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(12) **United States Design Patent**
Vonck et al.

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(54) **VACUUM GRIPPER**

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(**) Term: **14 Years**

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Related U.S. Application Data

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(30) **Foreign Application Priority Data**

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(51) **LOC (10) Cl.** **24-02**

(52) **U.S. Cl.**
USPC **D24/133**

(58) **Field of Classification Search**
USPC D24/133, 143, 144, 145, 146-149, 153,
D24/138, 140, 112, 114; 600/567, 566, 576;
606/92, 93, 94, 170, 185, 53, 142, 143,
606/205, 207, 49-52, 107, 206, 208, 101
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D385,627 S * 10/1997 Cook et al. D24/133
5,772,672 A * 6/1998 Toy et al. 606/139
6,280,399 B1 * 8/2001 Rossin et al. 600/567

D467,657 S * 12/2002 Scribner D24/133
D469,871 S * 2/2003 Sand D24/133
D587,806 S * 3/2009 Hahn D24/145
D594,119 S * 6/2009 Berberich et al. D24/133
D605,764 S * 12/2009 Griffis et al. D24/145
D615,197 S * 5/2010 Koh et al. D24/133
D620,107 S * 7/2010 Bartlett et al. D24/138
D621,932 S * 8/2010 Sonleiter et al. D24/133
D625,818 S * 10/2010 Khalil et al. D24/146
D630,735 S * 1/2011 Behrbohm D24/133
D634,424 S * 3/2011 Morejon D24/146
D643,115 S * 8/2011 Gonzales et al. D24/133
D643,531 S * 8/2011 van der Weiden D24/133
D646,384 S * 10/2011 Gauthier et al. D24/133
D646,385 S * 10/2011 Gauthier et al. D24/133
D646,386 S * 10/2011 Miller et al. D24/133
D646,387 S * 10/2011 Bast et al. D24/133
D646,783 S * 10/2011 Bast et al. D24/133
2008/0243165 A1 * 10/2008 Mauch et al. 606/191
2009/0192408 A1 * 7/2009 Mark 600/562

* cited by examiner

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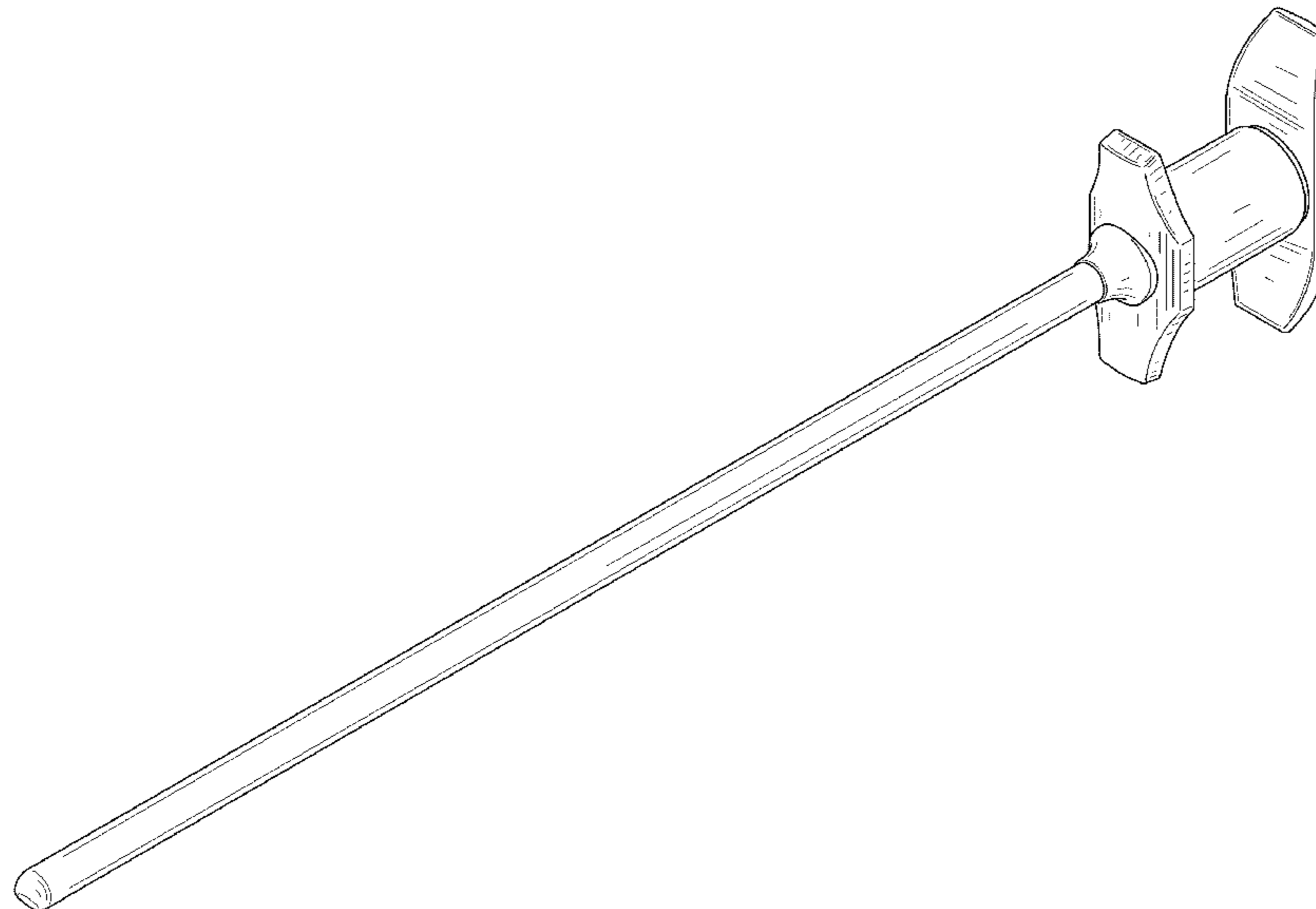
(57) **CLAIM**

The ornamental design for a vacuum gripper, as shown and described.

DESCRIPTION

FIG. 1 is a left side elevational view of a vacuum gripper showing our new design.
FIG. 2 is a right side elevational view thereof.
FIG. 3 is a front elevational view thereof.
FIG. 4 is a rear elevational view thereof.
FIG. 5 is a bottom plan view thereof.
FIG. 6 is a top plan view thereof; and,
FIG. 7 is a perspective view thereof.

1 Claim, 6 Drawing Sheets



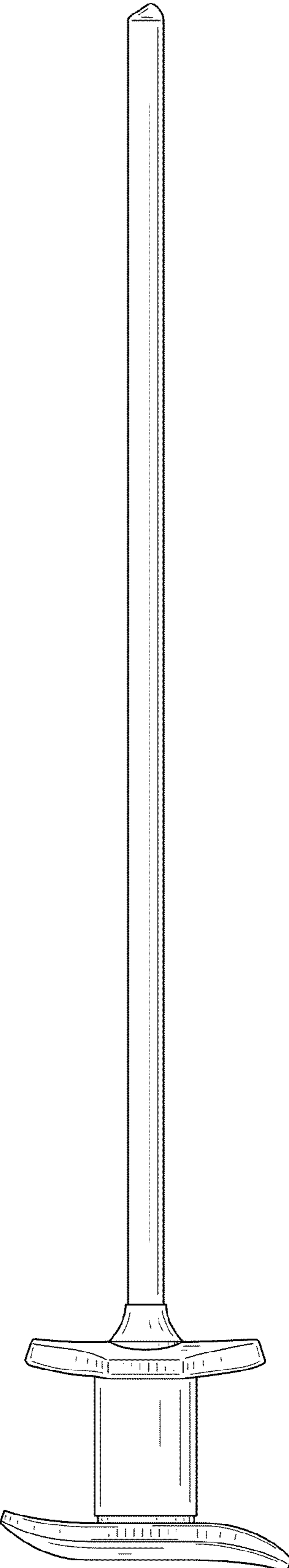


FIG. 1

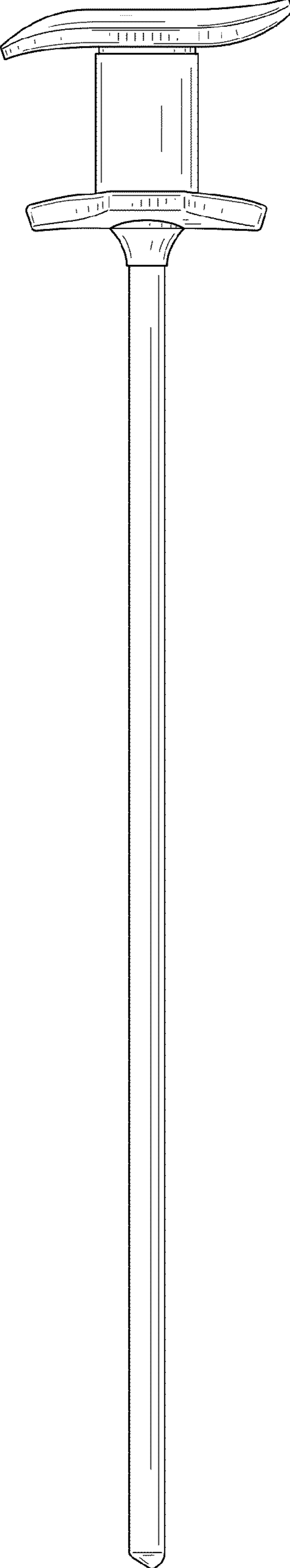


FIG. 2

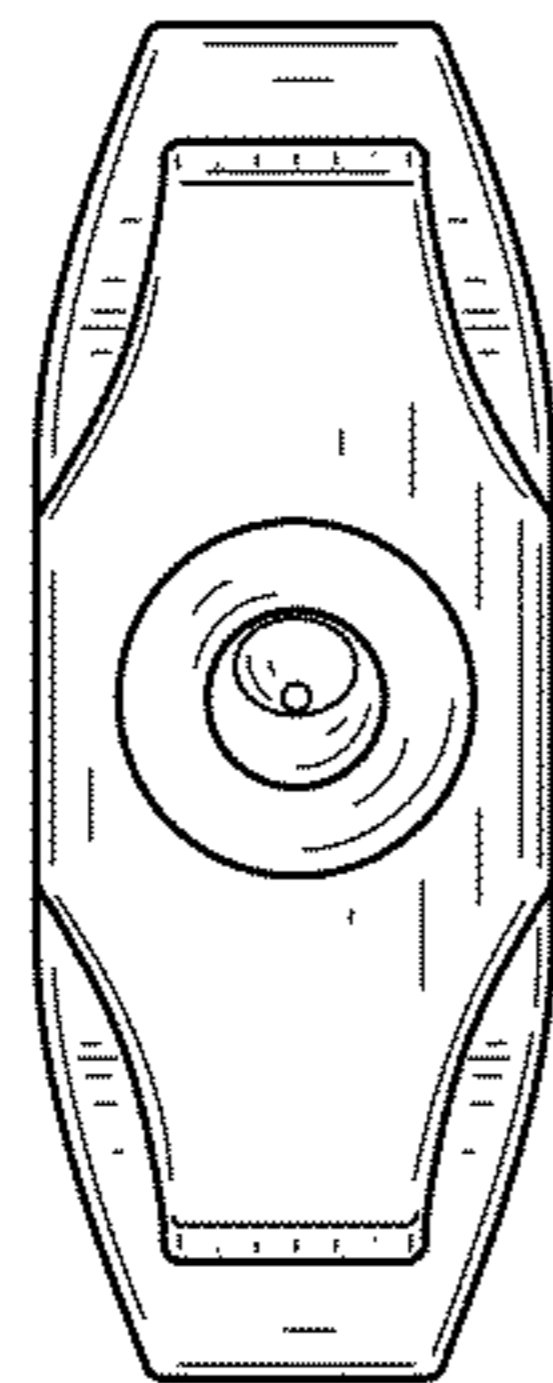


FIG. 3

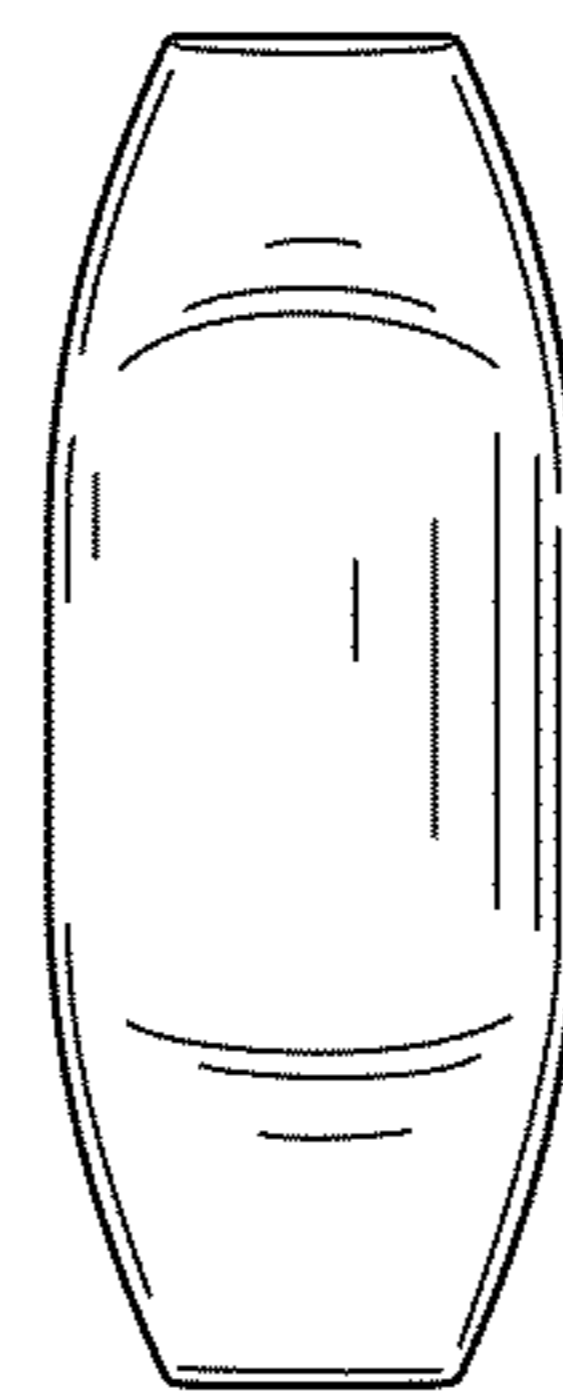


FIG. 4

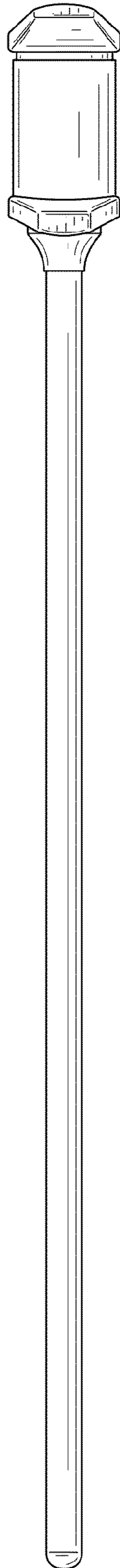


FIG. 5

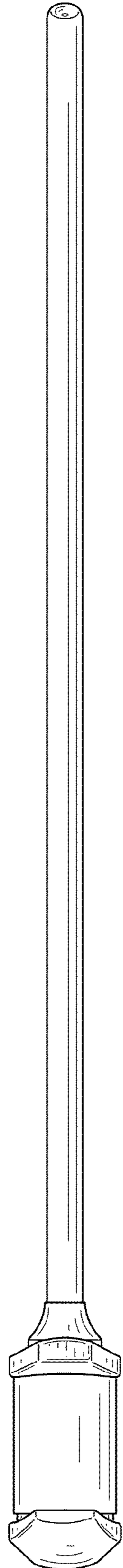


FIG. 6

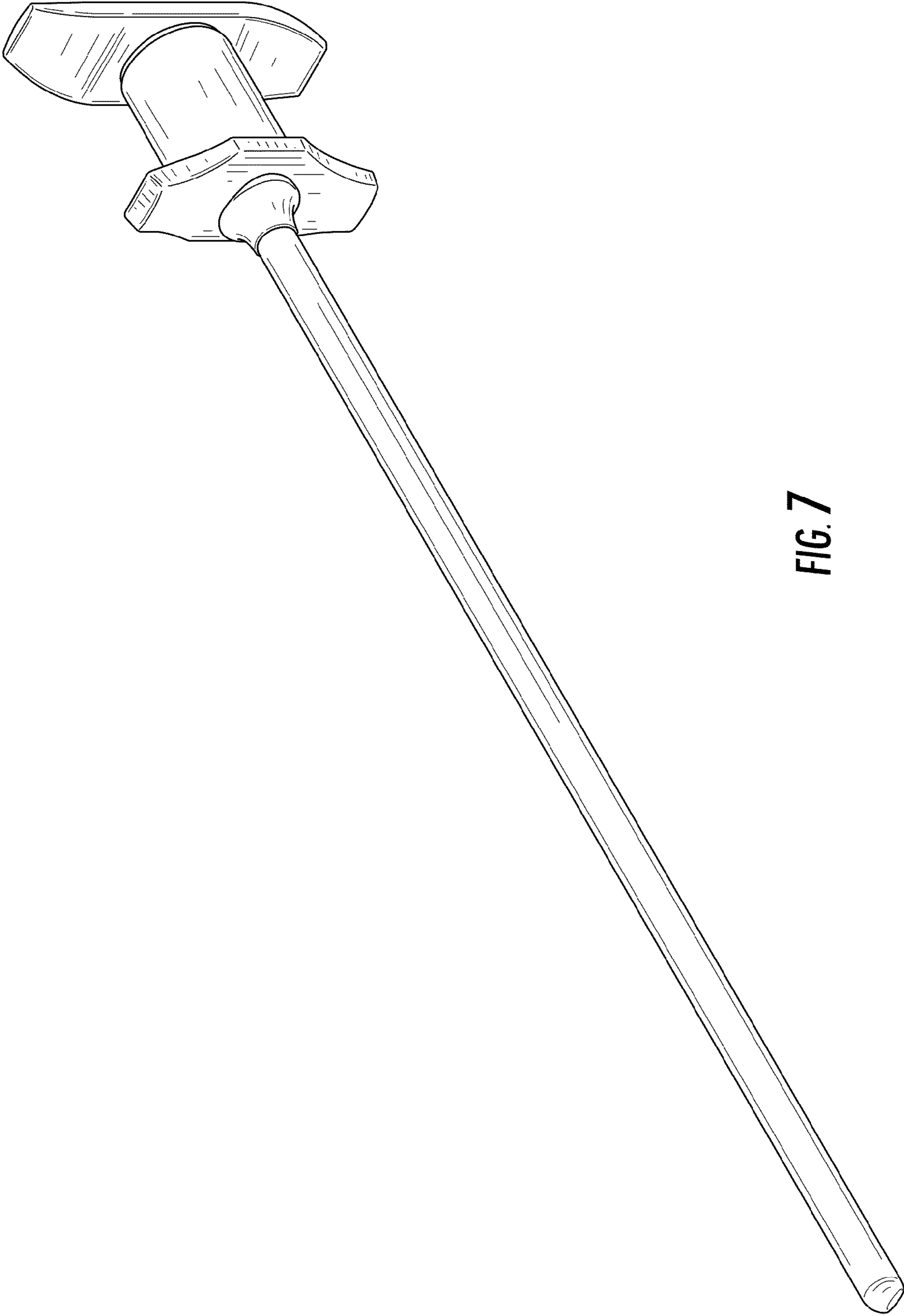


FIG. 7