



US00D928279S

(12) **United States Design Patent** (10) **Patent No.:** **US D928,279 S**
Ishikawa et al. (45) **Date of Patent:** **** Aug. 17, 2021**

(54) **MEMBRANE CARTRIDGE FOR SUBMERGED MEMBRANE SEPARATION**

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

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(30) **Foreign Application Priority Data**

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Jan. 10, 2018 (JP) 2018-000132

(51) **LOC (13) Cl.** **23-01**

(52) **U.S. Cl.**
USPC **D23/209**

(58) **Field of Classification Search**
USPC D23/207, 209
(Continued)

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(57) **CLAIM**

The ornamental design for a membrane cartridge for submerged membrane separation, as shown and described.

DESCRIPTION

FIG. 1 is a front perspective view of a membrane cartridge for submerged membrane separation showing our new design according to a first embodiment;
FIG. 2 is a back perspective view of the first embodiment;
FIG. 3 is a front elevational view of the first embodiment;
FIG. 4 is a right side elevational view of the first embodiment;
FIG. 5 is a left side elevational view of the first embodiment;
FIG. 6 is a top plan view of the first embodiment;
FIG. 7 is a bottom plan view of the first embodiment;
FIG. 8 is an enlarged partial view of the first embodiment taken from section 8 of FIG. 3;
FIG. 9 is an enlarged partial view of the first embodiment taken from section 9 of FIG. 3;
FIG. 10 is an enlarged partial view of the first embodiment taken from section 10 of FIG. 3;
FIG. 11 is an enlarged partial view of the first embodiment taken from section 11 of FIG. 3;
FIG. 12 is a front perspective view of a membrane cartridge for submerged membrane separation showing our new design according to a second embodiment;
FIG. 13 is a back perspective view of the second embodiment;
FIG. 14 is a front elevational view of the second embodiment;

(Continued)

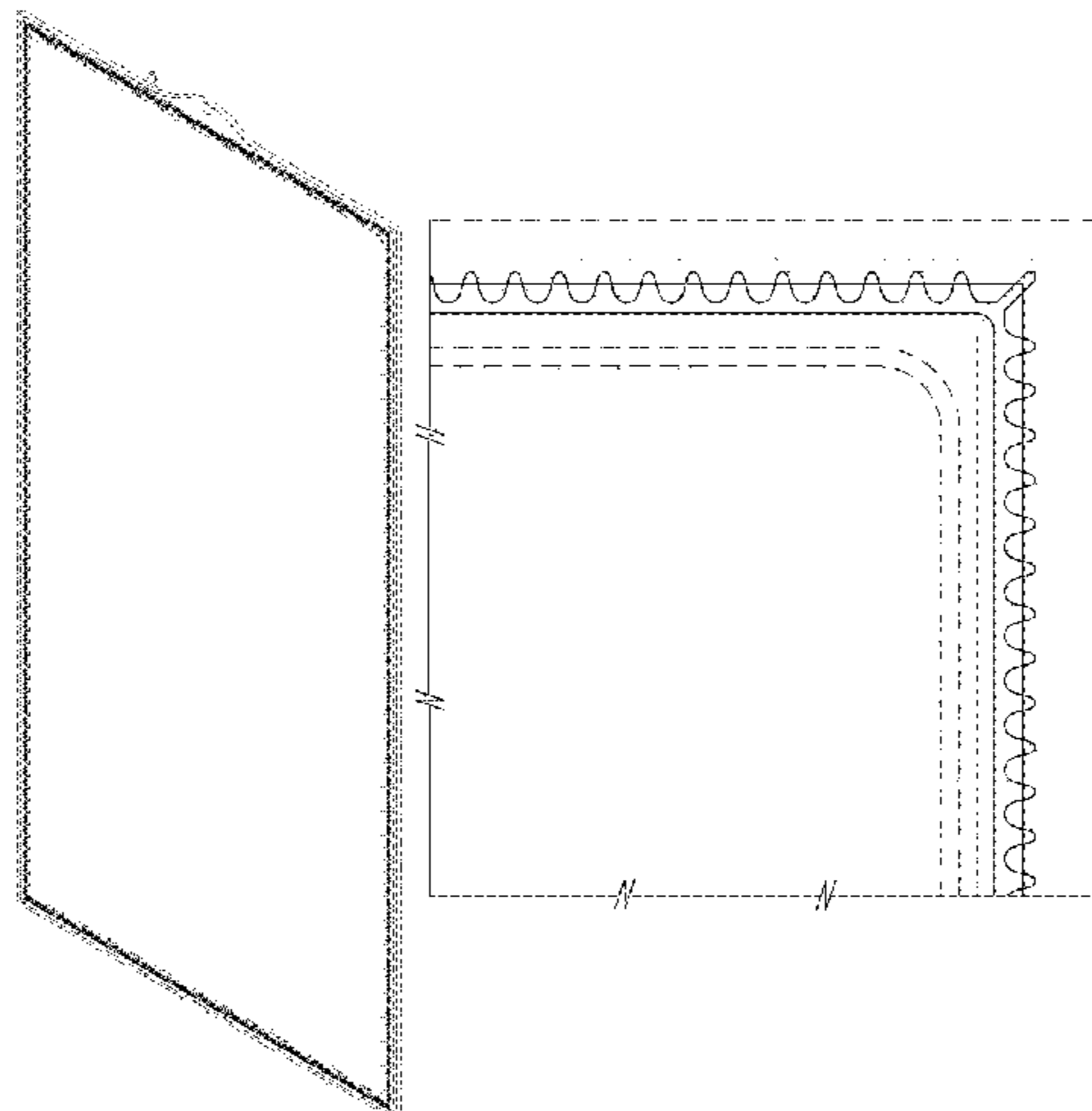


FIG. 15 is a right side elevational view of the second embodiment;
 FIG. 16 is a left side elevational view of the second embodiment;
 FIG. 17 is a top plan view of the second embodiment;
 FIG. 18 is a bottom plan view of the second embodiment;
 FIG. 19 is an enlarged partial view of the second embodiment taken from section 20 of FIG. 13;
 FIG. 20 is an enlarged partial view of the second embodiment taken from section 21 of FIG. 13;
 FIG. 21 is an enlarged partial view of the second embodiment taken from section 22 of FIG. 13;
 FIG. 22 is an enlarged partial view of the second embodiment taken from section 23 of FIG. 13;
 FIG. 23 is an enlarged partial view of the second embodiment taken from section 24 of FIG. 13; and,
 FIG. 24 is an enlarged partial view of the second embodiment taken from section 25 of FIG. 13.
 The dot-dash broken line(s) define the bounds of the claimed design and form no part thereof. The dashed broken line showing of a membrane cartridge for submerged membrane separation is included for the purpose of illustrating portions of the article and forms no part of the claimed design.

1 Claim, 24 Drawing Sheets

(58) **Field of Classification Search**
 CPC E04H 4/14; E04H 4/16; B01D 63/02
 See application file for complete search history.

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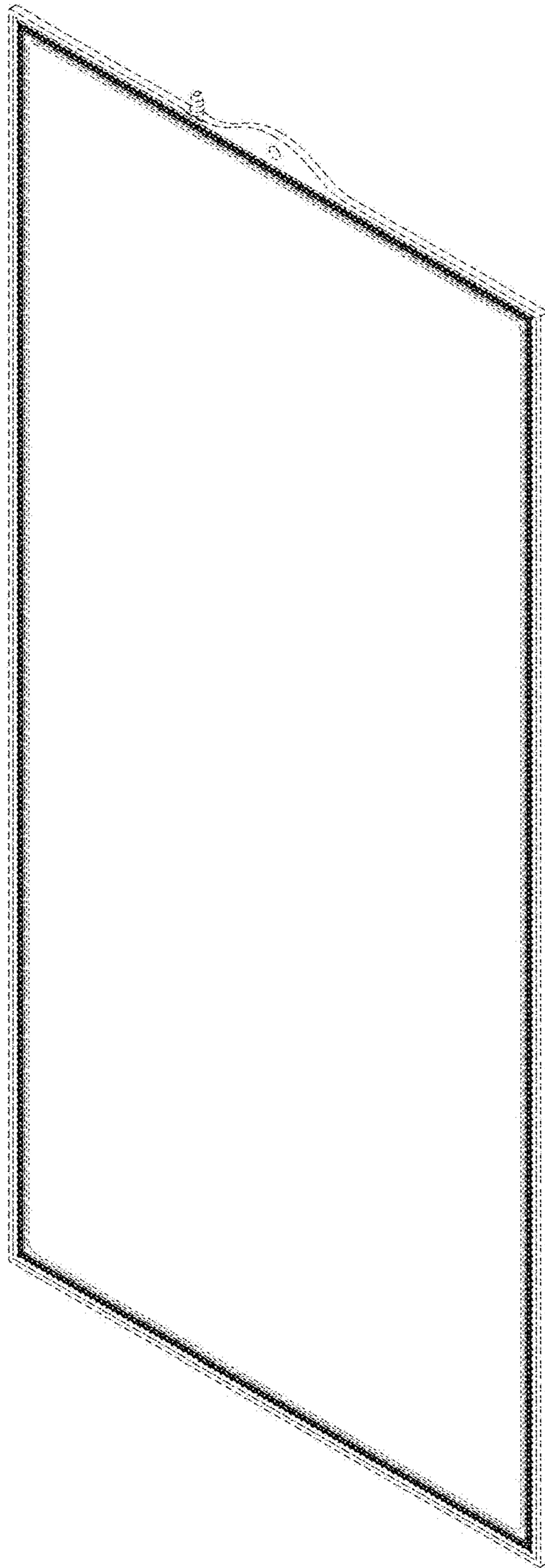


FIG. 1

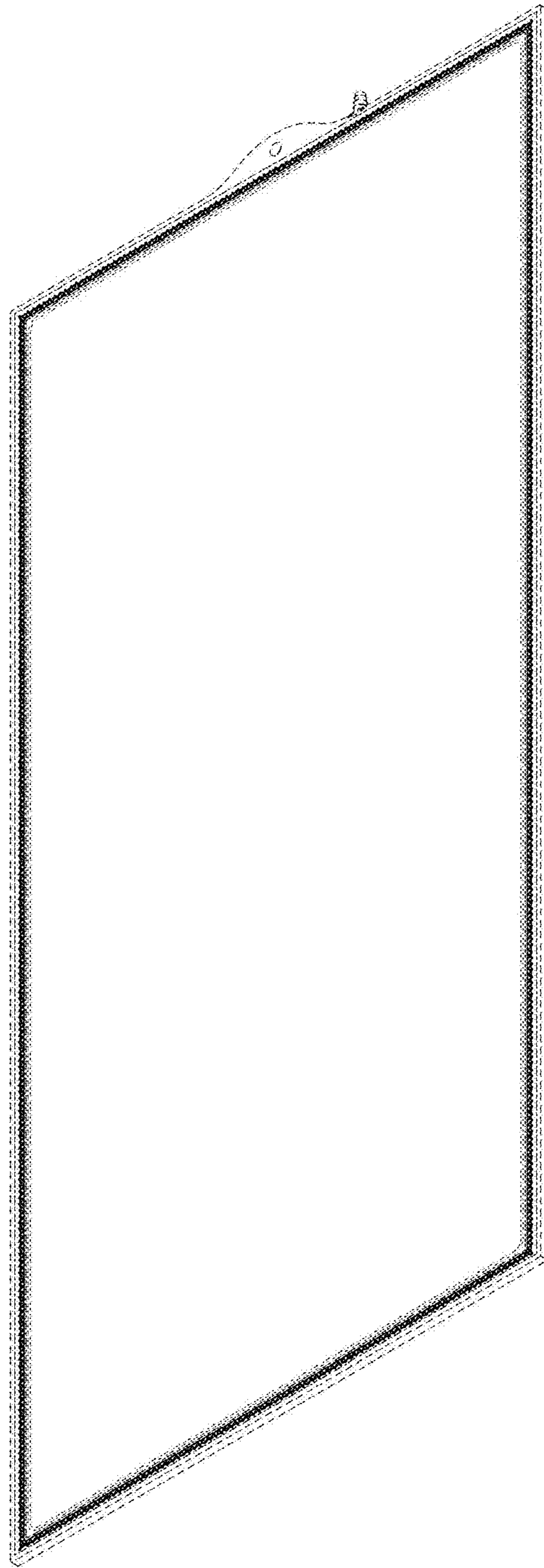


FIG. 2

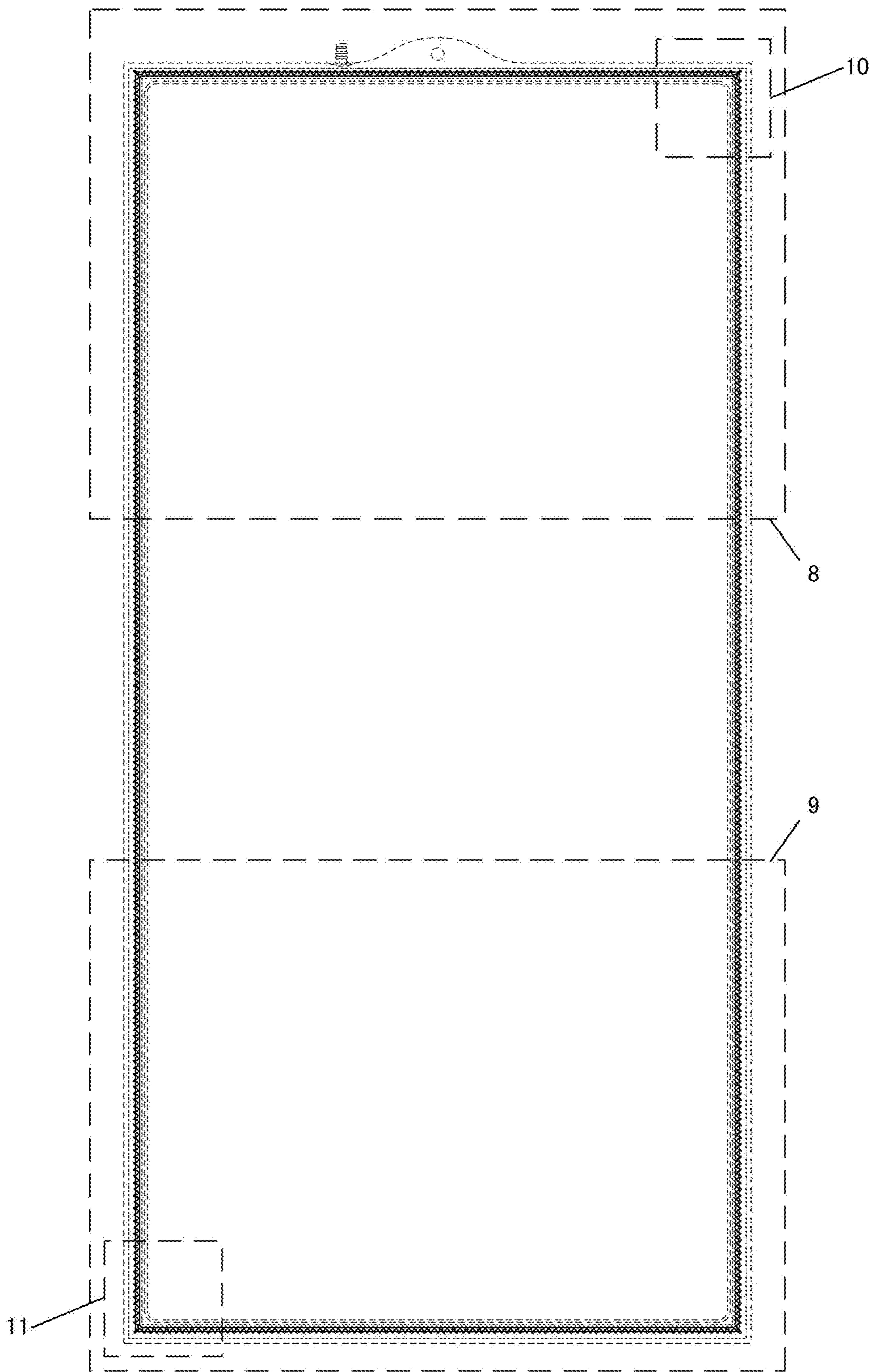


FIG. 3

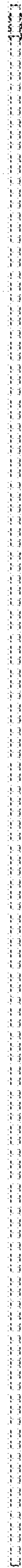


FIG. 4

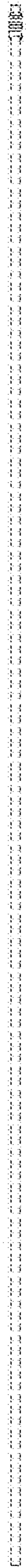
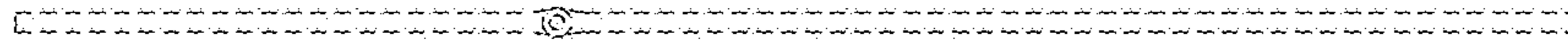
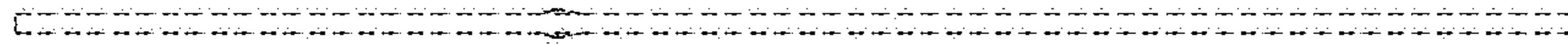


FIG. 5



F I G. 6



F I G. 7

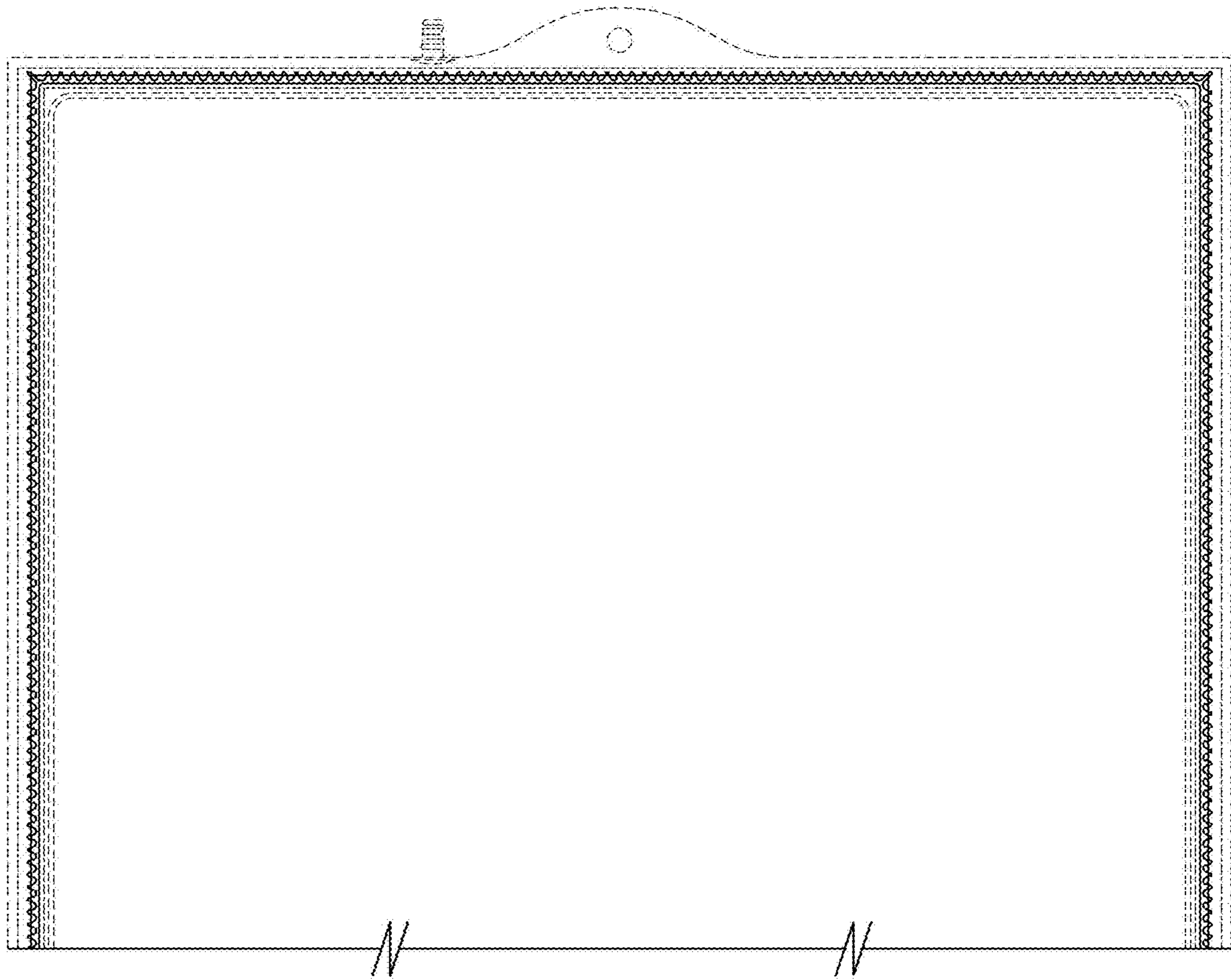


FIG. 8

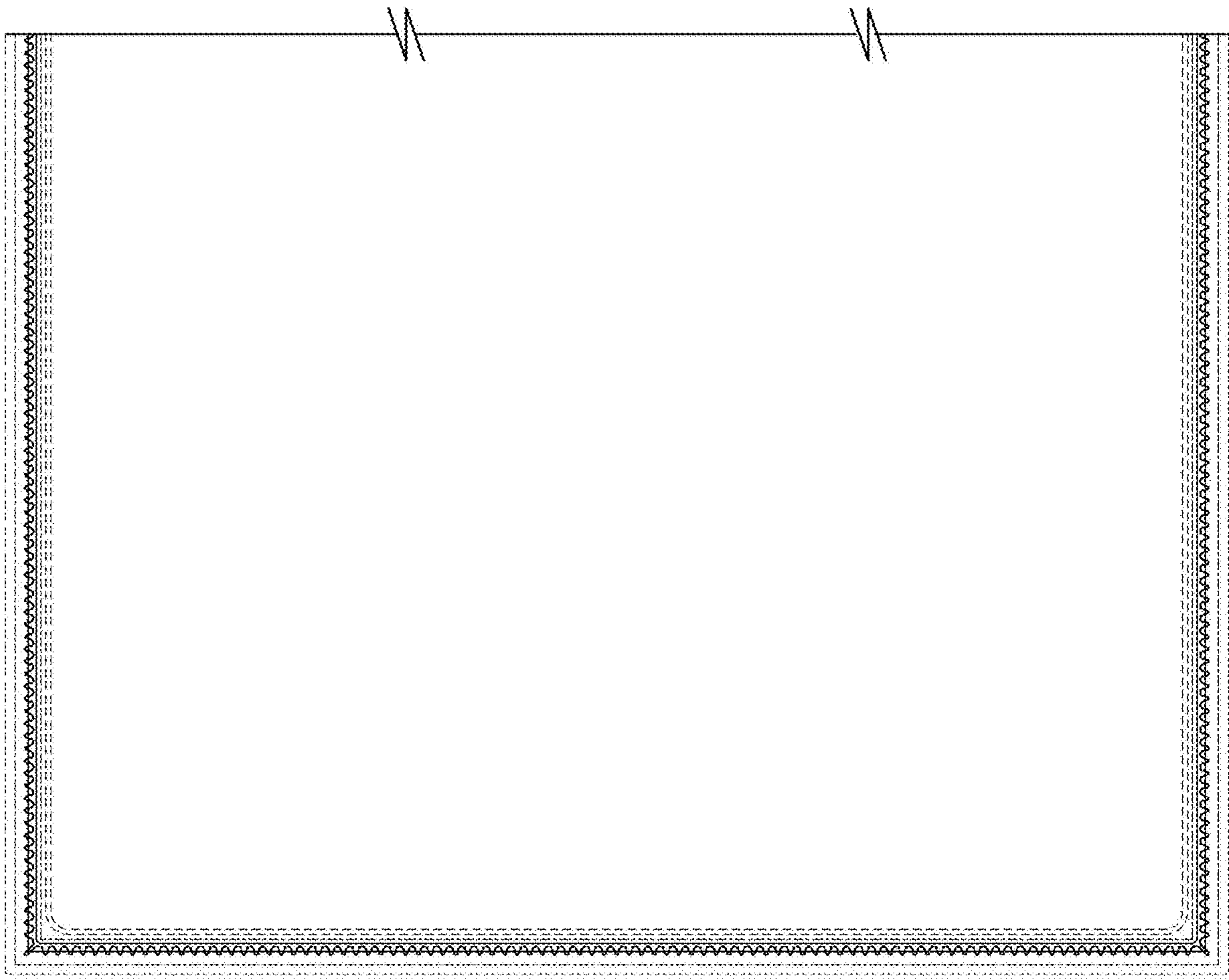


FIG. 9

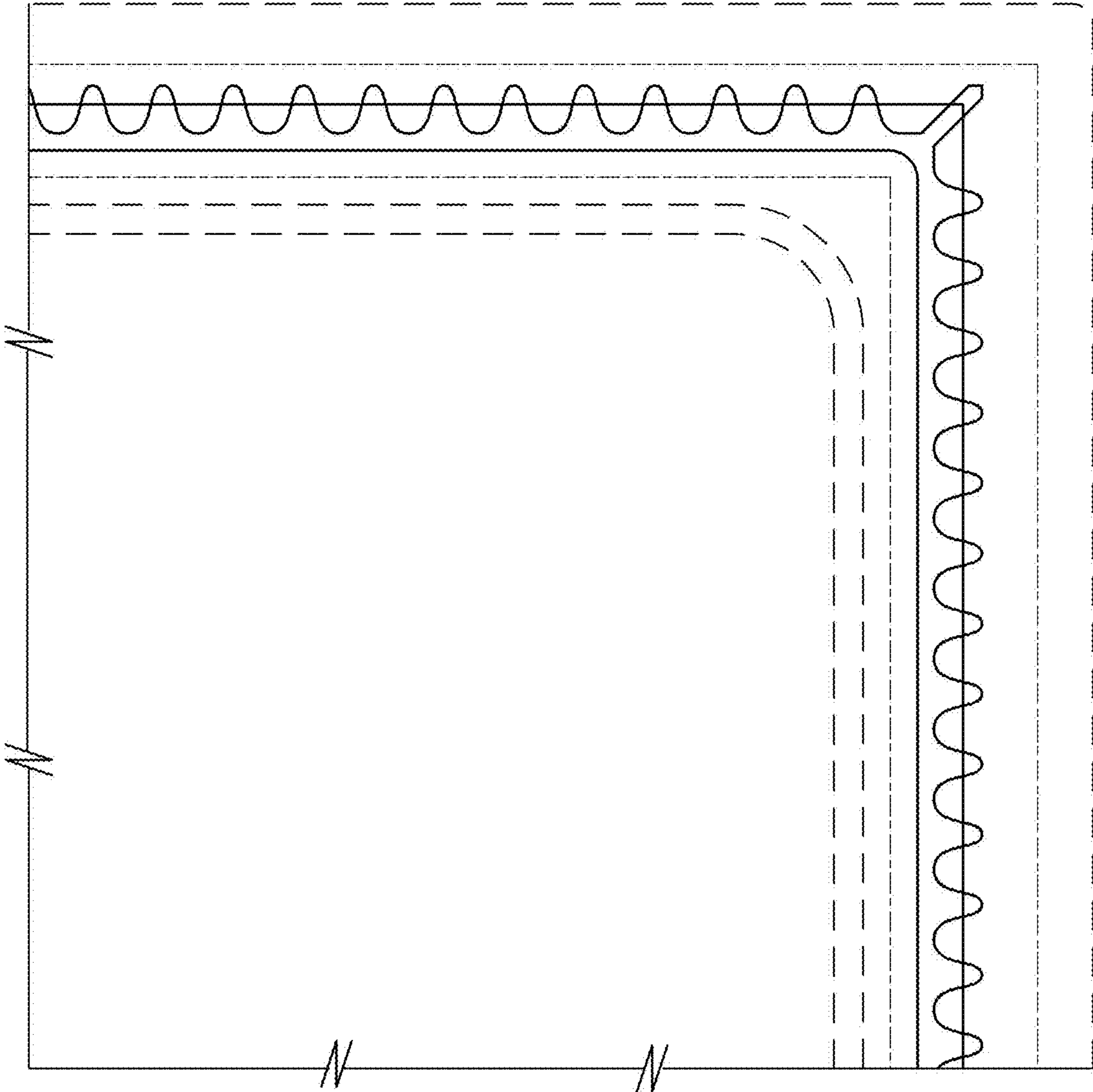


FIG. 10

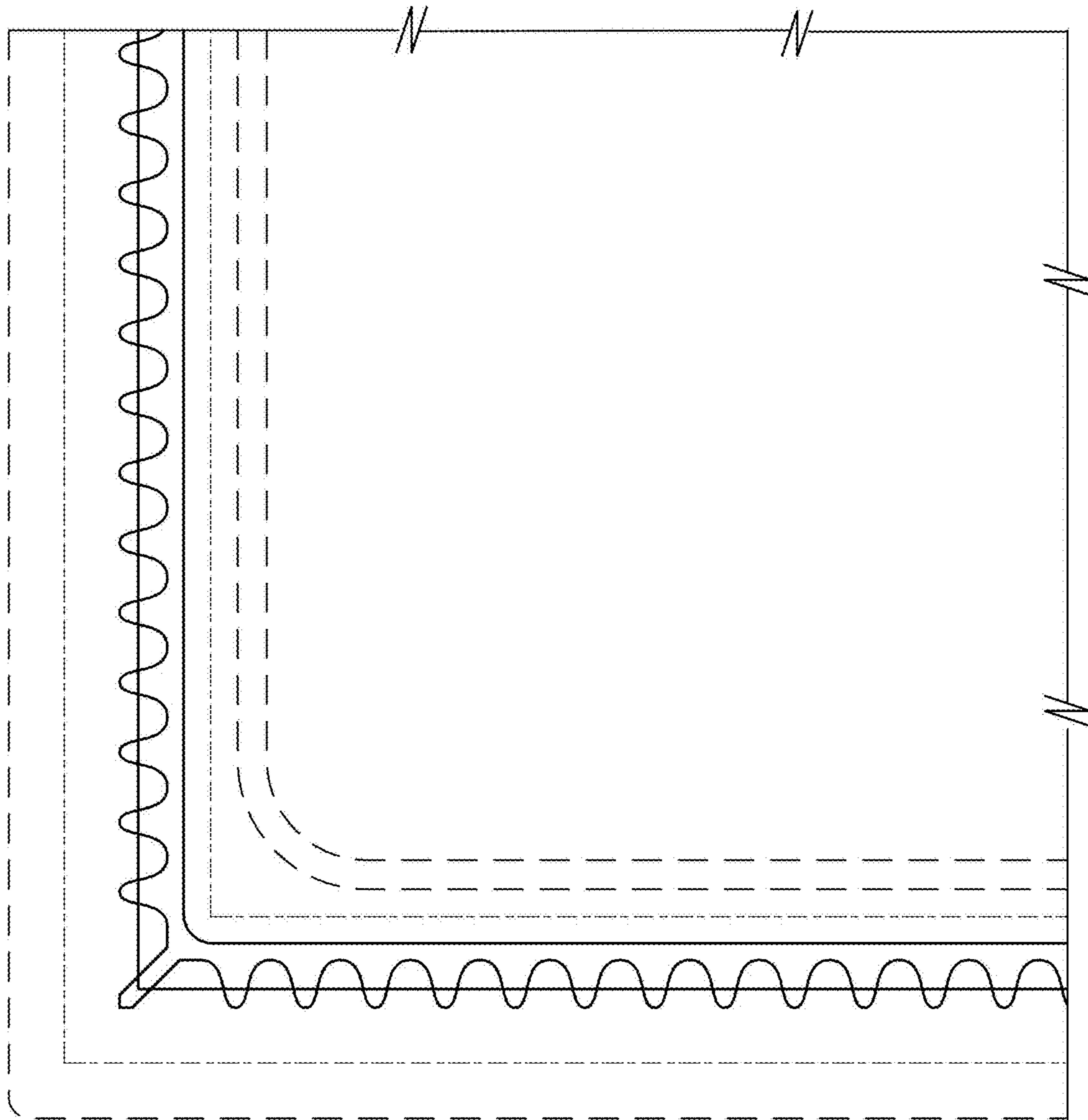


FIG. 11

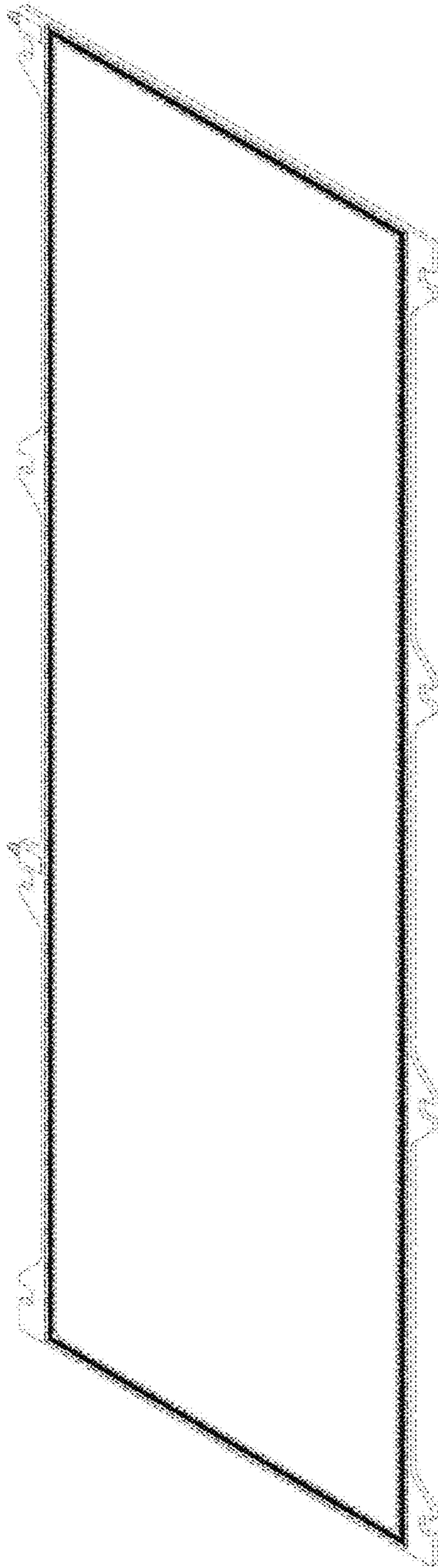
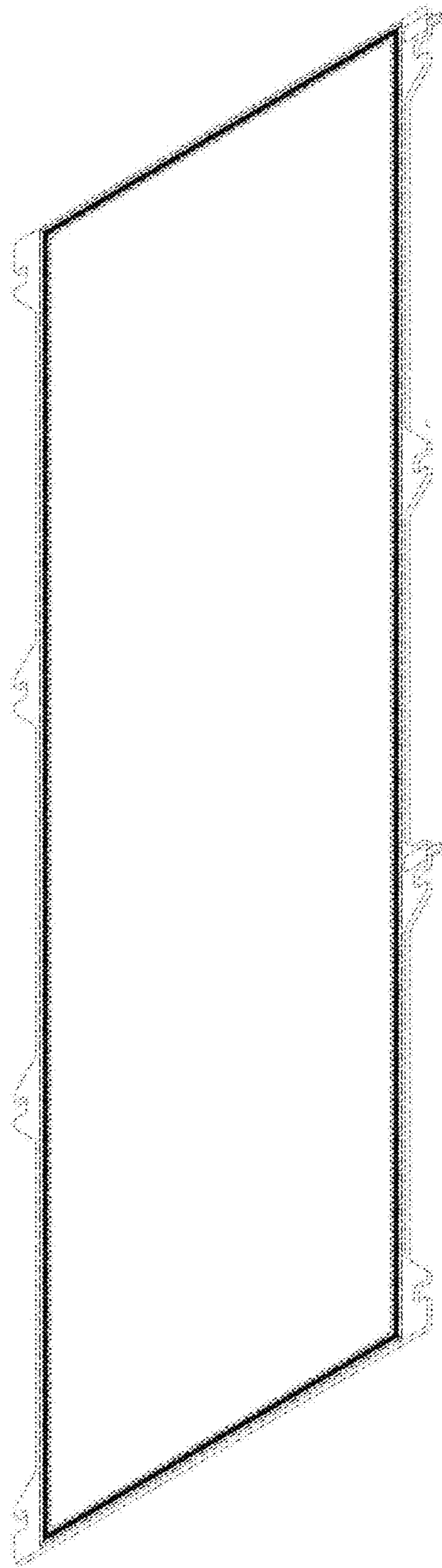


FIG. 12



F I G. 13

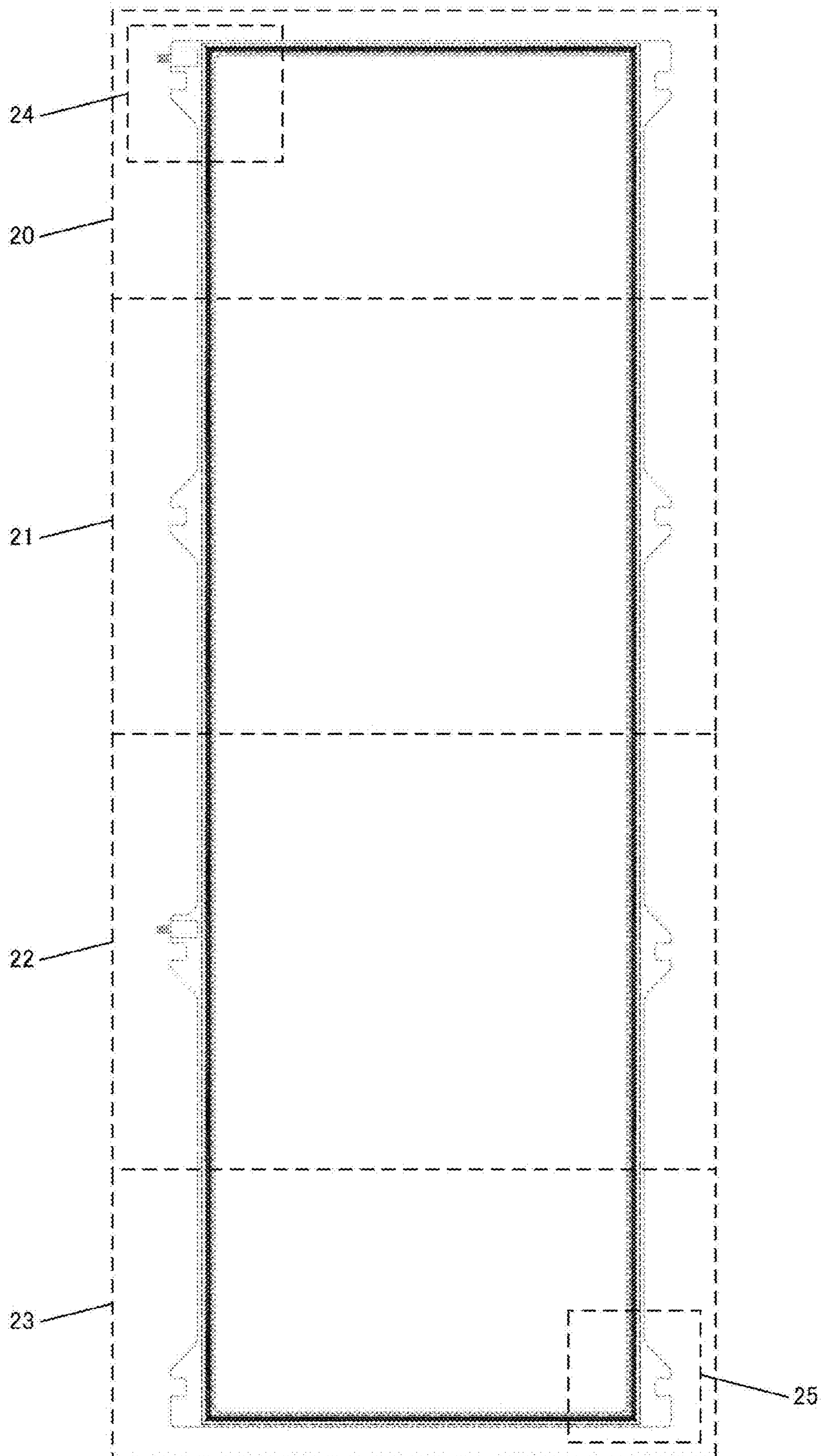


FIG. 14

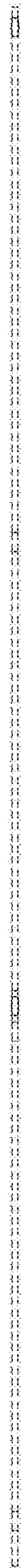
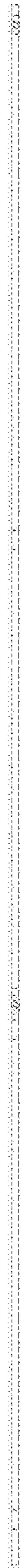
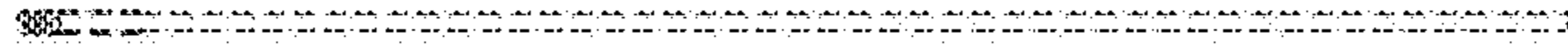


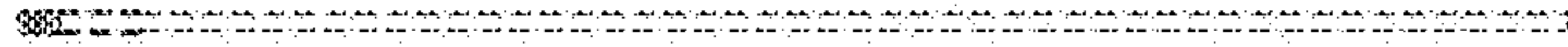
FIG. 15



F I G. 16



F I G. 17



F I G. 18

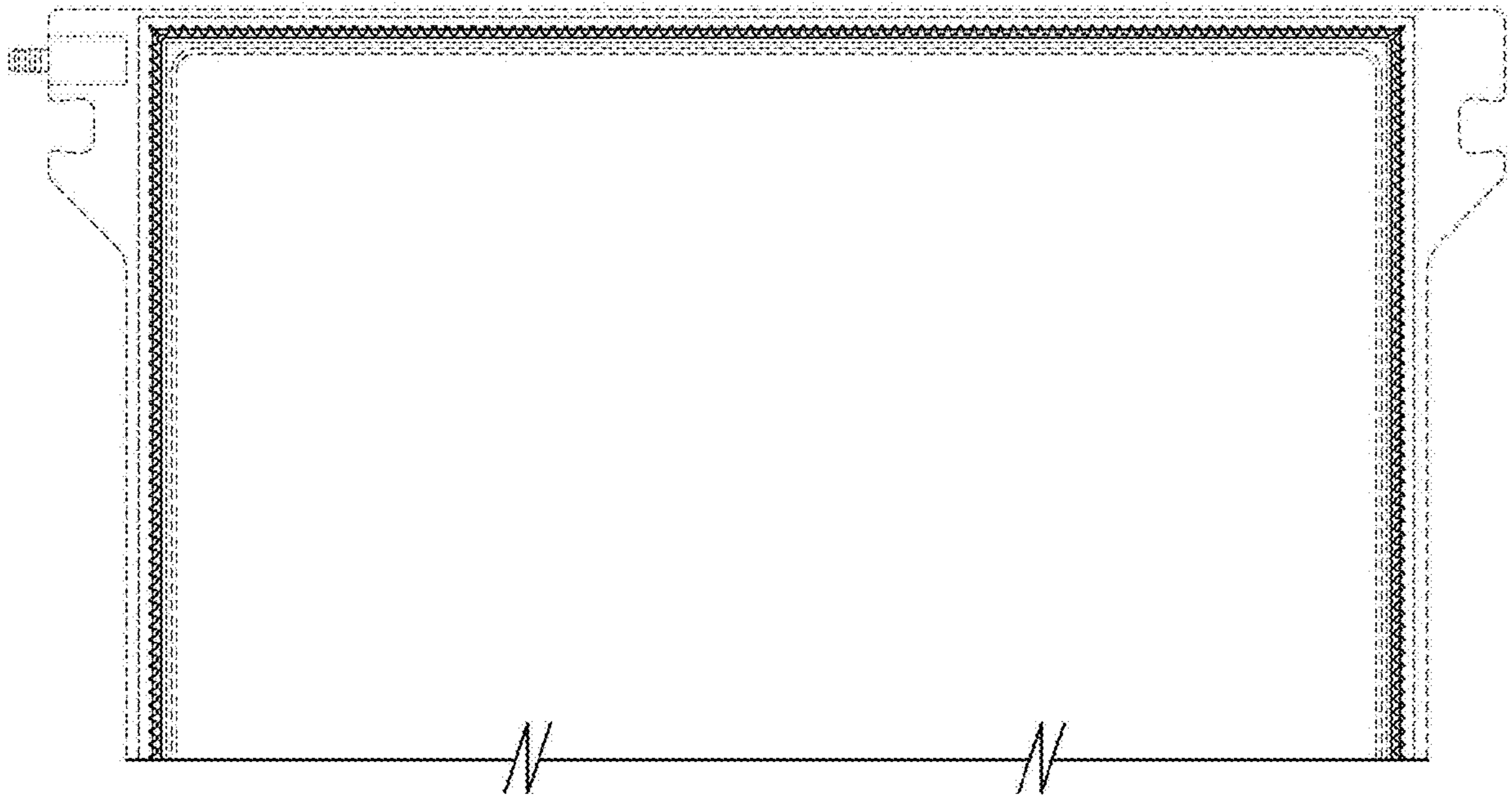


FIG. 19

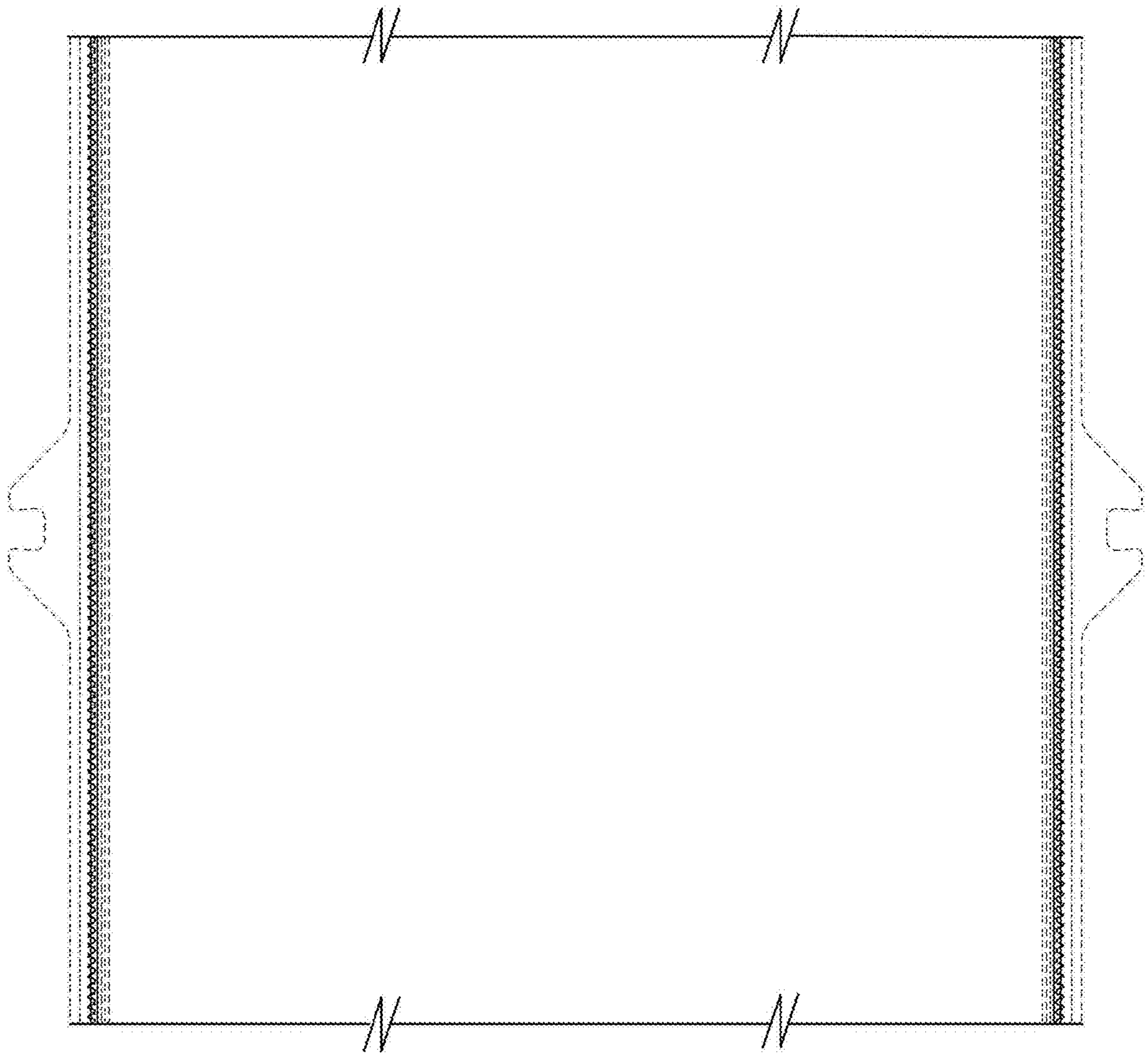


FIG. 20

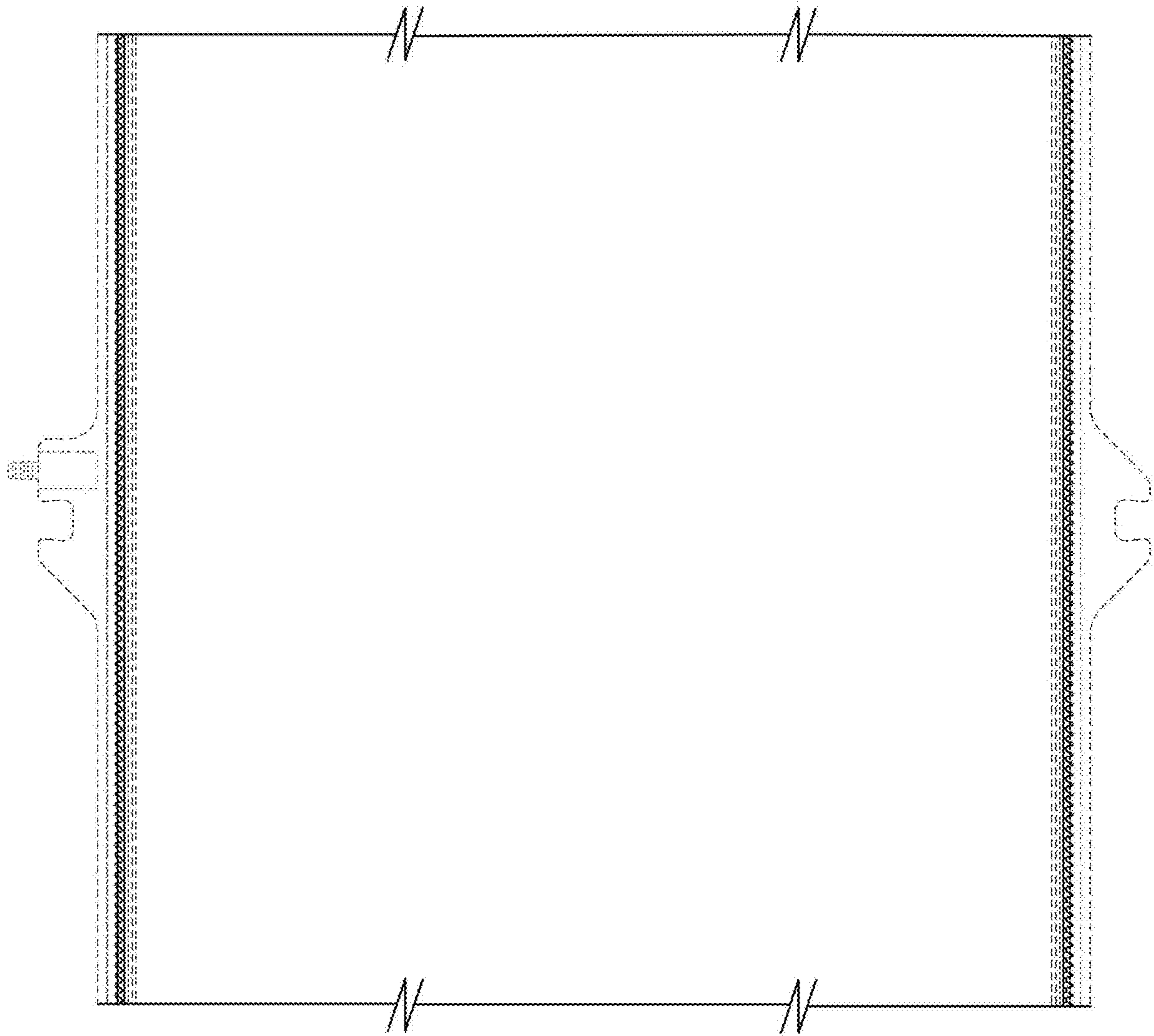


FIG. 21

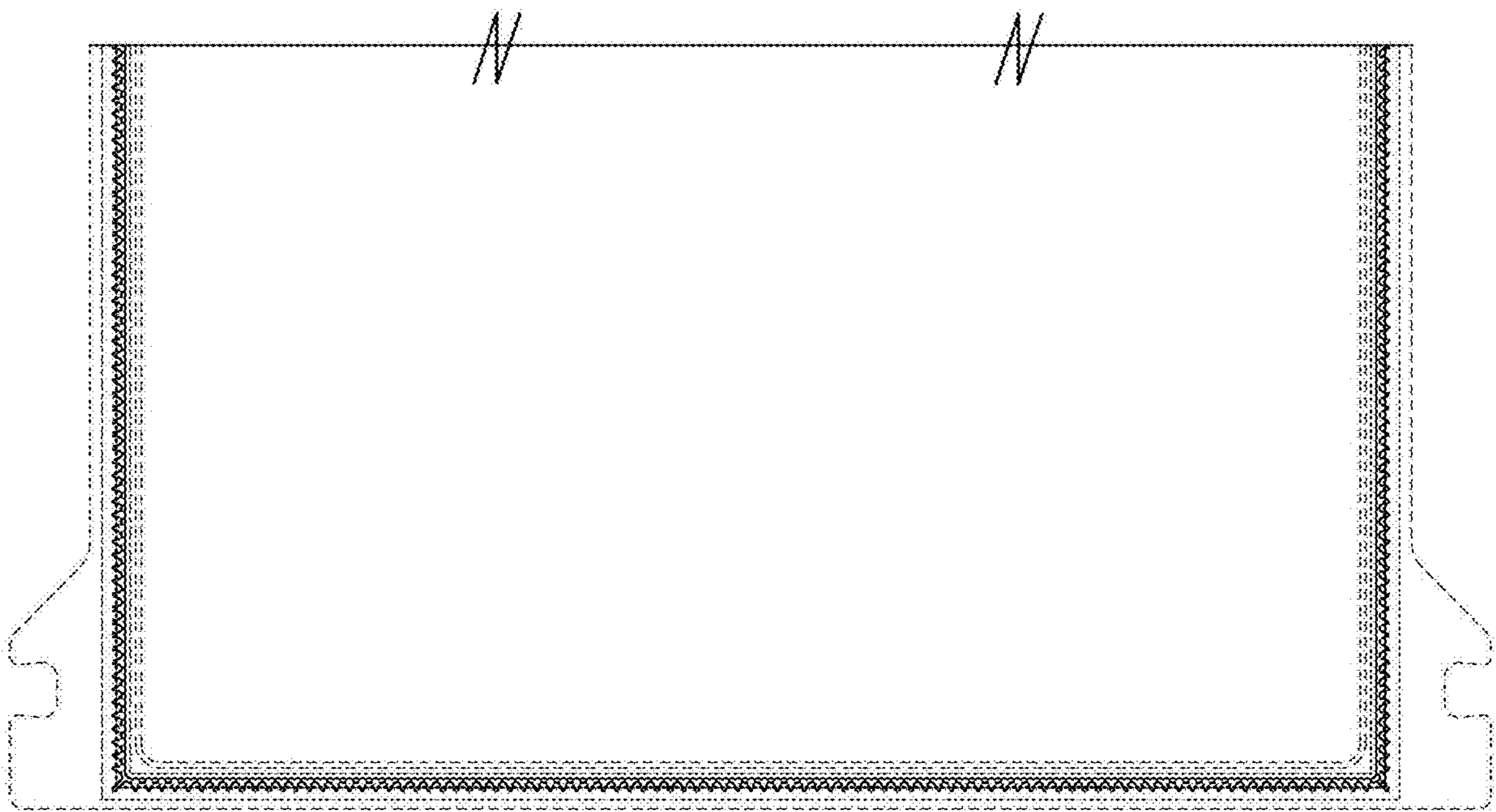


FIG. 22

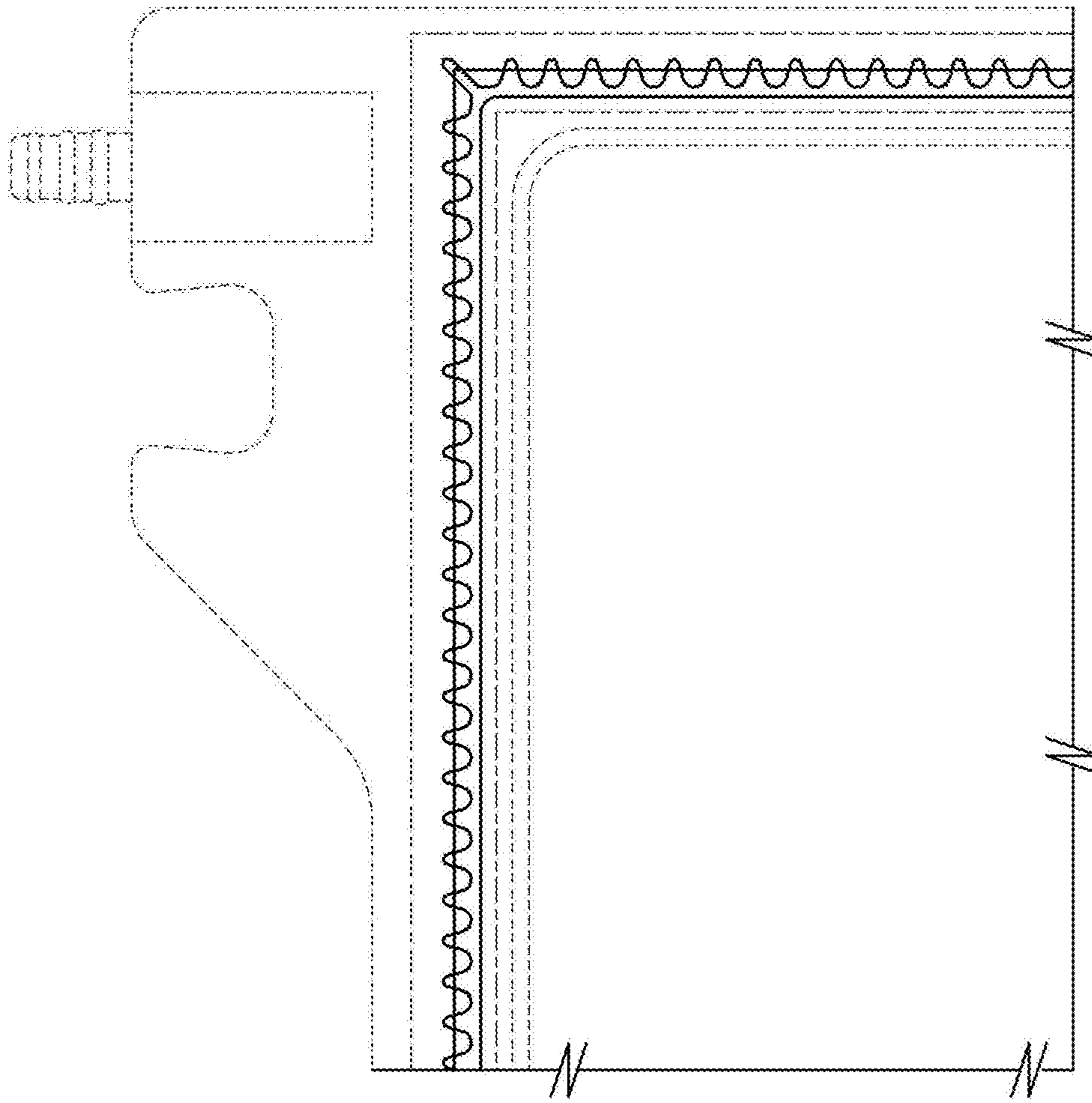


FIG. 23

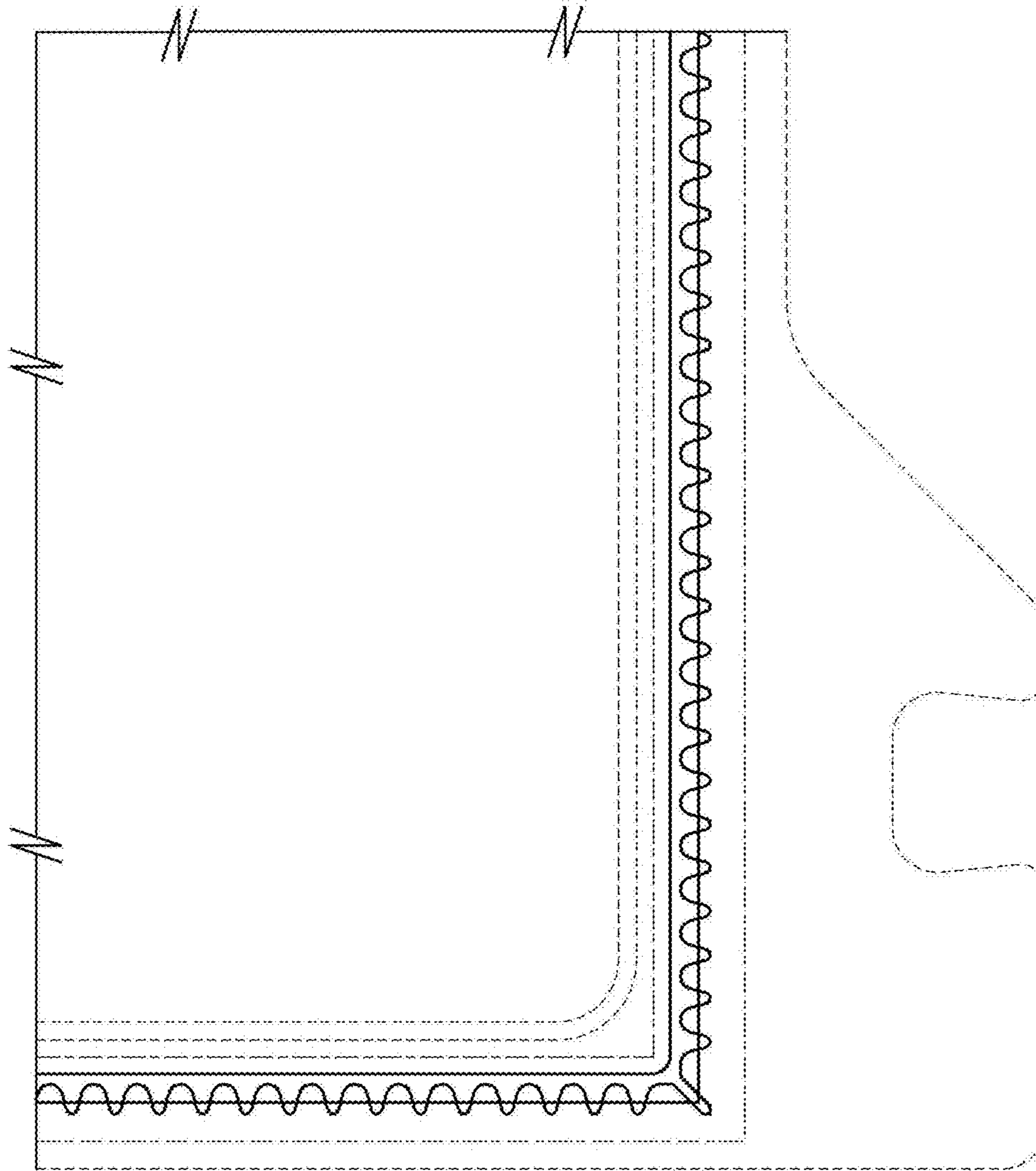


FIG. 24