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(12) United States Design Patent

Conger

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(54) **SOLAR ARRAY**

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(*) Notice: This patent is subject to a terminal disclaimer.

(**) Term: **14 Years**

(21) Appl. No.: **29/400,363**

(22) Filed: **Aug. 26, 2011**

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.
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;

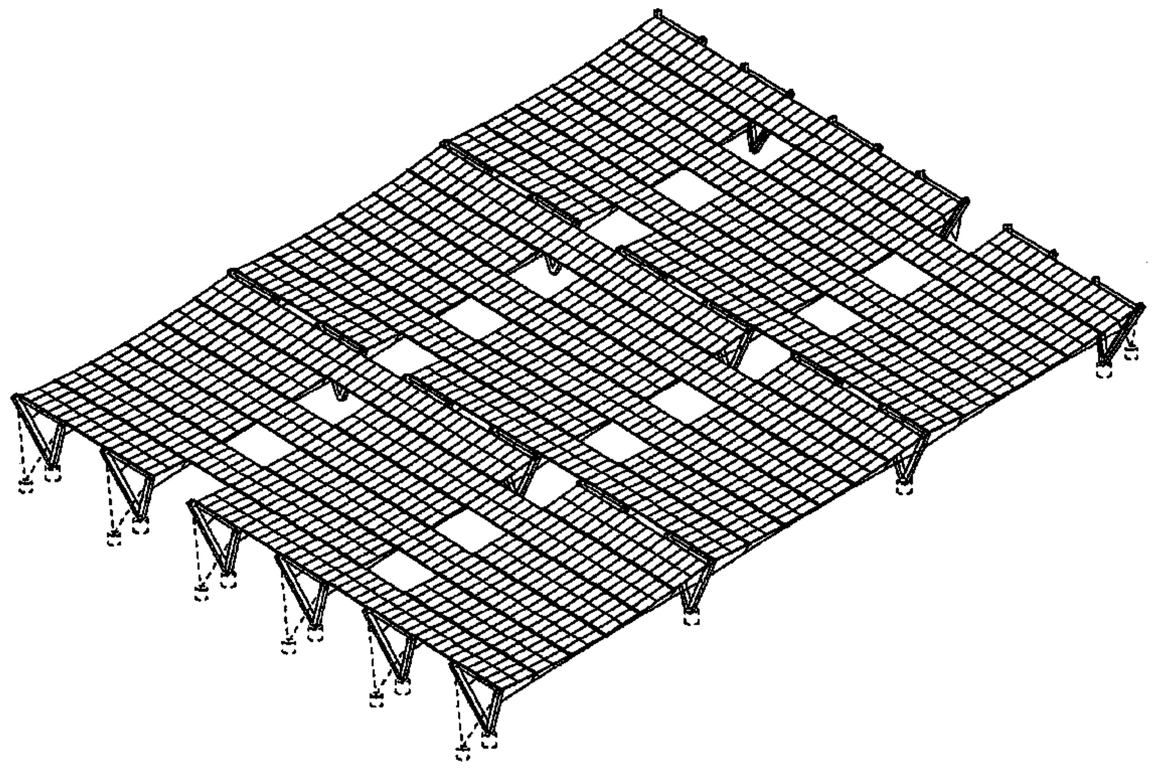
FIG. **3** is a top plan view thereof;

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



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	Mattiuzzo	
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, printerd Aug. 5, 2008, 11 pages.

Solyndra web pages available at http://ww.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

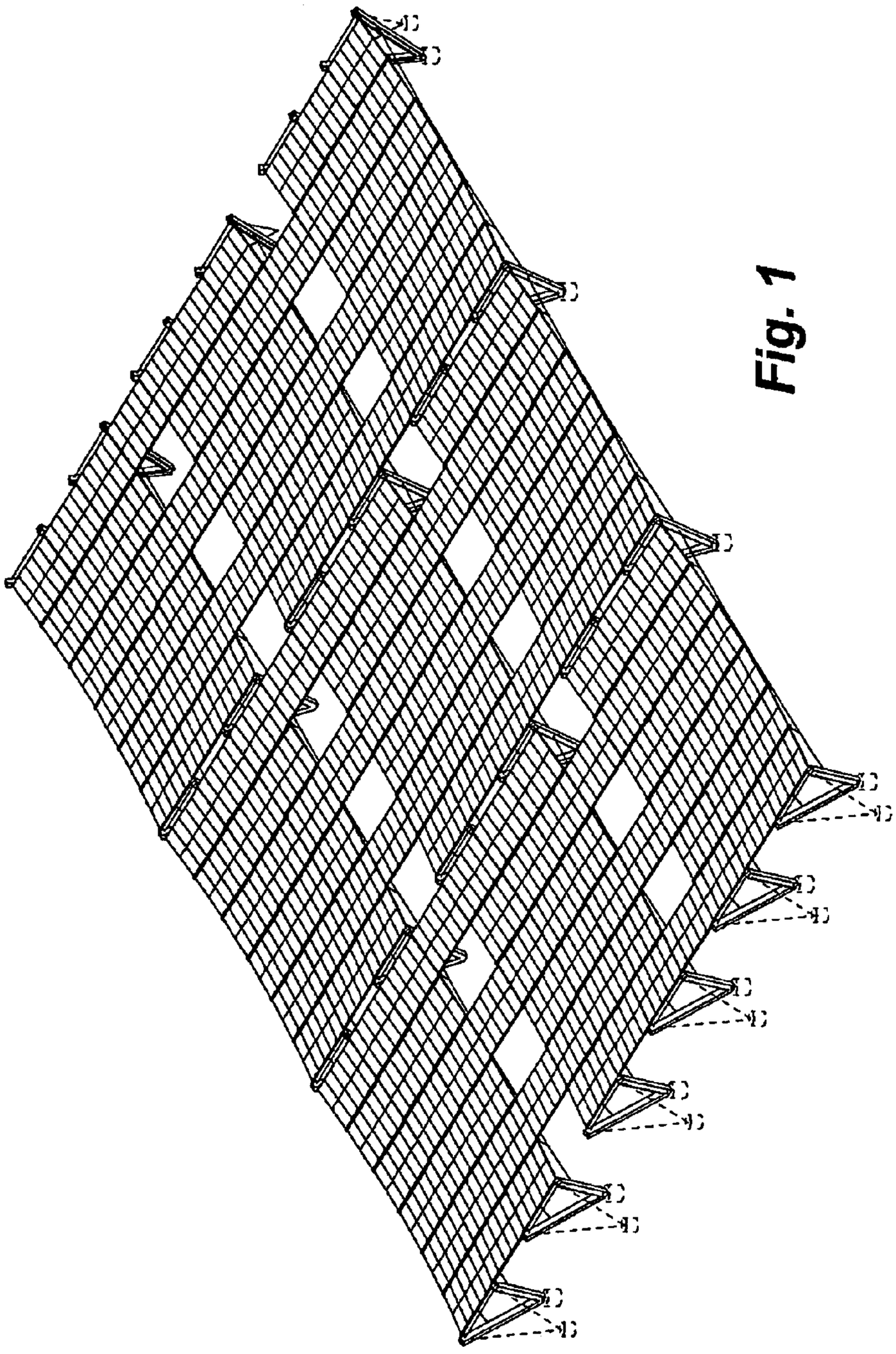


Fig. 1

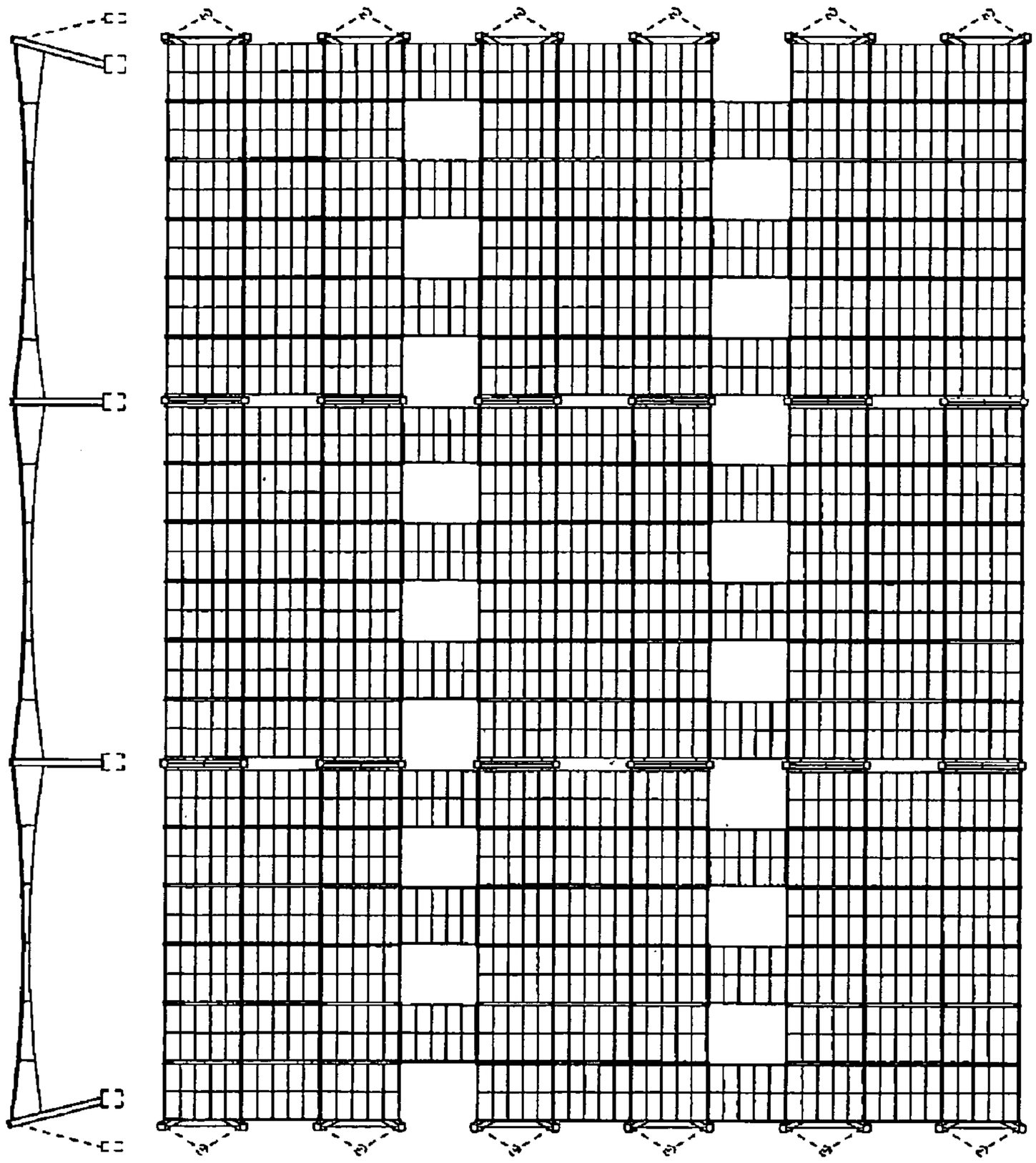


Fig. 2

Fig. 3

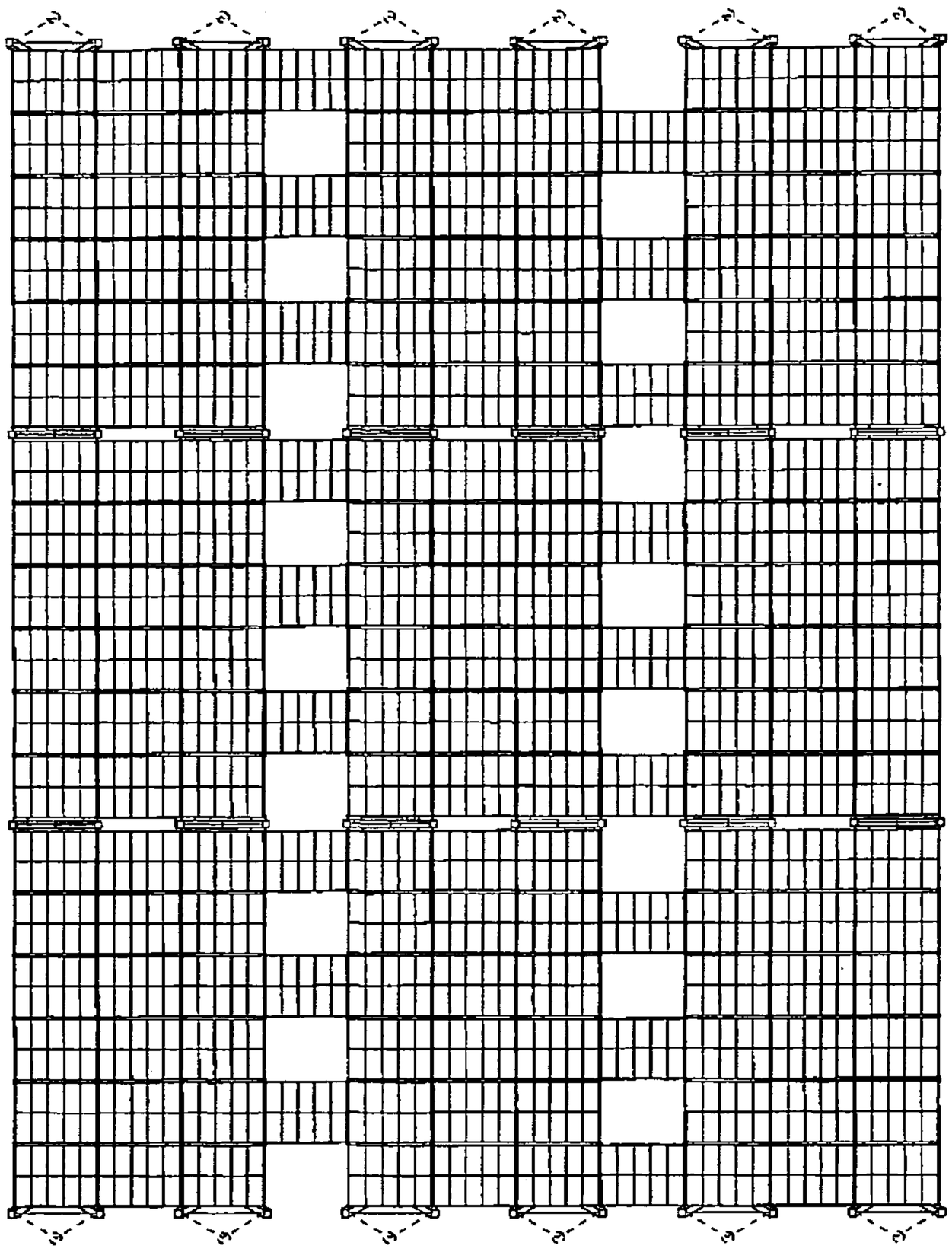


Fig. 4

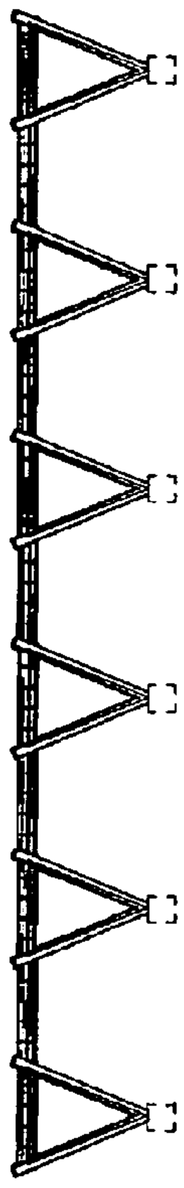


Fig. 5