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(12) **United States Design Patent** (10) **Patent No.:** **US D857,671 S**
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(54) **ANTENNA**

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

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(51) **LOC (12) Cl.** **14-03**

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

(58) **Field of Classification Search**
USPC D14/230–238, 238.1, 299, 343; D13/182
CPC H01Q 7/00; H01Q 13/10; H01Q 9/285;
H01Q 19/30; H01Q 19/12; H01Q 1/36;
H01Q 1/38; H04B 1/0475; H04B 1/034;
H05K 11/00; G05D 1/0234; G06K
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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 8/2008 Lin et al.
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 D14/230
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.

(Continued)

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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, showing our new
design;

FIG. 2 is a front elevation view thereof;

FIG. 3 is a bottom plan view thereof;

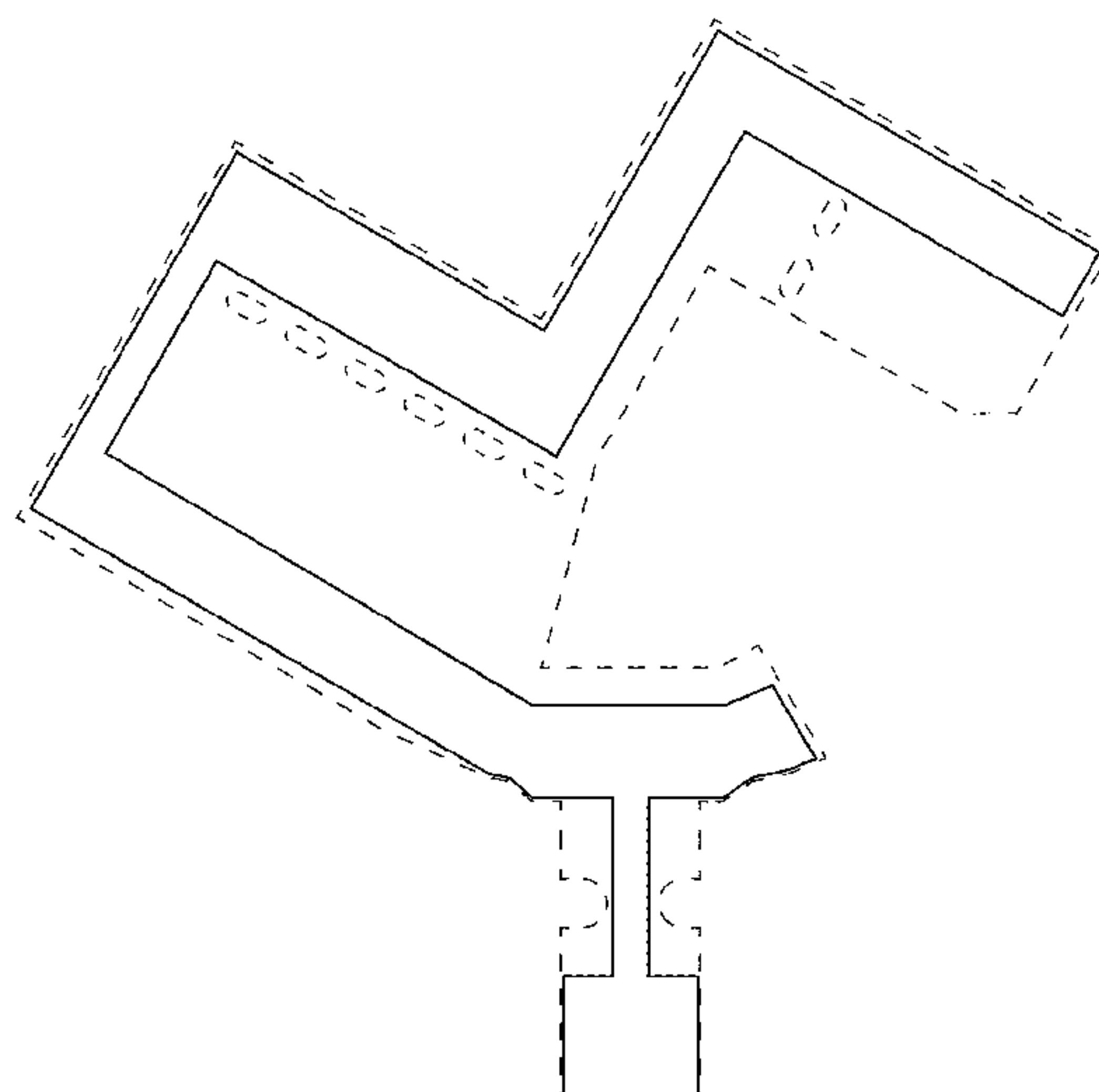
FIG. 4 is a top perspective view thereof;

FIG. 5 is a top plan view thereof, with the broken line
environment not shown; and,

FIG. 6 is a front elevation view thereof, with the broken line
environment not shown.

The broken lines show environment only and form no part
of the claimed design.

1 Claim, 4 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	D14/230
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	D14/230
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	D14/230
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	
D741,301 S *	10/2015	He	D14/230
D779,463 S *	2/2017	Zheng	D14/230
D781,823 S *	3/2017	Chang	D14/230
D784,303 S *	4/2017	Zheng	D14/230
D784,965 S *	4/2017	Chang	D14/230
D798,276 S *	9/2017	Zheng	D14/230
D807,334 S *	1/2018	Iellici	D14/230
D832,241 S *	10/2018	He	D14/230
D837,770 S *	1/2019	Schulteis	D14/230
2002/0003499 A1	1/2002	Kouam et al.	
2004/0222936 A1	11/2004	Hung et al.	
2005/0073462 A1	4/2005	Lin et al.	
2005/0190108 A1	9/2005	Lin et al.	
2006/0208900 A1	9/2006	Tavassoli Hozouri	
2007/0030203 A1	2/2007	Tsai et al.	
2008/0150829 A1	6/2008	Lin et al.	
2008/0246668 A1 *	10/2008	Qi	H01Q 1/243 343/702
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.	
2010/0188297 A1	7/2010	Chen et al.	
2010/0309067 A1	12/2010	Tsou et al.	
2011/0006950 A1	1/2011	Park et al.	
2012/0038514 A1	2/2012	Bang	
2012/0229348 A1	9/2012	Chiang	
2012/0242546 A1	9/2012	Hu et al.	

* cited by examiner

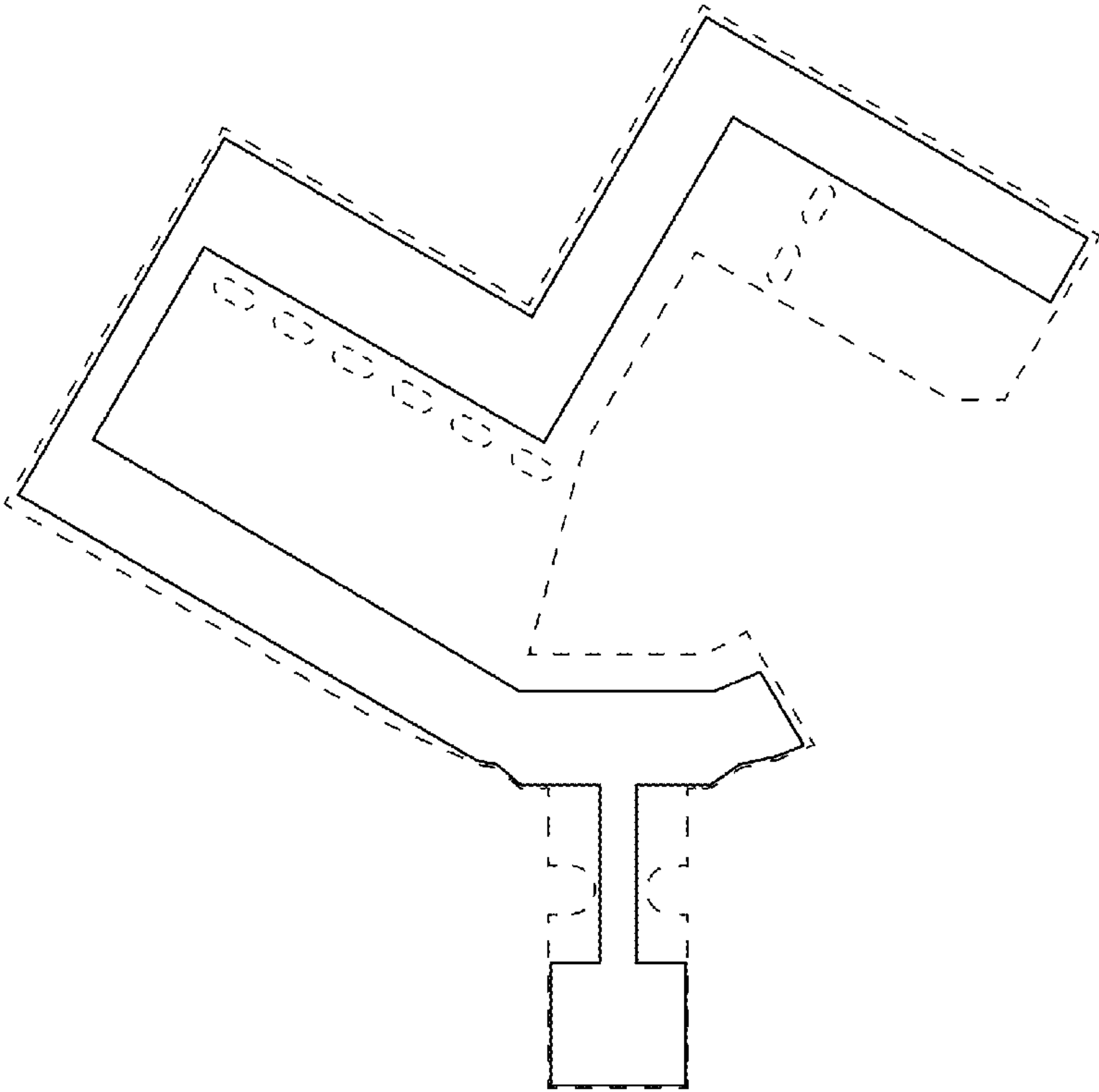


FIG. 1

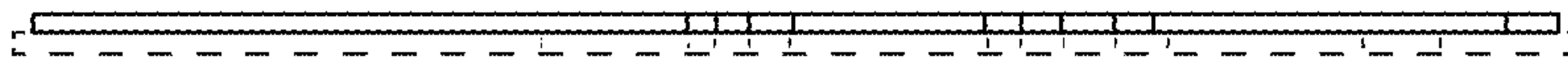


FIG. 2

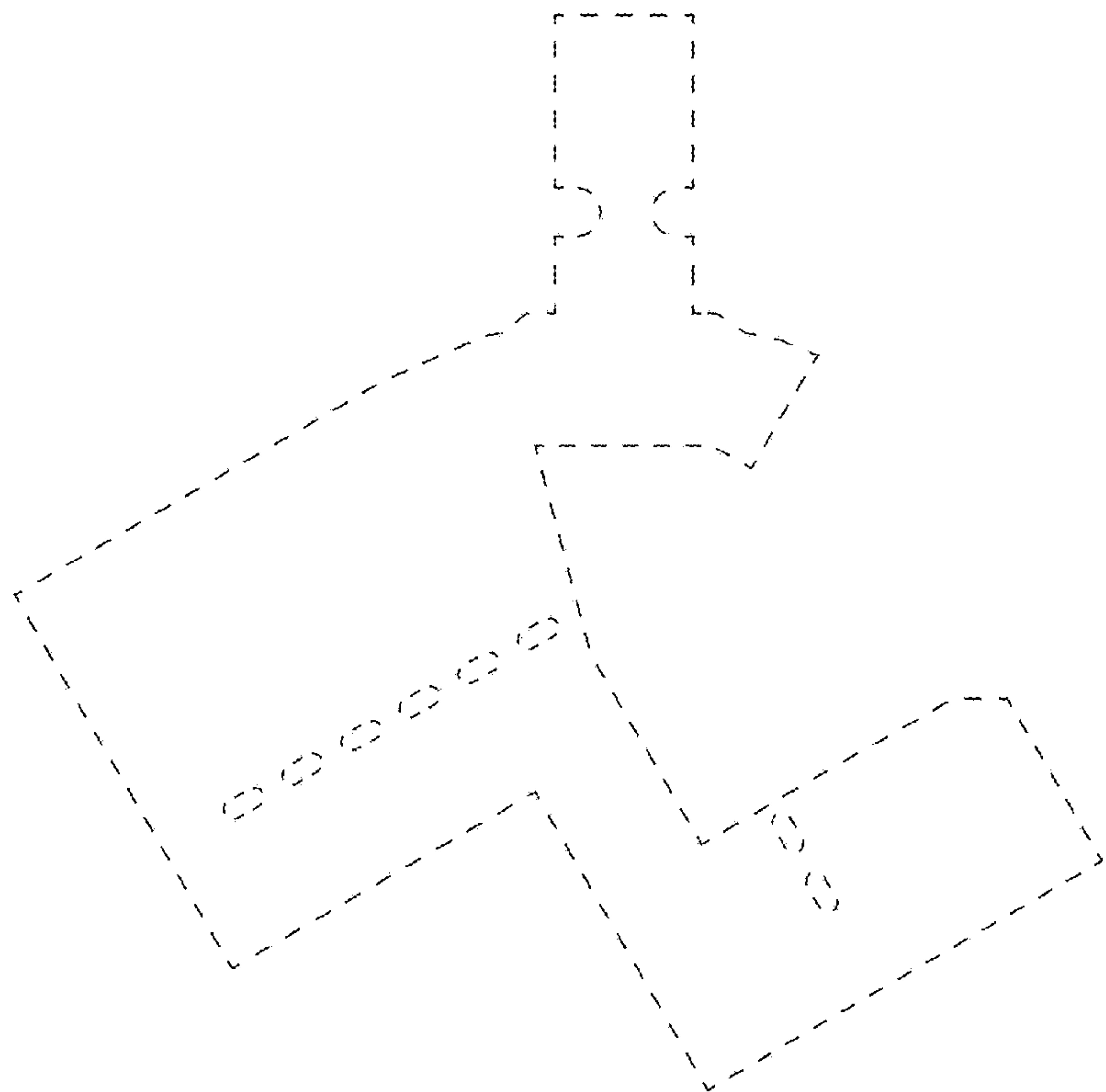


FIG. 3

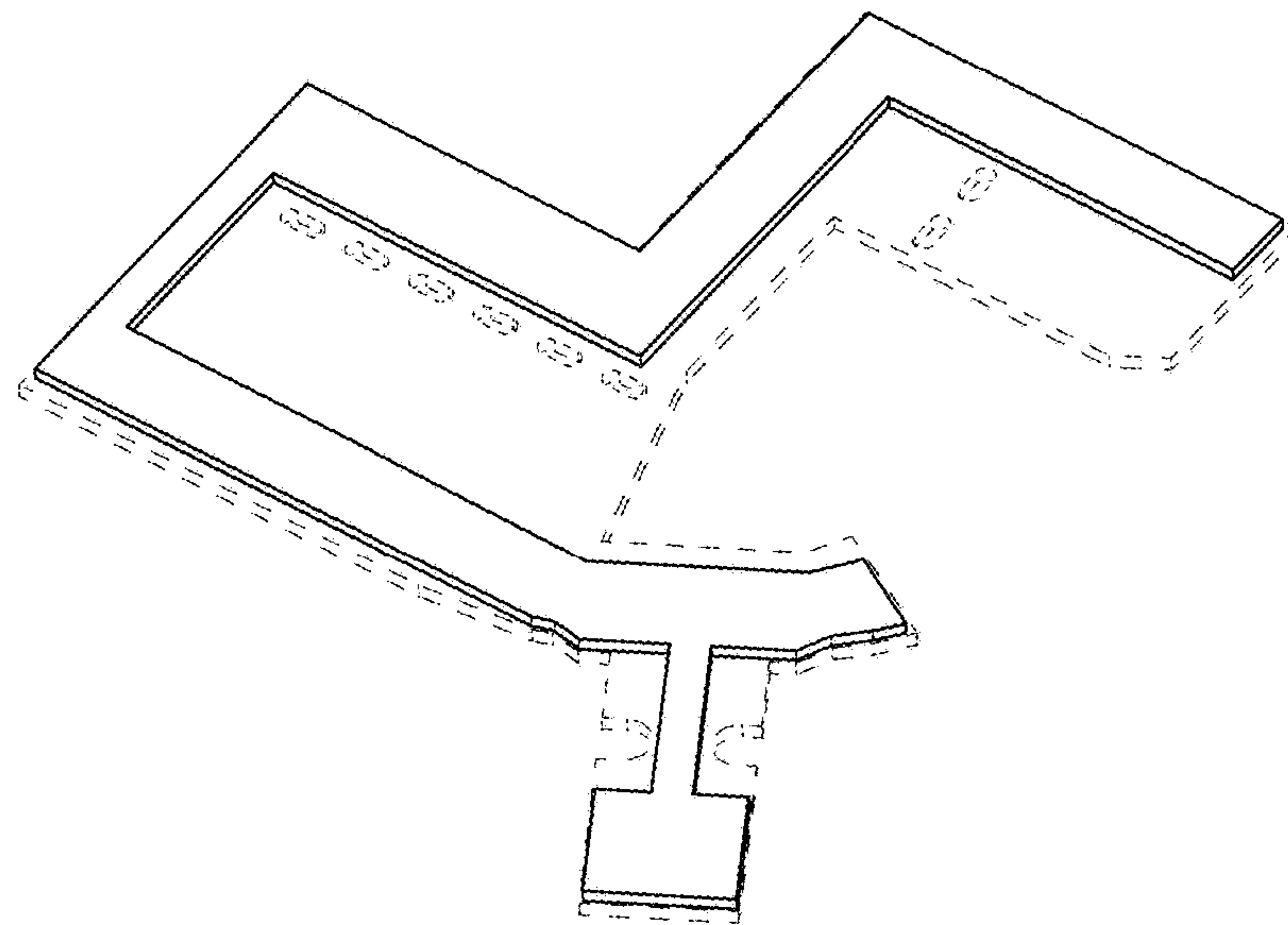


FIG. 4

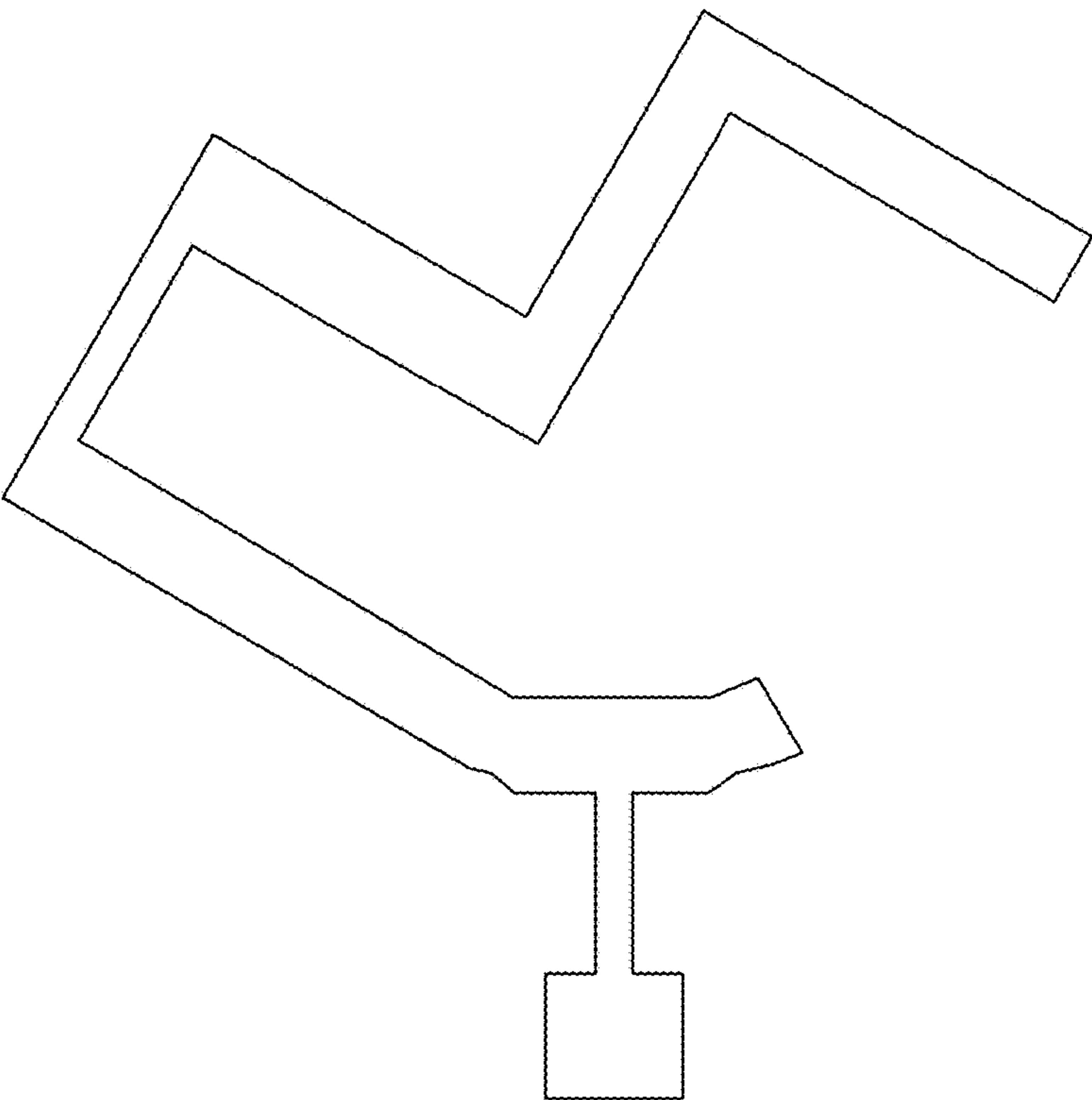


FIG. 5

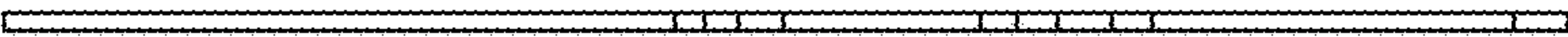


FIG. 6