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Lebioda et al.

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(54) SOLAR PANEL ARRAY

FOREIGN PATENT DOCUMENTS

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CN 105915169 A 8/2016
CN 108521264 A 9/2018
(Continued)

OTHER PUBLICATIONS

Solar Canopies. (Design—© Questel) orbit.com. [Online PDF compilation of references] 30 pgs. Print Dates Range Aug. 11, 2022-Aug. 18, 2006 [Retrieved Nov. 15, 2023].*
(Continued)

(73) Assignee: **STELLA POWER INC.**, Calgary (CA)

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

(21) Appl. No.: **29/855,079**

(22) Filed: **Sep. 29, 2022**

(51) **LOC (14) Cl.** **13-02**

(52) **U.S. Cl.**
USPC **D13/102**

(58) **Field of Classification Search**

USPC D13/101, 102, 118, 119, 184, 199;
D25/35, 55, 56
CPC B04D 13/0445; E04D 13/064; E04D 13/0641; E04D 13/0645; E04D 13/0762; H02S 20/23; H02S 30/20; H02S 40/12; E04H 6/025

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D445,200 S * 7/2001 Novotny D25/56
D647,216 S * 10/2011 Richardson D25/56
8,178,775 B2 5/2012 Taylor, II et al.
D664,916 S 8/2012 Conger
D672,472 S * 12/2012 Dolceamore F24S 25/12
D25/22

(Continued)

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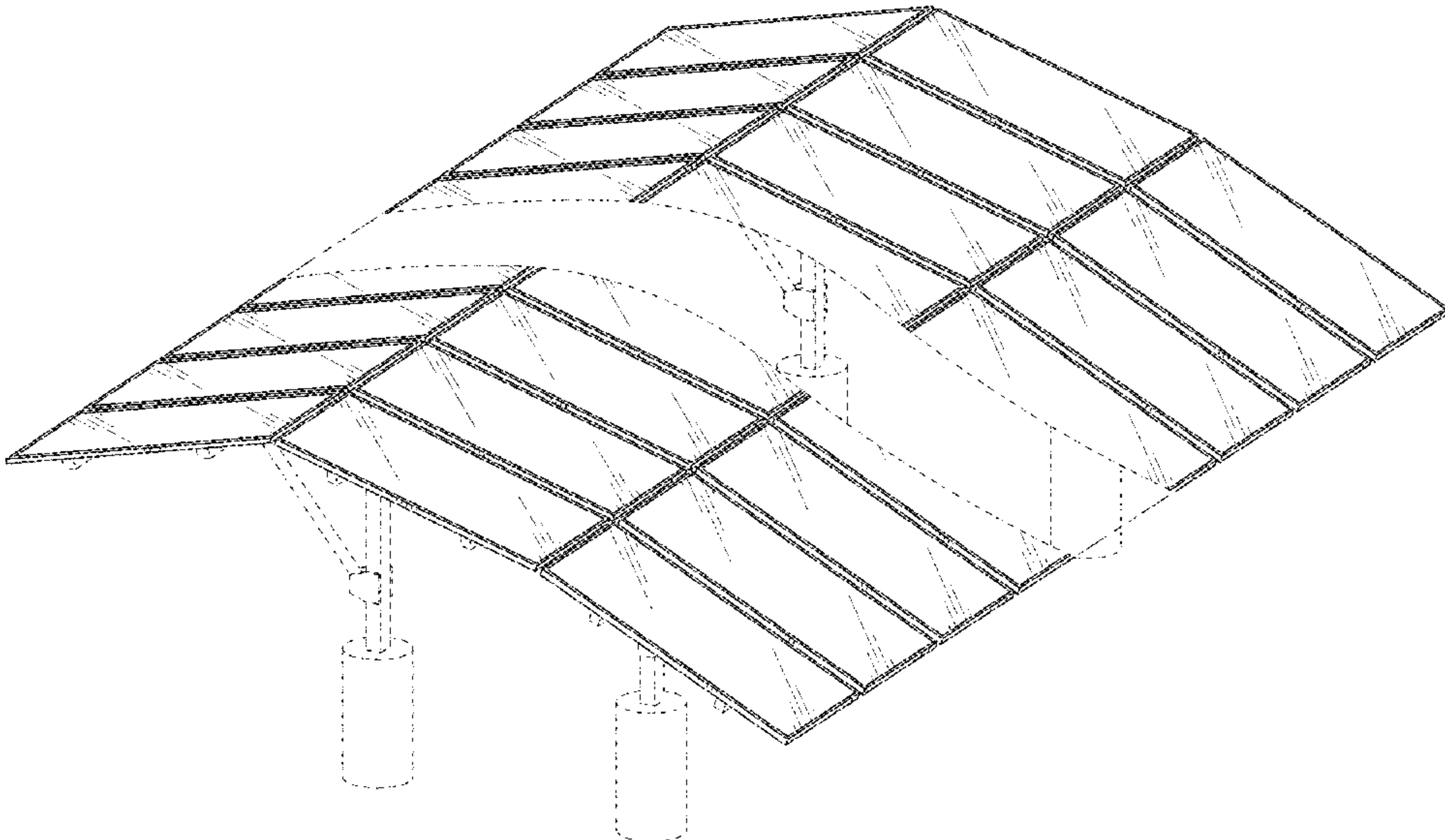
(57) **CLAIM**

The ornamental design for a solar panel array, as shown and described.

DESCRIPTION

FIG. 1 is a top isometric view of a solar panel array; FIG. 2 is a bottom isometric view of the solar panel array of FIG. 1; FIG. 3 is a top view of the solar panel array of FIG. 1; FIG. 4 is a bottom view of the solar panel array of FIG. 1; FIG. 5 is a front view of the solar panel array of FIG. 1; FIG. 6 is a rear view of the solar panel array of FIG. 1; FIG. 7 is a right side view of the solar panel array of FIG. 1; and, FIG. 8 is a left side view of the solar panel array of FIG. 1. The dot-dot-dash broken lines and wavy broken lines at the middle of the design illustrate a symbolic break. These lines and the appearance of any portion of the article between the break lines form no part of the claimed design. All other broken lines illustrate portions of the solar panel array that form no part of the claimed design.

1 Claim, 6 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D734,870 S * 7/2015 Scorsone D25/22
9,548,696 B2 1/2017 Atchley et al.
9,568,218 B2 2/2017 Hollabaugh
D789,552 S * 6/2017 Scorsone D25/22
9,790,065 B2 10/2017 Jordan
D850,362 S * 6/2019 Bodurow D13/102
D934,159 S * 10/2021 Dunn D13/102
D941,235 S * 1/2022 Dunn D13/102
D951,179 S * 5/2022 Mackler H02S 40/32
D13/102
D959,701 S * 8/2022 Jones D25/56
2011/0083718 A1 4/2011 Wichner
2011/0180125 A1 7/2011 Wichner
2011/0203636 A1 8/2011 Wichner
2012/0007434 A1 1/2012 Perreault et al.
2012/0138120 A1 6/2012 Fernandez
2014/0014161 A1 1/2014 Kim et al.
2014/0116495 A1 5/2014 Kim et al.
2014/0238483 A1 8/2014 Rampley et al.
2015/0331972 A1 11/2015 McClure et al.
2018/0226917 A1 8/2018 Jacques
2020/0228057 A1 7/2020 Roberts et al.
2020/0358392 A1 11/2020 Kiefer, III et al.
2021/0006198 A1 1/2021 Saavedra
2021/0075365 A1 3/2021 Clapp et al.

FOREIGN PATENT DOCUMENTS

EP 2834576 A2 2/2015
JP 10210777 A 8/1999
JP 2004014887 A 1/2004

JP 2005005296 A 1/2005
JP 2014154743 A 8/2014
JP 3196260 U 2/2015
JP 2015124537 A 7/2015
JP 2019068651 A 4/2019
JP 2020112765 A 7/2020
WO 2012172296 A1 12/2012
WO 2018024948 A1 2/2018

OTHER PUBLICATIONS

Solar canopies need to be a part of Connecticut’s energy plan. May 10, 2021. Energy News Network. <https://energynews.us/2021/05/10/commentary-solar-canopies-need-to-be-a-part-of-connecticuts-energy-plan/>.*

New ‘slide-in’ solar canopy tech from Australia. Nov. 23, 2020. PV Magazine. <https://pv-magazine-usa.com/2020/11/23/new-slide-in-solar-canopy-tech-from-australia/>.*

Benefits of Commercial Solar Parking Canopies. Apr. 29, 2022. LightWave. <https://lightwavesolar.com/benefits-of-commercial-solar-parking-canopies/>.*

SimYh, YunMJ, Cha SI, Lee DY.; “Fractal solar cell array for enhanced energy production: applying rules underlying tree shape to photovoltaics”; Proc. R. Soc.; 2020; A 476: 20200094. <http://dx.doi.org/10.1098/rspa.2020.0094>.

Sullivan, Ralph M. Shadow effects on a series-parallel array of solar cells. No. NASA-TM-X-55269. 1965.

Yun, Min Ju, et al. “Leaf Anatomy and 3-D Structure Mimic to Solar Cells with light trapping and 3-D arrayed submodule for Enhanced Electricity Production.” Scientific reports 9.1 (2019): 1-9.

* cited by examiner

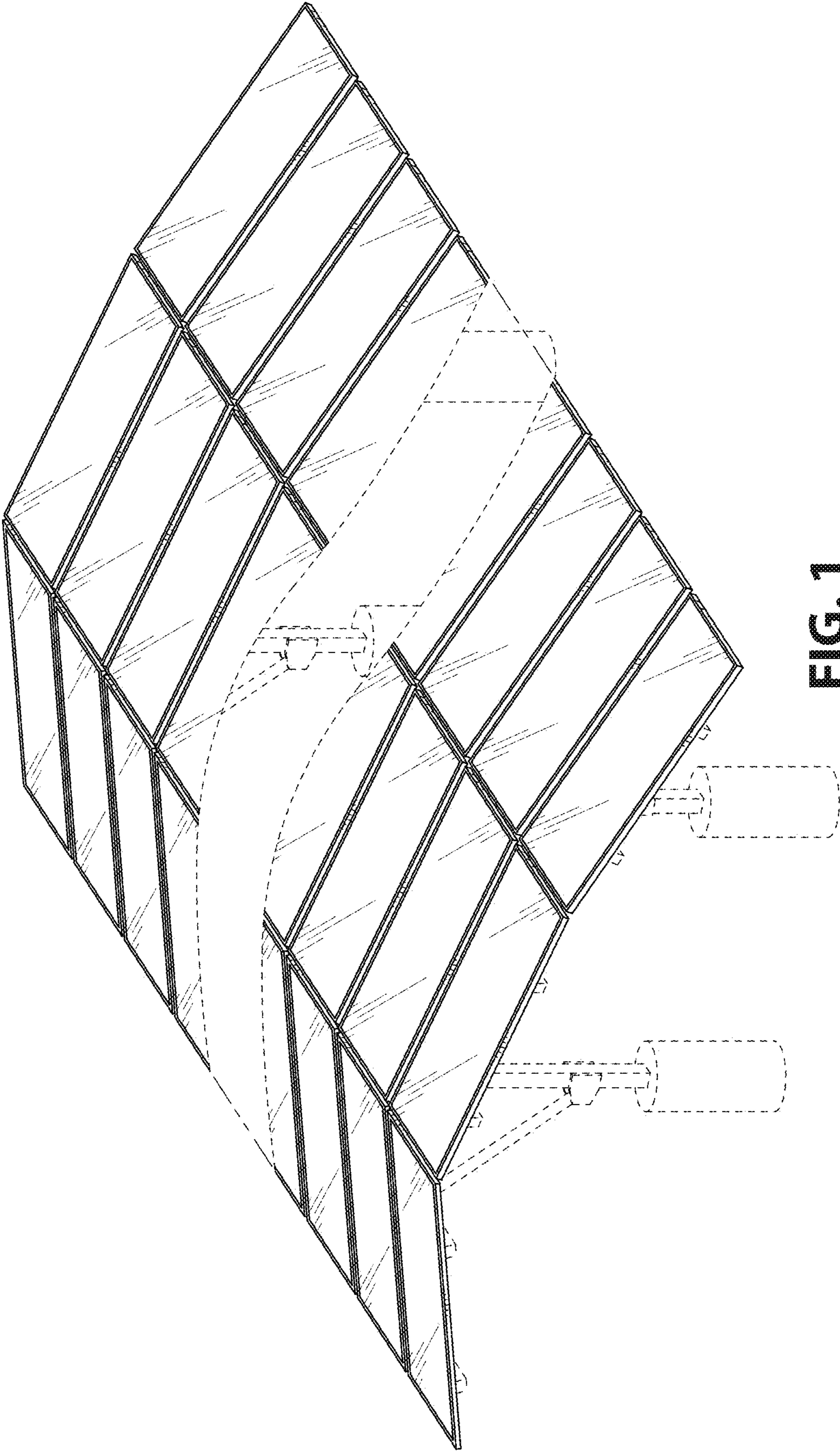


FIG. 1

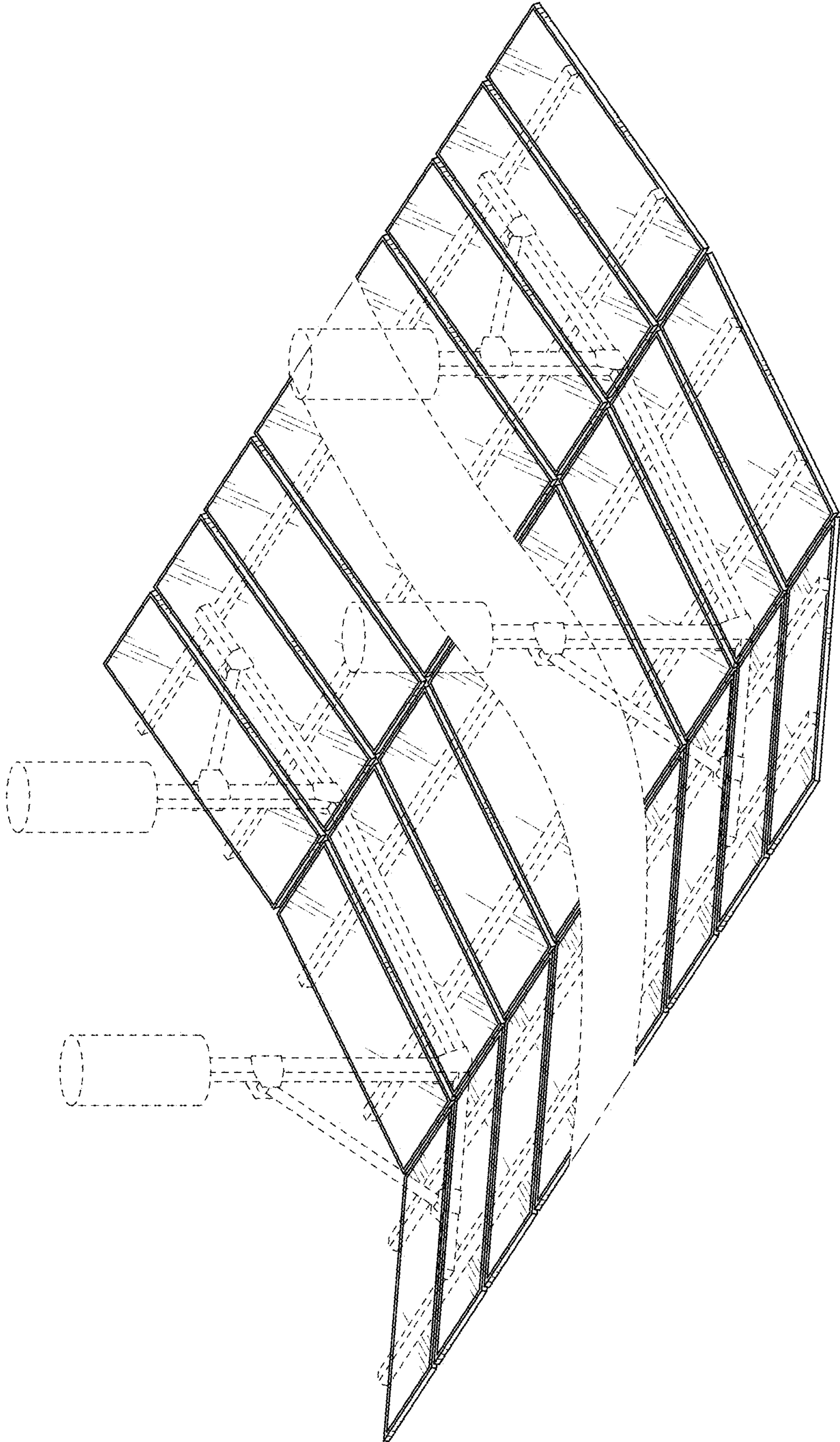


FIG. 2

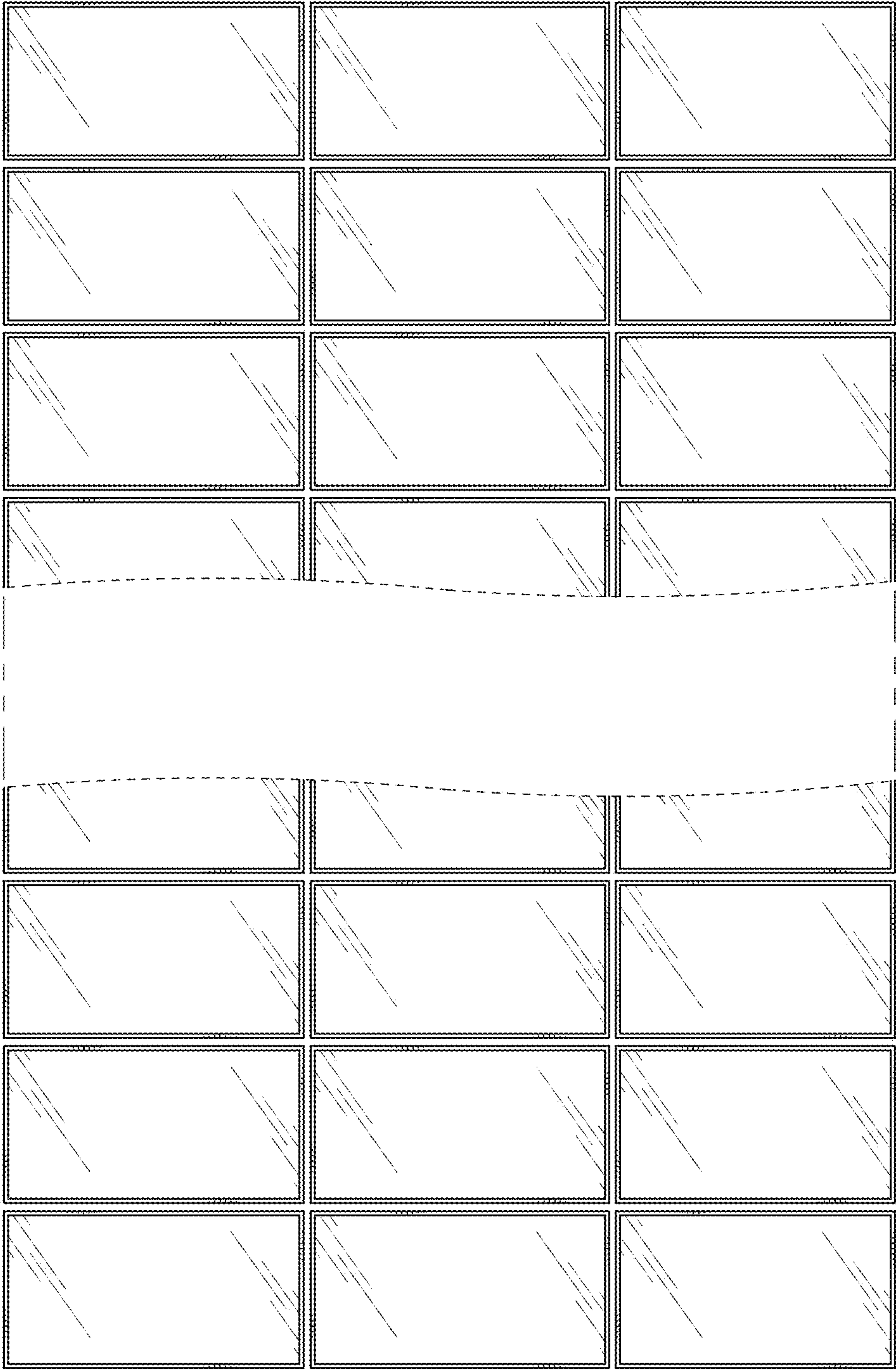


FIG. 3

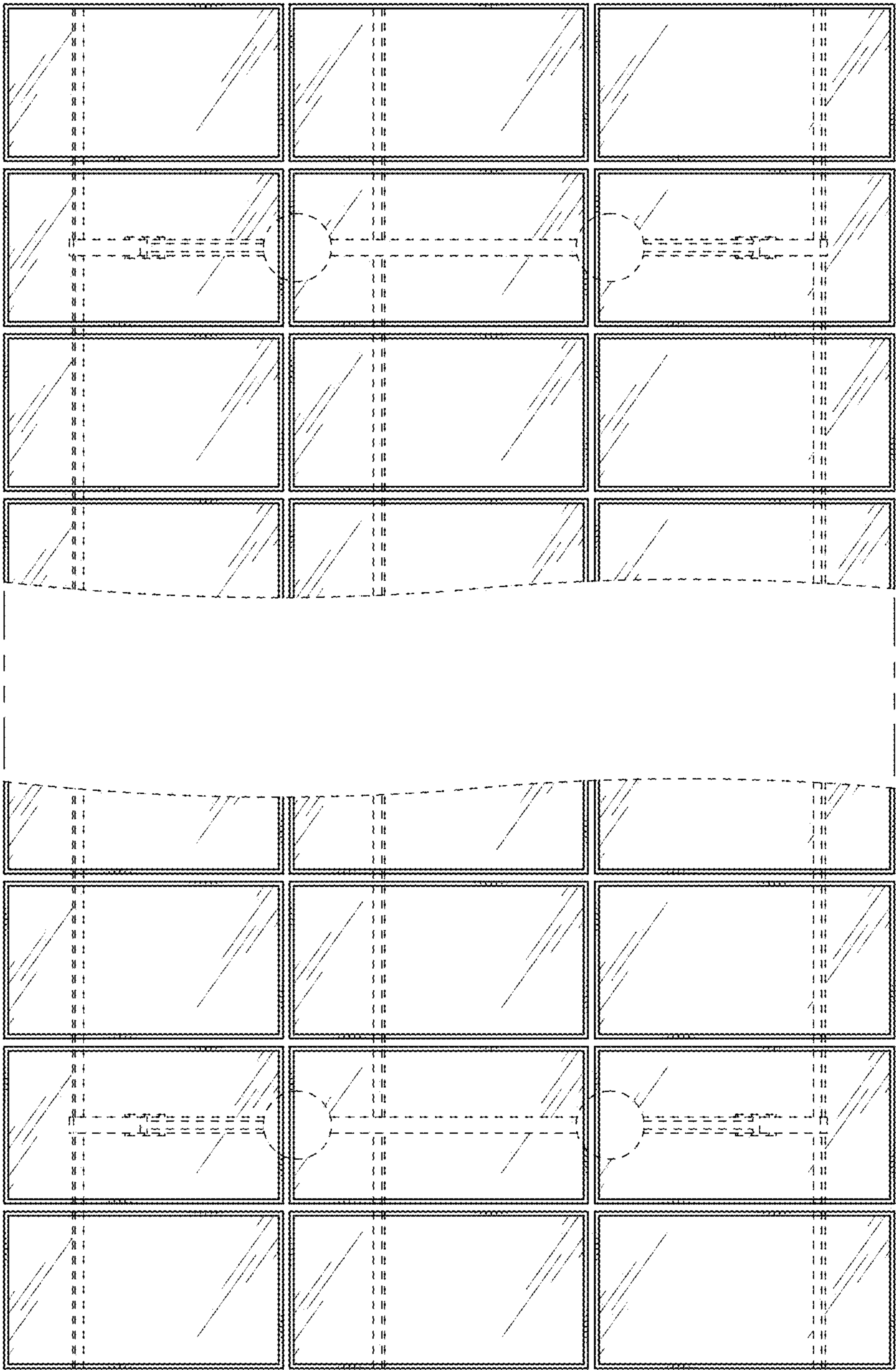
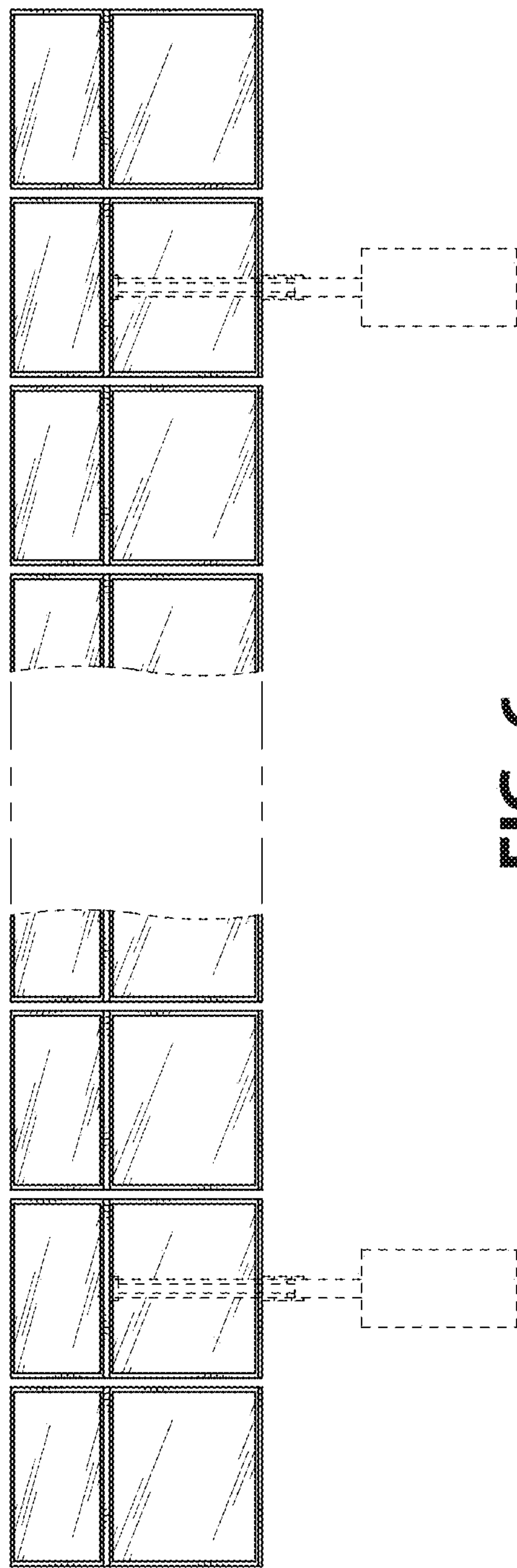
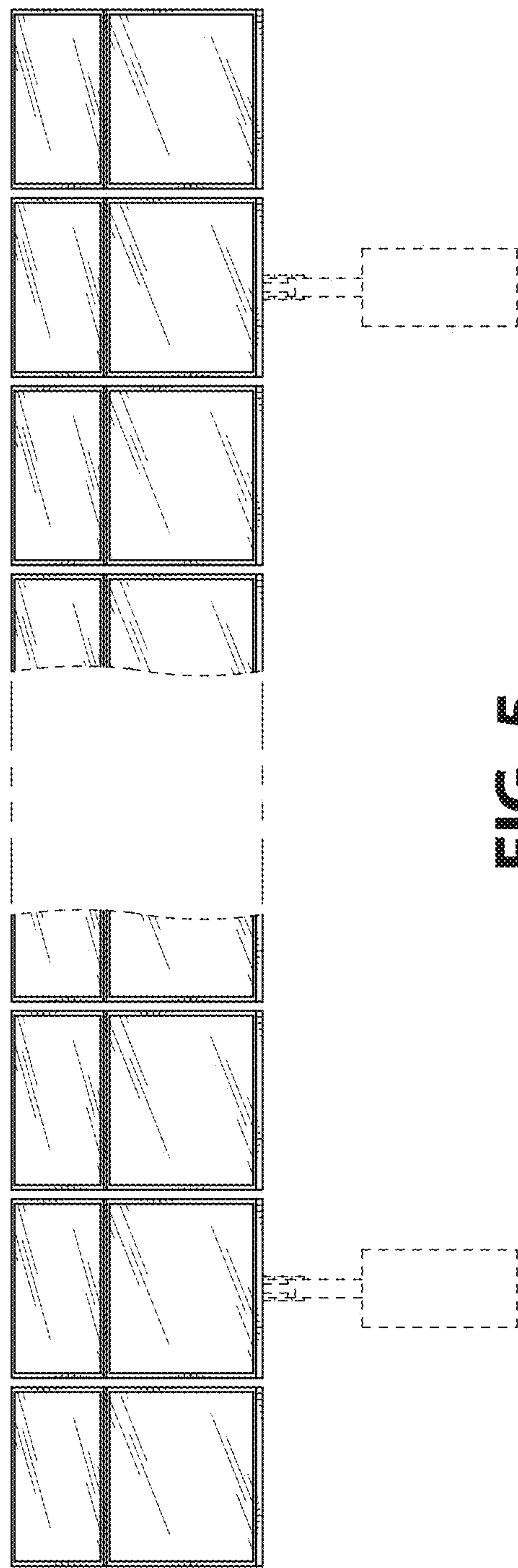


FIG. 4



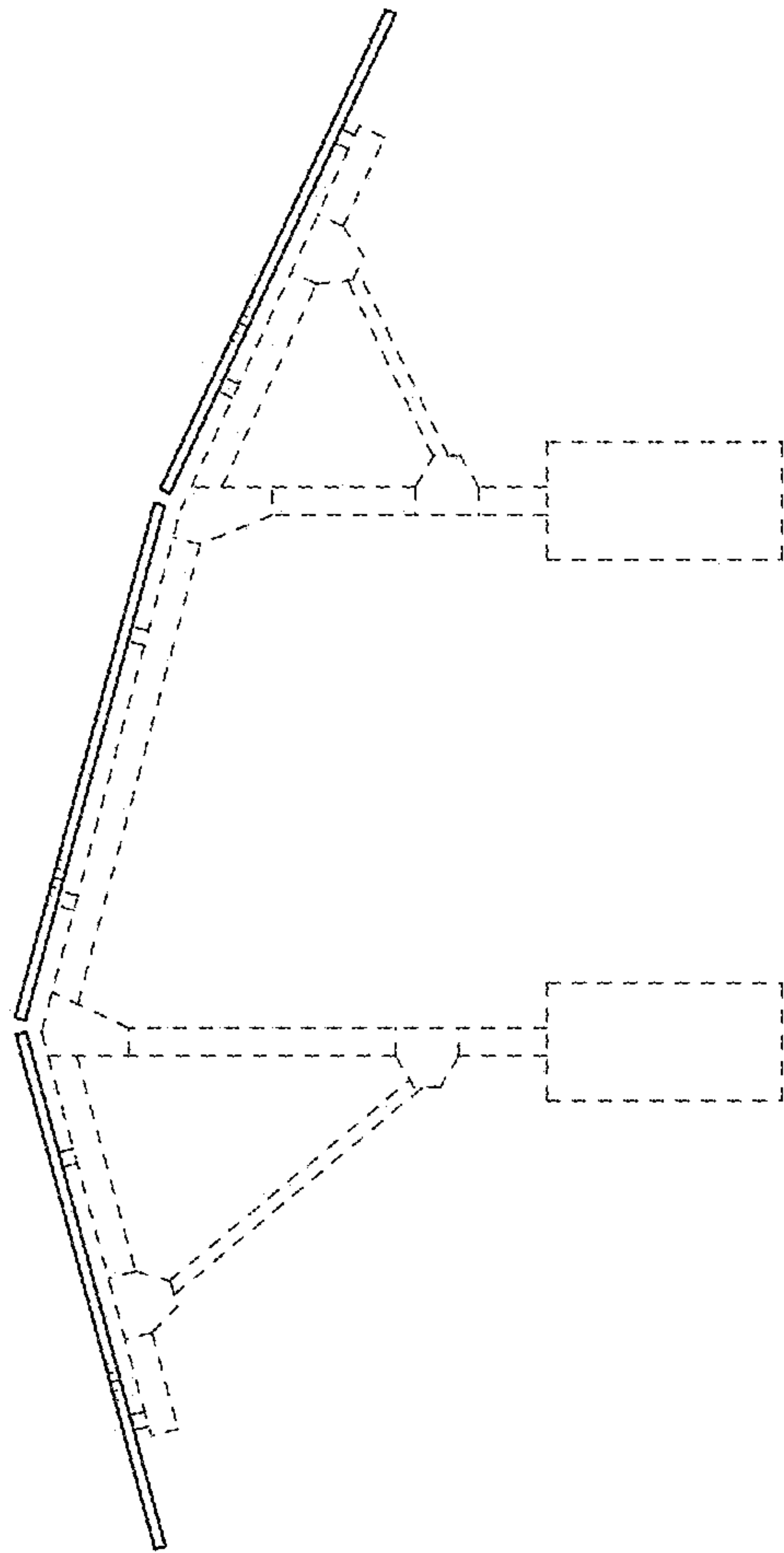


FIG. 7

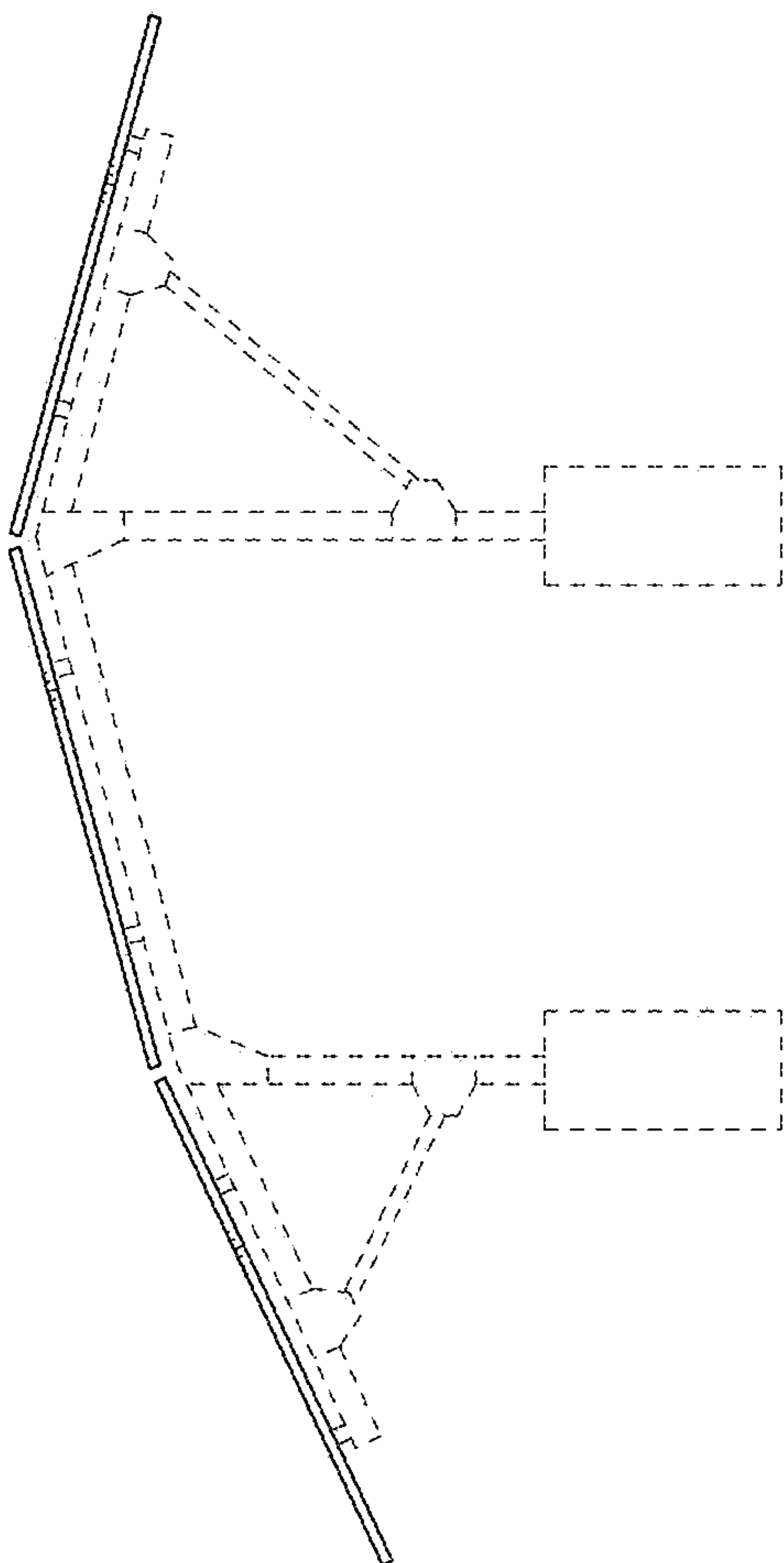


FIG. 8