



US00D937936S

(12) **United States Design Patent**
Petty

(10) **Patent No.:** **US D937,936 S**

(45) **Date of Patent:** **** Dec. 7, 2021**

- (54) **CHANNEL HOLE PATTERN**
- (71) Applicant: **ROBOTZONE, LLC**, Winfield, KS (US)
- (72) Inventor: **Brian T. Petty**, Winfield, KS (US)
- (73) Assignee: **Robotzone, LLC**, Winfield, KS (US)
- (**) Term: **15 Years**

- 1,938,818 A * 12/1933 Erickson A47K 3/008
4/595
- 2,082,138 A * 6/1937 Badel A63H 33/12
446/113
- 2,116,301 A * 5/1938 Champlin A63H 33/06
446/108
- 2,733,786 A * 2/1956 Drake A47B 96/1408
52/633
- 2,793,403 A * 5/1957 Livingston E04F 13/042
52/366

(Continued)

- (21) Appl. No.: **29/658,627**
- (22) Filed: **Aug. 1, 2018**
- (51) **LOC (13) Cl.** **21-01**
- (52) **U.S. Cl.**
USPC **D21/491**; D21/501
- (58) **Field of Classification Search**
USPC D21/484-504, 561, 562; D25/155;
D6/511; D15/139, 199; D8/354
CPC A63H 33/00; A63H 33/04; A63H 33/042;
A63H 33/06; A63H 33/065; A63H
33/088; A63H 33/12
See application file for complete search history.

OTHER PUBLICATIONS

Actobotics Product Feature: Connecting Channel, uploaded by ServoCity on youtube Jun. 18, 2014 [online], [site visited Sep. 13, 2020]. Available from Internet: <URL:https://www.youtube.com/watch?v=UjJ8yy6-kBM> (Year: 2014).*

(Continued)

Primary Examiner — Cynthia M. Chin
(74) *Attorney, Agent, or Firm* — Wesley Malherek; Kelly, Holt & Christenson PLLC

(56) **References Cited**

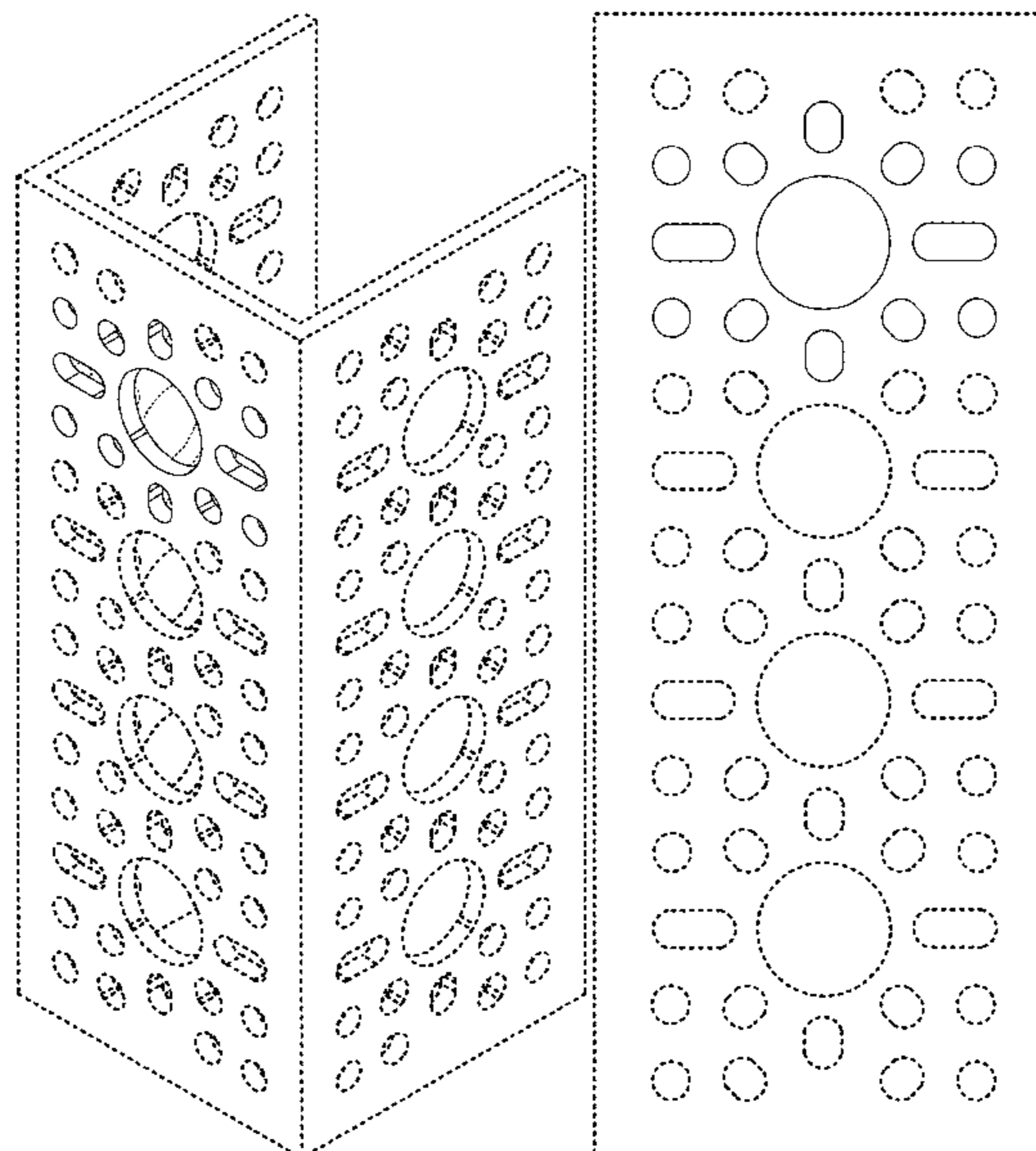
U.S. PATENT DOCUMENTS

- 1,166,688 A * 1/1916 Hornby E04B 1/1903
403/218
- D48,675 S * 3/1916 Gilbert D21/486
- D48,859 S * 4/1916 Gilbert D21/486
- D48,860 S * 4/1916 Gilbert D21/486
- D51,277 S * 9/1917 Gilbert D21/486
- D51,552 S * 12/1917 Gilbert D21/486
- D76,792 S * 11/1928 Gilbert D21/486
- 1,760,638 A * 5/1930 Gilbert A63H 33/12
446/113
- 1,789,896 A * 1/1931 Gilbert A63H 33/042
446/103
- 1,792,976 A * 2/1931 Gilbert A63H 33/042
446/112

DESCRIPTION

FIG. 1 is a perspective view of a channel hole pattern. FIG. 2 is a bottom view of the channel hole pattern. FIG. 3 is a first end view of the channel hole pattern. FIG. 4 is a first side view of the channel hole pattern. FIG. 5 is a second side view of the channel hole pattern. FIG. 6 is a second end view of the channel hole pattern; and, FIG. 7 is a top view of the channel hole pattern. The broken lines of FIGS. 1-7 are included for the purpose of illustrating environmental structure and form no part of the claimed design.

1 Claim, 7 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

2,889,016 A * 6/1959 Warren F16B 5/02
52/98
D244,307 S * 5/1977 Maddestra D21/486
D291,315 S * 8/1987 Belford D8/349
4,957,251 A * 9/1990 Hubbard F16L 3/22
248/68.1
D370,171 S * 5/1996 Emerson D8/354
D371,506 S * 7/1996 Nofziger D8/354
D388,136 S * 12/1997 Lecocq D21/502
D432,394 S * 10/2000 Hays D8/354
D479,930 S * 9/2003 Cook D6/706
D506,572 S * 6/2005 Tufts, Jr. D27/161
D584,941 S * 1/2009 Broehl D8/377
D603,910 S * 11/2009 Uttley D21/484
D619,446 S * 7/2010 Reti D8/354
7,934,971 B2 * 5/2011 Mimlitch, III A63H 33/042
446/107
7,963,486 B2 * 6/2011 Wilson H04Q 1/062
248/49
D667,718 S * 9/2012 Preda D8/354
D683,565 S * 6/2013 Chou D6/580

8,696,399 B2 * 4/2014 Mimlitch A63H 33/108
446/85
D722,657 S * 2/2015 Pettey D21/486
8,998,154 B2 * 4/2015 Lupsa H02G 3/12
248/200.1
9,044,690 B2 * 6/2015 Uttley A63H 33/102
9,169,948 B2 * 10/2015 Buttars E03C 1/021
D770,573 S * 11/2016 Pettey D21/486
9,550,130 B2 * 1/2017 Pettey A63H 33/042
10,122,157 B1 * 11/2018 Gintz F16L 3/223
D869,567 S * 12/2019 Holman D21/484
10,561,958 B2 * 2/2020 Purwar A63H 33/12
10,598,264 B2 * 3/2020 Zheng A63H 33/12
10,683,949 B1 * 6/2020 Mock F16L 3/04
D892,599 S * 8/2020 Witherbee D8/354
2001/0022231 A1 * 9/2001 Dyer H02G 3/0437
174/504
2009/0247045 A1 * 10/2009 Pettey A63H 33/107
446/484

OTHER PUBLICATIONS

<http://modernroboticsinc.com/gobilda>, accessed on May 20, 2017, 2 pages.

* cited by examiner

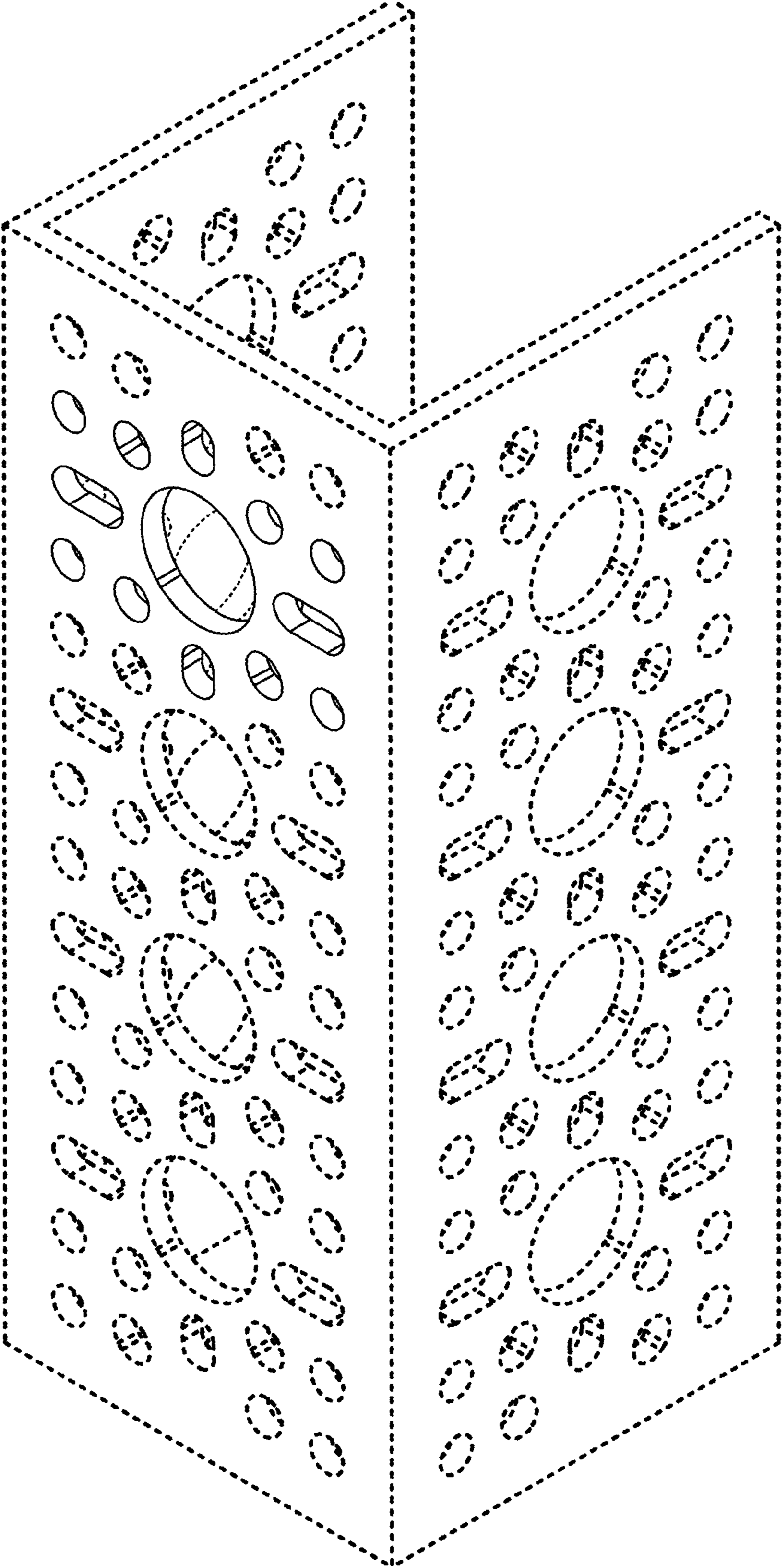


FIG. 1

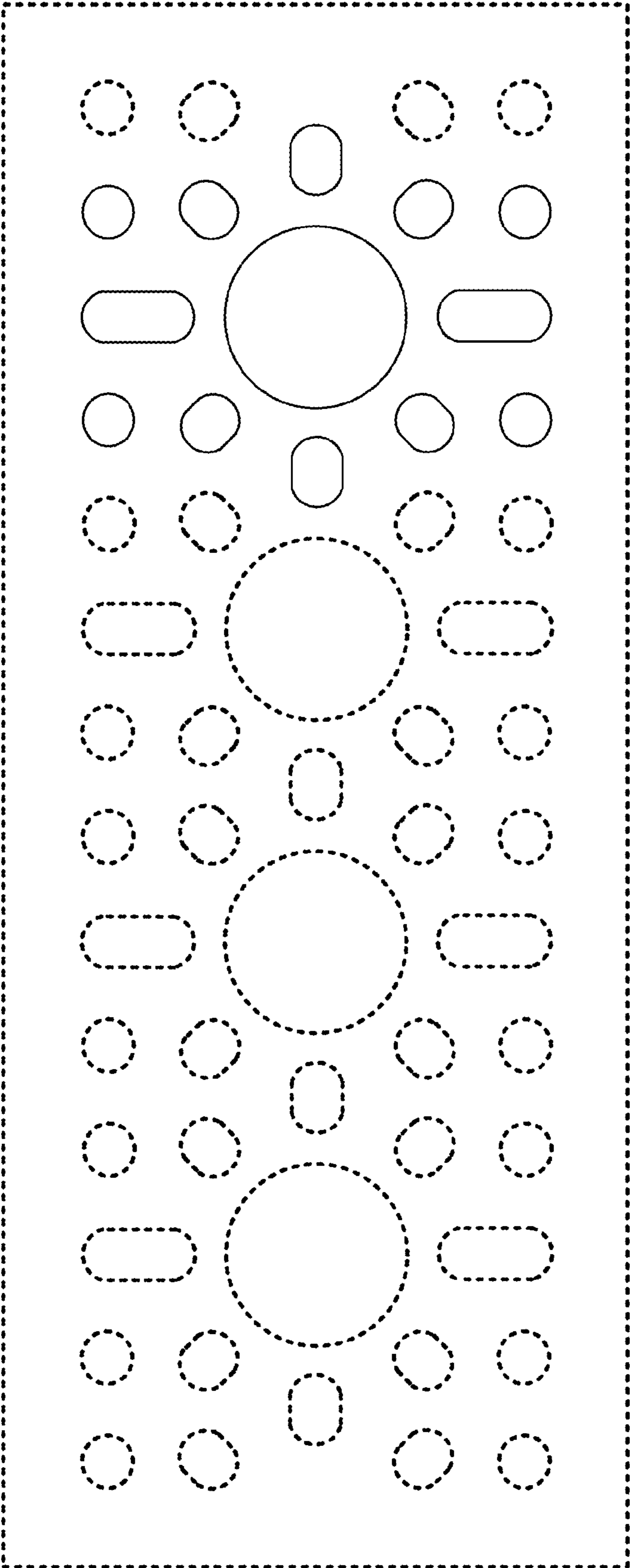


FIG. 2

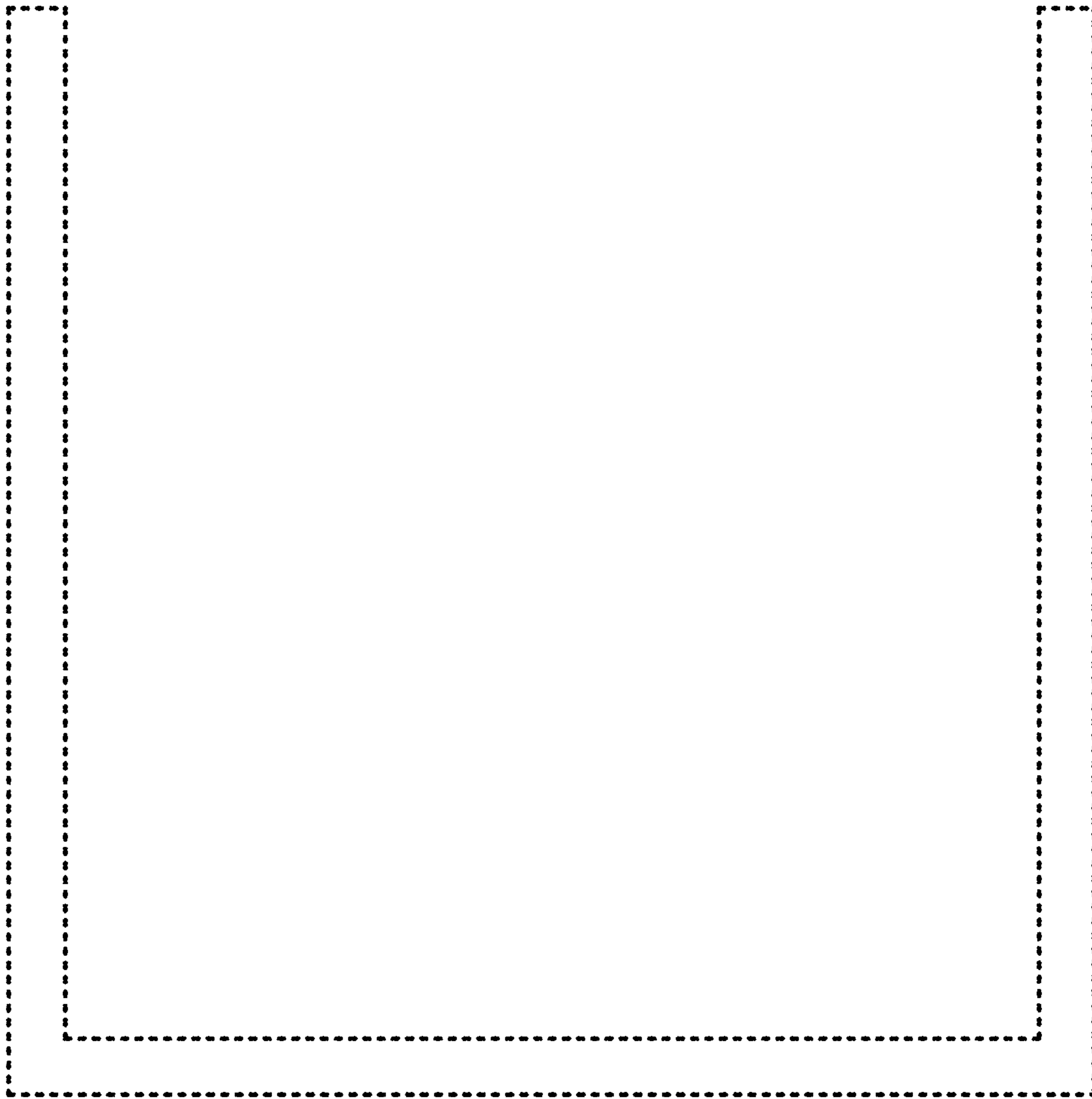


FIG. 3

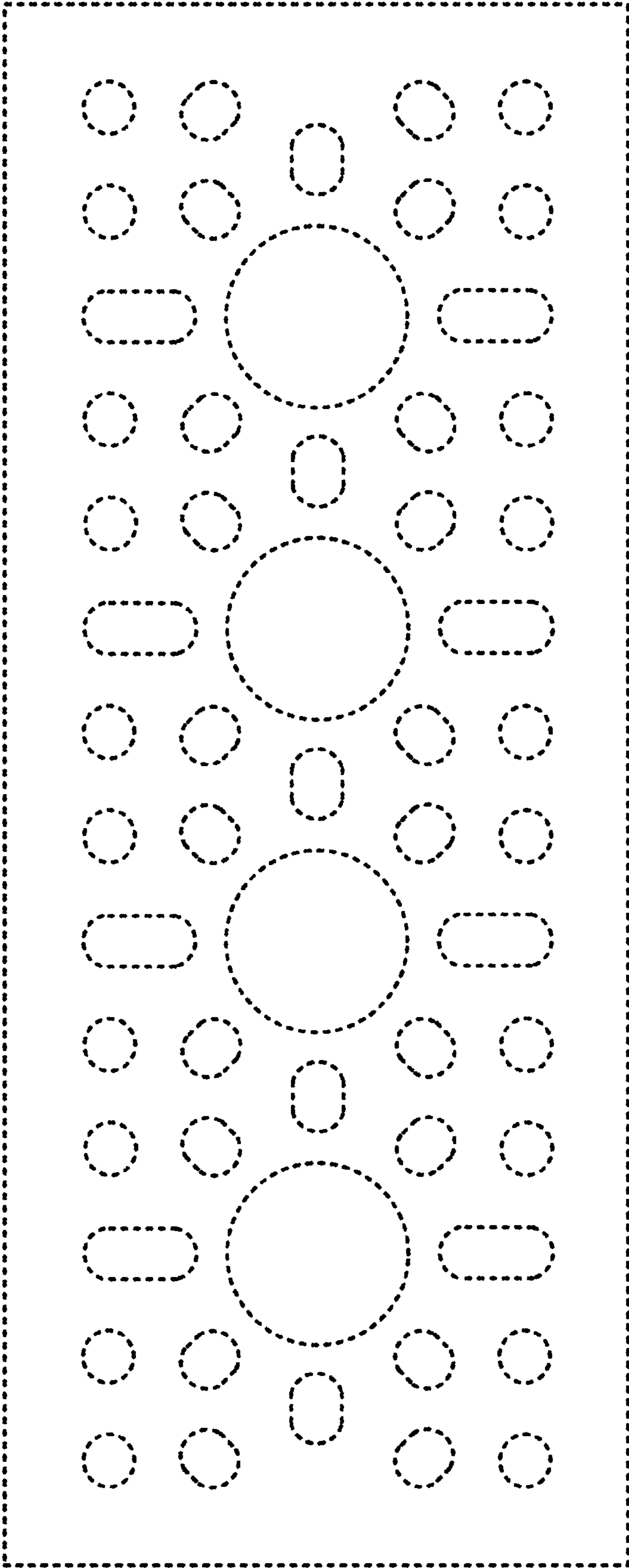


FIG. 4

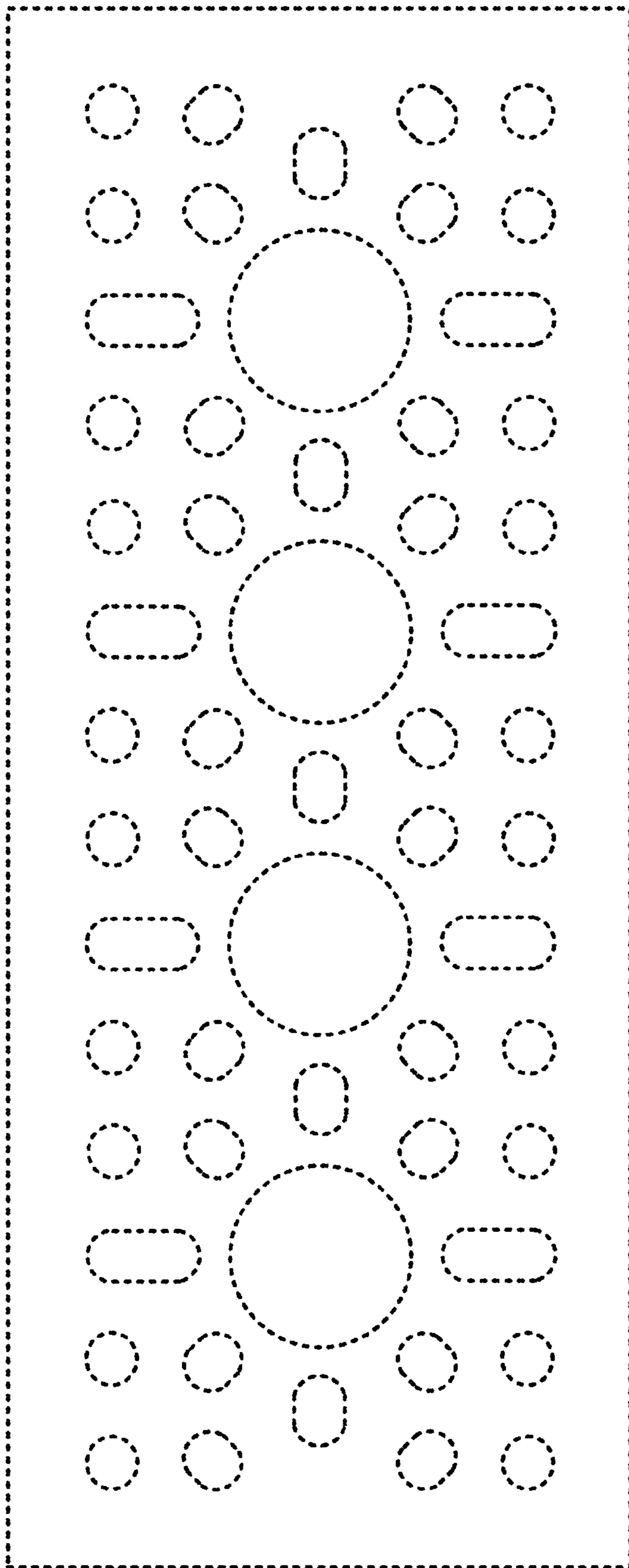


FIG. 5

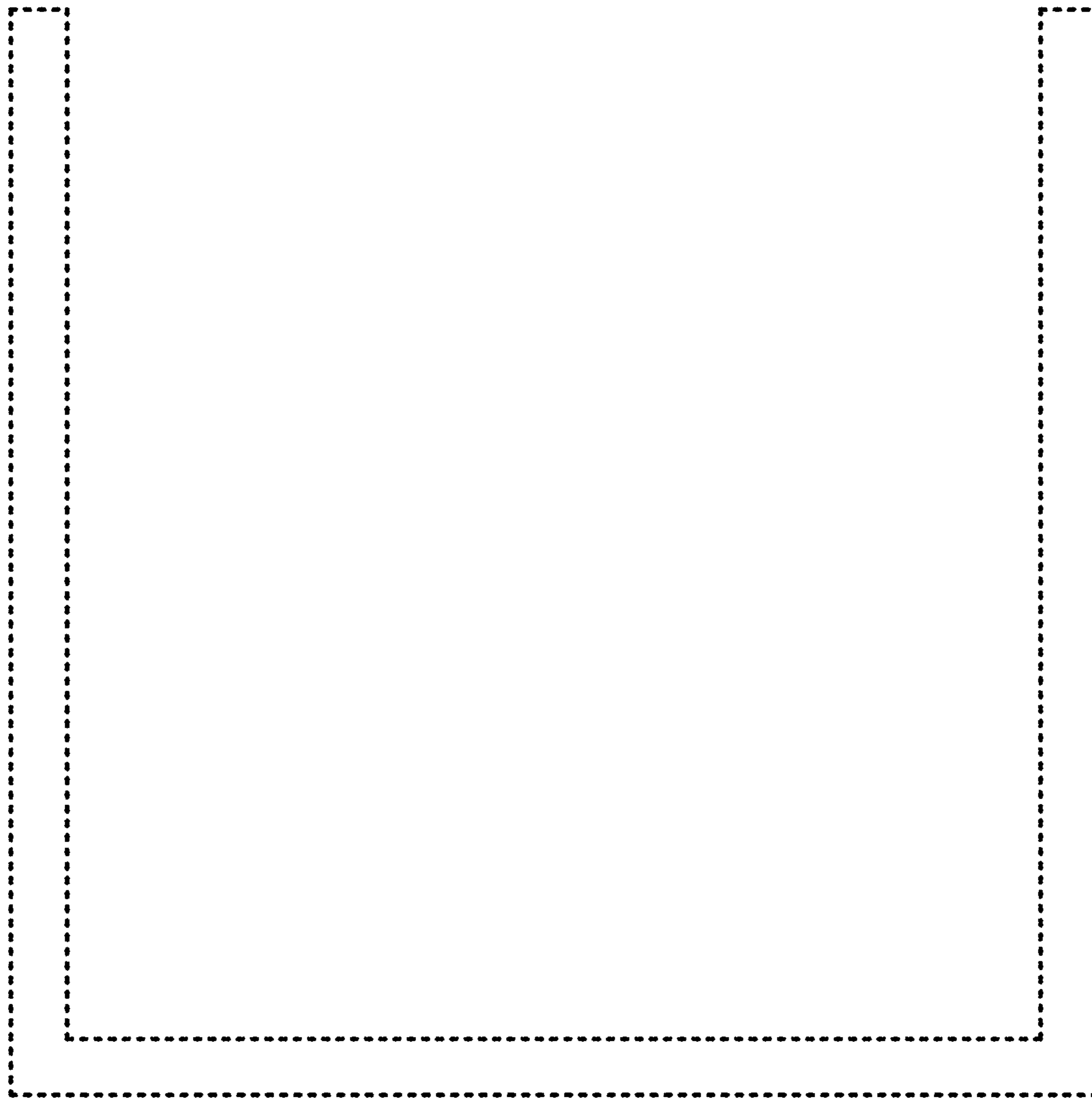


FIG. 6

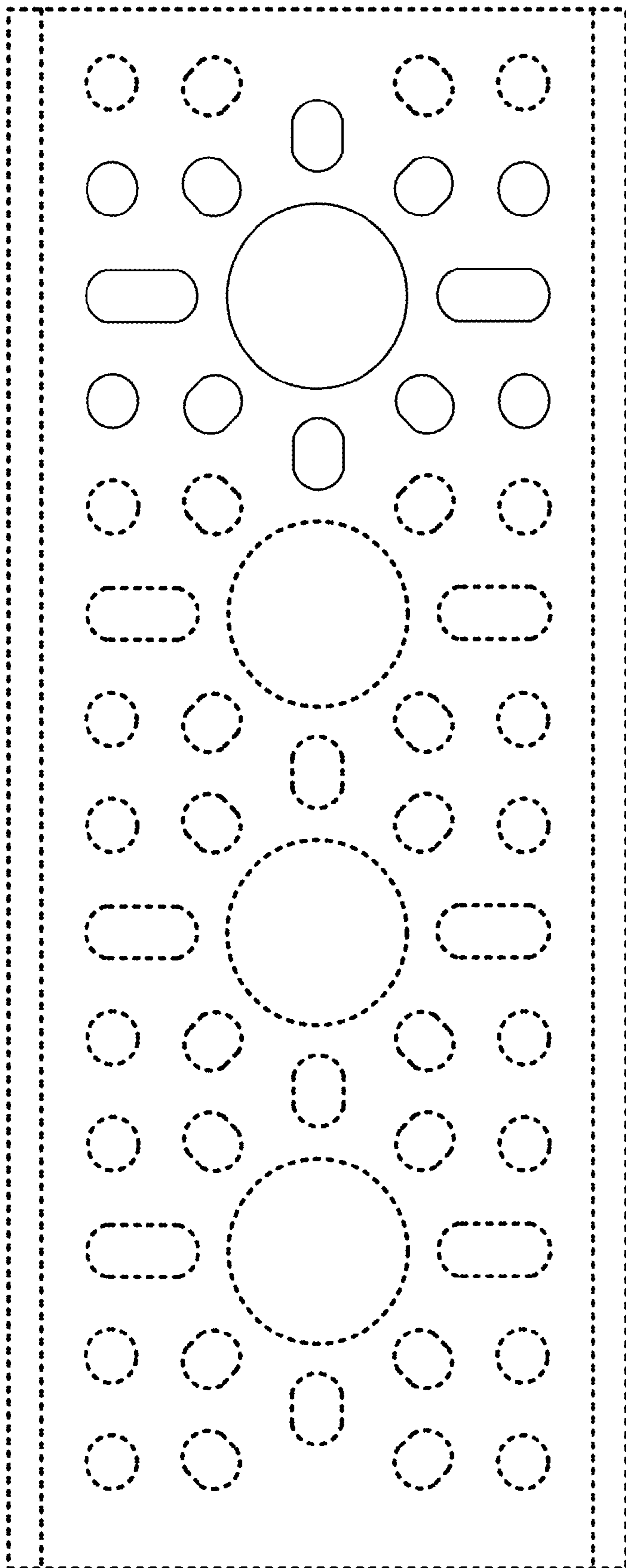


FIG. 7