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

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(45) **Date of Patent: ** May 2, 2017**

(54) **IMAGE SENSOR**

(71) Applicant: **MITSUBISHI ELECTRIC CORPORATION**, Tokyo (JP)

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

(21) Appl. No.: **29/548,605**

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(30) **Foreign Application Priority Data**

Jun. 18, 2015 (JP) 2015-013488

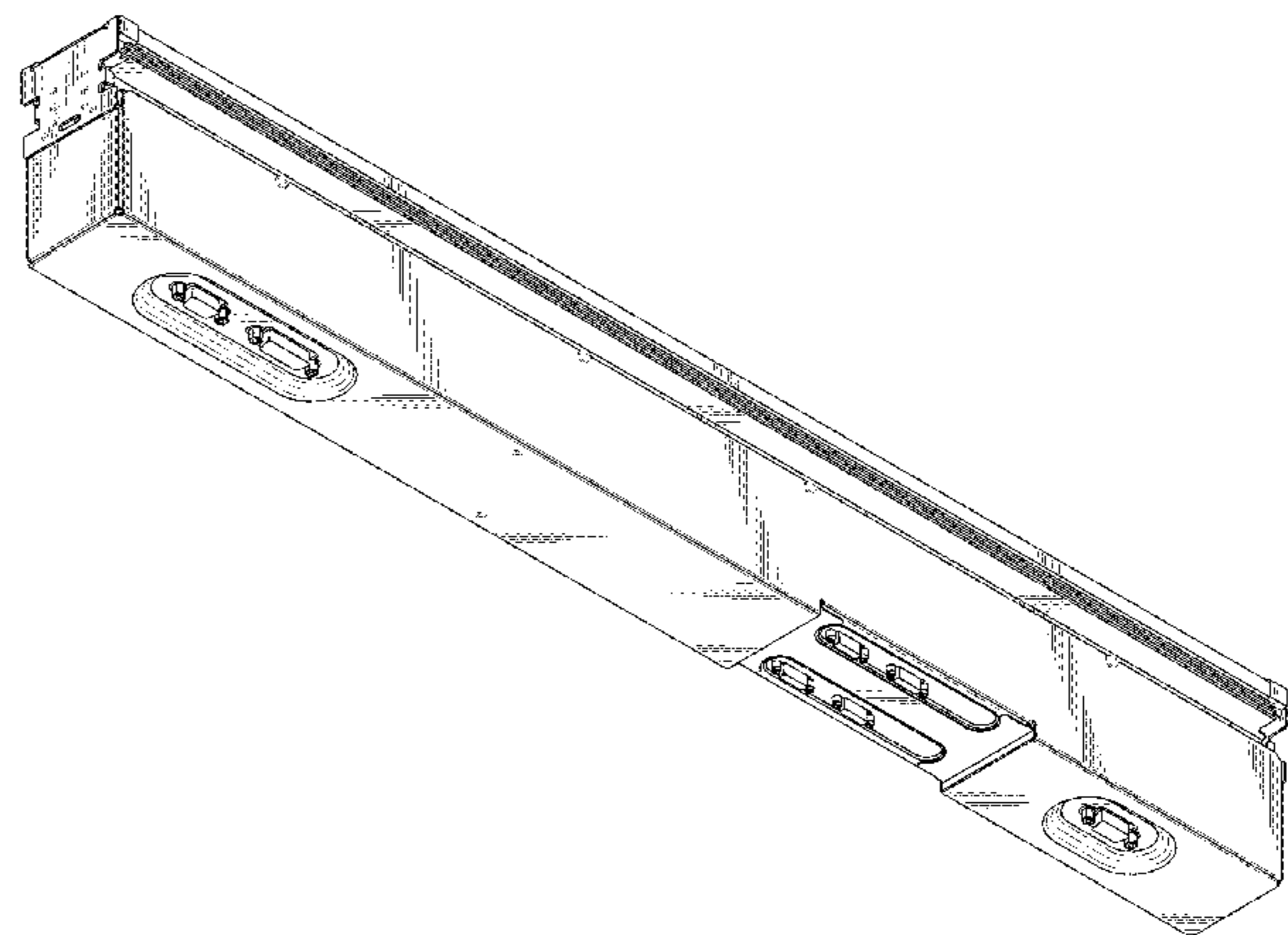
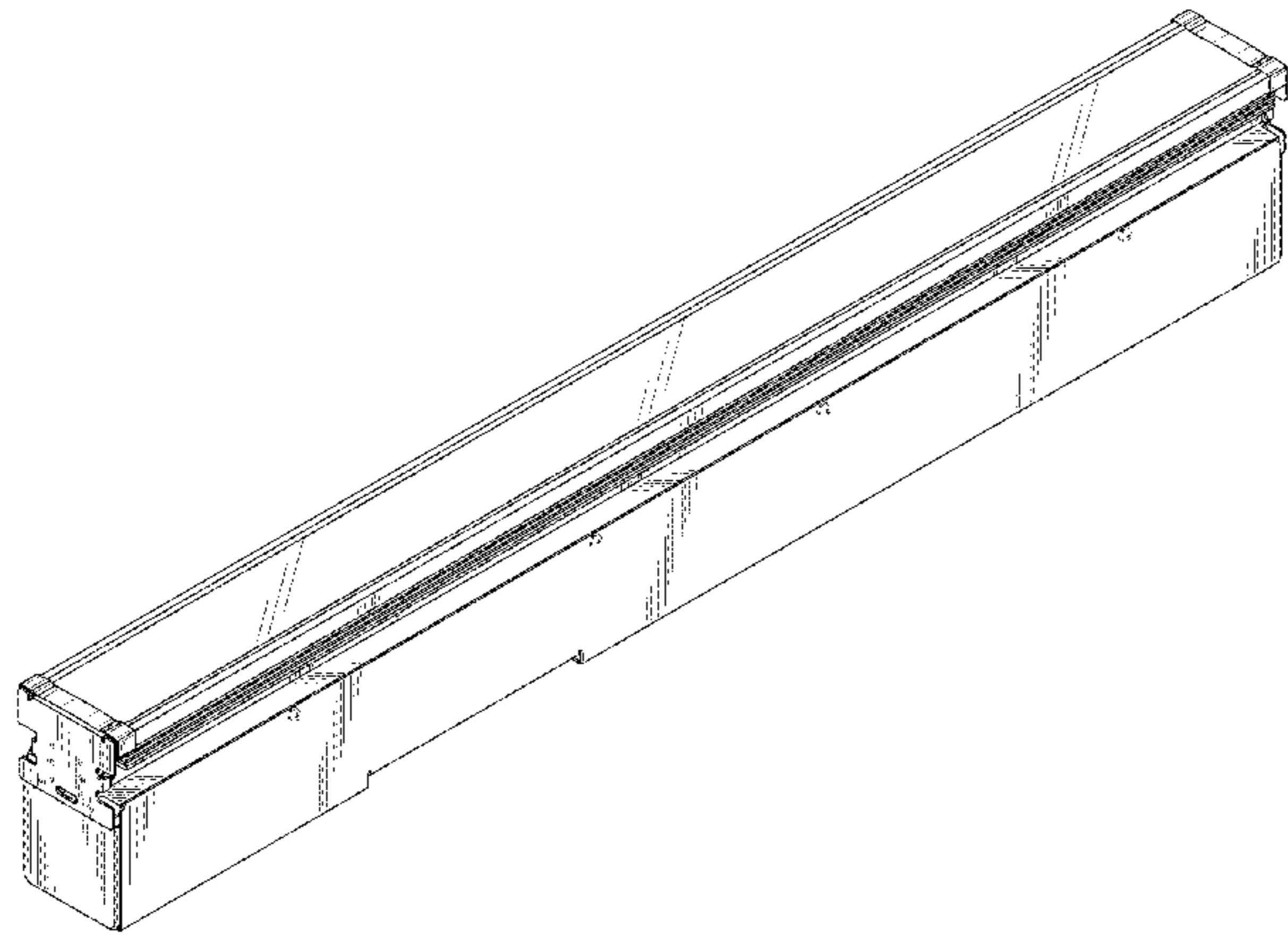
(51) **LOC (10) Cl.** **14-02**

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

(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 7/10722; G06K 7/10792; G06K 7/10801; G06K 7/10811; G06K 7/1096; G06K 7/1097; G06K 7/1098; G06K 7/12; G06K 7/14; G06K 7/146; 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 1/00586; 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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2012/0206750	A1*	8/2012	Murray	H04N 1/00525 358/1.13	2016/0006898	A1*	1/2016	Tsumekawa	H04N 1/02835 358/484
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2013/0181311	A1*	7/2013	Sugiyama	H04N 1/193 257/432	<i>Primary Examiner</i> — Susan Moon Lee				
2013/0222918	A1*	8/2013	Nemoto	G03G 15/04054 359/622	(74) <i>Attorney, Agent, or Firm</i> — Studebaker & Brackett PC				
2013/0250373	A1*	9/2013	Takeuchi	H04N 1/0285 358/474	(57)	CLAIM			
2013/0265617	A1*	10/2013	Murakami	G02B 6/0001 358/448	The ornamental design for an image sensor, as shown and described.				
2013/0265618	A1*	10/2013	Kobayashi	H04N 1/00557 358/475	DESCRIPTION				
2013/0314756	A1*	11/2013	Amemiya	F21V 13/04 358/497	FIG. 1 is a front perspective view of the front, left, and top sides of an image sensor showing our new design;				
2014/0014819	A1*	1/2014	Yoshida	G02B 6/0096 250/208.1	FIG. 2 is a rear perspective view of the rear, right, and bottom sides thereof;				
2014/0111835	A1*	4/2014	Ozawa	H04N 1/028 358/475	FIG. 3 is a front view thereof;				
2014/0198355	A1*	7/2014	Miwa	H04N 1/0318 358/482	FIG. 4 is a rear view thereof;				
2015/0015924	A1*	1/2015	Fujiuchi	H04N 1/02835 358/474	FIG. 5 is a left side view thereof;				
2015/0062670	A1*	3/2015	Yoshida	G02B 6/0096 358/482	FIG. 6 is a right side view thereof;				
2015/0070735	A1*	3/2015	Lu	H04N 1/02855 358/482	FIG. 7 is a top plan view thereof;				
2015/0136951	A1*	5/2015	Ohama	H04N 1/02815 250/208.1	FIG. 8 is a bottom view thereof; and,				
2015/0156372	A1*	6/2015	Aramaki	H04N 1/02835 358/447	FIG. 9 is an enlarged left side view thereof.				
2015/0271354	A1*	9/2015	Imoto	G02B 27/0966 362/308	Broken lines and unshaded portions contained within broken lines depict exemplary elements of the image sensor that are shown for illustrative purposes only and that form no part of the claimed design.				

1 Claim, 9 Drawing Sheets

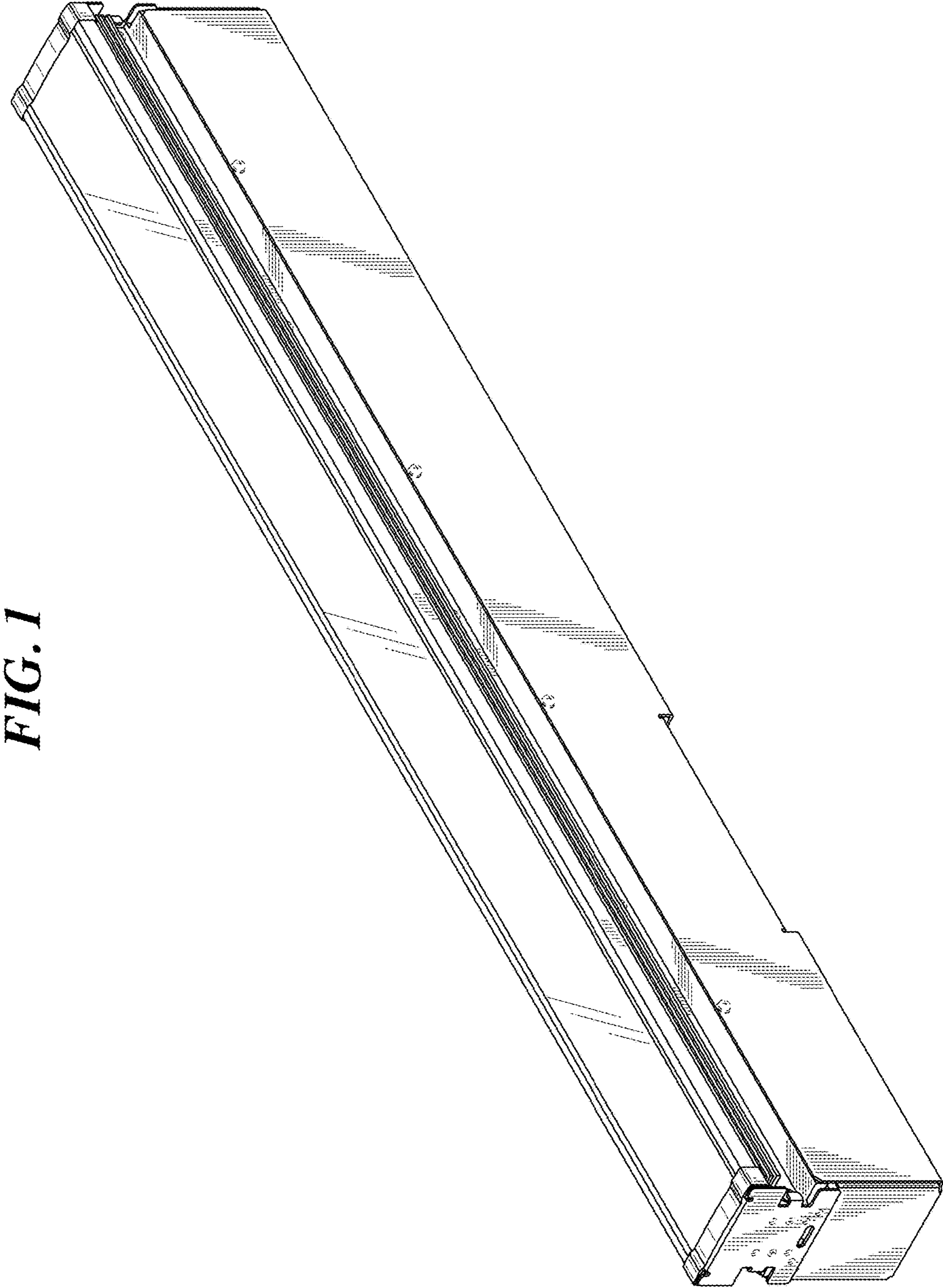


FIG. 1

FIG. 2

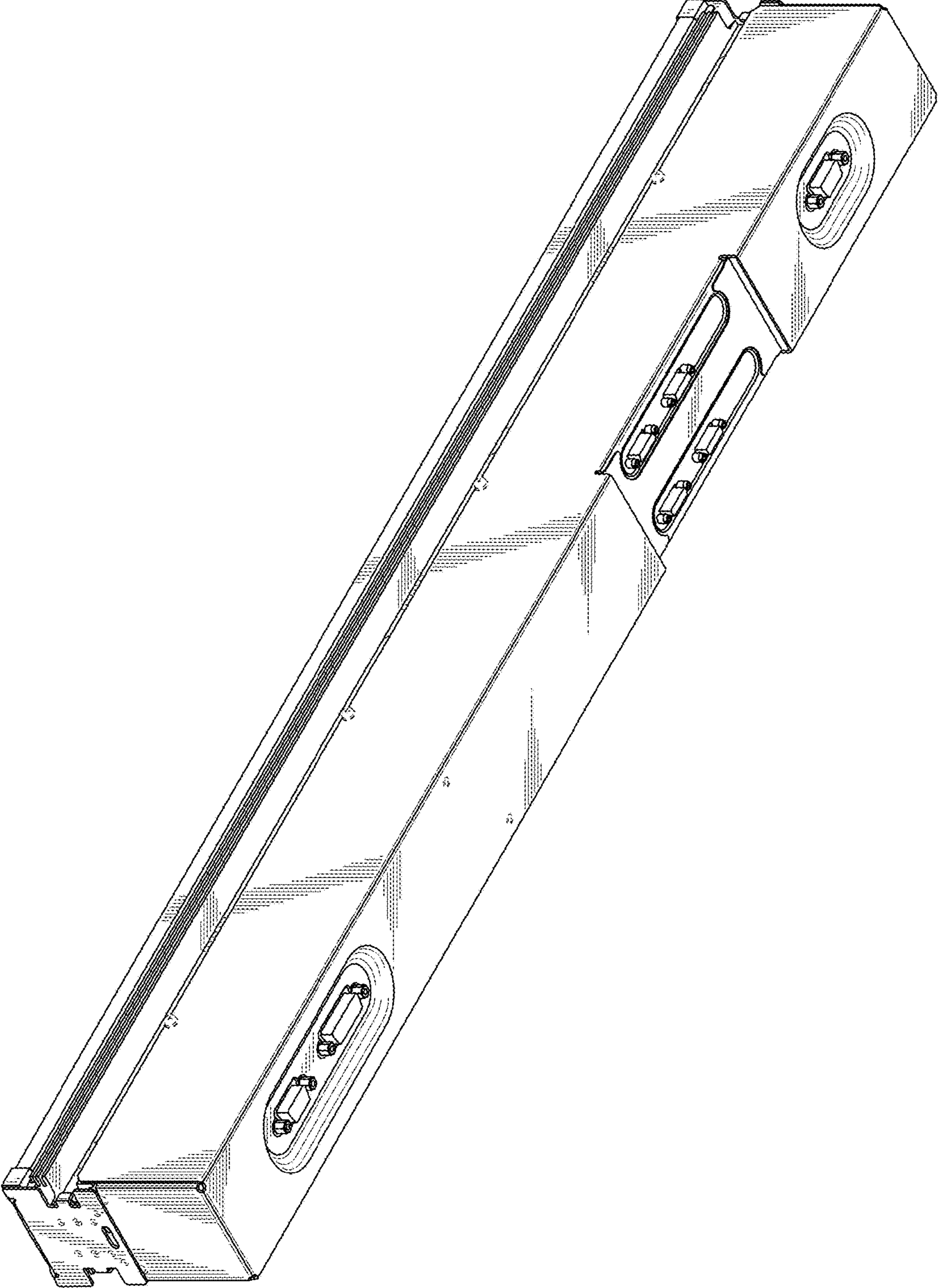


FIG. 3

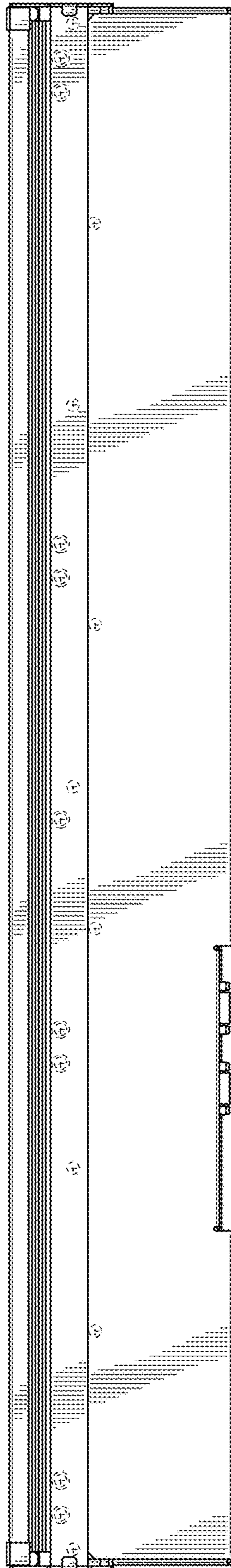


FIG. 4

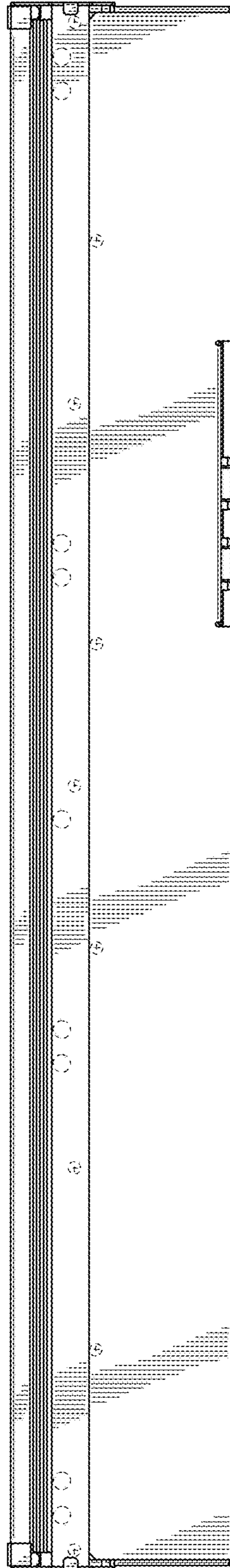


FIG. 5

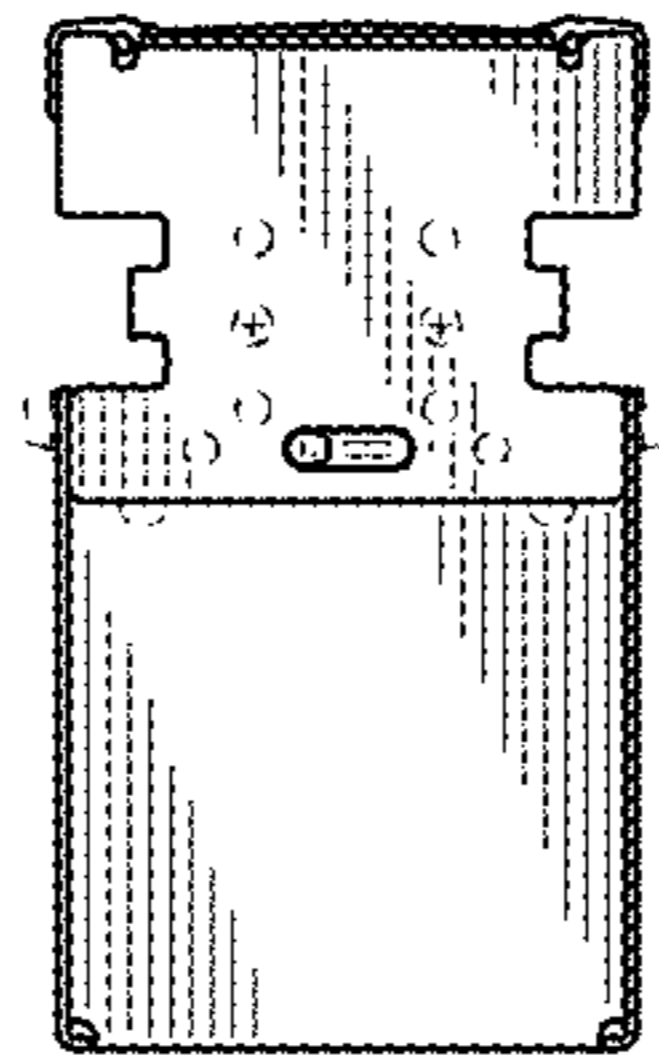


FIG. 6

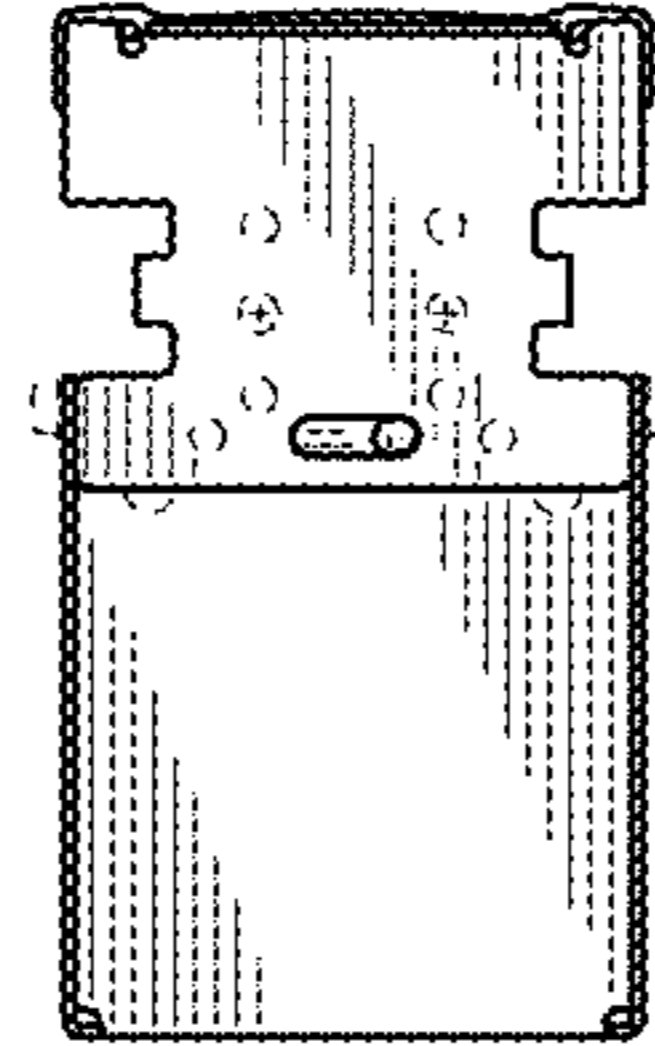


FIG. 7

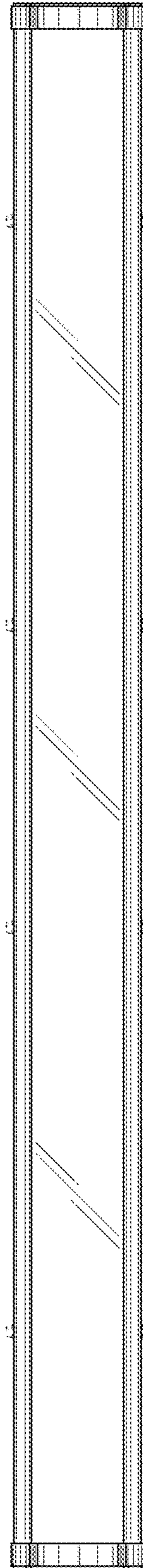


FIG. 8

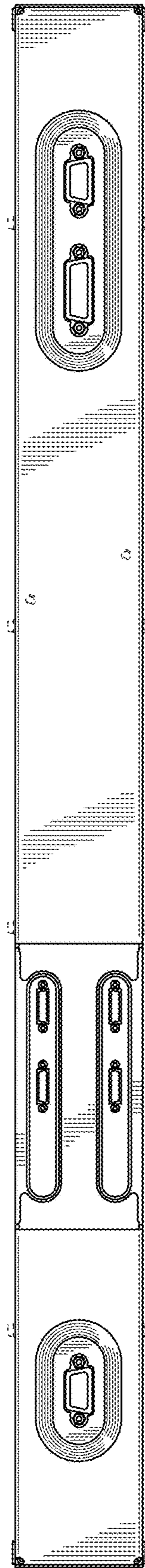


FIG. 9

