



US00D784994S

(12) **United States Design Patent**
Fujiuchi et al.

(10) **Patent No.:** **US D784,994 S**

(45) **Date of Patent:** **** Apr. 25, 2017**

(54) **IMAGE SENSOR**

(71) Applicant: **mitsubishi electric corporation**, Tokyo (JP)

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

(21) Appl. No.: **29/548,601**

(22) Filed: **Dec. 15, 2015**

(30) **Foreign Application Priority Data**

Jun. 18, 2015 (JP) 2015-013487

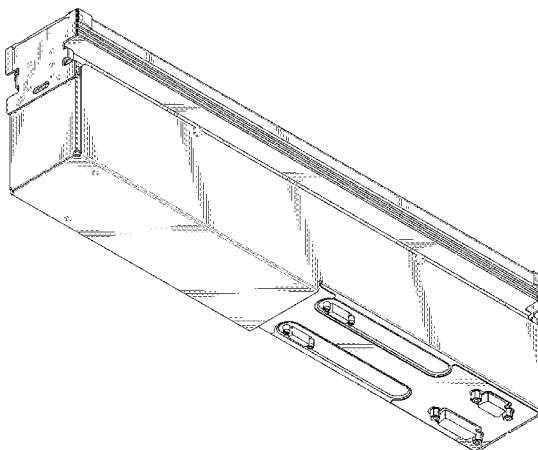
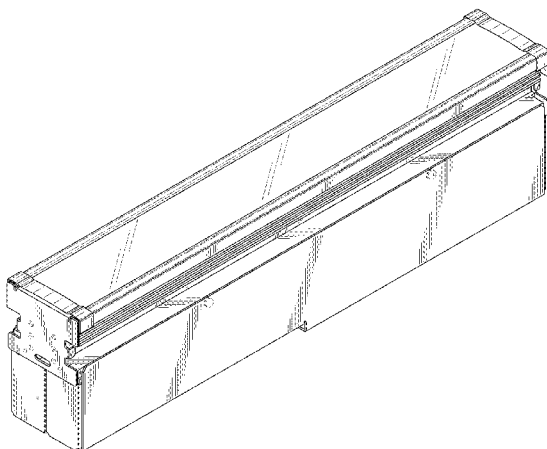
(51) **LOC (10) Cl.** **14-02**

(52) **U.S. Cl.**
USPC **D14/420; D14/421; D14/453**

(58) **Field of Classification Search**

USPC D14/421-425, 420; D18/55, 49, 46, 40, D18/36-39, 41, 44, 45, 47, 48, 50-54, D18/56; 235/462, 455, 470, 462.43, 482, 235/483, 462.21, 472.01, 435, 439, 440, 235/446, 454, 461, 462.32, 462.35, 235/462.41, 462.42, 463; 358/474, 486, 358/488, 496, 497, 498, 452, 449, 451, 358/453, 1.13; 318/685, 696; 355/81, 355/75; 399/405, 367, 379, 380; 382/217; 715/209, 222, 226, 274; 400/613, 613.1-613.4, 690.1-690.4, 400/691-694; D26/1-3, 24, 56, 72, D26/74-86, 88-91, 25; D13/180, 182; 362/150, 217.01-217.09, 217.1, 217.12, 362/217.13, 260, 364, 365, 366, 404, 555, 362/576, 800, 14, 148, 296.01

CPC .. D07G 1/0036; D07G 1/0045; D07G 1/0063; D07G 1/0072; D07G 1/009; G08B 13/1427; G08B 13/1472; G08B 13/1481; G08B 13/194; G08B 13/246; G08B 13/2462; G08B 13/2465; A47F 9/04; A47F 9/046; A47F 9/047; A47F 9/048; A47F 10/02; A47F 2010/005; A47F 2010/025; G06K 7/10693; G06K 7/10712; G06K 7/10722; G06K 7/10792; G06K 7/10801; G06K 7/10811; G06K 7/10831; G06K 7/10851; G06K 7/10861; G06K 7/1096; G06K 7/1097; G06K 7/1098; G06K 7/12; G06K 7/14; G06K 7/1408; G06K 7/1413; G06K 7/1417; G06K 7/1421; G06K 7/1426; G06K 7/143; G06K 7/1434; G06K 7/1439; G06K 7/1443; G06K 7/1447; G06K 7/1452; G06K 7/1456; G06K 7/146; G06K 7/1465; G06K 7/1469; G06K 7/1473; G06K 7/1478; G06K 7/1482; G06K 7/1486; G06K 2007/10485; G06K 7/10544-7/10762; G06K 7/10821-7/10871; G06K 7/1404-7/1495; G06K 2207/00; G06K 2207/1011-2207/1018; G01G 19/4144; G01G 21/22; G01G 21/28; G01G 23/32; G01G 23/34; G01G 23/35; G01G 23/375; G01G 23/38; G01G 23/44; G07G 1/0063; G07G 1/0072; G07G 3/006; G02B 5/09; G02B 6/00; G06T 2211/00; H04N 1/0313-1/032; H04N 1/02815-1/02895; H04N 1/0249; H04N 1/02481; H04N 1/00; H04N 1/12; H04N 1/00013; H04N 1/00015; H04N 1/00018; H04N 1/00026; H04N 1/00557; H04N 1/00564; H04N 1/00567; H04N 1/0057; H04N 1/00572; H04N 1/0586; H04N 1/00588; H04N 1/00591; H04N 1/00594; H04N 1/00596; H04N 1/00604; H04N 1/00519; H04N 1/00559; H04N 1/00551; H04N 1/00278; H04N 1/1013; H04N 1/10; H04N 5/2251-5/2256; H04N 2201/02456; H04N 2201/02458; H04N 2201/02462; H04N 2201/03468; H04N 2201/02485; H04N



2201/0249; H04N 2201/02481; H04N
2201/0456; H04N 2201/0446; H04N
2201/00; H04N 2201/0094; H01L
27/14618–27/14643; H01L 27/14649;
H01L 27/14652; H01L
27/14658–27/1467; H01L
31/0232–31/02327; H01L 31/1055; H01L
31/14; G03G 15/0142; G03G 15/605;
G03G 15/602; F21S 2/00; F21S 4/00;
F21S 4/003; F21S 4/005; F21S 4/006;
F21S 4/007; F21S 4/008; F21S 6/00;
F21S 8/00; F21S 8/024; F21S 8/026;
F21S 8/031; F21S 8/033; F21S
8/035–8/037; F21S 8/04; F21S 8/043;
F21S 8/063

See application file for complete search history.

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				9,160,879 B2 *	10/2015	Suto	H04N 1/02815
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2009/0294630 A1*	12/2009	Saito	H04N 1/0318 250/208.1	2015/0381848 A1*	12/2015	Matsui	H04N 1/02835 358/482
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2012/0218746 A1*	8/2012	Winton	H05B 33/0806 362/219	* cited by examiner			
2012/0318961 A1*	12/2012	Sawada	H04N 1/0318 250/208.1	<i>Primary Examiner</i> — Susan Moon Lee			
2013/0038913 A1*	2/2013	Shimoda	G07D 7/121 358/474	(74) <i>Attorney, Agent, or Firm</i> — Studebaker & Brackett PC			
2013/0038914 A1*	2/2013	Yoshida	H04N 1/0285 358/474	(57)	CLAIM		
2013/0181311 A1*	7/2013	Sugiyama	H04N 1/193 257/432	The ornamental design for an image sensor, as shown and described.			
2013/0222918 A1*	8/2013	Nemoto	G03G 15/04054 359/622	DESCRIPTION			
2013/0250373 A1*	9/2013	Takeuchi	H04N 1/0285 358/474	FIG. 1 is a front perspective view of the front, left, and top sides of an image sensor showing our new design;			
2013/0265617 A1*	10/2013	Murakami	G02B 6/0001 358/448	FIG. 2 is a rear perspective view of the rear, right, and bottom sides thereof;			
2013/0265618 A1*	10/2013	Kobayashi	H04N 1/00557 358/475	FIG. 3 is a front view thereof;			
2013/0314756 A1*	11/2013	Amemiya	F21V 13/04 358/497	FIG. 4 is a rear view thereof;			
2014/0014819 A1*	1/2014	Yoshida	G02B 6/0096 250/208.1	FIG. 5 is a left side view thereof;			
2014/0111835 A1*	4/2014	Ozawa	H04N 1/028 358/475	FIG. 6 is a right side view thereof;			
2014/0198355 A1*	7/2014	Miwa	H04N 1/0318 358/482	FIG. 7 is a top plan view thereof; and,			
2015/0015924 A1*	1/2015	Fujiuchi	H04N 1/02835 358/474	FIG. 8 is a bottom view thereof.			
2015/0062670 A1*	3/2015	Yoshida	G02B 6/0096 358/482	The broken lines shown represent unclaimed subject matter of the image sensor and form no part of the claimed design.			

1 Claim, 8 Drawing Sheets

FIG. 1

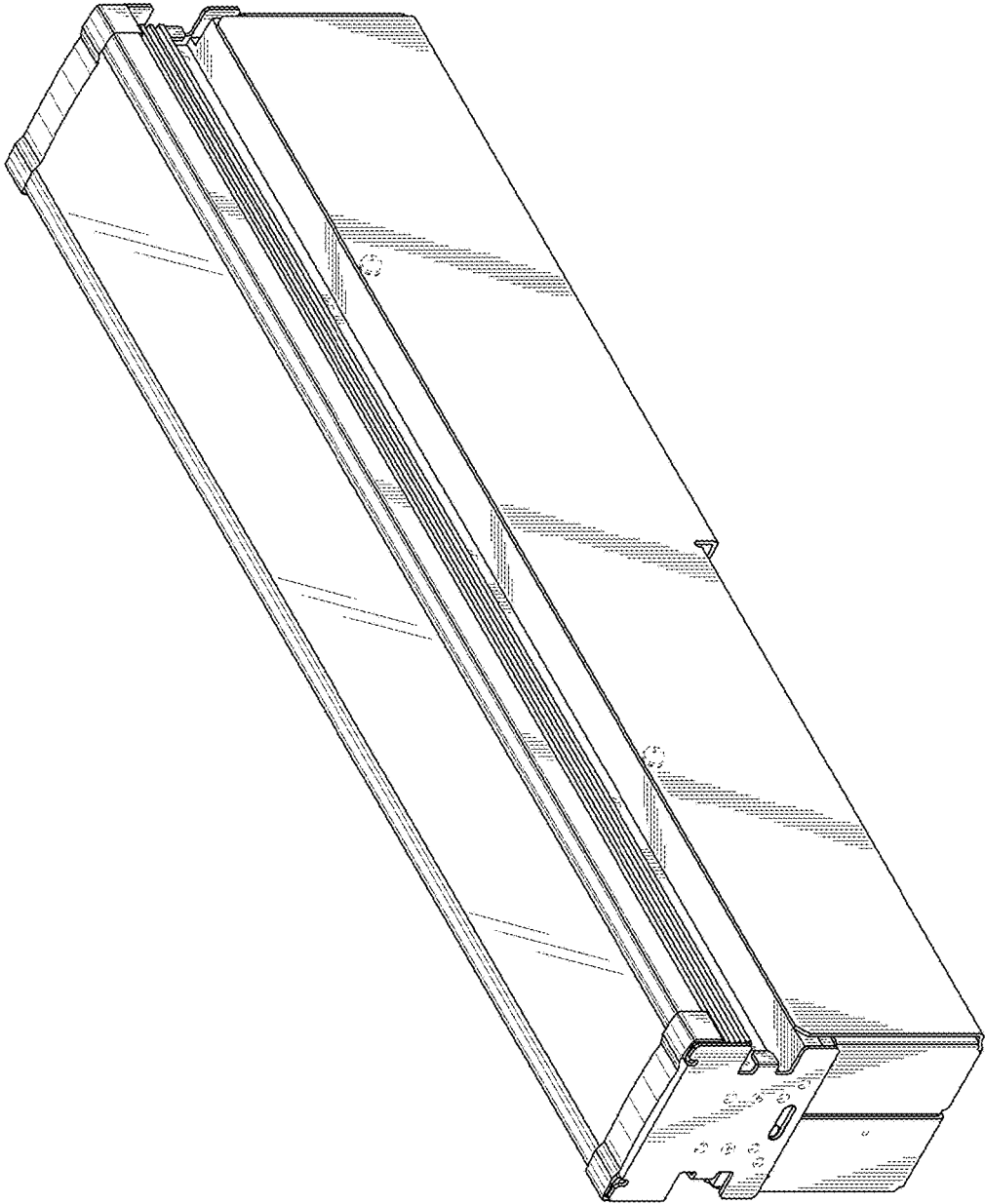


FIG. 2

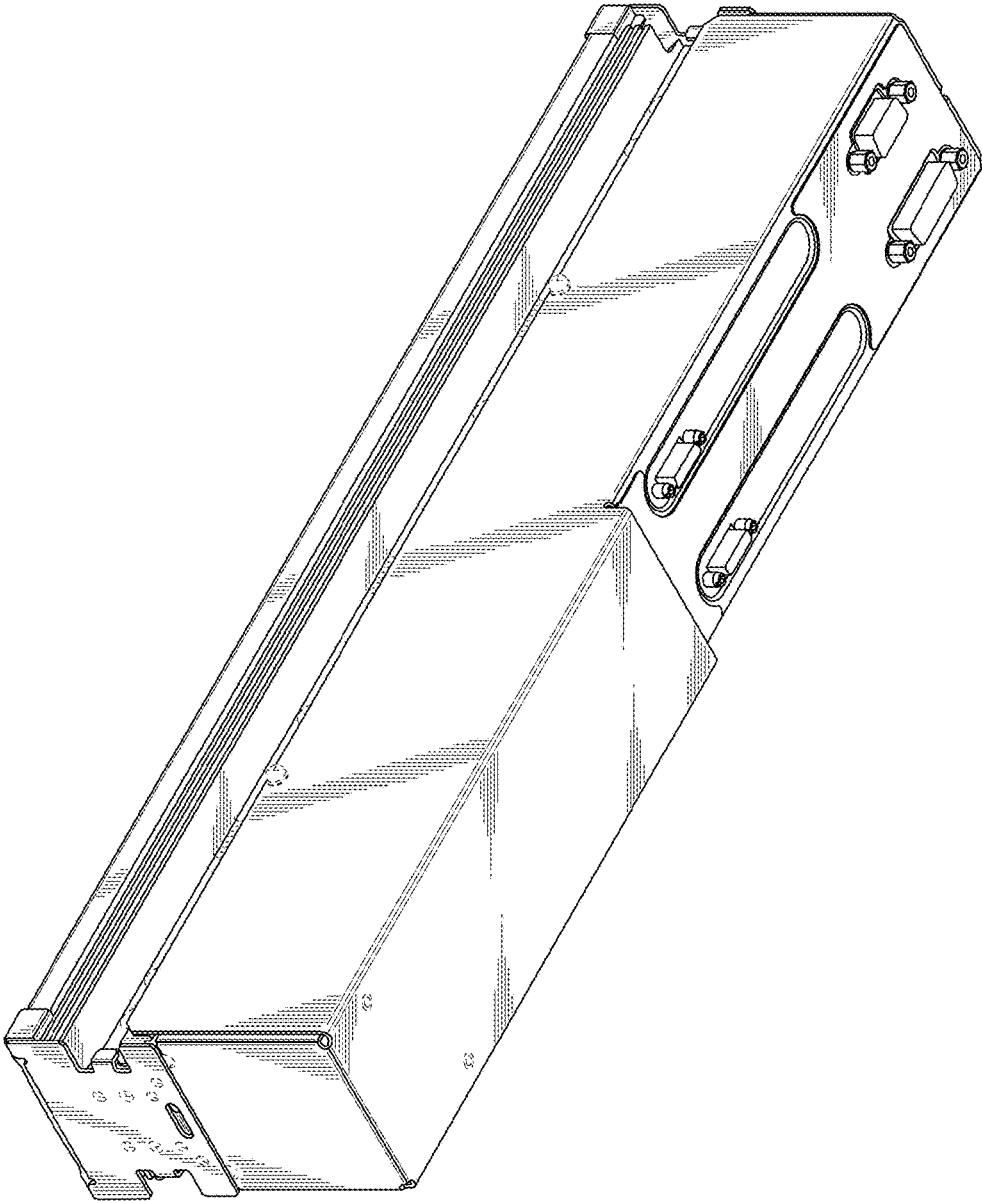


FIG. 3

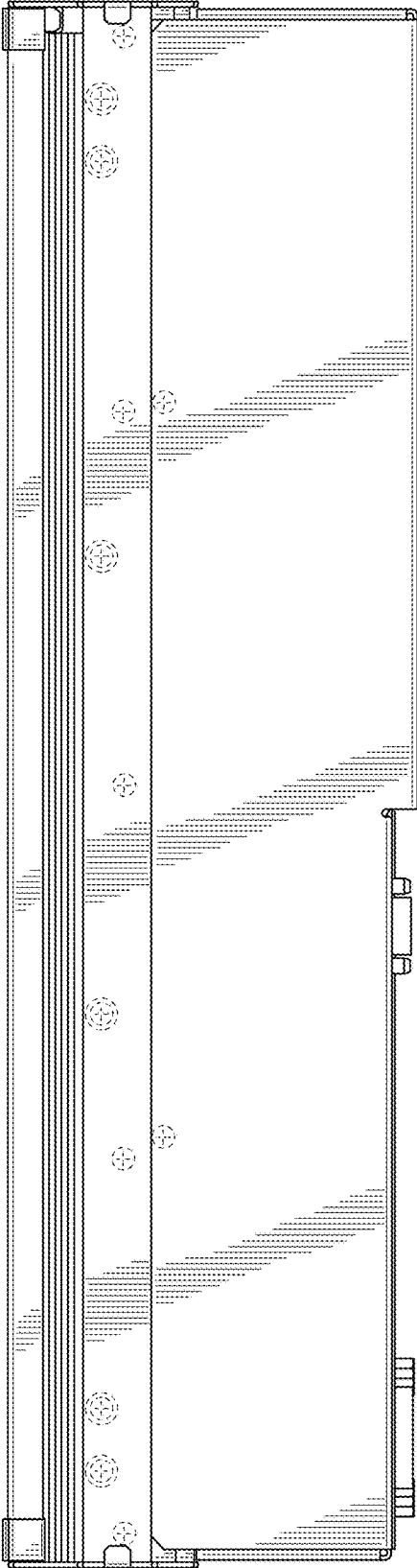


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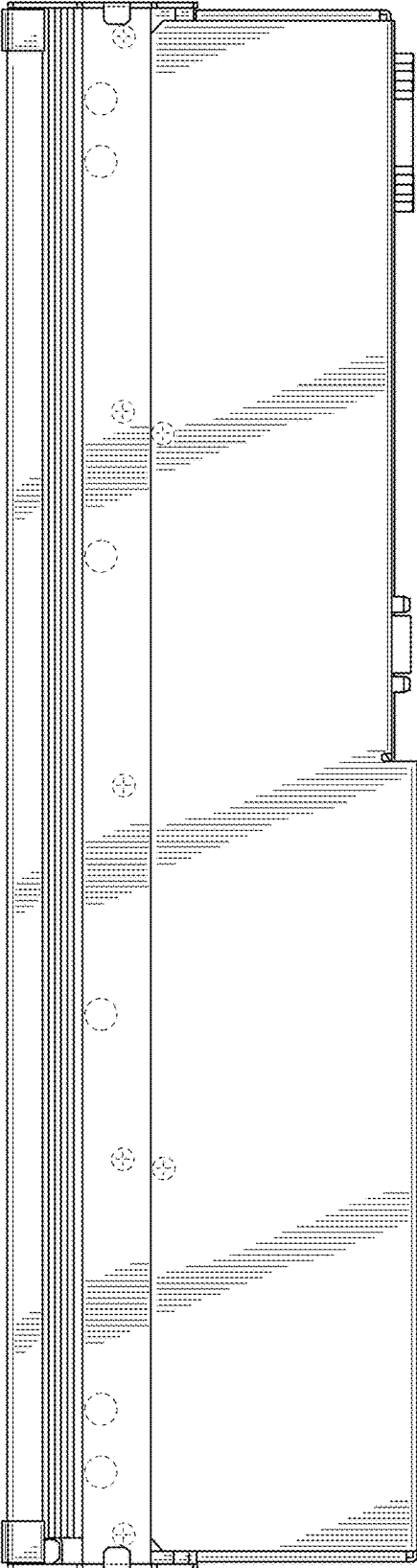


FIG. 5

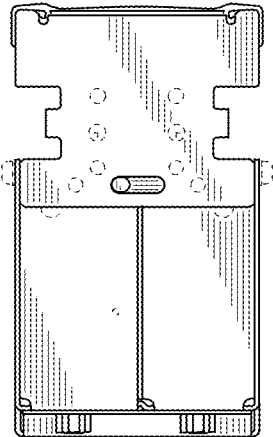


FIG. 6

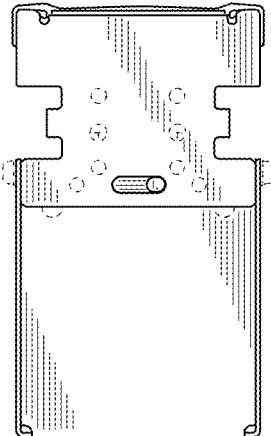


FIG. 7

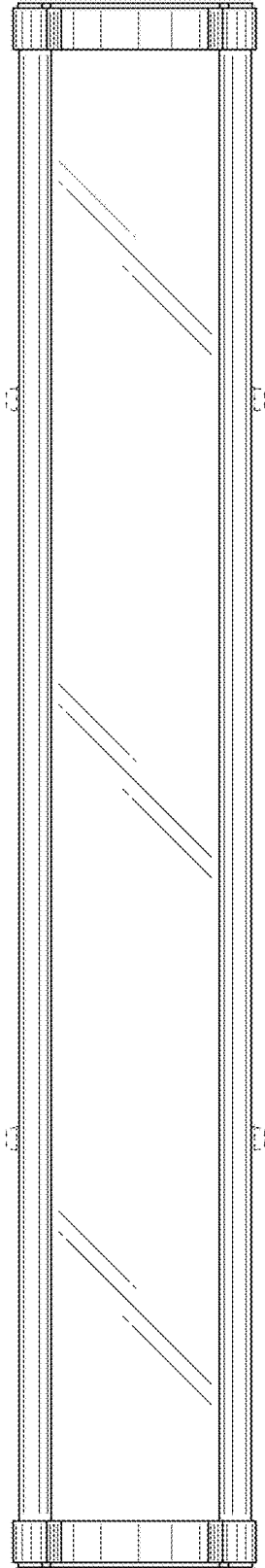


FIG. 8

