



US00D824864S

(12) **United States Design Patent** (10) **Patent No.:** **US D824,864 S**
Chen et al. (45) **Date of Patent:** **** Aug. 7, 2018**

(54) **LIGHT-EMITTING DIODE UNIT**

(71) Applicant: **EPISTAR CORPORATION**, Hsinchu (TW)

(72) Inventors: **Chao Hsing Chen**, Hsinchu (TW); **Tsung Hsun Chiang**, Hsinchu (TW); **Chien Chih Liao**, Hsinchu (TW); **Wen Hung Chuang**, Hsinchu (TW); **Min Yen Tsai**, Hsinchu (TW); **Bo Jiun Hu**, Hsinchu (TW); **Tzu Yao Tseng**, Hsinchu (TW); **Jia Kuen Wang**, Hsinchu (TW); **Tsun Kai Ko**, Hsinchu (TW); **Chien Fu Shen**, Hsinchu (TW); **Kuan Yi Lee**, Hsinchu (TW)

(73) Assignee: **EPISTAR CORPORATION**, Hsinchu (TW)

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

(21) Appl. No.: **29/588,646**

(22) Filed: **Dec. 22, 2016**

Related U.S. Application Data

(63) Continuation of application No. 29/525,855, filed on May 4, 2015, now Pat. No. Des. 777,693.

(30) **Foreign Application Priority Data**

Nov. 5, 2014 (TW) 103306446

(51) **LOC (11) Cl.** **13-03**

(52) **U.S. Cl.**
USPC **D13/180**

(58) **Field of Classification Search**

USPC D13/180; D24/1
CPC ... H01L 25/167; H01L 25/0753; H01L 27/15;
H01L 27/156; H01L 31/02; H01L 33/00;
H01L 33/04; H01L 33/08; H01L 33/10;
H01L 33/20; H01L 33/38; H01L 33/42;
H01L 33/48; H01L 33/483; H01L 33/486

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

7,015,512 B2	3/2006	Park et al.
D681,566 S	5/2013	Chen et al.
D686,581 S	7/2013	Lim et al.
D687,396 S	8/2013	Chen et al.
8,704,249 B2	4/2014	Kamiya et al.
D721,663 S	1/2015	Chen et al.
D725,051 S	3/2015	Kao et al.
D725,052 S	3/2015	Chen et al.
D733,079 S	6/2015	Chen et al.

(Continued)

FOREIGN PATENT DOCUMENTS

KR 3020060045587 S 6/2007

Primary Examiner — Selina Sikder

(74) *Attorney, Agent, or Firm* — Ditthavong & Steiner, P.C.

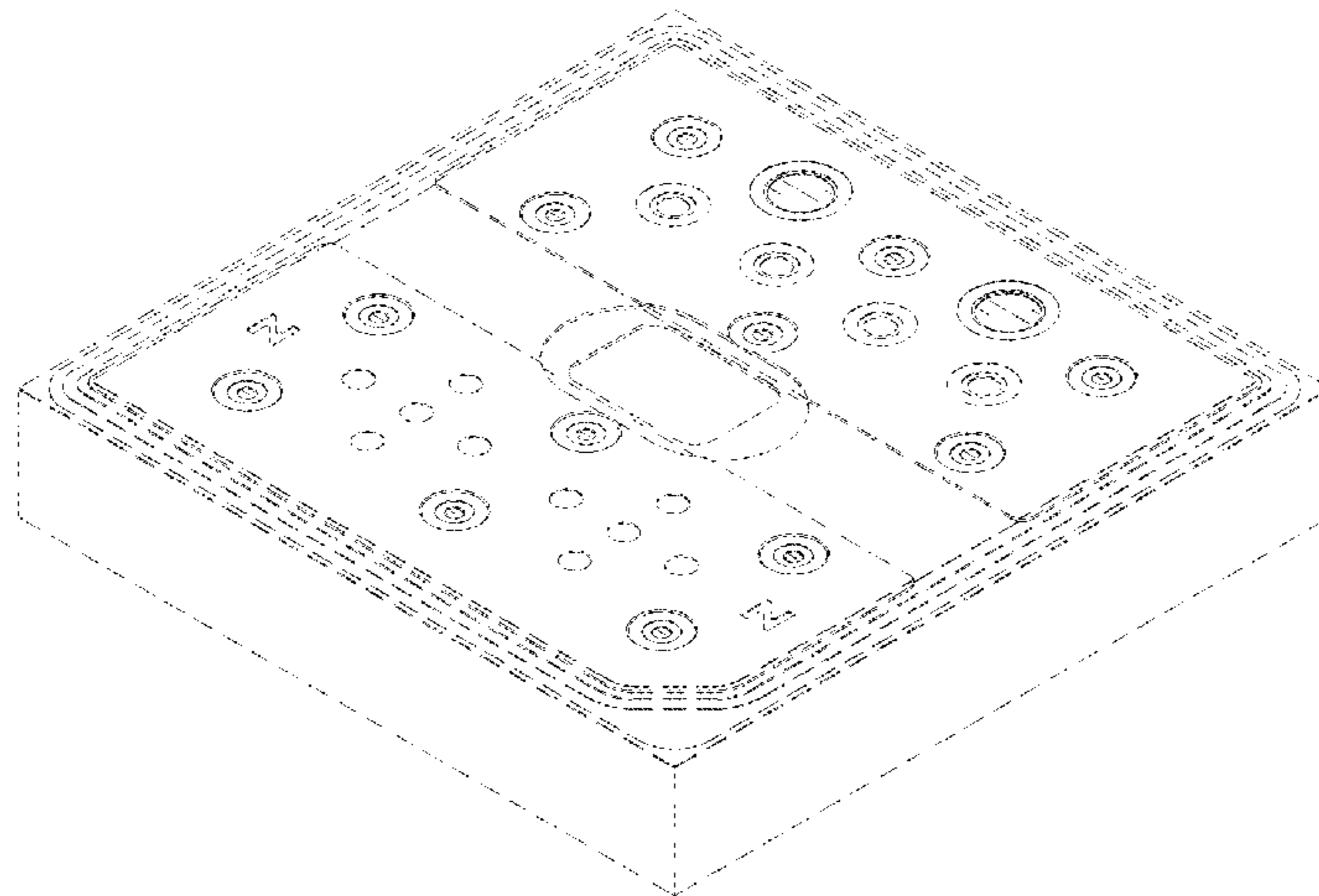
(57) **CLAIM**

The ornamental design for a light-emitting diode unit, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a light-emitting diode unit showing our new design;
FIG. 2 is another perspective view thereof;
FIG. 3 is a front elevational view thereof;
FIG. 4 is a rear elevational view thereof;
FIG. 5 is a left side view thereof;
FIG. 6 is a right side view thereof;
FIG. 7 is a top plan view thereof; and,
FIG. 8 is a bottom plan view thereof.
The broken line showing is for the purpose of illustrating environmental structure only and forms no part of the claimed design.

1 Claim, 6 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D745,472 S 12/2015 Feng
D745,473 S 12/2015 Feng
D745,474 S 12/2015 Feng
D745,475 S 12/2015 Feng
D752,527 S 3/2016 Chen et al.
D754,619 S 4/2016 Feng
D755,135 S 5/2016 Feng
D768,094 S * 10/2016 Chen D13/180
D769,199 S * 10/2016 Chen D13/180
D769,831 S * 10/2016 Chen D13/180
D777,693 S * 1/2017 Chen D13/180
9,768,227 B2 * 9/2017 Ou H01L 27/15
9,859,467 B2 * 1/2018 Chen H01L 33/38
9,893,241 B2 * 2/2018 Chen H01L 33/46
2006/0160409 A1 7/2006 Shimizu et al.
2006/0261725 A1 11/2006 Lee
2007/0176206 A1 8/2007 Choi et al.
2008/0116782 A1 5/2008 Kim et al.
2011/0284883 A1 11/2011 Suda
2011/0291070 A1 12/2011 Won et al.
2011/0291120 A1 12/2011 Tak et al.
2016/0005926 A1 1/2016 Chen et al.
2016/0133615 A1 5/2016 Park

* cited by examiner

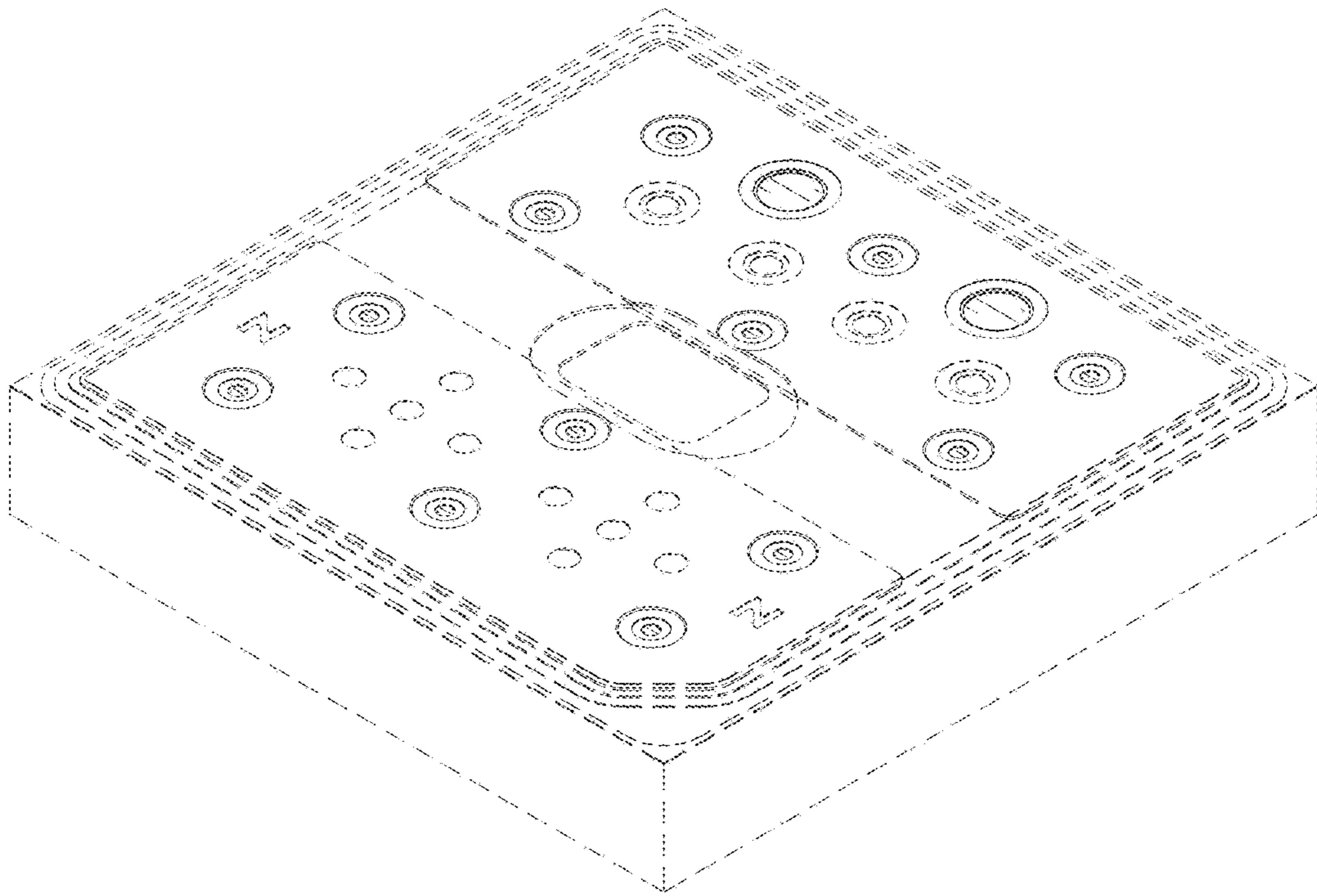


FIG. 1

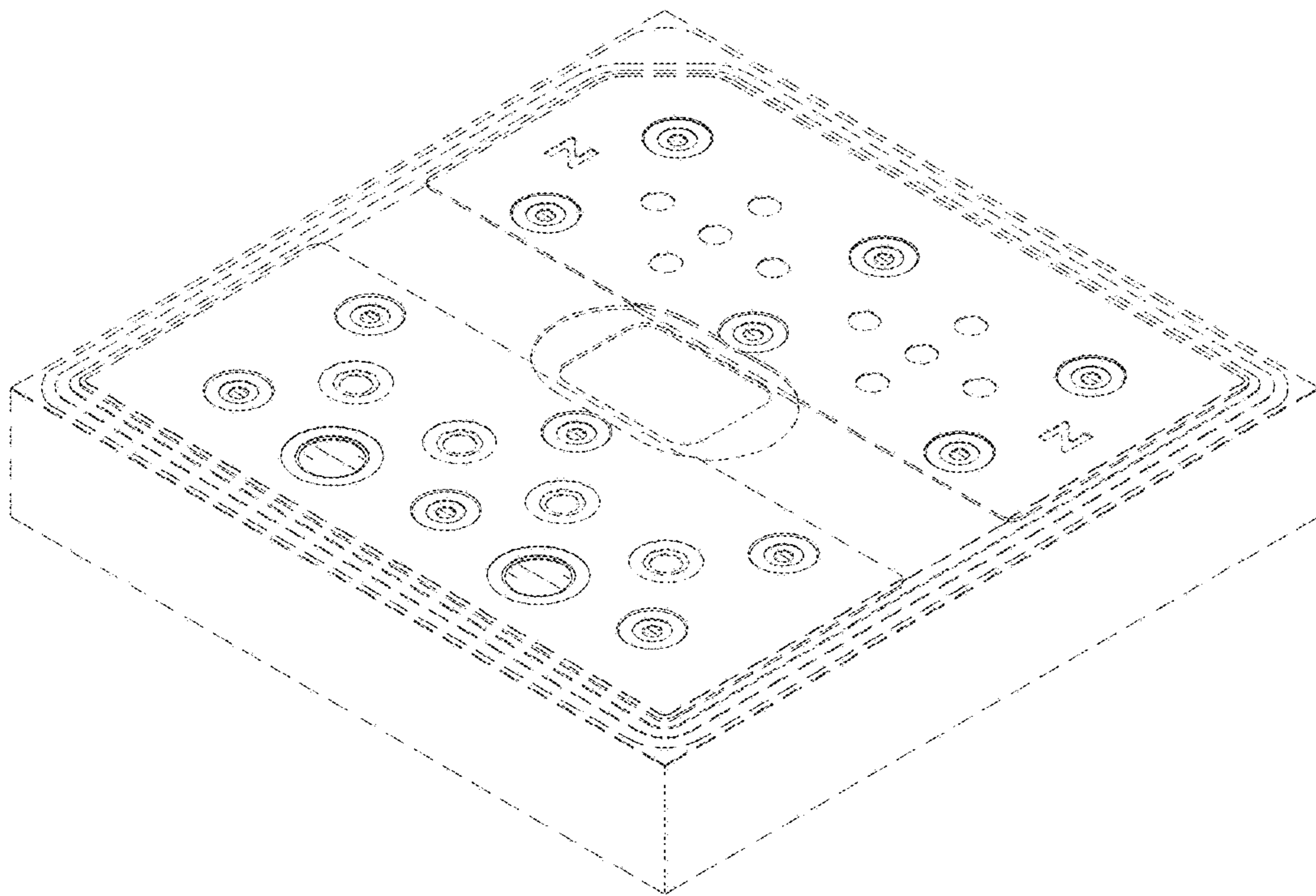


FIG. 2

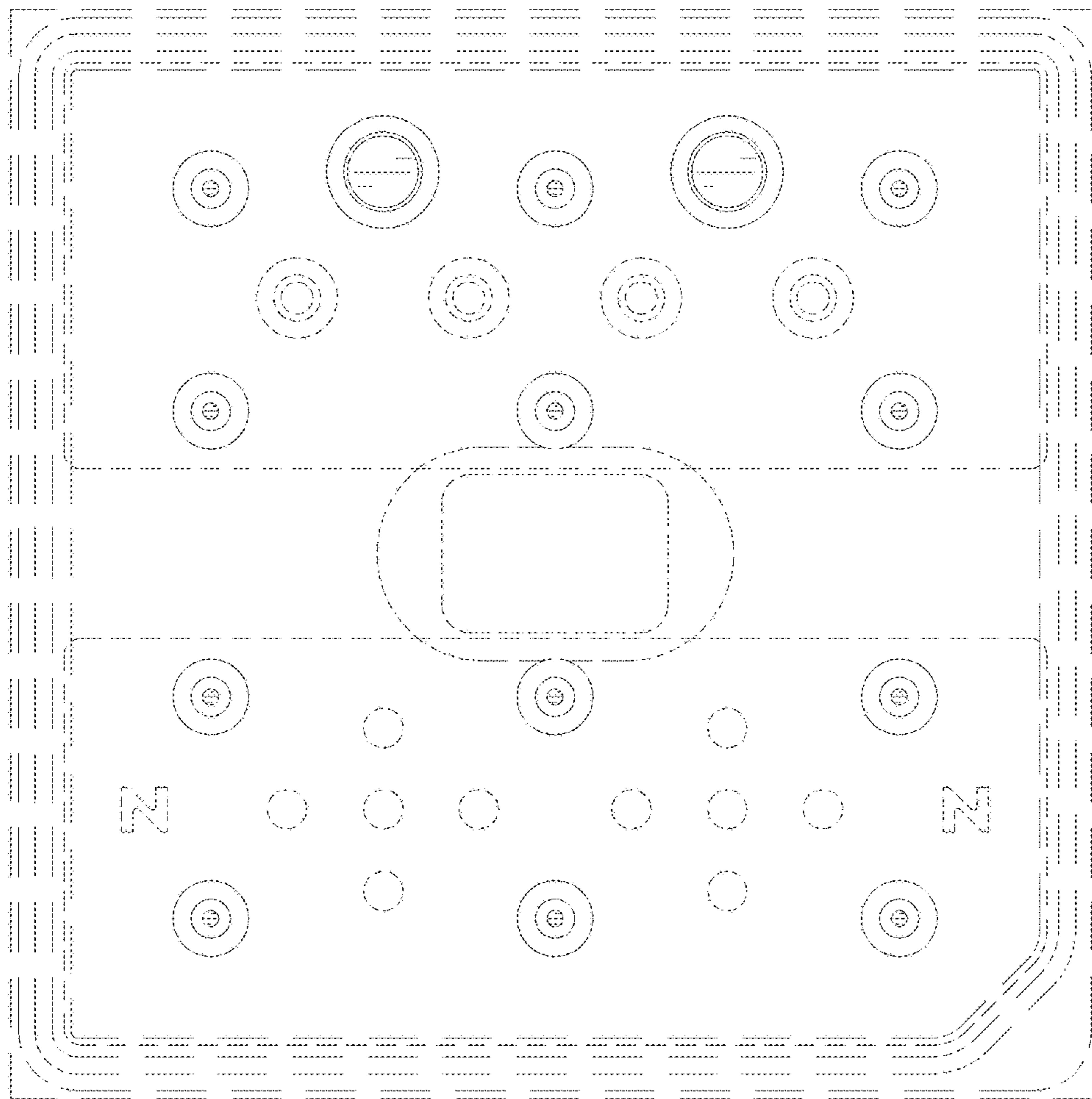


FIG. 3

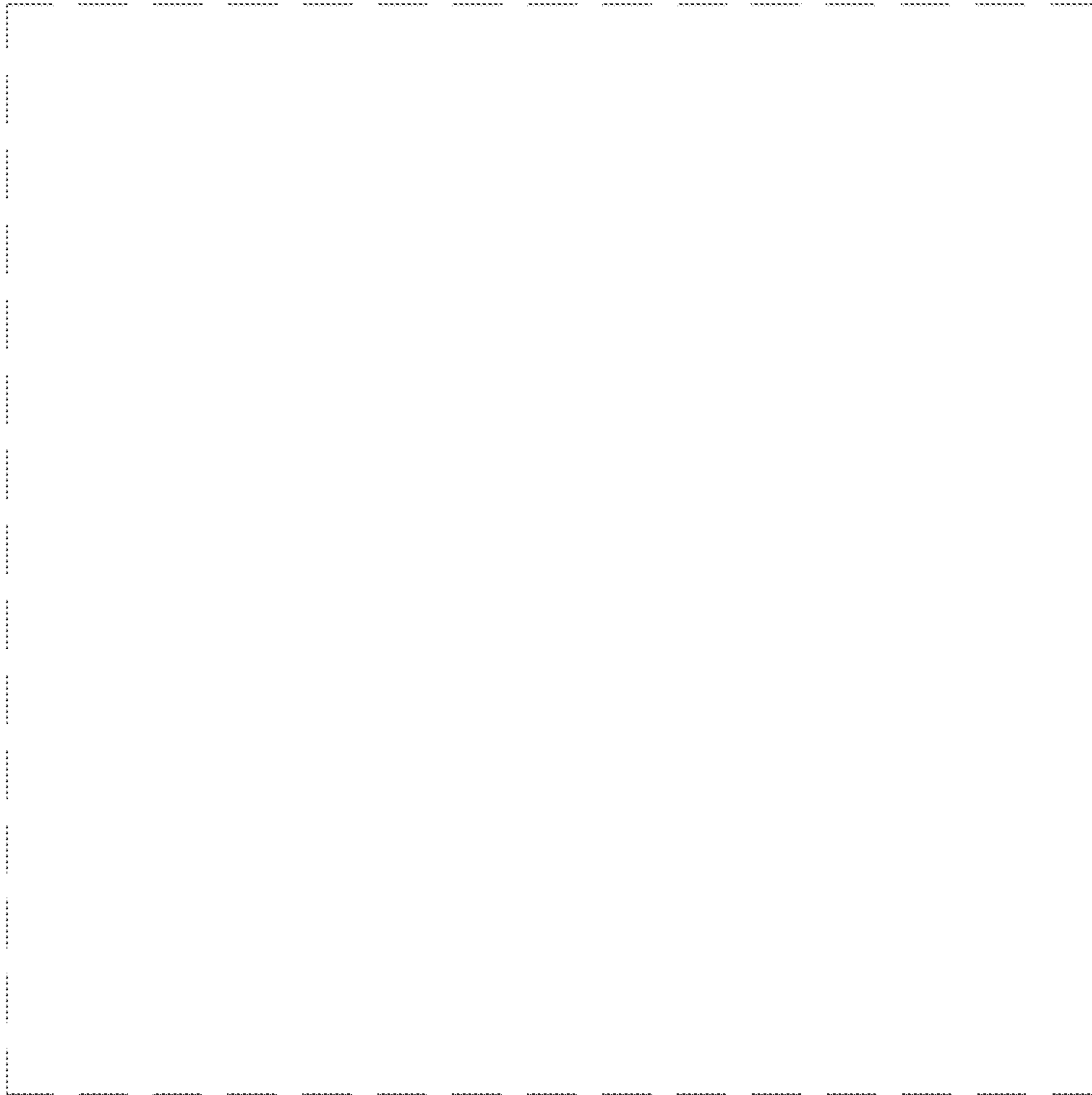


FIG. 4

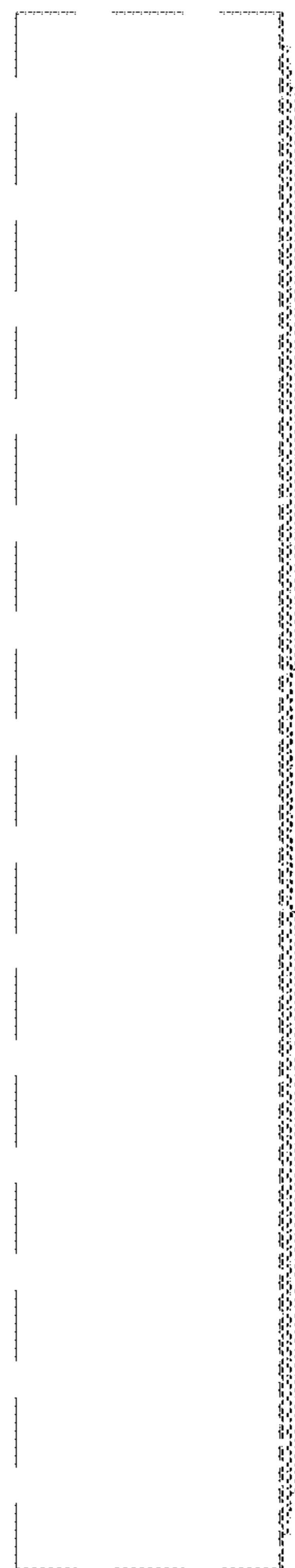


FIG. 5

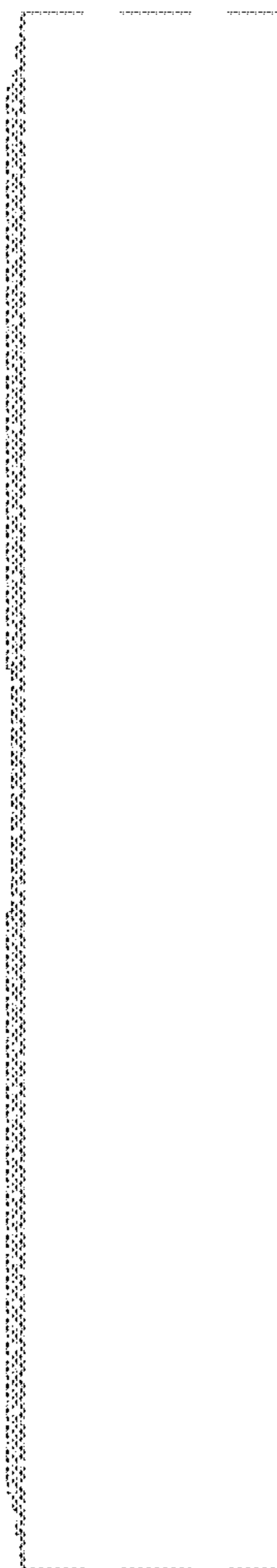


FIG. 6

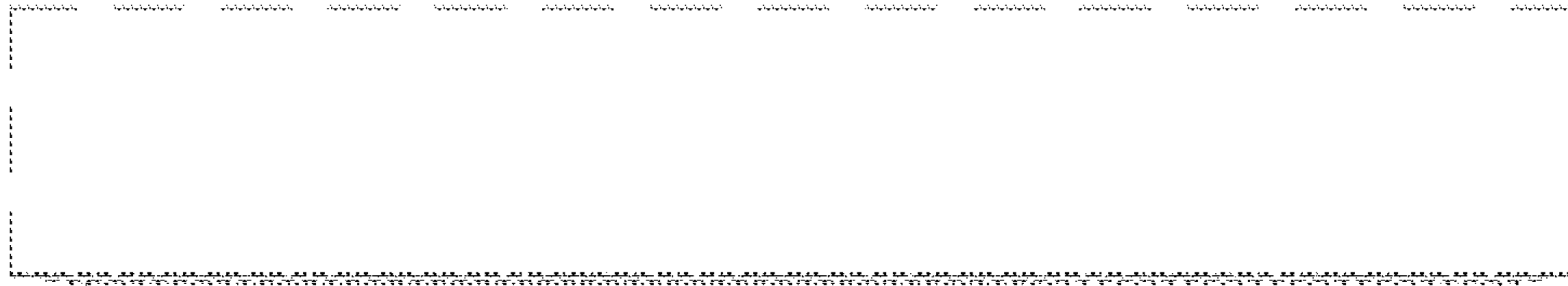


FIG. 7

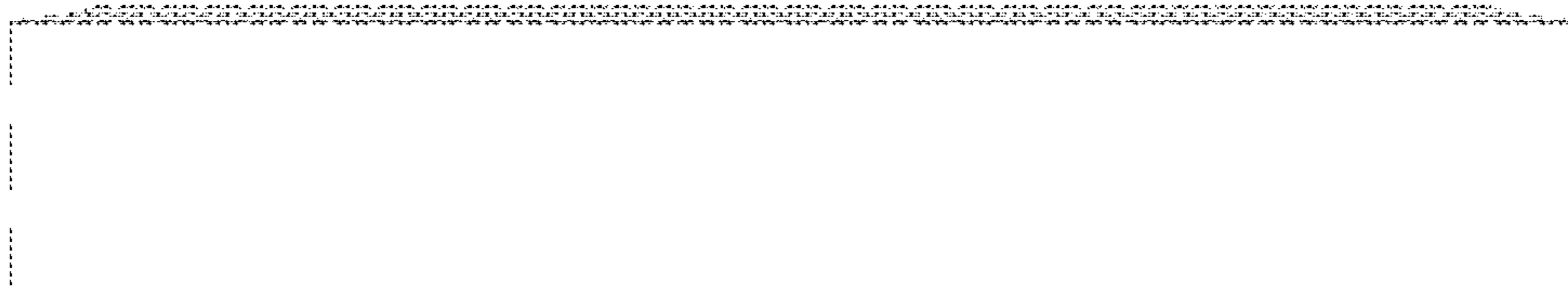


FIG. 8