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

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(54) **DRILL BIT TIP**
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(**) Term: **15 Years**

4,981,328 A * 1/1991 Stiffler E21B 10/56
299/111
5,025,875 A * 6/1991 Witt E21B 10/38
175/393
5,159,857 A * 11/1992 Jurewicz B22F 7/06
76/108.2
5,161,859 A * 11/1992 Larsson B28D 1/188
299/111
5,172,777 A * 12/1992 Siracki E21B 10/16
175/374
5,423,719 A * 6/1995 Jennings B23P 11/005
407/33
5,588,497 A * 12/1996 Thorburn E21B 10/56
175/413

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(Continued)

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FOREIGN PATENT DOCUMENTS

(30) **Foreign Application Priority Data**

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Primary Examiner — Patricia Ann Palasik

(51) **LOC (11) Cl.** **15-09**

(74) *Attorney, Agent, or Firm* — Locke Lord LLP

(52) **U.S. Cl.**
USPC **D15/139**

(58) **Field of Classification Search**
USPC D8/70; D15/131, 138, 139
CPC E21B 10/38; E21B 10/56
See application file for complete search history.

(57) **CLAIM**

The ornamental design for a drill bit tip, as shown and described.

(56) **References Cited**

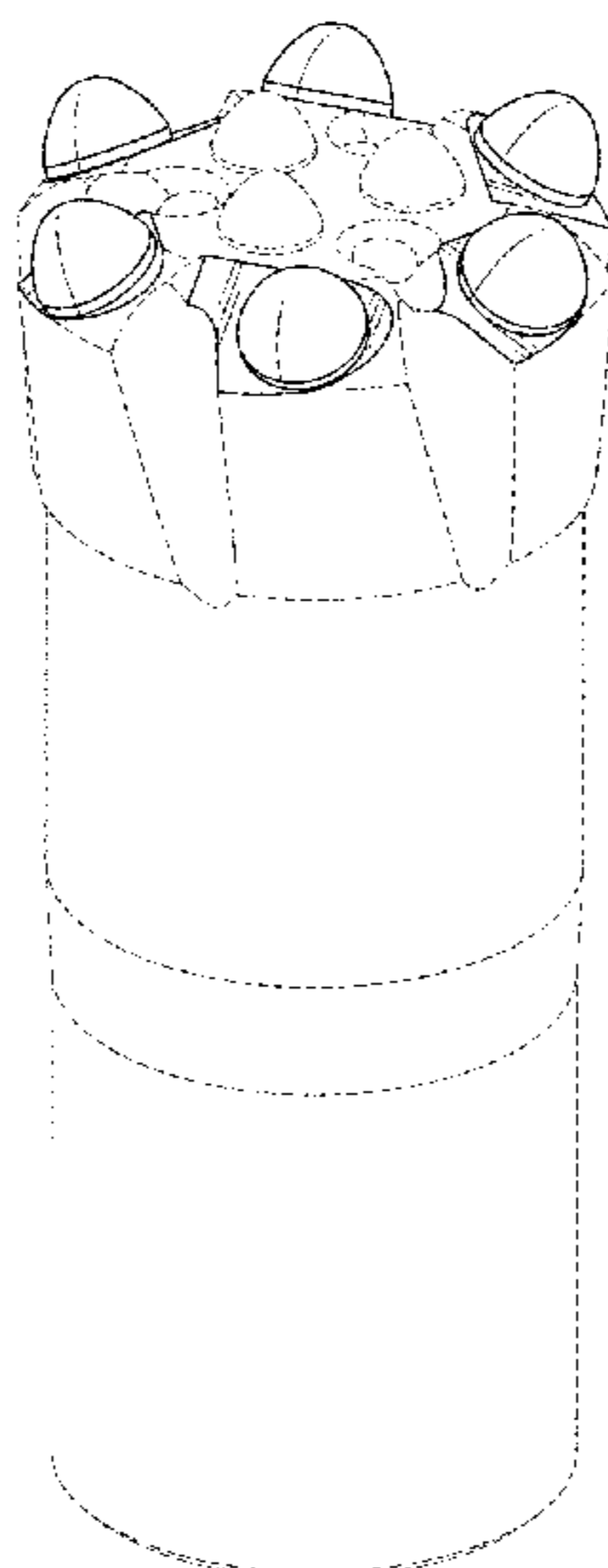
DESCRIPTION

U.S. PATENT DOCUMENTS

4,296,825 A * 10/1981 Larsson E21B 10/38
175/417
4,304,312 A * 12/1981 Larsson E21B 10/38
175/400
4,572,307 A * 2/1986 Tunell E21B 10/56
175/417
4,607,712 A * 8/1986 Larsson E21B 10/56
175/426
4,705,124 A * 11/1987 Abrahamson B21K 5/02
175/426
4,716,976 A * 1/1988 Isakov E21B 10/38
175/415

FIG. 1 is a perspective view of a drill bit tip.
FIG. 2 is a front elevation view thereof.
FIG. 3 is a rear elevation view thereof.
FIG. 4 is a left side elevation view thereof.
FIG. 5 is a right side elevation view thereof.
FIG. 6 is a top plan view thereof.
FIG. 7 is a bottom plan view thereof; and,
FIG. 8 is an enlarged detailed perspective view of FIG. 1.
The broken lines in the drawings depict unclaimed environmental subject matter.

1 Claim, 8 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

5,794,728	A *	8/1998	Palmberg	E21B 10/56 175/400	2005/0161264	A1 *	7/2005	Bjork	E21B 10/56 175/418
5,845,547	A *	12/1998	Sollami	E21B 10/56 175/420.1	2006/0060389	A1 *	3/2006	Hadin	E21B 10/38 175/415
5,881,828	A *	3/1999	Fischer	E21B 10/56 175/374	2006/0157285	A1 *	7/2006	Cannon	E21B 10/36 175/374
5,890,551	A *	4/1999	Liljebrand	E21B 10/56 175/414	2006/0162965	A1 *	7/2006	Hadin	E21B 10/36 175/296
6,073,711	A *	6/2000	Ingmarsson	E21B 10/56 175/420.2	2007/0137900	A1 *	6/2007	Bjork	E21B 10/38 174/414
6,119,798	A *	9/2000	Fischer	E21B 10/46 175/420.2	2010/0275425	A1 *	11/2010	Hall	B23P 6/00 29/402.06
6,199,451	B1 *	3/2001	Sollami	E21B 10/56 175/426	2012/0325558	A1 *	12/2012	Lundberg	E21B 10/38 175/57
6,199,645	B1 *	3/2001	Anderson	E21B 10/56 175/426	2013/0048387	A1 *	2/2013	Stenberg	E21B 10/36 175/420.1
D454,143	S *	3/2002	Åsberg	D15/139	2014/0182939	A1 *	7/2014	Bhatia	E21B 10/36 175/57
6,592,304	B1 *	7/2003	Kammerer	B22F 7/06 403/268	2014/0291035	A1 *	10/2014	Seppala	E21B 10/56 175/418
D574,403	S *	8/2008	Brady	D15/139	2014/0361601	A1 *	12/2014	Bush	E21B 10/56 299/105
D611,512	S *	3/2010	Sundin	D15/139	2015/0060151	A1 *	3/2015	Fang	E21B 10/46 175/430
D611,970	S *	3/2010	Sundin	D15/139	2015/0308198	A1 *	10/2015	Cho	E21B 10/43 175/426
D705,827	S *	5/2014	Hammargren	D15/139	2016/0069134	A1 *	3/2016	Carlsson	E21B 1/00 175/57
2002/0153174	A1 *	10/2002	Linden	E21B 10/56 175/426	2016/0090791	A1 *	3/2016	Persson	E21B 10/36 175/415
2004/0040752	A1 *	3/2004	Brandenberg	B22D 19/06 175/420.1	2016/0273275	A1 *	9/2016	Mattson	E21B 10/36
2004/0182610	A1 *	9/2004	Mocivnik	E21B 10/56 175/415	2016/0348442	A1 *	12/2016	Rindeskar	E21B 10/40
2005/0000317	A1 *	1/2005	Liang	B22F 3/156 75/241					

* cited by examiner

FIG. 1

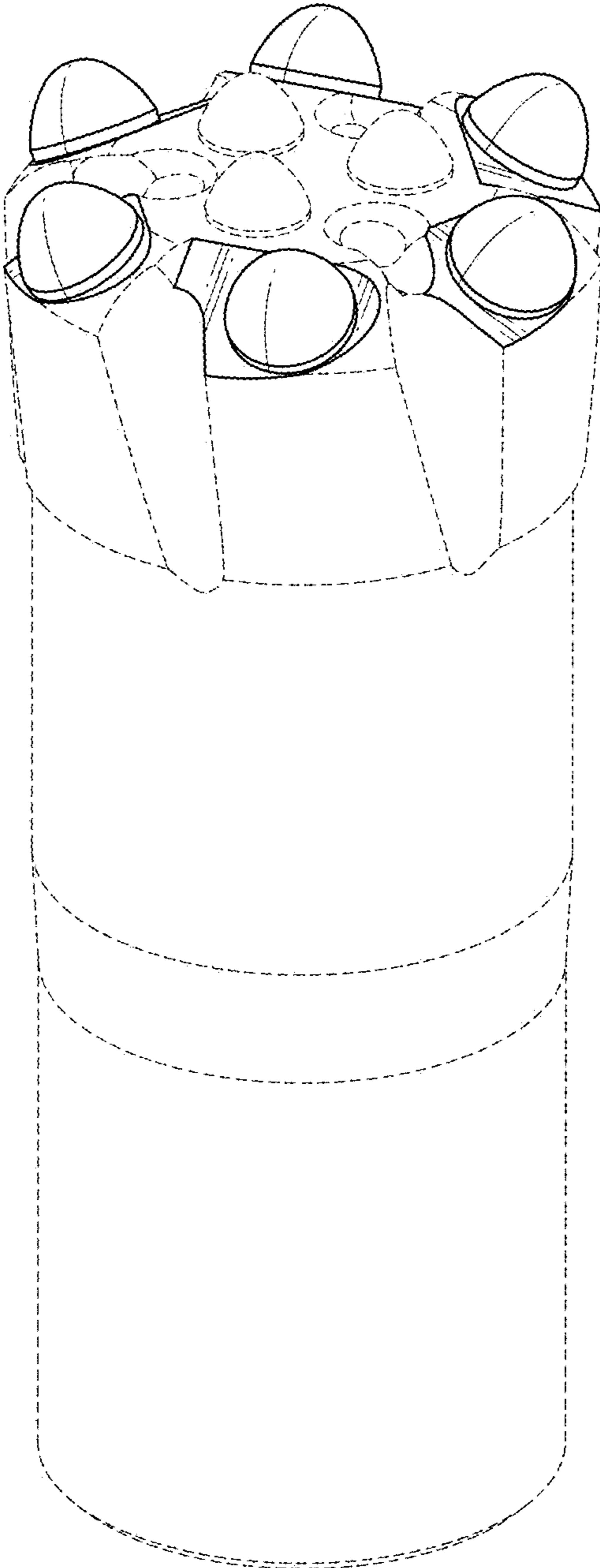


FIG. 2

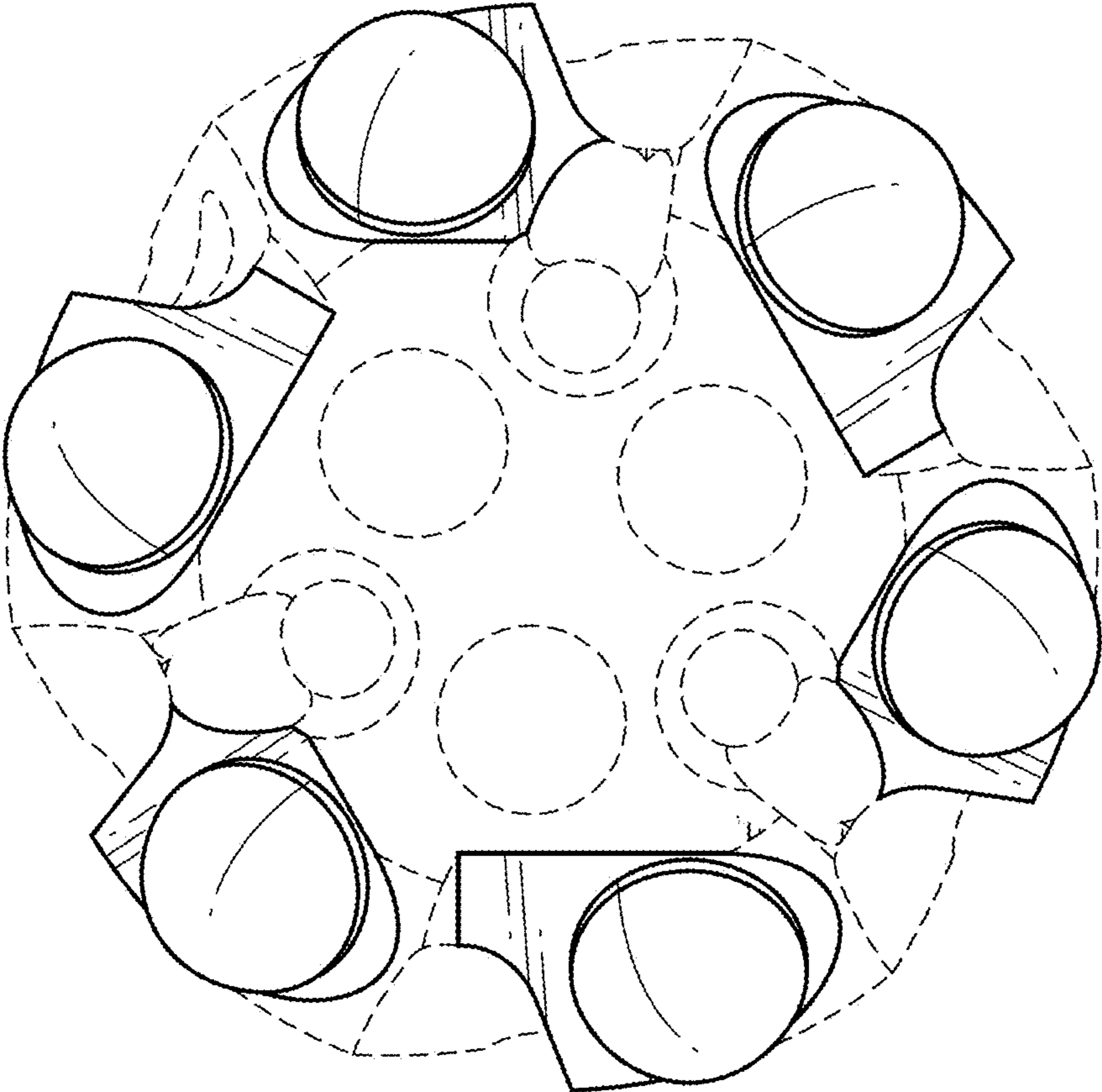


FIG. 3

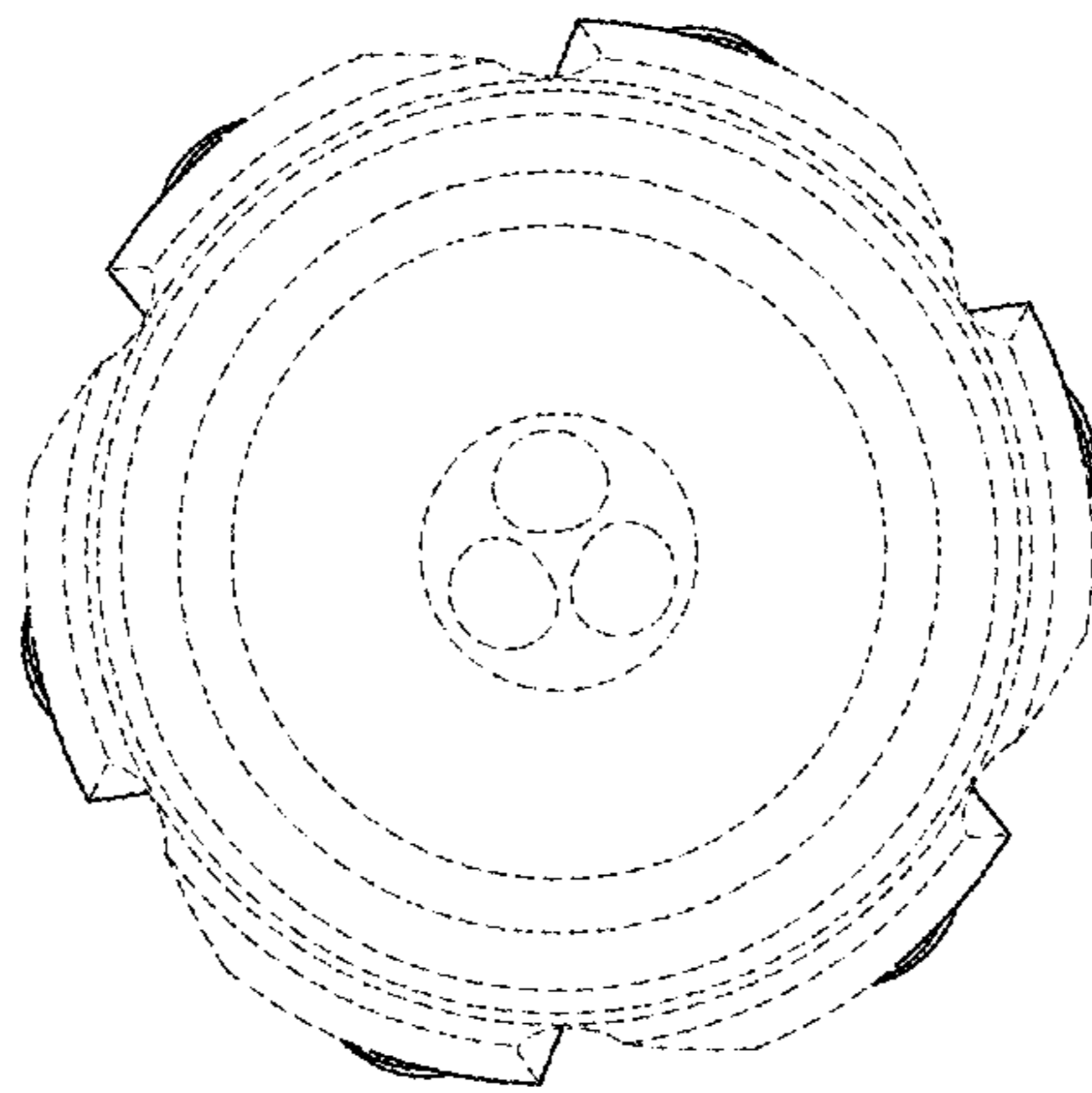


FIG. 4

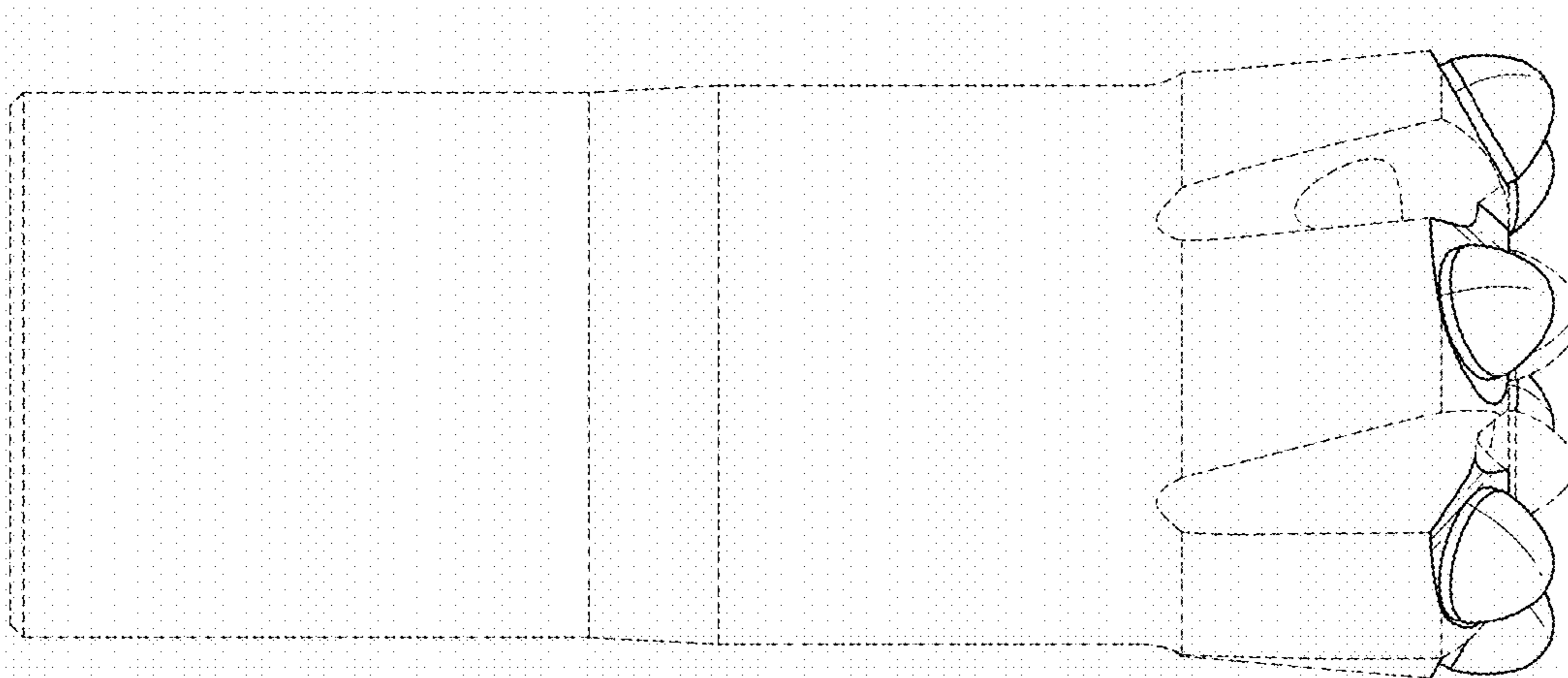


FIG. 5

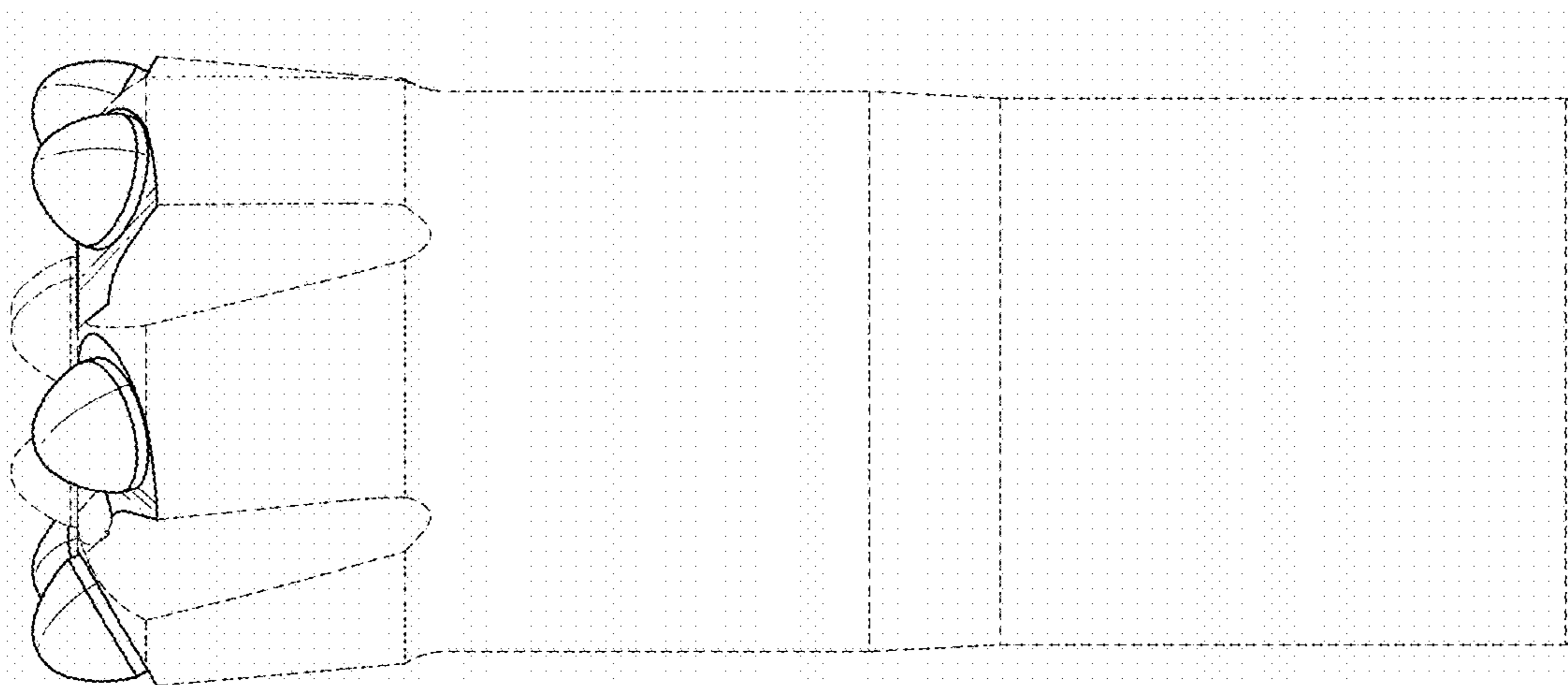


FIG. 6

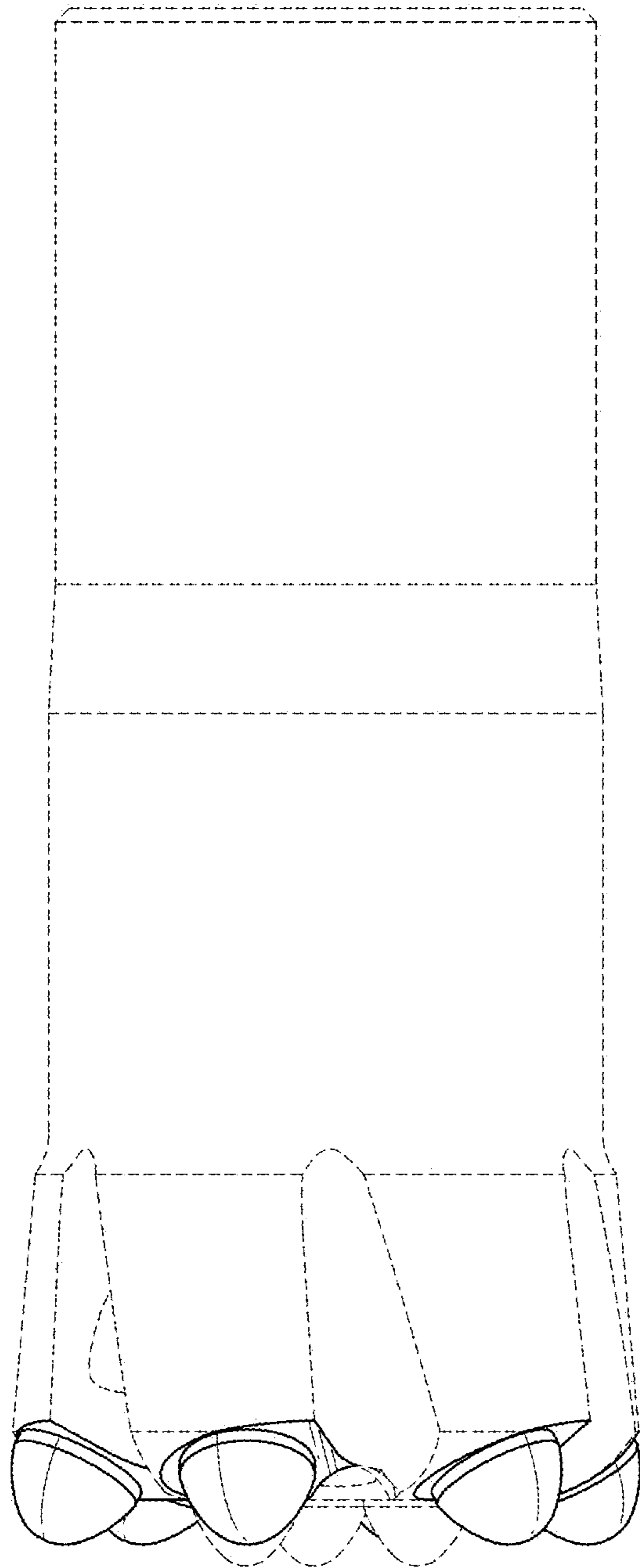


FIG. 7

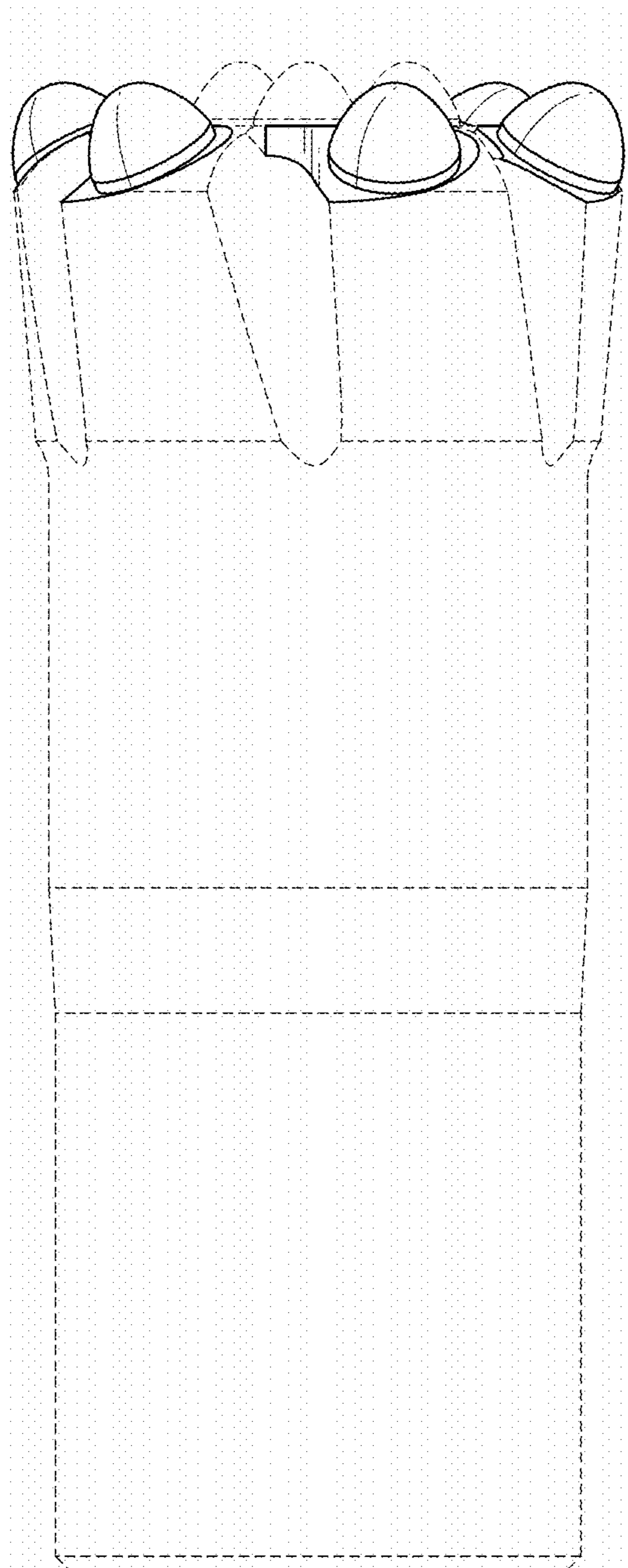


FIG. 8

