



US00D703017S

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

(10) **Patent No.:** **US D703,017 S**

(45) **Date of Patent:** **\*\* Apr. 22, 2014**

(54) **SCREWDRIVER**

(71) Applicant: **Black & Decker Inc.**, Newark, DE (US)

(72) Inventor: **Gabriel E. Concari**, Eldersburg, MD (US)

(73) Assignee: **Black & Decker Inc.**, Newark, DE (US)

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

(21) Appl. No.: **29/458,986**

(22) Filed: **Jun. 25, 2013**

**Related U.S. Application Data**

(63) Continuation of application No. 13/755,463, filed on Jan. 31, 2013, which is a continuation of application No. 13/404,620, filed on Feb. 24, 2012, now Pat. No. 8,418,778, which is a continuation-in-part of application No. 13/120,873, filed on May 13, 2011, now Pat. No. 8,286,723.

(51) **LOC (10) Cl.** ..... **08-01**

(52) **U.S. Cl.**  
USPC ..... **D8/61**

(58) **Field of Classification Search**  
USPC ..... D8/61, 62, 67, 69; 81/57, 57.11, 57.14,  
81/57.26, 429, 464, 469; 173/2, 170, 176,  
173/181

See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

1,990,035 A 2/1935 Kratz at al.  
2,617,971 A 11/1952 Stack

(Continued)

**FOREIGN PATENT DOCUMENTS**

DE 2442260 A1 3/1976  
DE 3108112 A1 9/1982

(Continued)

**OTHER PUBLICATIONS**

Notice of Allowance dated Jun. 12, 2013 in U.S. Appl. No. 13/208,705.

(Continued)

*Primary Examiner* — Austin Murphy

(74) *Attorney, Agent, or Firm* — Scott B. Markow

(57) **CLAIM**

The ornamental design for a screwdriver, as shown and described.

**DESCRIPTION**

FIG. 1 is a perspective view of a first embodiment of a screwdriver with a handle positioned in a first configuration.

FIG. 2 is a front view of the screwdriver of FIG. 1 with the handle positioned in the first configuration.

FIG. 3 is a rear view of the screwdriver of FIG. 1 with the handle positioned in the first configuration.

FIG. 4 is a right view of the screwdriver of FIG. 1 with the handle positioned in the first configuration.

FIG. 5 is a left view of the screwdriver of FIG. 1 with the handle positioned in the first configuration.

FIG. 6 is a top view of the screwdriver of FIG. 1 with the handle positioned in the first configuration.

FIG. 7 is a bottom view of the screwdriver of FIG. 1 with the handle positioned in the first configuration.

FIG. 8 is a perspective view of a second embodiment of a screwdriver with a handle positioned in a second configuration.

FIG. 9 is a front view of the screwdriver of FIG. 8 with the handle positioned in the second configuration.

FIG. 10 is a rear view of the screwdriver of FIG. 8 with the handle positioned in the second configuration.

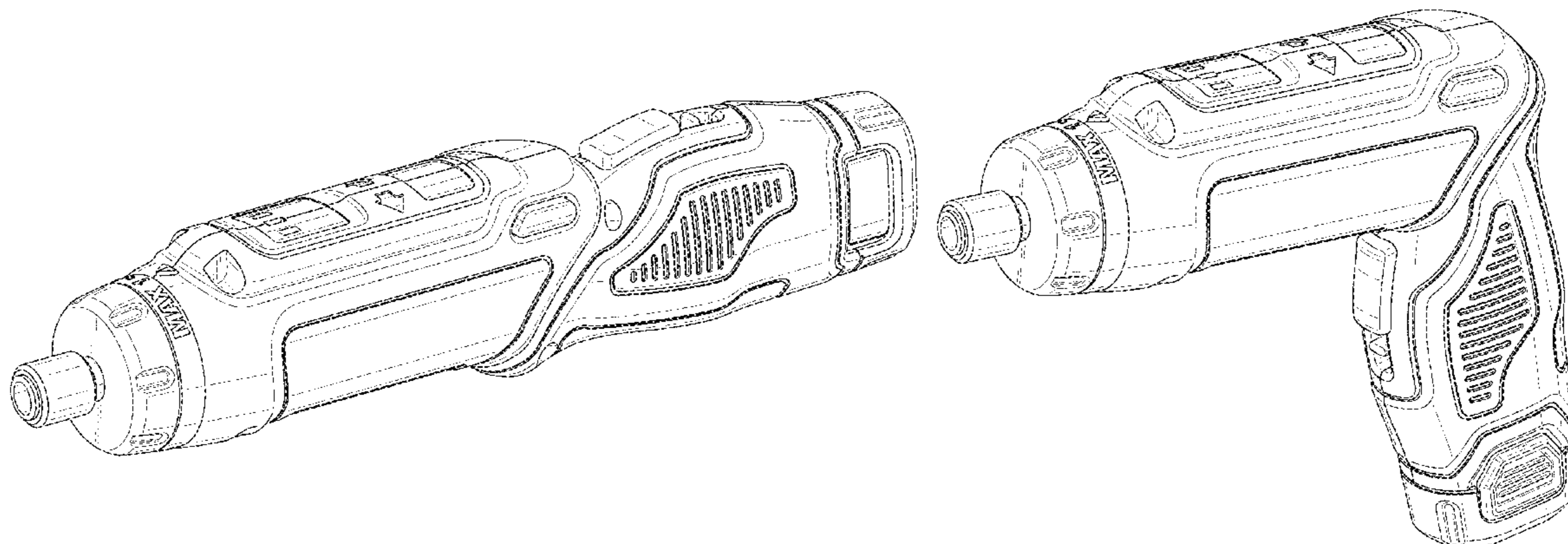
FIG. 11 is a right view of the screwdriver of FIG. 8 with the handle positioned in the second configuration.

FIG. 12 is a left view of the screwdriver of FIG. 8 with the handle positioned in the second configuration.

FIG. 13 is a bottom view of the screwdriver of FIG. 8 with the handle positioned in the second configuration; and,

FIG. 14 is a top view of the screwdriver of FIG. 8 with the handle positioned in the second configuration.

**1 Claim, 12 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

2,776,653 A	1/1957	Eaton	5,425,165 A	6/1995	Shramo et al.
3,083,508 A	4/1963	Fegley et al.	5,440,218 A	8/1995	Oldenkamp
3,463,990 A	8/1969	Ross	5,476,014 A	12/1995	Lampe et al.
3,554,302 A	1/1971	Adkins et al.	5,484,026 A	1/1996	Susaki et al.
3,616,864 A	11/1971	Sorensen et al.	5,493,909 A	2/1996	Araki
3,773,117 A	11/1973	Dussel	5,535,306 A	7/1996	Stevens
3,847,229 A	11/1974	Wanner et al.	5,538,089 A	7/1996	Sanford
3,939,920 A	2/1976	Hardiman et al.	5,557,990 A	9/1996	Shin
3,963,364 A	6/1976	Lemelson	5,563,482 A	10/1996	Shaw et al.
4,060,115 A	11/1977	Bocanegra Marquina	5,584,619 A	12/1996	Guzzella
4,066,133 A	1/1978	Voss	5,589,644 A	12/1996	Becker et al.
4,095,547 A	6/1978	Benington	5,615,130 A	3/1997	Bolan et al.
4,104,778 A	8/1978	Vliet	D378,727 S	4/1997	Kikuchi
4,143,467 A	3/1979	Erspamer et al.	5,619,085 A	4/1997	Shramo
4,249,117 A	2/1981	Leukhardt et al.	5,635,638 A	6/1997	Geen
4,262,528 A	4/1981	Holting et al.	5,637,968 A	6/1997	Kainec et al.
4,267,914 A	5/1981	Saar	D387,964 S	12/1997	Urvoy
4,305,471 A	12/1981	Eshghy	5,701,961 A	12/1997	Warner et al.
4,418,765 A	12/1983	Mori et al.	5,704,435 A	1/1998	Meyer et al.
4,426,588 A	1/1984	Weilenmann	5,714,698 A	2/1998	Tokioka et al.
4,448,261 A	5/1984	Kousek et al.	D391,820 S *	3/1998	Bunyea ..... D8/61
4,487,270 A	12/1984	Huber	D392,532 S	3/1998	Shiao
4,510,802 A	4/1985	Peters	D392,535 S	3/1998	Vasudeva et al.
D279,254 S	6/1985	Smith et al.	5,730,232 A	3/1998	Mixer
4,573,556 A	3/1986	Andreasson	5,738,177 A	4/1998	Schell et al.
4,576,270 A	3/1986	Baltz et al.	5,754,019 A	5/1998	Walz
4,587,468 A	5/1986	Hotta	5,793,168 A	8/1998	Vitunic
4,601,206 A	7/1986	Watson	5,795,988 A	8/1998	Lo et al.
4,628,233 A	12/1986	Bradus	5,806,401 A	9/1998	Rajala et al.
4,638,870 A	1/1987	Kousek	5,812,420 A	9/1998	Takahashi
4,643,748 A	2/1987	Dyson	5,831,402 A	11/1998	Yang
4,648,282 A	3/1987	Alender et al.	5,853,440 A	12/1998	Dyson
4,732,221 A	3/1988	Dudek	5,879,111 A	3/1999	Stock et al.
4,744,248 A	5/1988	Stewart	5,914,882 A	6/1999	Yeghiazarians
4,754,669 A	7/1988	Verdier et al.	5,954,457 A	9/1999	Stock et al.
4,759,225 A	7/1988	Reynertson et al.	5,971,091 A	10/1999	Kamen et al.
4,793,226 A	12/1988	Kress	5,981,557 A	11/1999	Nagasawa et al.
4,820,962 A	4/1989	Millauer	5,984,020 A	11/1999	Meyer et al.
4,841,773 A	6/1989	Stewart	5,996,707 A	12/1999	Thome et al.
4,846,027 A	7/1989	Lu	6,005,489 A	12/1999	Siegle et al.
4,871,033 A	10/1989	Odoni et al.	6,044,918 A	4/2000	Noser et al.
4,878,404 A	11/1989	Liao	6,049,460 A	4/2000	Lin
4,885,511 A	12/1989	Millauer et al.	6,055,142 A	4/2000	von Keudell et al.
D308,622 S *	6/1990	Fushiya et al. .... D8/61	D423,897 S *	5/2000	Cooper ..... D8/61
4,948,164 A	8/1990	Hano et al.	6,058,815 A	5/2000	Habermehl
RE33,379 E	10/1990	Bradus	6,062,939 A	5/2000	Parker et al.
4,961,035 A	10/1990	Inaba et al.	D427,040 S *	6/2000	Heun ..... D8/61
4,996,877 A	3/1991	Stewart et al.	6,111,515 A	8/2000	Schaer et al.
5,014,793 A	5/1991	Germanton et al.	6,129,699 A	10/2000	Haight et al.
5,015,793 A	5/1991	Sato et al.	6,138,629 A	10/2000	Masberg et al.
5,036,925 A	8/1991	Wache	6,147,626 A	11/2000	Sakakibara
5,078,761 A	1/1992	Dyson	6,158,929 A	12/2000	Fisher
D326,043 S	5/1992	Hasegawa et al.	6,161,629 A	12/2000	Hohmann et al.
5,149,998 A	9/1992	Wolcott	6,203,394 B1	3/2001	Lee
5,155,421 A	10/1992	Hansson	6,209,394 B1	4/2001	Ferrari et al.
5,156,221 A	10/1992	Breitenmoser	6,236,177 B1	5/2001	Zick et al.
5,166,882 A	11/1992	Stambaugh	6,387,725 B1	5/2002	Ferrari et al.
5,174,045 A	12/1992	Thompson et al.	6,408,252 B1	6/2002	De Smet
5,200,661 A	4/1993	Shramo et al.	6,415,875 B1	7/2002	Meixner et al.
5,201,373 A	4/1993	Bloechle	6,479,958 B1	11/2002	Thompson et al.
5,212,862 A	5/1993	Eshghy	D470,374 S *	2/2003	Murray ..... D8/61
5,232,328 A	8/1993	Owczarz et al.	6,516,896 B1	2/2003	Bookshar et al.
D339,279 S	9/1993	Baum	D474,086 S *	5/2003	Heun ..... D8/61
5,241,861 A	9/1993	Hulsing, II	6,567,068 B2	5/2003	Rekimoto
5,245,747 A	9/1993	Hansson	6,581,714 B1	6/2003	Kamen et al.
5,247,466 A	9/1993	Shimada et al.	6,612,034 B2	9/2003	Damstra
5,284,217 A	2/1994	Eshghy	6,640,733 B2	11/2003	Huffmeyer
5,311,069 A	5/1994	Austin	6,648,934 B2	11/2003	Choi et al.
5,345,382 A	9/1994	Kao	D485,737 S	1/2004	Schaub et al.
5,357,179 A	10/1994	Abbagnaro et al.	6,738,177 B1	5/2004	Gutierrez et al.
5,361,022 A	11/1994	Brown	D493,888 S	8/2004	Reschke
5,365,155 A	11/1994	Zimmermann	D494,829 S	8/2004	Lin
5,383,363 A	1/1995	Kulmaczewski	6,779,952 B2	8/2004	Zhang
5,401,124 A	3/1995	Hettich	6,796,921 B1	9/2004	Buck et al.
5,418,422 A	5/1995	Vink et al.	6,818,033 B2	11/2004	North
			6,834,730 B2	12/2004	Gass et al.
			6,836,614 B2	12/2004	Gilmore
			6,842,991 B2	1/2005	Levi et al.
			6,843,140 B2	1/2005	Osselmann et al.

(56)

References Cited

U.S. PATENT DOCUMENTS

6,871,128 B2	3/2005	Kouno et al.	7,867,307 B2	1/2011	Bates et al.
6,895,774 B1	5/2005	Ares et al.	7,874,040 B2	1/2011	Follows et al.
6,910,540 B2	6/2005	Totsu	7,882,899 B2	2/2011	Borinato et al.
6,923,268 B2	8/2005	Totsu	7,882,900 B2	2/2011	Borinato et al.
6,936,095 B2	8/2005	North	D634,998 S *	3/2011	Garfield et al. .... D8/61
6,965,835 B2	11/2005	McGee et al.	7,900,715 B2	3/2011	Chen
6,968,908 B2	11/2005	Tokunaga et al.	7,912,664 B2	3/2011	Rozelle
D513,160 S	12/2005	DeBoer et al.	7,926,585 B2	4/2011	Pozgay et al.
6,983,506 B1	1/2006	Brown	7,933,148 B2	4/2011	Murayama et al.
D517,634 S	3/2006	Nunez et al.	7,936,148 B2	5/2011	Roehm et al.
7,011,165 B2	3/2006	Kristen et al.	7,938,194 B2	5/2011	Carrier et al.
7,036,703 B2	5/2006	Grazioli et al.	7,942,084 B2	5/2011	Wilson, Jr. et al.
7,055,620 B2	6/2006	Nadig et al.	8,025,106 B2	9/2011	Schmidt
7,055,622 B2	6/2006	Bone	8,136,382 B2	3/2012	Stewart
7,090,030 B2	8/2006	Miller	8,156,609 B2	4/2012	Milne et al.
7,121,358 B2	10/2006	Gass et al.	8,161,599 B2	4/2012	Griffith et al.
7,121,598 B2	10/2006	Pourtier et al.	8,179,069 B2	5/2012	Matsunaga et al.
7,134,364 B2	11/2006	Kageler et al.	D663,180 S *	7/2012	Jerome et al. .... D8/61
7,154,406 B1	12/2006	Judge	8,236,077 B2	8/2012	Gomiciaga-Pereda et al.
D534,651 S	1/2007	Bruce et al.	8,286,723 B2	10/2012	Puzio et al.
7,182,148 B1	2/2007	Szieff	8,375,509 B2	2/2013	Bates et al.
7,197,961 B2	4/2007	Kageler et al.	8,402,599 B2	3/2013	Charlton et al.
7,222,392 B2	5/2007	McCormick et al.	8,418,778 B2	4/2013	Eshleman et al.
7,225,884 B2	6/2007	Aeberhard	D688,109 S *	8/2013	Vanderbeek et al. .... D8/61
7,234,536 B2	6/2007	Scholl et al.	2002/0011054 A1	1/2002	Yung
7,247,181 B2	7/2007	Hansen et al.	2002/0033267 A1	3/2002	Schweizer et al.
7,331,406 B2	2/2008	Wottreng, Jr. et al.	2002/0053892 A1	5/2002	Schaer et al.
7,341,611 B2	3/2008	Greene et al.	2002/0066632 A1	6/2002	Kristen et al.
7,347,158 B2	3/2008	Hawkes	2002/0170754 A1	11/2002	Heinzmann
D565,380 S	4/2008	Rinner	2003/0000651 A1	1/2003	Genser
7,359,816 B2	4/2008	Kumar et al.	2003/0037423 A1	2/2003	Siegel
7,372,226 B2	5/2008	Wiker et al.	2003/0042859 A1	3/2003	Gorti et al.
7,395,579 B2	7/2008	Oh	2003/0116332 A1	6/2003	Nadig et al.
7,395,871 B2	7/2008	Carrier et al.	2003/0159411 A1	8/2003	Hansen et al.
7,400,106 B2	7/2008	DeCicco et al.	2003/0196824 A1	10/2003	Gass et al.
7,410,006 B2	8/2008	Zhang et al.	2003/0196824 A1	10/2003	Gass et al.
7,456,603 B2	11/2008	Kanekawa et al.	2004/0011632 A1	1/2004	Hellmann et al.
7,463,952 B2	12/2008	Bidou et al.	2004/0069511 A1	4/2004	Spielmann et al.
7,469,753 B2	12/2008	Klemm et al.	2004/0104034 A1	6/2004	Osselmann et al.
D586,195 S *	2/2009	Okuda ..... D8/61	2004/0182175 A1	9/2004	Day et al.
7,487,844 B2	2/2009	DeCicco et al.	2004/0211573 A1	10/2004	Carrier et al.
7,487,845 B2	2/2009	Carrier et al.	2004/0226124 A1	11/2004	Silva
7,498,526 B2	3/2009	Lohr et al.	2004/0226728 A1	11/2004	Boeni et al.
7,504,791 B2	3/2009	Sieber et al.	2005/0000998 A1	1/2005	Grazioli et al.
7,506,694 B2	3/2009	Stirm et al.	2005/0095061 A1	5/2005	Murai et al.
7,526,398 B1	4/2009	Choi et al.	2005/0125940 A1	6/2005	McDowell
7,546,785 B2	6/2009	Roehm et al.	2005/0217874 A1	10/2005	Forster et al.
7,547,336 B2	6/2009	Fester et al.	2006/0081368 A1	4/2006	Rosine et al.
7,551,411 B2	6/2009	Woods et al.	2006/0081386 A1	4/2006	Zhang et al.
7,552,781 B2	6/2009	Zhang et al.	2006/0103733 A1	5/2006	Grady et al.
7,565,844 B2	7/2009	Crass et al.	2006/0117721 A1	6/2006	Lee et al.
7,581,286 B2	9/2009	Choi	2006/0124331 A1	6/2006	Stirm et al.
7,618,470 B2	11/2009	Eddington et al.	2006/0243469 A1	11/2006	Webster
D606,827 S	12/2009	Fritz et al.	2007/0067944 A1	3/2007	Kitamura et al.
7,628,831 B2	12/2009	Gomiciaga-Pereda et al.	2007/0068480 A1	3/2007	Wiker et al.
7,642,741 B2	1/2010	Sidman	2007/0084613 A1	4/2007	Zhang et al.
7,650,699 B2	1/2010	Yamamoto	2007/0095634 A1	5/2007	Misuda
7,651,544 B1	1/2010	Fester et al.	2007/0119129 A1	5/2007	Jeon
7,662,201 B2	2/2010	Lee	2007/0144270 A1	6/2007	Crass et al.
7,681,659 B2	3/2010	Zhang et al.	2007/0175185 A1	8/2007	Kim et al.
7,682,035 B2	3/2010	Wuensch et al.	2007/0256914 A1	11/2007	Lohr et al.
7,688,028 B2	3/2010	Phillips et al.	2007/0281274 A1	12/2007	Schraffran et al.
7,689,378 B2	3/2010	Kolen	2008/0011102 A1	1/2008	Schell et al.
D613,144 S	4/2010	Lin	2008/0110653 A1	5/2008	Zhang et al.
7,691,161 B2	4/2010	Oh et al.	2008/0264015 A1	10/2008	Oh et al.
7,708,085 B2	5/2010	DeCicco et al.	2008/0276760 A1	11/2008	Kim
7,723,953 B2	5/2010	Roehm et al.	2009/0051306 A1	2/2009	Matsunaga et al.
D618,079 S *	6/2010	Blythe et al. .... D8/61	2009/0065225 A1	3/2009	Forster et al.
D618,527 S	6/2010	Deguglimo et al.	2009/0078057 A1	3/2009	Schultz et al.
7,730,963 B2	6/2010	Carrier et al.	2009/0120657 A1	5/2009	Carrier et al.
7,763,090 B2	7/2010	Gomiciaga-Pereda et al.	2009/0139738 A1	6/2009	Lippeck
7,774,155 B2	8/2010	Sato et al.	2009/0211774 A1	8/2009	Dvells, Jr.
7,780,753 B2	8/2010	Lang	2009/0229071 A1	9/2009	Fester et al.
7,832,286 B2	11/2010	Nakagawa et al.	2009/0295313 A1	12/2009	Suzuki et al.
7,861,796 B2	1/2011	DeCicco et al.	2009/0313958 A1	12/2009	Gomiciaga-Pereda et al.
			2010/0175902 A1	7/2010	Rejman et al.
			2010/0188245 A1	7/2010	Nielsen et al.
			2010/0189887 A1	7/2010	Nielsen et al.
			2010/0242214 A1	9/2010	Sunderland et al.
			2010/0242215 A1	9/2010	Dyson et al.

(56)

## References Cited

## U.S. PATENT DOCUMENTS

2010/0242216 A1 9/2010 MacNaughton  
 2010/0242217 A1 9/2010 Sunderland et al.  
 2010/0242218 A1 9/2010 Genn et al.  
 2010/0242219 A1 9/2010 Dyson et al.  
 2010/0242220 A1 9/2010 Dyson et al.  
 2010/0245086 A1 9/2010 Nielsen et al.  
 2010/0247754 A1 9/2010 Nielsen et al.  
 2010/0256939 A1 10/2010 Borenstein  
 2010/0263591 A1 10/2010 Nielsen et al.  
 2010/0263891 A1 10/2010 Carrier et al.  
 2011/0023261 A1 2/2011 Proffitt, II et al.  
 2011/0079406 A1 4/2011 Elsmark et al.  
 2011/0153081 A1 6/2011 Romanov et al.  
 2011/0160903 A1 6/2011 Romanov et al.  
 2011/0162687 A1 7/2011 Moon et al.  
 2011/0202175 A1 8/2011 Romanov et al.  
 2011/0301900 A1 12/2011 Patel  
 2012/0047682 A1 3/2012 Makarov et al.  
 2012/0090863 A1 4/2012 Puzio et al.  
 2012/0117753 A1 5/2012 Kim et al.  
 2012/0210537 A1 8/2012 Makarov et al.  
 2012/0272474 A1 11/2012 Follows et al.

## FOREIGN PATENT DOCUMENTS

DE 3239847 A1 5/1983  
 DE 3400124 A1 7/1985  
 DE 3938787 A1 5/1991  
 DE 4243317 A1 6/1993  
 DE 4204420 A1 8/1993  
 DE 4334933 A1 4/1995  
 DE 19540718 A1 5/1997  
 DE 19620124 C1 7/1997  
 DE 19632363 C1 1/1998  
 DE 19651124 C1 5/1998  
 DE 19726006 A1 9/1998  
 DE 19900882 A1 7/2000  
 DE 10117121 A1 10/2002  
 DE 10309414 A1 9/2004  
 DE 10318798 A1 11/2004  
 DE 10340710 A1 3/2005  
 DE 10348756 A1 5/2005  
 DE 102006016441 A1 10/2007  
 DE 102007048052 A1 4/2009  
 DE 102007062727 A1 7/2009  
 DE 102009007977 A1 7/2009  
 DE 102009001298 A1 9/2010  
 EP 0018603 A1 11/1980  
 EP 0199883 A2 11/1986  
 EP 0303651 A1 2/1989  
 EP 0345655 A2 12/1989  
 EP 0666148 A1 8/1995  
 EP 0771619 A2 5/1997  
 EP 0773854 A1 5/1997  
 EP 0841126 A2 5/1998  
 EP 0841127 A2 5/1998  
 EP 1008422 A2 6/2000  
 EP 1151828 A1 11/2001  
 EP 1188521 A2 3/2002  
 EP 1201373 A2 5/2002  
 EP 1379362 A1 1/2004  
 EP 1391271 A2 2/2004  
 EP 1398119 A1 3/2004  
 EP 1447177 A2 8/2004  
 EP 1452278 A1 9/2004  
 EP 1470898 A2 10/2004  
 EP 1524084 A2 4/2005  
 EP 1670134 A1 6/2006  
 EP 1711308 A1 10/2006  
 EP 1878541 A2 1/2008  
 EP 1900484 A2 3/2008  
 GB 1261479 A 1/1972  
 GB 2086277 A 5/1982  
 GB 2273574 A 6/1994

GB 2306356 A 5/1997  
 GB 2347100 A 8/2000  
 GB 2400811 A 10/2004  
 GB 2420843 A 6/2006  
 GB 2436959 A 10/2007  
 JP 60252213 12/1985  
 JP 422689 8/1992  
 JP 07270444 10/1995  
 JP 8-132353 5/1996  
 JP 08128825 5/1996  
 JP 8197445 8/1996  
 JP 09038815 2/1997  
 JP 10-161701 6/1998  
 JP 10156739 6/1998  
 JP 2000-263304 A 9/2000  
 JP 2002-036142 A 2/2002  
 JP 2002-216599 A 8/2002  
 JP 2003-340620 A 12/2003  
 JP 2004-518551 A 6/2004  
 JP 2005-144625 A 6/2005  
 JP 2005144625 A 6/2005  
 JP 04065677 B2 3/2008  
 JP 2008-516789 A 5/2008  
 JP 4-226869 B2 2/2009  
 JP 2011-500344 A 1/2011  
 JP 2011-519742 A 7/2011  
 RU 2103156 C1 1/1998  
 RU 2238183 C2 10/2004  
 SU 1366381 A1 1/1988  
 SU 1426770 A1 9/1988  
 SU 1521574 A1 11/1989  
 SU 1558295 A3 4/1990  
 WO WO-88/06508 A2 9/1988  
 WO WO-2004024398 A1 3/2004  
 WO WO-2005/095061 A1 10/2005  
 WO WO-2005095061 A1 10/2005  
 WO WO-2006045072 A2 4/2006  
 WO WO-2008/136730 A1 11/2008  
 WO WO-2009032314 A1 3/2009  
 WO WO-2009/083306 A1 7/2009  
 WO WO-2009136840 A1 11/2009

## OTHER PUBLICATIONS

Design of All-Accelerometer Inertial Measurement Unit for Tremor Sensing in Hand-Held Microsurgical Instrument by the Robotics Institute, Carnegie Mellon University, Pittsburgh, PA 15213 (6 pages); 2003. cited by applicant.

The Bird.TM. 6D Input Device by Ascension Technology Corp., Burlington, VT 05402; Jul. 1990 (1 page). cited by applicant.

Orientation Tracking for Humans and Robots Using Inertial Sensors by Naval Postgraduate School, Monterey, CA 93943 (8 pages); 1999. cited by applicant.

Soap: a Pointing Device that Works in Mid-Air by Microsoft Research, Redmond, WA 98052 (4 pages); 2006. cited by applicant.  
 3-Axis Accelerometer with Differential Sense Electronics by Bernhard E. Boser, Dept of Electrical Engineering and Computer Sciences of the University of California, Berkeley Copyrgt. 1996, 1997 (50 pages). cited by applicant.

Making Nested Rotations Convenient for the User by Edward G. Britton, James S. Lipscomb & Michael E. Pique of the University of North Carolina at Chapel Hill, NC (6 pages); 1978. cited by applicant.

Technology Forecast—Human Input/Output Devices .Copyrgt. 1994 Price Waterhouse (24 pages). cited by applicant.

Computer Society—Magic Wand: A Hand-Drawn Gesture Input Device in 3-D Space with Inertial Sensors by Samsung Advanced Institute of Technology of Suwon, Korea; Sep. 2004 (6 pages). cited by applicant.

Portable Orientation Estimation Device Based on Accelerometers, Magnetometers and Gyroscope Sensors for Sensor Network by Tatsuya Harada, Hiroto Uchino, Taketoshi More & Tomomasa Sato of the University of Tokyo (authorized licensed use limited to University of North Carolina at Chapel Hill, Oct. 11, 2008 (6 pages). cited by applicant.

(56)

**References Cited**

OTHER PUBLICATIONS

Technical Overview IS-900 Motion Tracking System by InterSense, Inc. of Bedford, MA 01730 (10 pages); 1999. cited by applicant.

Comparison of InterSense IS-900 System and Optical Systems by InterSense, Inc., Bedford, MA 01730; Jul. 12, 2004 (8 pages). cited by applicant.

Inertial Sensing of Human Movement by H.J. Luinge; Ph.D. thesis, University of Twente, .Copyrgt. 2002 (83 pages). cited by applicant.

Estimation of Orientation With Gyroscopes and Accelerometers; by the First Joint BMES/EMBS Conference serving Hunanity, Advancing Technology Oct. 13-16, 1999 Atlanta, GA (1 page). cited by applicant.

Development of a MEMS Gyroscope for Absolute Angle Measurement by Rajesh Rajamani, Adviser; Nov. 2004; (169 pages). cited by applicant.

Inertial proprioceptive devices: Self-motion-sensing toys and tools by C. Verplaetse; IBM Journal, vol. 35, Nos. 3&4, 1996 (12 pages). cited by applicant.

Study on the infrared remote-control lamp-gesture device; Source: Yingyong Jiguang/Applied Laser Technology; Oct. 1997 (1 page). cited by applicant.

Tonshoff, H.K., Developments and Trends in Monitoring and Control of Machining Processes, Annals of the CIRP vol. 37/2/1988 pp. 611-622. cited by applicant.

Husling, Rand, MEMS Inertial Rate and Acceleration Sensor, pp. 169-176, date Jan. 1998. cited by applicant.

\* cited by examiner

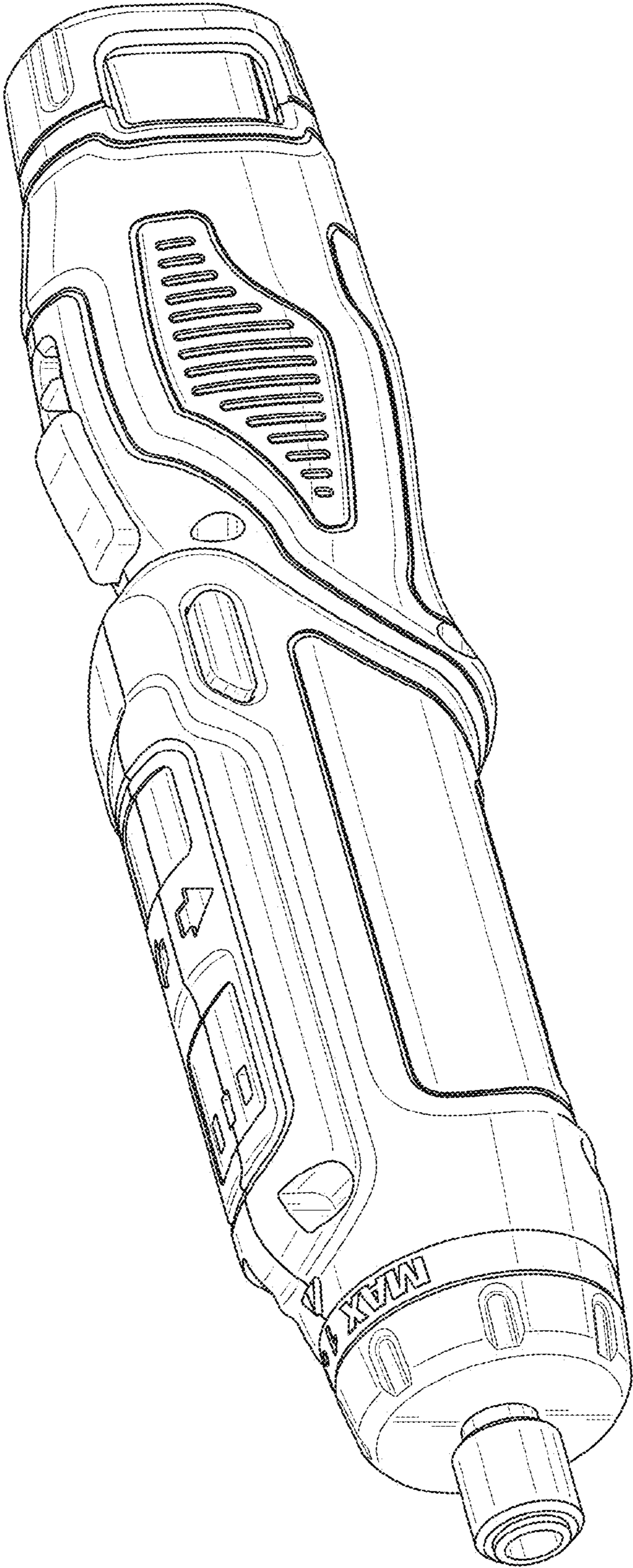


FIG. 1

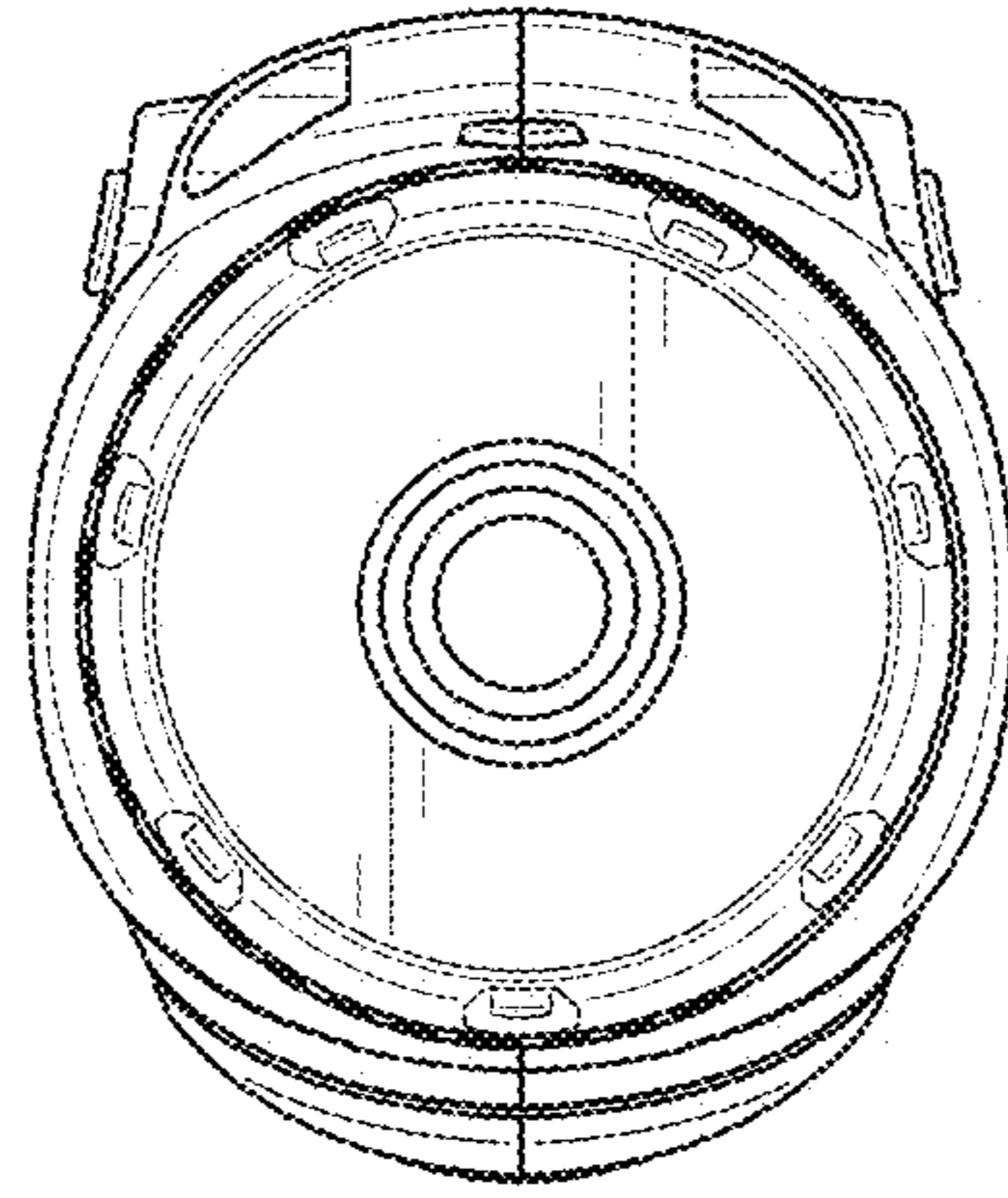


FIG. 2

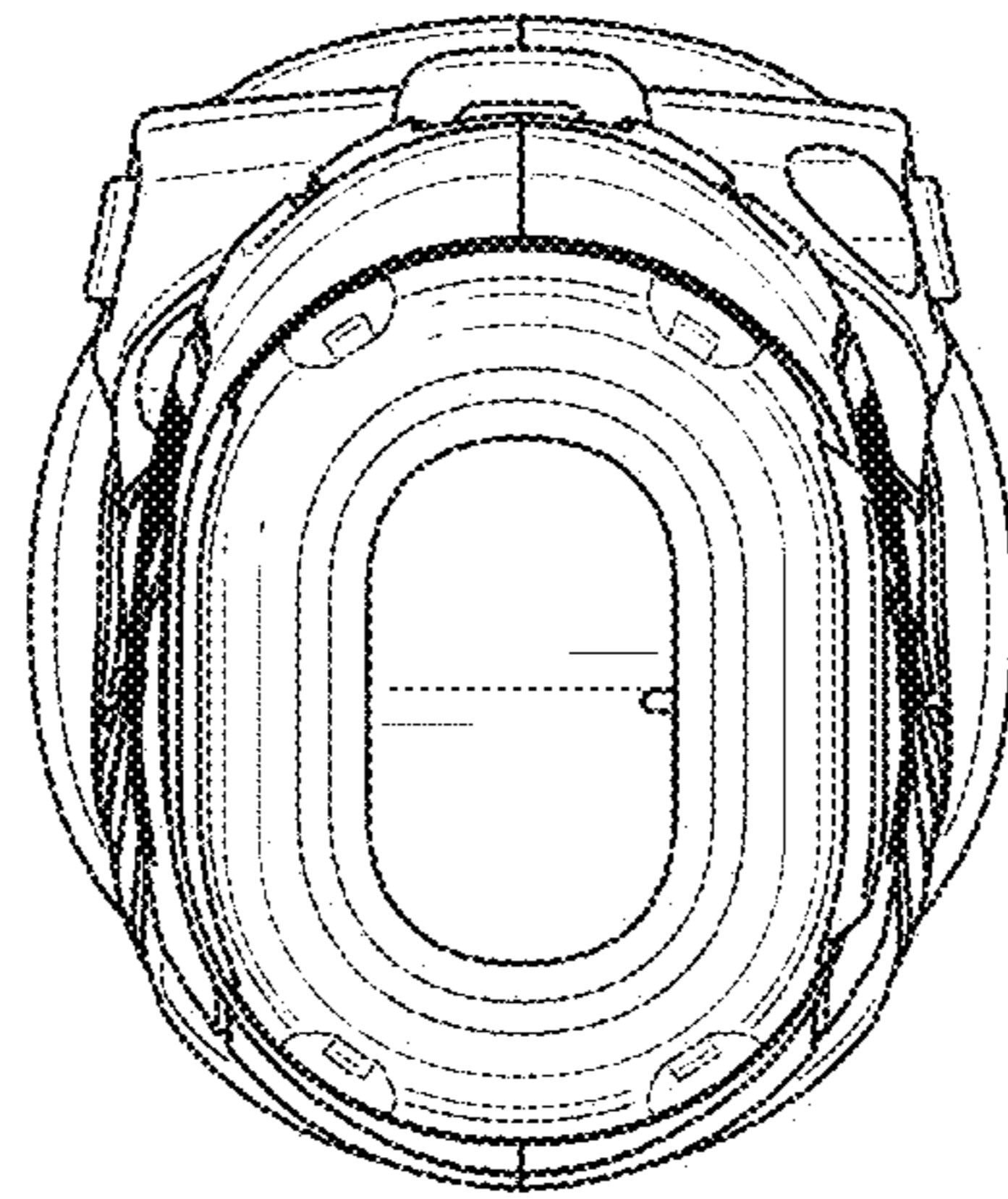


FIG. 3

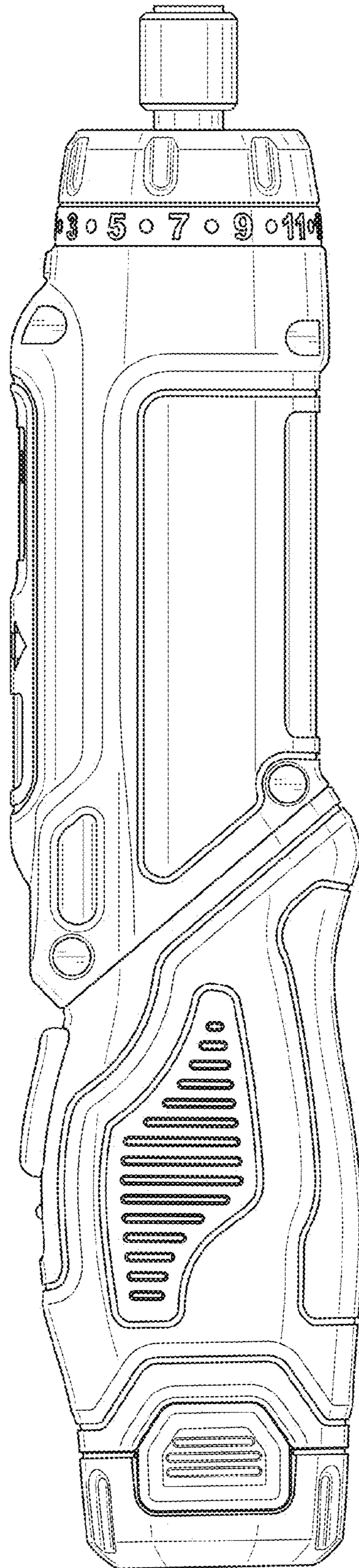


FIG. 4



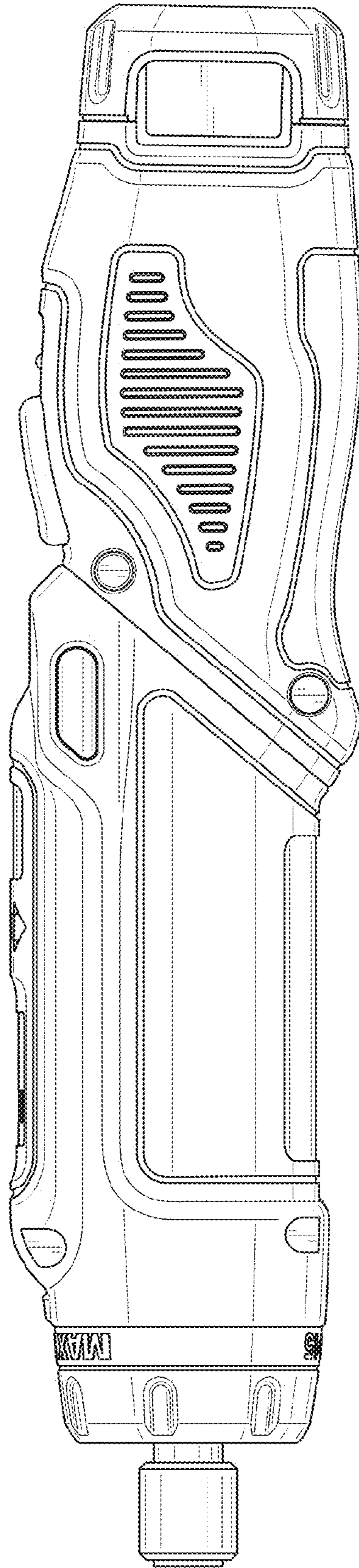


FIG. 5

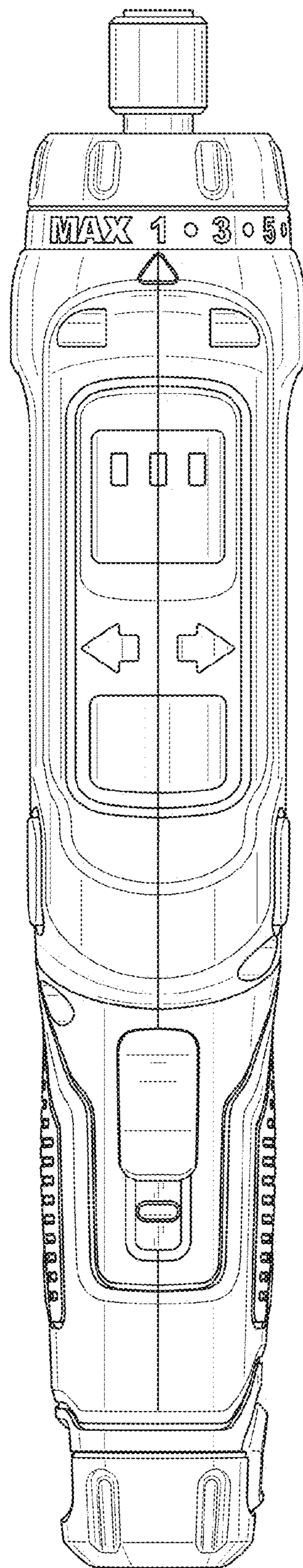


FIG. 6

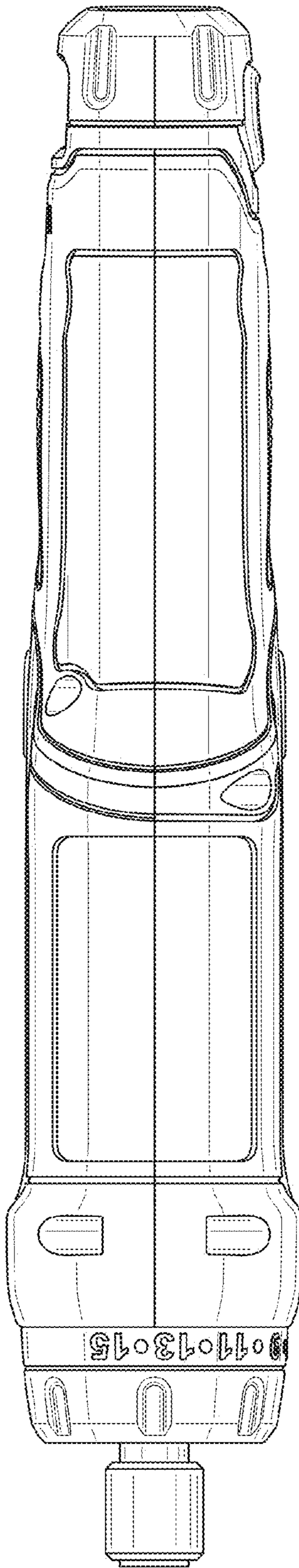


FIG. 7

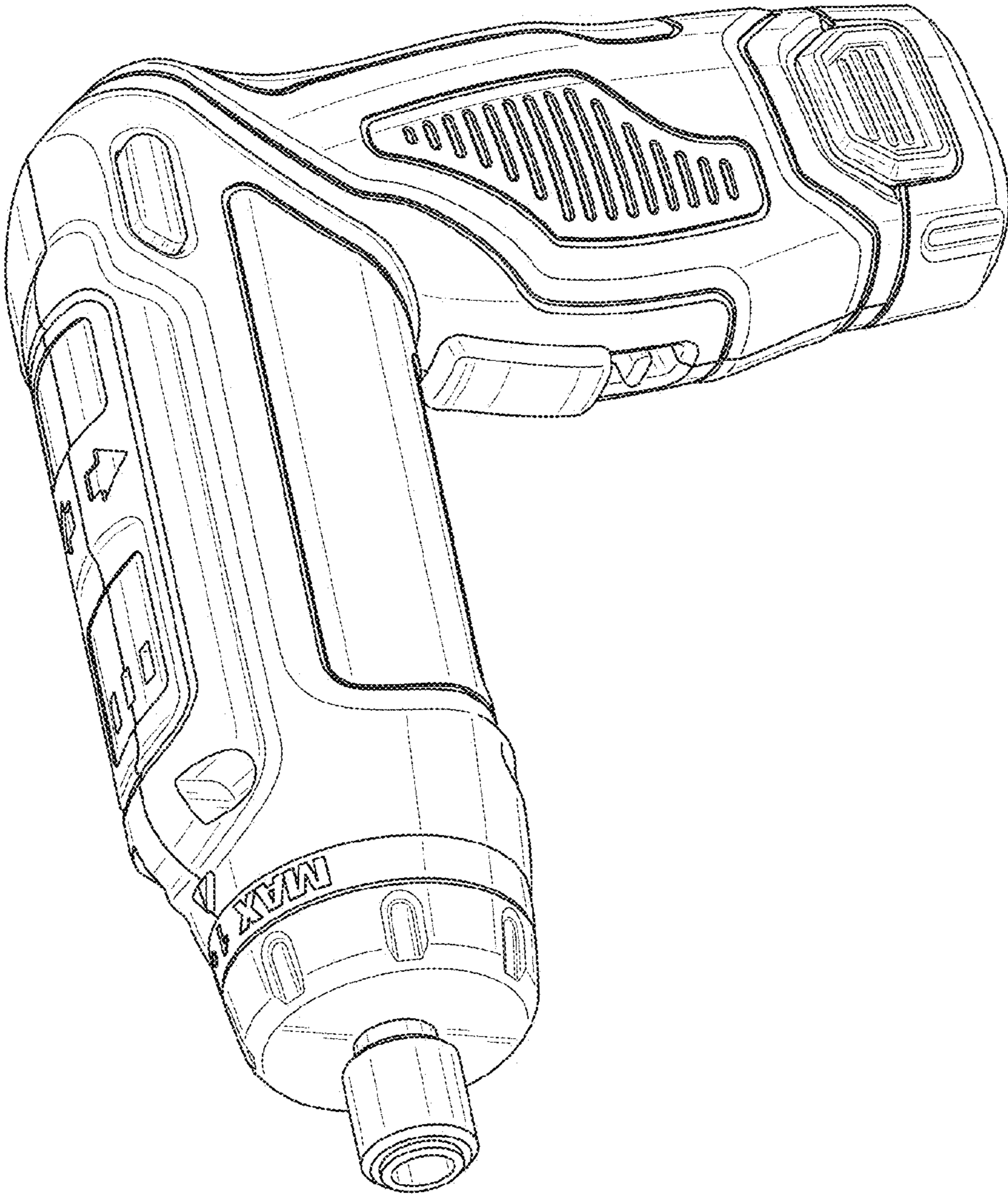


FIG. 8

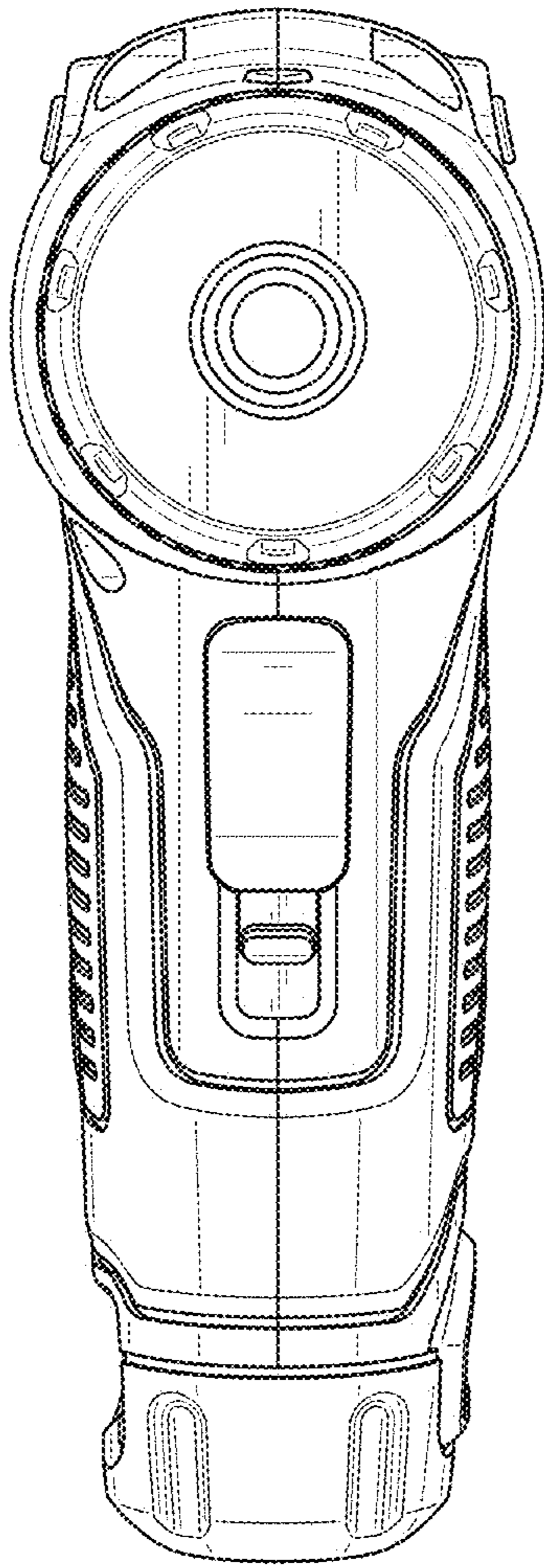


FIG. 9

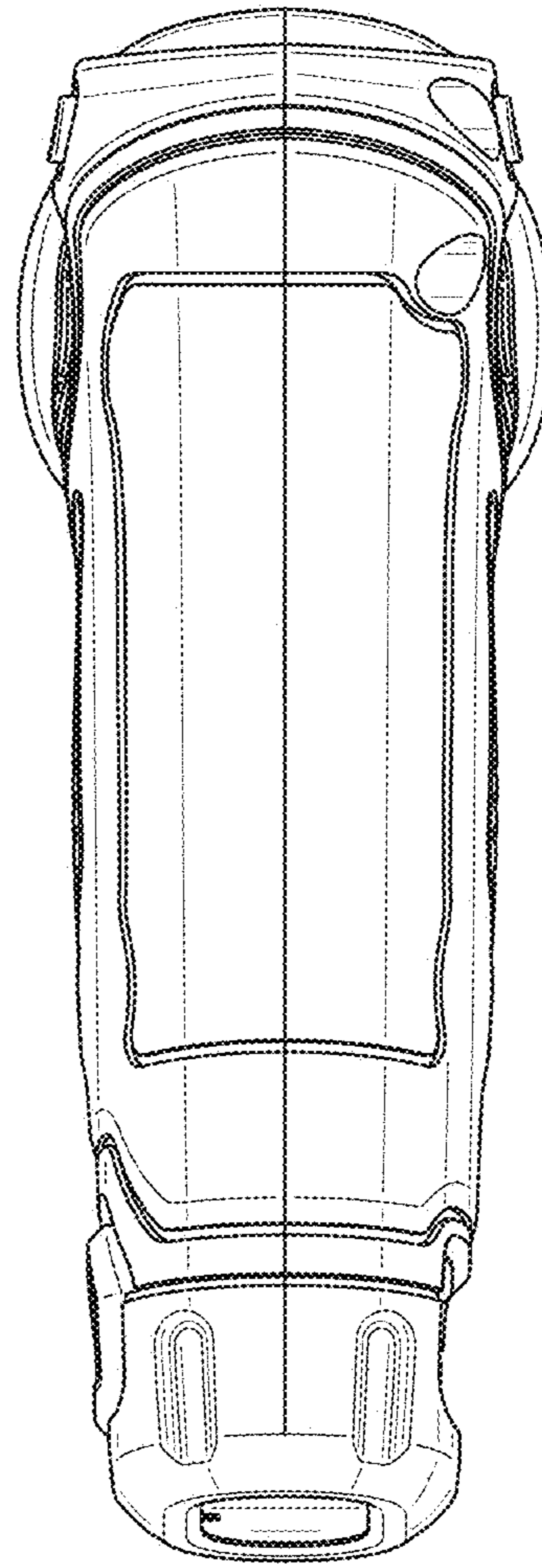


FIG. 10

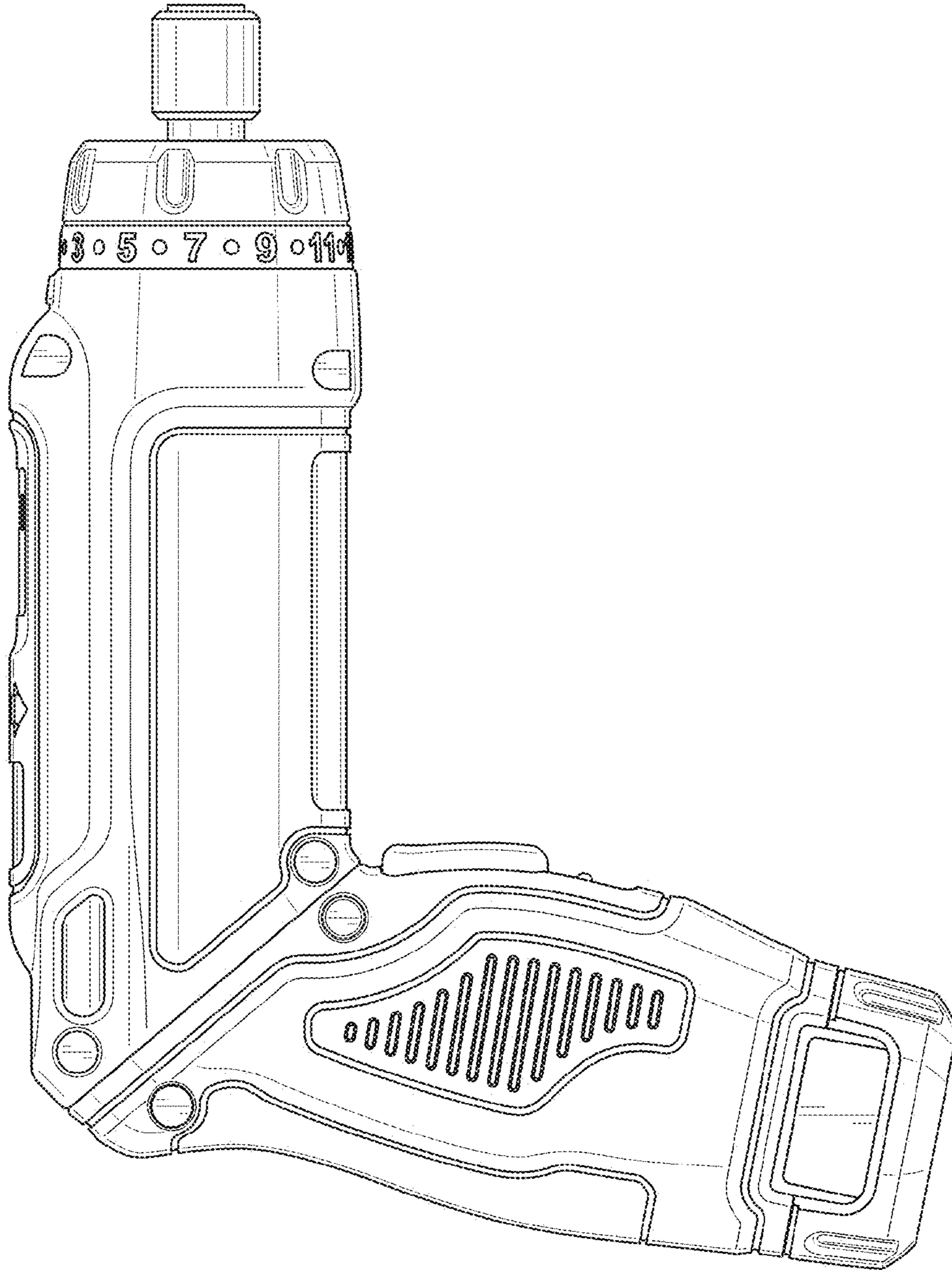


FIG. 11

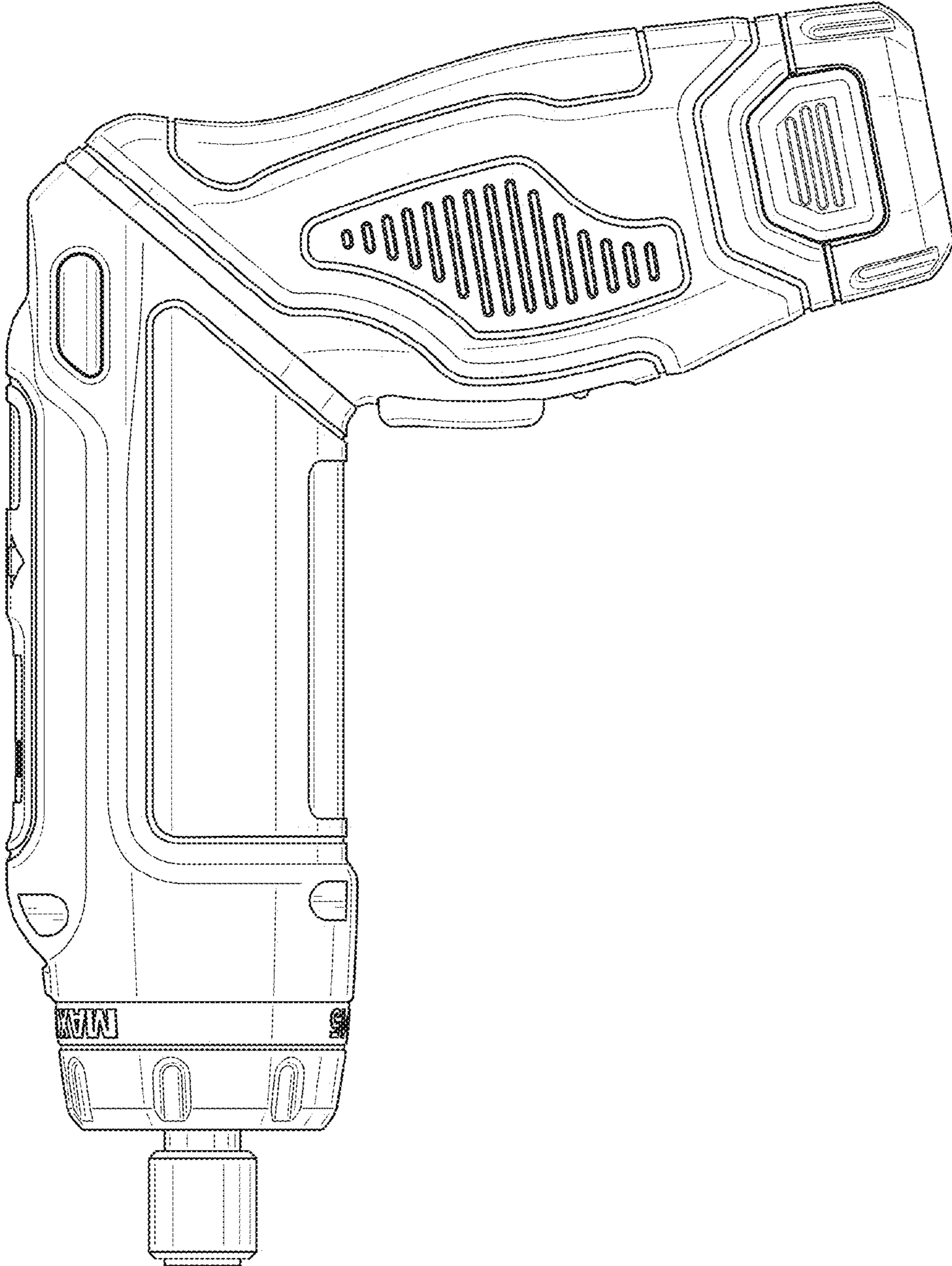


FIG. 12

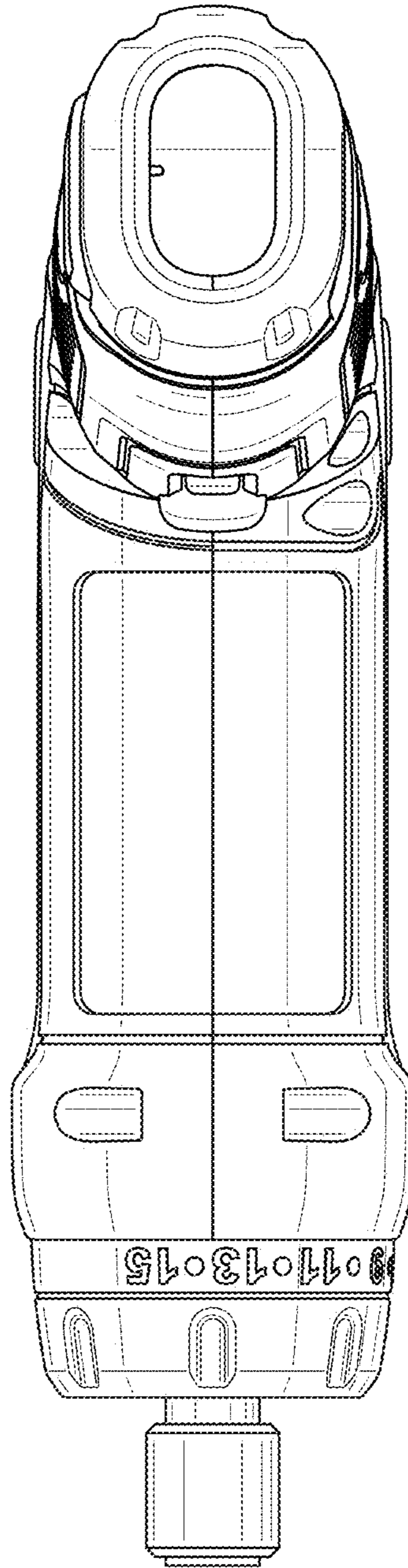


FIG. 13



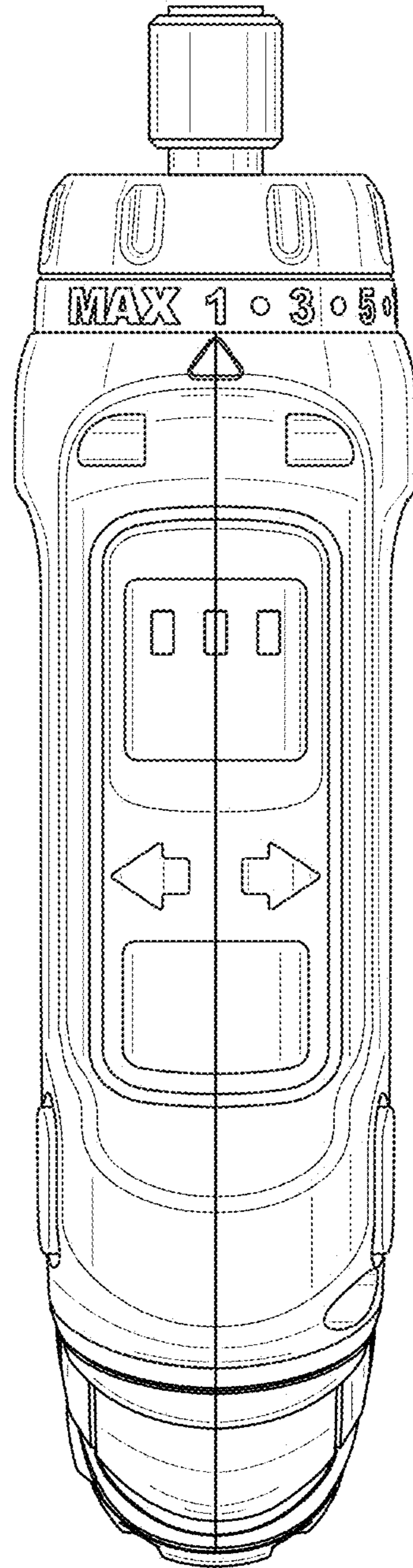


FIG. 14