



US00D798276S

(12) **United States Design Patent** (10) **Patent No.:** **US D798,276 S**
Zheng et al. (45) **Date of Patent:** **** Sep. 26, 2017**

- (54) **ANTENNA**
- (71) Applicant: **Airgain, Incorporated**, San Diego, CA (US)
- (72) Inventors: **Bei Zheng**, Zhang Jia Gang (CN); **Wei Chang**, Zhang Jia Gang (CN); **Xiaowei Wu**, Zhang Jia Gang (CN); **Simon Yang**, Carlsbad, CA (US)
- (73) Assignee: **Airgain Incorporated**, San Diego, CA (US)
- (**) Term: **15 Years**
- (21) Appl. No.: **29/532,837**
- (22) Filed: **Jul. 10, 2015**
- (51) **LOC (10) Cl.** **14-03**
- (52) **U.S. Cl.**
USPC **D14/230**
- (58) **Field of Classification Search**
USPC D14/230, 231, 232, 233, 234, 235, 236, D14/237, 238, 138, 299, 358; D12/42, D12/43
CPC H01Q 7/00; H01Q 13/10; H01Q 9/285; H01Q 19/30; H01Q 19/12; H01Q 1/38; H01Q 1/36; H01Q 1/42; H01Q 1/242; H01Q 1/243; H01Q 1/2266
See application file for complete search history.

- 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.
(Continued)

OTHER PUBLICATIONS

Arcantenna.com. "N2430GND: Airgain Dual-band (2.4-2.49 GHz and 4.9-5.9 GHz) Antenna with throughhole THT mounting." Retrieved May 19, 2017. (<http://www.arcantenna.com/n2430gndairgaindualband24249ghzand4959ghzantennawiththroughholethtmounting.html>).*

(Continued)

Primary Examiner — Jennifer Rivard
Assistant Examiner — Jerry Hsu
(74) *Attorney, Agent, or Firm* — Clause Eight IPS; Michael Catania

(57) **CLAIM**

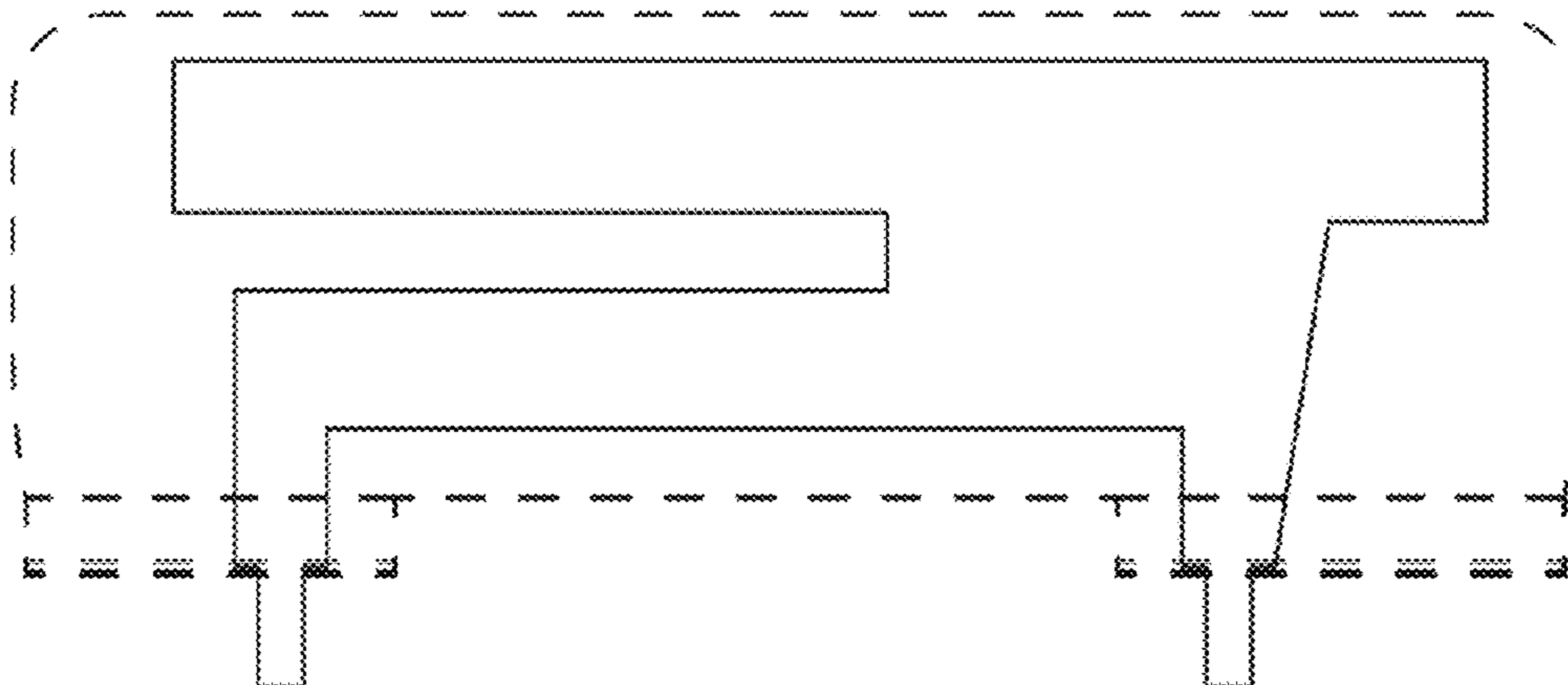
The ornamental design for an antenna, as shown and described.

DESCRIPTION

FIG. 1 is a front elevation view of an antenna, showing our new design;
FIG. 2 is a side plan view thereof;
FIG. 3 is a top plan view thereof;
FIG. 4 is top perspective view thereof;
FIG. 5 is a front elevation view of the antenna.
FIG. 6 is a side elevation view thereof; and,
FIG. 7 is a top plan view thereof.
The broken lines showing a base in FIGS. 1-4 represent unclaimed environment only and form no part of the claimed design.

1 Claim, 4 Drawing Sheets

- (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.
7,477,195 B2 1/2009 Vance



(56)

References Cited

U.S. PATENT DOCUMENTS

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.
 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
 D741,301 S * 10/2015 He D14/230
 D750,051 S * 2/2016 Podduturi D14/230
 D763,832 S * 8/2016 Gosalia D14/230
 D766,220 S * 9/2016 He D14/230
 D766,880 S * 9/2016 He D14/230
 D767,542 S * 9/2016 Chang D14/230
 D767,543 S * 9/2016 Chang D14/230
 2002/0003499 A1 1/2002 Kouarn et al.
 2003/0210200 A1* 11/2003 McConnell H01Q 1/243
 343/795
 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.
 2007/0052591 A1* 3/2007 Chao H01Q 9/42
 343/700 MS
 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.
 2009/0146906 A1* 6/2009 Anguera Pros H01Q 5/371
 343/906
 2009/0231199 A1* 9/2009 Vance H01Q 1/243
 343/700 MS
 2009/0262028 A1 10/2009 Mumburu 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.
 2011/0012789 A1* 1/2011 Yang H01Q 1/38
 343/700 MS
 2011/0084889 A1* 4/2011 Tsai H01Q 1/2266
 343/846
 2012/0038514 A1 2/2012 Bang
 2012/0229348 A1 9/2012 Chiang
 2012/0242546 A1 9/2012 Hu et al.

OTHER PUBLICATIONS

Twitter.com. "Silicon Investor: #Airgain \$AIRG +0.77 (5.15%)
 Airgain Reports Fourth Quarter and Full Year 2016 Results."
 Uploaded Feb. 17, 2017. Retrieved May 19, 2017. (https://twitter.com/Si_Investor/status/832637120816640000).*
 Yumpu.com. "Airgain Ultra 525 Antenna." Retrieved May 25, 2017.
 (<https://www.yumpu.com/en/document/view/36379078/ultra-525-antenna-airgain/2>).*

* cited by examiner

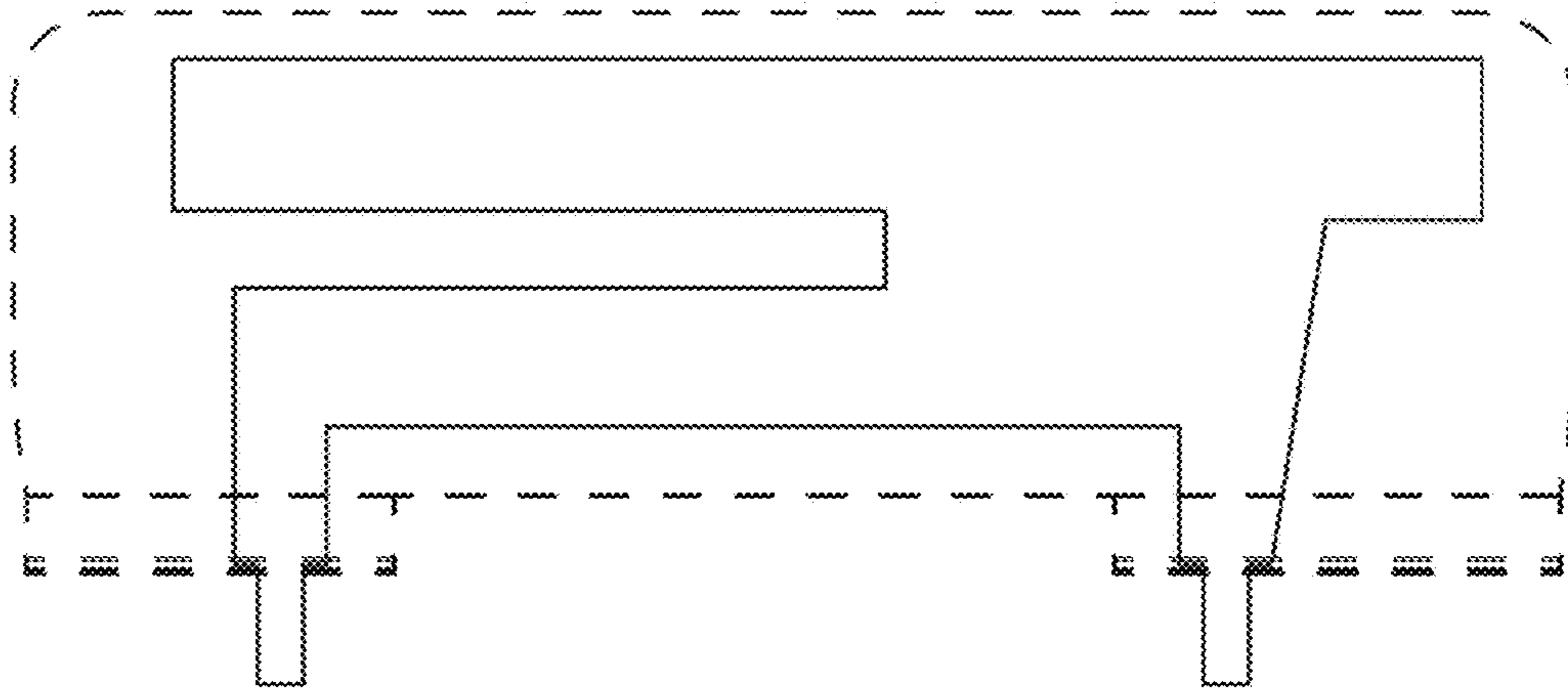


FIG. 1

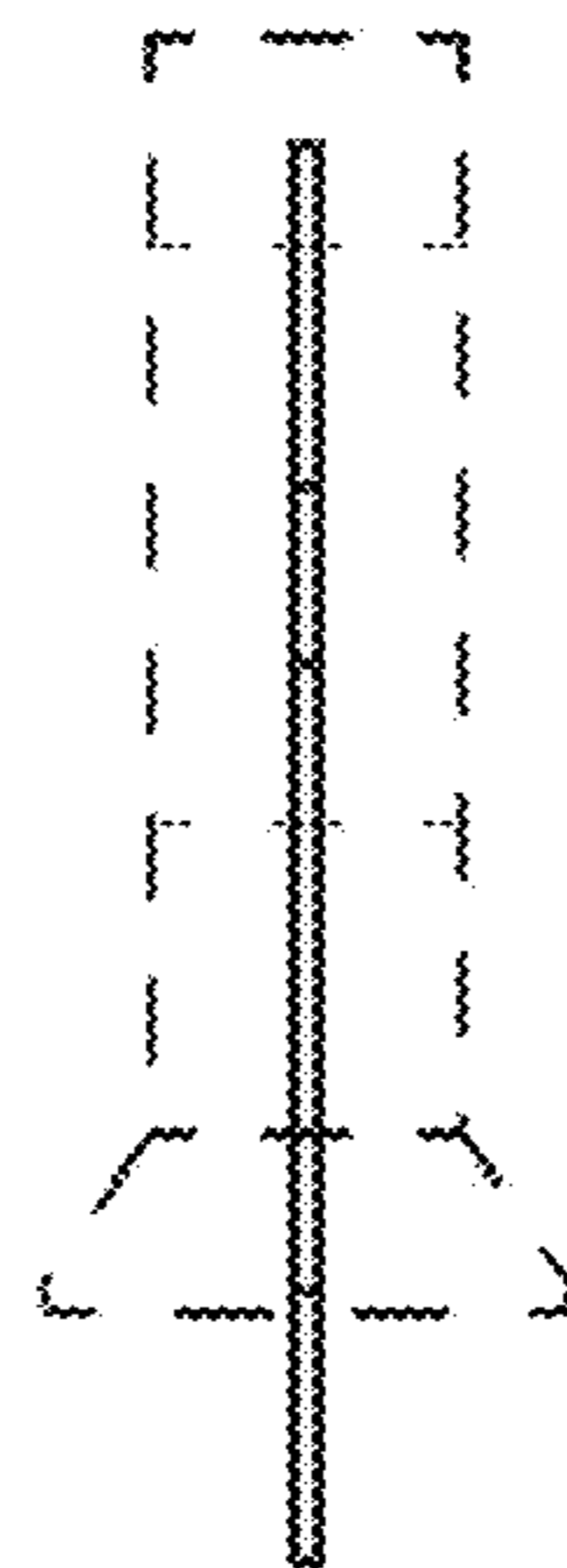


FIG. 2

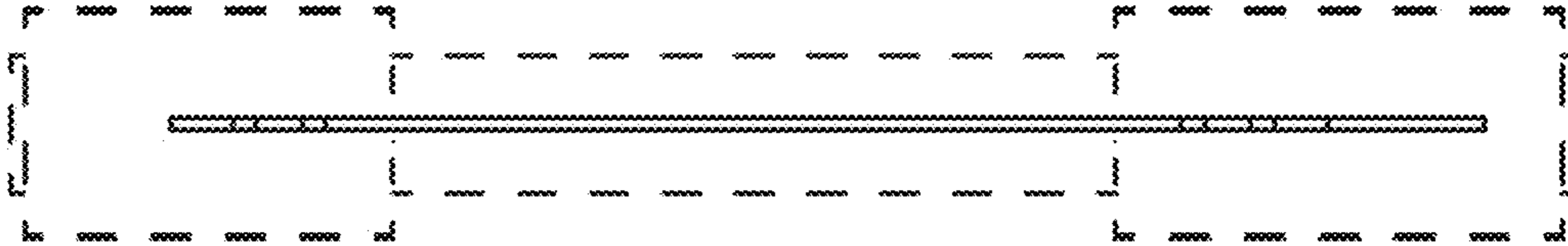


FIG. 3

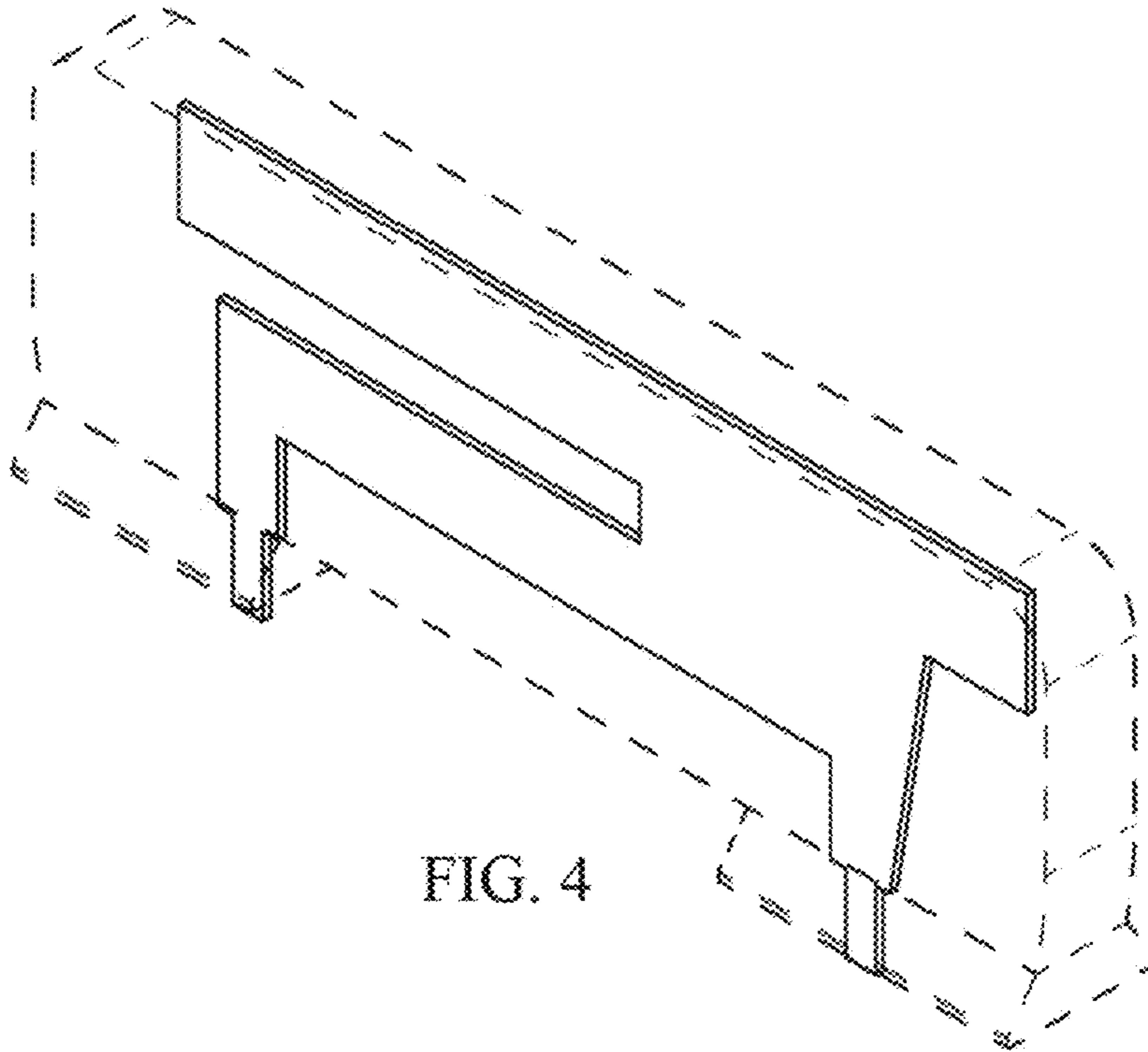


FIG. 4

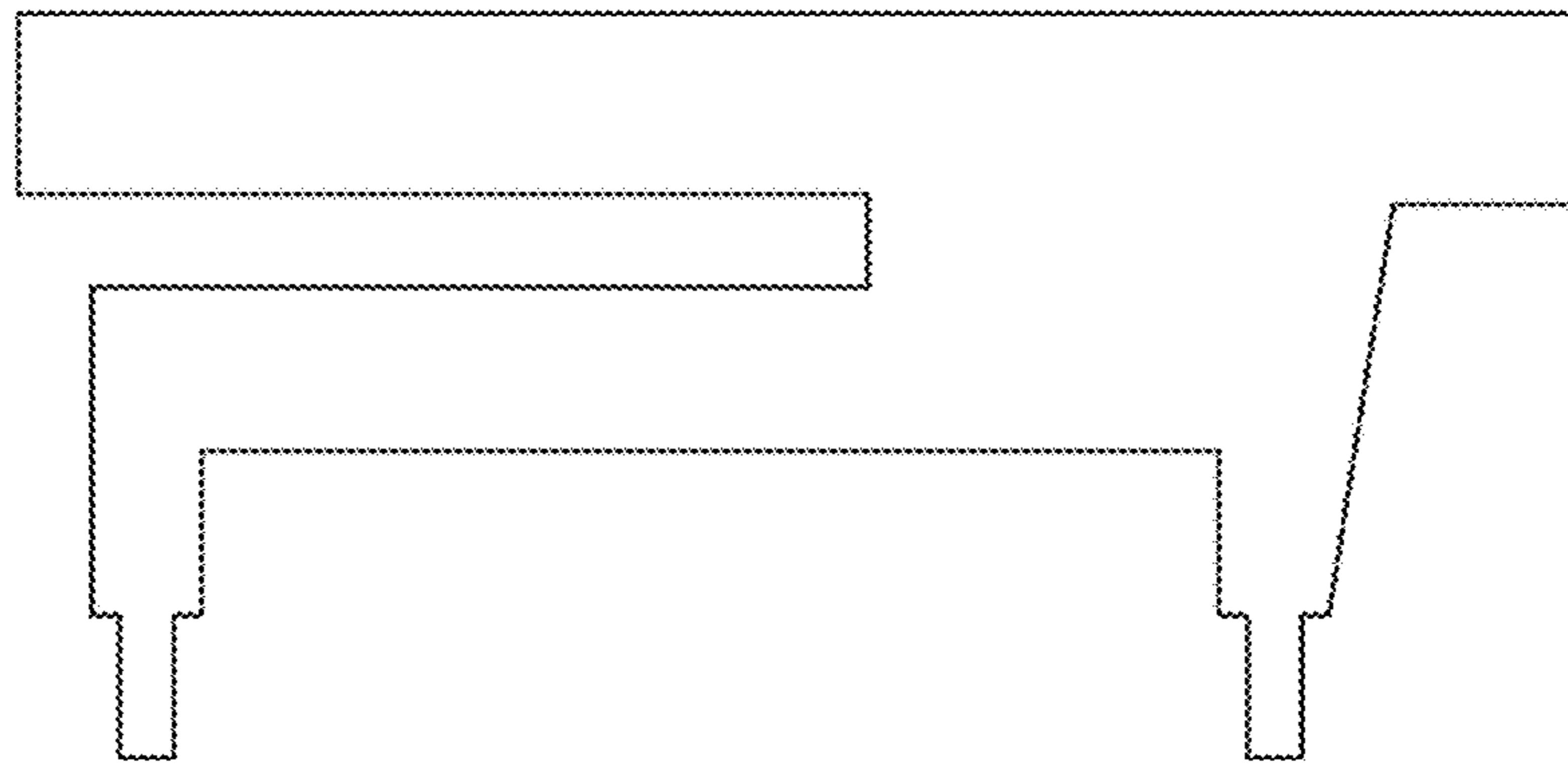


FIG. 5



FIG. 6

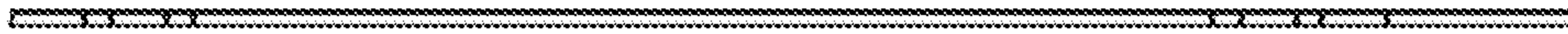


FIG. 7