US00D908606S

(12) United States Design Patent

Fukui et al.

(10) Patent No.: US D908,606 S
(45) Date of Patent: ** Jan. 26, 2021

(54) **DYE-SENSITIZED SOLAR CELL MODULE**

(71) Applicant: **SHARP KABUSHIKI KAISHA**, Sakai (JP)

(72) Inventors: **Atsushi Fukui**, Sakai (JP); **Tomohisa Yoshie**, Sakai (JP); **Yuki Watanabe**, Sakai (JP); **Hirokazu Ichinose**, Sakai (JP); **Kei Ogiya**, Sakai (JP); **Daisuke Toyoshima**, Osaka (JP)

(73) Assignee: **Sharp Kabushiki Kaisha**, Sakai (JP)

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

(21) Appl. No.: **29/677,848**

(22) Filed: **Jan. 24, 2019**

(30) **Foreign Application Priority Data**

Jul. 24, 2018 (JP) 2018-016142

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

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

(58) **Field of Classification Search**
USPC D13/102, 101, 110, 118, 133, 182, 184, D13/199
CPC H01L 31/02; H01L 31/042; H01L 31/048; H01L 27/142; H01L 27/1421; Y02E 10/40; Y02E 10/47; Y02E 10/50; Y02E 10/52; Y02E 10/54
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,209,998	A		12/1916	Pinckert
1,553,742	A		9/1925	Blatter
2,340,703	A		2/1944	Schwabacher
2,627,533	A		2/1953	Jensen
D257,893	S	*	1/1981	Millhollen D13/102
4,293,808	A	*	10/1981	Varadi H02J 7/35 320/101
D309,786	S		8/1990	Chien
D344,733	S		3/1994	Walthers

(Continued)

FOREIGN PATENT DOCUMENTS

CN	305240412	S	7/2019
CN	305240413	S	7/2019

(Continued)

OTHER PUBLICATIONS

U.S. Appl. No. 29/677,846 filed Jan. 24, 2019, entitled "Communication Module With Solar Cell".

(Continued)

Primary Examiner — Derrick E Holland
(74) *Attorney, Agent, or Firm* — Nixon & Vanderhye P.C.

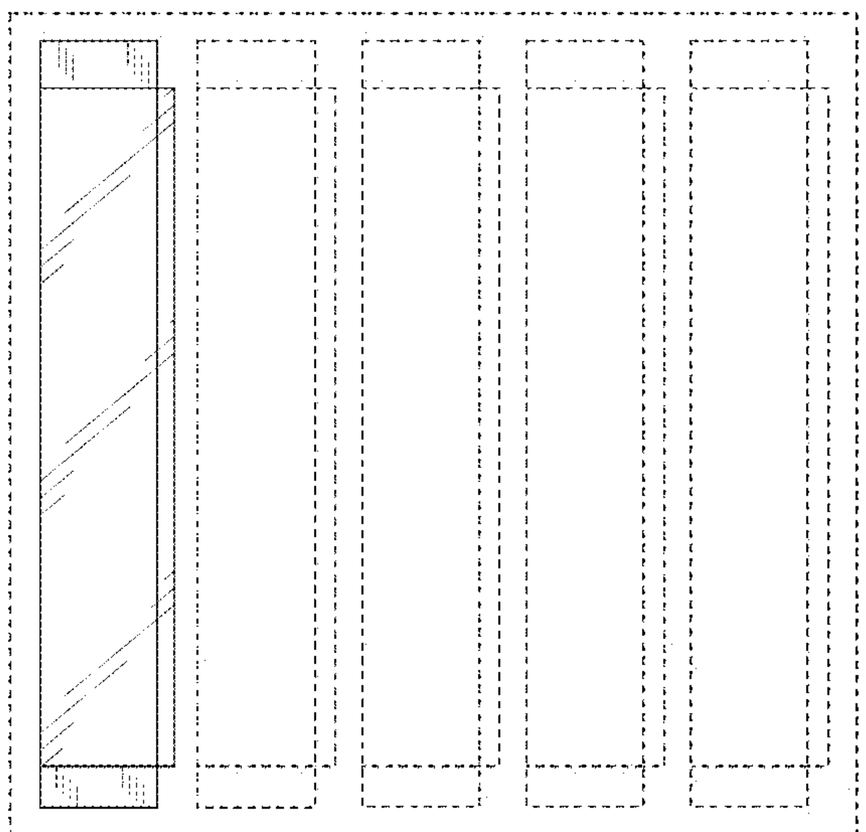
(57) **CLAIM**

The ornamental design for a dye-sensitized solar cell module, as shown and described.

DESCRIPTION

FIG. **1** is a front elevation view of a dye-sensitized solar cell module according to our design;
FIG. **2** is a rear elevation view of the dye-sensitized solar cell module of FIG. **1**;
FIG. **3** is a top plan view of the dye-sensitized solar cell module of FIG. **1**;
FIG. **4** is a bottom plan view of the dye-sensitized solar cell module of FIG. **1**;
FIG. **5** is a right side elevation view of the dye-sensitized solar cell module of FIG. **1**; and,
FIG. **6** is a left side elevation view of the dye-sensitized solar cell module of FIG. **1**.
The broken lines shown in the drawings depict portions of the dye-sensitized solar cell module that form no part of the claimed design.

1 Claim, 3 Drawing Sheets



(56) **References Cited**

U.S. PATENT DOCUMENTS

D346,170	S		4/1994	Tang	
D347,584	S		6/1994	Vogelpohl	
5,453,729	A		9/1995	Chu	
D378,435	S		3/1997	Trombley	
D378,578	S		3/1997	Eberhardt	
D380,441	S	*	7/1997	Fukuhara	D13/102
5,745,262	A		4/1998	Tatsumi	
D397,233	S		8/1998	Bassford	
6,238,218	B1		5/2001	Baffert	
D453,329	S		2/2002	Muramatsu	
D453,511	S		2/2002	Goto	
D456,807	S		5/2002	Floyd	
D464,347	S		10/2002	Floyd	
D466,866	S		12/2002	Stack	
D468,296	S		1/2003	Graceffa	
D477,312	S		7/2003	Dugas	
D496,038	S		9/2004	Floyd	
D507,657	S		7/2005	Neel	
D563,327	S		3/2008	Horio	
D580,800	S		11/2008	Hauk	
D588,534	S	*	3/2009	Sharma	D13/102
D589,013	S		3/2009	Pozin	
D590,604	S		4/2009	Pozin	
D611,460	S		3/2010	Chao	
D621,985	S		8/2010	Sanoner	
D631,566	S		1/2011	Egawa	
D650,334	S		12/2011	Matsuoka	
D658,605	S		5/2012	Egawa	
D664,213	S		7/2012	Sogabe	
D671,921	S		12/2012	Beall	
D683,251	S		5/2013	Dumas	
D687,590	S		8/2013	Chilton	
8,574,943	B2	*	11/2013	Murray	H01G 9/2077 438/57
D695,679	S	*	12/2013	Endoh	D13/102
D701,827	S		4/2014	Turk	
D708,569	S	*	7/2014	Beckerman	D13/102
D719,960	S		12/2014	Akana	
D738,275	S		9/2015	Tachiiri	
D748,639	S		2/2016	Khodapanah	
9,257,237	B2	*	2/2016	Okada	H01G 9/2081
D761,198	S	*	7/2016	Hou	D13/102
D761,736	S		7/2016	Imai	
D766,844	S		9/2016	Turksu	
D774,451	S		12/2016	Castillo-Aguilella	
D774,934	S		12/2016	Akana	
D780,727	S		3/2017	Wang	
9,589,736	B2	*	3/2017	Matsumoto	H01G 9/2031
D786,724	S		5/2017	Seagle, Jr.	
D801,316	S		10/2017	Weber	
D804,059	S	*	11/2017	Labesque	D25/139
D804,533	S		12/2017	Mangum	
D806,014	S		12/2017	Saitou	
D806,932	S		1/2018	Hui	
D806,933	S		1/2018	Hui	
D812,577	S		3/2018	Turksu	
D813,068	S		3/2018	Studer	
D820,238	S		6/2018	Boshernitzan	
D822,253	S		7/2018	Wu	
D854,950	S		7/2019	Seum	
D855,492	S		8/2019	Jones	
D860,958	S		9/2019	Lewis	
D865,859	S		11/2019	Ben Avi	
D867,346	S		11/2019	Hofstede	
D869,697	S		12/2019	Kasuga	
D882,144	S		4/2020	Zhu	
D885,631	S		5/2020	Li	
D889,444	S		7/2020	Sakamoto	
D890,144	S		7/2020	Sakamoto	
2007/0201187	A1	*	8/2007	McGregor	G02F 1/1533 361/503
2008/0011917	A1		1/2008	Adams	
2008/0158865	A1		7/2008	Chen	
2008/0314448	A1	*	12/2008	Kato	H01G 9/2077 136/261
2011/0263067	A1	*	10/2011	Vaid	H01L 31/048 438/65
2018/0283630	A1		10/2018	Soofer	

FOREIGN PATENT DOCUMENTS

CN	305240415	S	7/2019
EM	005215001-0003		6/2018
JP	1131849		11/2001
JP	1161787		11/2002
JP	1290286		11/2006
JP	1390147		5/2010
JP	1390148		5/2010
JP	1462708		1/2013
JP	1469292		4/2013
JP	1490549		1/2014
JP	1593399		11/2017
JP	1627499		3/2019
JP	1627618		3/2019
JP	1632696		4/2019
JP	1636976		6/2019
JP	1637087		6/2019
JP	1637236		6/2019
JP	1637250		6/2019
JP	1638436		7/2019

OTHER PUBLICATIONS

U.S. Appl. No. 29/677,859 filed Jan. 24, 2019, entitled "Data Transmitter with Solar Cell and Sensor".

Notice of Allowance dated Aug. 10, 2020 in U.S. Appl. No. 29/677,846.

U.S. Office Action dated Oct. 9, 2020 in U.S. Appl. No. 29/677,859.

Petrala Solar Lantern Lights Panel Replacement Top. (online) 12 pgs. Available Dec. 6, 2018. [retrieved Oct. 2, 2020] https://www.amazon.com/Petrala-Lantern-Replacement-Outdoor-Lanterns/dp/B07L687LCX?ref =ast_sto_dp.

Maggift Solar Pathway Lights Replacement Top. (online) 7 pgs. Available Jan. 18, 2018. [retrieved Oct. 2, 2020] https://www.amazon.com/MAGGIFT-Solar-Pathway-Lights-Replacement/dp/807DF5QSJF?ref =ast_sto_dp.

Antenna Transmitters and Solar Cells. (Design-©Questel) orbit.com. [online PDF] 30 pgs. Print Dates Range Jul. 21, 2017 through Sep. 27, 2019 [Oct. 3, 2020] https://www.orbit.com/export/QPTUJ214/pdf2/75d42c ld-d199-413f-8d92-71 0b6727e733-170049.pdf.

U.S. Appl. No. 10/079,504, dated Sep. 2018, Hui.

* cited by examiner

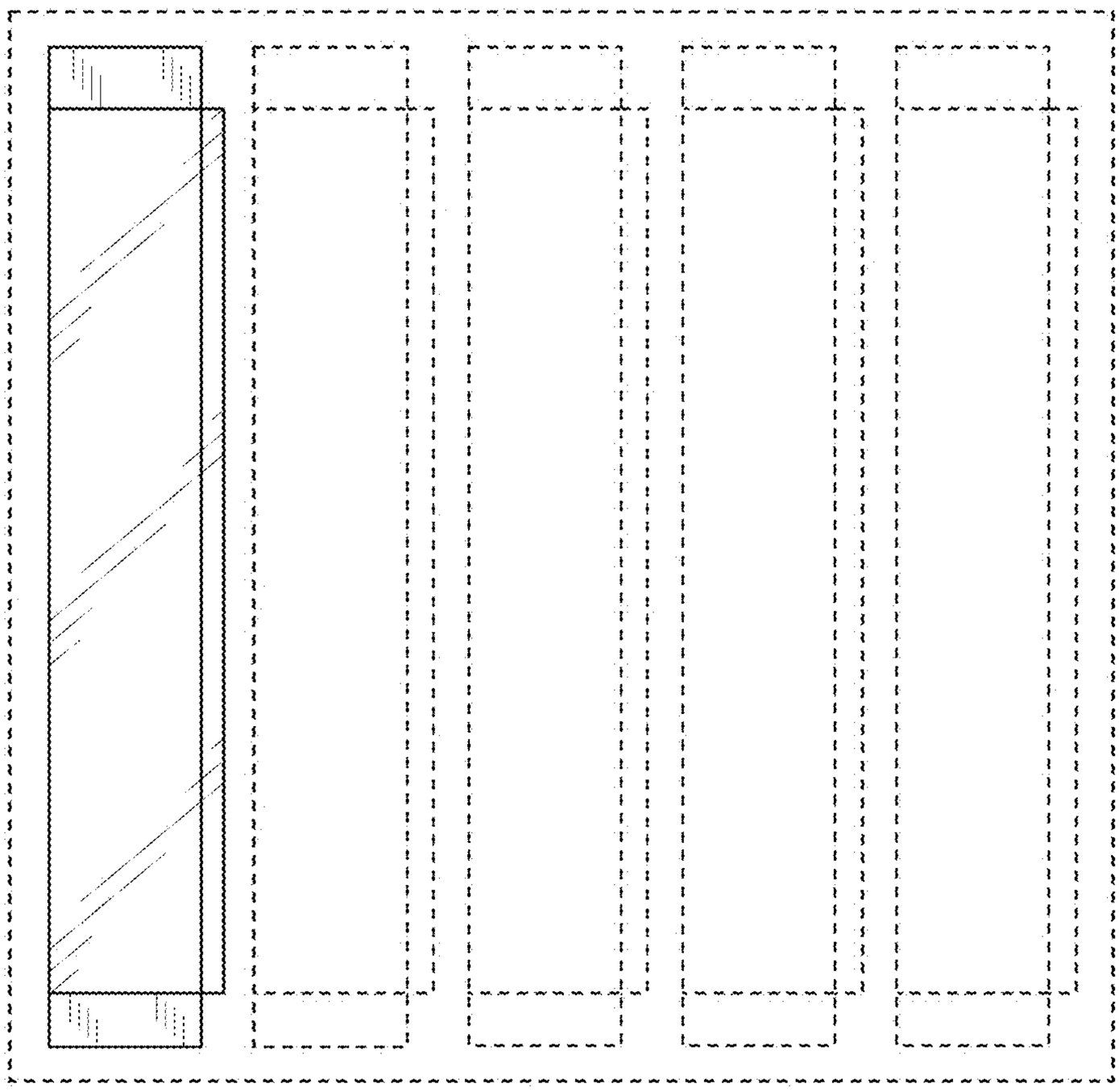


FIG. 1

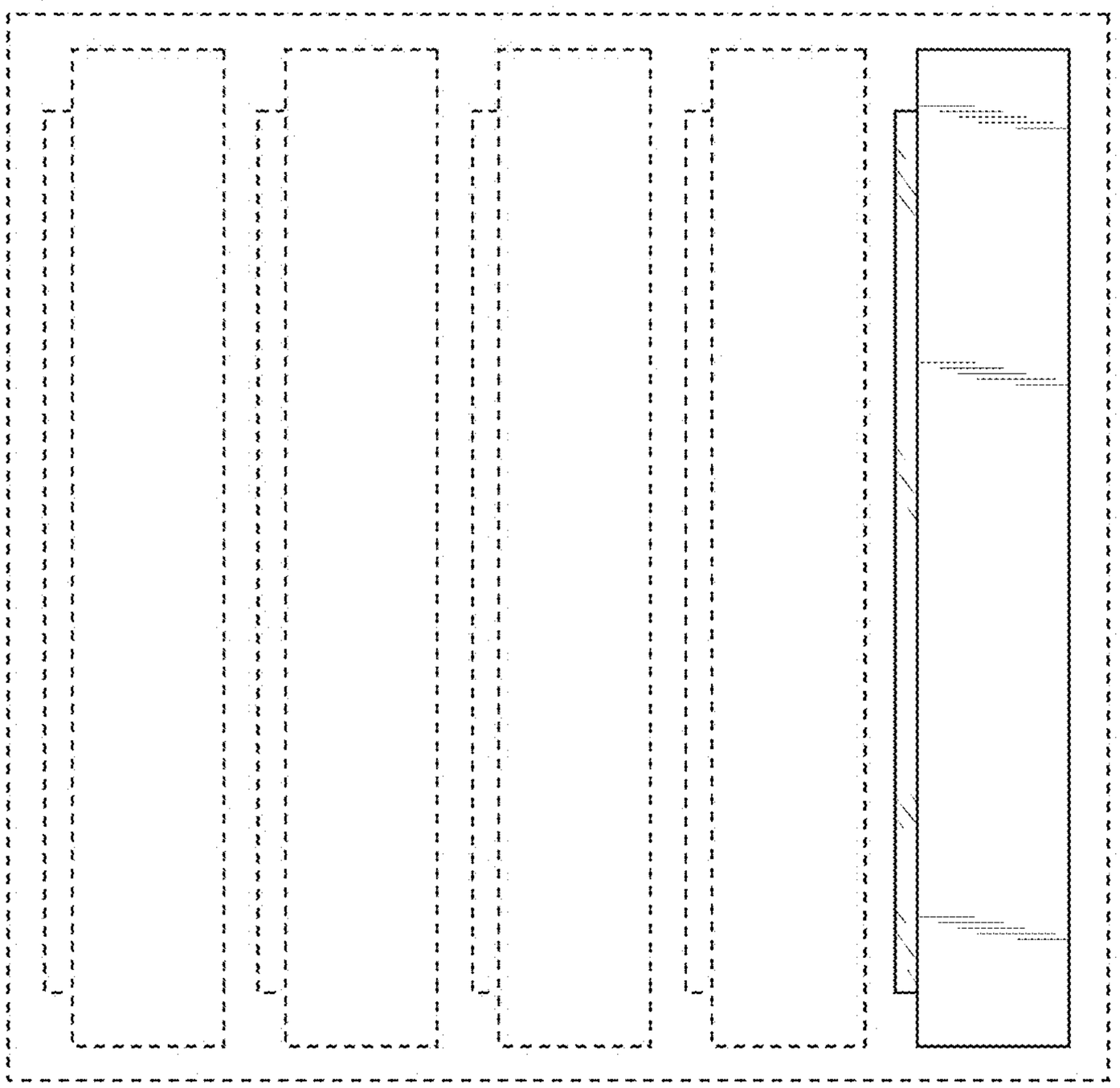


FIG. 2

FIG. 3

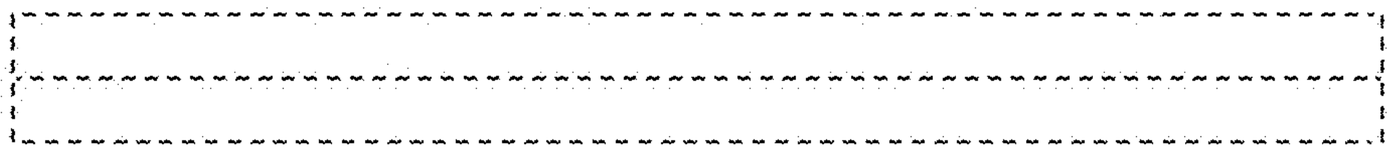


FIG. 4

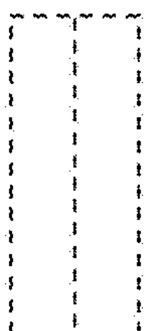


FIG. 5

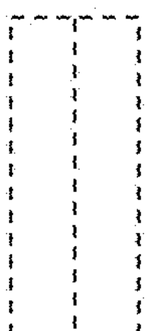


FIG. 6