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**Zheng et al.**

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- (54) **ANTENNA**
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- (52) **U.S. Cl.**  
USPC ..... **D14/230**
- (58) **Field of Classification Search**  
USPC ..... D14/230–238, 203.6, 204, 216, 221, D14/238.1, 240, 242, 299, 343, 358, 509; D13/182  
CPC ..... H01Q 7/00; H01Q 13/10; H01Q 9/285; H01Q 19/30; H01Q 19/12; H01Q 1/36; H01Q 1/38; H01Q 1/0475; H01Q 1/034; H05K 11/00; G05D 1/0234; G06K 19/07749  
See application file for complete search history.

- D549,696 S 8/2007 Oshima et al.
- 7,292,198 B2 \* 11/2007 Shtrom ..... H01Q 1/38 343/700 MS
- 7,333,067 B2 2/2008 Hung et al.
- 7,336,959 B2 2/2008 Khitrik et al.
- D573,589 S 7/2008 Montgomery et al.
- 7,405,704 B1 8/2008 Lin et al.
- 7,446,727 B2 \* 11/2008 Kai ..... G06K 19/07786 340/572.7
- 7,477,195 B2 1/2009 Vance
- D592,195 S 5/2009 Wu et al.
- 7,570,215 B2 8/2009 Abramov et al.
- D599,334 S 9/2009 Chiang
- D606,053 S 12/2009 Wu et al.
- D607,442 S 1/2010 Su et al.
- D608,769 S 1/2010 Bufe
- D612,368 S 3/2010 Yang et al.
- 7,705,783 B2 4/2010 Rao et al.
- 7,729,662 B2 6/2010 Abramov et al.
- D621,819 S 8/2010 Tsai et al.
- 7,843,390 B2 11/2010 Liu
- D630,196 S \* 1/2011 Hall ..... D14/230

(Continued)

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(57) **CLAIM**

The ornamental design for an antenna, as shown and described.

(56) **References Cited**

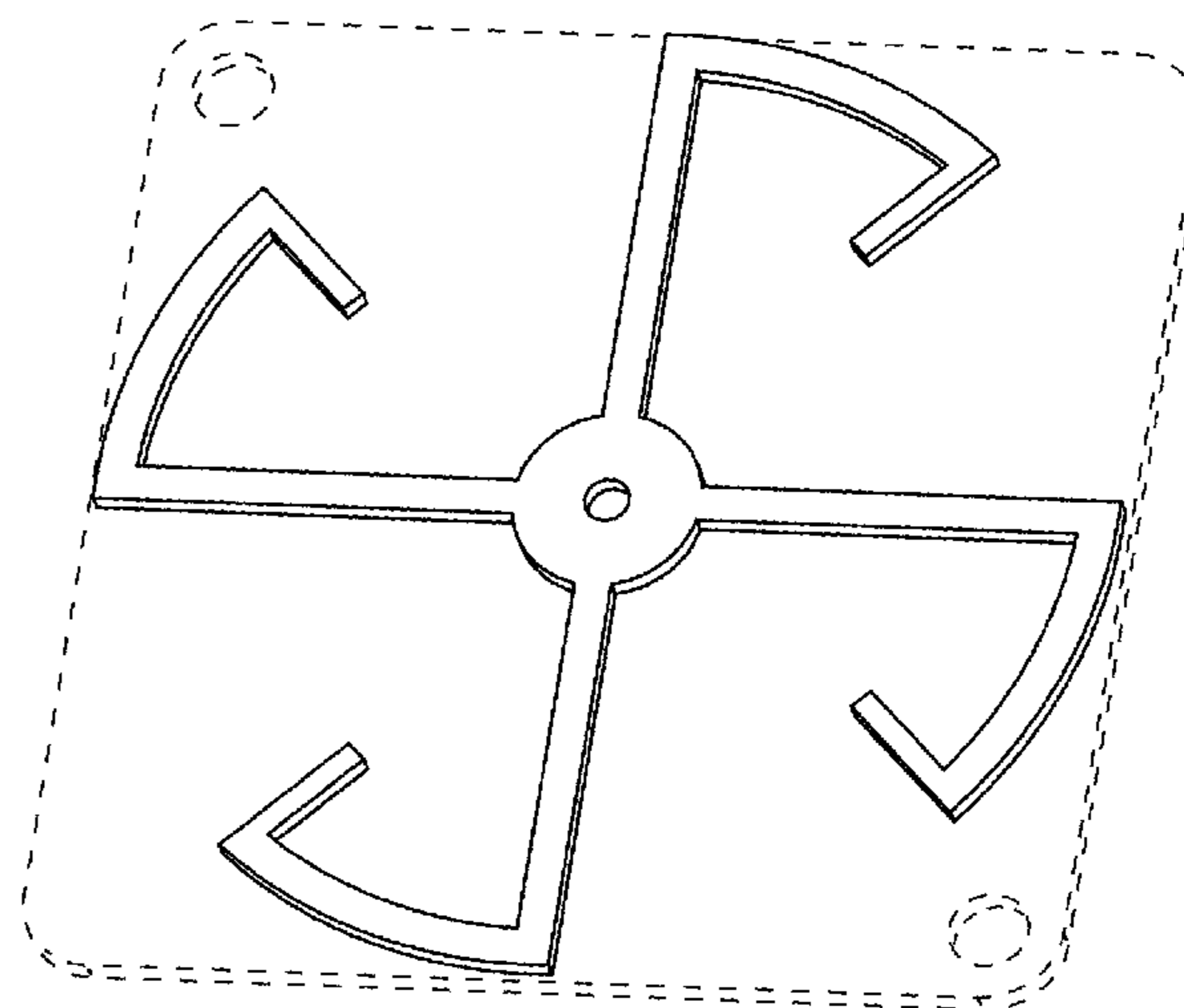
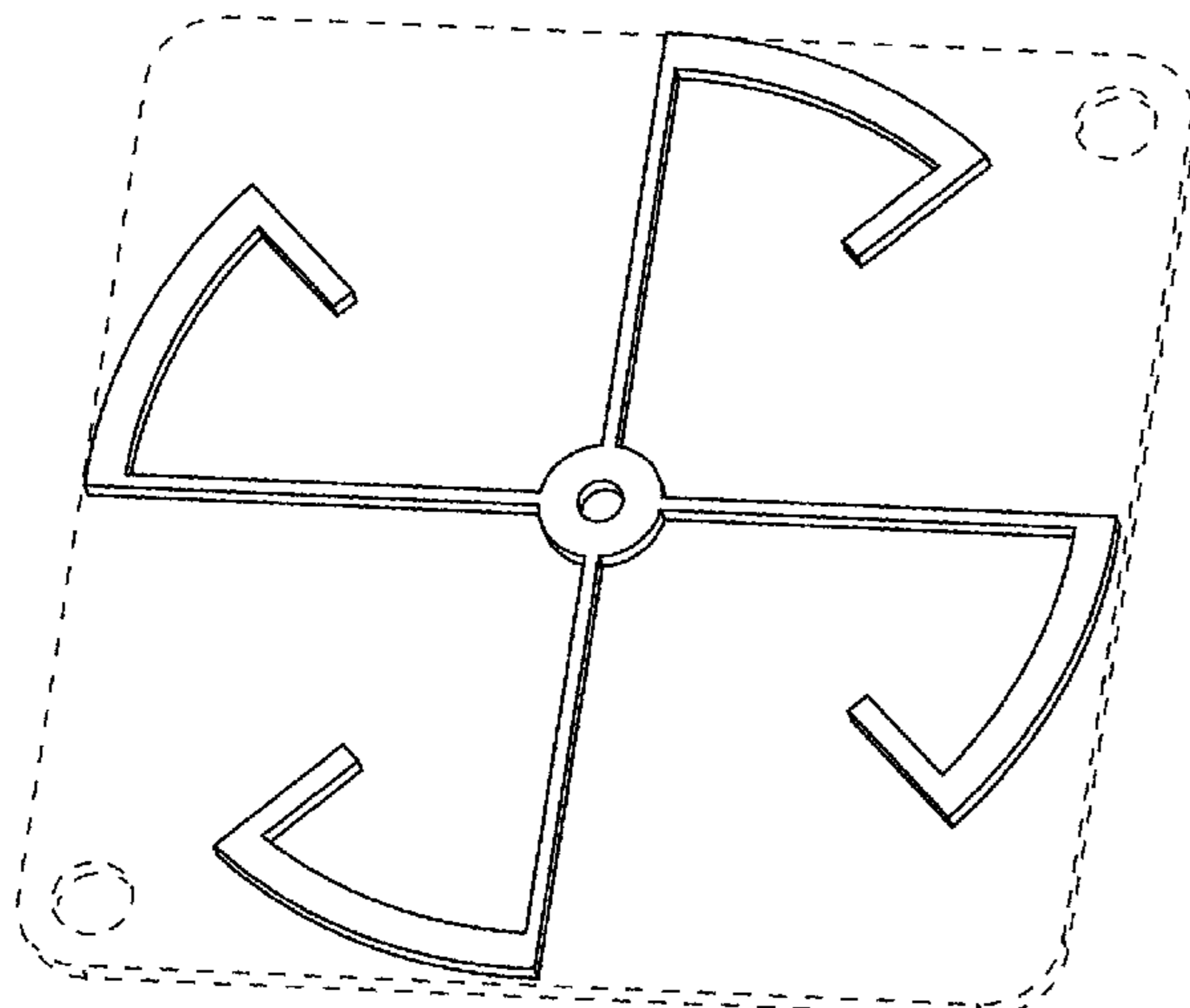
**U.S. PATENT DOCUMENTS**

- 5,212,494 A \* 5/1993 Hofer ..... H01Q 9/27 343/792.5
- D493,448 S \* 7/2004 Charlot, Jr. .... D14/234
- D501,465 S \* 2/2005 Charlot, Jr. .... D14/235
- D501,466 S \* 2/2005 Charlot, Jr. .... D14/235
- 7,061,437 B2 6/2006 Lin et al.
- 7,148,849 B2 12/2006 Lin
- 7,215,296 B2 5/2007 Abramov et al.
- D546,821 S 7/2007 Oliver

**DESCRIPTION**

FIG. 1 is a top plan view of an antenna;  
 FIG. 2 is a front elevation view thereof;  
 FIG. 3 is a bottom plan view thereof;  
 FIG. 4 is a top perspective view thereof; and,  
 FIG. 5 is a bottom perspective view thereof.  
 The broken lines are for illustration purposes only and form no part of the claimed invention.

**1 Claim, 2 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

D633,483 S	3/2011	Su et al.		8,686,905 B2 *	4/2014	Shtrom .....	H01Q 1/241 343/702
D635,127 S	3/2011	Tsai et al.		D706,247 S	6/2014	Zheng et al.	
7,907,971 B2	3/2011	Salo et al.		D706,750 S	6/2014	Bringuir	
D635,560 S	4/2011	Tsai et al.		D706,751 S	6/2014	Chang et al.	
D635,963 S	4/2011	Podduturi		D708,602 S	7/2014	Gosalia et al.	
D635,964 S	4/2011	Podduturi		D709,053 S	7/2014	Chang et al.	
D635,965 S	4/2011	Mi et al.		D710,832 S	8/2014	Yang	
D636,382 S	4/2011	Podduturi		D710,833 S	8/2014	Zheng et al.	
7,956,815 B2 *	6/2011	Ohira .....	H01Q 9/42 343/700 MS	8,854,265 B1	10/2014	Yang et al.	
7,965,242 B2	6/2011	Abramov et al.		D716,775 S	11/2014	Bidermann	
D649,962 S	12/2011	Tseng et al.		8,967,484 B2 *	3/2015	Nishizawa .....	B29C 45/1671 235/492
D651,198 S	12/2011	Mi et al.		9,461,369 B1 *	10/2016	Liang .....	H01Q 21/24
D654,059 S	2/2012	Mi et al.		D791,746 S *	7/2017	Blouch .....	D14/230
D654,060 S	2/2012	Ko et al.		D797,081 S *	9/2017	Liang .....	D14/230
D658,639 S	5/2012	Huang et al.		9,799,956 B2 *	10/2017	Orsi .....	H01Q 9/28
D659,129 S	5/2012	Mi et al.		9,799,963 B2 *	10/2017	Huang .....	H01Q 21/26
D659,685 S	5/2012	Huang et al.		9,837,711 B2 *	12/2017	Shtrom .....	H01Q 3/24
D659,688 S	5/2012	Huang et al.		9,876,277 B2 *	1/2018	Liao .....	H01Q 1/38
8,175,036 B2	5/2012	Visuri et al.		9,917,375 B2 *	3/2018	Korva .....	H01Q 21/205
8,184,601 B2	5/2012	Abramov et al.		2002/0003499 A1	1/2002	Kouam et al.	
D662,916 S	7/2012	Huang et al.		2004/0222936 A1	11/2004	Hung et al.	
8,248,970 B2	8/2012	Abramov et al.		2005/0073462 A1	4/2005	Lin et al.	
D671,097 S	11/2012	Mi et al.		2005/0190108 A1	9/2005	Lin et al.	
8,310,402 B2	11/2012	Yang		2006/0208900 A1	9/2006	Tavassoli Hozouri	
8,325,101 B2 *	12/2012	Payne .....	H01Q 1/36 343/792	2007/0030203 A1	2/2007	Tsai et al.	
D676,429 S	2/2013	Gosalia et al.		2007/0152901 A1 *	7/2007	Hockey .....	G06K 19/07749 343/793
D678,255 S	3/2013	Ko et al.		2008/0150829 A1	6/2008	Lin et al.	
8,423,084 B2	4/2013	Abramov et al.		2009/0002244 A1	1/2009	Woo	
D684,565 S	6/2013	Wei		2009/0058739 A1	3/2009	Konishi	
D685,352 S	7/2013	Wei		2009/0135072 A1	5/2009	Ke et al.	
D685,772 S	7/2013	Zheng et al.		2009/0262028 A1	10/2009	Murnbru et al.	
D686,600 S	7/2013	Yang		2010/0188297 A1	7/2010	Chen et al.	
D689,474 S	9/2013	Yang et al.		2010/0309067 A1	12/2010	Tsou et al.	
D692,870 S	11/2013	He		2011/0006950 A1	1/2011	Park et al.	
D694,738 S	12/2013	Yang		2012/0038514 A1	2/2012	Bang	
D695,279 S	12/2013	Yang et al.		2012/0229348 A1	9/2012	Chiang	
D695,280 S	12/2013	Yang et al.		2012/0242546 A1	9/2012	Hu et al.	
D703,195 S	4/2014	Zheng		2015/0349418 A1 *	12/2015	Patron .....	H01Q 3/24 343/836
D703,196 S	4/2014	Zheng					

\* cited by examiner

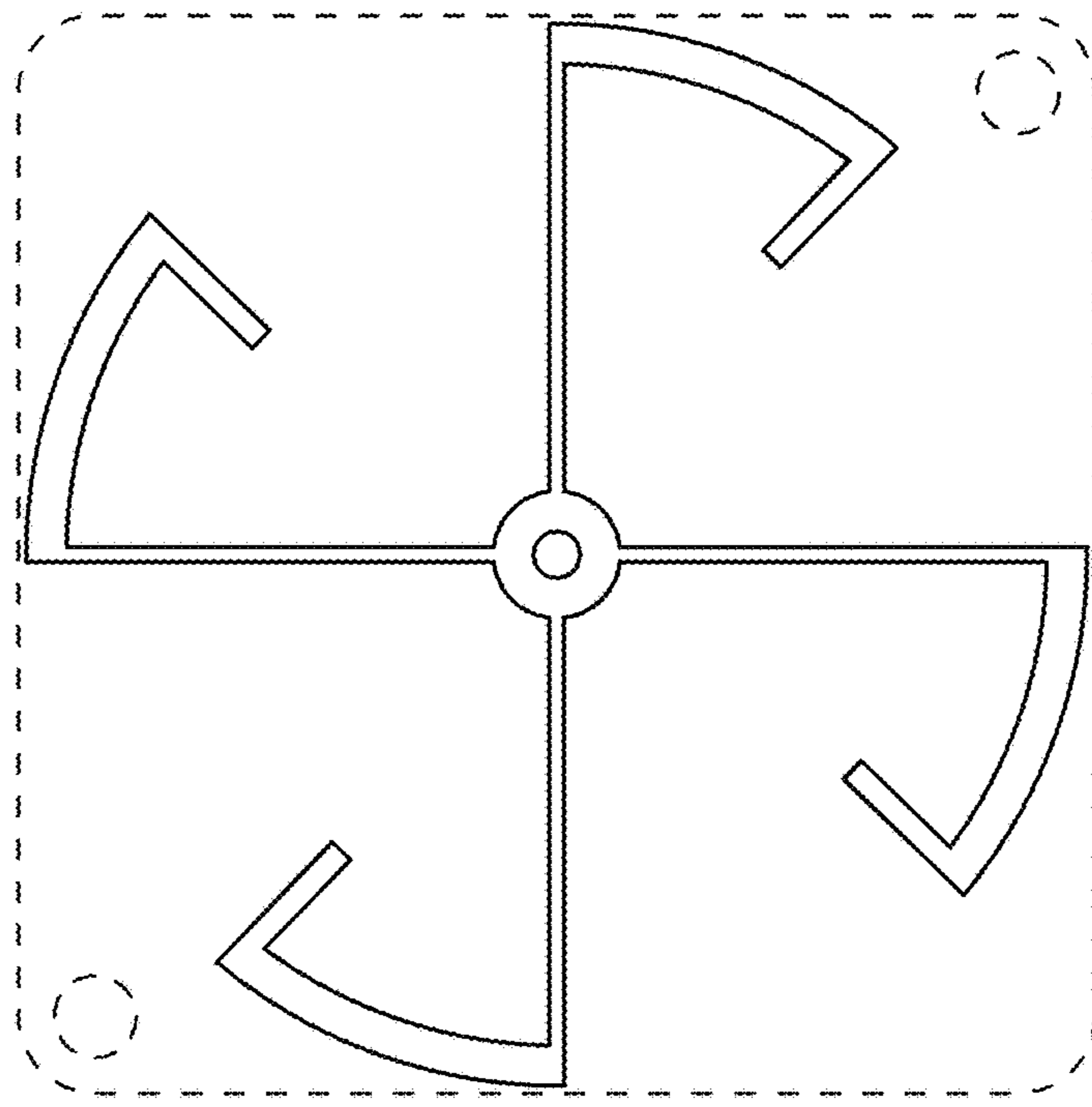


FIG. 1

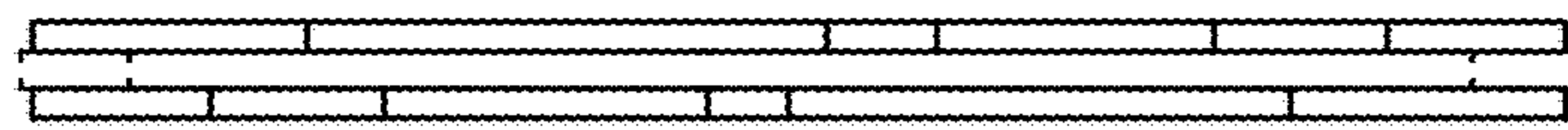


FIG. 2

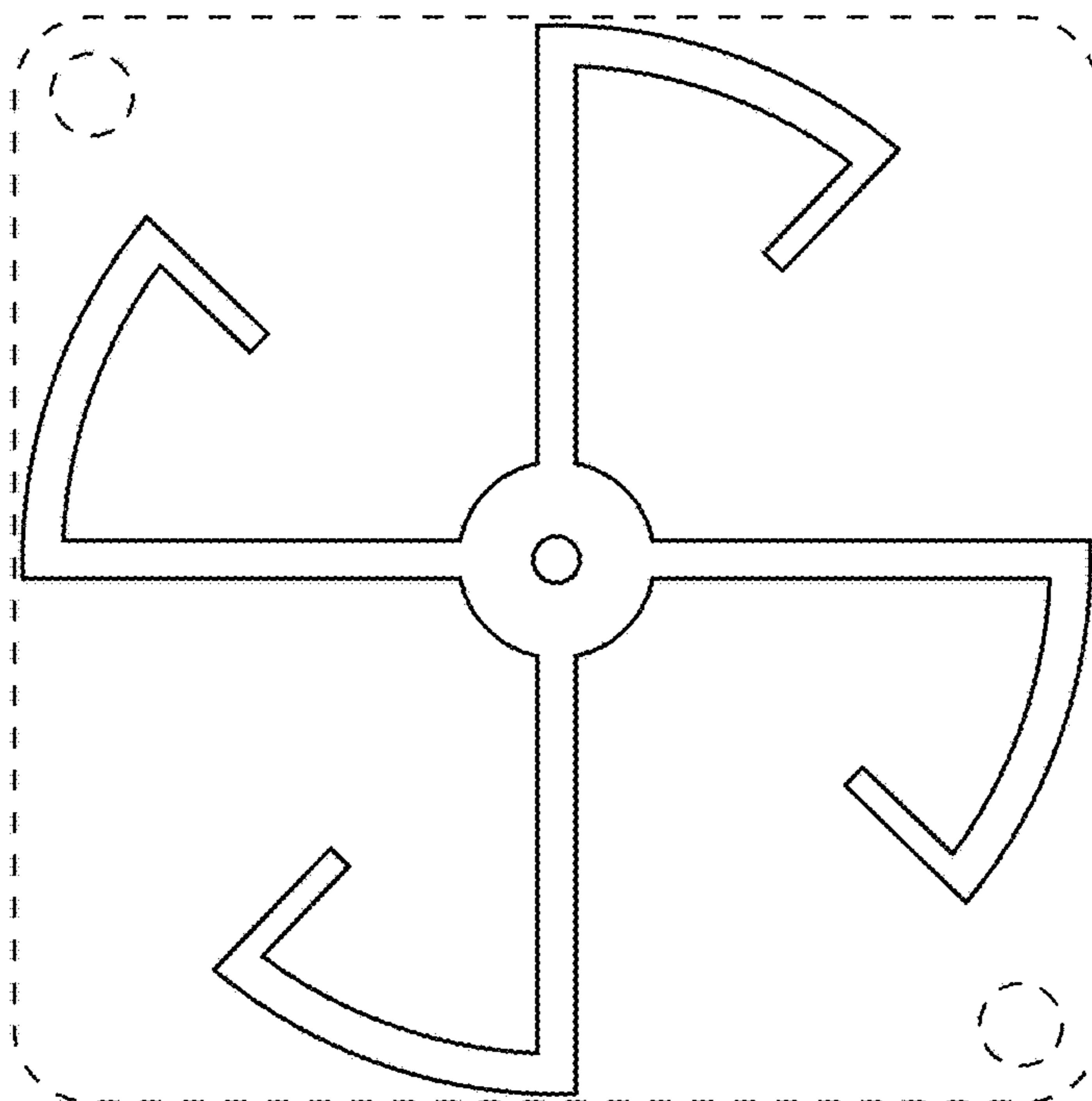


FIG. 3



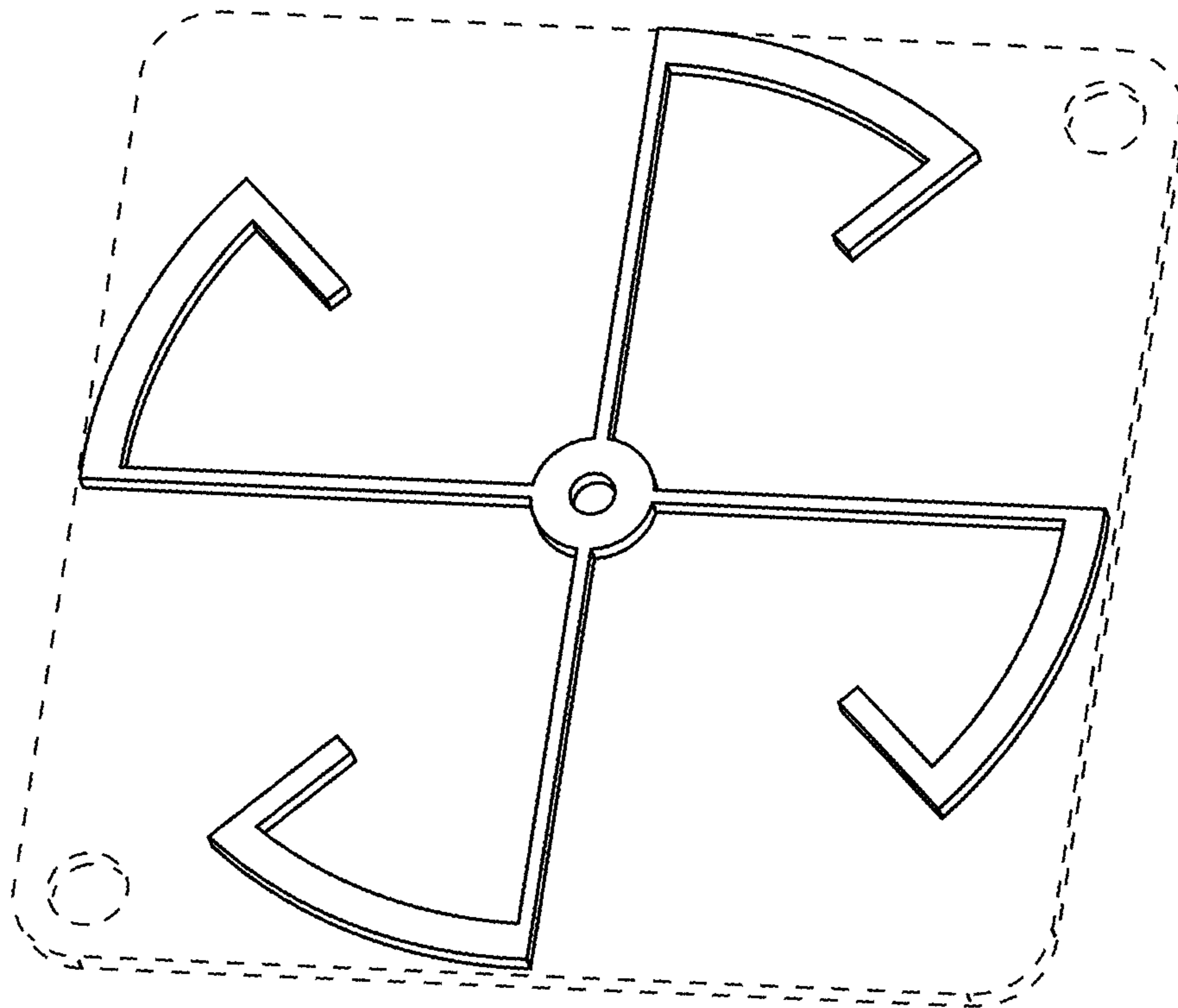


FIG. 4

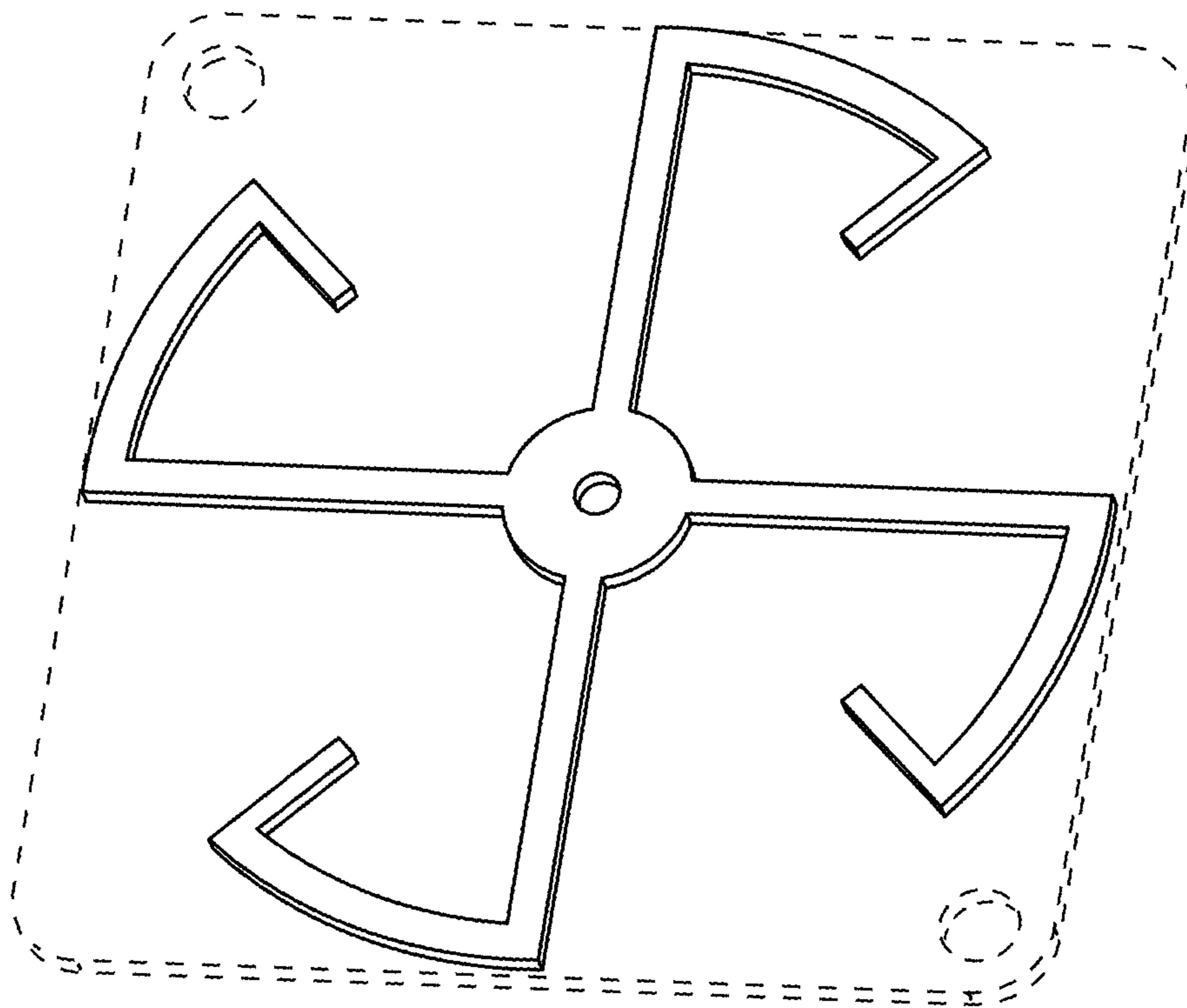


FIG. 5