



US00D936861S

(12) **United States Design Patent** (10) **Patent No.:** **US D936,861 S**  
**Styrc et al.** (45) **Date of Patent:** **\*\* Nov. 23, 2021**

(54) **CONNECTOR FOR A MODULAR STRUCTURE**

FOREIGN PATENT DOCUMENTS

(71) Applicant: **2724889 ONTARIO INC.**, Oakville (CA)

CA 3007687 A1 12/2018  
CN 201542095 U 8/2010  
(Continued)

(72) Inventors: **Jacek Styrc**, Oakville (CA); **Sebastian Lysiak**, Bielsko-Biala (PL)

OTHER PUBLICATIONS

(73) Assignee: **2724889 ONTARIO INC.**, Oakville (CA)

Toja Grid Quad 30 + Solo for 4x4 Wood Posts 2 Pack <https://tojagrid.com/collections/brackets/products/quad-30-solo-for-4x4-wood-posts-2-pack> Date Unknown.\*

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

(Continued)

(21) Appl. No.: **29/746,174**

*Primary Examiner* — Samantha Q Lawrence

(22) Filed: **Aug. 12, 2020**

(74) *Attorney, Agent, or Firm* — Bhole IP Law; Anil Bhole; Marc Lampert

(51) **LOC (13) Cl.** ..... **25-01**

(52) **U.S. Cl.**  
USPC ..... **D25/133**

(57) **CLAIM**

(58) **Field of Classification Search**

The ornamental design for a connector for a modular structure, substantially as shown and described.

USPC ..... D25/119, 125, 126, 127, 128, 129, 130, D25/131, 132, 133, 134, 135, 136; D8/349, 354, 382, 383, 384, 403; D21/468, 471, 478, 479  
CPC ..... A47B 47/0008; A47B 47/03; E01B 11/24; E02D 27/42; E04B 1/4157; E04B 1/58; E04B 1/617; E04B 2001/4192; E04B 2/56; E04B 2/70; E04B 1/1912; E04B 1/2688; E04B 2001/1963; E04B 2001/199; E04B 2001/1993; E04B 2001/266; E04B 2001/2676; E04B 2001/1984; E04F 13/0823; E04F 10/02; E04G 21/185; E04G 7/02; E04G 7/22; E04H 12/187; E04H

(Continued)

**DESCRIPTION**

FIG. 1 is a front perspective view of the connector for a modular structure;  
FIG. 2 is a plan view of the connector for a modular structure of FIG. 1;  
FIG. 3 is a bottom view of the connector for a modular structure of FIG. 1;  
FIG. 4 is a front view of the connector for a modular structure of FIG. 1;  
FIG. 5 is a back view of the connector for a modular structure of FIG. 1;  
FIG. 6 is a side elevation of the connector for a modular structure of FIG. 1;  
FIG. 7 is a side elevation from the opposite side to FIG. 6 of the connector for a modular structure of FIG. 1; and,  
FIG. 8 is a rear perspective of the connector for a modular structure of FIG. 1.

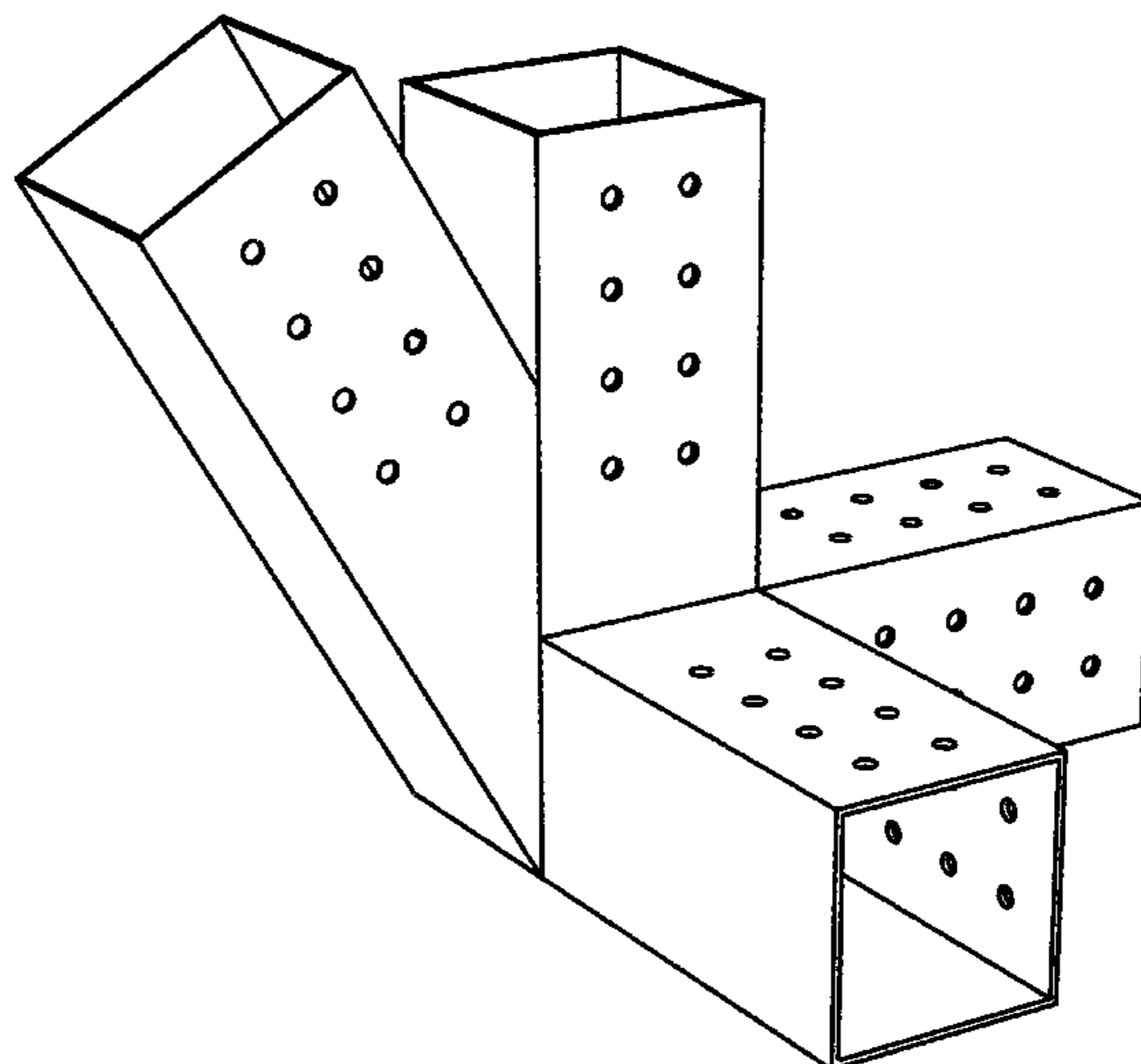
(56) **References Cited**

U.S. PATENT DOCUMENTS

451,596 A 5/1891 Longenecker  
490,122 A 1/1893 Magargal  
922,215 A 5/1909 Tuteur

(Continued)

**1 Claim, 8 Drawing Sheets**



(58) **Field of Classification Search**  
 CPC ..... 12/2253; F16B 12/40; A45F 3/24; F16M  
 11/24  
 See application file for complete search history.

(56) **References Cited**  
 U.S. PATENT DOCUMENTS

949,394 A 2/1910 Daly  
 1,097,934 A 5/1914 Price  
 1,201,159 A 10/1916 Dettmer  
 1,214,738 A 2/1917 Wolf  
 1,441,559 A 1/1923 Jacob  
 1,816,049 A 7/1931 Larner  
 1,818,418 A 8/1931 Millard  
 1,848,085 A 3/1932 Eisenschmidt  
 2,016,702 A 10/1935 Harry  
 2,037,736 A 4/1936 Payne et al.  
 2,153,547 A 4/1939 Charlop  
 2,224,499 A 12/1940 Zillig  
 D141,423 S 5/1945 Lewis  
 2,477,163 A 7/1949 Barnett  
 D178,316 S 7/1956 Vegors  
 2,869,693 A 1/1959 Wood  
 2,931,129 A 4/1960 Boniface  
 3,188,696 A 6/1965 Earhart  
 3,229,004 A 1/1966 Lewine  
 3,252,287 A 5/1966 Suzuki  
 3,278,149 A 10/1966 Brucker  
 3,294,298 A 12/1966 Danielson  
 3,310,324 A 3/1967 Boden  
 3,352,491 A 11/1967 Nelson  
 3,369,333 A 2/1968 Wheeler  
 3,462,021 A 8/1969 Hawke  
 3,537,221 A 11/1970 Helfman et al.  
 3,545,796 A \* 12/1970 Nicholls ..... A47B 47/0008  
 403/187  
 3,615,110 A 10/1971 Fugate  
 3,645,569 A 2/1972 Reilly  
 3,740,084 A 6/1973 Tellberg  
 D232,201 S 7/1974 Hoffman  
 3,829,999 A 8/1974 Bernstein  
 3,907,445 A 9/1975 Wendt  
 3,945,741 A 3/1976 Wendt  
 3,989,398 A 11/1976 Wendt  
 D245,649 S 9/1977 Hughes  
 4,046,186 A 9/1977 Nordstrom  
 4,046,295 A 9/1977 Eichler  
 4,076,431 A 2/1978 Burvall  
 D250,240 S 11/1978 Braginetz  
 D250,241 S 11/1978 Braginetz  
 4,125,973 A 11/1978 Lendrihas  
 4,125,984 A 11/1978 Jonas  
 4,133,151 A 1/1979 Burvall  
 D251,018 S 2/1979 Lockwood  
 D258,194 S 2/1981 Stanley  
 4,313,688 A 2/1982 Daniels  
 D264,481 S 5/1982 Russo  
 4,381,629 A 5/1983 Ahn  
 4,422,792 A 12/1983 Gilb  
 4,429,730 A 2/1984 Elston  
 D275,264 S 8/1984 Wegener  
 D277,819 S 3/1985 Crosslen  
 D280,466 S 9/1985 Seltzer et al.  
 4,572,695 A 2/1986 Gilb  
 4,594,017 A 6/1986 Hills  
 4,616,950 A 10/1986 Morris  
 4,630,550 A 12/1986 Weitzman  
 D289,605 S 5/1987 Lytle  
 4,665,672 A 5/1987 Commins et al.  
 4,717,279 A 1/1988 Commins  
 D294,805 S 3/1988 Boyer  
 4,801,121 A 1/1989 Zunker  
 4,856,252 A 8/1989 Cornell  
 4,885,883 A 12/1989 Wright  
 4,910,939 A 3/1990 Cavanagh  
 4,919,394 A 4/1990 Otte et al.

4,925,141 A 5/1990 Classen  
 D310,760 S 9/1990 Murphy  
 4,991,726 A 2/1991 Johnson  
 D318,569 S 7/1991 Schaefer  
 5,033,901 A 7/1991 Dias  
 5,104,252 A 4/1992 Colonias et al.  
 5,150,982 A 9/1992 Gilb  
 5,186,571 A 2/1993 Hentzschel  
 5,192,056 A 3/1993 Espinueva  
 5,238,321 A 8/1993 Jarjoura  
 5,259,685 A 11/1993 Gilb  
 D342,328 S \* 12/1993 Granstrom ..... D25/126  
 D342,662 S 12/1993 Lavin et al.  
 5,284,311 A 2/1994 Baer  
 5,375,384 A 12/1994 Wolfson  
 D355,349 S 2/1995 Taparauskas  
 D356,646 S 3/1995 Cole  
 RE34,892 E 4/1995 Dunwoodie  
 D361,462 S 8/1995 Newham  
 D365,714 S 1/1996 Masello  
 5,490,523 A 2/1996 Mallookis  
 D370,681 S 6/1996 Diamond  
 5,555,681 A 9/1996 Cawthorn  
 5,556,218 A 9/1996 Homer  
 D374,937 S 10/1996 Salas  
 5,590,974 A \* 1/1997 Yang ..... A47B 47/005  
 403/171  
 D398,219 S 9/1998 Campman  
 5,941,183 A 8/1999 Ming-Shun  
 5,941,527 A 8/1999 Selton  
 D426,041 S 5/2000 Boghossian  
 D427,810 S 7/2000 Ali et al.  
 6,092,342 A 7/2000 Sharapata  
 6,109,461 A 8/2000 Kluge et al.  
 D430,789 S 9/2000 Opperman  
 D434,880 S 12/2000 McNary et al.  
 D439,246 S 3/2001 Hansen  
 D442,236 S 5/2001 Chang  
 6,230,466 B1 5/2001 Pryor  
 6,247,869 B1 \* 6/2001 Lichvar ..... F16L 47/00  
 285/179.1  
 D444,816 S 7/2001 Stravitz  
 6,336,620 B1 1/2002 Belli  
 6,354,451 B1 3/2002 Holst  
 D455,643 S 4/2002 Aubin  
 6,463,711 B1 10/2002 Callies  
 D465,646 S 11/2002 Hendrickson  
 6,536,179 B2 3/2003 Little  
 6,636,620 B1 10/2003 Hoshino  
 D492,040 S 6/2004 Kozak  
 6,745,521 B1 6/2004 Klemming  
 6,751,921 B1 6/2004 Iwakawa  
 D493,091 S 7/2004 Griggy  
 D508,572 S 8/2005 Suggate  
 6,969,211 B2 11/2005 Altman  
 7,014,383 B2 3/2006 Schmid et al.  
 7,231,954 B2 6/2007 Green  
 D547,863 S 7/2007 Heinsch  
 D548,064 S 8/2007 Norton  
 7,264,416 B2 9/2007 Kahl  
 D558,041 S 12/2007 Skinner  
 7,464,513 B2 12/2008 Rioux  
 D598,734 S 8/2009 Miranda et al.  
 7,600,348 B1 10/2009 Kostka  
 D610,717 S 2/2010 Lin  
 D619,879 S 7/2010 McCarthy et al.  
 7,762,042 B2 7/2010 Packard  
 D622,864 S \* 8/2010 Bajrami ..... D25/35  
 D650,987 S 12/2011 Rothbauer  
 D658,491 S 5/2012 Raber  
 D665,656 S 8/2012 Anzelmo  
 8,234,826 B1 8/2012 Proffitt  
 D673,306 S 12/2012 Min-Ju  
 8,429,857 B2 4/2013 Melose  
 D689,045 S 9/2013 Mardas  
 D689,207 S 9/2013 Benet  
 8,572,905 B1 11/2013 Driggers  
 D701,108 S 3/2014 Rodgers  
 8,689,494 B2 4/2014 Leavitt

(56)

References Cited

U.S. PATENT DOCUMENTS

8,720,129 B2 5/2014 Sias et al.  
 8,739,476 B1 6/2014 Royer  
 8,769,887 B2 7/2014 Proffitt  
 8,870,163 B2 10/2014 Regan  
 8,925,893 B2 1/2015 Biedenweg et al.  
 D726,342 S 4/2015 Rodriguez  
 D727,143 S 4/2015 Gomez  
 9,091,037 B2 7/2015 Fairbairn  
 9,102,092 B2 8/2015 Mukith et al.  
 D737,670 S 9/2015 Beyerle et al.  
 9,144,291 B2 9/2015 Huang  
 D744,319 S 12/2015 White  
 9,228,338 B2 1/2016 Lin  
 D749,597 S 2/2016 Wengreen  
 9,388,540 B2 7/2016 Koering  
 D768,466 S 10/2016 Simmons et al.  
 D769,470 S 10/2016 Criscione et al.  
 D775,512 S 1/2017 White  
 D776,965 S 1/2017 Anderson  
 D783,390 S 4/2017 Nelson  
 9,631,770 B2 4/2017 Holestine  
 D805,218 S 12/2017 Malone  
 9,856,640 B2 1/2018 Shuhaibar  
 D820,359 S 6/2018 Deemer  
 D822,454 S 7/2018 Kanter  
 D824,399 S 7/2018 Wengreen  
 10,024,046 B2 7/2018 Higginbotham  
 10,030,408 B2 7/2018 Crandall et al.  
 D825,967 S 8/2018 Tolokan et al.  
 D826,695 S 8/2018 Bolster  
 D827,414 S \* 9/2018 Macdonald ..... D8/349  
 D832,858 S 11/2018 Wengreen  
 D834,396 S 11/2018 Macdonald  
 D835,973 S 12/2018 Bertato  
 10,202,766 B1 2/2019 Fox  
 D842,684 S 3/2019 House  
 D843,823 S 3/2019 Bouchard  
 D843,932 S 3/2019 Sinai et al.  
 D845,113 S 4/2019 Salter  
 D845,116 S 4/2019 Wokutch  
 D845,310 S 4/2019 Wengreen  
 D845,959 S 4/2019 Wengreen  
 D846,369 S 4/2019 Ni  
 D846,370 S 4/2019 Ni  
 D852,788 S 7/2019 Kanter  
 D854,191 S 7/2019 Sorensen  
 D854,710 S 7/2019 Hendry  
 D856,282 S 8/2019 Pillsbury  
 D856,781 S 8/2019 Hendry et al.  
 D859,958 S 9/2019 Ni  
 10,422,140 B2 9/2019 Mitchell  
 D866,465 S 11/2019 Harrison  
 10,480,177 B2 11/2019 Siddhartha et al.  
 D870,544 S 12/2019 Lai et al.  
 10,518,596 B2 12/2019 Aitoh et al.  
 10,597,899 B2 3/2020 Crandall et al.  
 D887,025 S \* 6/2020 Styrc ..... D25/133  
 10,697,198 B2 6/2020 Crandall et al.  
 10,760,298 B2 9/2020 Crandall et al.  
 D900,199 S 10/2020 Rogers  
 D901,929 S 11/2020 McCune et al.  
 D905,067 S 12/2020 Wengreen  
 D905,068 S 12/2020 Wengreen  
 D905,069 S 12/2020 Wengreen  
 D912,496 S 3/2021 Fox  
 D915,186 S 4/2021 Barker  
 10,975,584 B2 4/2021 Brownmiller et al.  
 D918,010 S 5/2021 Lynn et al.  
 D920,728 S 6/2021 Scott  
 D929,611 S 8/2021 Styrc et al.  
 11,098,476 B2 8/2021 Jin et al.  
 2003/0101677 A1 6/2003 Hewett  
 2004/0170471 A1 9/2004 Wadsworth et al.  
 2004/0182430 A1 9/2004 Seo  
 2005/0098772 A1 5/2005 Fuoco

2006/0029462 A1 2/2006 Patberg  
 2006/0185706 A1 8/2006 Slade  
 2006/0193687 A1 8/2006 Ghosh  
 2006/0260259 A1 11/2006 Morse  
 2007/0209312 A1 9/2007 Keys et al.  
 2007/0209314 A1 9/2007 Vaughn  
 2007/0261356 A1 11/2007 Vaughn  
 2007/0266647 A1 11/2007 Pedersen et al.  
 2008/0110583 A1 5/2008 Lallemand  
 2008/0178551 A1 7/2008 Porter  
 2008/0229678 A1 9/2008 Goddard  
 2011/0179741 A1 7/2011 Yen  
 2011/0258941 A1 10/2011 Dalo  
 2011/0308063 A1 \* 12/2011 Feeleus ..... E04B 1/26  
 29/525.01  
 2013/0036702 A1 2/2013 Paceti et al.  
 2013/0108394 A1 5/2013 Zhu  
 2013/0232758 A1 8/2013 Pond  
 2013/0247499 A1 9/2013 Zimmerman et al.  
 2013/0276382 A1 10/2013 Workman  
 2013/0306808 A1 11/2013 Huang  
 2014/0082921 A1 3/2014 Adams  
 2015/0152630 A1 6/2015 Winter  
 2015/0328977 A1 11/2015 Lueschen et al.  
 2016/0168840 A1 6/2016 Monty et al.  
 2017/0089059 A1 3/2017 Farre Berga  
 2017/0233996 A1 8/2017 Abernathy et al.  
 2017/0314254 A1 11/2017 Houghton et al.  
 2018/0135295 A1 5/2018 Bowron  
 2018/0135296 A1 5/2018 Brekke  
 2018/0230664 A1 8/2018 Dominguez  
 2018/0238041 A1 8/2018 Styrc  
 2019/0078313 A1 3/2019 Morgan  
 2019/0226201 A1 7/2019 Nguyen  
 2019/0271146 A1 9/2019 Fox  
 2019/0277022 A1 9/2019 Francis  
 2020/0375366 A1 12/2020 Chen

FOREIGN PATENT DOCUMENTS

EP 2492408 A1 8/2012  
 EP 3456990 A1 3/2019  
 FR 2300863 A1 9/1976  
 FR 2579720 A1 10/1986  
 FR 2991304 A1 12/2013  
 GB 422765 A 1/1935  
 GB 910183 A 11/1962  
 JP S5217102 U 2/1977  
 RU 73909 U1 6/2008  
 WO 201656696 A1 4/2016  
 WO 2016178637 A1 11/2016  
 WO 2019048362 3/2019  
 WO 2021094982 5/2021

OTHER PUBLICATIONS

Extended European Search Report for 18757067.6, European Patent Office, dated Jul. 23, 2020.  
 International Search Report of the International Searching Authority for PCT/CA2018/050169, Canadian Intellectual Property Office, Lily Truong, Canada, Jun. 21, 2018.  
 Notice of Allowance for U.S. Appl. No. 29/635,278, United States Patent & Trademark Office, dated May 7, 2020.  
 Notice of References for U.S. Appl. No. 29/635,278, United States Patent & Trademark Office, dated May 7, 2020.  
 Office action for U.S. Appl. No. 15/815,973, United States Patent & Trademark Office, dated Mar. 19, 2019.  
 Office action for U.S. Appl. No. 15/815,973, United States Patent & Trademark Office, dated Aug. 15, 2018.  
 Office action for U.S. Appl. No. 16/485,272, United States Patent & Trademark Office, dated Dec. 19, 2019.  
 Office action for U.S. Appl. No. 29/635,278, United States Patent & Trademark Office, dated Sep. 17, 2019.  
 Office Action for U.S. Appl. No. 29/635,278, United States Patent & Trademark Office, dated Feb. 14, 2020.

(56)

**References Cited**

OTHER PUBLICATIONS

Office Action for U.S. Appl. No. 15/815,973, United States Patent and Trademark Office, Ford, Gisele D., dated Nov. 17, 2017.

Pergola Cubic 3-way corner bracket for 7x7 cm post-beam <https://www.vinuovo.com/en/ pergola-cubic-way-corner-bracket-for-7x7-94058077.html#reviews> Aug. 1, 2019 (Year: 2019).

Toja Grid TRIO 2 Pack for 6x6 Wood G0210360-2 <https://www.patioproducts.com/toja-grid-trio-2-pack-for-6x6-wood-g0210360-2.html> Date Unknown.

Written Opinion for PCT/CA2018/050169, Canadian Intellectual Property Office, dated Jun. 21, 2018.

“Russian Patent Office, Office Action dated Jul. 6, 2021 for application No. 2019128908”.

Li, Hui, “First Notification of Office Action”, CN patent application 201880024165.9.

\* cited by examiner

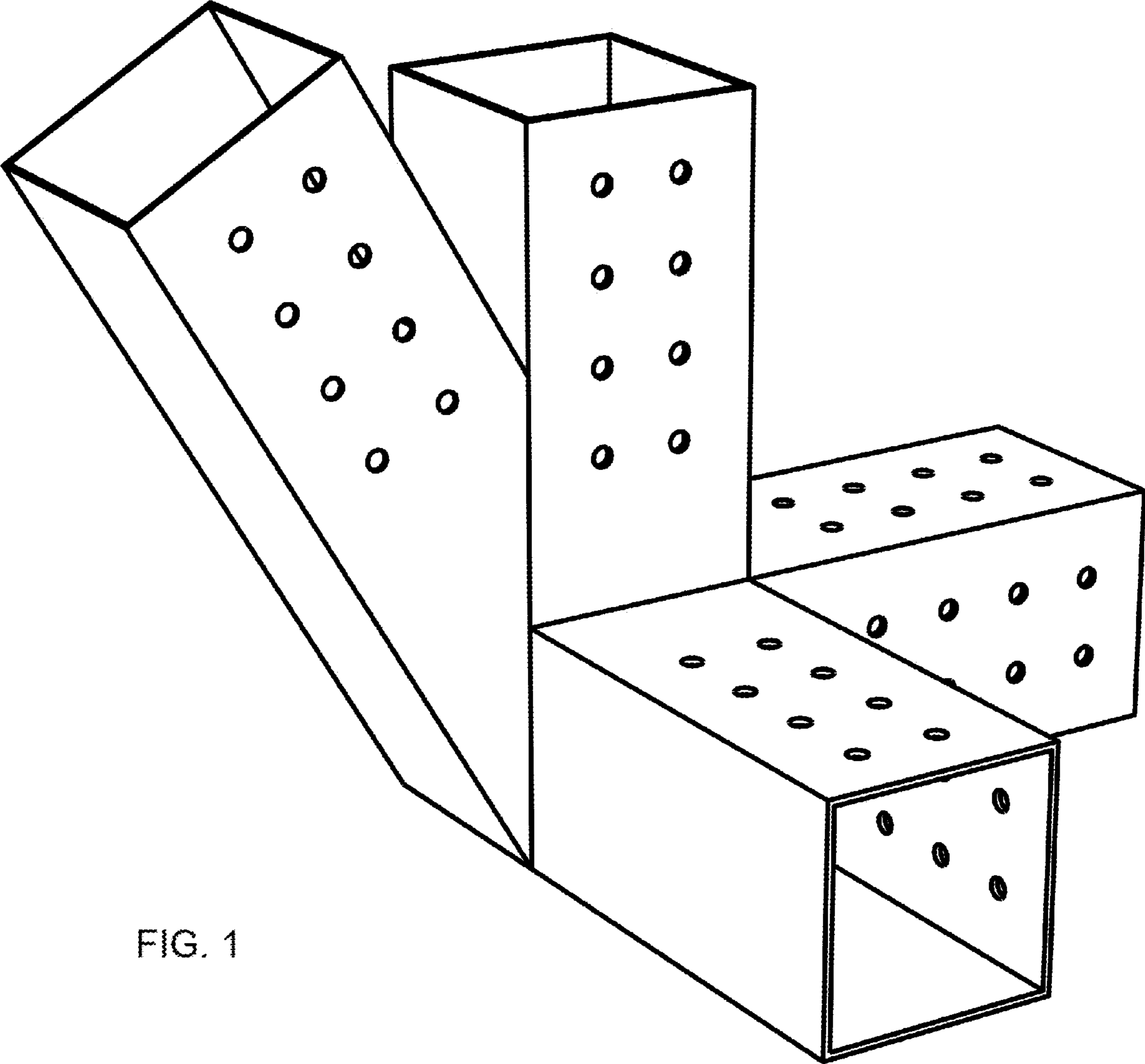


FIG. 1

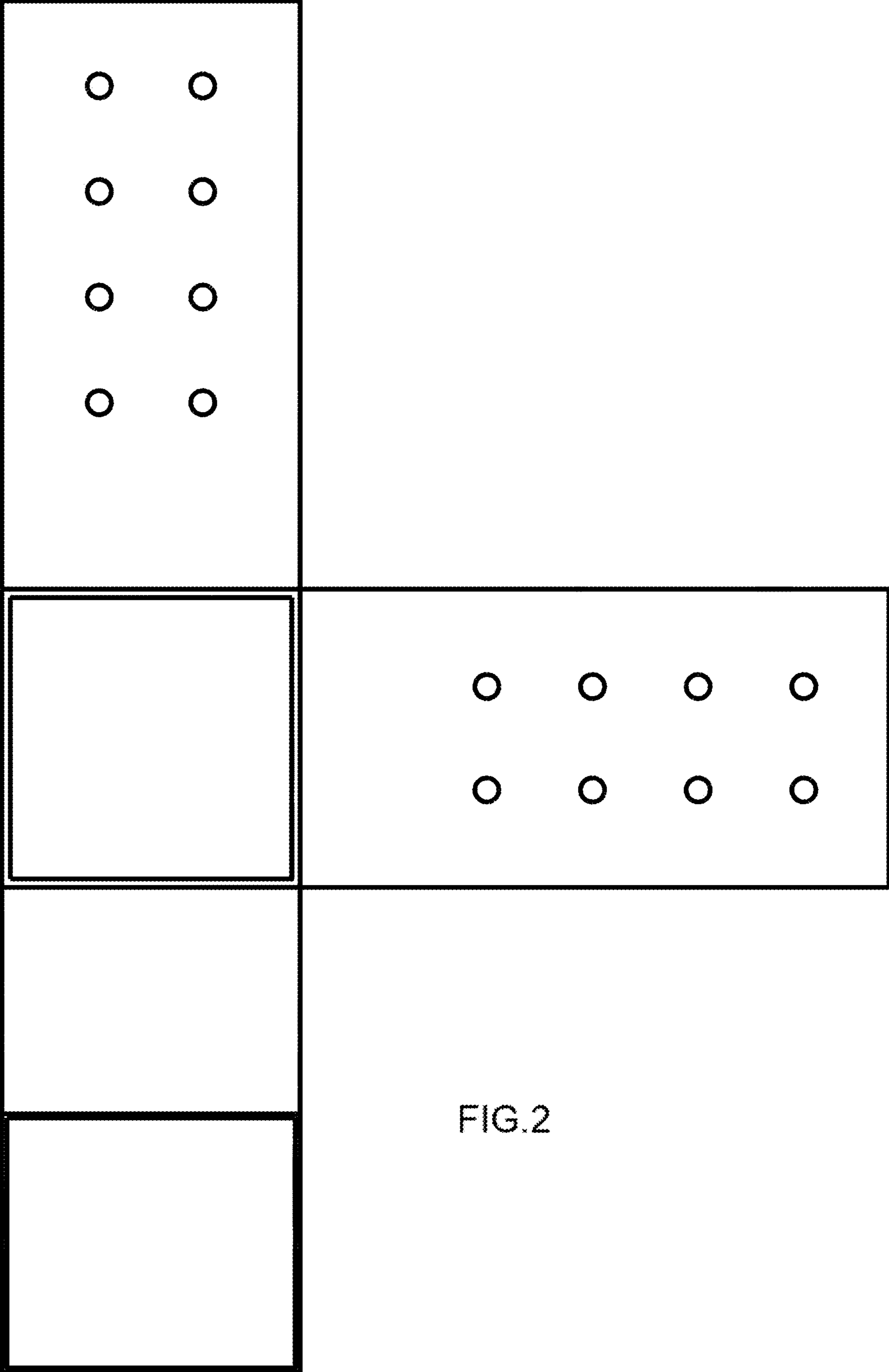


FIG. 2

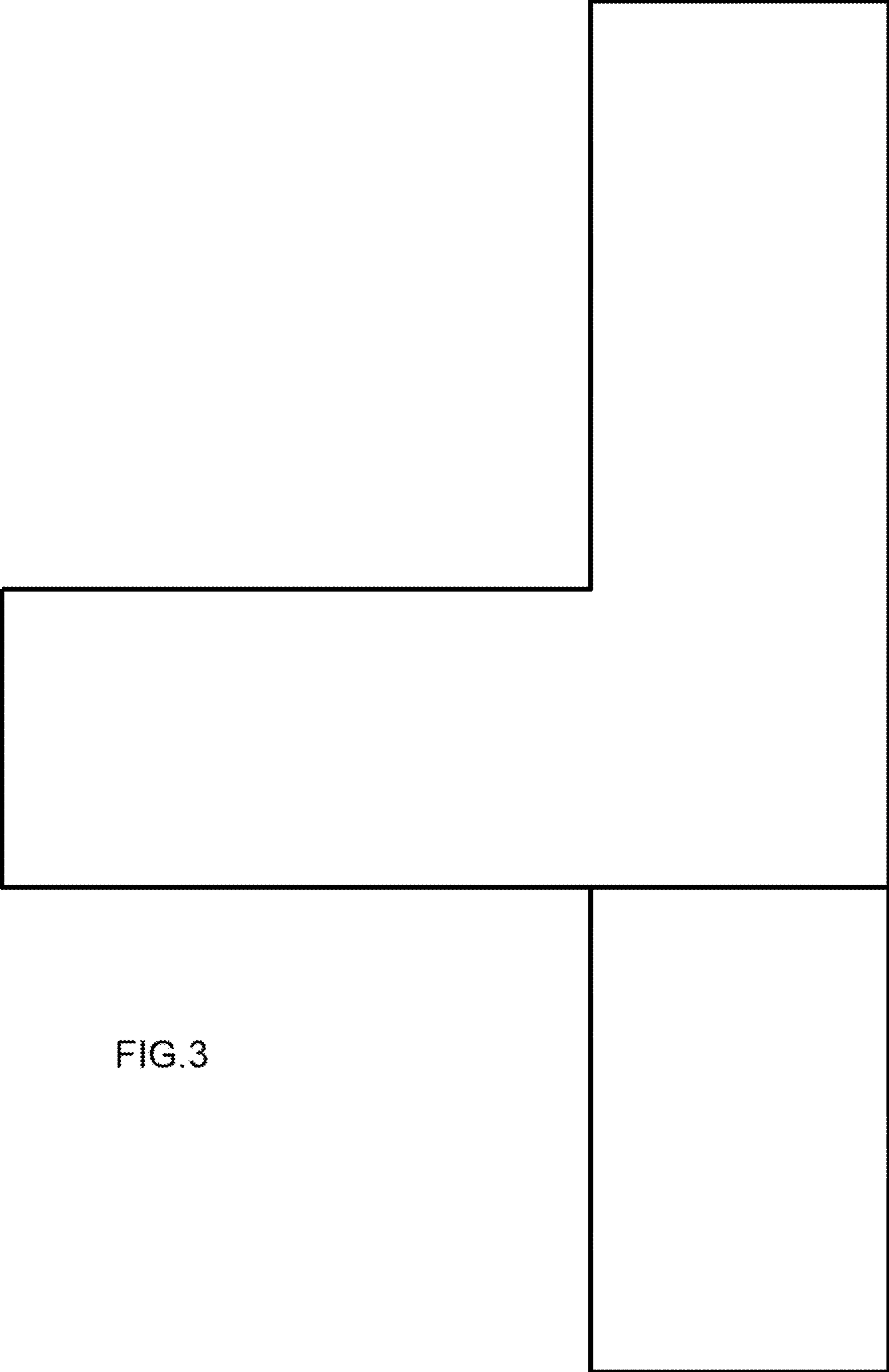


FIG.3

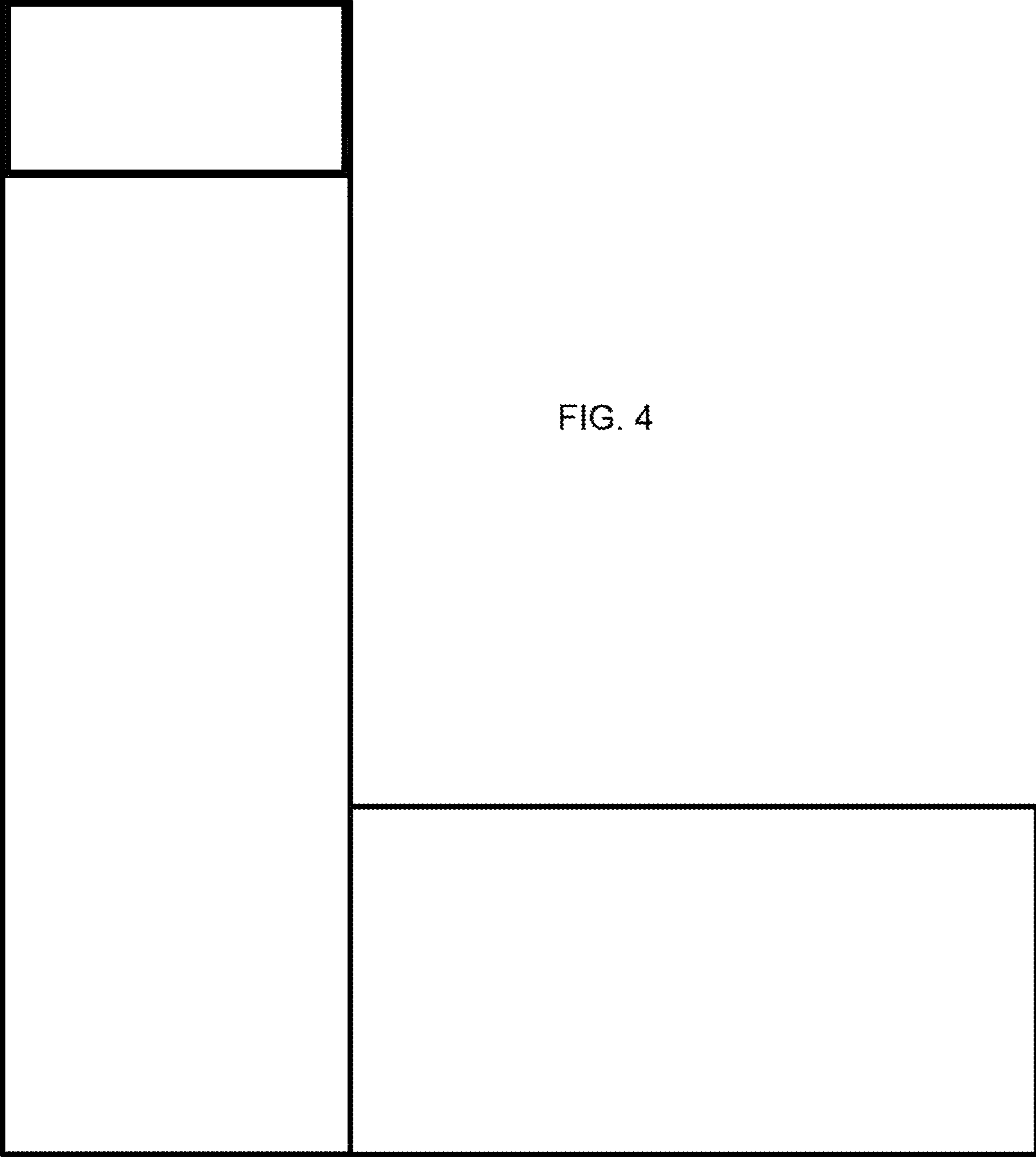


FIG. 4



FIG. 5

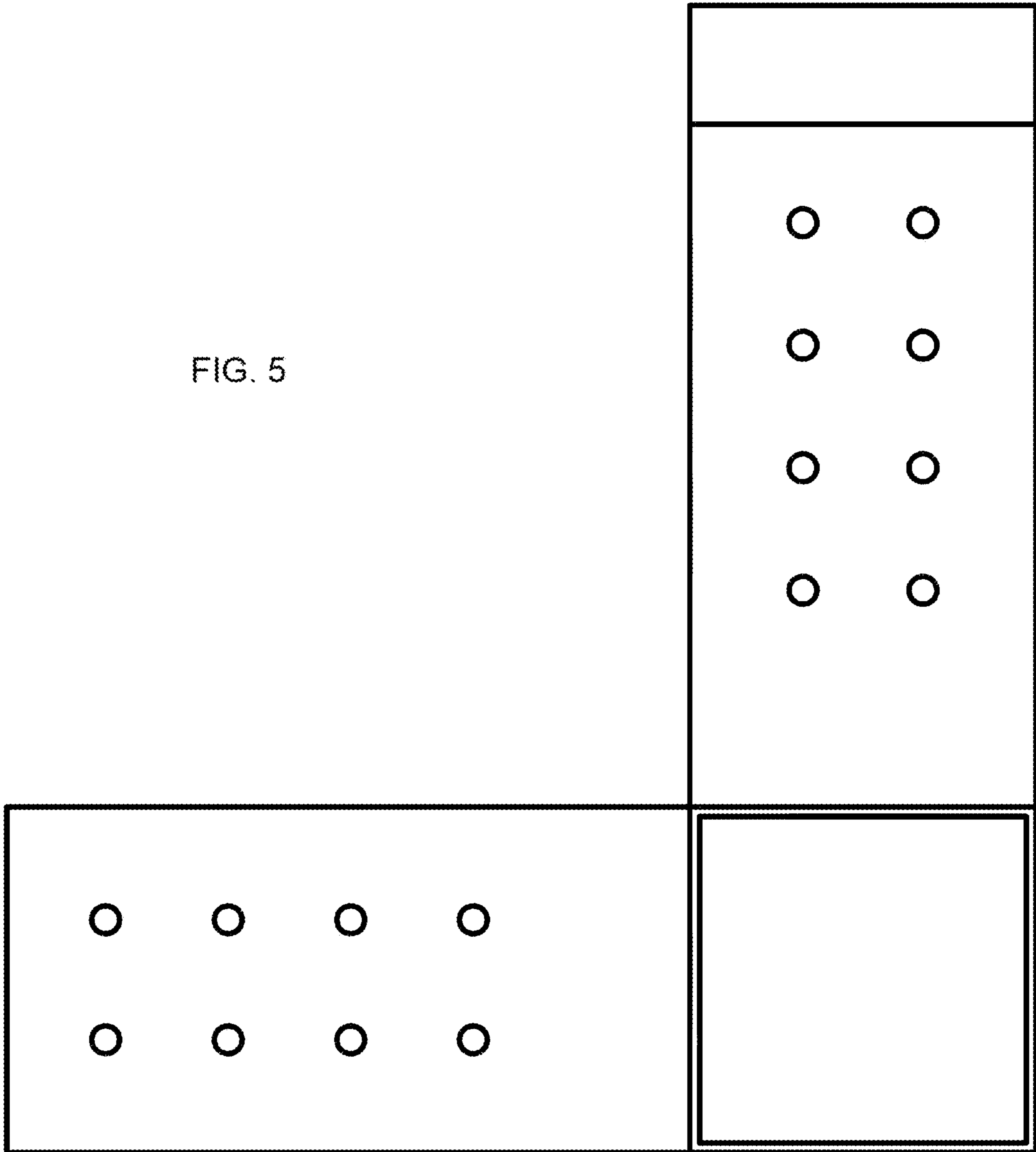
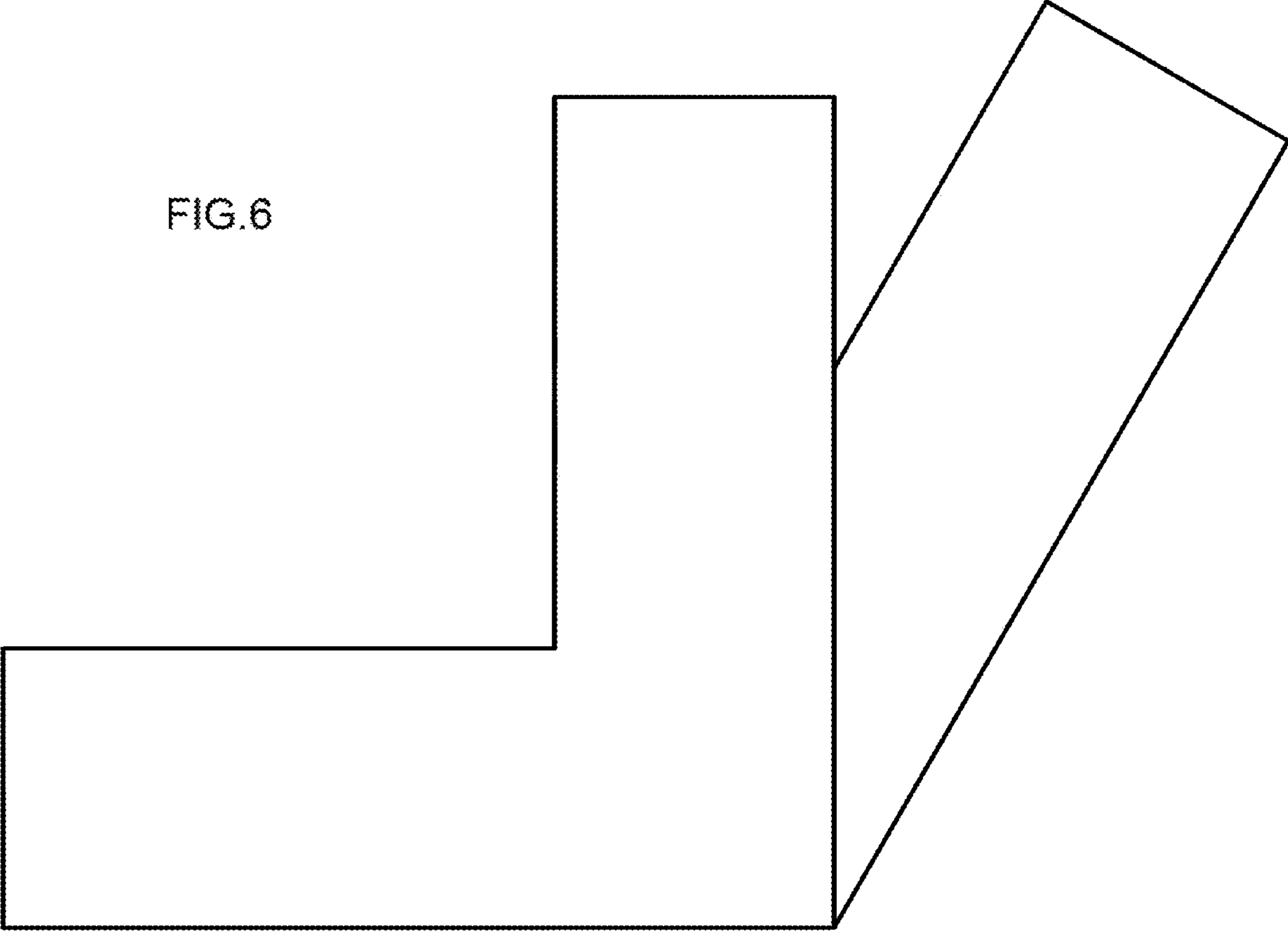


FIG.6



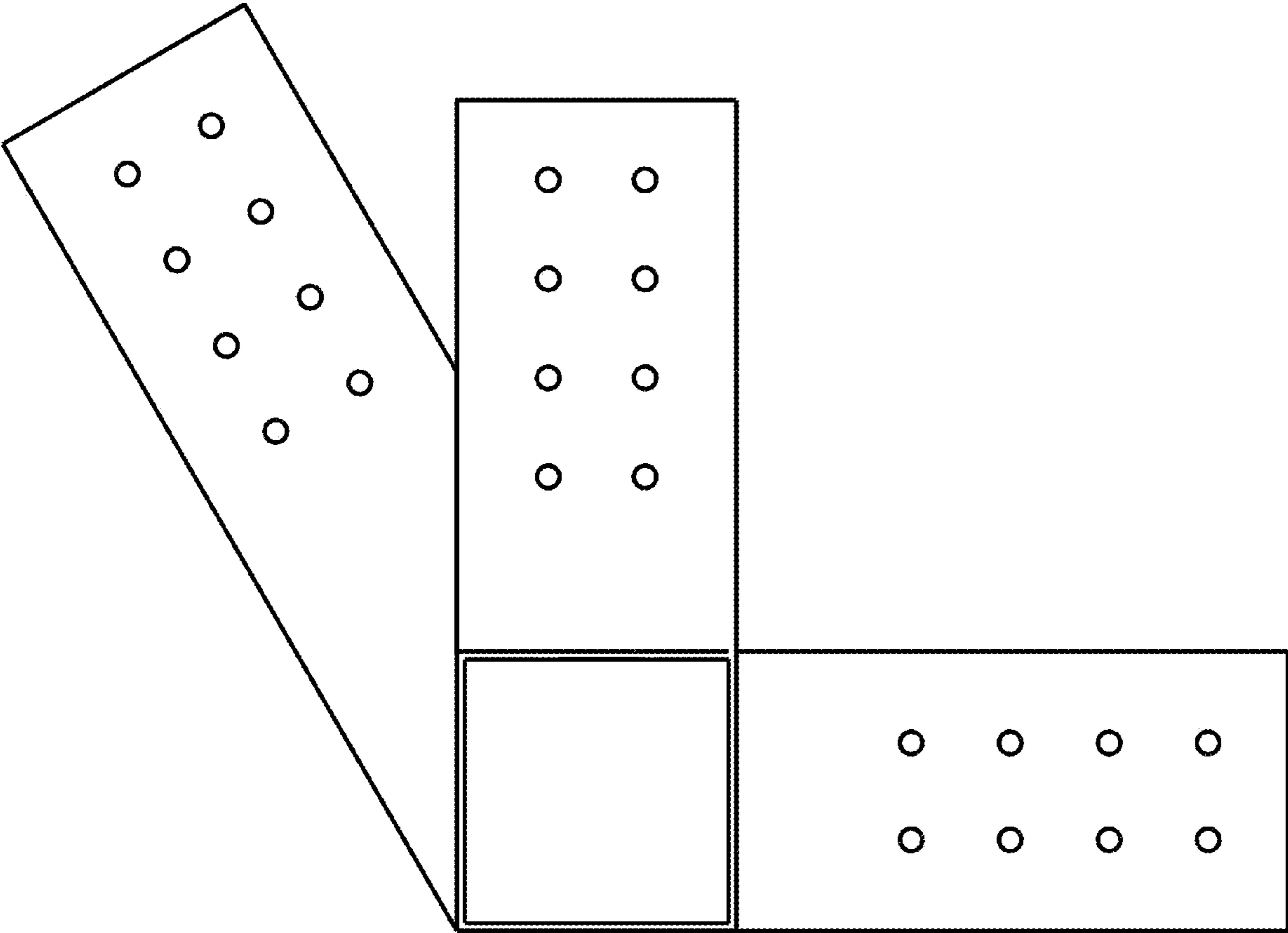


FIG.7

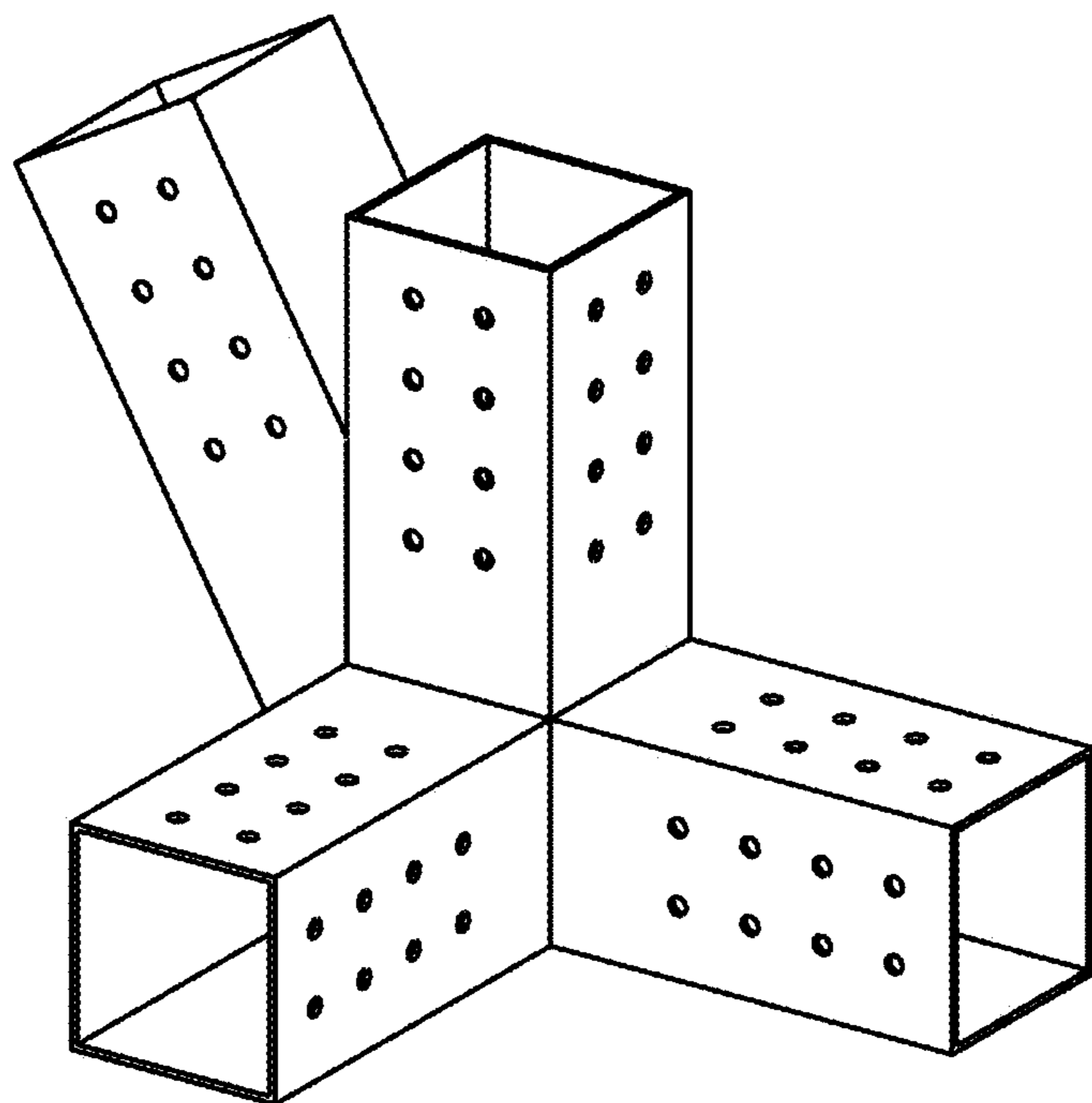


FIG. 8