
 FIG. 28 is a front plan view of the surgical trocar of FIG. 22.
 The dashed lines illustrate environment that does not form a part of the present invention, and no claim is made to the material illustrated with dashed lines.

1 Claim, 24 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D358,209	S	5/1995	Petruschke et al.				
D362,066	S	* 9/1995	Petruschke et al.	.....	D24/146	D559,387	S * 1/2008 Wing et al. D24/146
5,772,678	A	* 6/1998	Thomason et al.	.....	606/185	D603,046	S * 10/2009 Frey D24/146
D495,053	S	8/2004	Laun			D700,326	S * 2/2014 Minnelli et al. D24/146
D496,729	S	* 9/2004	Pajunk et al.	.....	D24/146	D724,200	S * 3/2015 Brannon D24/112
D552,733	S	* 10/2007	Criscuolo et al.	.....	D24/146	D726,907	S * 4/2015 Trump D24/130
						2004/0260244	A1 * 12/2004 Piechowicz et al. 604/167.06
						2005/0070946	A1 * 3/2005 Franer et al. 606/185
						2006/0264992	A1 * 11/2006 Franer et al. 606/167
						2012/0136381	A1 * 5/2012 Morrison et al. 606/185

* cited by examiner

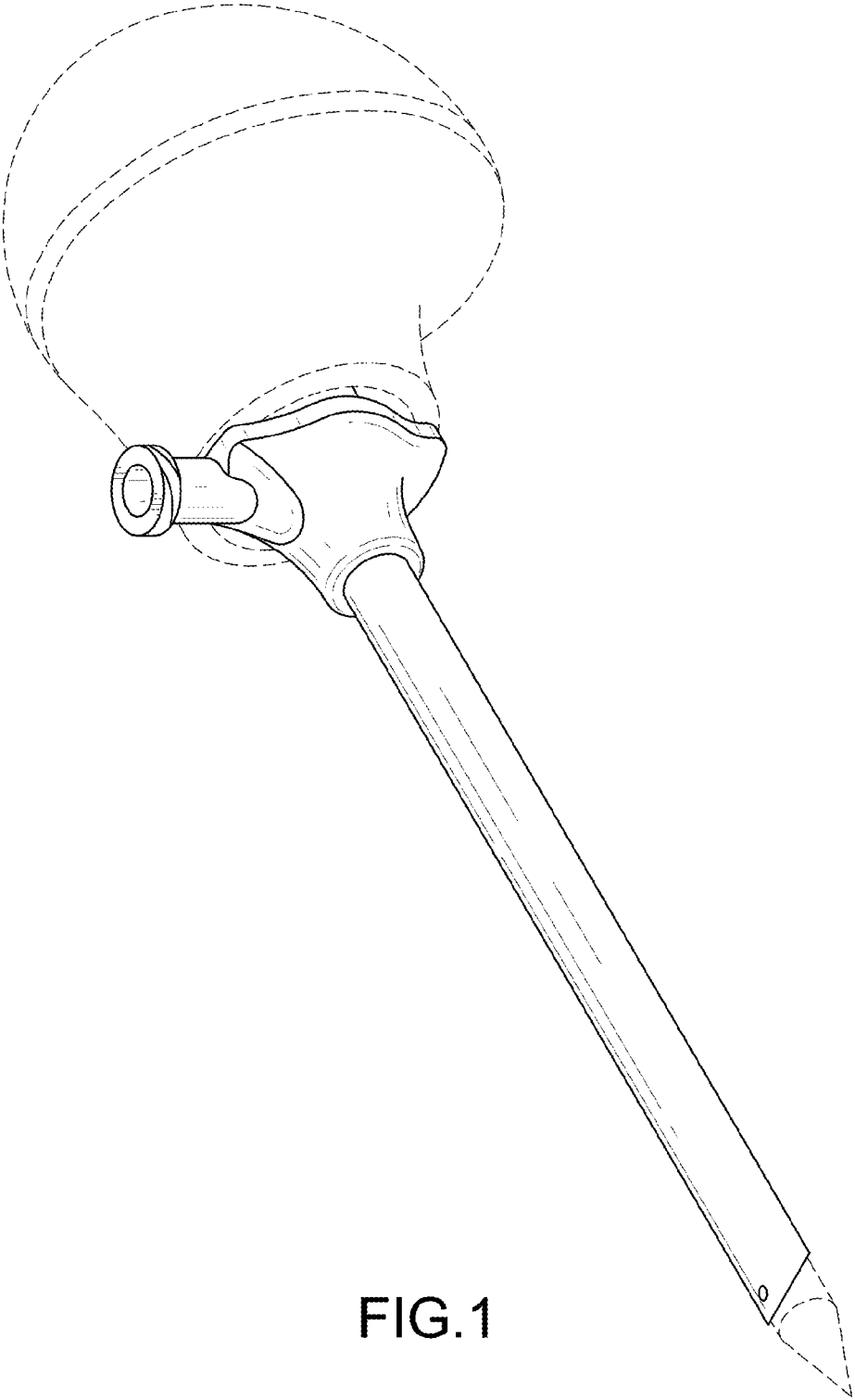


FIG.1

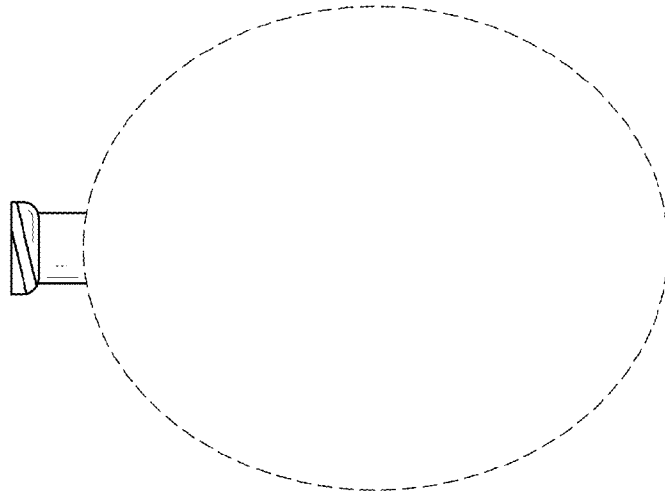


FIG. 2

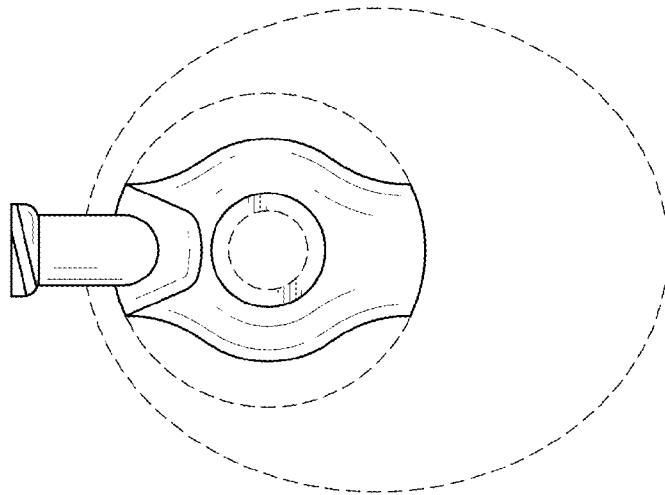


FIG. 3

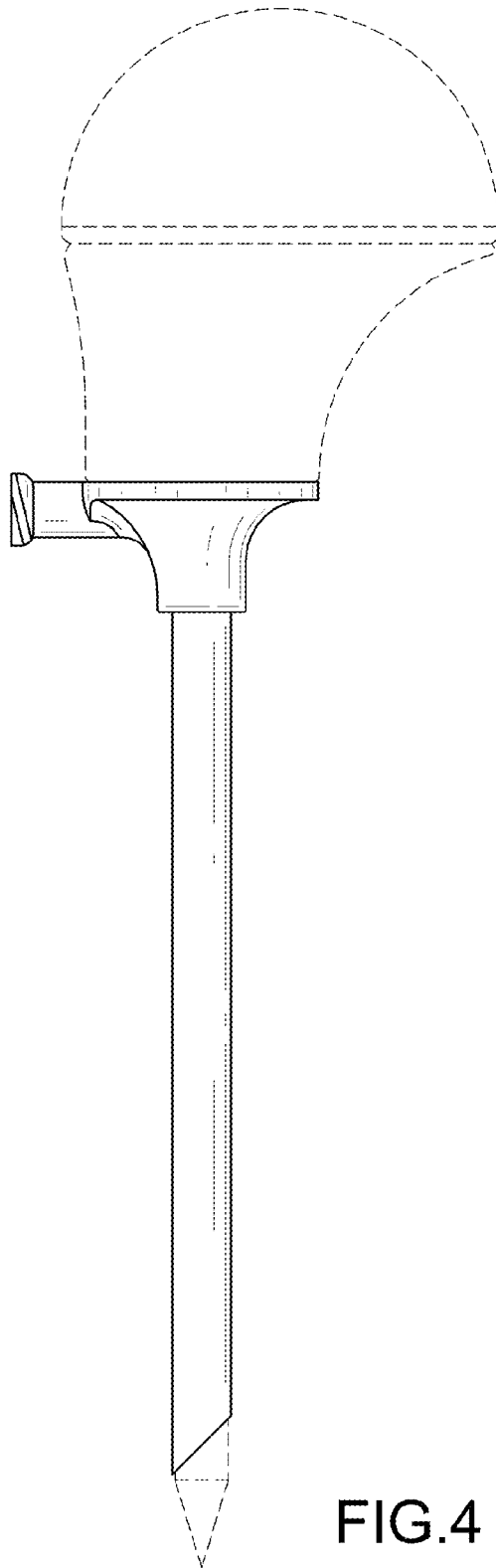


FIG. 4

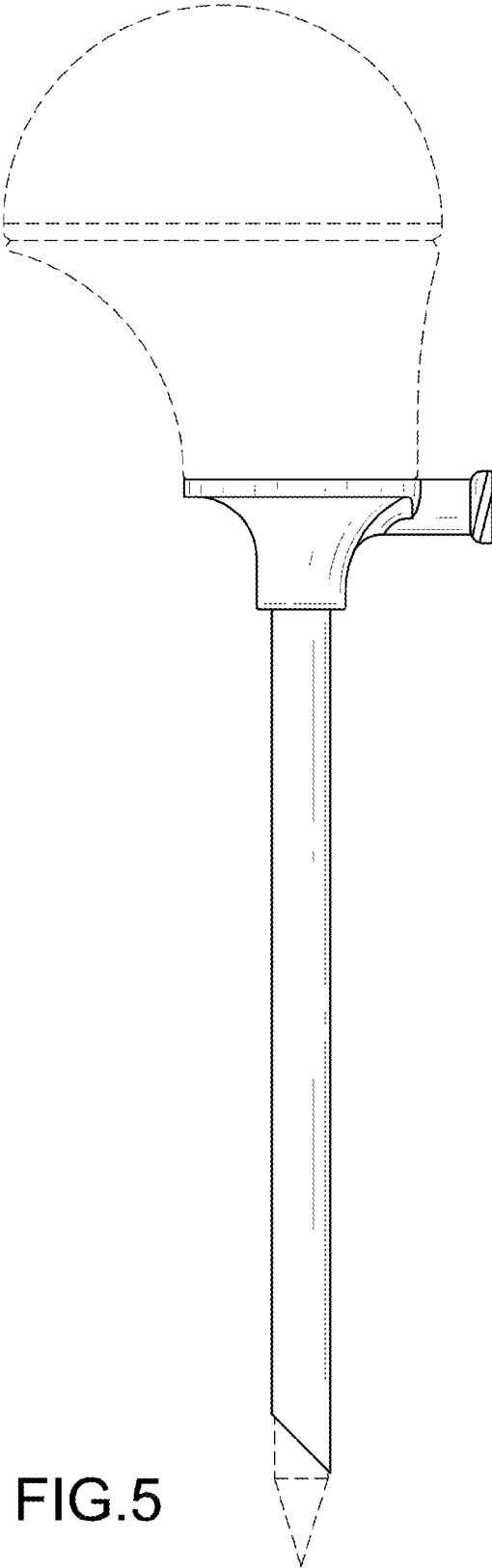


FIG.5

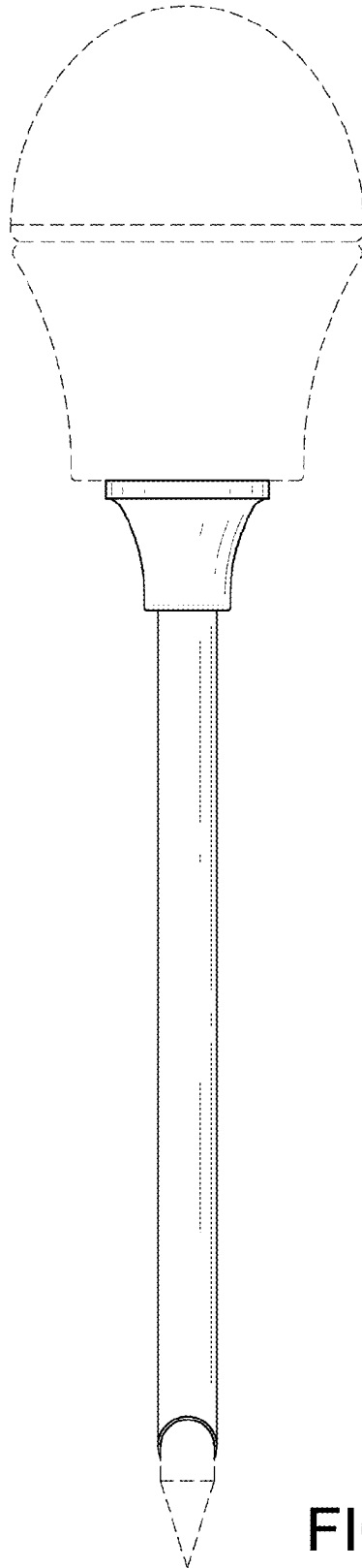


FIG.6

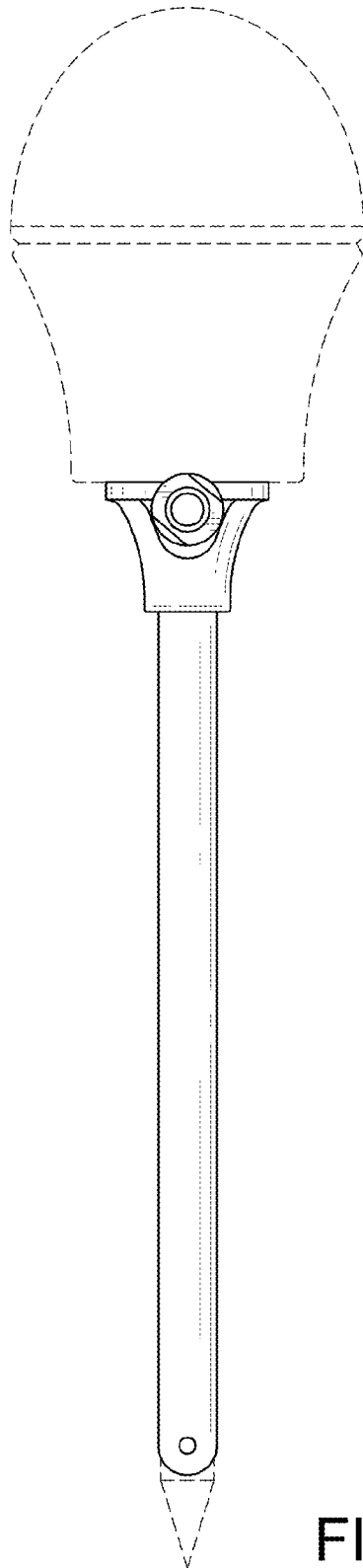


FIG.7

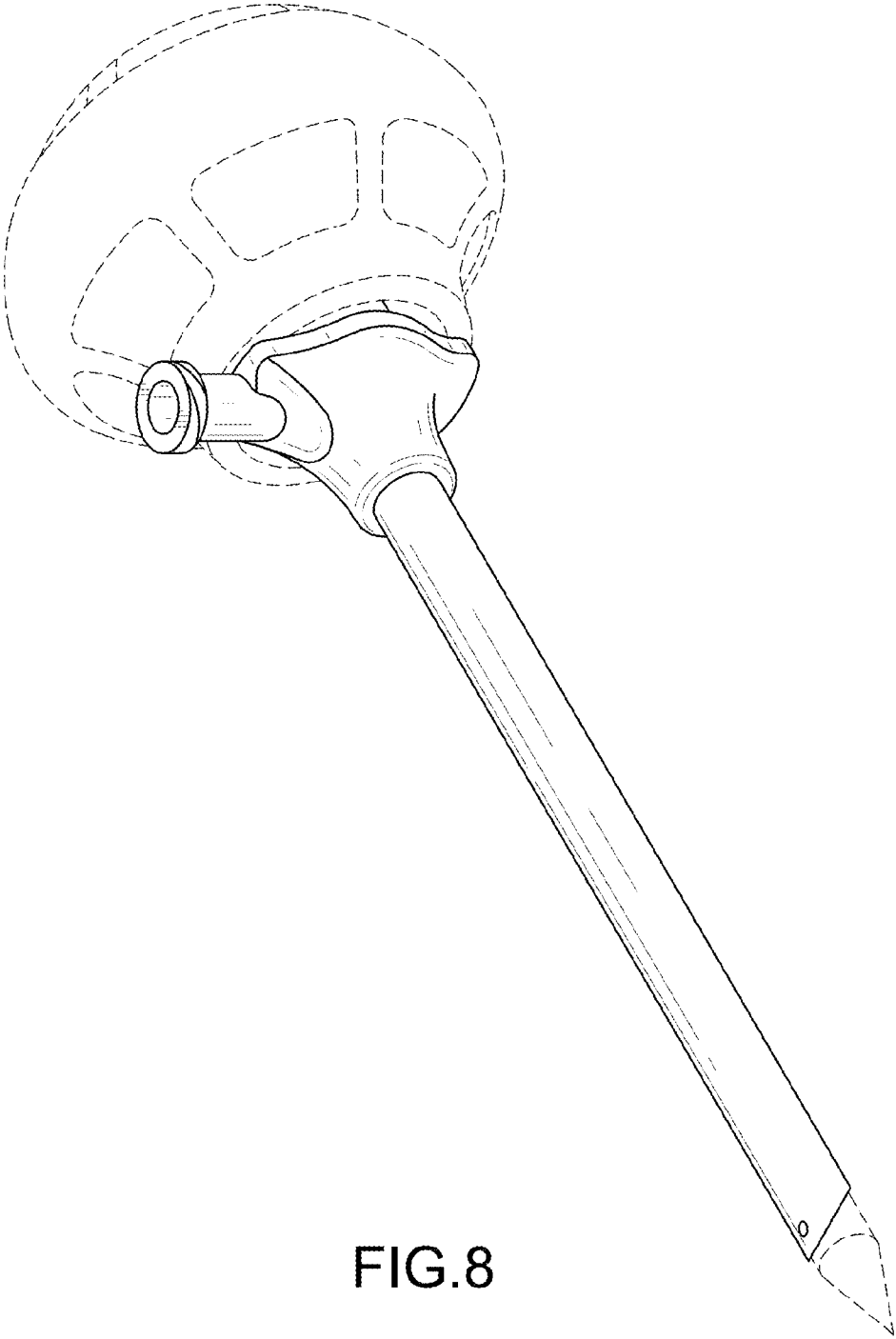


FIG. 8

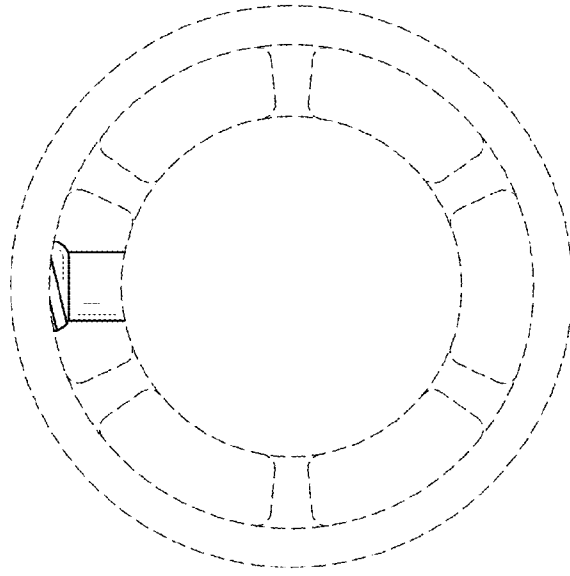


FIG.9

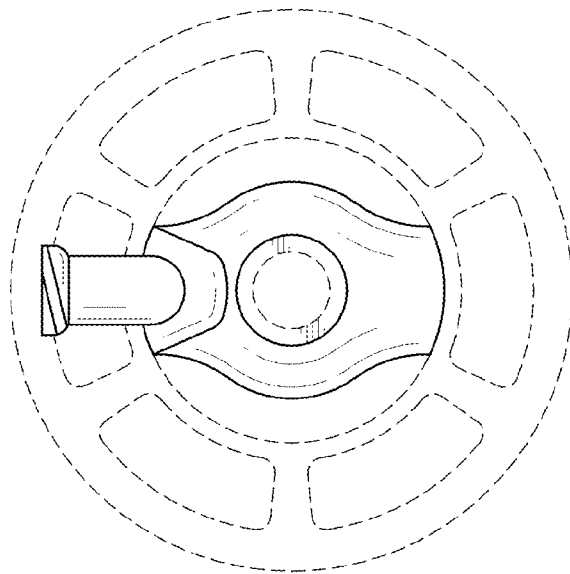


FIG.10

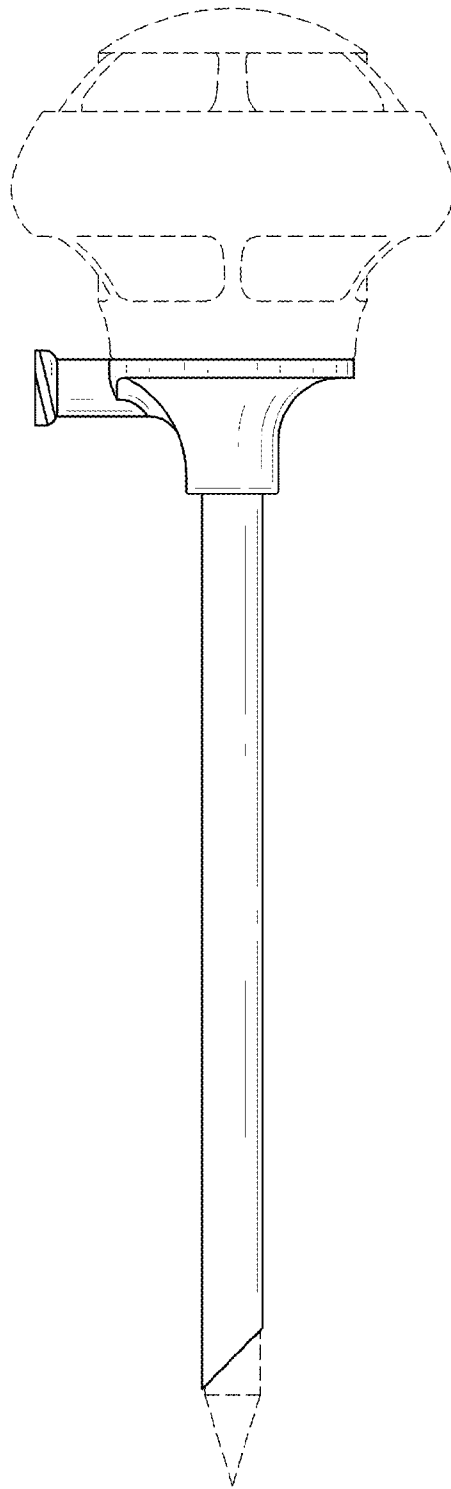


FIG.11

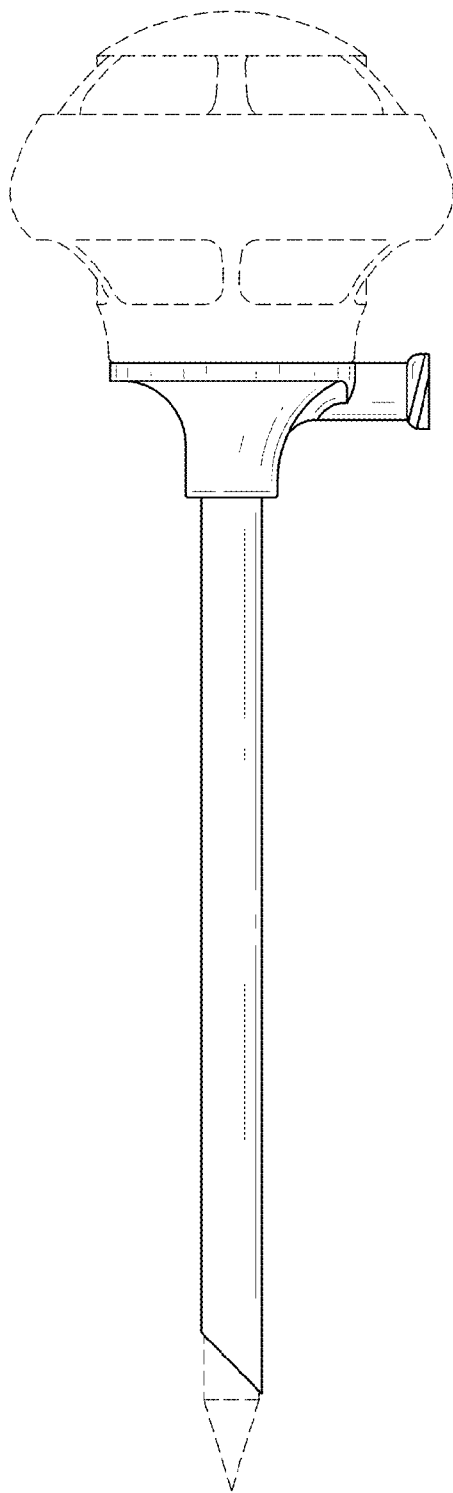


FIG.12

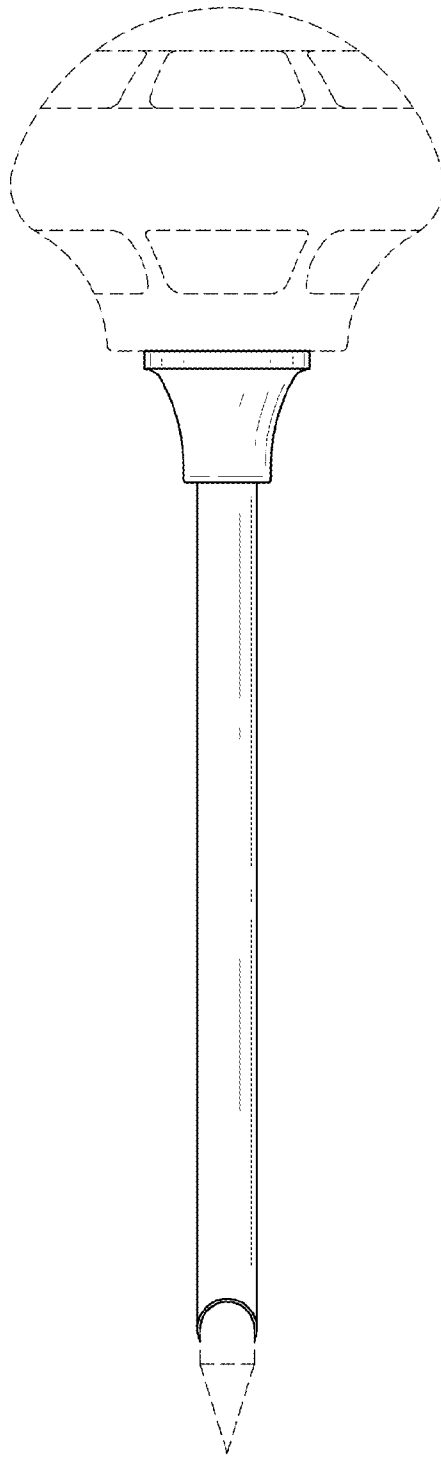


FIG.13

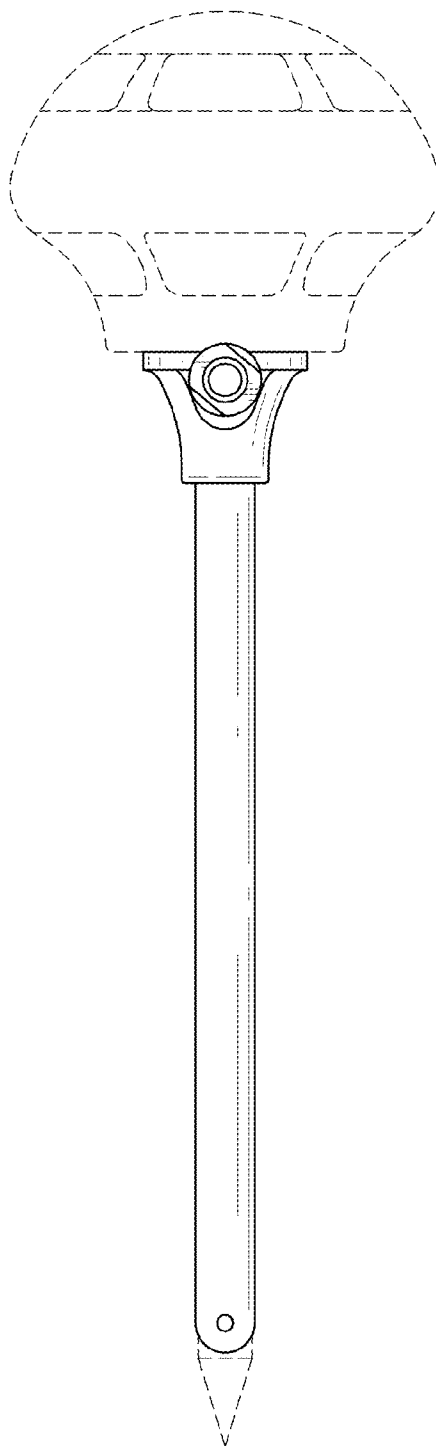


FIG.14

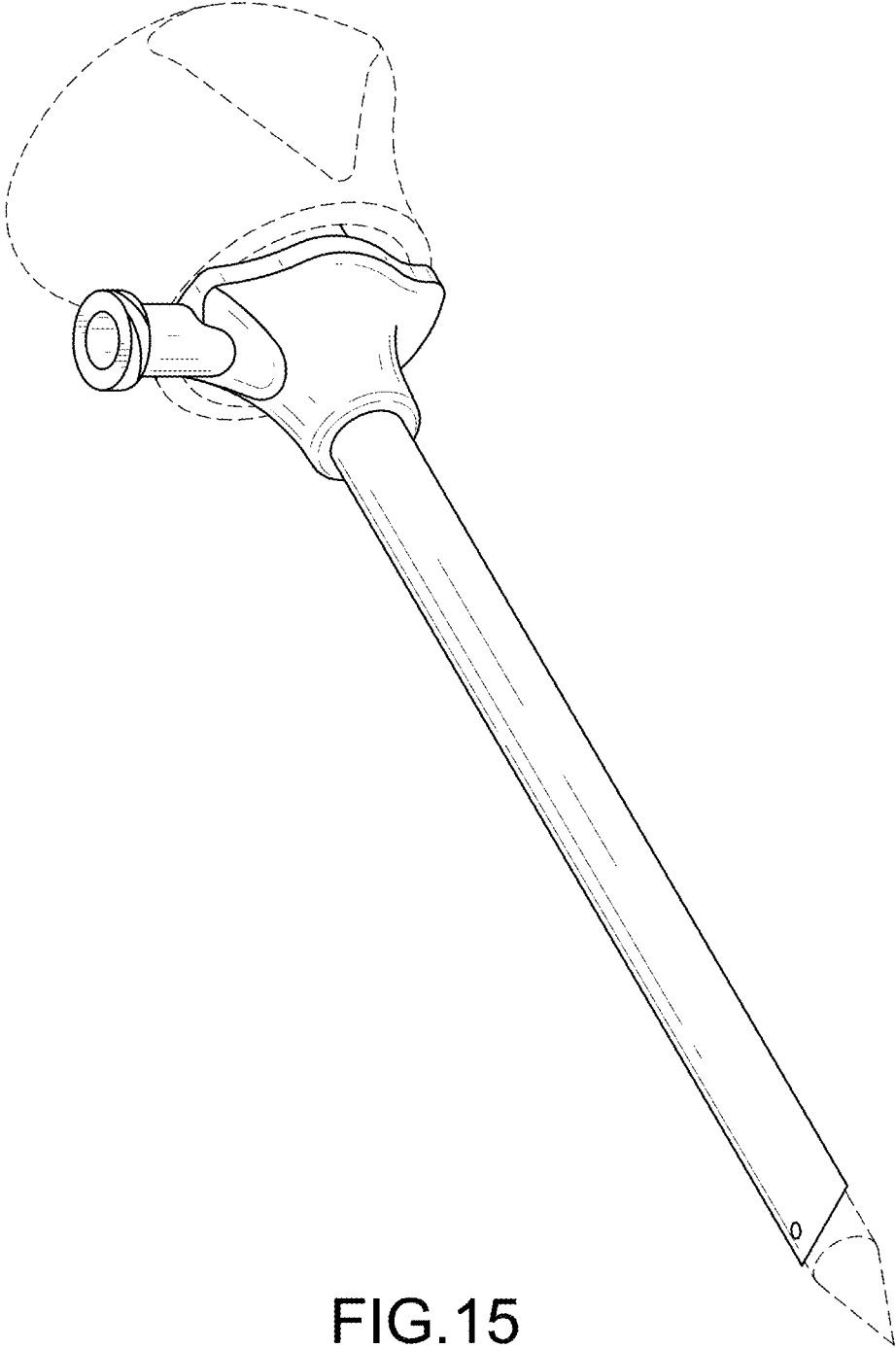


FIG. 15

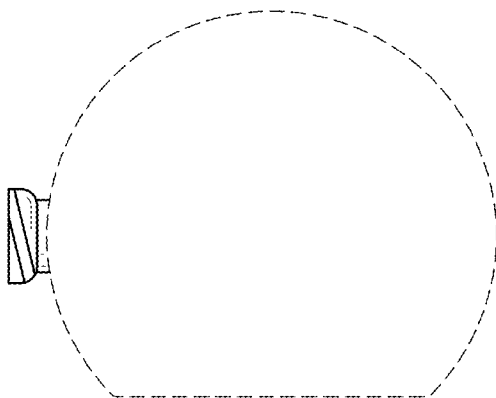


FIG.16

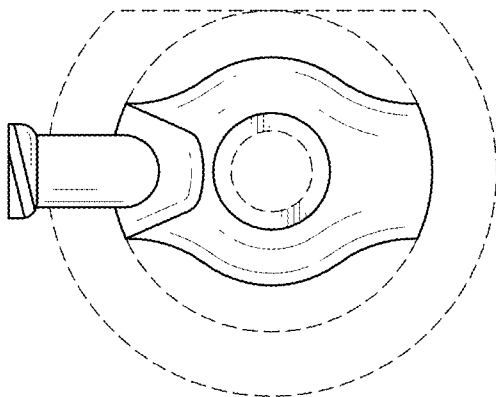


FIG.17

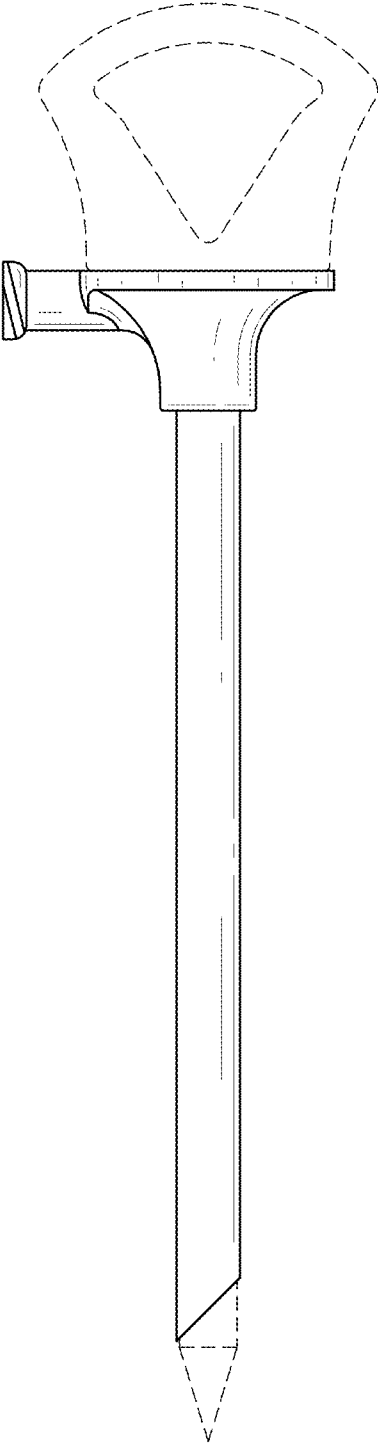


FIG.18

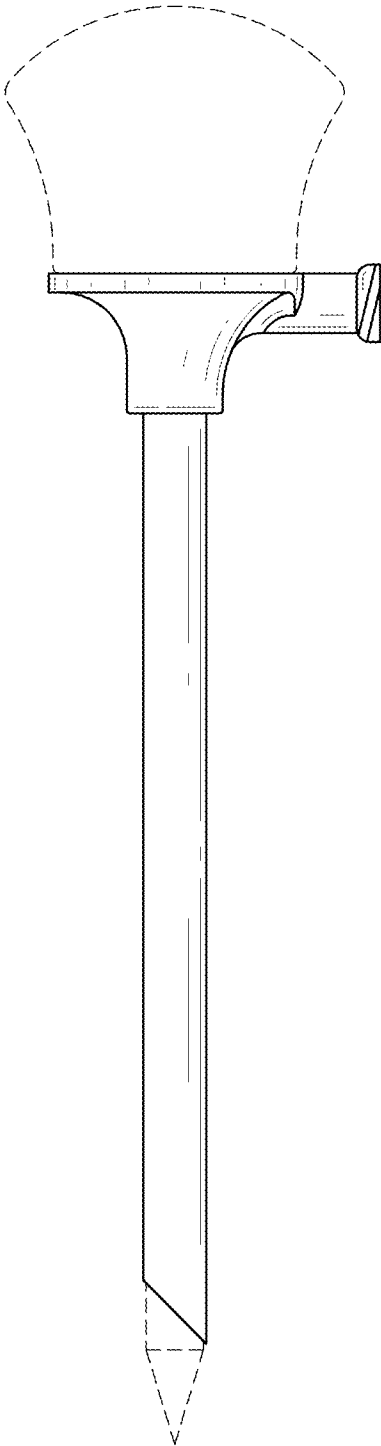


FIG.19

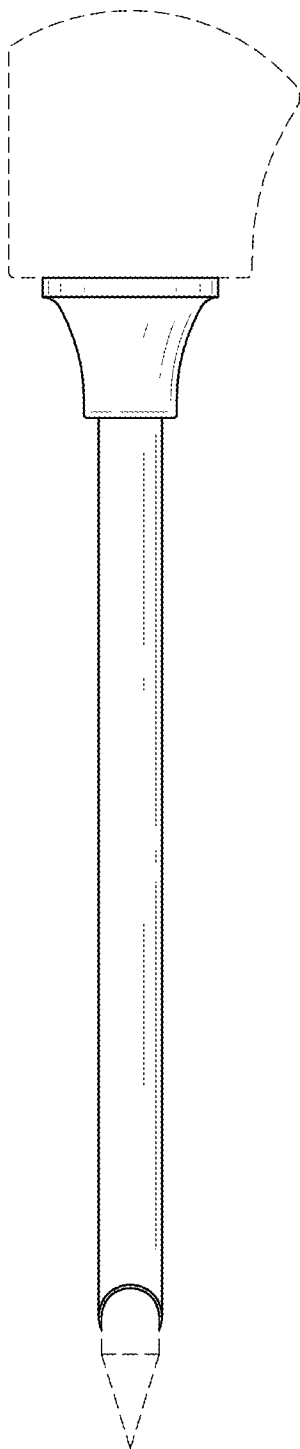


FIG. 20

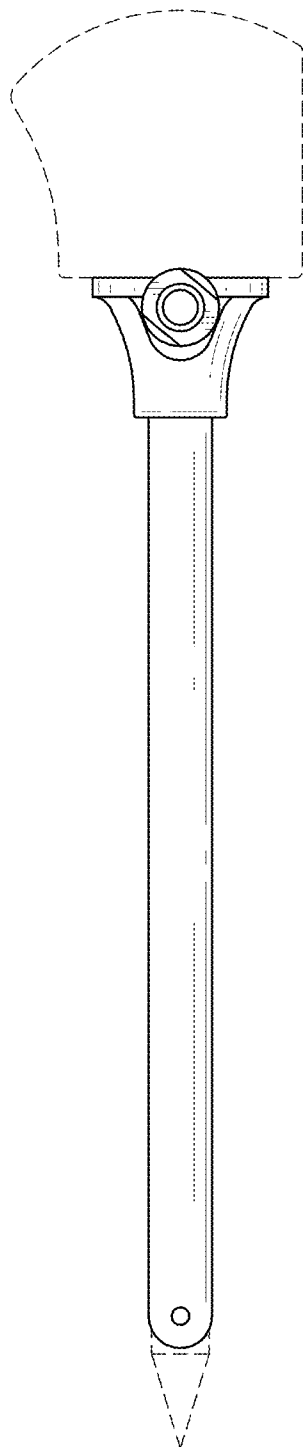


FIG.21

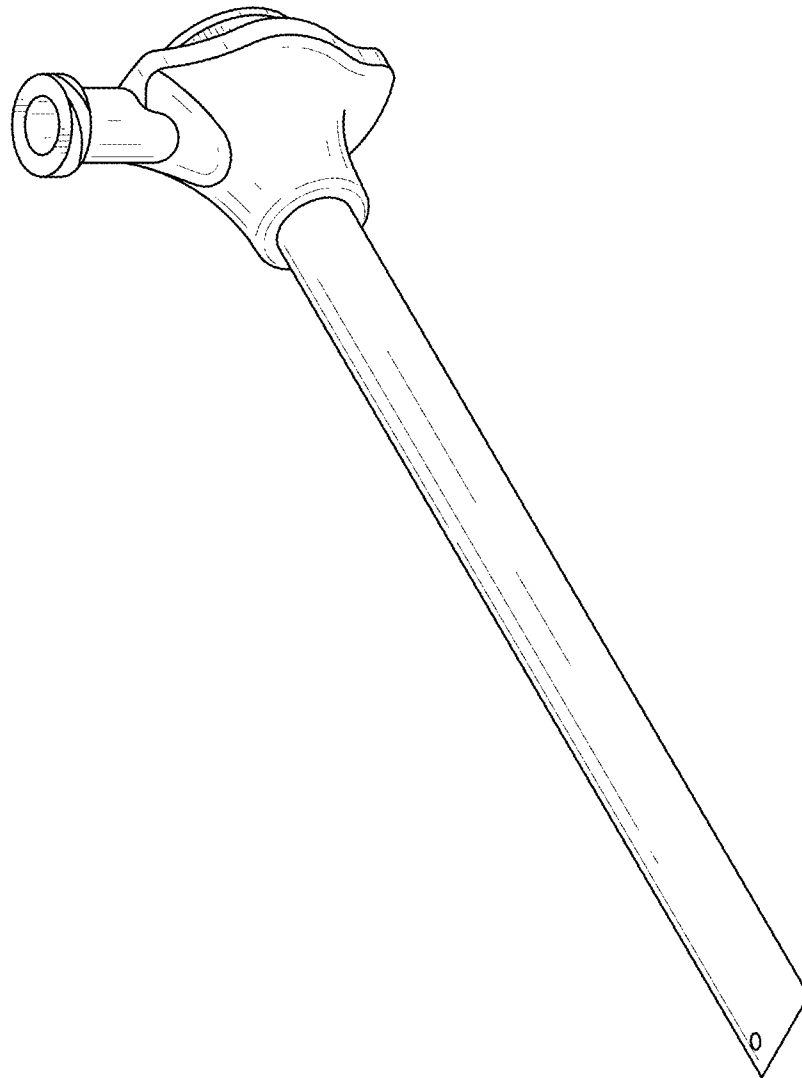


FIG.22

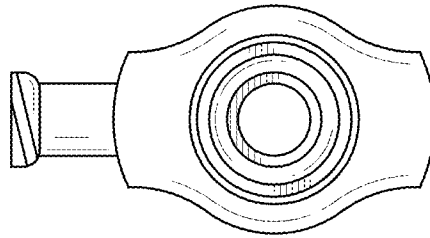


FIG. 23

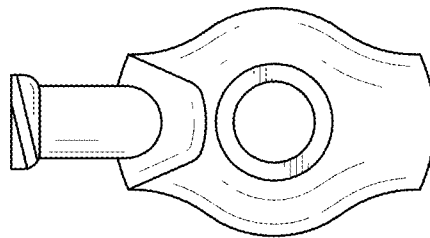


FIG. 24

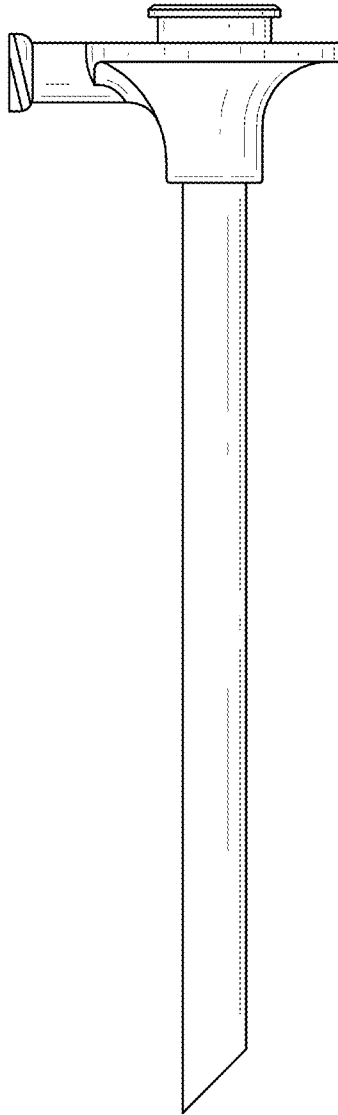


FIG.25

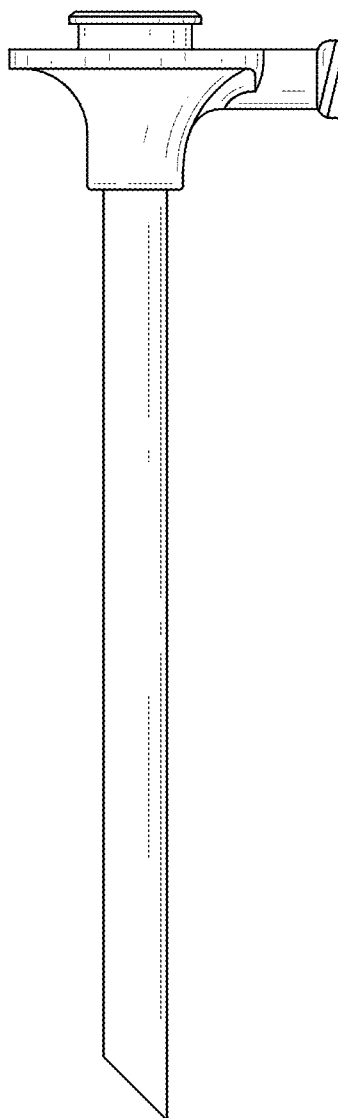


FIG.26

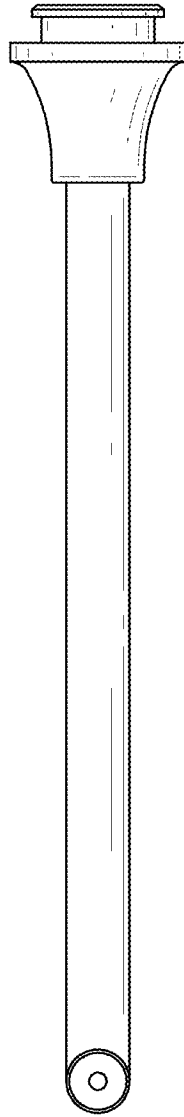


FIG.27

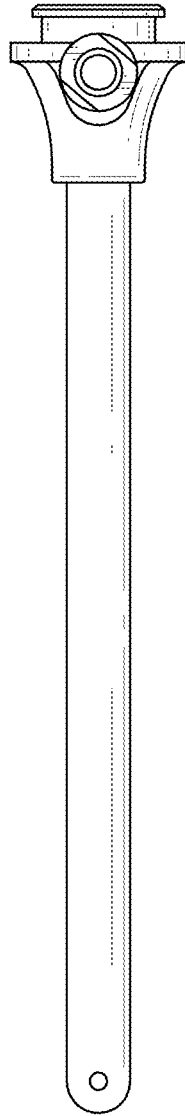


FIG.28