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(12) **United States Design Patent** (10) **Patent No.:** **US D788,082 S**
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- (54) **ANTENNA**
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- 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
D633,483 S 3/2011 Su et al.
D635,127 S 3/2011 Tsai et al.
7,907,971 B2 3/2011 Salo et al.
D635,560 S 4/2011 Tsai et al.
D635,963 S 4/2011 Podduturi
D635,964 S 4/2011 Podduturi
D635,965 S 4/2011 Mi et al.

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

(21) Appl. No.: **29/540,023**

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(51) **LOC (10) Cl.** **14-03**

(52) **U.S. Cl.**
USPC **D14/230**

(58) **Field of Classification Search**
USPC D14/138, 230-238.1, 299, 358;
D12/42-43; D13/182; D8/396;
248/68.1

CPC H01L 33/48; H01L 33/486; H01L 23/02;
H05K 5/00; H01Q 13/10; H01Q 7/00;
F16L 3/2235; F16L 3/227; Y10T
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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 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
D549,696 S 8/2007 Oshima et al.
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 7/2008 Lin et al.

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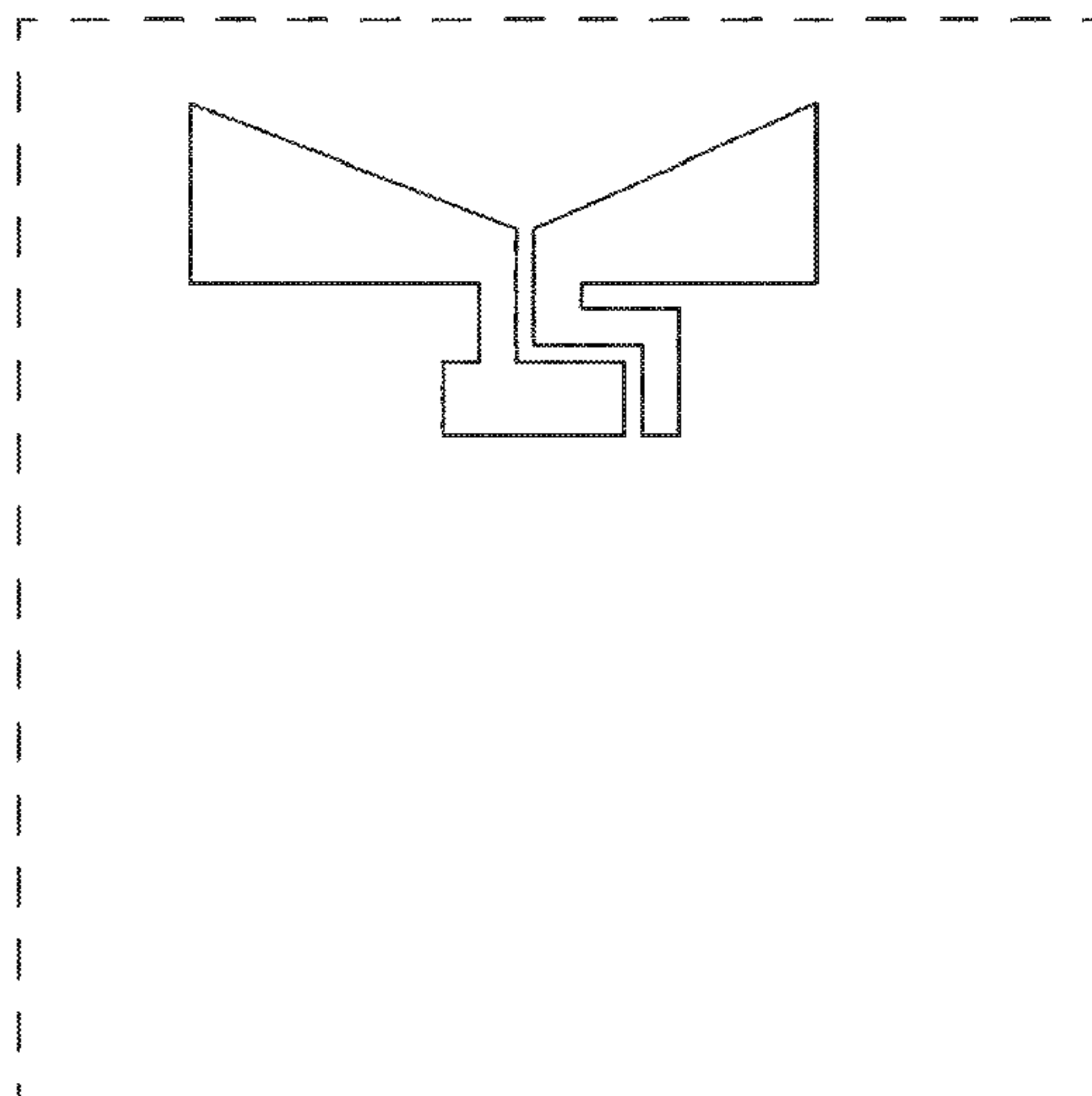
(57) **CLAIM**

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

DESCRIPTION

FIG. 1 is a top plan view of an antenna with a base in broken lines;
FIG. 2 is a side elevation view thereof;
FIG. 3 is a front elevation view thereof;
FIG. 4 is bottom plan view thereof;
FIG. 5 is a top perspective view thereof;
FIG. 6 is a top plan view of the antenna without the unclaimed base structure; and,
FIG. 7 is a front elevation view thereof.
The broken lines are for illustrative purposes only and form no part of the claimed design.

1 Claim, 5 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D636,382 S 4/2011 Podduturi
 7,965,242 B2 6/2011 Abramov et al.
 D649,962 S 12/2011 Tseng et al.
 D651,198 S 12/2011 Mi et al.
 D654,059 S 2/2012 Mi et al.
 D654,060 S 2/2012 Ko et al.
 D658,639 S 5/2012 Huang et al.
 D659,129 S 5/2012 Mi et al.
 D659,685 S 5/2012 Huang et al.
 D659,688 S 5/2012 Huang et al.
 8,175,036 B2 5/2012 Visuri et al.
 8,184,601 B2 5/2012 Abramov et al.
 D662,916 S 7/2012 Huang et al.
 8,248,970 B2 8/2012 Abramov et al.
 D671,097 S 11/2012 Mi et al.
 8,310,402 B2 11/2012 Yang
 D676,429 S 2/2013 Gosalia et al.
 D678,255 S 3/2013 Ko et al.
 8,423,084 B2 4/2013 Abramov et al.
 D684,565 S 6/2013 Wei
 D685,352 S 7/2013 Wei
 D685,772 S 7/2013 Zheng et al.
 D686,600 S 7/2013 Yang
 D689,474 S 9/2013 Yang et al.
 D692,870 S 11/2013 He
 D694,738 S 12/2013 Yang
 D695,279 S 12/2013 Yang et al.
 D695,280 S 12/2013 Yang et al.
 D703,195 S 4/2014 Zheng
 D703,196 S 4/2014 Zheng
 D706,247 S 6/2014 Zheng et al.
 D706,750 S 6/2014 Bringuir
 D706,751 S 6/2014 Chang et al.
 D708,602 S 7/2014 Gosalia et al.
 D709,053 S 7/2014 Chang et al.
 D710,832 S 8/2014 Yang
 D710,833 S 8/2014 Zheng et al.
 8,854,265 B1 10/2014 Yang et al.
 D716,775 S 11/2014 Bidermann

D766,221 S * 9/2016 Zheng D14/230
 D766,883 S * 9/2016 Yang D14/230
 D766,884 S * 9/2016 Zheng D14/240
 2002/0003499 A1 1/2002 Kouam et al.
 2002/0158257 A1* 10/2002 Nei H01L 33/483
 257/79
 2004/0222936 A1 11/2004 Hung et al.
 2005/0073462 A1 4/2005 Lin et al.
 2005/0168389 A1* 8/2005 Yuanzhu H01Q 13/10
 343/767
 2005/0190108 A1 9/2005 Lin et al.
 2006/0077113 A1* 4/2006 Yuanzhu H01Q 9/0457
 343/770
 2006/0208900 A1 9/2006 Tavassoli Hozouri
 2007/0030203 A1 2/2007 Tsai et al.
 2007/0241983 A1* 10/2007 Cao H01Q 9/28
 343/797
 2008/0150725 A1* 6/2008 Takahashi G06K 19/07718
 340/572.7
 2008/0150829 A1 6/2008 Lin et al.
 2009/0002244 A1 1/2009 Woo
 2009/0058739 A1 3/2009 Konishi
 2009/0135072 A1 5/2009 Ke et al.
 2009/0262028 A1 10/2009 Mumbru et al.
 2009/0267505 A1* 10/2009 Lee H01L 33/486
 313/509
 2010/0188297 A1 7/2010 Chen et al.
 2010/0309067 A1 12/2010 Tsou et al.
 2011/0006950 A1 1/2011 Park et al.
 2011/0025578 A1* 2/2011 Chang H01Q 1/007
 343/860
 2012/0038514 A1 2/2012 Bang
 2012/0062437 A1* 3/2012 Hung H01Q 9/285
 343/799
 2012/0229348 A1 9/2012 Chiang
 2012/0242546 A1 9/2012 Hu et al.
 2013/0214046 A1* 8/2013 Choi G06K 7/10346
 235/439
 2013/0321231 A1* 12/2013 Flores-Cuadras H01Q 9/285
 343/793

* cited by examiner

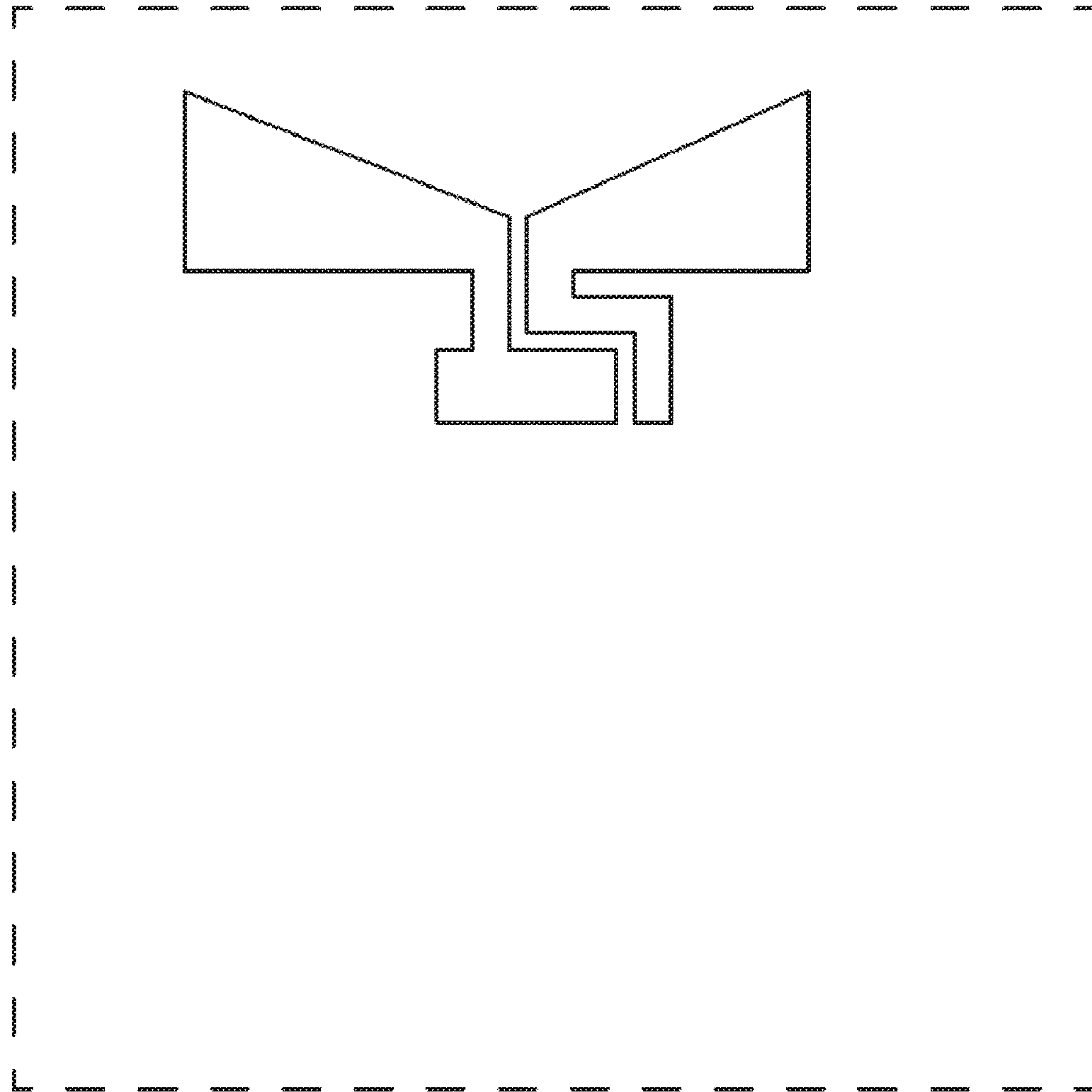


FIG. 1

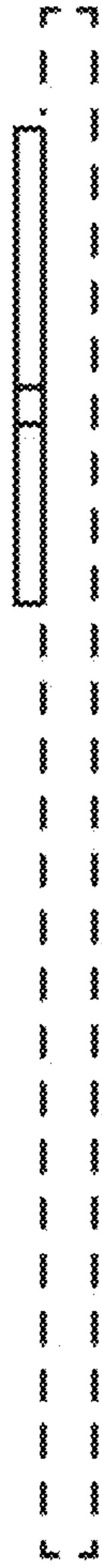


FIG. 2

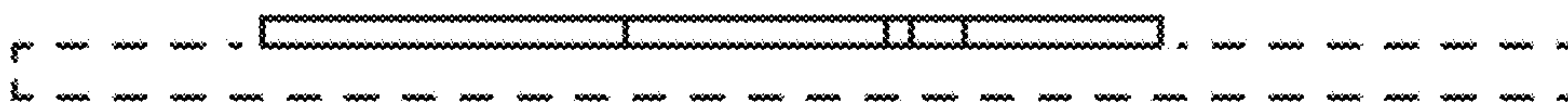


FIG. 3

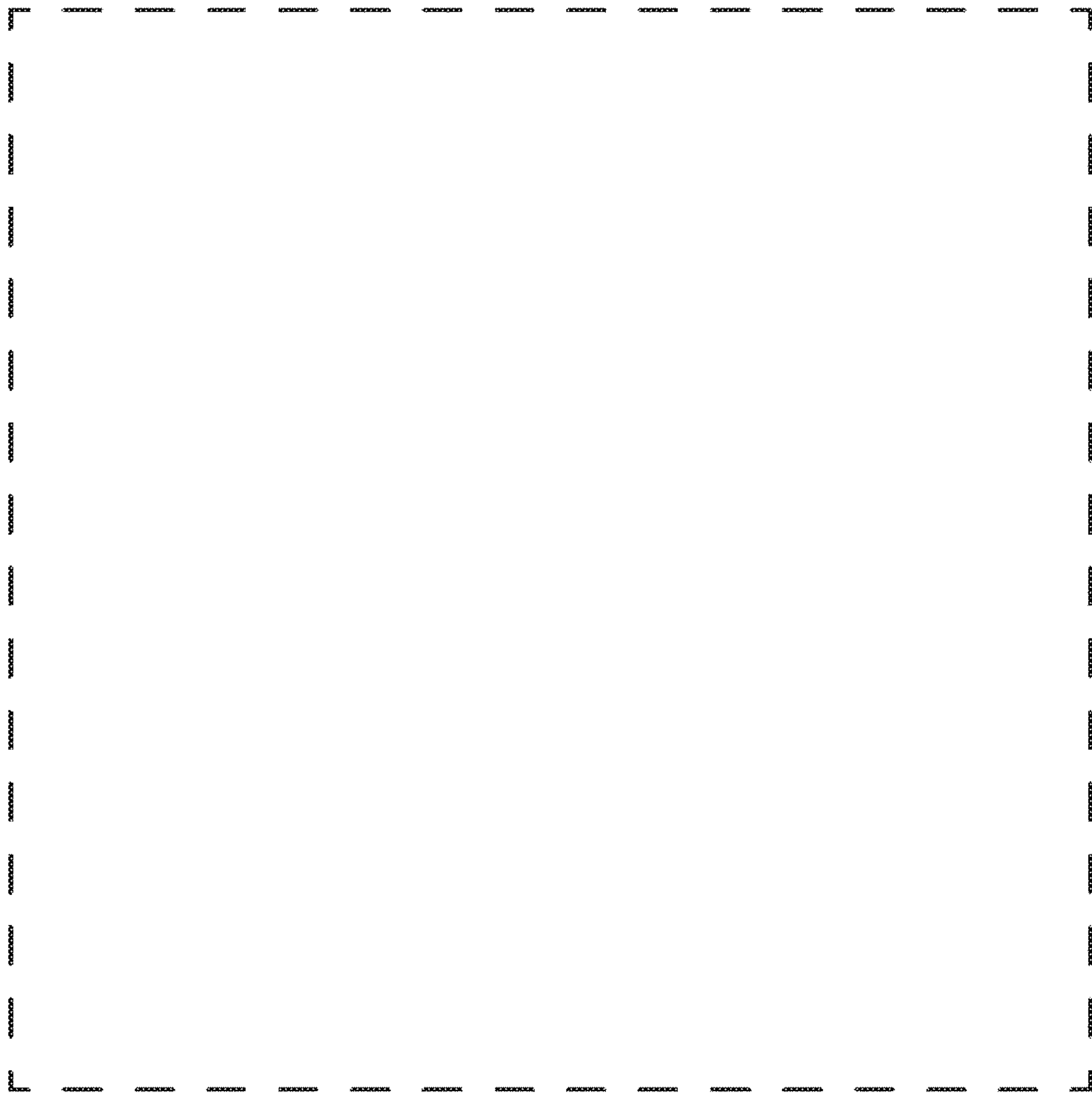


FIG. 4

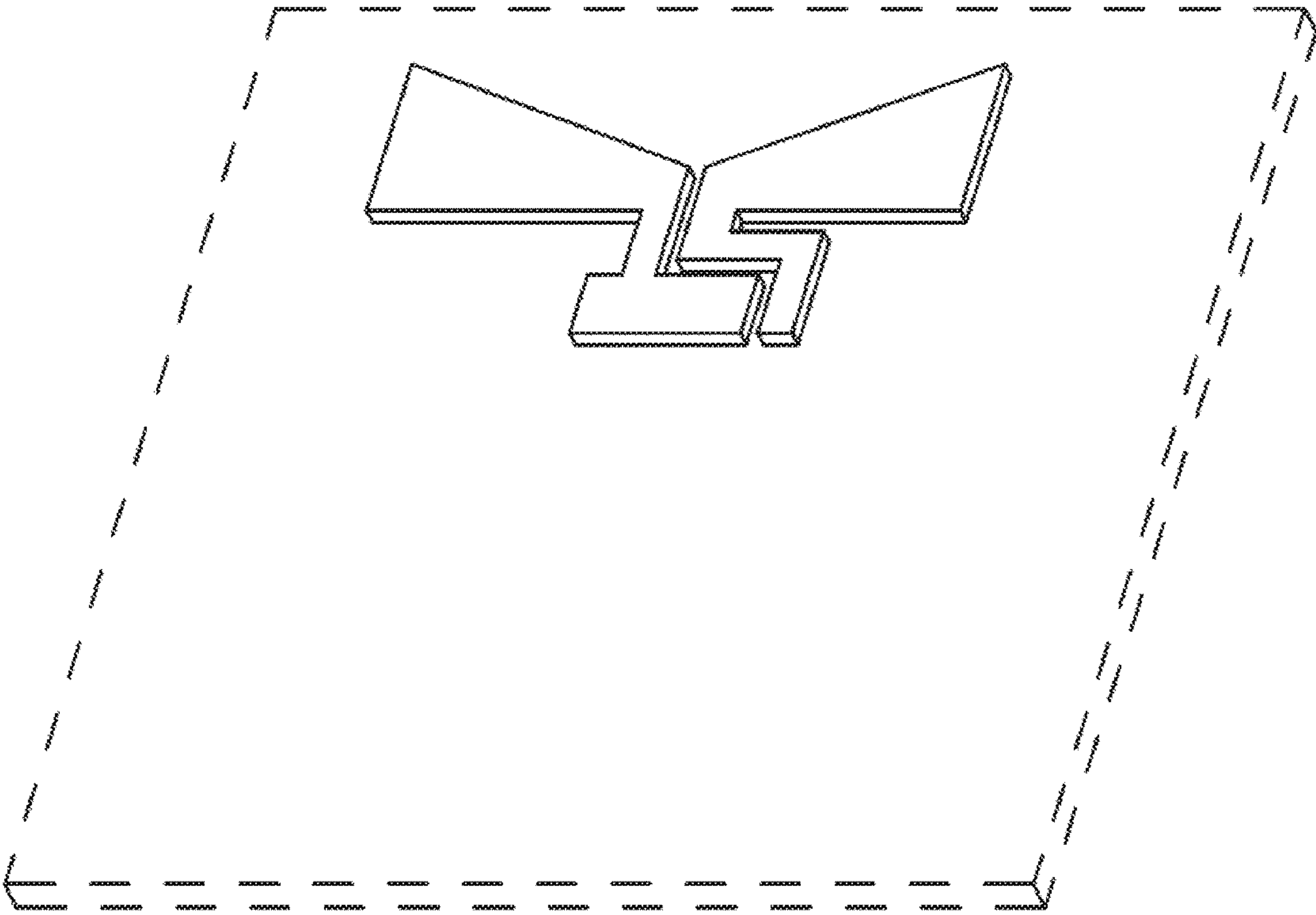


FIG. 5

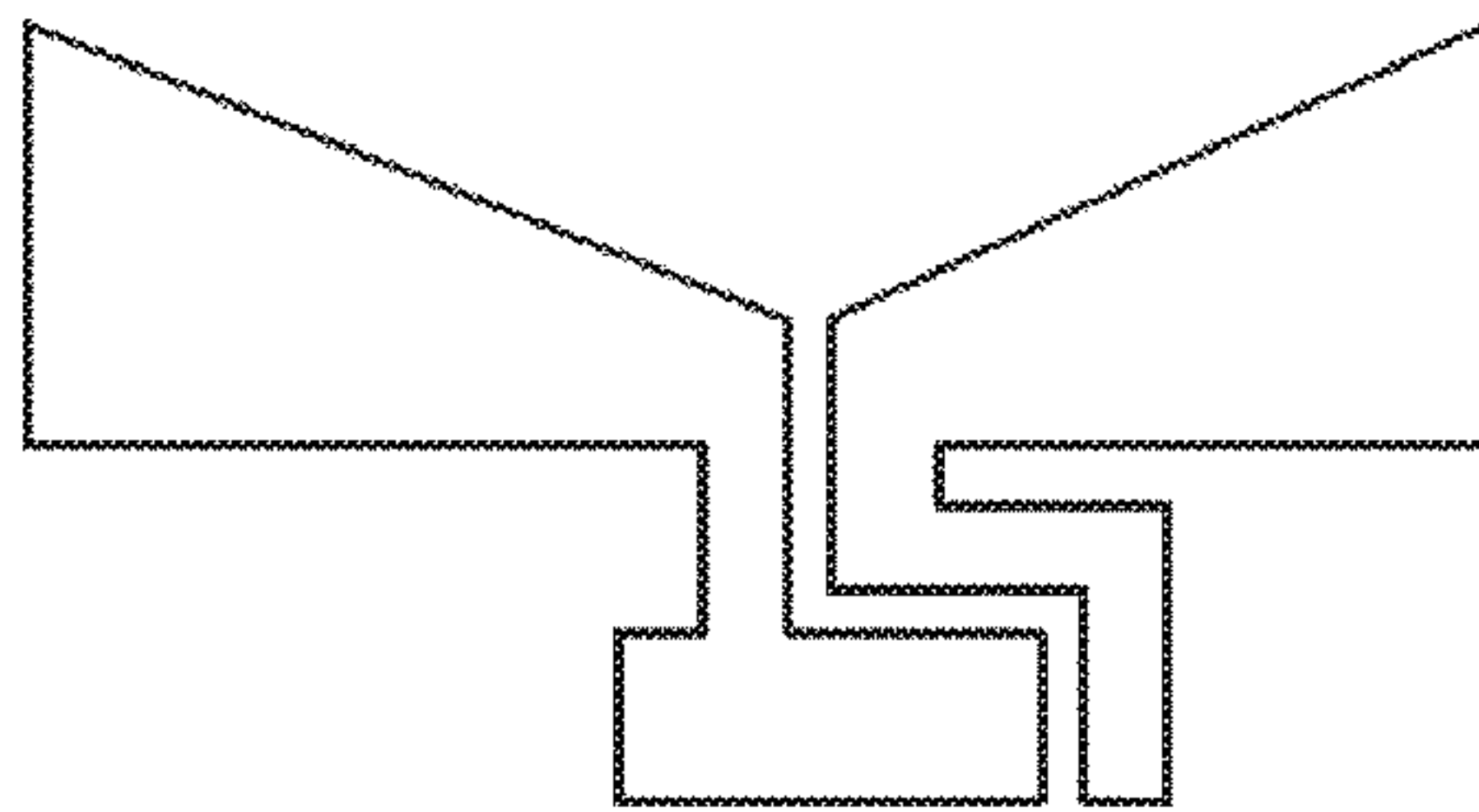


FIG. 6

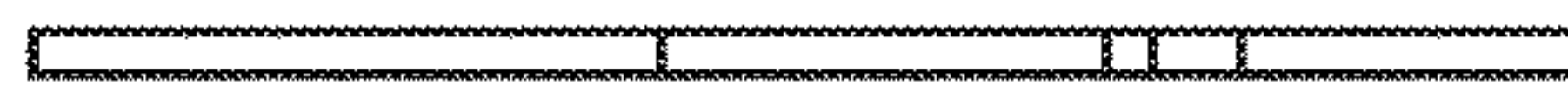


FIG. 7