



US00D982537S

(12) **United States Design Patent**
Morita et al.

(10) **Patent No.:** **US D982,537 S**
(45) **Date of Patent:** **** Apr. 4, 2023**

(54) **SEPARATOR OF SUBSTRATE PROCESSING APPARATUS**

(71) Applicant: **KOKUSAI ELECTRIC CORPORATION**, Tokyo (JP)

(72) Inventors: **Shinya Morita**, Toyama (JP); **Seiyo Nakashima**, Toyama (JP); **Satoru Murata**, Toyama (JP)

(73) Assignee: **KOKUSAI ELECTRIC CORPORATION**, Tokyo (JP)

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

(21) Appl. No.: **29/807,745**

(22) Filed: **Sep. 14, 2021**

(30) **Foreign Application Priority Data**

Mar. 15, 2021 (JP) 2021-005259 D

(51) **LOC (14) Cl.** **13-03**

(52) **U.S. Cl.**
USPC **D13/182**

(58) **Field of Classification Search**
USPC D13/154, 173, 178, 182, 199; D24/127, D24/129
CPC H01L 21/67303; H01L 21/67306; H01L 21/67309; H01L 21/67126; H01L 21/67757; H01L 21/67748; H01L 21/683; H01L 21/68728; H01L 21/6875
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,231,038 B1 * 5/2001 Keyser H01L 21/68721
269/287
7,484,958 B2 * 2/2009 Kobayashi H01L 21/67309
211/41.18

D616,392 S * 5/2010 Sato D13/182
8,028,978 B2 * 10/2011 Nelson H01L 21/67778
118/728
10,840,118 B2 * 11/2020 Yoo H01L 21/67346
2009/0197424 A1 * 8/2009 Sakai C23C 16/45546
438/758
2017/0073813 A1 * 3/2017 Hyon C23C 16/45504
2018/0211840 A1 * 7/2018 Yamaguchi H01L 21/67109
2019/0287828 A1 9/2019 Yoshii et al.
2019/0330740 A1 * 10/2019 Klaver H01L 21/67017
2020/0013646 A1 * 1/2020 Sasaki H01L 21/67248
2020/0152490 A1 * 5/2020 Yanagisawa H01L 21/205
2021/0407865 A1 * 12/2021 Shinozaki F27D 5/0037

* cited by examiner

Primary Examiner — Shawn T Gingrich

Assistant Examiner — Caleb M Baker

(74) *Attorney, Agent, or Firm* — Fitch, Even, Tabin & Flannery, LLP

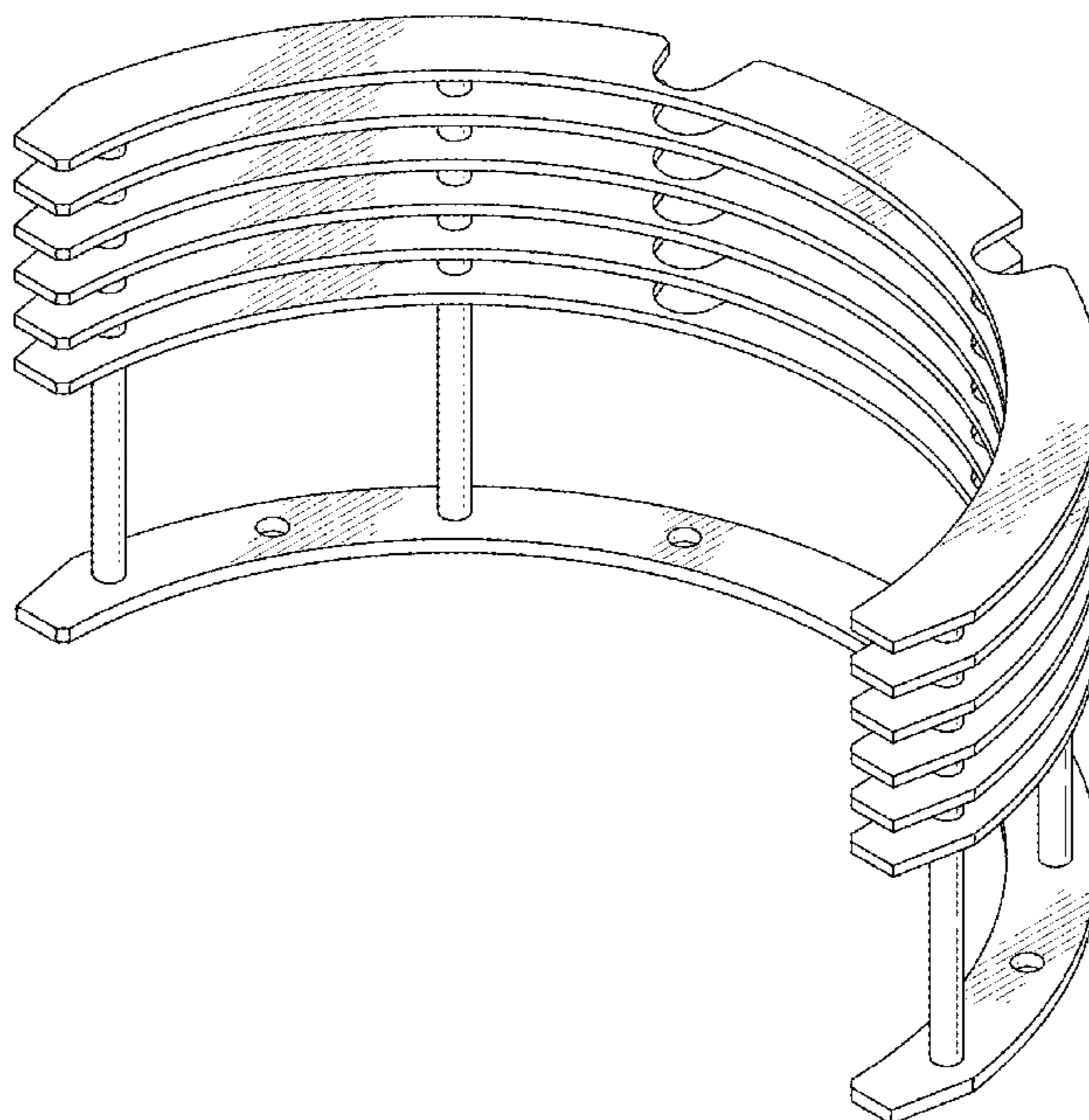
(57) **CLAIM**

The ornamental design for a separator of substrate processing apparatus, as shown and described.

DESCRIPTION

FIG. 1 is a front, top and right side perspective view of a separator of substrate processing apparatus showing our new design;
FIG. 2 is a front elevational view thereof;
FIG. 3 is a rear elevational view thereof;
FIG. 4 is a right side elevational view thereof;
FIG. 5 is a left side elevational view thereof;
FIG. 6 is a top plan view thereof;
FIG. 7 is a bottom plan view thereof; and,
FIG. 8 is a cross sectional view taken along line 8-8 in FIG. 2.

1 Claim, 5 Drawing Sheets



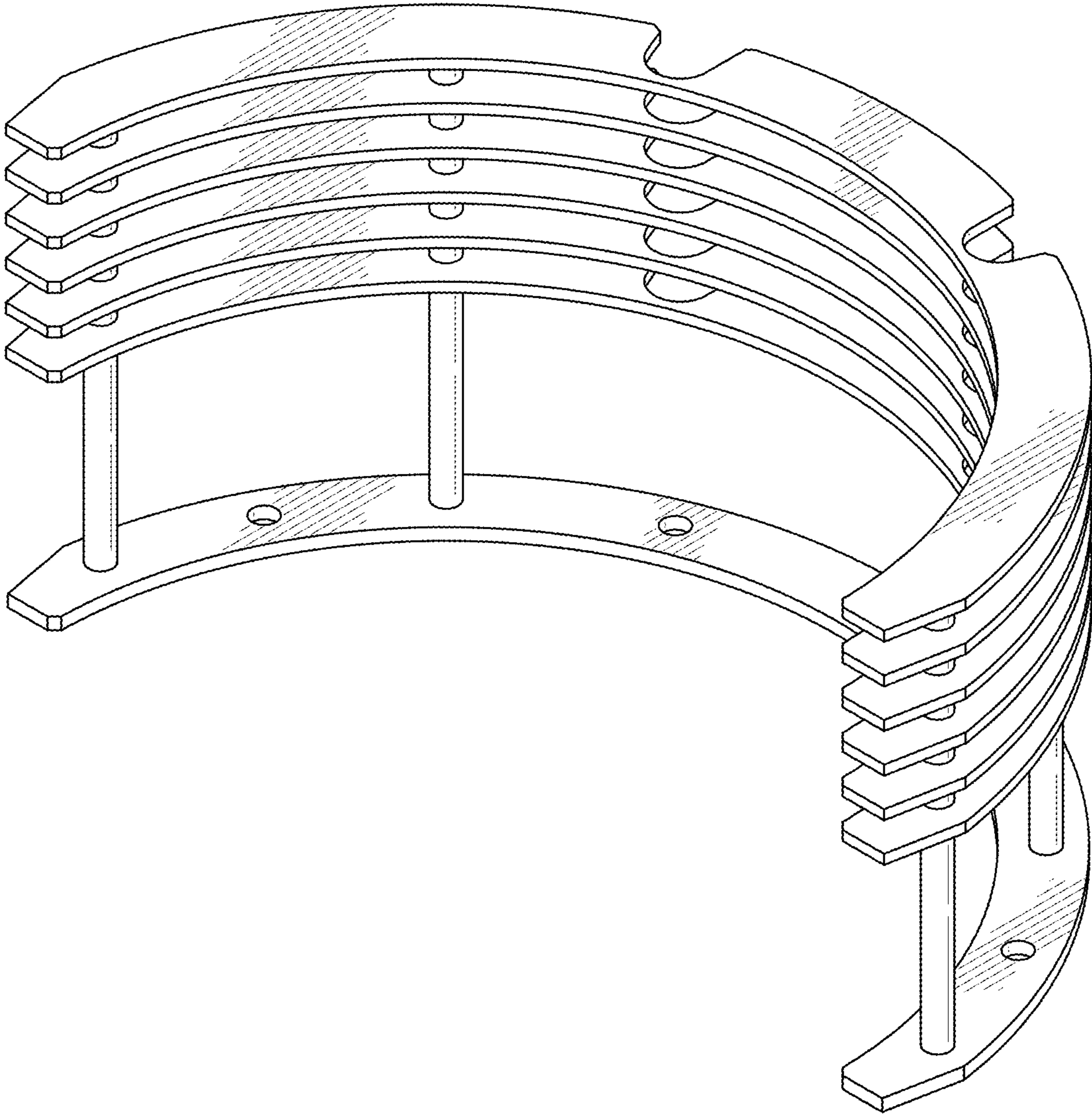
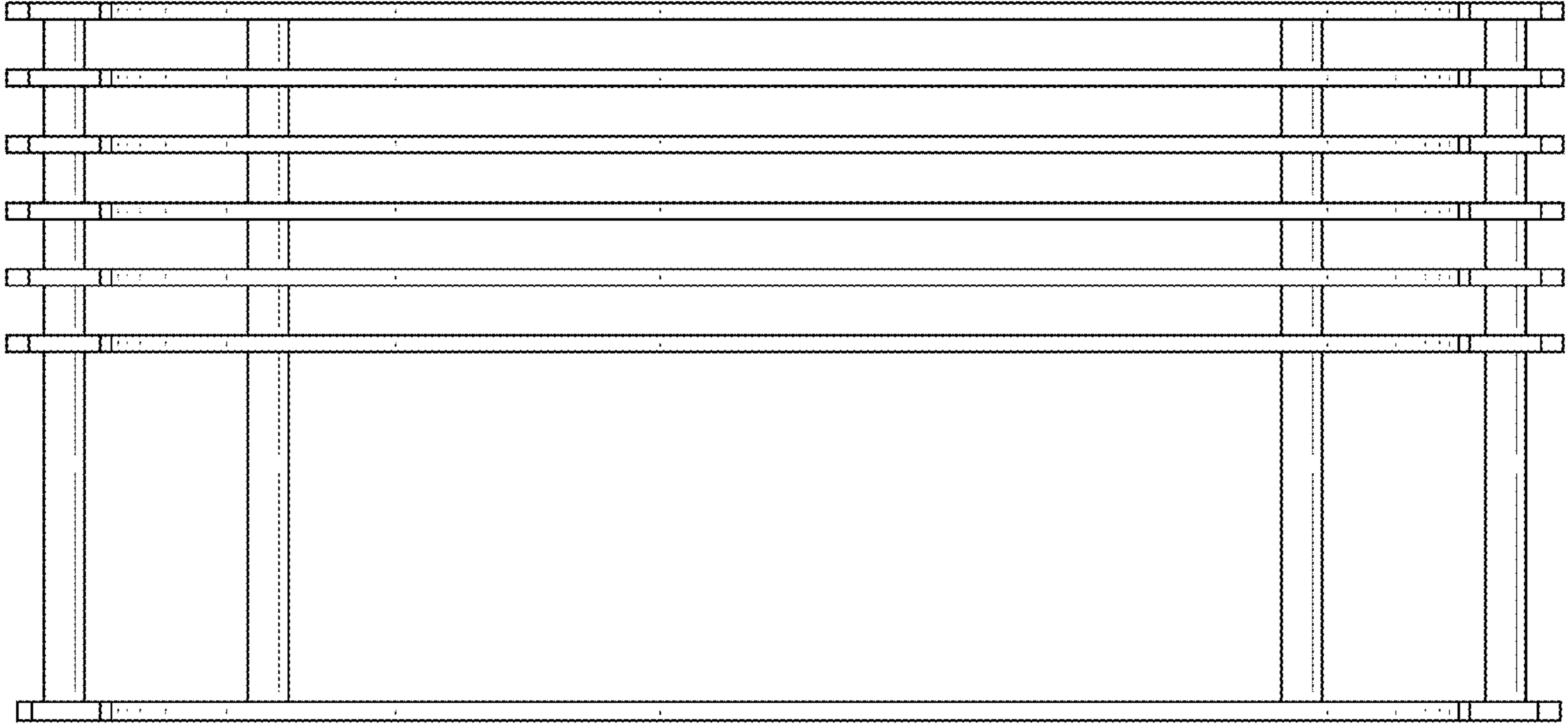


FIG. 1

8 ←



8 ←

FIG. 2



FIG. 3

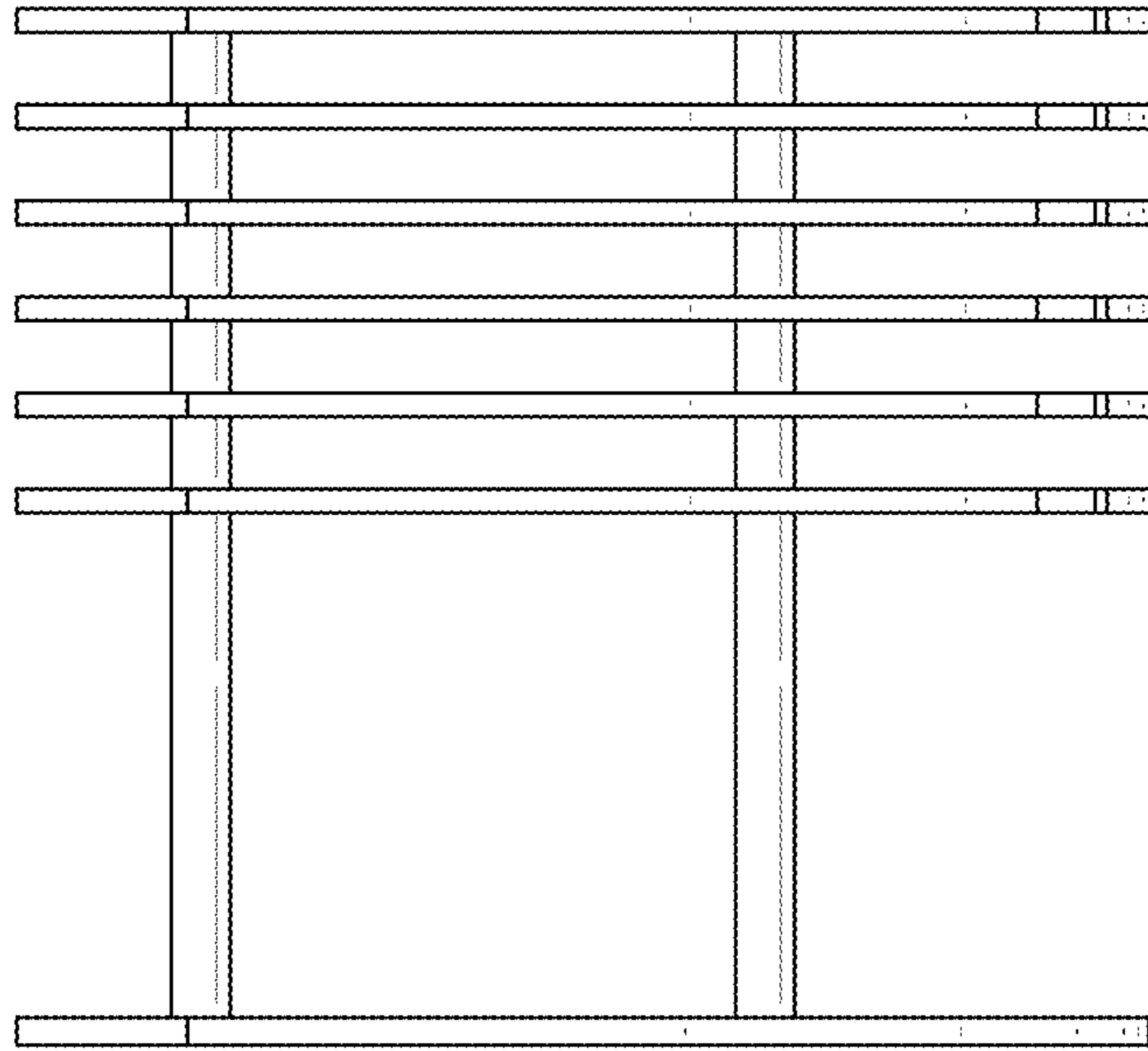


FIG. 4

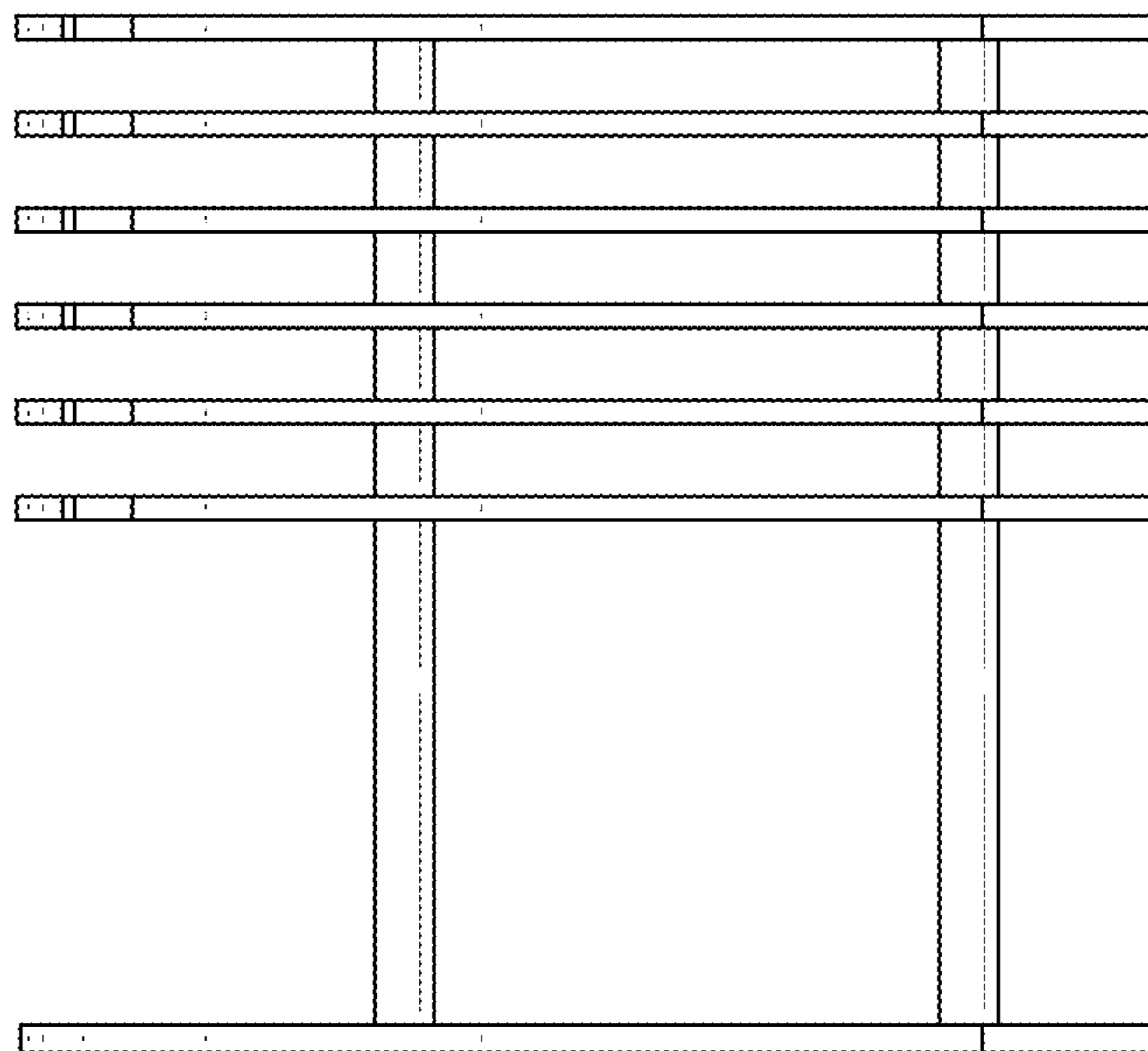


FIG. 5

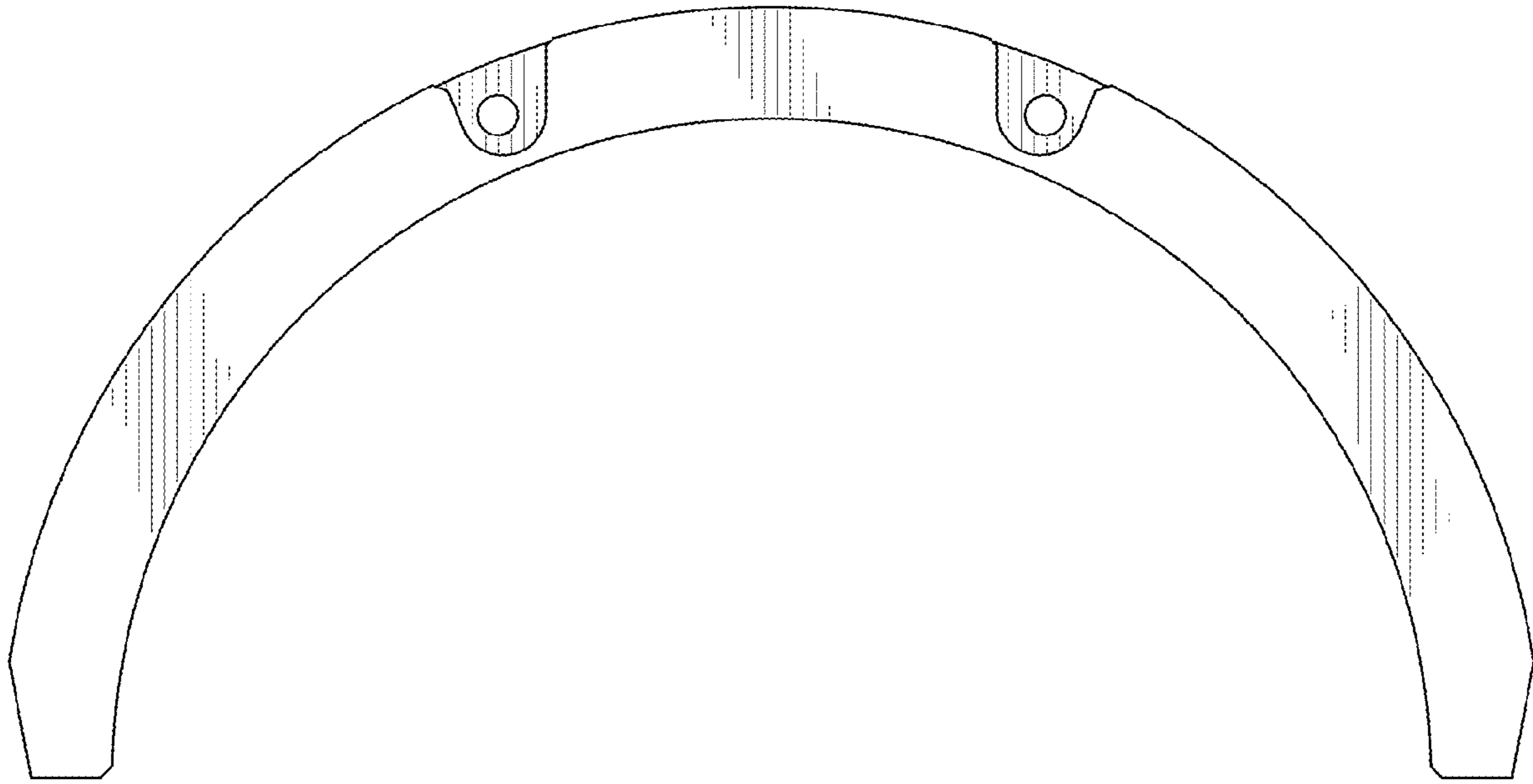


FIG. 6

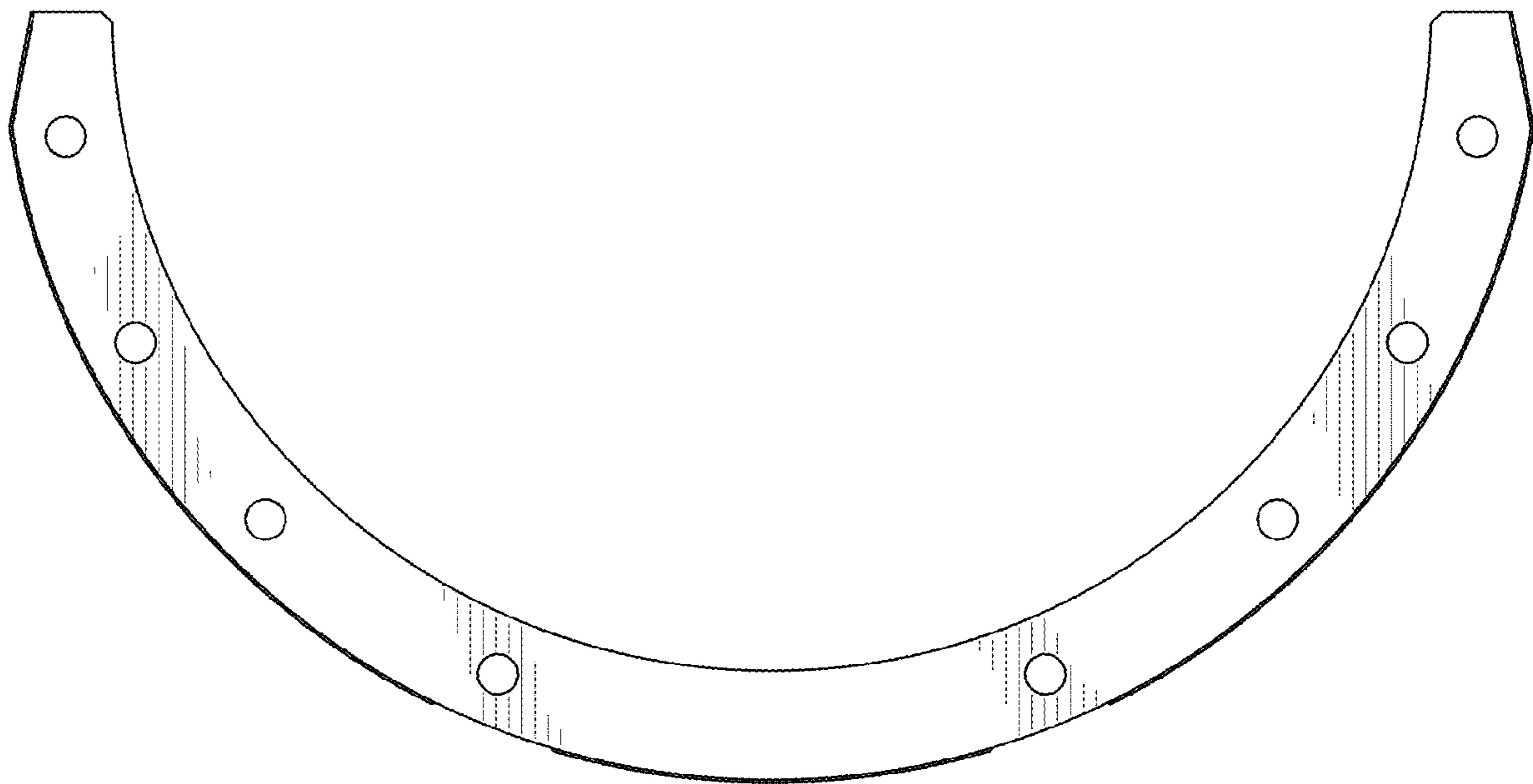


FIG. 7

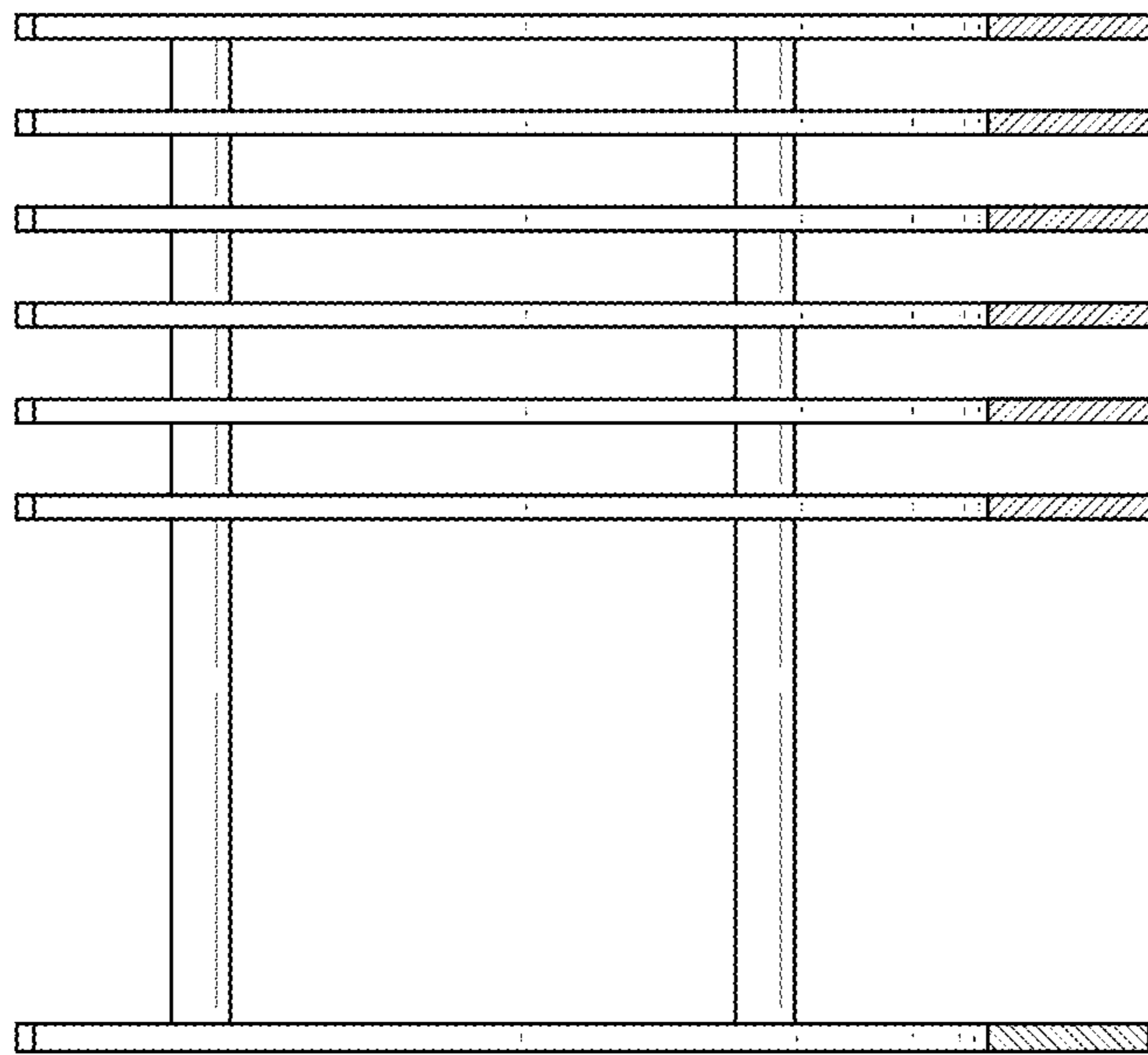


FIG. 8