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

(10) **Patent No.:** **US D669,846 S**

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- (54) **SOLAR ARRAY**
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- (73) Assignee: **P4P Holdings LLC**, Carbondale, CO (US)
- (*) Notice: This patent is subject to a terminal disclaimer.
- (**) Term: **14 Years**
- (21) Appl. No.: **29/400,363**
- (22) Filed: **Aug. 26, 2011**

- 4,071,017 A 1/1978 Russell, Jr. et al.
- 4,119,863 A 10/1978 Kelly
- 4,122,675 A 10/1978 Polyak
- 4,186,720 A 2/1980 Schmauder et al.
- 4,216,762 A 8/1980 Klaila
- 4,245,616 A 1/1981 Wyland
- 4,245,895 A 1/1981 Wildenrotter
- 4,269,173 A 5/1981 Krueger et al.
- D260,679 S 9/1981 Mayerovitch

(Continued)

FOREIGN PATENT DOCUMENTS

CA 2397850 2/2004

(Continued)

OTHER PUBLICATIONS

Baumgartner et al. "Solar Wings A New Lightweight PV Tracking System", 23re Eu PVSEC, Valencia, Sep. 4, 2008, invited talk 4DO. 9.5.

(Continued)

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(57) **CLAIM**
The ornamental design for a solar array, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a solar array showing my new design;
FIG. 2 is a front elevation view thereof, the rear elevation being a mirror image;
FIG. 3 is a top plan view thereof;
FIG. 4 is a bottom plan view thereof; and,
FIG. 5 is a side elevation view thereof, the opposite side being a mirror image.
The broken lines shown represent unclaimed subject matter and form no part of the claimed design.

1 Claim, 3 Drawing Sheets

Related U.S. Application Data

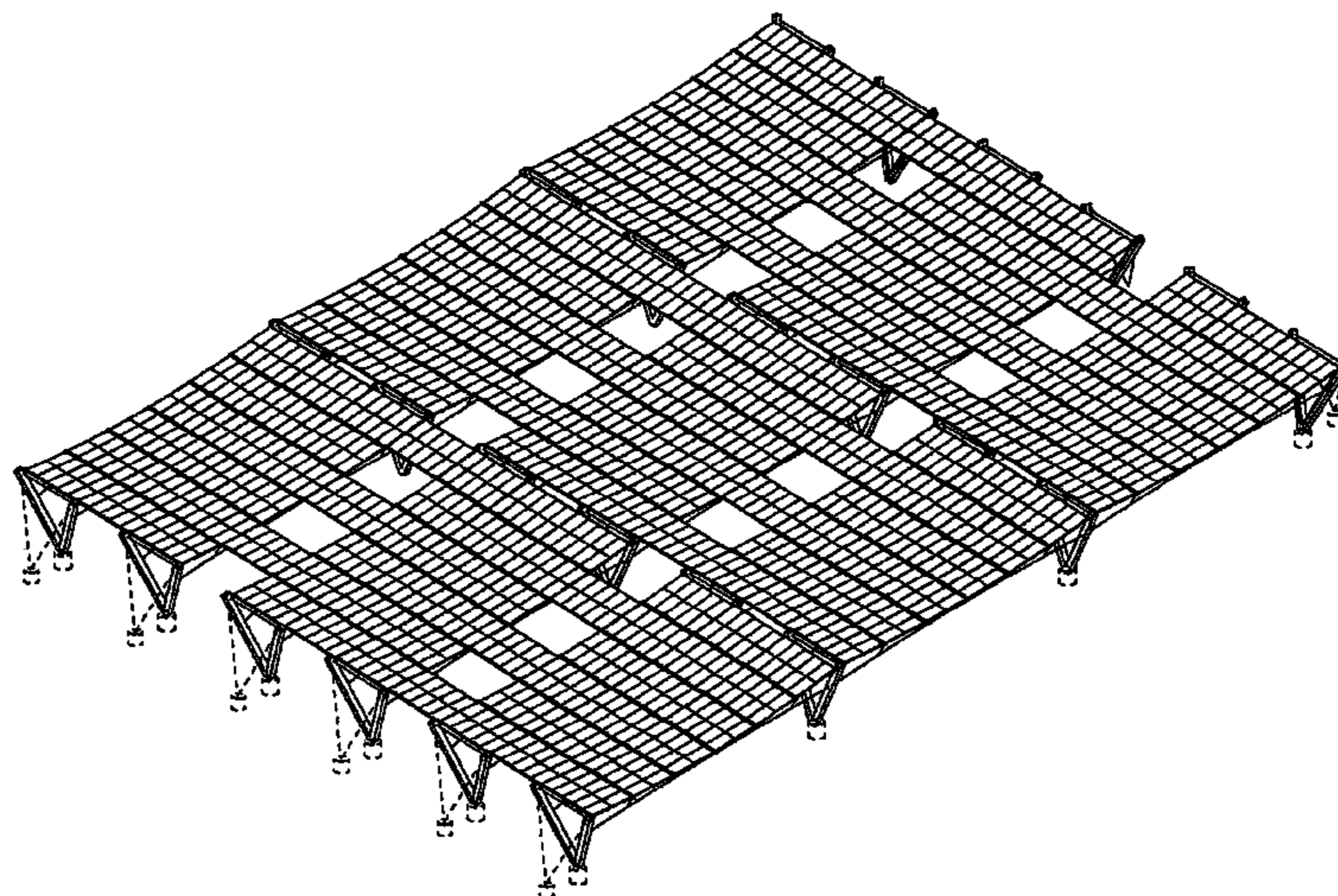
(60) Division of application No. 29/319,853, filed on Jun. 16, 2008, now Pat. No. Des. 649,112, which is a continuation-in-part of application No. 29/318,238, filed on May 15, 2008, now Pat. No. Des. 605,585, which is a continuation-in-part of application No. 11/856,521, filed on Sep. 17, 2007, now Pat. No. 7,687,706, which is a continuation of application No. 10/606,204, filed on Jun. 25, 2003, now Pat. No. 7,285,719.

- (51) **LOC (9) Cl.** **13-02**
- (52) **U.S. Cl.** **D13/102**
- (58) **Field of Classification Search** D13/102, D13/101, 184, 199; 52/82, 83, 173.3; 126/623, 126/624; 136/206, 244-252, 256, 291, 292; 248/49; 359/848, 853
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 3,449,874 A 6/1969 Beaupre'
- 3,704,560 A 12/1972 Ratliff, Jr.
- 3,750,349 A 8/1973 Deike
- 4,025,786 A 5/1977 Hamilton
- 4,063,963 A 12/1977 Bond, Jr.



U.S. PATENT DOCUMENTS

4,380,996	A	4/1983	Mengeringhausen	
4,386,600	A	6/1983	Eggert, Jr.	
4,415,759	A	11/1983	Copeland et al.	
4,429,178	A	1/1984	Prideaux et al.	
4,449,347	A	5/1984	Rooney	
4,457,035	A	7/1984	Habegger et al.	
4,487,989	A	12/1984	Wakefield et al.	
4,574,535	A	3/1986	Pabsch	
4,587,951	A	5/1986	Townsend	
4,602,613	A	7/1986	Barr	
D285,829	S *	9/1986	Lock	D13/102
4,656,996	A	4/1987	Aharaon	
4,832,001	A	5/1989	Baer	
4,835,918	A	6/1989	Dippel	
D303,244	S	9/1989	Hanak	
D311,722	S *	10/1990	Cheng	D13/102
5,058,565	A	10/1991	Gee et al.	
5,069,540	A	12/1991	Gonder	
5,125,608	A	6/1992	McMaster et al.	
5,176,758	A *	1/1993	Nath et al.	136/251
5,212,916	A	5/1993	Dippel et al.	
5,236,378	A	8/1993	Newman	
5,347,402	A	9/1994	Arbogast	
D353,129	S	12/1994	Ricaud et al.	
5,478,407	A	12/1995	Dorison et al.	
5,524,401	A	6/1996	Ishikawa et al.	
D380,191	S	6/1997	White	
5,769,068	A	6/1998	Takahashi	
D408,554	S	4/1999	Dinwoodie	
5,937,849	A	8/1999	Myles, III et al.	
5,961,099	A	10/1999	Thommen, Jr.	
D425,013	S	5/2000	Lai	
6,091,016	A	7/2000	Kester	
6,105,316	A	8/2000	Bottger et al.	
D442,139	S	5/2001	Sasaoka	
RE37,498	E	1/2002	Thomas	
6,397,869	B1	6/2002	Jennings	
6,443,145	B1	9/2002	Buron et al.	
D469,399	S	1/2003	Shugar	
6,563,040	B2	5/2003	Hayden et al.	
D475,320	S	6/2003	Hensley et al.	
6,930,237	B2	8/2005	Mattiuazzo	
D511,576	S	11/2005	Shingleton et al.	
7,285,719	B2	10/2007	Conger	
D560,605	S	1/2008	McClintock et al.	
D560,606	S	1/2008	McClintock et al.	
7,325,543	B2	2/2008	Momii et al.	
7,557,292	B2	7/2009	Shingleton et al.	
D605,585	S	12/2009	Conger	
7,687,706	B2	3/2010	Conger	
D625,250	S	10/2010	Conger	
7,847,185	B2	12/2010	Schwarze	
7,866,035	B2	1/2011	Cummings et al.	
D633,033	S	2/2011	Conger	
D648,269	S	11/2011	Conger	
D649,112	S	11/2011	Conger	
D655,672	S	3/2012	Conger	
2005/0141153	A1	6/2005	Mucci et al.	
2008/0047546	A1	2/2008	Cummings	
2008/0057776	A1	3/2008	Cummings	
2008/0168981	A1	7/2008	Cummings et al.	
2008/0283112	A1	11/2008	Conger	
2008/0283113	A1	11/2008	Conger	
2009/0038672	A1	2/2009	Conger	
2009/0184223	A1	7/2009	Schwarze et al.	
2009/0200808	A1	8/2009	Parmley	
2009/0211625	A1	8/2009	Schwarze	
2009/0244890	A1	10/2009	Pelken et al.	
2010/0000516	A1	1/2010	Conger	
2010/0038507	A1	2/2010	Schwarze et al.	
2010/0051083	A1	3/2010	Boyk	
2010/0089433	A1	4/2010	Conger et al.	
2010/0095609	A1	4/2010	Kim	
2010/0133396	A1	6/2010	Conger et al.	
2010/0183443	A1	7/2010	Thorne	
2010/0212654	A1	8/2010	Trevijano	
2010/0251618	A1	10/2010	Nishikawa et al.	

2010/0314509	A1	12/2010	Conger
2011/0089698	A1	4/2011	Ahmadi
2011/0113705	A1	5/2011	Raczkowski
2011/0197418	A1	8/2011	Overturf et al.
2011/0221203	A1	9/2011	Miller
2011/0277809	A1	11/2011	Dalland et al.

FOREIGN PATENT DOCUMENTS

DE	3504133	8/1986
DE	3643487	6/1988
DE	4038646	6/1992
DE	10050021	4/2001
DE	10116783	10/2002
EP	0373234	6/1990
JP	10-266499	10/1998
JP	2004-71805	9/2005
WO	WO 2005/085633	9/2005
WO	WO 2008/141813	11/2008
WO	WO 2009/065377	5/2009

OTHER PUBLICATIONS

“Coolearth technology” coolearth, available at <http://www.coolearthsolar.com/technology>, date unknown, p. 1-2.
 Definition of “column,” <http://www.thefreedictionary.com/p/column>, printed Dec. 14, 2010, 4 pages.
 Difference between shear connection and moment connections, http://wiki.answers.com/Q/Difference_between_shear_connection_and_moment_connections, printed Dec. 14, 2010, 1 page.
 Definition of “moment connection,” <http://mbmisteelbuildings.com/metal-building-terms#m>, printed Dec. 19, 2010, 1 page.
 Definition of “moment,” <http://www.thefreedictionary.com/p/moment>, printed Dec. 19, 2010, 4 pages.
 “Sharp Provides Solar Panels for Winery’s “Floatovoltaic” Solar Array”, available at <http://solarbuss.com/News/NewsNAPR1099.htm>, dated May 29, 2008 (accessed Jun. 23, 2008), pp. 1-2.
 Foster + Partners “Hearst Headquarters”, available at <http://www.fosterandpartners.com/Projects/1124/Default.aspx>, printed Aug. 5, 2008, 11 pages.
 Solyndra web pages available at <http://www.solyndra.com>, printed May 11, 2009, 7 pages.
 “Single Axis SunPower T20 Trackers”, date unknown, 5 pages.
 Solon Hilber—Malaga/Spain, available at <http://www.solonhilber.at>, translated by Google translate, available as early as Sep. 21, 2007, printed Mar. 23, 2010, 7 pages.
 Examination Report for European Patent Application No. 04759693.7-1528, dated Apr. 27, 2007.
 International Search Report for International (PCT) Patent Application No. PCT/US2004/008509, dated Oct. 22, 2004.
 Written Opinion for International (PCT) Patent Application No. PCT/US2004/008509, dated Oct. 21, 2004.
 International Preliminary Report on Patentability for International (PCT) Patent Application No. PCT/US2004/008509, dated Oct. 14, 2005.
 Examiner’s First Report for Australian Patent Application No. 2004231646, dated Jul. 23, 2008.
 International Search Report for International (PCT) Patent Application No. PCT/US08/71414, dated Sep. 26, 2008.
 Written Opinion for International (PCT) Patent Application No. PCT/US08/71414, dated Sep. 26, 2008.
 International Search Report for International (PCT) Patent Application No. PCT/US09/44060, mailed Jun. 24, 2009.
 Written Opinion for International (PCT) Patent Application No. PCT/US09/44060, mailed Jun. 24, 2009.
 International Preliminary Report on Patentability for International (PCT) Patent Application No. PCT/US2008/071414, mailed Nov. 25, 2010.
 International Preliminary Report on Patentability for International (PCT) Patent Application No. PCT/US2009/044060, mailed Nov. 25, 2010.
 Official Action for Australia Patent Application No. 2009246194, dated Aug. 22, 2011, 2 pages.

* cited by examiner

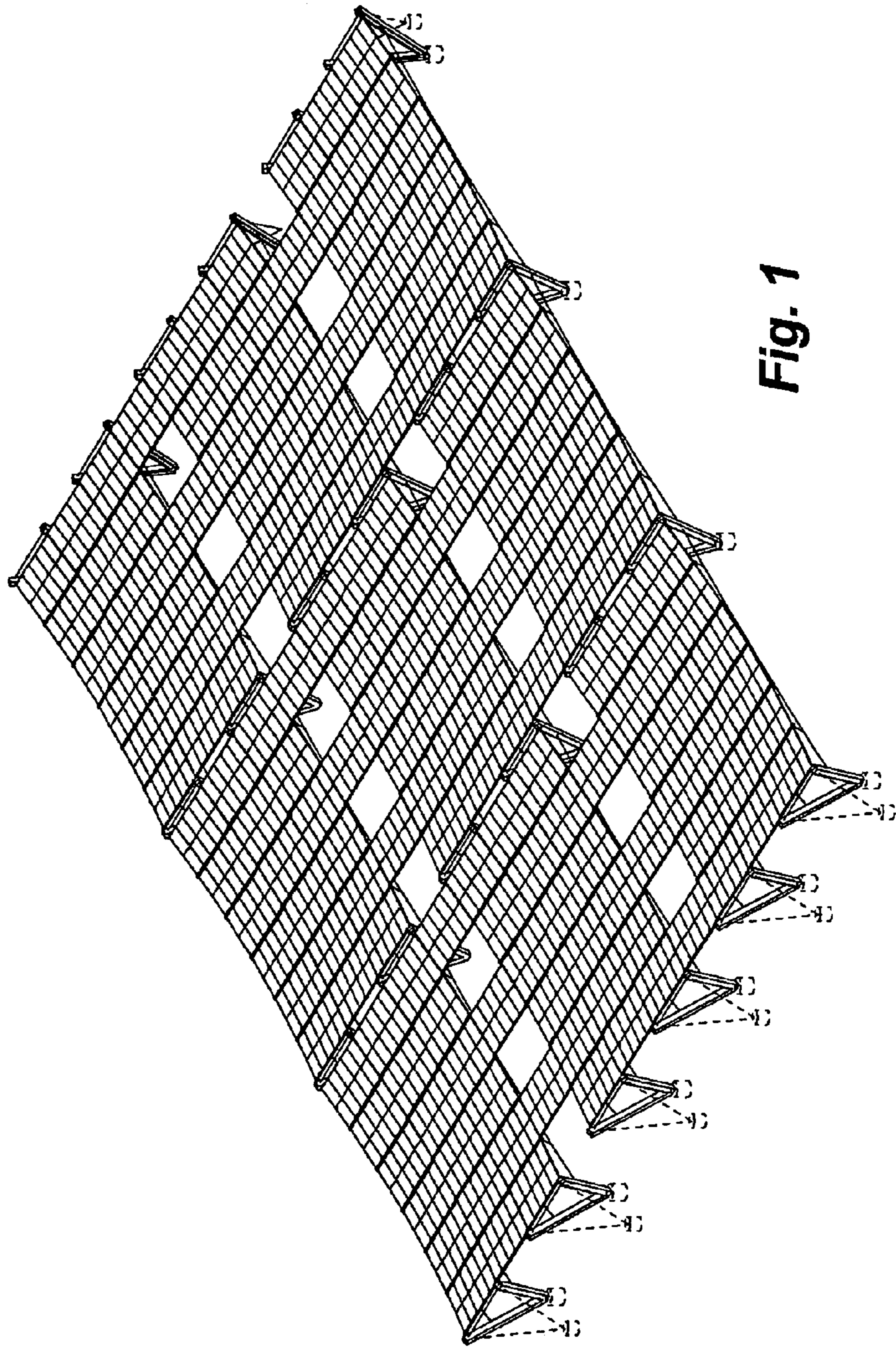


Fig. 1

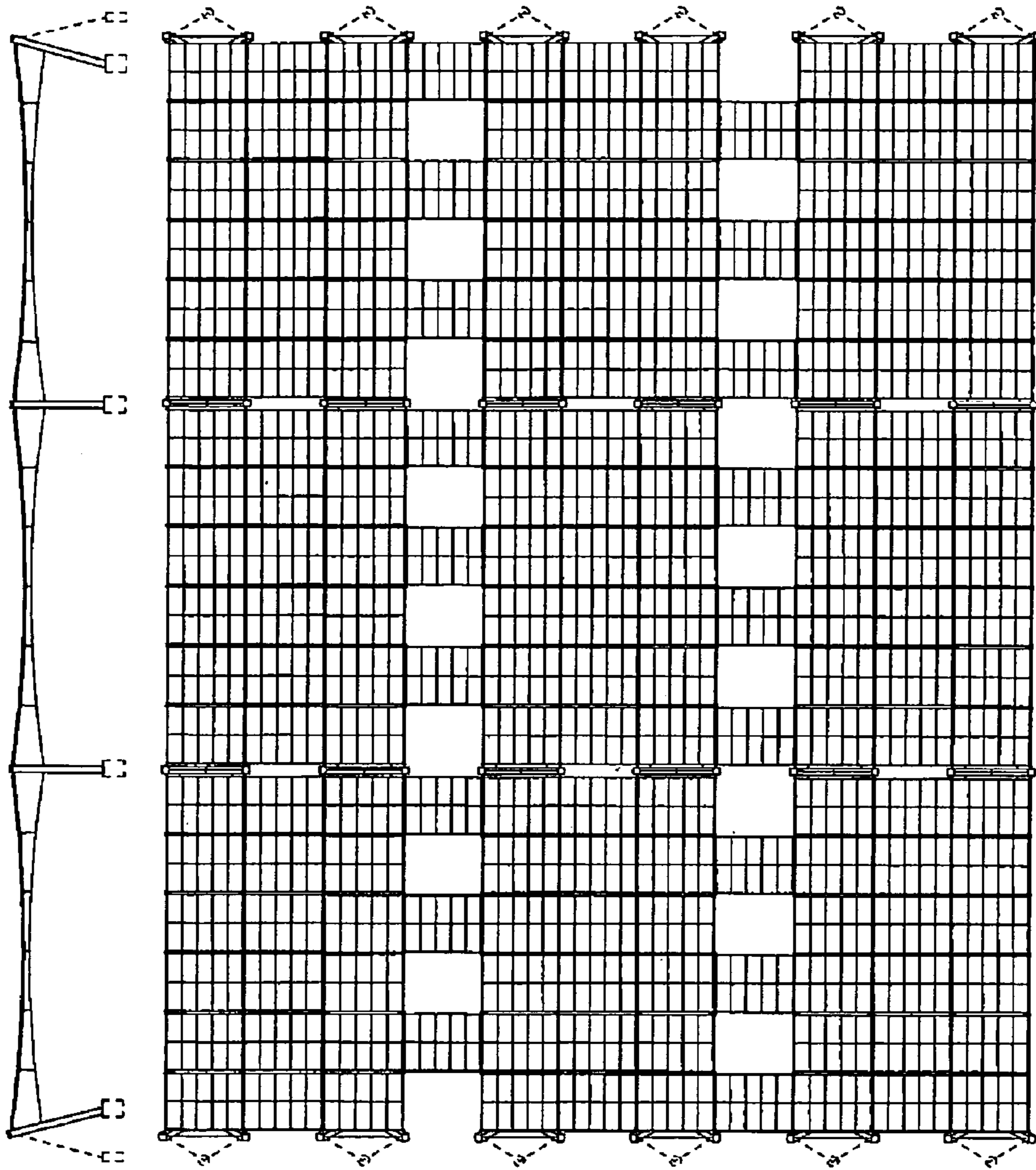


Fig. 2

Fig. 3

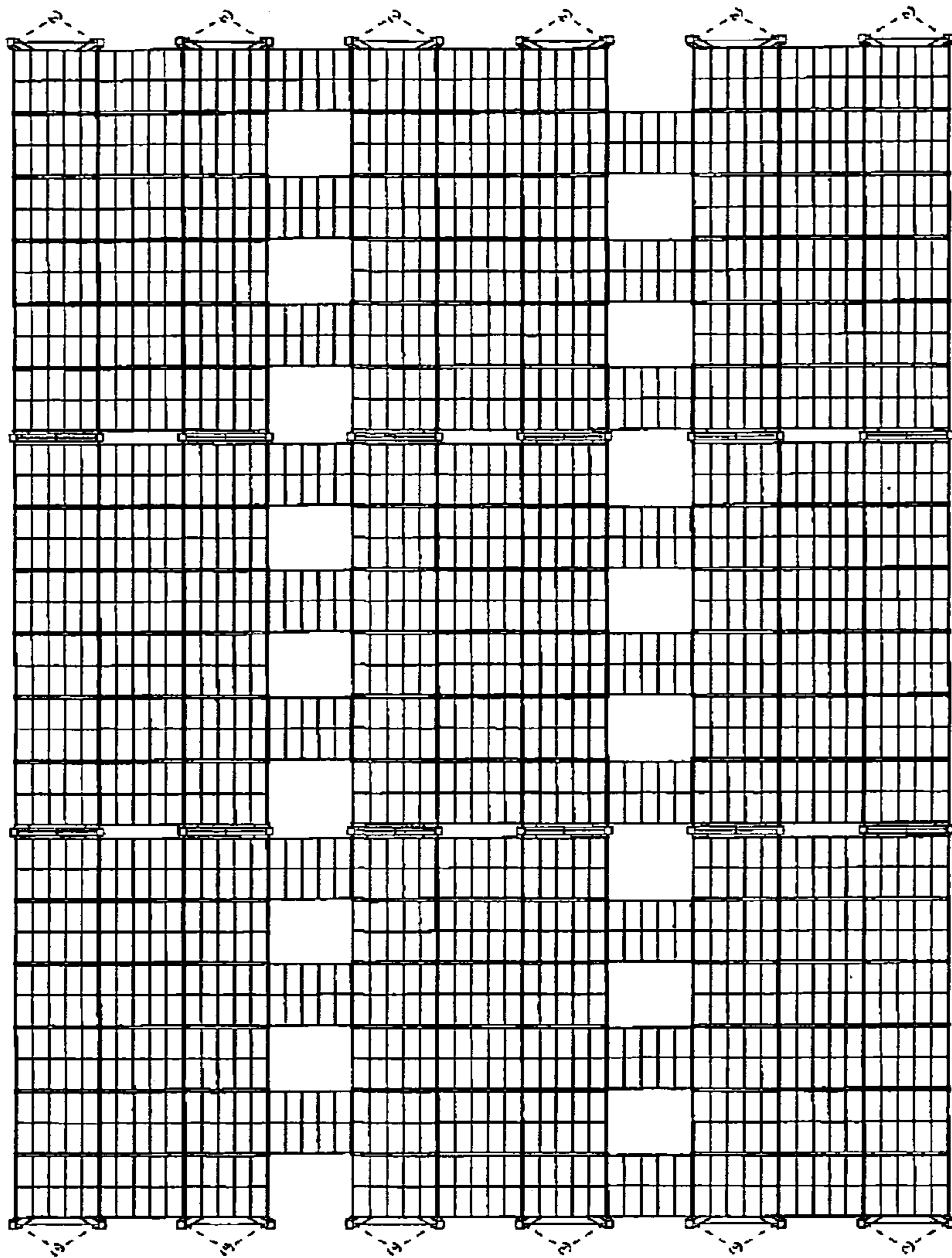


Fig. 4

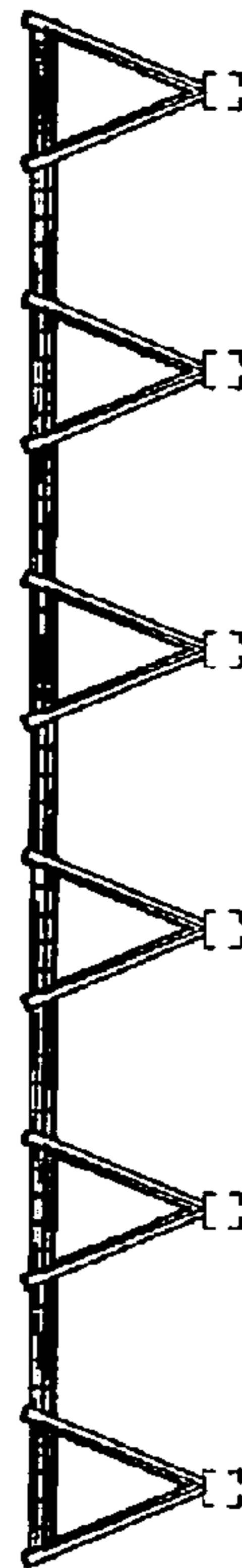


Fig. 5