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

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(54) **THERMAL HEAD FOR A PRINTER**

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(52) **U.S. Cl.**
USPC **D18/56**

(58) **Field of Classification Search**
USPC D14/299, 301-303, 307, 332, 386,
D14/420-425, 432, 439, 441, 443, 447,
D14/462-471, 474, 480.5, 483-484;
D18/12, 14, 18-19, 36-41, 43-54, 54.1,
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

D280,109 S * 8/1985 Lewis 15/210.1
5,366,302 A 11/1994 Masumura et al.
5,565,905 A 10/1996 Kajiya et al.

(Continued)

FOREIGN PATENT DOCUMENTS

EP 0 765 761 A1 4/1997
EP 1 914 083 A1 4/2008

(Continued)

OTHER PUBLICATIONS

How to install a PCI or PCI-Express expansion card, by lowendguru, dated Aug. 5, 2014, youtube.com [online]. Retrieved Aug. 2, 2020 from internet <URL:https://www.youtube.com/watch?time_continue=22&v=p9pTv1S5gsw&feature=emb_logo> (Year: 2014).*

(Continued)

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(57) **CLAIM**

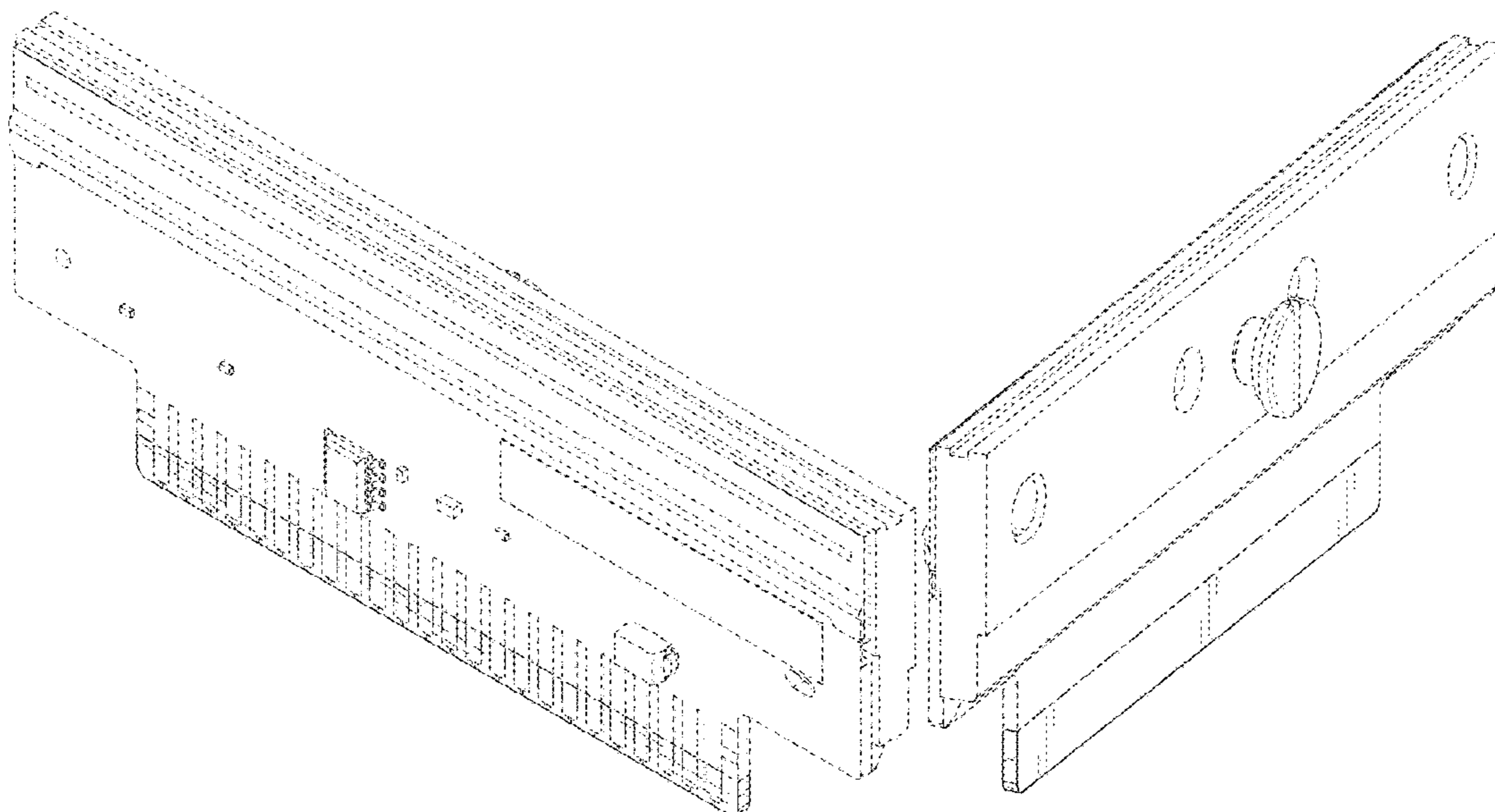
We claim the ornamental design for a thermal head for a printer, as shown and described.

DESCRIPTION

FIG. 1 is a front perspective view of the claimed design; FIG. 2 is a rear perspective view of the claimed design of FIG. 1; FIG. 3 is a bottom perspective view of the claimed design of FIG. 1; FIG. 4 is a front view of the claimed design of FIG. 1; FIG. 5 is a rear view of the claimed design of FIG. 1; FIG. 6 is a left side view of the claimed design of FIG. 1; FIG. 7 is a right side view of the claimed design of FIG. 1; FIG. 8 is a top view of the claimed design of FIG. 1; and, FIG. 9 is a bottom view of the claimed design of FIG. 1.

The claim is directed to the solid line subject matter below the boundary lines and to the two solid edge portions between the front and top surfaces. All other subject matter is illustrated with broken lines that show portions of the article that form no part of the claimed design. Broken lines formed by equal length dashes show unclaimed portions of the article. Broken lines formed of unequal length dashes show boundaries between claimed and unclaimed portions of the article.

1 Claim, 8 Drawing Sheets



(58) **Field of Classification Search**

USPC D18/99, 55-59; D24/216, 225, 229;
D13/147, 182
CPC .. G06K 15/12; G06K 15/14; B41J 3/00; B41J
3/28; B41J 11/00; B41J 11/58; B41J
15/12; B41J 15/042; G03G 15/00; G03G
15/0142; H04N 1/00129; H04N 1/00135;
H04N 1/00204; H04N 1/00278

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D375,975	S	11/1996	Koizumi et al.	
5,694,159	A	12/1997	Kajiya et al.	
5,779,371	A	7/1998	Aoyama et al.	
D410,949	S	6/1999	Fowkes	
D433,237	S	* 11/2000	Katz	D4/124
D434,909	S	* 12/2000	Seltzer	D4/134
6,307,580	B1	10/2001	Yoshikawa	
D465,772	S	* 11/2002	Poulter	D13/182
D542,344	S	5/2007	Duby et al.	
7,399,130	B2	7/2008	Hirte et al.	
D621,060	S	* 8/2010	Handique	D24/225
8,068,127	B2	11/2011	Ochiai et al.	
D652,446	S	1/2012	Brady et al.	
D653,284	S	1/2012	Amidon et al.	
D689,439	S	9/2013	Yu et al.	
8,564,633	B2	10/2013	Matsushima et al.	
8,610,752	B2	12/2013	Tsugaru	
D733,056	S	* 6/2015	Yuan	D13/147
D753,073	S	* 4/2016	Sponring	D13/182
D757,666	S	* 5/2016	Yokoo	D13/182
9,662,900	B1	5/2017	Liu et al.	
D798,822	S	* 10/2017	Jiang	D13/147
D843,334	S	* 3/2019	Takebayashi	D13/182
D846,955	S	* 4/2019	Ray	D7/633
D849,690	S	5/2019	Luo	
D859,317	S	9/2019	Huang et al.	
D873,341	S	1/2020	Horikawa et al.	
D875,056	S	* 2/2020	Qi	D13/182
D901,390	S	11/2020	Ma et al.	
2001/0005216	A1	6/2001	Takahashi et al.	
2002/0033874	A1	3/2002	Aubin et al.	
2002/0048479	A1	4/2002	Bryant et al.	
2002/0163204	A1*	11/2002	Singleton, Jr.	E05B 1/0038 292/122
2003/0146968	A1	8/2003	Milton	
2008/0094463	A1	4/2008	Tsuchida et al.	
2011/0193926	A1	8/2011	Matsushima et al.	
2011/0193927	A1	8/2011	Matsushima et al.	
2012/0212562	A1	8/2012	Tsugaru	
2016/0347093	A1	12/2016	Ogasawara et al.	
2018/0186155	A1*	7/2018	Hoshi	B41J 2/33575
2019/0299679	A1	10/2019	Ushiana	

FOREIGN PATENT DOCUMENTS

EP	2 641 745	A1	9/2013
JP	57-088131	U	5/1982
JP	07-081179	A	3/1995
JP	07-256977	A	10/1995
JP	2989024	B2	12/1999
JP	2003-220722	A	8/2003
JP	2005-324374	A	11/2005
JP	2006-334952	A	12/2006
JP	2006-334953	A	12/2006
JP	2007-136931	A	6/2007
JP	2012-171114	A	9/2012
JP	2014-133364	A	7/2014
WO	WO-2018/051767	A1	3/2018
WO	WO-2018/051769	A1	3/2018
WO	WO-2018/051770	A1	3/2018
WO	WO-2018/051771	A1	3/2018

OTHER PUBLICATIONS

HP300312A-G02 16pins Shec C56 Thermal Head For Taico Printer, dated Dec. 16, 2017, printhead-barcode.com [online]. Retrieved Aug. 2, 2020 from internet <URL:http://www.primthead-barcode.com/index.php?main_page=product_info&products_id=2965> (Year: 2017).*

IBM aCard IDE to LVD-SCSi Bridge Adapter, posted 2010, retrieved Jun. 20, 2020 from https://www.amazon.com/aCard-LVD-SCSi-Bridge-Adapter-AEC-7722/dp/B00BNHQ3BE/ref=V4ASHR022K3H&dchild=1&keyword=.

USPTO Office Action, U.S. Appl. No. 29/659,475, dated Jun. 25, 2020, 10 pages.

USPTO Notice of Allowance, U.S. Appl. No. 15/759,337, dated Jul. 15, 2019, 9 pages.

USPTO Office Action, U.S. Appl. No. 15/759,383, dated Jul. 23, 2019, 12 pages.

USPTO Office Action, U.S. Appl. No. 15/907,890, dated Aug. 7, 2019, 16 pages.

European Office Action, Application No. 17 850 671.3, dated Mar. 18, 2020, 6 pages.

European Office Action, Application No. 17 850 674.7, dated Mar. 18, 2020, 5 pages.

Human English Translation of JP 2006-334952, 39 pages.

USPTO Office Action, U.S. Appl. No. 15/759,337, dated Apr. 10, 2019, 11 pages.

USPTO Office Action, U.S. Appl. No. 15/759,383, dated Apr. 12, 2019, 12 pages.

USPTO Notice of Allowance, U.S. Appl. No. 15/759,331, dated May 8, 2019, 21 pages.

USPTO Office Action, U.S. Appl. No. 15/759,061, dated May 7, 2019, 14 pages.

European Search Report, Application No. 17850671.3, dated Jul. 30, 2019, 11 pages.

European Search Report, Application No. 17850673.9, dated Jul. 9, 2019, 8 pages.

European Search Report, Application No. 17850674.7, dated Jul. 30, 2019, 8 pages.

European Search Report, Application No. 17850675.4, dated Jul. 16, 2019, 9 pages.

Chinese Office Action and English translation, Application No. 201780055650.8, Mar. 3, 2020, 13 pages.

USPTO Restriction Office Action, U.S. Appl. No. 29/659,475, dated Feb. 20, 2020, 14 pages.

U.S. Appl. No. 29/731,950, filed Apr. 20, 2020, Hoshi et al.

U.S. Appl. No. 29/735,163, filed May 19, 2020, Hoshi et al.

Notice of Allowance, U.S. Appl. No. 15/759,383, dated May 5, 2020, 9 pages.

Chinese Office Action, Application No. 201780045890.X, dated Jan. 2, 2020, 7 pages.

Chinese Office Action, Application No. 201780045900.X, dated Jan. 2, 2020, 7 pages.

Chinese Office Action, Application No. 201780045904.8, dated Dec. 26, 2019, 6 pages.

Google translation of JP 2006-334953, published on Dec. 2006. (Year: 2006).

Notice of Allowance, U.S. Appl. No. 15/759,061, dated Jan. 15, 2020, 12 pages.

USPTO Office Action, U.S. Appl. No. 15/759,383, dated Jan. 13, 2020, 6 pages.

Google translation of JP 2007-136931, published on Jun. 2007, 5 pages.

Machine-generated translation of JP 2006-334952, published on Dec. 2006, 17 pages.

USPTO Notice of Allowance, U.S. Appl. No. 15/759,061, dated Jan. 24, 2019, 15 pages.

USPTO Notice of Allowance, U.S. Appl. No. 15/759,331 dated Jan. 31, 2019, 13 pages.

U.S. Appl. No. 29/659,475, filed Aug. 9, 2018, Yasuhide et al.

U.S. Appl. No. 16/607,427, filed Oct. 23, 2019, Sato Holdings Kabushiki Kaisha.

(56)

References Cited

OTHER PUBLICATIONS

USPTO Notice of Allowance, U.S. Appl. No. 15/759,061, dated Nov. 13, 2019, 13 pages.

USPTO Notice of Allowance, U.S. Appl. No. 15/759,383 dated Dec. 3, 2019, 9 pages.

U.S. Appl. No. 15/759,061, filed Mar. 9, 2018, Kazuyuki Hoshi et al.

U.S. Appl. No. 15/759,331, filed Mar. 12, 2018, Kazuyuki Hoshi et al.

U.S. Appl. No. 15/759,337, filed Mar. 12, 2018, Kazuyuki Hoshi et al.

U.S. Appl. No. 15/759,383, filed Mar. 12, 2018, Kazuyuki Hoshi et al.

U.S. Appl. No. 15/907,890, filed Feb. 28, 2018, Kazuyuki Hoshi et al.

Japanese Office Action and English Translation, Application No. 2018-539603, dated Oct. 27, 2020, 10 pages.

Japanese Office Action and English Translation, Application No. 2018-539605, dated Nov. 4, 2020, 6 pages.

Japanese Office Action and English Translation, Application No. 2018-539606, dated Oct. 20, 2020, 6 pages.

Japanese Office Action and English Translation, Application No. 2018-539607, dated Nov. 4, 2020, 4 pages.

USPTO Notice of Allowance, U.S. Appl. No. 29/659,475, dated Oct. 20, 2020, 7 pages.

USPTO Notice of Allowance, U.S. Appl. No. 16/607,427, dated Nov. 25, 2020, 11 pages.

Notice of Allowance, U.S. Appl. No. 15/907,890, dated Aug. 11, 2020, 14 pages.

USPTO Office Action, U.S. Appl. No. 16/607,427, dated Aug. 7, 2020, 18 pages.

Kyocera Avery Monarch KPA-104-8TAW1-MM1 Thermal Label Printer Print Head, posted NA [online], (retrieved Feb. 4, 2021). Retrieved from the internet, <https://www.ebay.com/c/1451731436?iid=313285433051> (Year: NA), 4 pages.

USPTO Notice of Allowance, U.S. Appl. No. 29/731,950, dated Feb. 18, 2021, 33 pages.

Extended European Search Report Issued in European Patent Application No. 18907605.2 dated Feb. 25, 2021, 7 pages.

Extended European Search Report, Application No. 20213458.1, dated Apr. 26, 2021, 18 pages.

* cited by examiner

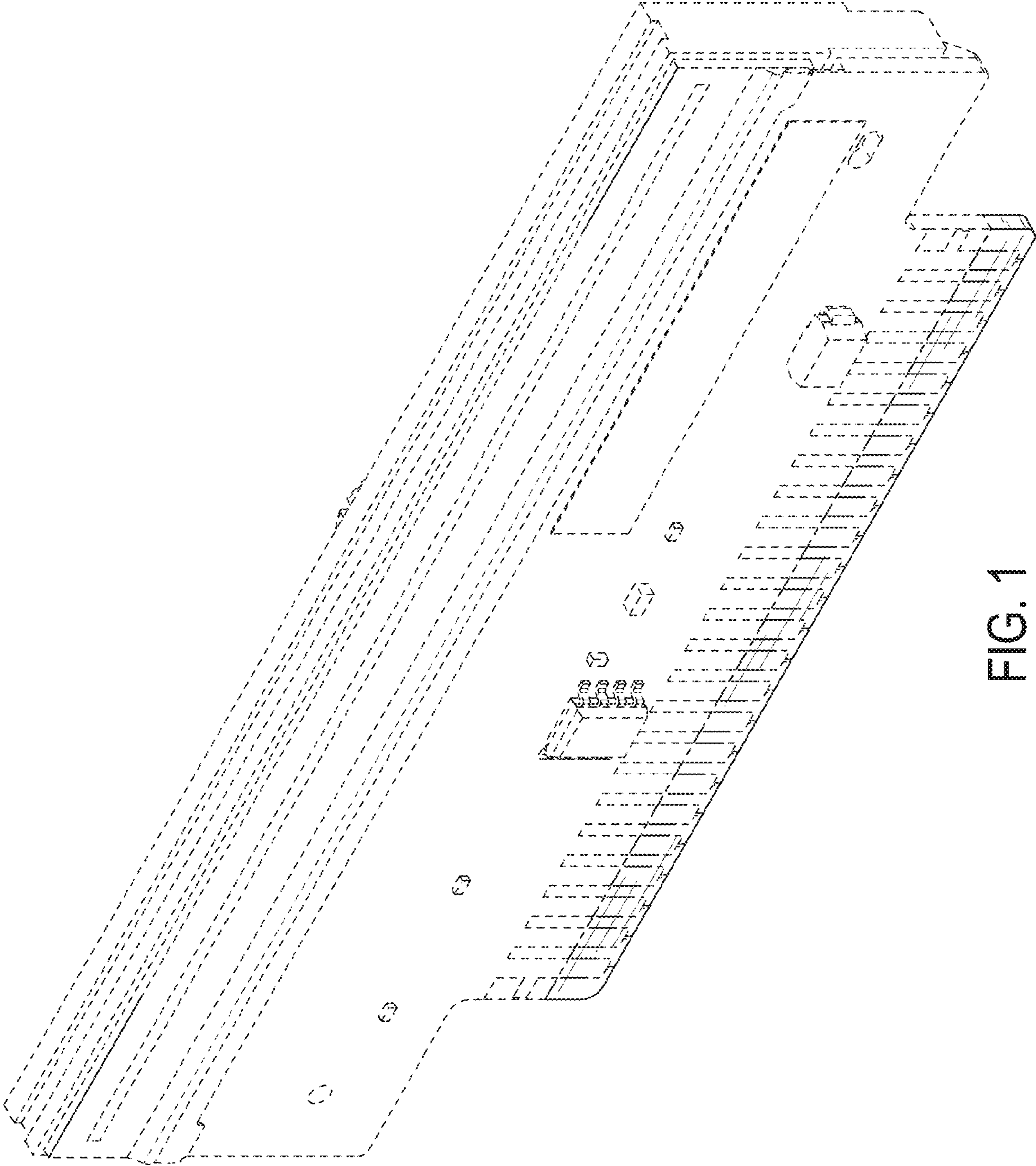


FIG. 1

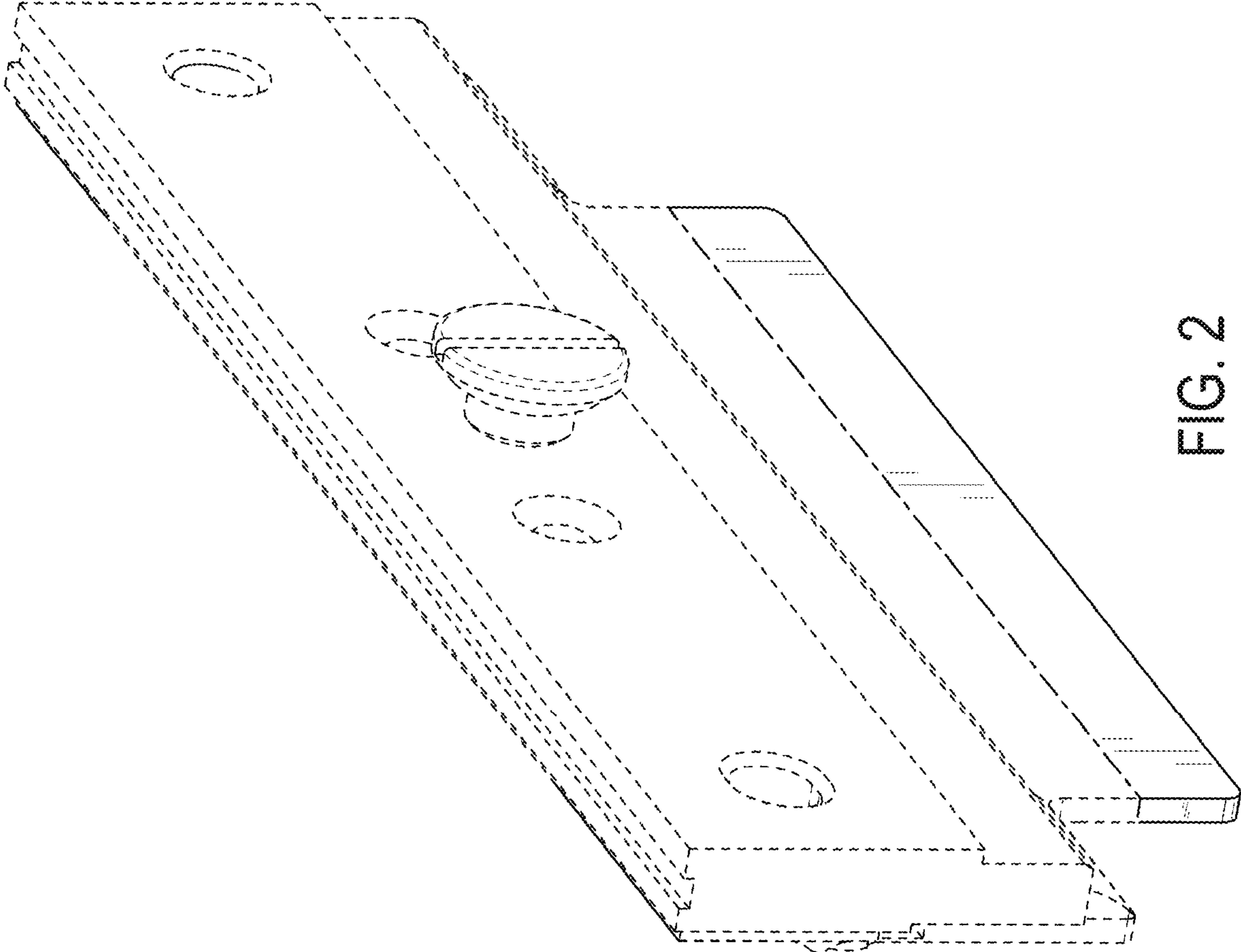


FIG. 2

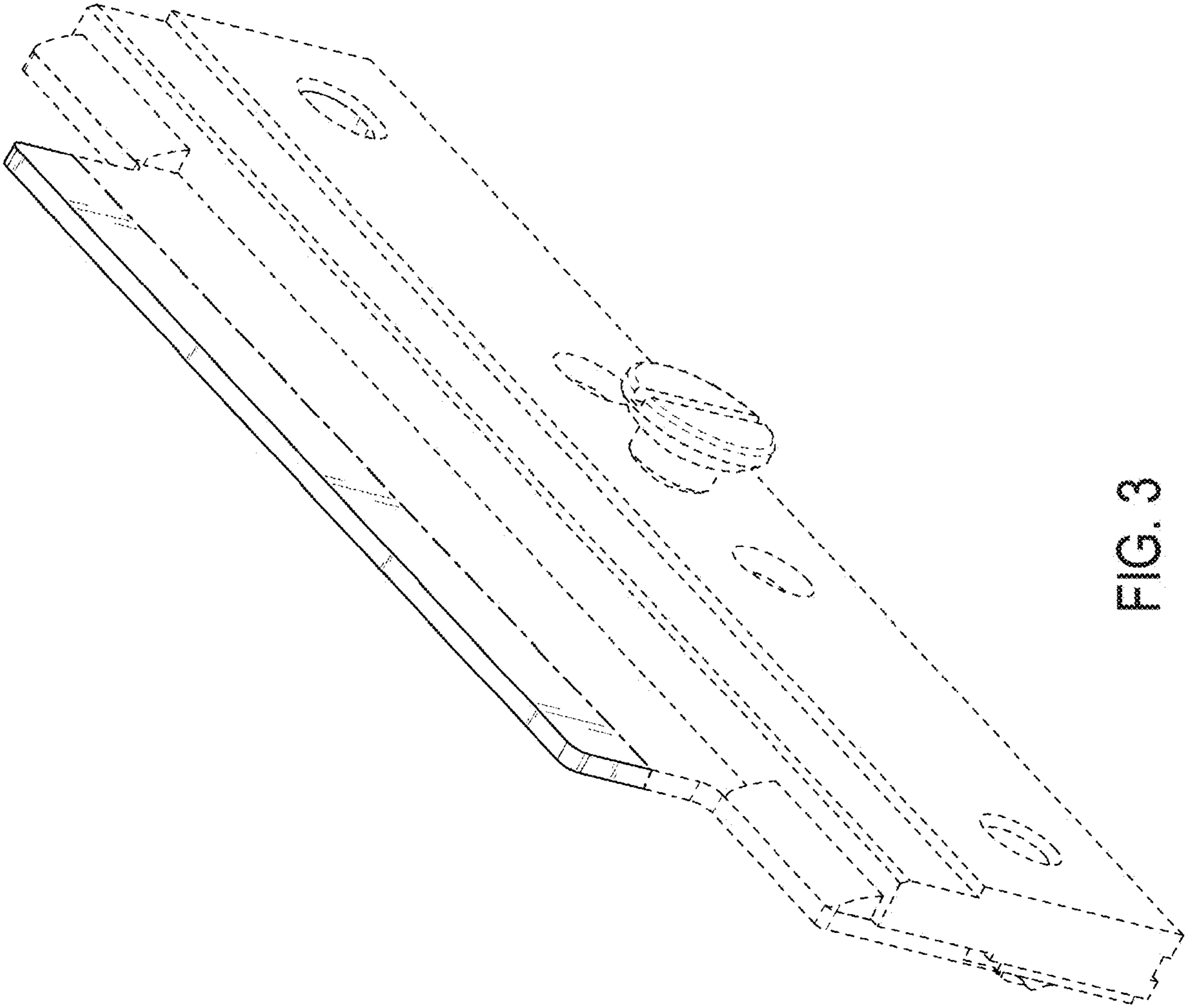


FIG. 3

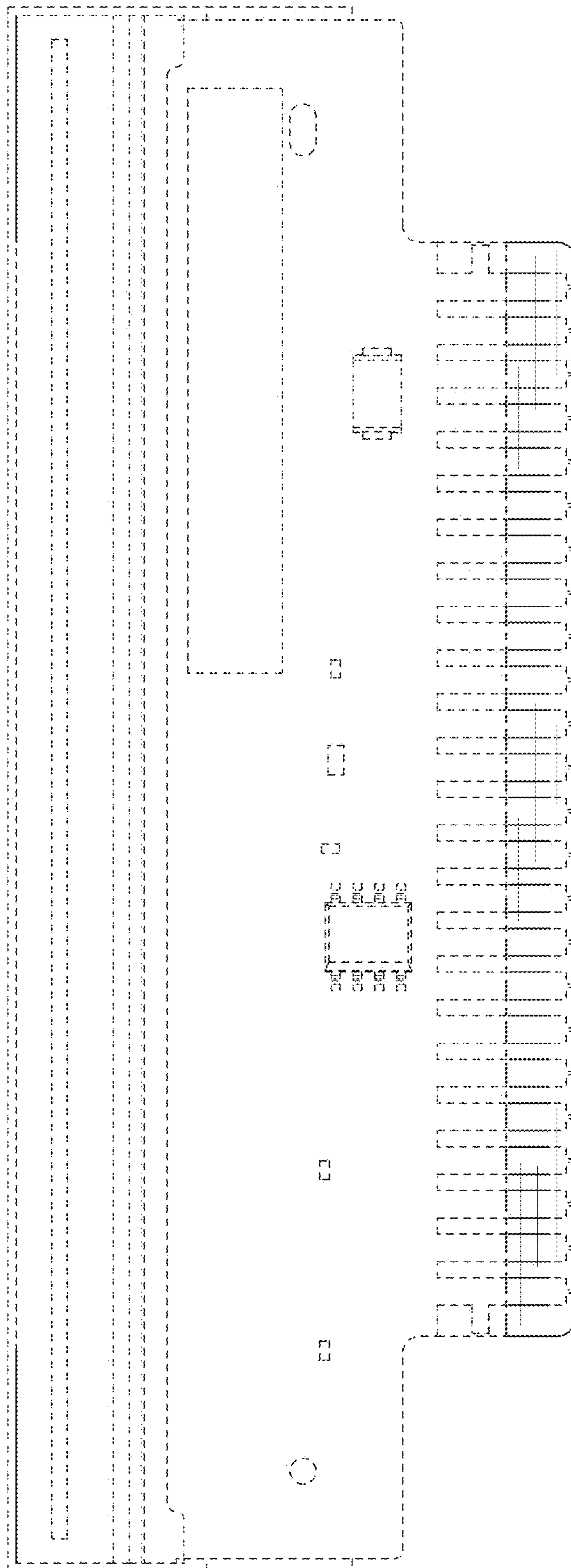


FIG. 4

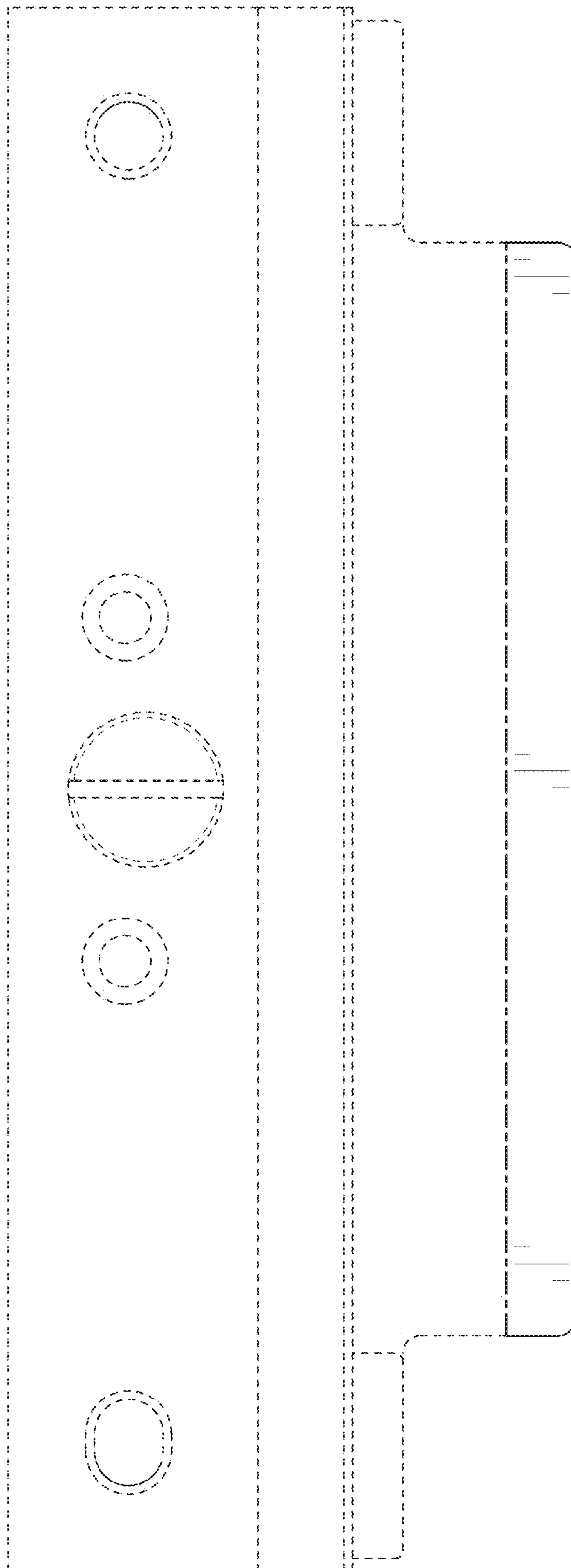


FIG. 5

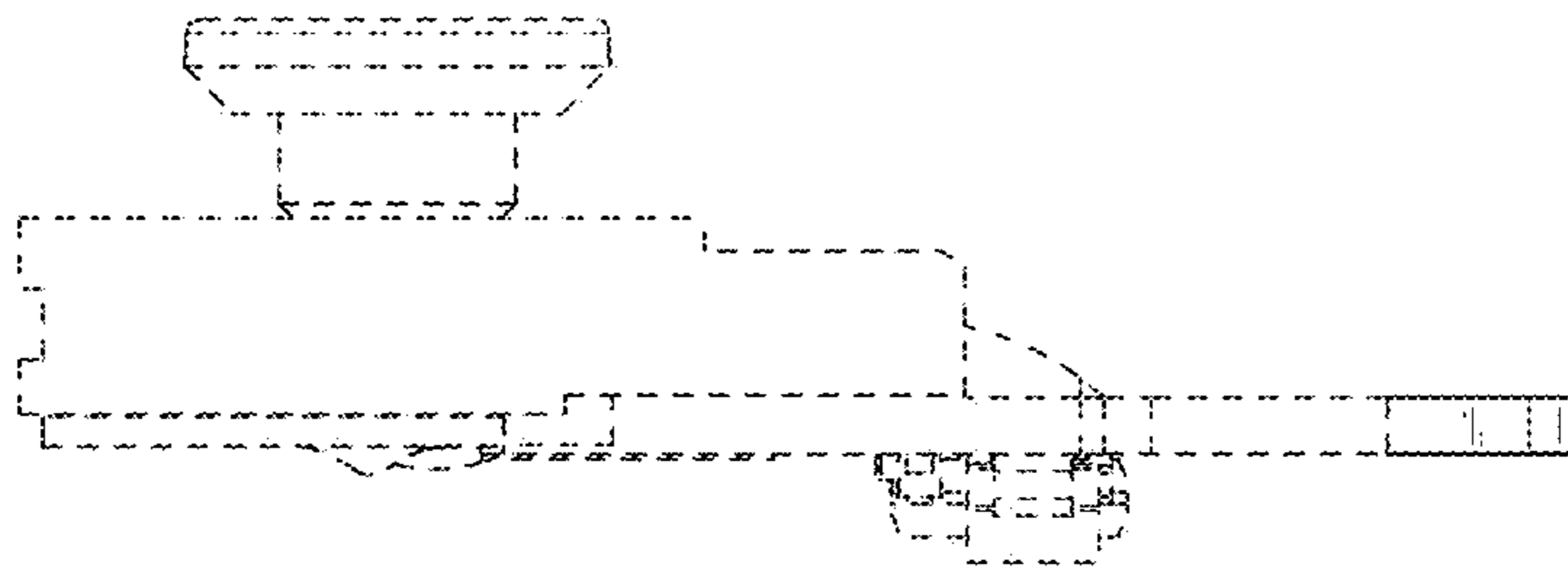


FIG. 7

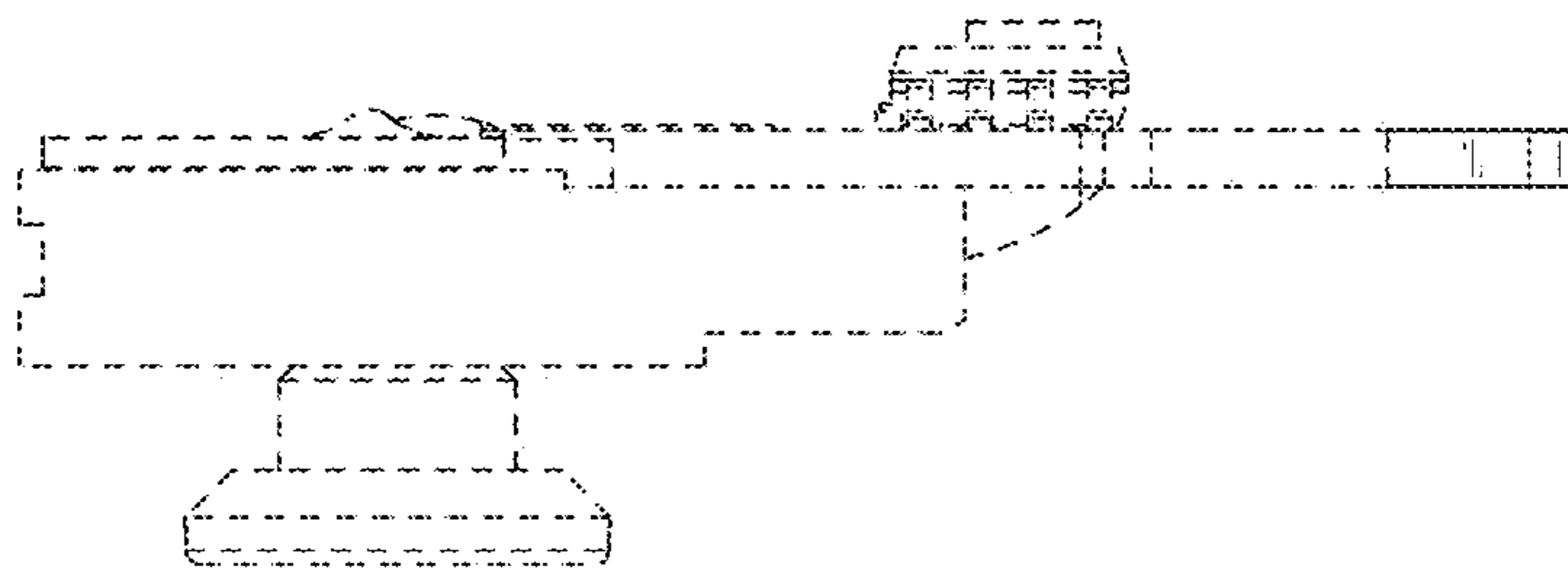


FIG. 6

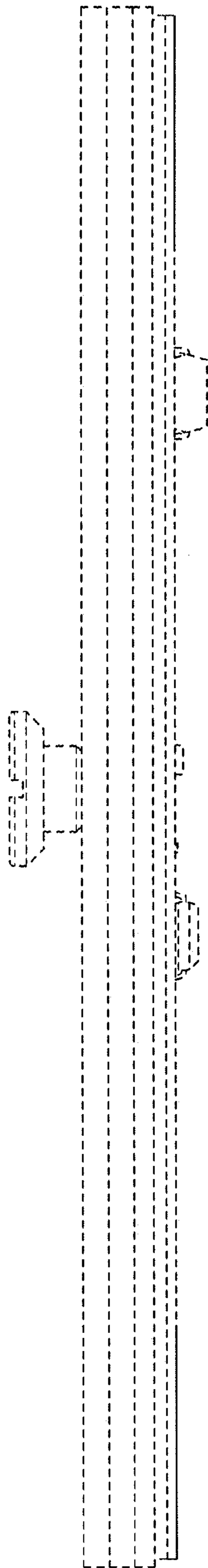


FIG. 8

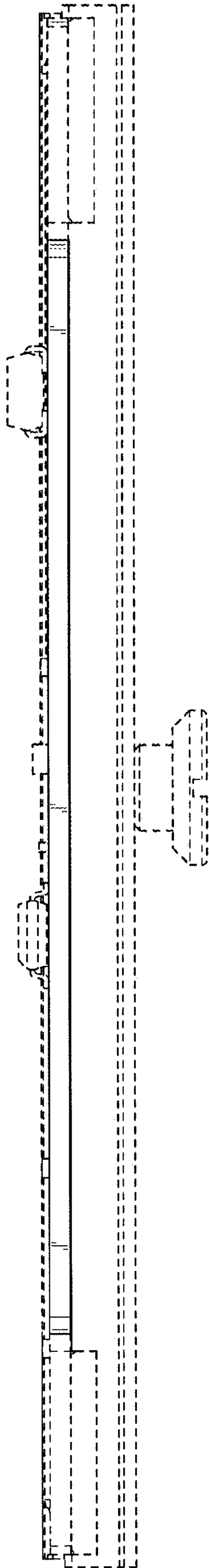


FIG. 9