



US00D986840S

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

(10) **Patent No.:** **US D986,840 S**
(45) **Date of Patent:** **** May 23, 2023**

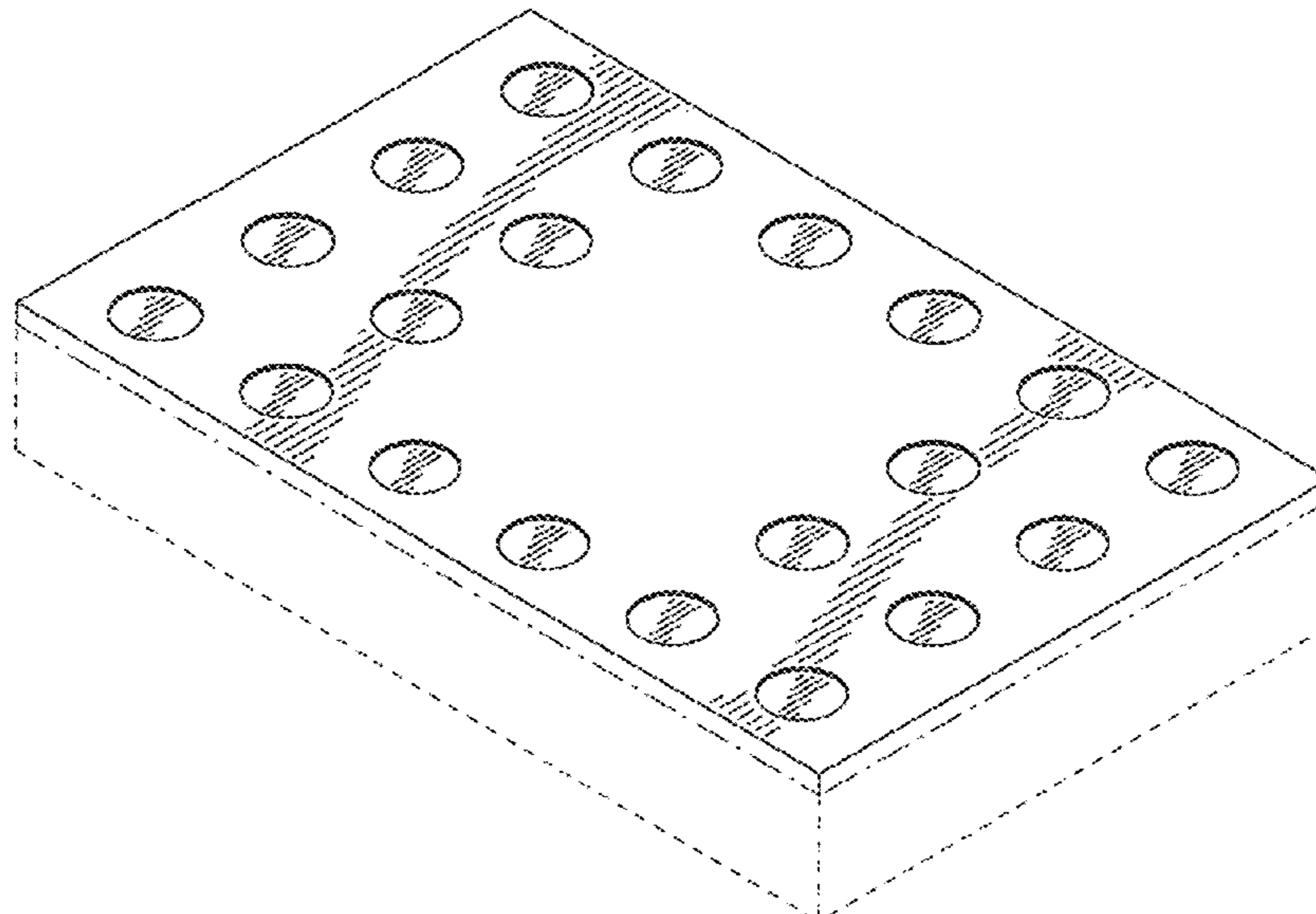
- (54) **SEMICONDUCTOR DEVICE**
- (71) Applicant: **Nuvoton Technology Corporation**
Japan, Kyoto (JP)
- (72) Inventors: **Toshifumi Ishida**, Osaka (JP); **Kensuke Takahashi**, Hyogo (JP)
- (73) Assignee: **PANASONIC INTELLECTUAL PROPERTY MANAGEMENT CO., LTD.**, Osaka (JP)
- (**) Term: **15 Years**
- (21) Appl. No.: **29/758,000**
- (22) Filed: **Nov. 11, 2020**
- (30) **Foreign Application Priority Data**
May 13, 2020 (CN) 202030216324.5
- (51) **LOC (14) Cl.** **13-03**
- (52) **U.S. Cl.**
USPC **D13/182**
- (58) **Field of Classification Search**
USPC D13/182, 180, 107, 108, 110, 146;
D10/104, 106; D26/2, 37; D21/391
(Continued)
- (56) **References Cited**
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Primary Examiner — Christy Nemeth
Assistant Examiner — Leah E Hoeferkamp
(74) *Attorney, Agent, or Firm* — Crowell & Moring LLP

(57) **CLAIM**
We claim the ornamental design for a semiconductor device, as shown and described.

DESCRIPTION
FIG. 1 is a perspective view of a semiconductor device according to a first embodiment of the present invention; FIG. 2 is a front view thereof; FIG. 3 is a rear view thereof; FIG. 4 is a left side view thereof; FIG. 5 is a right side view thereof; FIG. 6 is a top view thereof; FIG. 7 is a bottom view thereof; FIG. 8 is a cross sectional view thereof taken along line 8-8; FIG. 9 is a perspective view of a semiconductor device according to a second embodiment of the present invention; FIG. 10 is a front view thereof; FIG. 11 is a rear view thereof; FIG. 12 is a left side view thereof; FIG. 13 is a right side view thereof; FIG. 14 is a top view thereof; FIG. 15 is a bottom view thereof; FIG. 16 is a cross sectional view thereof taken along line 16-16; FIG. 17 is a perspective view of a semiconductor device according to a third embodiment of the present invention; FIG. 18 is a front view thereof; FIG. 19 is a rear view thereof; FIG. 20 is a left side view thereof; FIG. 21 is a right side view thereof; FIG. 22 is a top view thereof; FIG. 23 is a bottom view thereof; and, FIG. 24 is a cross sectional view thereof taken along line 26-26.
The dash-dash broken lines in the drawings are for the purpose of illustrating portions of the article that form no part of the claimed design. The dash-dot broken lines in the drawings are for the purpose of illustrating a boundary and form no part of the claimed design.

1 Claim, 9 Drawing Sheets



(58) **Field of Classification Search**

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;
 H01L 21/00; H01L 21/02; H01L 21/4814;
 H01L 21/4846; H01L 23/14; H01L 23/13;
 H01L 23/147; H01L 23/00; H01L 23/48;
 H01L 23/4926; H01L 23/498; H01L
 23/49811; H01L 23/49861; H01L
 23/49866; H01L 23/49872; H01L
 2924/1711; H01L 2924/1715; H01L
 2924/181; H01L 2924/1811; H01L
 2924/1815; F21K 9/00; H05K 5/0069;
 H05K 5/0247

See application file for complete search history.

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FIG. 1

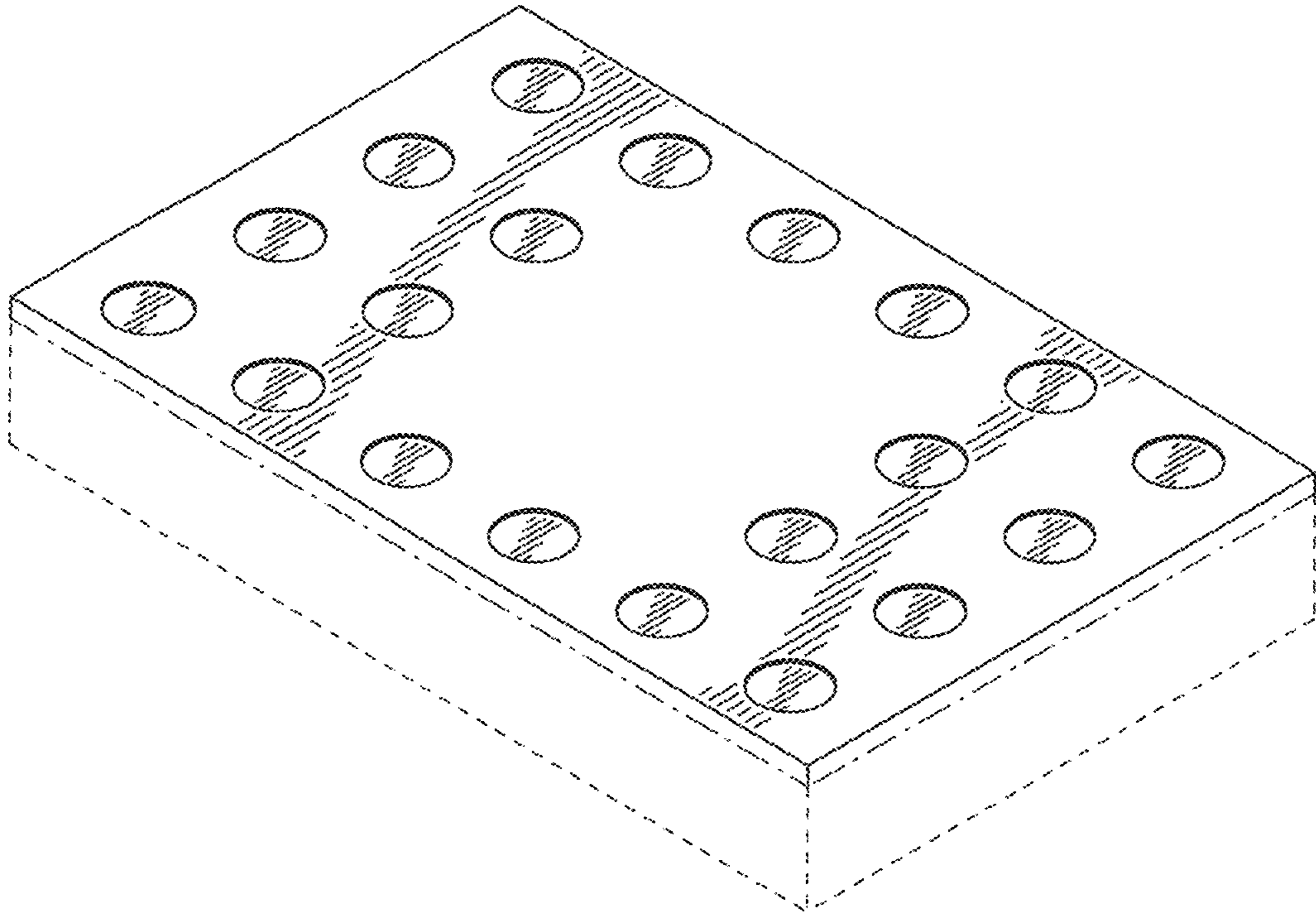


FIG. 2

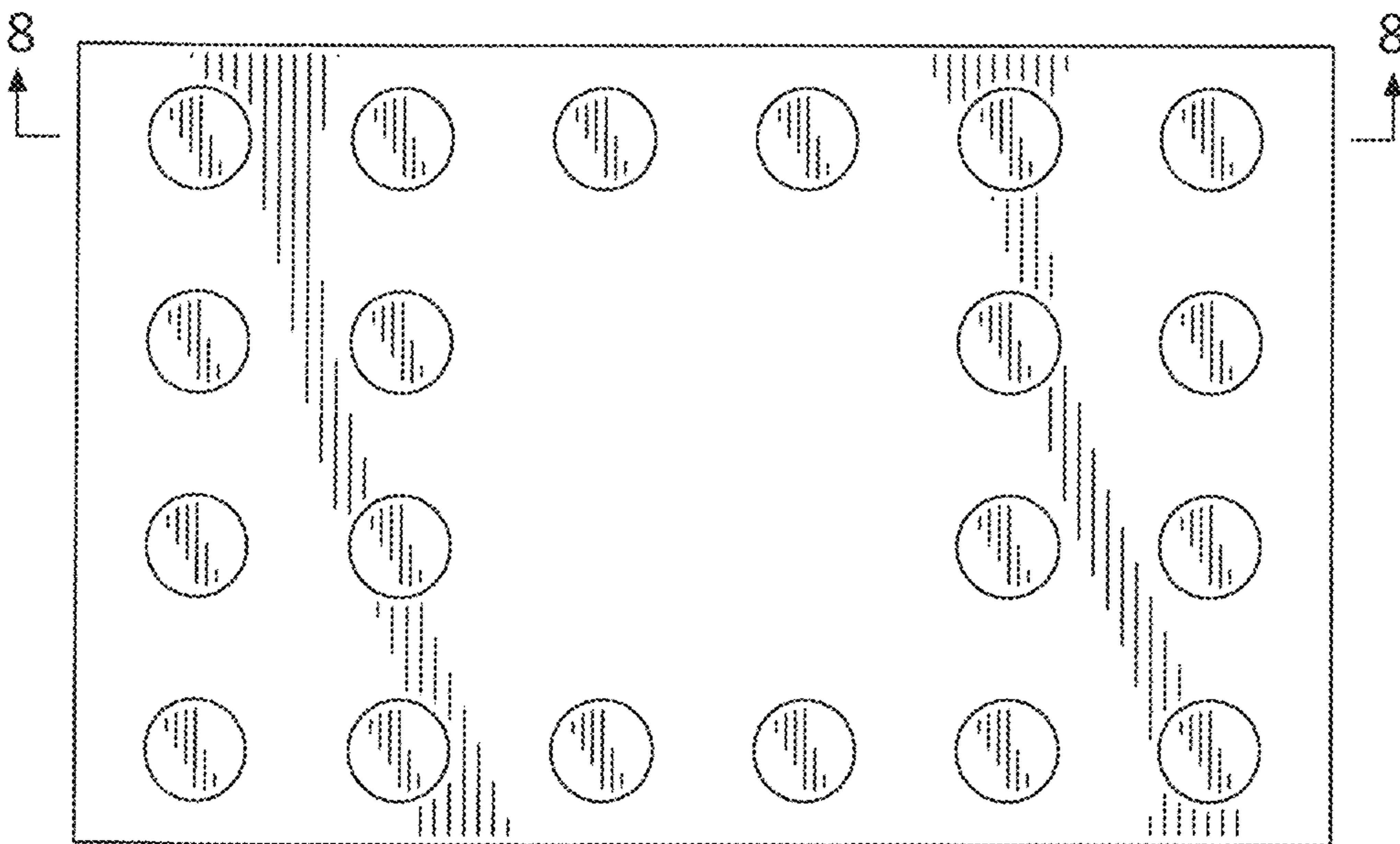


FIG. 3



FIG. 4

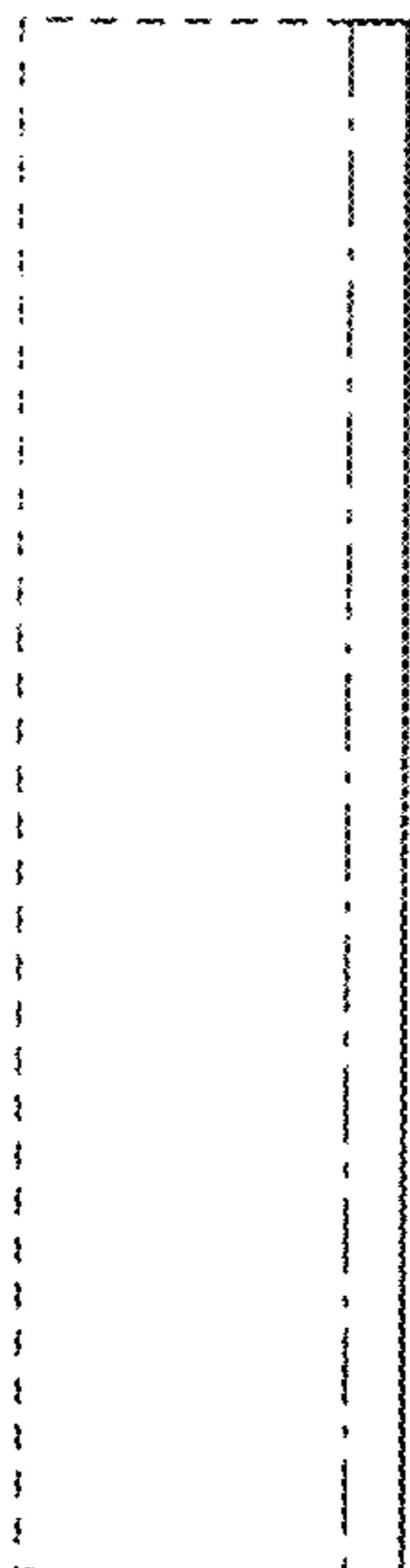


FIG. 5

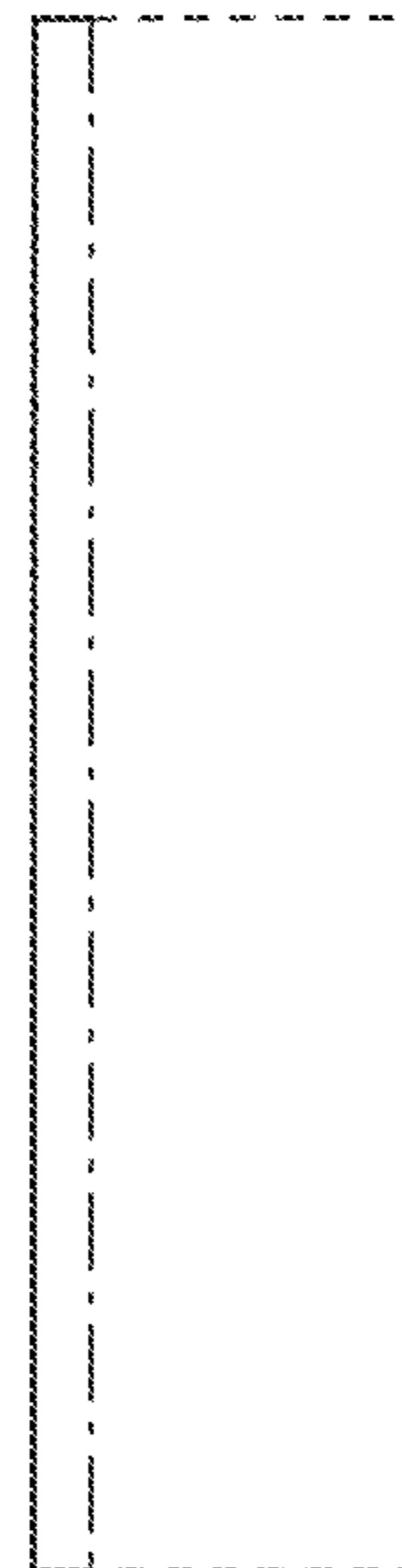


FIG. 6



FIG. 7

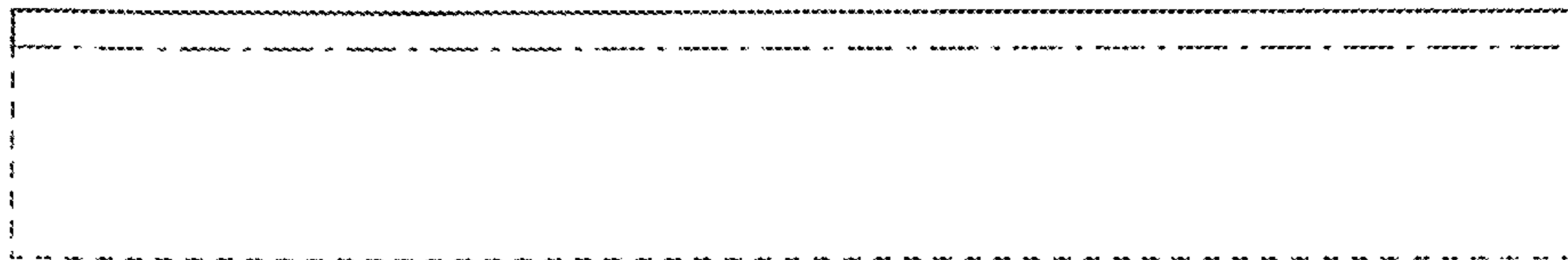


FIG. 8

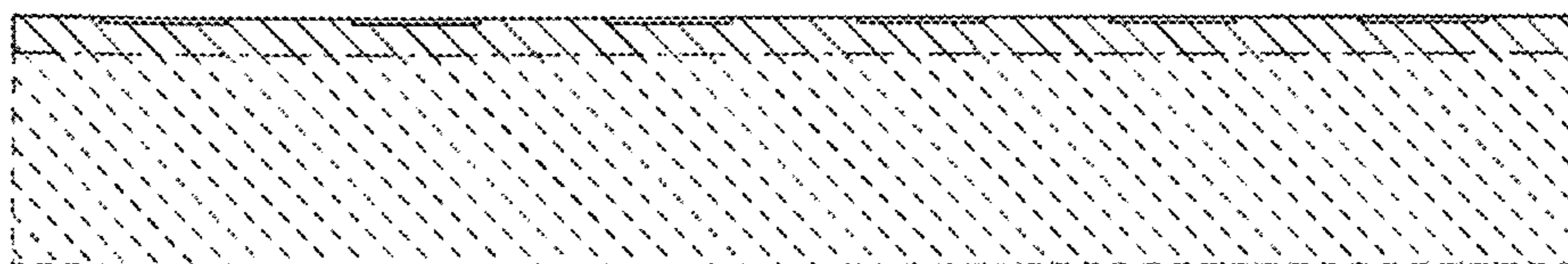


FIG. 9

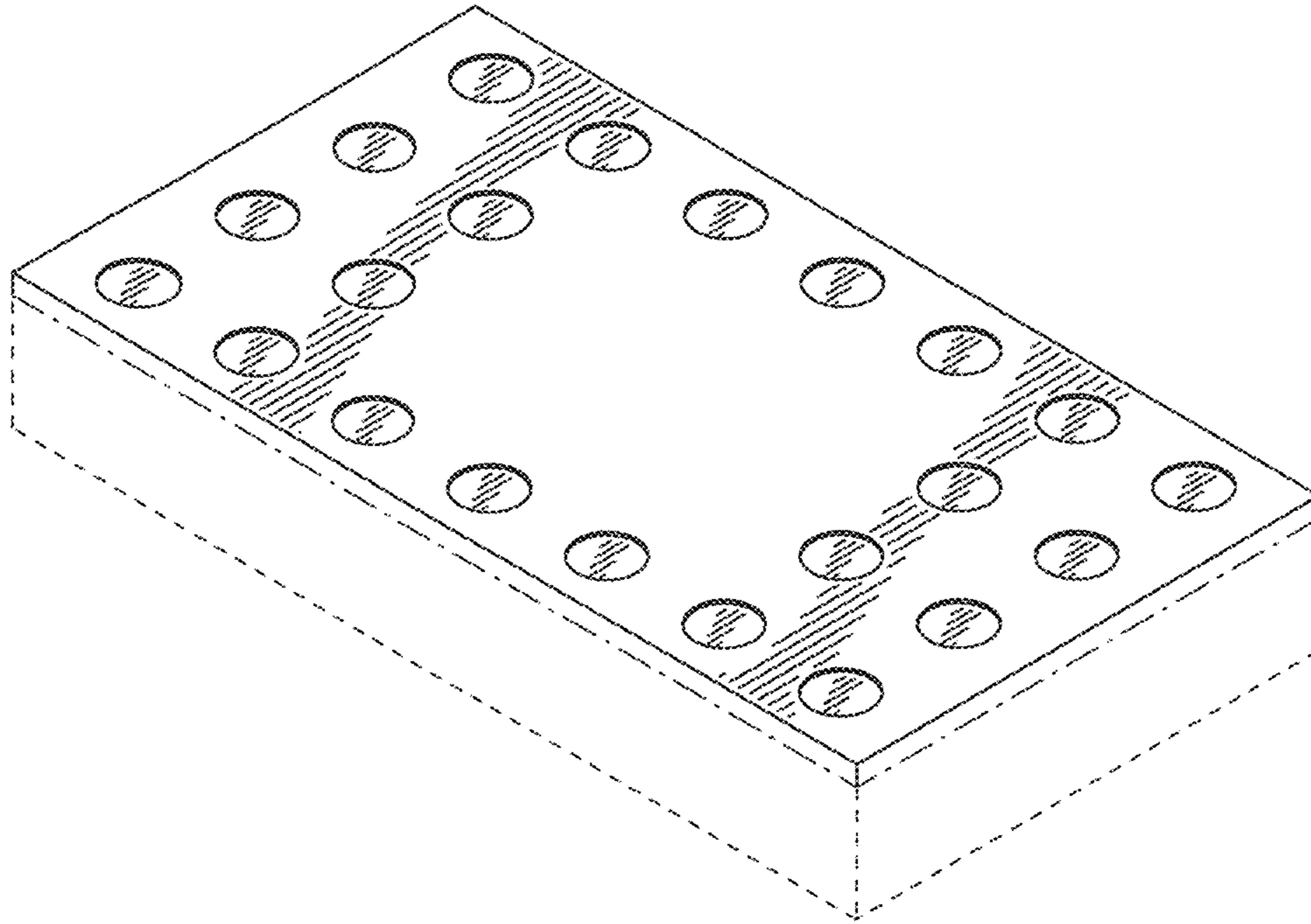


FIG. 10

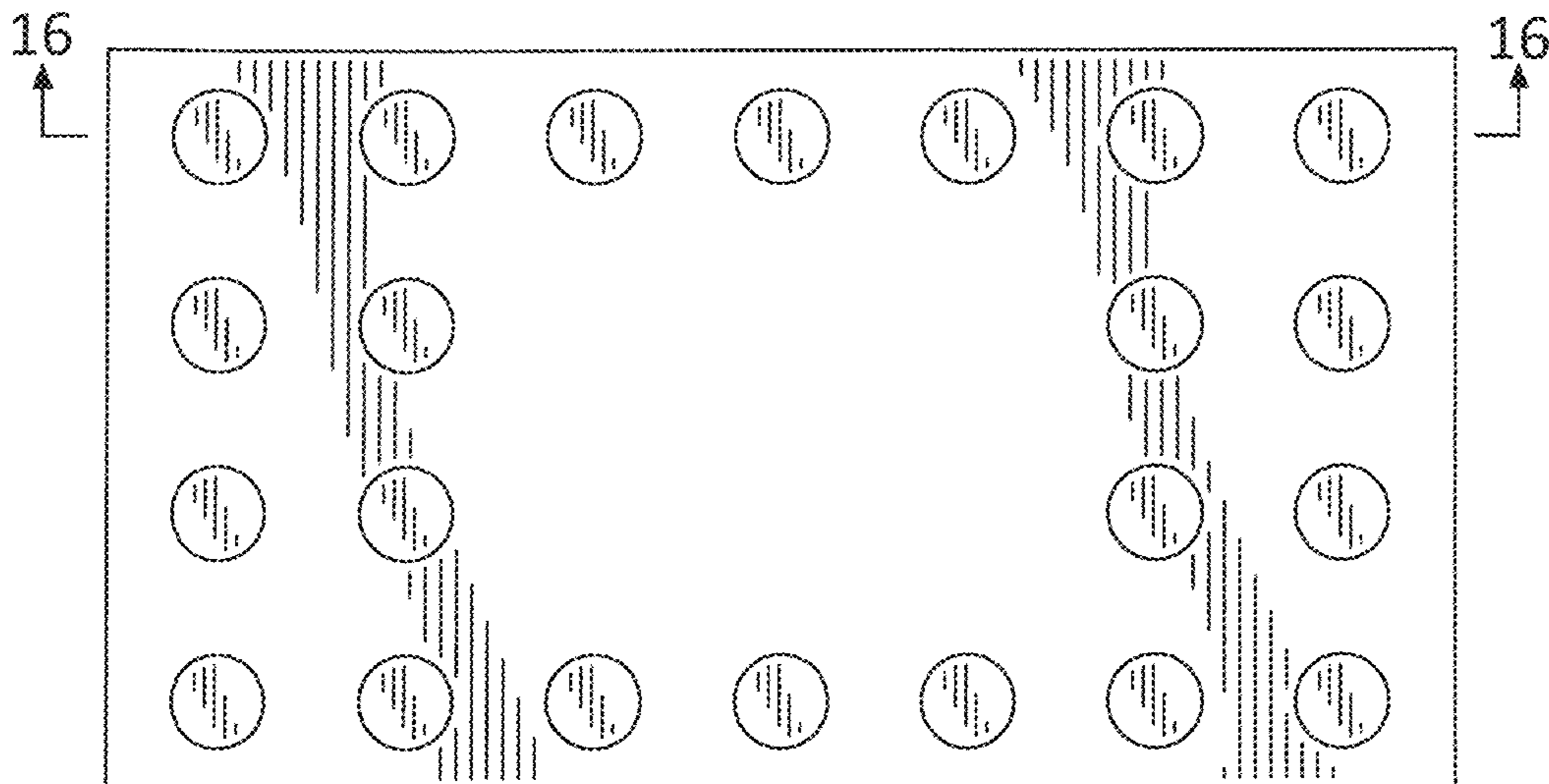


FIG. 11



FIG. 12

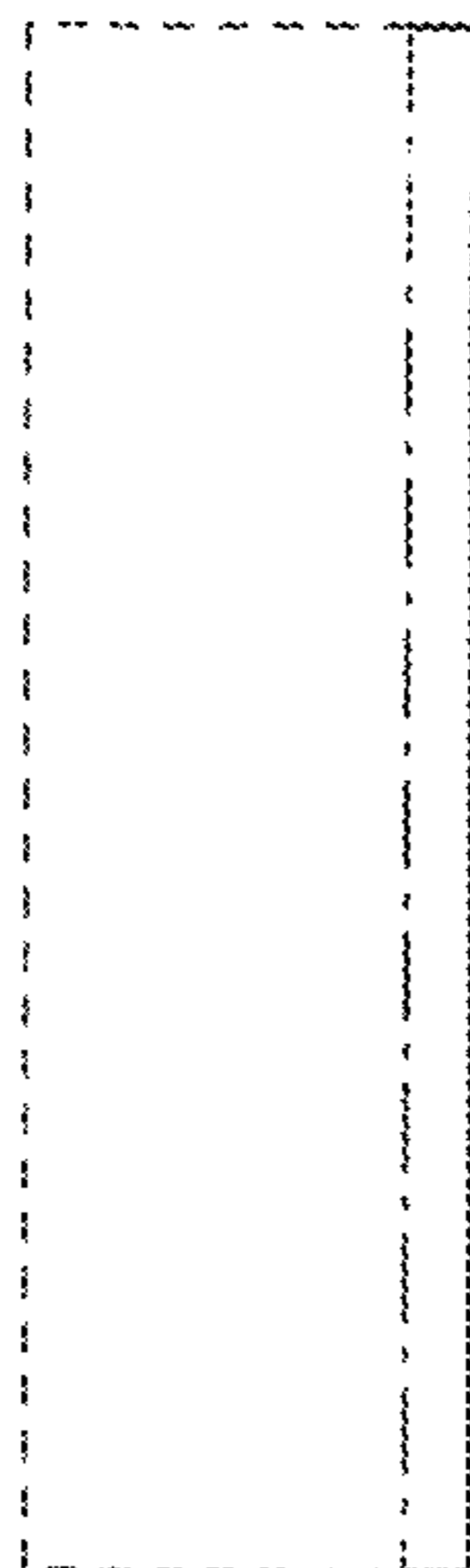


FIG. 13

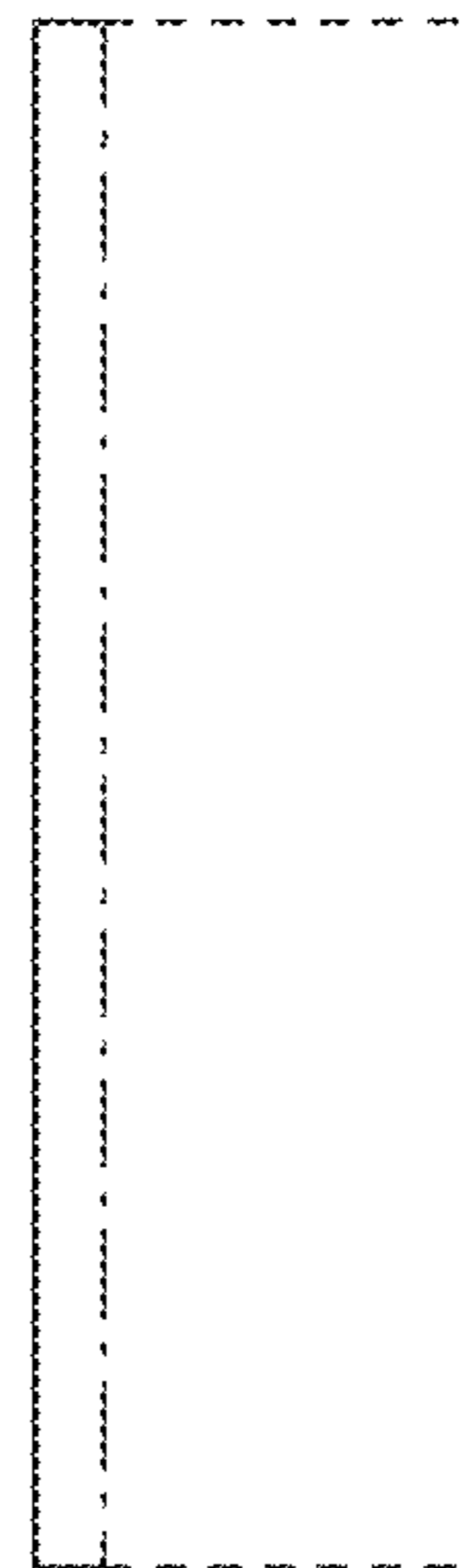


FIG. 14



FIG. 15

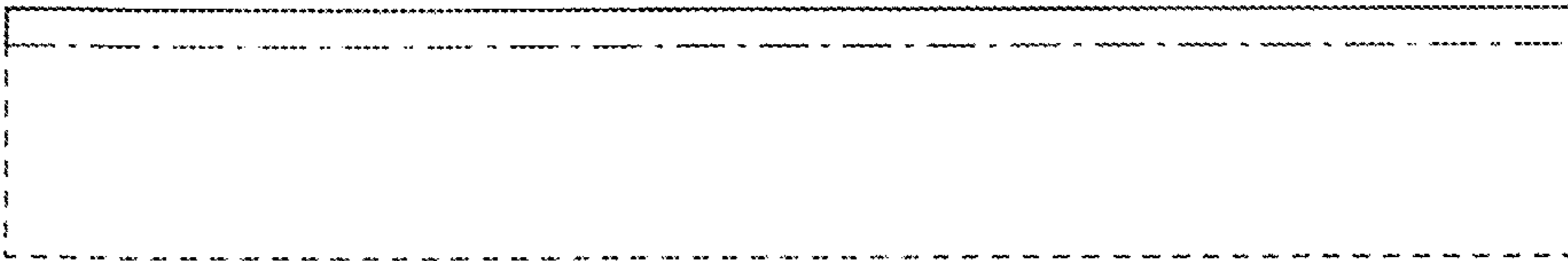


FIG. 16

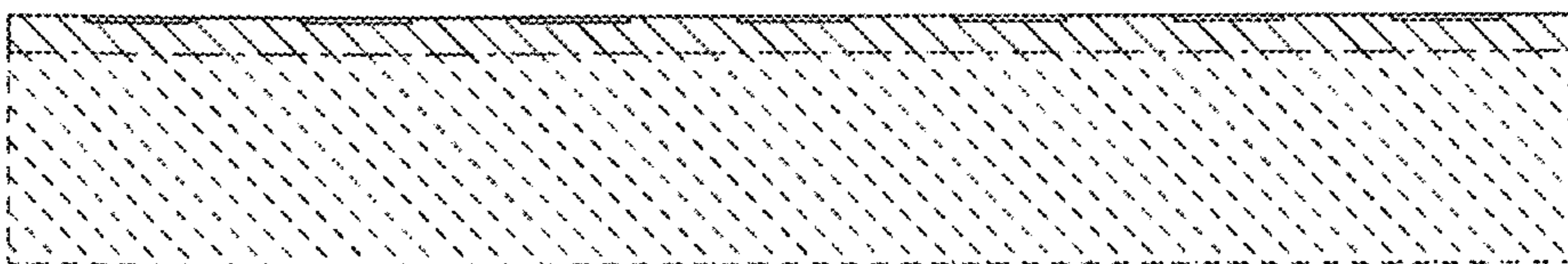


FIG. 17

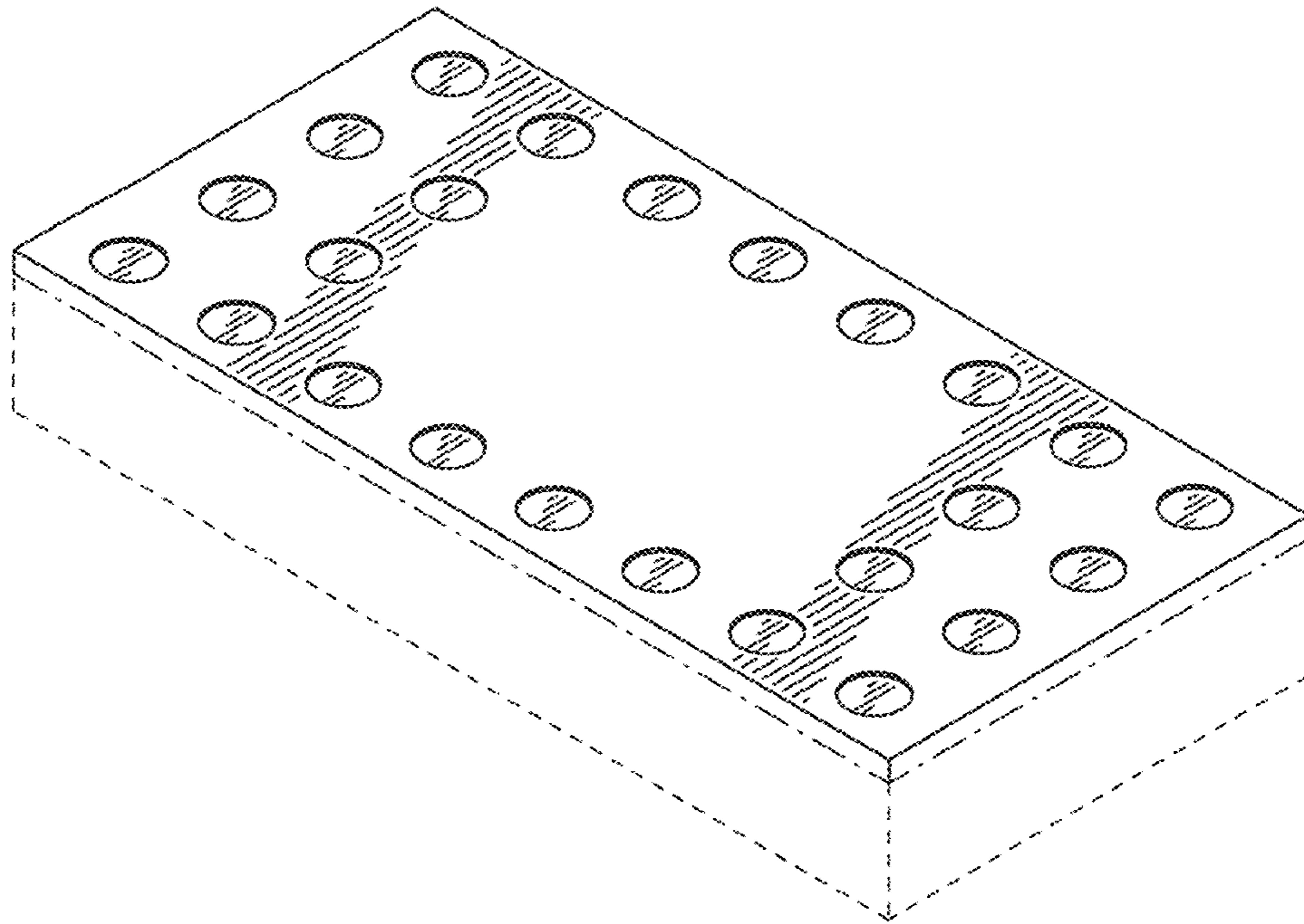


FIG. 18

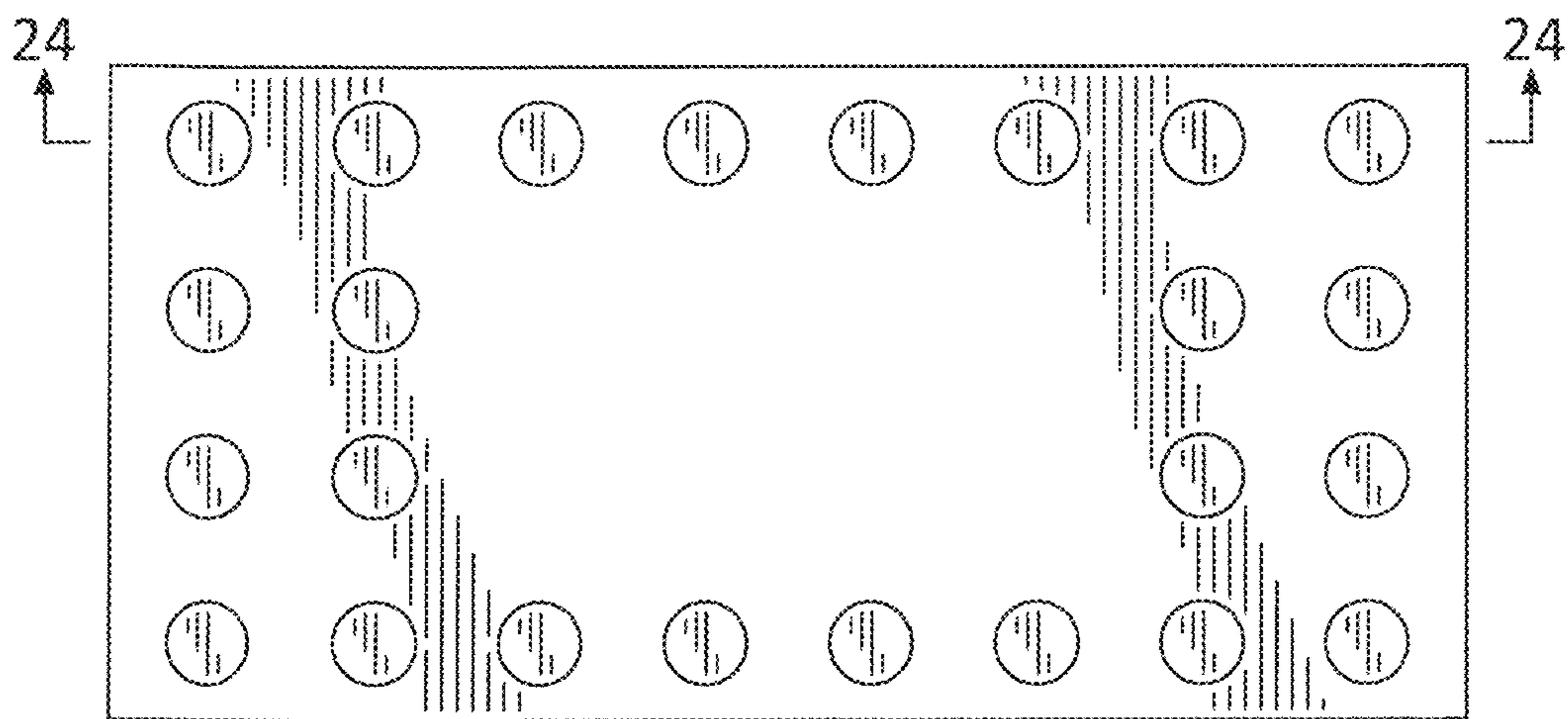


FIG. 19



FIG. 20

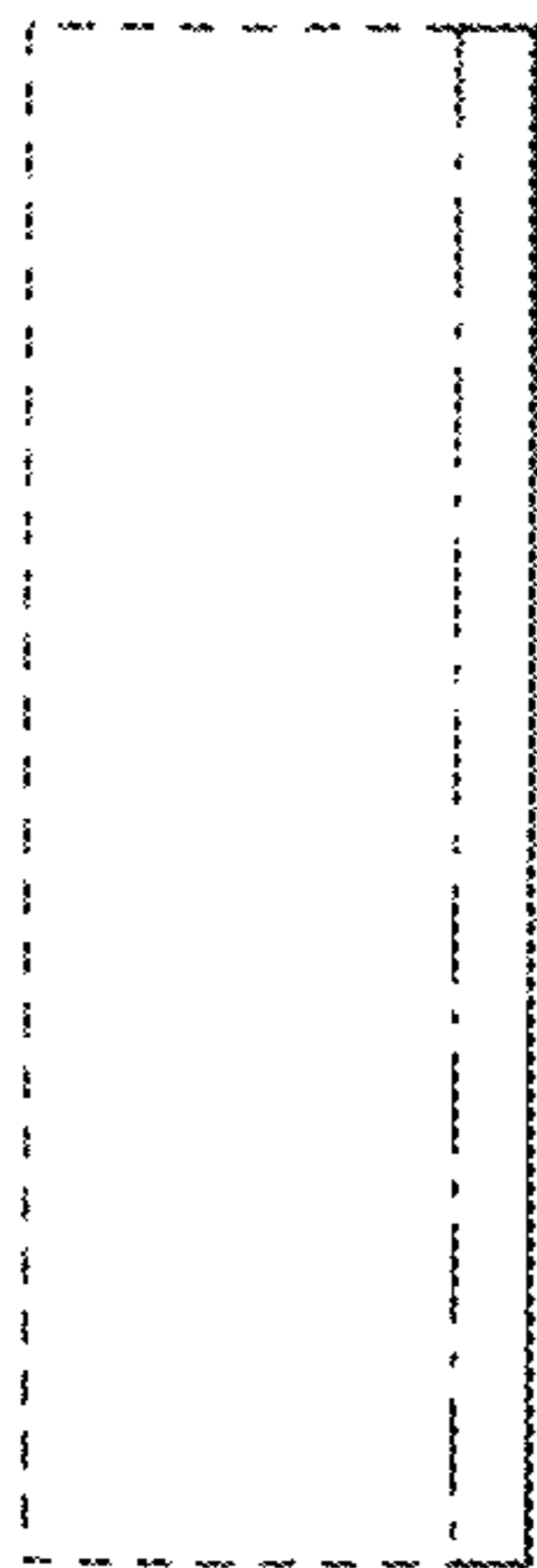


FIG. 21

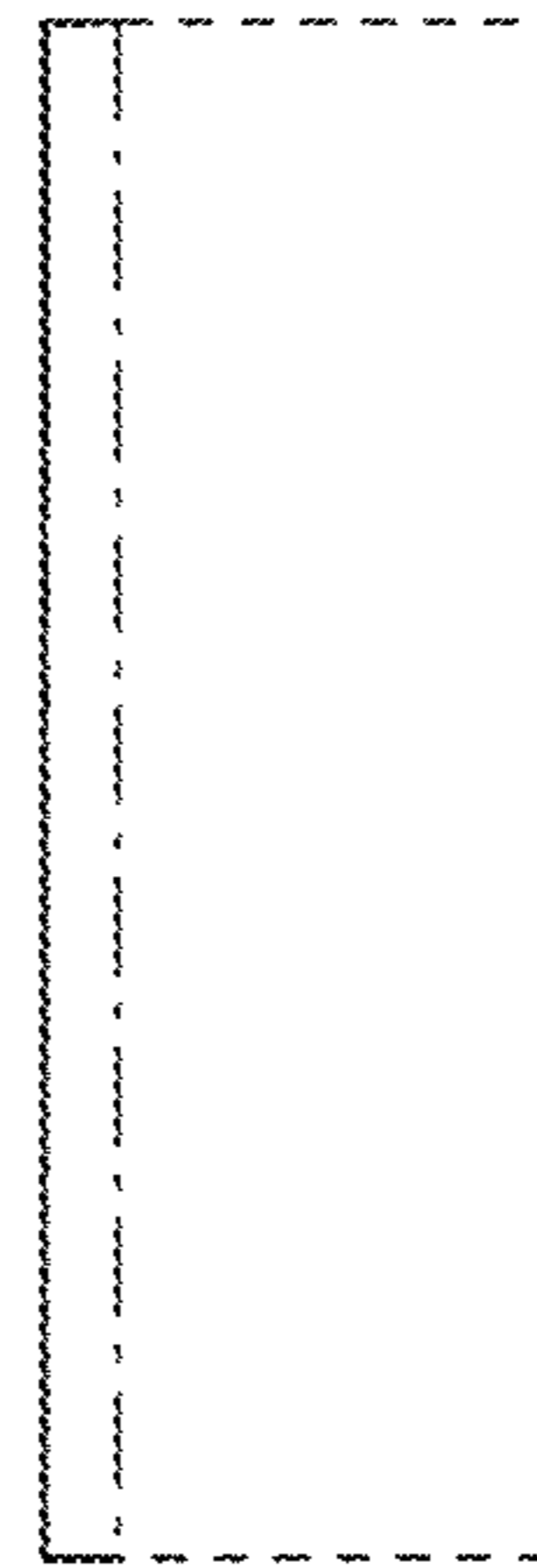


FIG. 22



FIG. 23

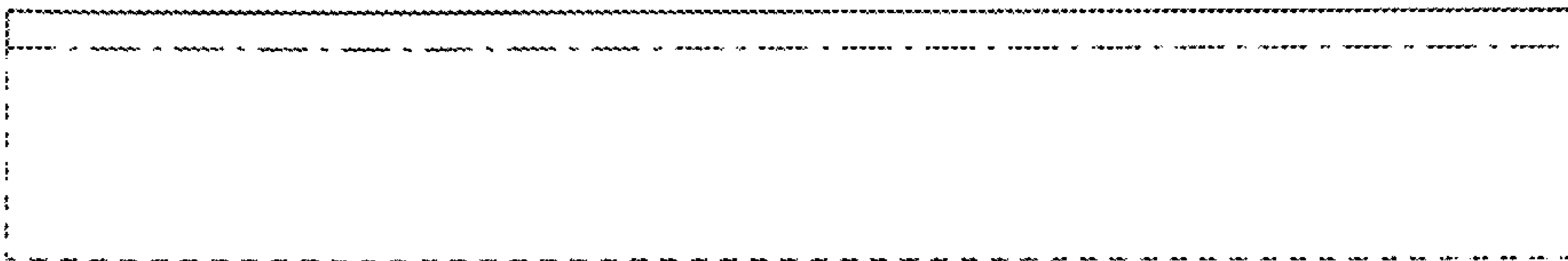
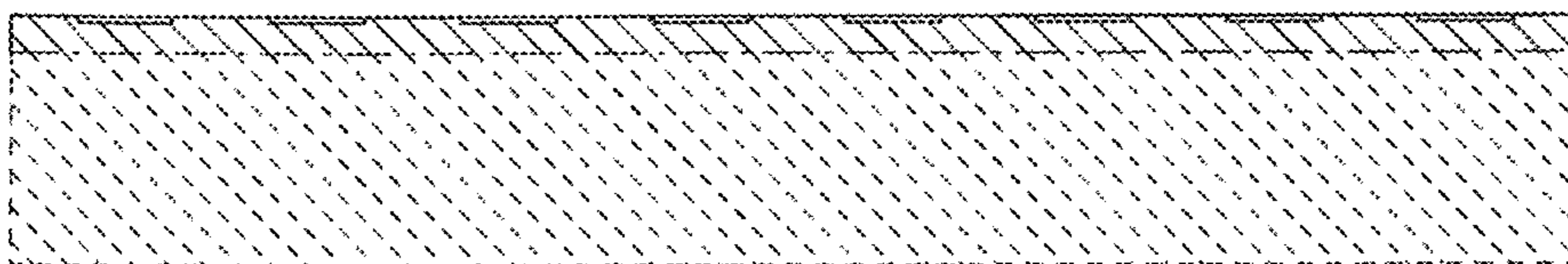


FIG. 24



UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : D986,840 S
APPLICATION NO. : 29/758000
DATED : May 23, 2023
INVENTOR(S) : Toshifumi Ishida and Kensuke Takahashi

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title Page

Left column, item (73) Assignee: delete "PANASONIC INTELLECTUAL PROPERTY
MANAGEMENT CO., LTD., Osaka (JP)"

And replace with -- NUVOTON TECHNOLOGY CORPORATION JAPAN, Kyoto (JP) --

Signed and Sealed this
Twentieth Day of August, 2024
Katherine Kelly Vidal

Katherine Kelly Vidal
Director of the United States Patent and Trademark Office