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(12) **United States Design Patent** (10) **Patent No.:** **US D893,027 S**
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(54) **MEASUREMENT HEAD FOR SURGICAL TOOL**

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

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(52) **U.S. Cl.**
USPC **D24/140**

(58) **Field of Classification Search**
USPC D24/140, 146; D8/70, 71; D15/138, 139
CPC A61B 17/17; A61B 17/151; A61B 17/1615
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,763,935 A	9/1956	Whaley et al.
3,897,166 A	7/1975	Adams
4,310,269 A	1/1982	Neu et al.
4,359,906 A	11/1982	Cordey
4,688,970 A	8/1987	Eckman
4,752,161 A	6/1988	Hill
5,071,293 A	12/1991	Wells

(Continued)

FOREIGN PATENT DOCUMENTS

CN	101530341 A	9/2009
CN	204394613 U	6/2015

(Continued)

OTHER PUBLICATIONS

International Search Report for Application No. PCT/US2016/049899 dated Nov. 16, 2016, 4 pages.

(Continued)

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(57) **CLAIM**

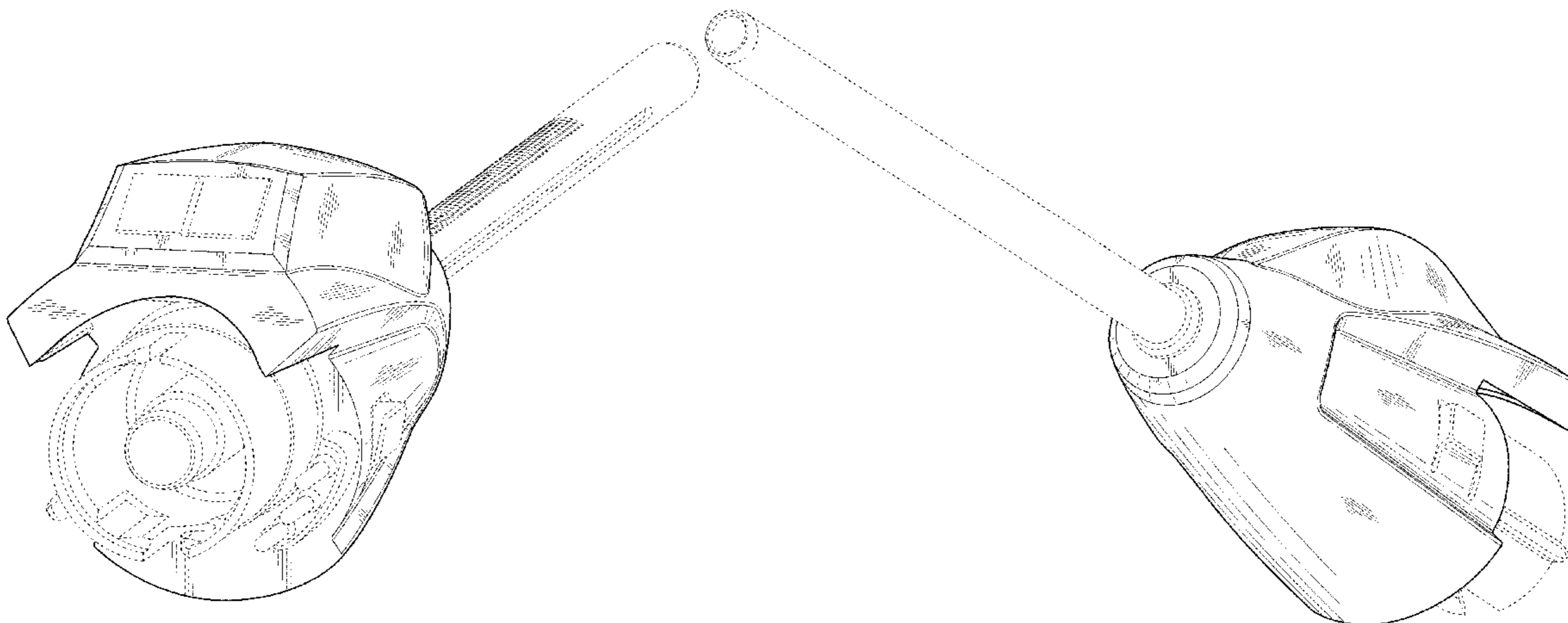
The ornamental design for a measurement head for surgical tool, as shown and described.

DESCRIPTION

FIG. 1 is a top, front left perspective view of a measurement head for surgical tool showing our new design; FIG. 2 is a bottom, front left perspective view thereof; FIG. 3 is a top, rear left perspective view thereof; FIG. 4 is a bottom, rear left perspective view thereof; FIG. 5 is a top, front right perspective view thereof; FIG. 6 is a bottom, front right perspective view thereof; FIG. 7 is a top, rear right perspective view thereof; FIG. 8 is a bottom, rear right perspective view thereof; FIG. 9 is a front end view thereof; FIG. 10 is a rear end view thereof; FIG. 11 is a top plan view thereof; FIG. 12 is a bottom plan view thereof; and FIG. 13 is a right side elevational view thereof; and, FIG. 14 is a left side elevational view thereof.

In the drawings, the broken lines show unclaimed portions of the measurement head for surgical instrument that form no part of the claimed design. The broken lines between the left and right sides of the design represent unclaimed ornamentation that form no part of the claimed design.

1 Claim, 11 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

5,257,531 A 11/1993 Motosugi et al.
 5,667,509 A 9/1997 Westin
 5,895,389 A 4/1999 Schenk et al.
 6,033,409 A 3/2000 Allotta
 6,096,042 A 8/2000 Herbert
 6,336,931 B1 1/2002 Hsu et al.
 6,391,005 B1 5/2002 Lum et al.
 6,514,258 B1 2/2003 Brown et al.
 6,565,293 B2 5/2003 Desmoulins
 6,591,698 B1 7/2003 Carlsson et al.
 6,620,101 B2 9/2003 Azzam et al.
 6,665,948 B1 12/2003 Kozin et al.
 6,719,962 B2 4/2004 Day et al.
 6,748,273 B1 6/2004 Obel et al.
 6,786,683 B2 9/2004 Schaer et al.
 6,863,136 B2 3/2005 Bar-Cohen et al.
 7,141,074 B2 11/2006 Fanger et al.
 7,163,542 B2 1/2007 Ryan
 7,188,431 B2 3/2007 Herrmann et al.
 7,482,819 B2 1/2009 Wuersch
 7,580,743 B2 8/2009 Bourlion et al.
 7,748,273 B2 7/2010 Halevy-Politch et al.
 7,771,133 B2 8/2010 Oomura et al.
 7,848,799 B2 12/2010 Herndon
 D646,638 S * 10/2011 Peterson D13/133
 8,092,457 B2 1/2012 Oettinger et al.
 8,241,229 B2 8/2012 Herndon
 8,249,696 B2 8/2012 Fisher et al.
 8,402,829 B2 3/2013 Halevy-Politch et al.
 8,419,746 B2 4/2013 Bourlion et al.
 8,460,297 B2 6/2013 Watlington et al.
 8,463,421 B2 6/2013 Brett et al.
 8,480,682 B2 7/2013 Howlett et al.
 8,486,119 B2 7/2013 Bourlion
 8,511,945 B2 8/2013 Apkarian et al.
 D710,410 S * 8/2014 Liao D15/139
 8,821,493 B2 9/2014 Anderson
 8,894,654 B2 11/2014 Anderson
 D719,594 S 12/2014 Leugers
 8,926,614 B2 1/2015 Hsieh
 D722,627 S 2/2015 Leugers
 8,970,207 B2 3/2015 Baumgartner
 D727,985 S 4/2015 Leugers
 9,017,371 B2 4/2015 Whitman et al.
 9,033,707 B2 5/2015 Dricot
 D732,364 S 6/2015 Rinaldis et al.
 9,204,885 B2 12/2015 McGinley et al.
 D759,244 S 6/2016 Leugers
 D759,245 S 6/2016 Leugers
 9,358,016 B2 6/2016 McGinley et al.
 9,370,372 B2 6/2016 McGinley et al.
 D793,831 S 8/2017 Russell et al.
 D793,832 S 8/2017 Russell et al.
 D793,833 S 8/2017 Russell et al.
 D794,190 S 8/2017 Russell et al.
 D794,196 S 8/2017 Russell et al.
 D831,824 S * 10/2018 Antalfy D24/140
 D832,436 S * 10/2018 Loewe D24/140
 D836,200 S * 12/2018 Parker D24/147
 D846,122 S * 4/2019 Pintor D24/140
 D850,616 S * 6/2019 Asfora D24/140
 2002/0058958 A1 5/2002 Walen
 2004/0059317 A1 3/2004 Hermann
 2005/0116673 A1 6/2005 Carl et al.
 2005/0131416 A1 6/2005 Jansen et al.
 2005/0171553 A1 8/2005 Schwarz et al.
 2006/0074405 A1 4/2006 Malackowski et al.
 2007/0085496 A1 4/2007 Philipp et al.
 2007/0090788 A1 4/2007 Hansford et al.
 2007/0206996 A1 9/2007 Bharadwaj et al.
 2009/0221922 A1 9/2009 Lec et al.
 2009/0326537 A1 12/2009 Anderson
 2010/0034605 A1 2/2010 Huckins et al.
 2010/0167233 A1 7/2010 Dricot
 2011/0020084 A1 1/2011 Brett et al.

2011/0230886 A1 9/2011 Gustilo et al.
 2011/0245833 A1 10/2011 Anderson
 2012/0123417 A1 5/2012 Smith
 2012/0310247 A1 12/2012 Hsieh
 2013/0138106 A1 5/2013 Kumar
 2013/0338669 A1 12/2013 Brianza et al.
 2014/0018810 A1 1/2014 Knape et al.
 2014/0046332 A1 2/2014 Premanathan et al.
 2014/0114316 A1 4/2014 Xu et al.
 2014/0148808 A1 5/2014 Inkpen et al.
 2014/0222003 A1 8/2014 Herndon et al.
 2014/0371752 A1 12/2014 Anderson
 2015/0066030 A1 3/2015 McGinley et al.
 2015/0066035 A1 3/2015 McGinley et al.
 2015/0066036 A1 3/2015 McGinley et al.
 2015/0066037 A1 3/2015 McGinley et al.
 2015/0066038 A1 3/2015 McGinley et al.
 2015/0080966 A1 3/2015 Anderson
 2015/0141999 A1 5/2015 McGinley et al.
 2015/0148805 A1 5/2015 McGinley et al.
 2015/0148806 A1 5/2015 McGinley et al.
 2016/0051265 A1 2/2016 Jones et al.
 2016/0120553 A1 5/2016 Xie
 2016/0128704 A1 5/2016 McGinley et al.
 2017/0128081 A1 5/2017 McGinley
 2017/0143396 A1 5/2017 McGinley et al.
 2017/0143440 A1 5/2017 McGinley et al.
 2017/0181753 A1 6/2017 Langeland
 2017/0189037 A1 7/2017 McGinley et al.
 2017/0340374 A1 11/2017 Xie et al.
 2018/0250020 A1 9/2018 Carusillo

FOREIGN PATENT DOCUMENTS

DE 102011111671 A1 2/2013
 EP 1330192 A2 7/2003
 EP 1374784 A1 1/2004
 JP D1061576 * 2/2000
 KR 20100050763 A 5/2010
 WO 9724991 A1 7/1997
 WO 2007002230 A1 1/2007
 WO 2009158115 A1 12/2009
 WO 2013029582 A1 3/2013
 WO 2015006296 A1 1/2015
 WO 2015034562 A1 3/2015
 WO 2015070159 A1 5/2015
 WO 2016036756 A1 3/2016
 WO 2017040783 A1 3/2017
 WO 2017172949 A1 10/2017
 WO 2019035096 A1 2/2019

OTHER PUBLICATIONS

International Search Report for Application No. PCT/IB2018/056251 dated Jan. 3, 2019, 4 pages.
 Diaz, Inaki et al., "Bone Drilling Methodology and Tool Based on Position Measurements", Computer Methods and Programs in Biomedicine 112, 2013, pp. 284-292.
 McGinley Orthopaedics, "IntelliSense Drill Technology", 2016, 4 pages.
 McGinley Orthopaedic Innovations, "Revolutionary Intellisense Drill", 2014, 4 pages.
 English language abstract and machine-assisted English translation for CN 101530341 extracted from espacenet.com database on Mar. 29, 2018, 11 pages.
 English language abstract and machine-assisted English translation for CN 204394613 extracted from espacenet.com database on Mar. 29, 2018, 12 pages.
 Machine-assisted English language abstract and machine-assisted English translation for DE 10 2011111671 extracted from espacenet.com database on Mar. 29, 2018, 28 pages.
 English language abstract for EP 1330192 extracted from espacenet.com database on Mar. 29, 2018, 1 page.
 English language abstract and machine-assisted English translation for KR 20100050763 extracted from espacenet.com database on Mar. 29, 2018, 9 pages.

(56)

References Cited

OTHER PUBLICATIONS

English language abstract and machine-assisted English translation for WO 2013029582 extracted from espacenet.com database on Mar. 29, 2018, 18 pages.

* cited by examiner

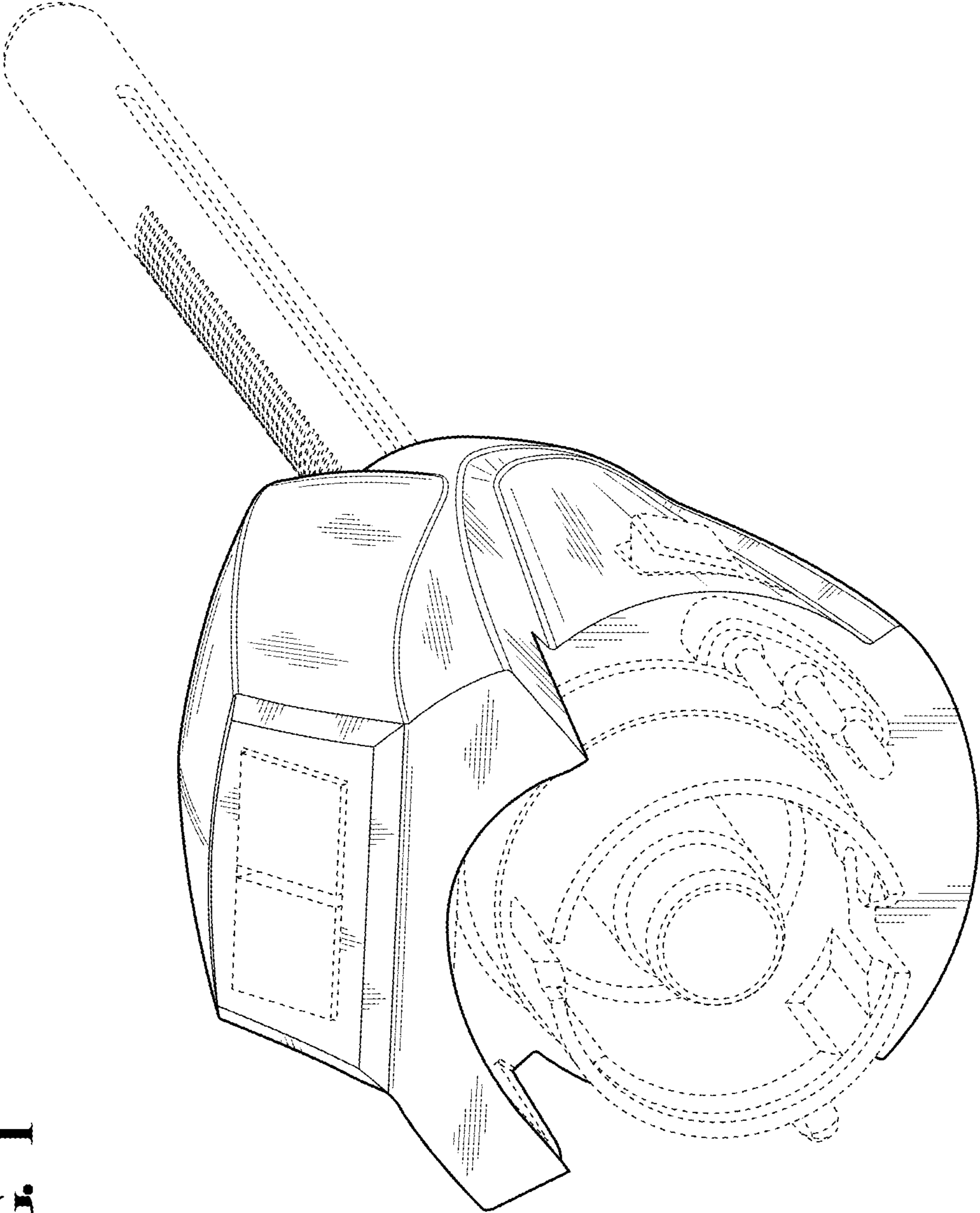


FIG. 1

FIG. 2

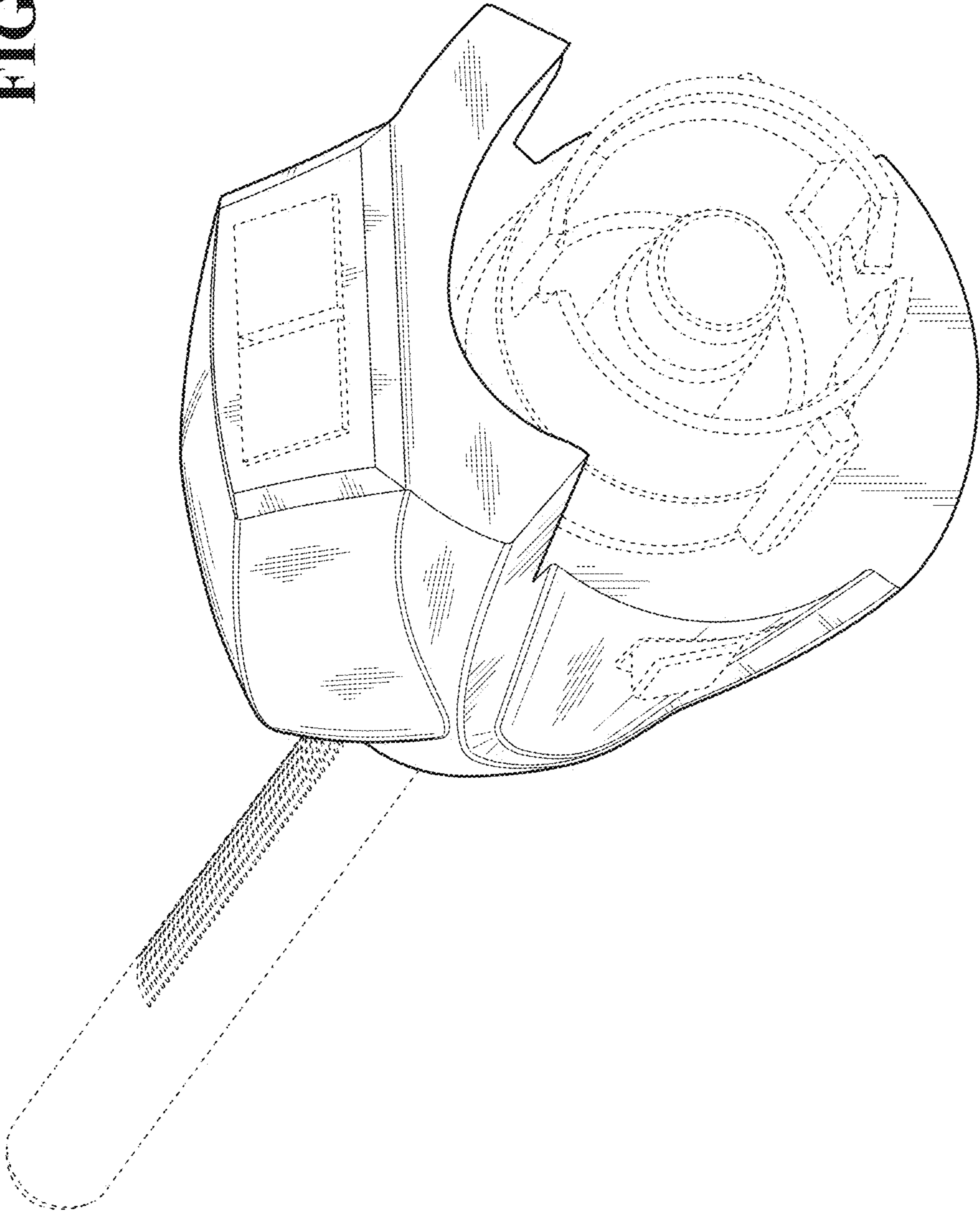
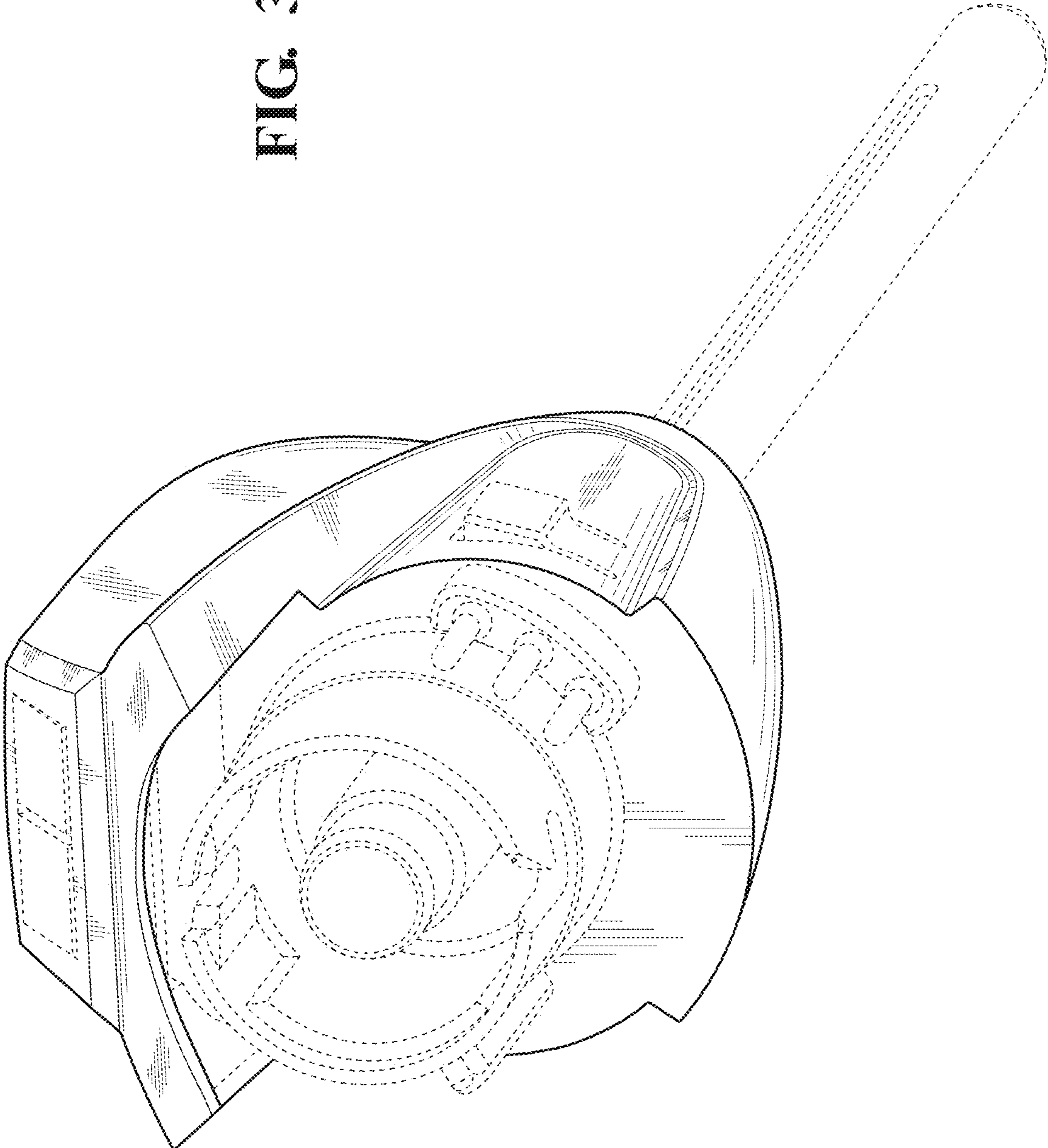


FIG. 3



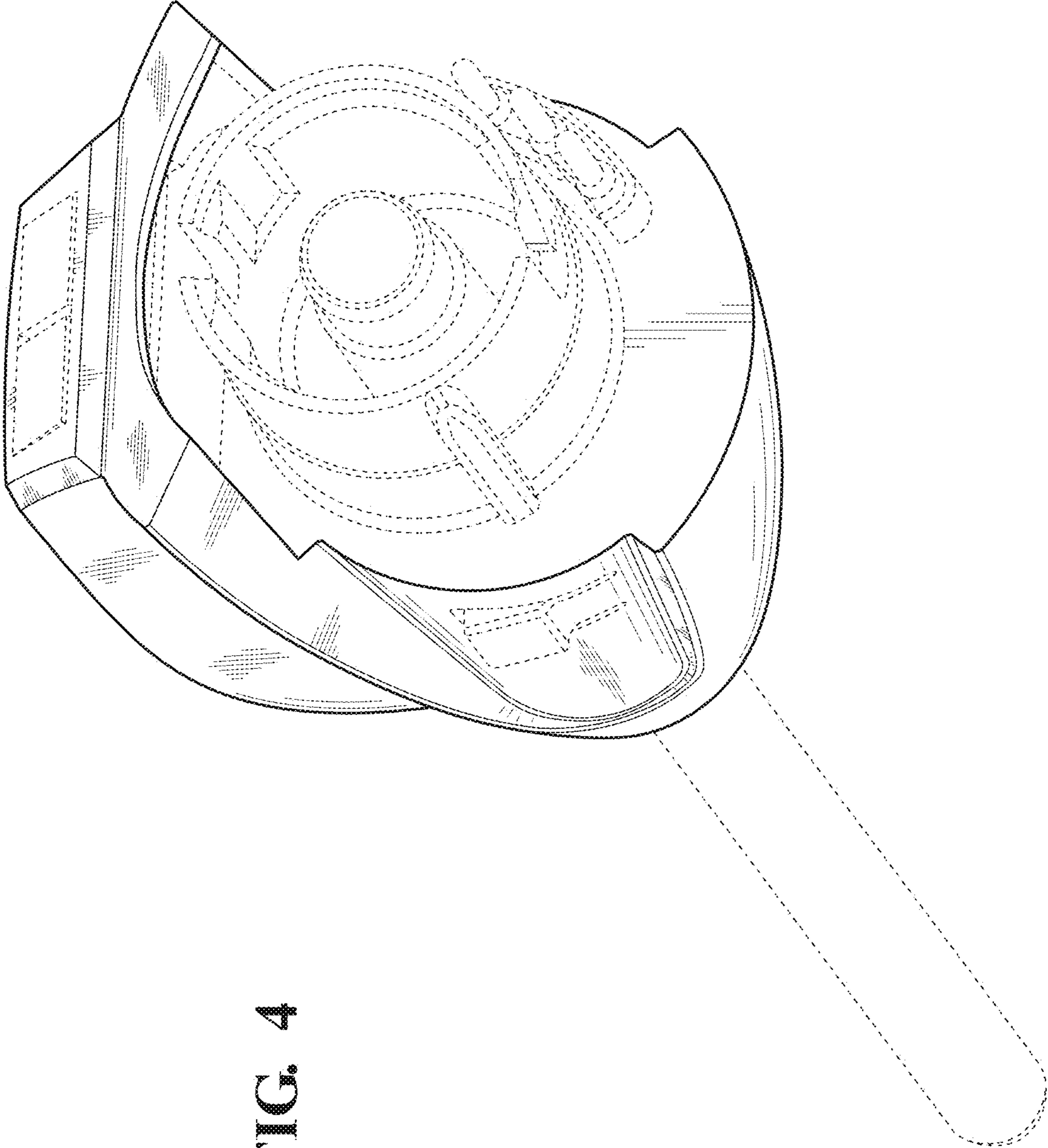
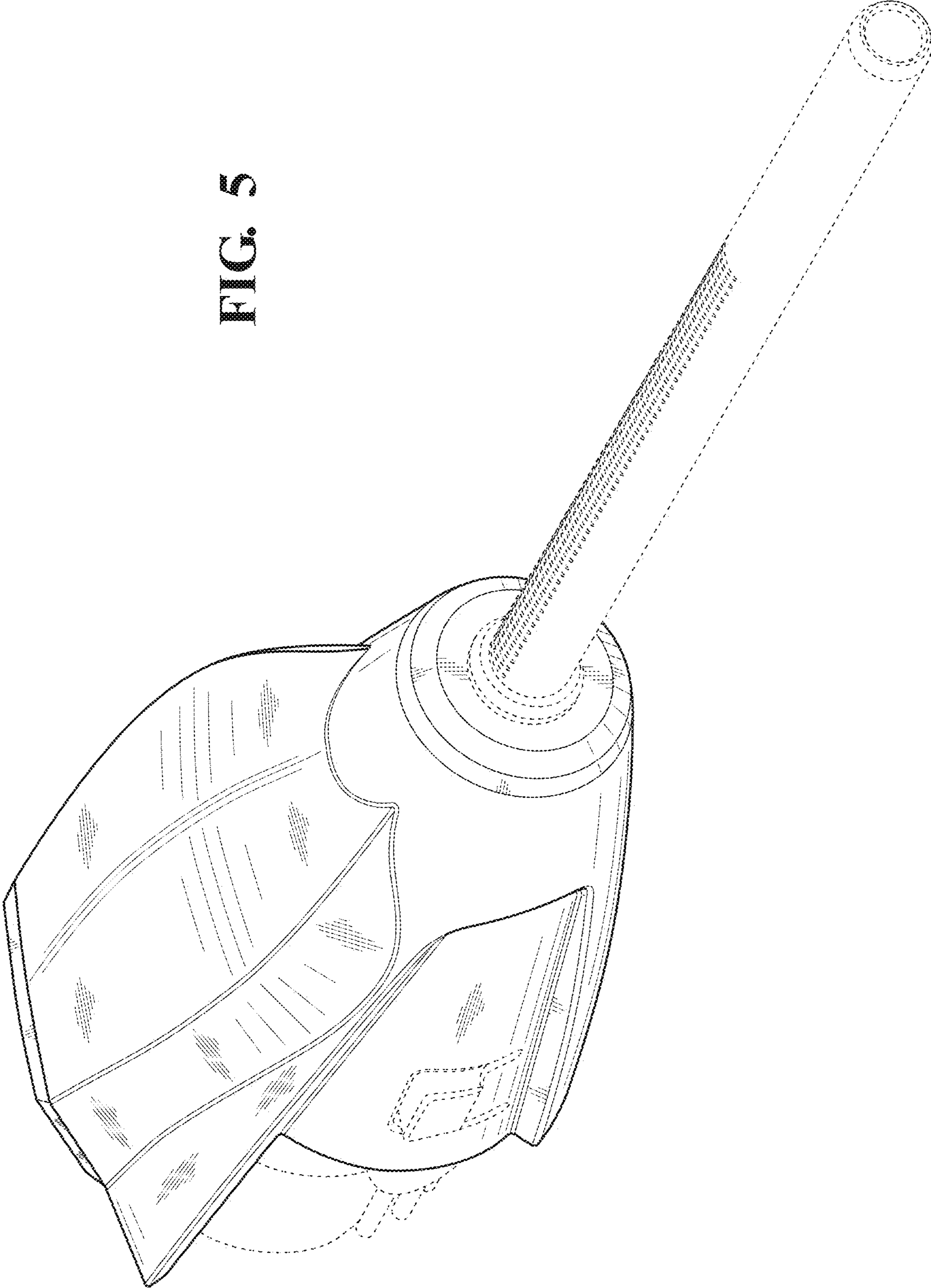


FIG. 4

FIG. 5



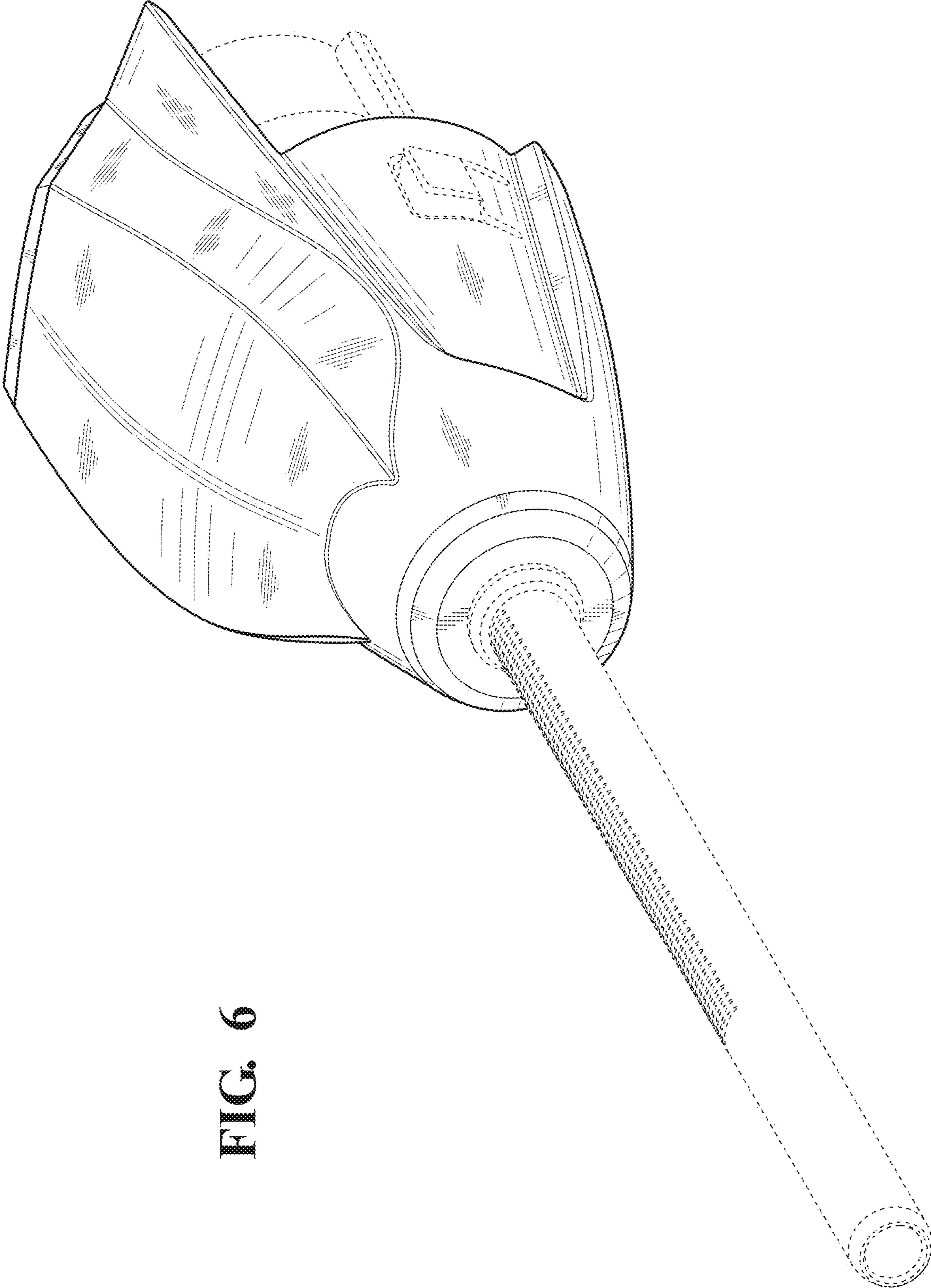


FIG. 6

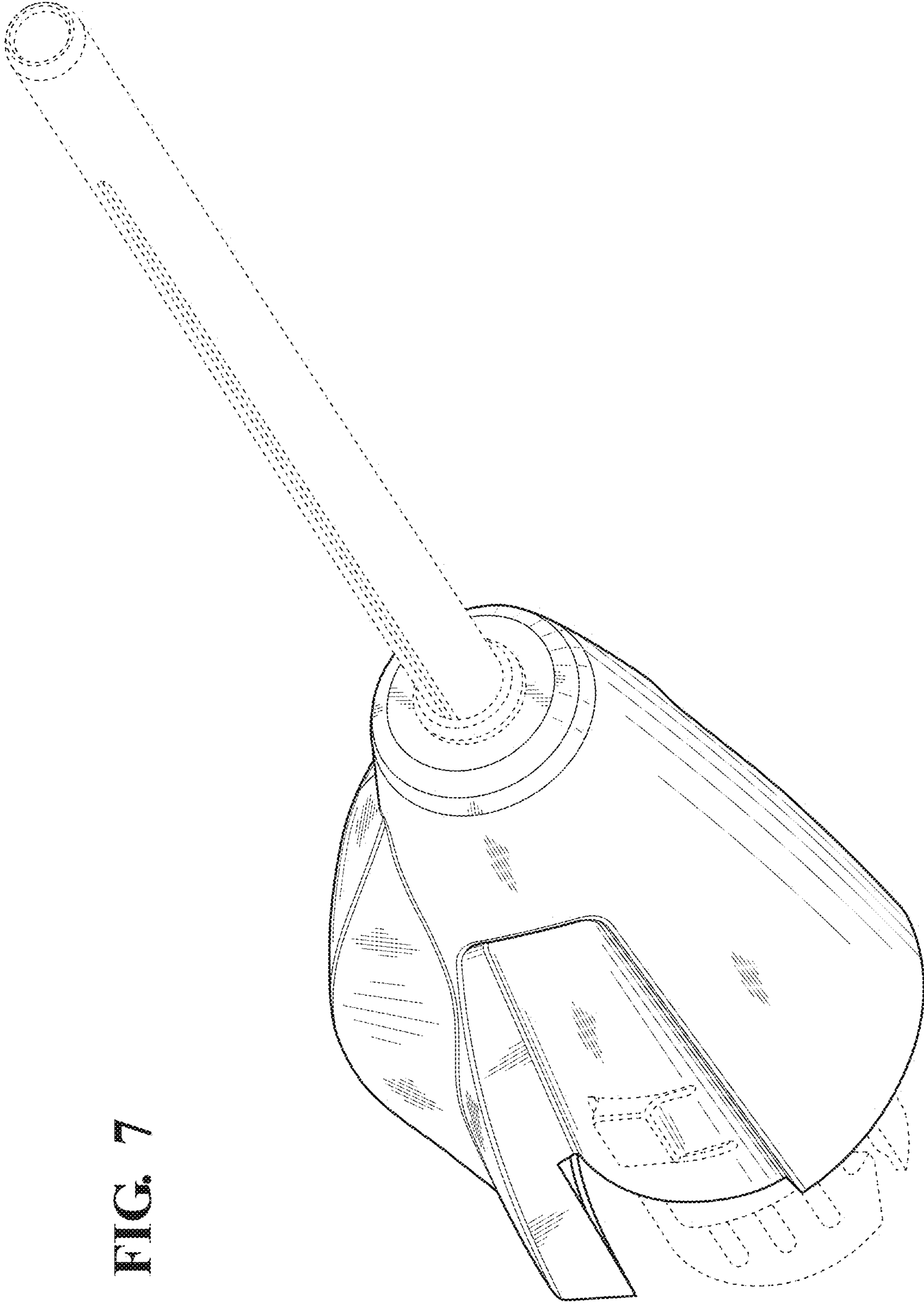
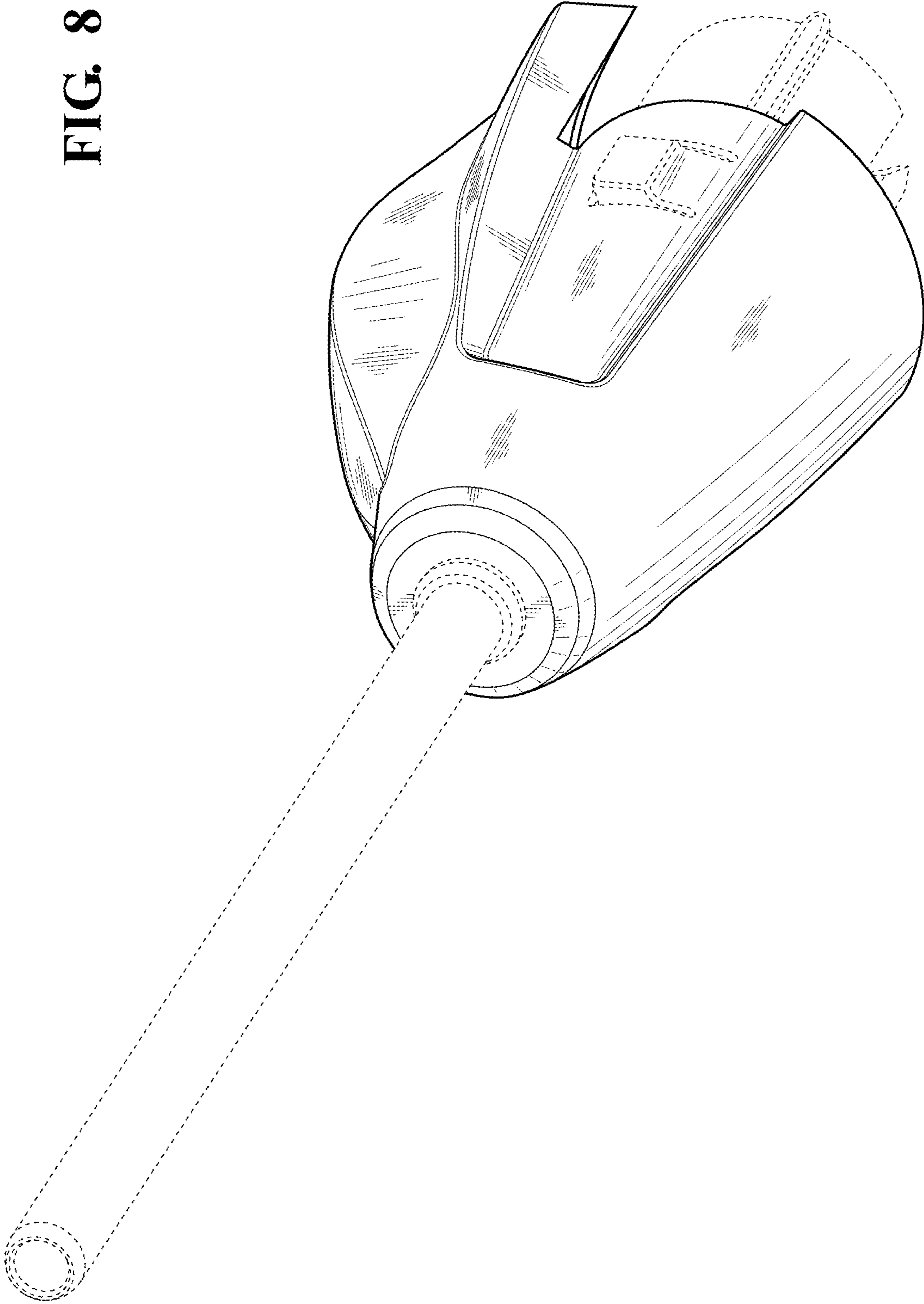


FIG. 7

FIG. 8



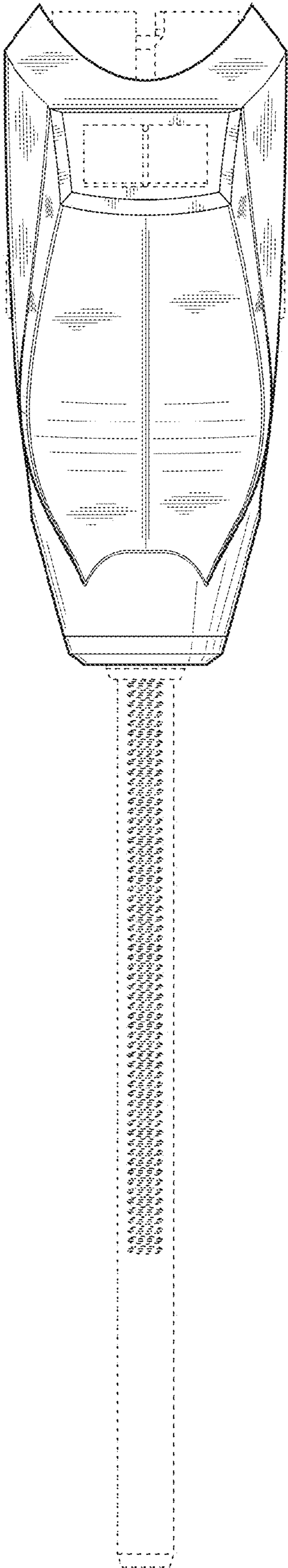


FIG. 9

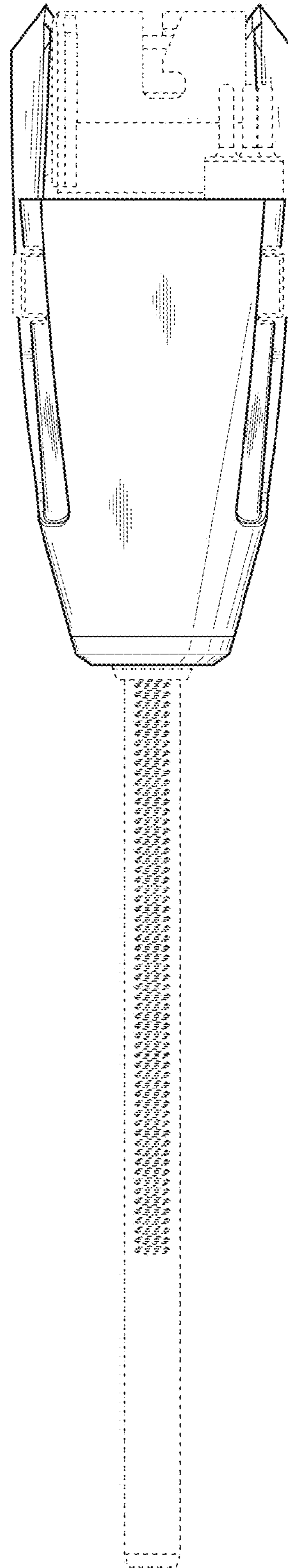


FIG. 10

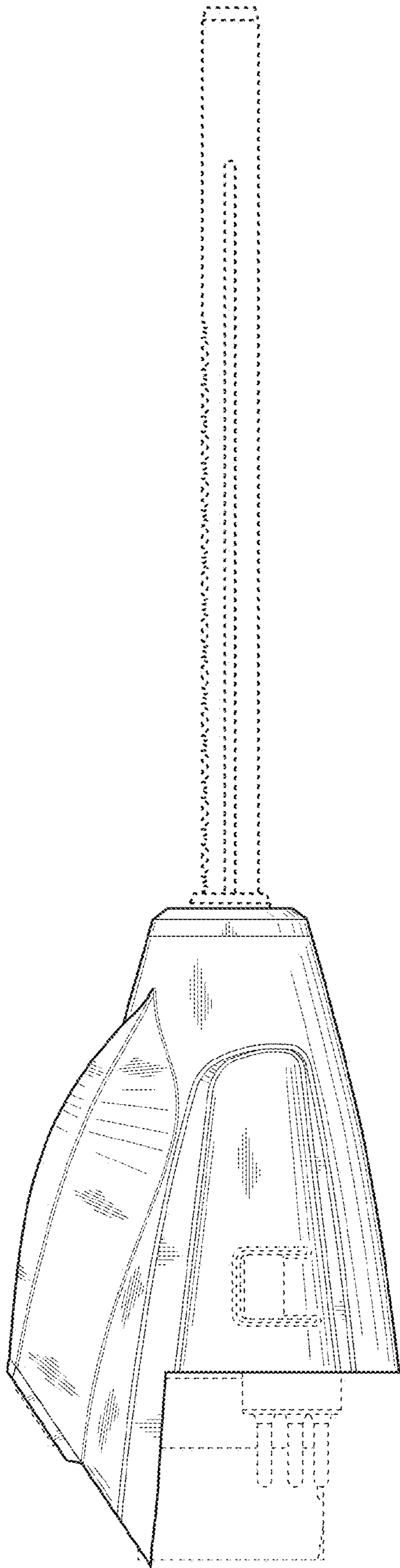


FIG. 11

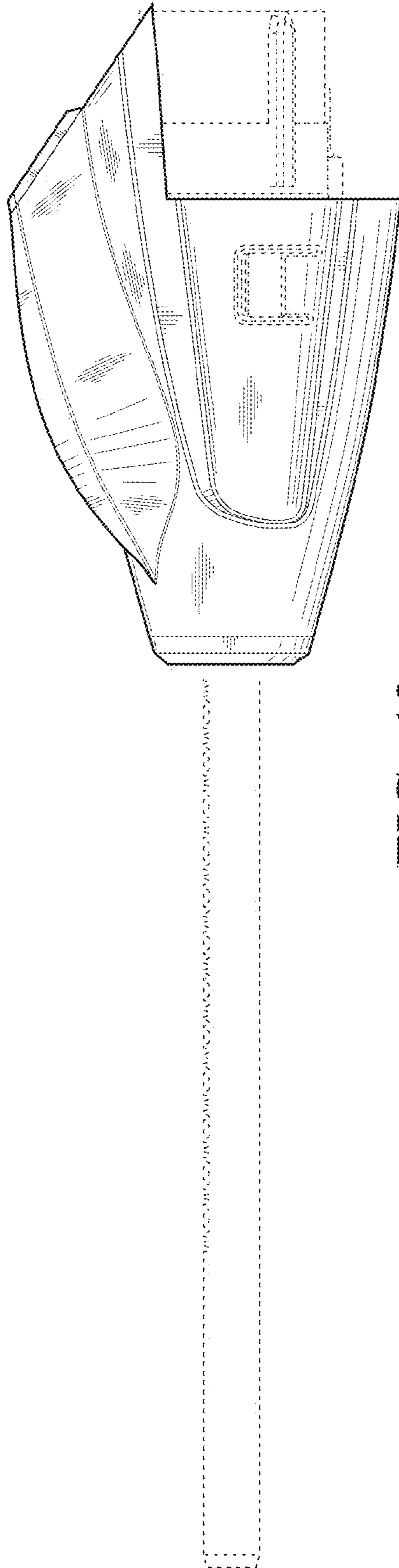


FIG. 12

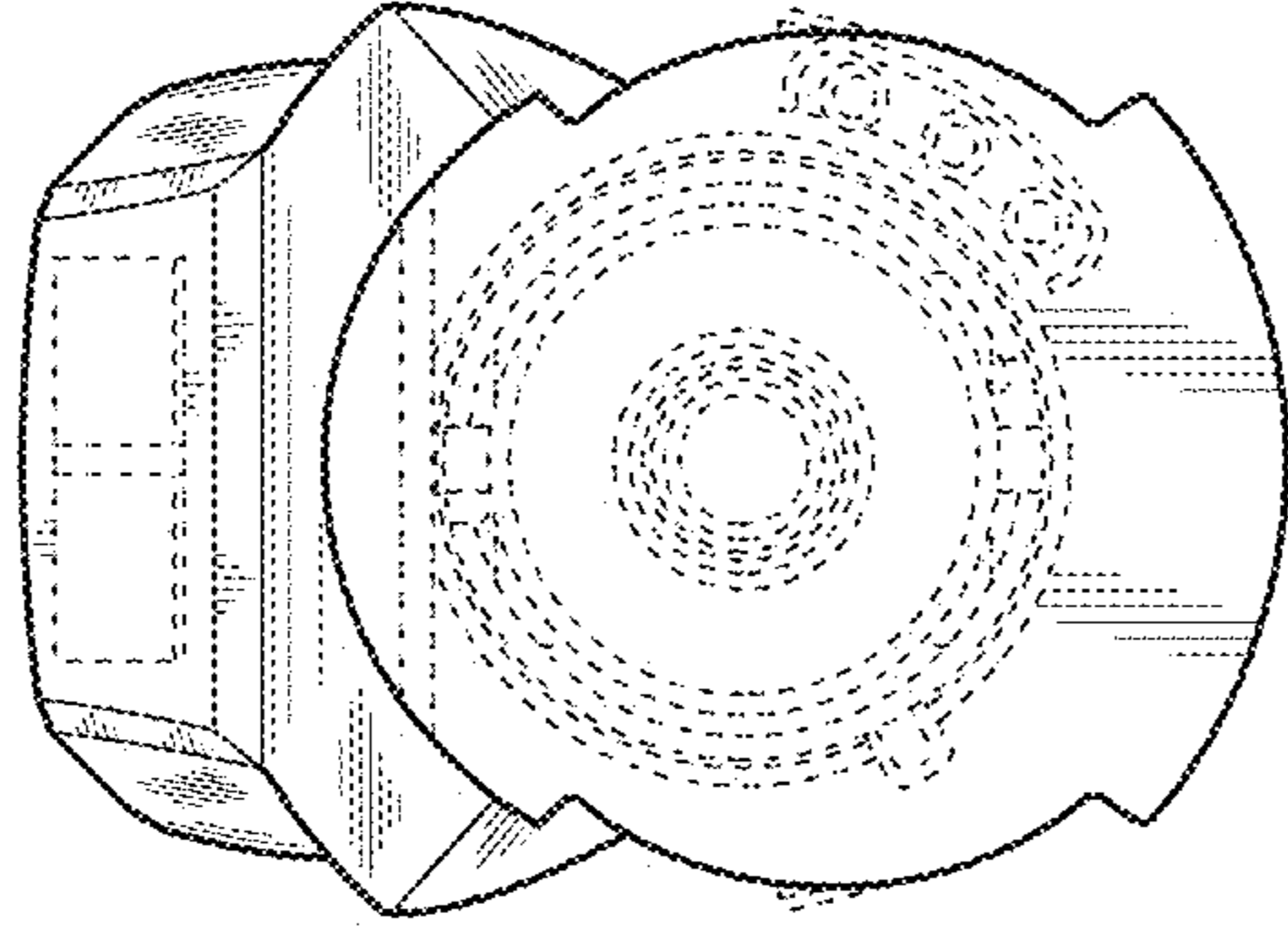


FIG. 13

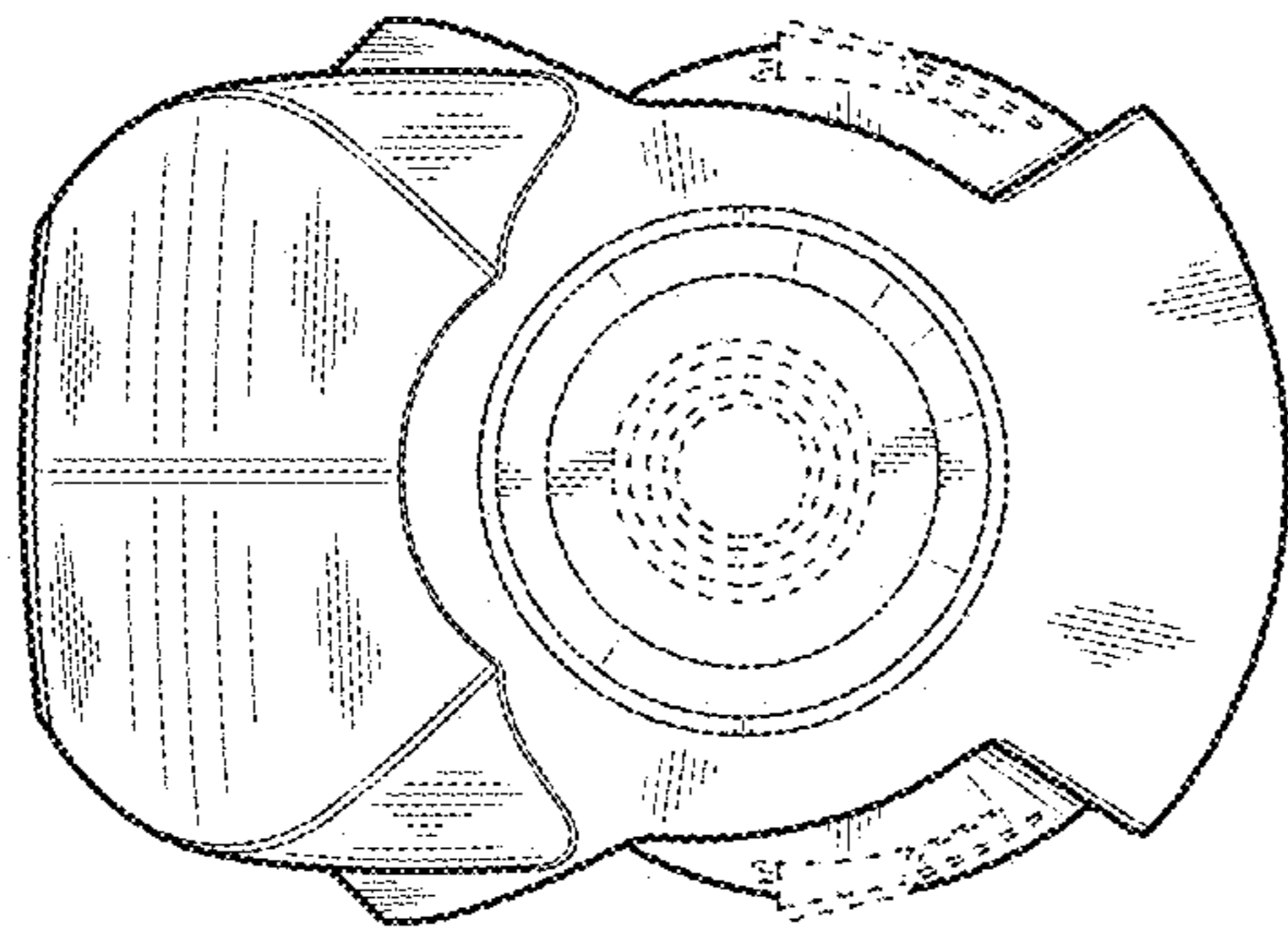


FIG. 14