

US00D849724S

(12) **United States Design Patent** (10) **Patent No.:** **US D849,724 S**  
**He et al.** (45) **Date of Patent:** **\*\* May 28, 2019**

- (54) **ANTENNA**
- (71) Applicant: **Airgain Incorporated**, San Diego, CA (US)
- (72) Inventors: **Ziming He**, Irvine, CA (US); **Bei Zheng**, Zhang Jia Gang (CN)
- (73) Assignee: **Airgain Incorporated**, San Diego, CA (US)
- (\*\*) Term: **15 Years**
- (21) Appl. No.: **29/644,446**
- (22) Filed: **Apr. 17, 2018**
- (51) **LOC (11) Cl.** ..... **14-03**
- (52) **U.S. Cl.**  
USPC ..... **D14/230**
- (58) **Field of Classification Search**  
USPC ..... D14/138, 230-238, 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 2/0027; H01Q 1/48; H01Q 9/045; H01Q 1/243; H04B 1/0475; H04B 1/034; H05K 11/00  
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.
  - 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 ..... D14/230
  - D635,965 S 4/2011 Mi et al.
  - D636,382 S \* 4/2011 Podduturi ..... D14/230
  - 7,965,242 B2 6/2011 Abramov et al.
- (Continued)

*Primary Examiner* — John Windmuller  
(74) *Attorney, Agent, or Firm* — Clause Eight IPS; Michael Catania

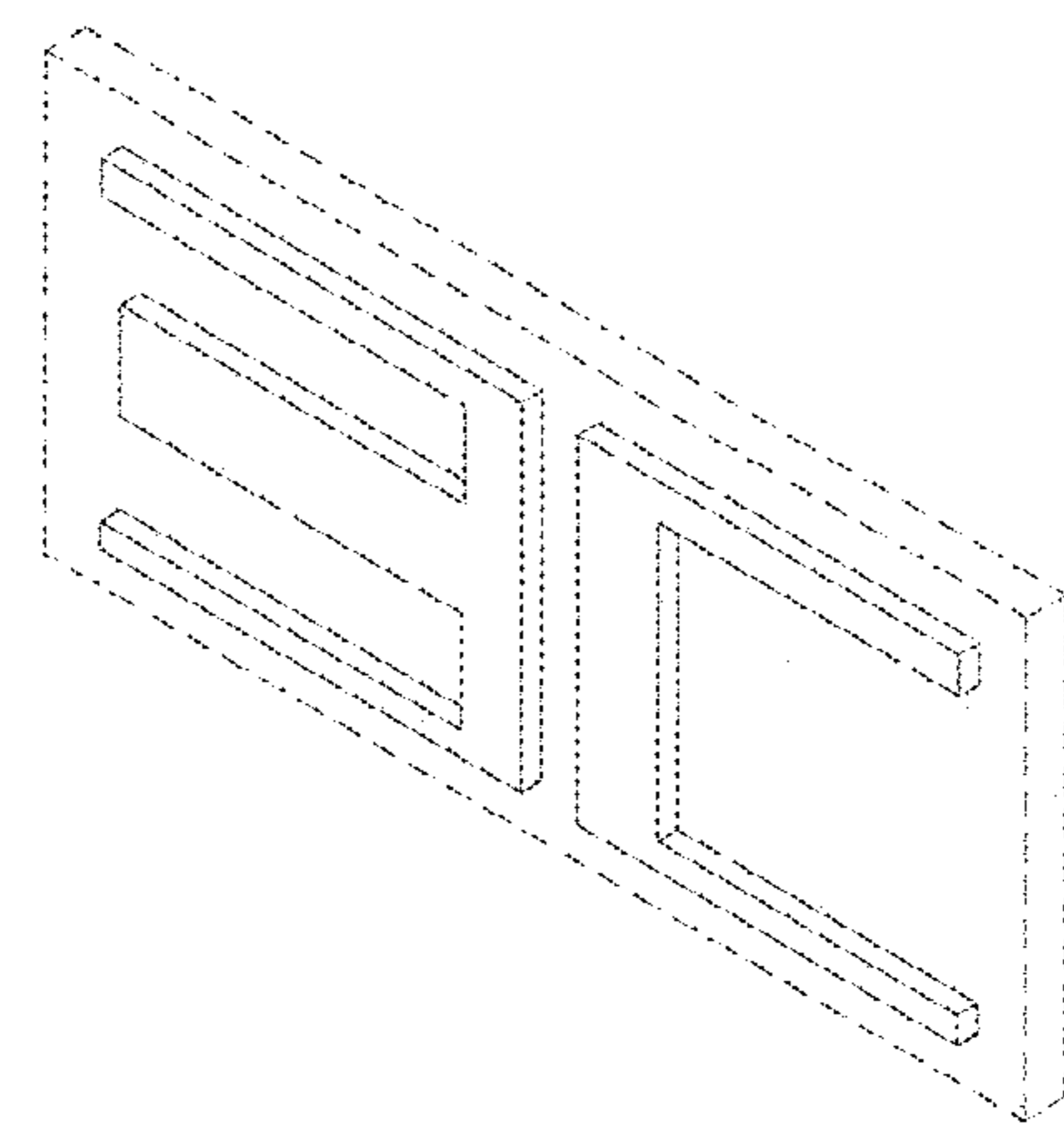
(57) **CLAIM**  
The ornamental design for an antenna, as shown and described.

**DESCRIPTION**

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

**1 Claim, 7 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 8/2008 Lin et al.
- 7,477,195 B2 1/2009 Vance



(56)

References Cited

U.S. PATENT DOCUMENTS

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 ..... D14/230  
 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 ..... D14/230  
 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  
 D763,834 S \* 8/2016 Zheng et al.  
 D764,447 S \* 8/2016 Yang ..... D14/230  
 D767,544 S \* 9/2016 Yang ..... D14/230  
 D778,881 S \* 2/2017 Zheng et al.  
 D789,913 S \* 6/2017 He ..... D14/230  
 D798,277 S \* 9/2017 Chang et al.  
 D803,198 S \* 11/2017 He ..... D14/230  
 D814,448 S \* 4/2018 Montgomery ..... D14/230  
 D826,910 S \* 8/2018 Zhao ..... D14/230  
 D838,261 S \* 1/2019 He ..... D14/230  
 2002/0003499 A1 1/2002 Kouam et al.  
 2004/0222936 A1 \* 11/2004 Hung ..... H01Q 1/38  
 343/795  
 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.  
 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 Murnbru 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.  
 2015/0303556 A1 \* 10/2015 Flores-Cuadras ..... H01Q 1/085  
 343/893

\* cited by examiner

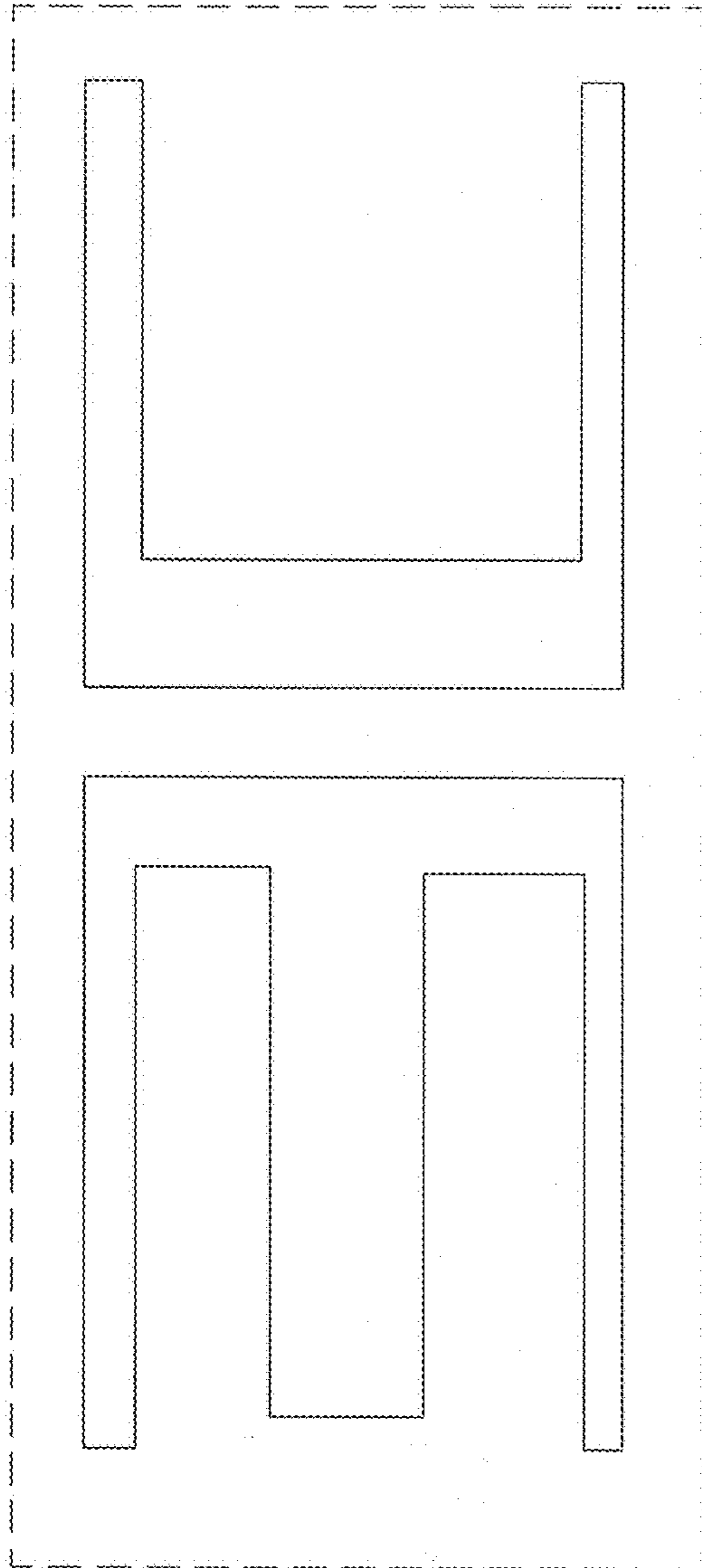


FIG. 1

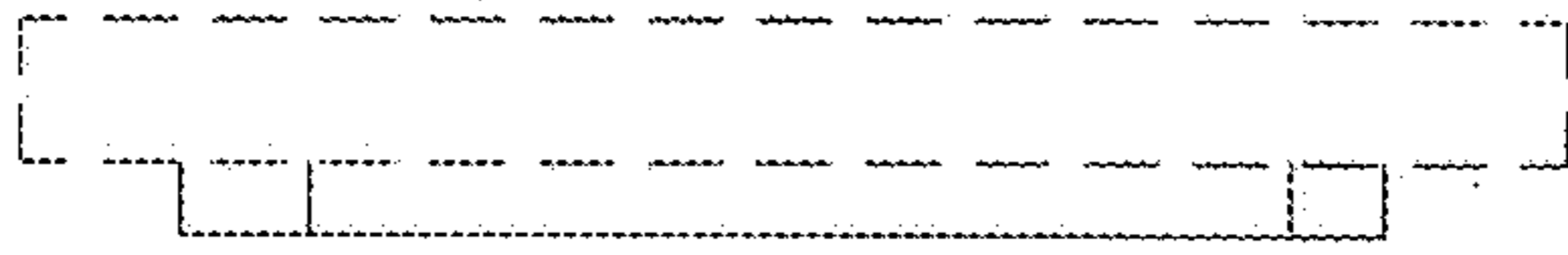


FIG. 2

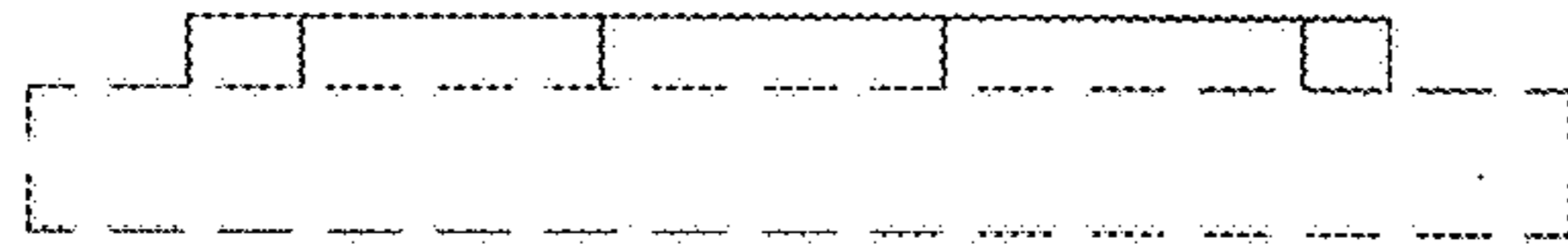


FIG. 3



FIG. 4

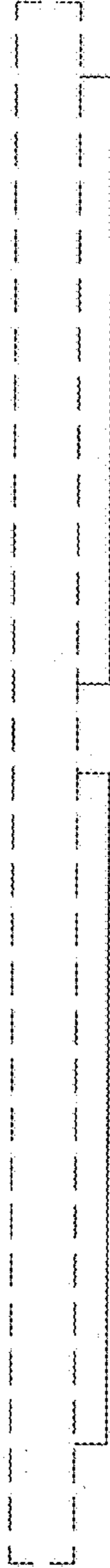


FIG. 5

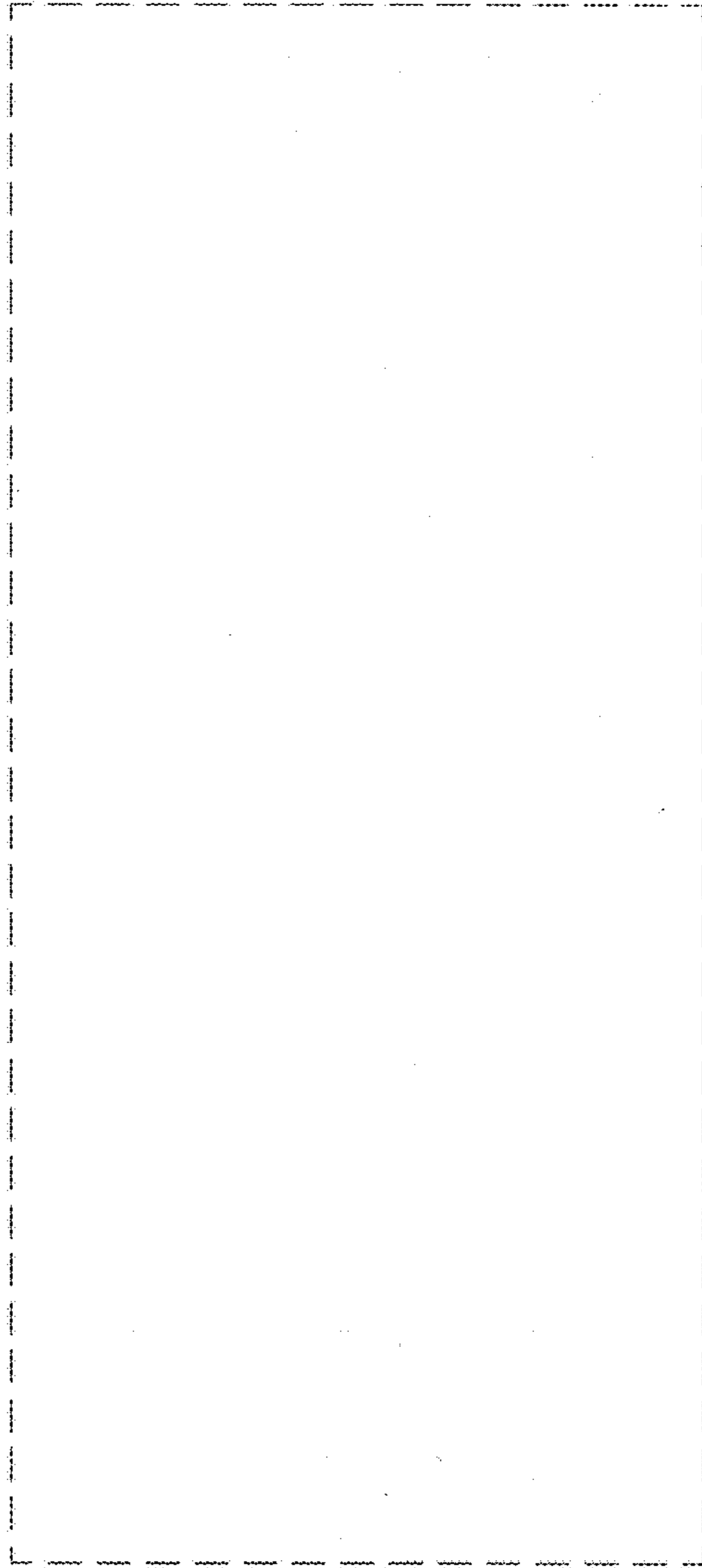


FIG. 6



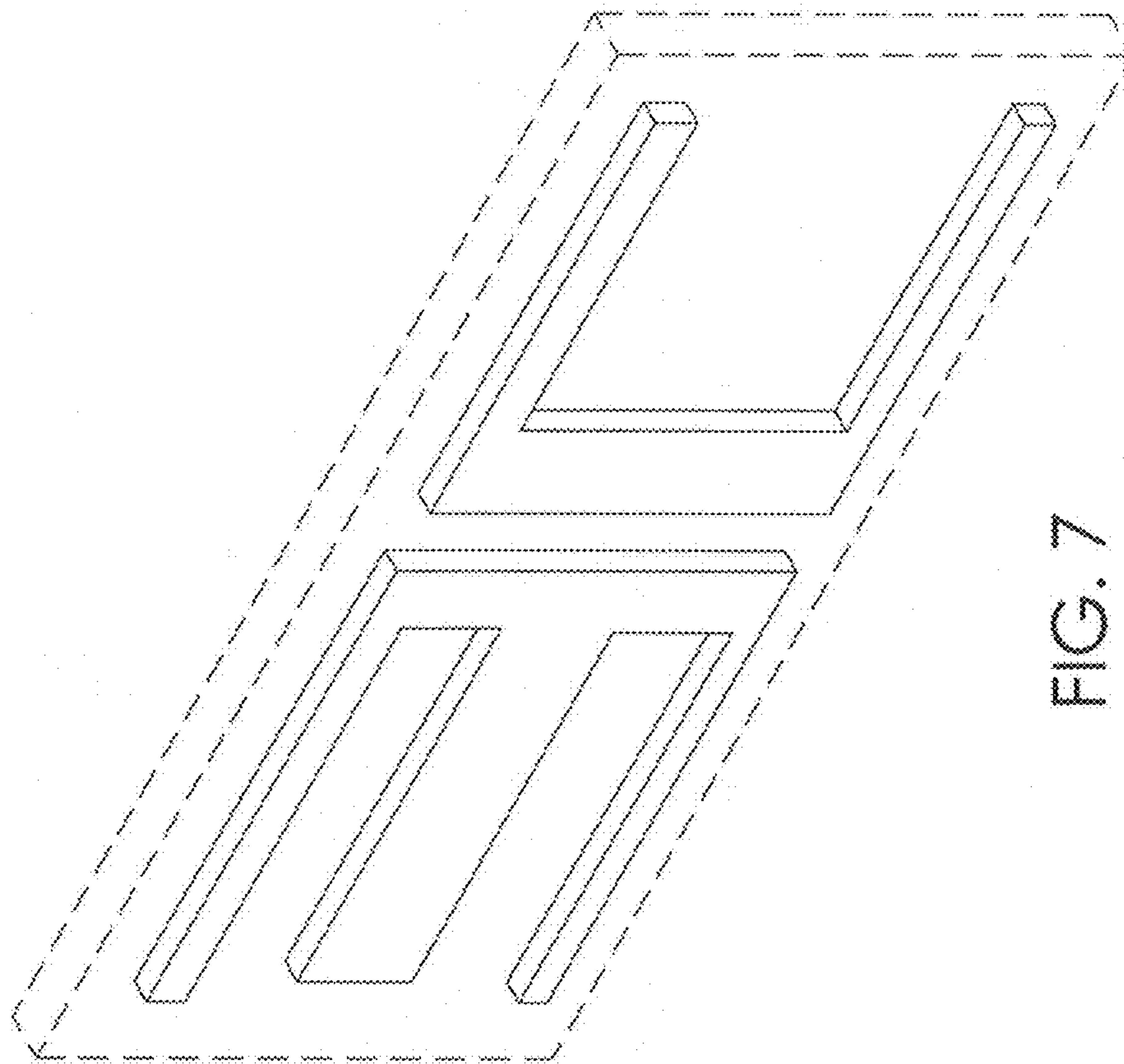


FIG. 7