



US00D835181S

(12) **United States Design Patent** (10) **Patent No.:** **US D835,181 S**  
**Rosenberg et al.** (45) **Date of Patent:** **\*\* Dec. 4, 2018**

(54) **TOUCH SENSOR PIANO KEYBOARD**

(71) Applicant: **Sensel, Inc.**, Mountain View, CA (US)

(72) Inventors: **Ilya Daniel Rosenberg**, Mountain View, CA (US); **John Aaron Zarraga**, San Francisco, CA (US); **Brogan Carl Miller**, Davis, CA (US); **Reuben Eric Martinez**, Gilroy, CA (US); **Stephanie Wanti Lim**, Los Altos Hills, CA (US); **Tomer Moscovich**, San Francisco, CA (US)

(73) Assignee: **SENSEL, INC.**, Mountain View, CA (US)

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

(21) Appl. No.: **29/575,551**

(22) Filed: **Aug. 25, 2016**

**Related U.S. Application Data**

(63) Continuation-in-part of application No. 14/499,090, filed on Sep. 27, 2014, now Pat. No. 9,459,746, which  
(Continued)

(51) **LOC (11) Cl.** ..... **17-01**

(52) **U.S. Cl.**  
USPC ..... **D17/1**

(58) **Field of Classification Search**  
USPC ..... D17/1-5, 7-9, 24, 99; D21/405, 409, D21/586; D19/150; D14/175, 188,  
(Continued)

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

152,726 A \* 7/1874 Cramer ..... G10C 3/12  
84/428  
276,682 A \* 5/1883 Guernsey ..... G10C 3/12  
84/446

(Continued)

**OTHER PUBLICATIONS**

Synthtopia, Endeavor Intros 24-key Midi Controller, posted on Nov. 2, 2012, [online], [site visited on Dec. 7, 2017]. Available from Internet, URL: <http://www.synthtopia.com/content/2012/11/02/endeavor-intros-24-key-evo-advanced-midi-controller/> (Year: 2012).\*

(Continued)

*Primary Examiner* — Sheryl Lane

*Assistant Examiner* — Samantha N Wood

(74) *Attorney, Agent, or Firm* — James R. Gourley;  
Carstens & Cahoon, LLP

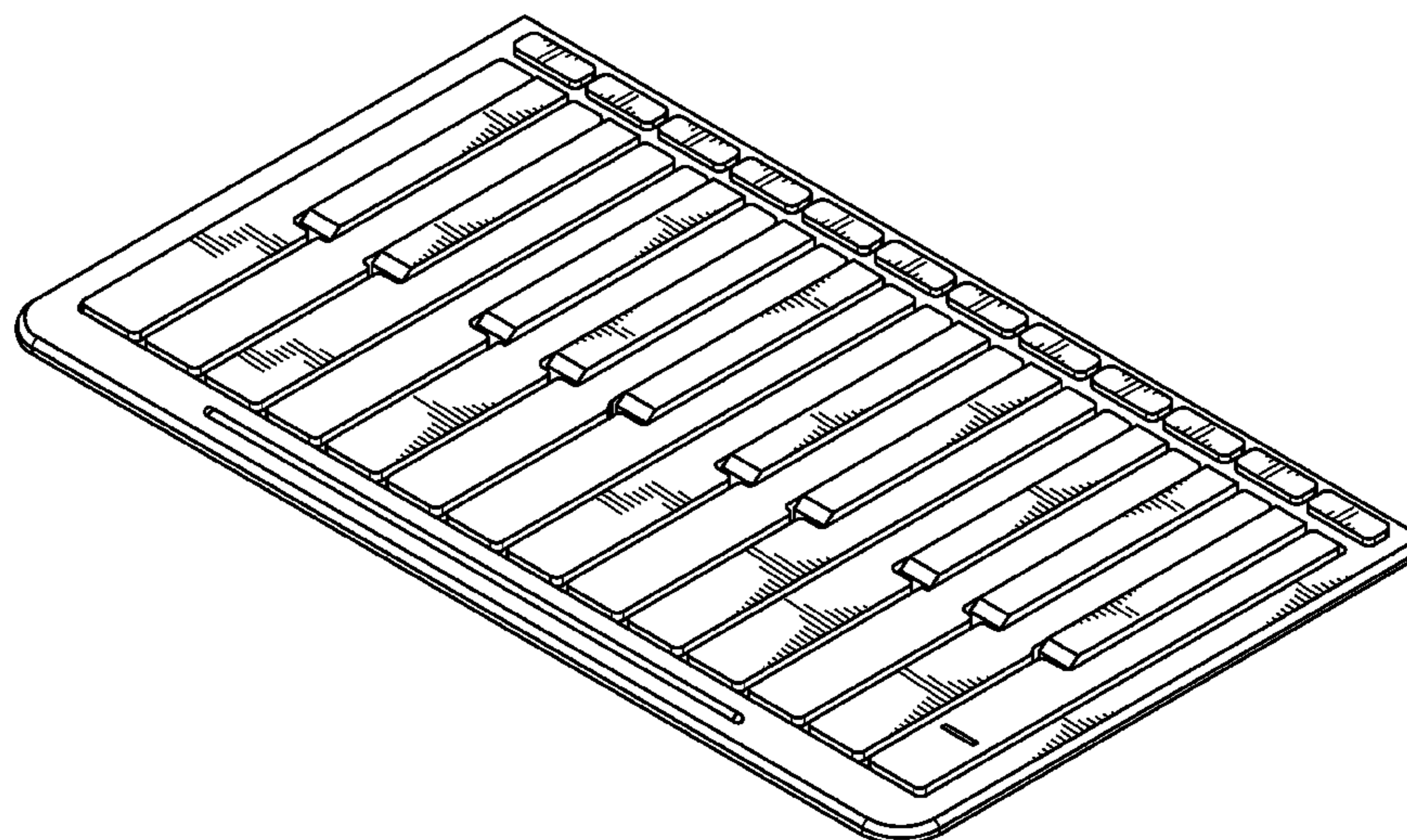
(57) **CLAIM**

The ornamental design for a touch sensor piano keyboard, as shown.

**DESCRIPTION**

FIG. 1 is a front view of a touch sensor piano keyboard showing my new design;  
FIG. 2 is a rear view thereof;  
FIG. 3 is a right view thereof;  
FIG. 4 is a left view thereof;  
FIG. 5 is a top view thereof;  
FIG. 6 is a bottom view thereof;  
FIG. 7 is a top front perspective view thereof;  
FIG. 8 is a top rear perspective view thereof;  
FIG. 9 is a top right front perspective view thereof;  
FIG. 10 is a top right rear perspective view thereof;  
FIG. 11 is a top left rear perspective view thereof;  
FIG. 12 is a top left front perspective view thereof;  
FIG. 13 is a bottom right front perspective view thereof;  
FIG. 14 is a bottom right rear perspective view thereof;  
FIG. 15 is a bottom left rear perspective view thereof; and,  
FIG. 16 is a bottom left front perspective view thereof.

**1 Claim, 14 Drawing Sheets**



**Related U.S. Application Data**

is a continuation-in-part of application No. 14/314,662, filed on Jun. 25, 2014, now Pat. No. 9,001,082.

(58) **Field of Classification Search**

USPC ..... D14/196–198, 217, 257–258, 341, 347,  
D14/439, 454, 458, 459, 389, 390, 391  
CPC ... G10C 1/00; G10C 1/02; G10C 1/04; G10C  
3/00; G10C 3/12; G10H 2220/091; G10H  
2220/096; G10H 2220/221; G10H 1/18;  
G10H 1/32; G10H 1/34

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D173,309	S	*	10/1954	Johnston	.....	D17/5
D259,229	S	*	5/1981	Lady	.....	D5/31
D270,917	S	*	10/1983	Peterson	.....	D17/9
D355,924	S	*	2/1995	Slater	.....	D17/1
D405,771	S	*	2/1999	Nachinson	.....	D14/458
D432,506	S	*	10/2000	Noguchi	.....	D10/2
D442,590	S	*	5/2001	Ledbetter	.....	D14/393
D444,460	S	*	7/2001	Kitazawa	.....	D14/217
6,258,444	B1	*	7/2001	Muramoto	.....	G06F 3/0395 248/346.01
D490,837	S	*	6/2004	Chang	.....	D17/1
D504,889	S	*	5/2005	Andre	.....	D14/341
D555,640	S	*	11/2007	Amiya	.....	D14/217
D569,415	S	*	5/2008	Shigeru	.....	D17/1
D589,961	S	*	4/2009	Hackenberg	.....	D14/388
D636,013	S	*	4/2011	Shin	.....	D17/1
D642,160	S	*	7/2011	Roberts	.....	D14/217
D652,837	S	*	1/2012	Kawasaki	.....	D14/455
D666,618	S	*	9/2012	Doyea	.....	D14/371
D668,708	S	*	10/2012	Park	.....	D17/1
D748,630	S	*	2/2016	Helwig	.....	D14/389
D754,245	S	*	4/2016	Wampold	.....	D17/2
D776,190	S	*	1/2017	Kimura	.....	D14/217
D778,342	S	*	2/2017	Washio	.....	D17/1
D786,238	S	*	5/2017	Roberts	.....	D14/341
2009/0266218	A1	*	10/2009	Parianti	.....	G10C 3/12 84/171

2011/0283864	A1	*	11/2011	Mathews	.....	G10C 3/12 84/423 R
2013/0174715	A1	*	7/2013	Akiyama	.....	G10H 7/008 84/604
2017/0336891	A1	*	11/2017	Rosenberg	.....	G06F 3/044

OTHER PUBLICATIONS

Pixabay, Piano 24 Keys Vector, posted on Apr. 23, 2014, [online], [site visited on Dec. 7, 2017]. Available from Internet, URL: <https://pixabay.com/en/piano-keys-octave-music-keyboard-307653/> (Year: 2014).\*

Teachers Pay Teachers, Paper Practice Piano Handout PDF, review on Jul. 27, 2014, [online], [site visited on Dec. 7, 2017]. Available from Internet, URL: <https://www.teacherspayteachers.com/Product/Paper-Practice-Piano-Handout-142149> (Year: 2014).\*

Vimeo, The Pianist: Daniel Reyna, posted on Oct. 2, 2015, [online], [site visited on Dec. 7, 2017]. Available from Internet, URL: <https://vimeo.com/141228710> (Year: 2015).\*

SlashGear, Sensel Morph Puts Force Touch-style tech into customizable pad, posted on Aug. 25, 2015, [online], [site visited on Dec. 7, 2017]. Available from Internet, URL: <https://www.slashgear.com/sensel-morph-puts-force-touch-into-customizable-pad-hands-on-25399140/> (Year: 2015).\*

Amazon, Xkey 25-key portable musical keyboard, available Sep. 27, 2013, [online], [site visited on Dec. 7, 2017]. Available from Internet, URL: <https://www.amazon.com/Xkey-25-Key-Portable-Musical-Keyboard/dp/B00DU2VKV8> (Year: 2013).\*

Amazon, Akai Professional MPK Mini Keyboard, available Jan. 24, 2012, [online], [site visited on Dec. 7, 2017]. Available from Internet, URL: <https://www.amazon.ca/Akai-Professional-MPK-Ultra-Portable-Controller/dp/B00466HM28> (Year: 2012).\*

Tomtop, 61 Key Electronic Piano Keyboard, review on Feb. 26, 2015, [online], [site visited on Dec. 7, 2017]. Available from Internet, URL: [https://www.tomtop.com/p-i420.html#flow\\_review](https://www.tomtop.com/p-i420.html#flow_review) (Year: 2015).\*

Amazon, Logitech Wireless Rechargeable Touchpad, posted on Sep. 23, 2012, [online], [site visited on Dec. 7, 2017]. Available from Internet, URL: <https://www.amazon.com/LOG910003057-Logitech-Wireless-Rechargeable-Touchpad/dp/B0093H4WT6> (Year: 2012).\*

Amazon, Mini Monster Piano, available on Feb. 6, 2014, [online], [site visited on Dec. 7, 2017]. Available from Internet, URL: <https://www.amazon.co.uk/Mini-Monster-Piano-Grand-Black/dp/B00GCST1HM> (Year: 2014).\*

Notice of Allowance and accompanying letter containing list of references dated Jun. 21, 2017 for Japanese Design Application No. 2017-3846 (6 pages).

\* cited by examiner

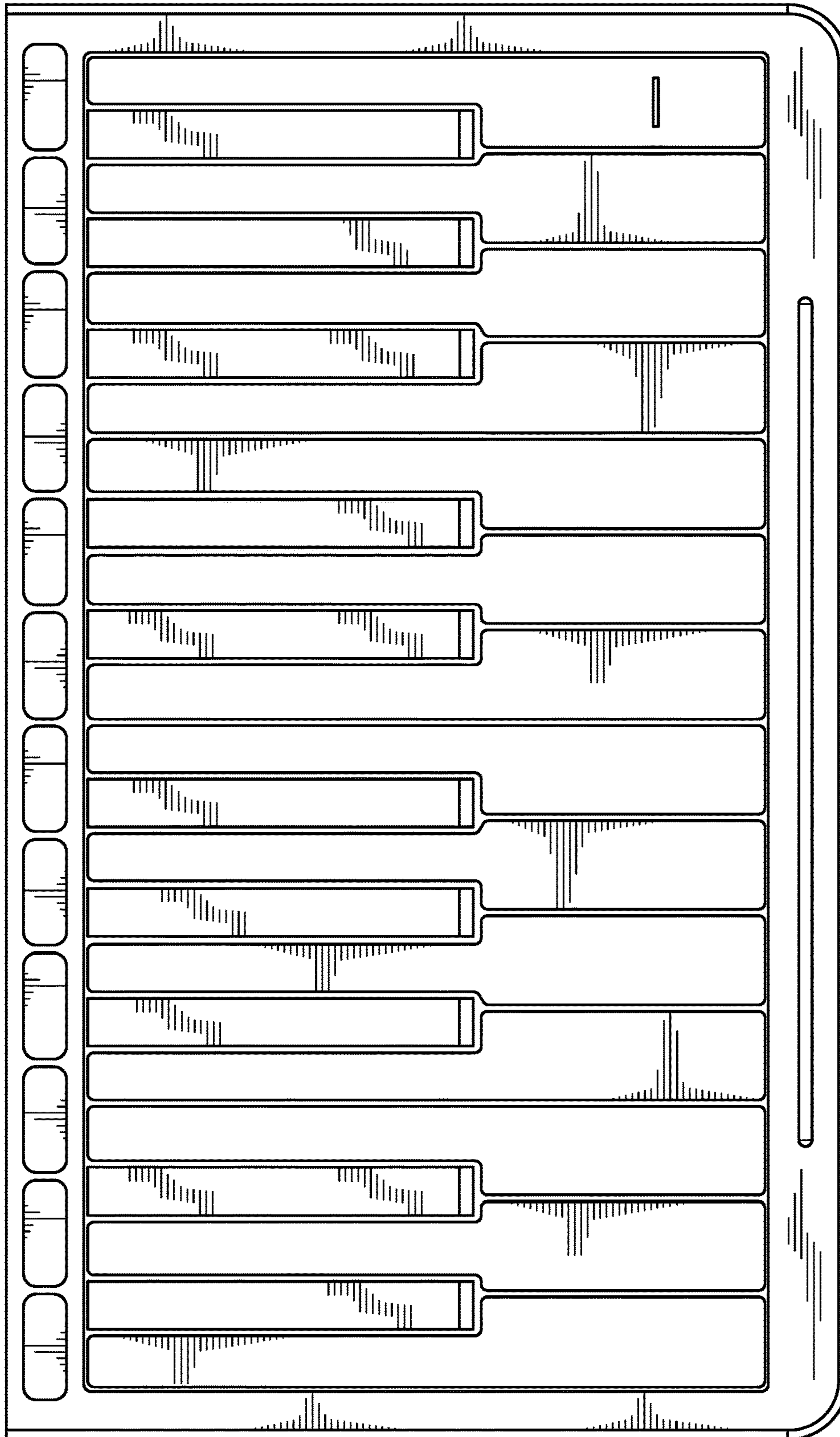


FIG. 1

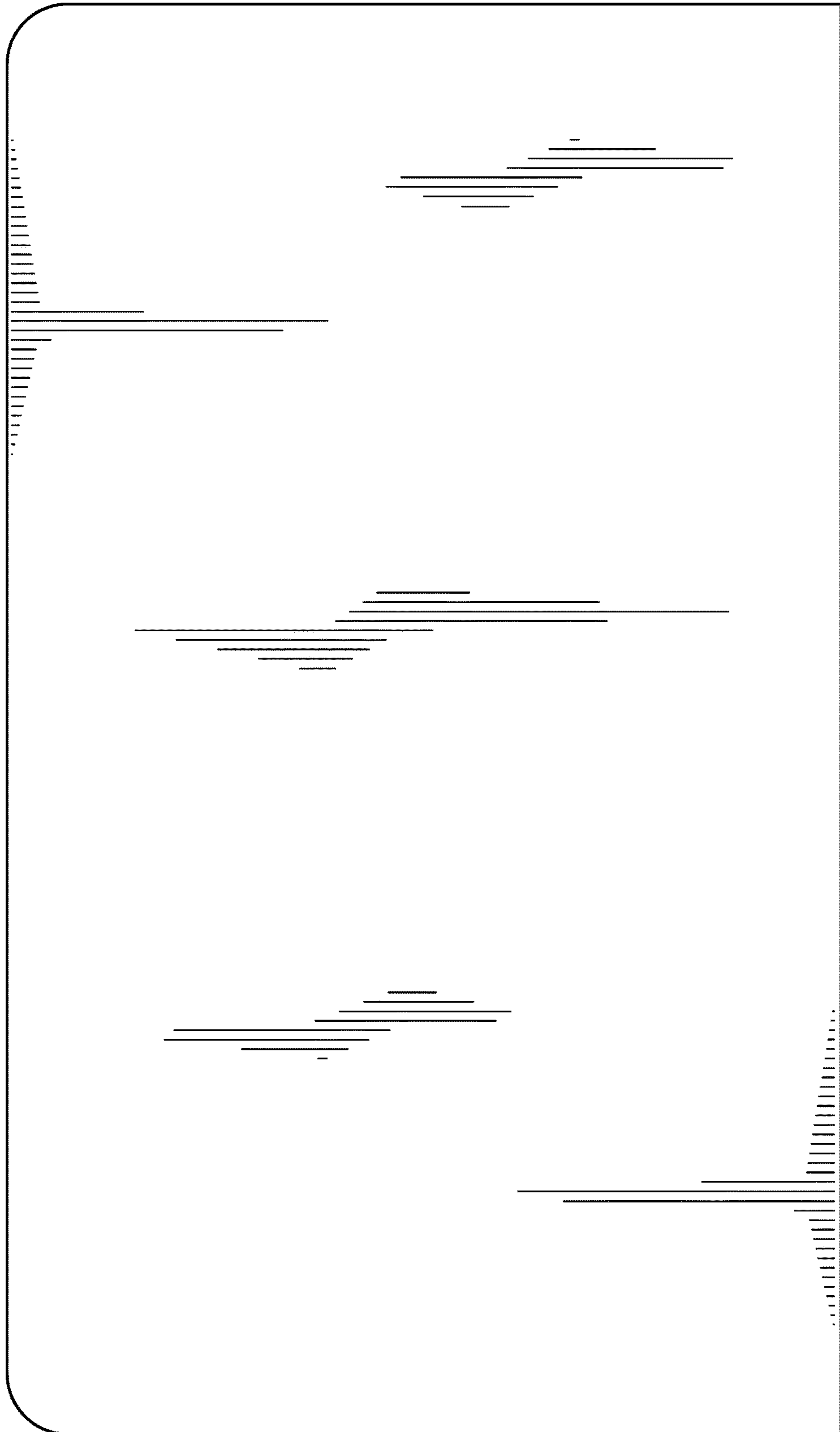
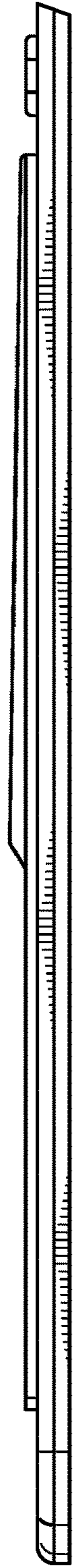


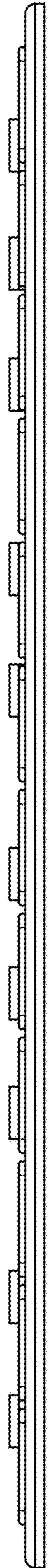
FIG. 2



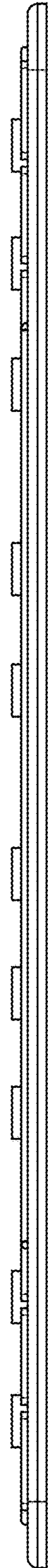
*FIG. 3*



*FIG. 4*



*FIG. 5*



*FIG. 6*

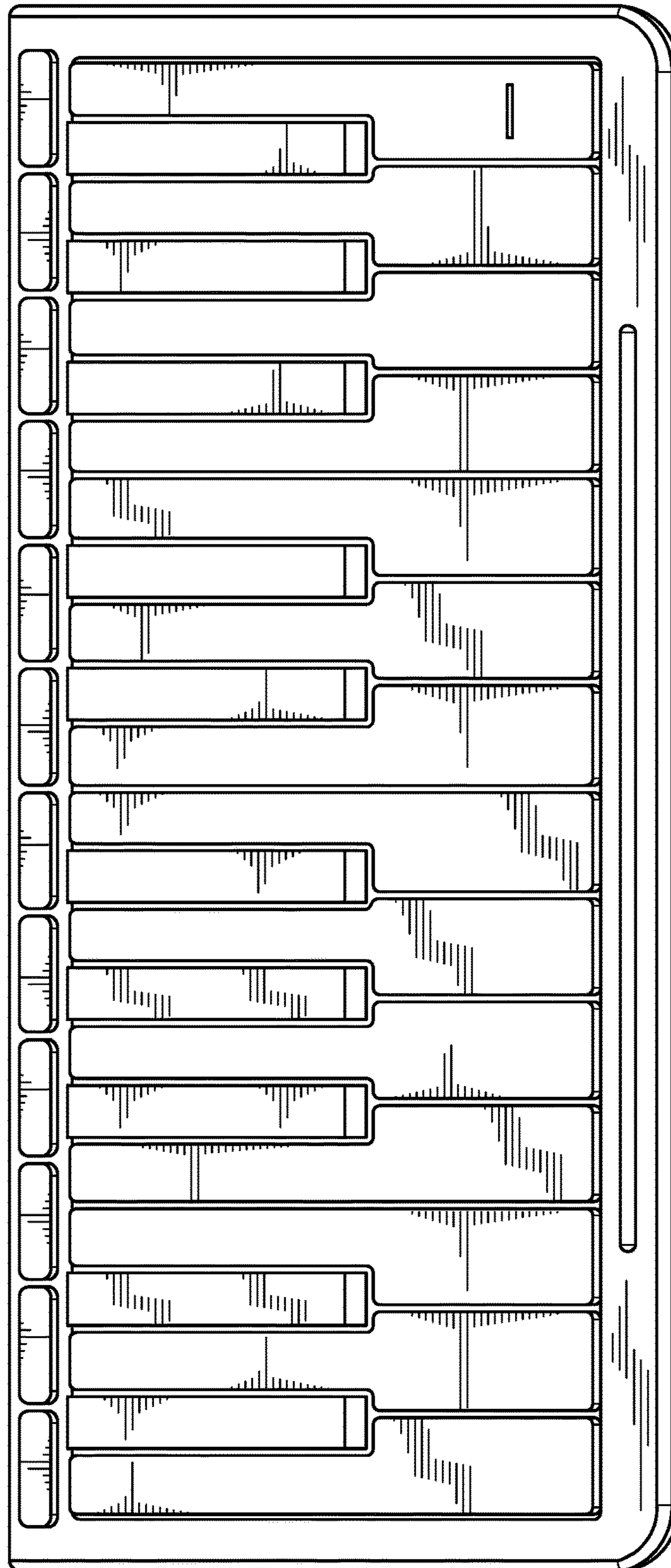


FIG. 7

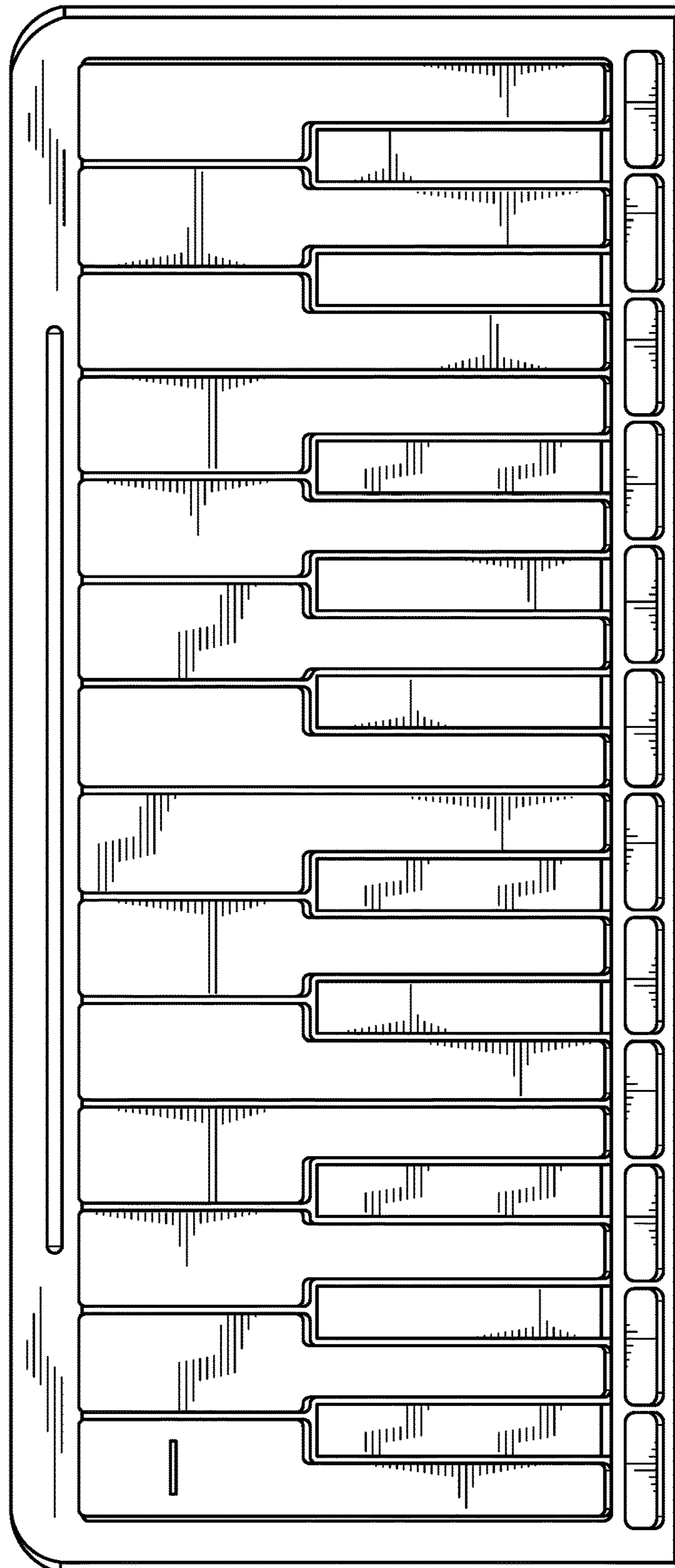


FIG. 8



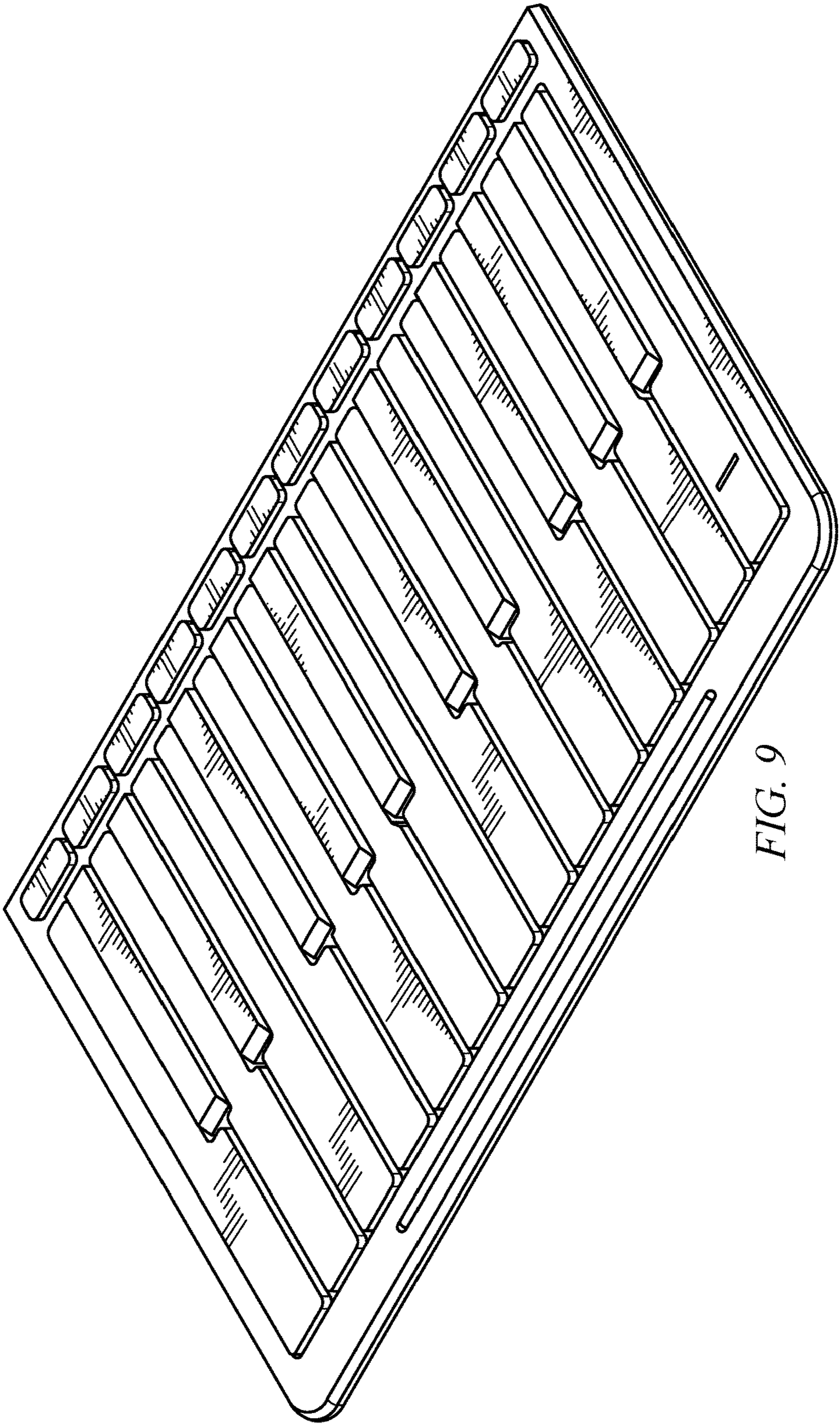


FIG. 9

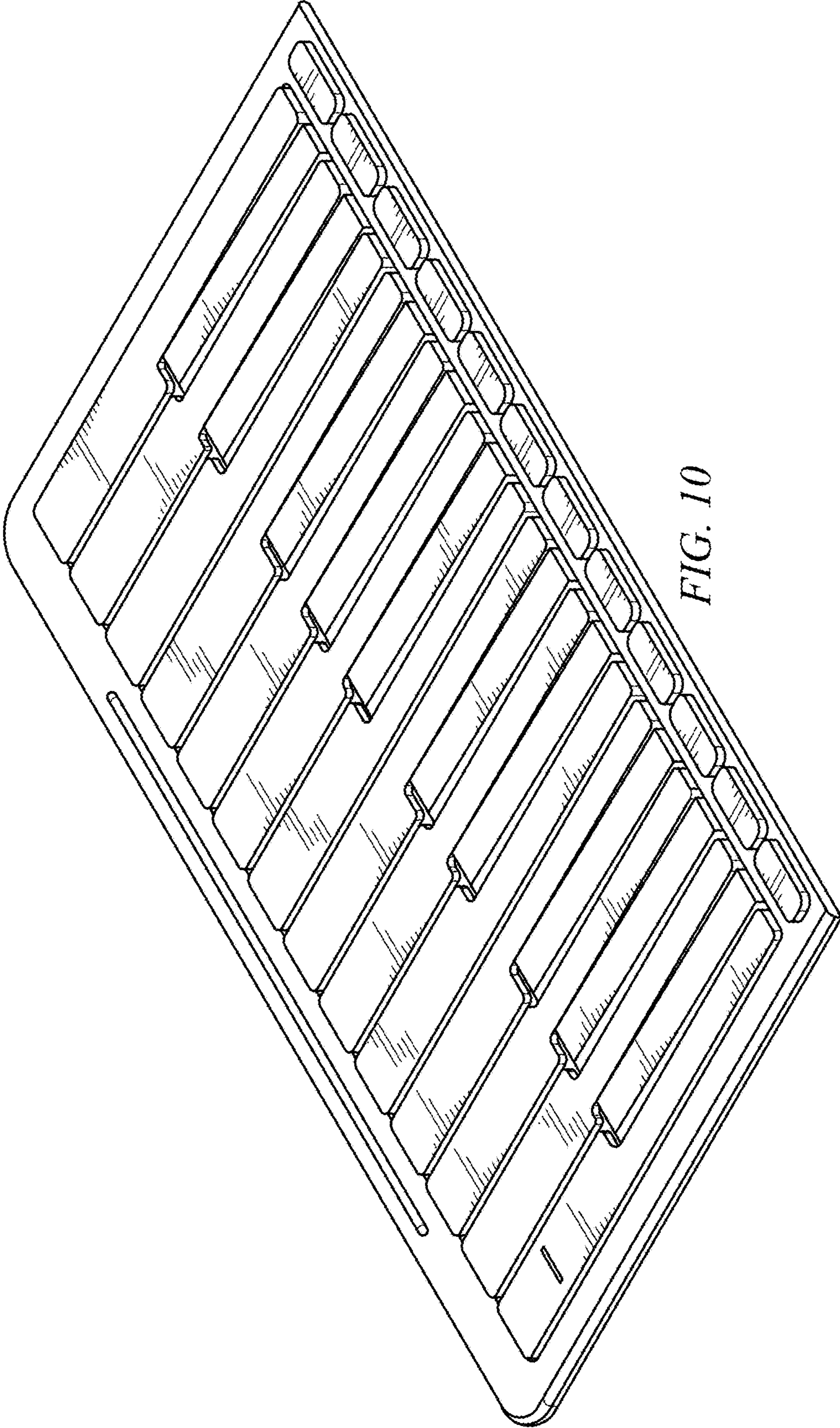


FIG. 10

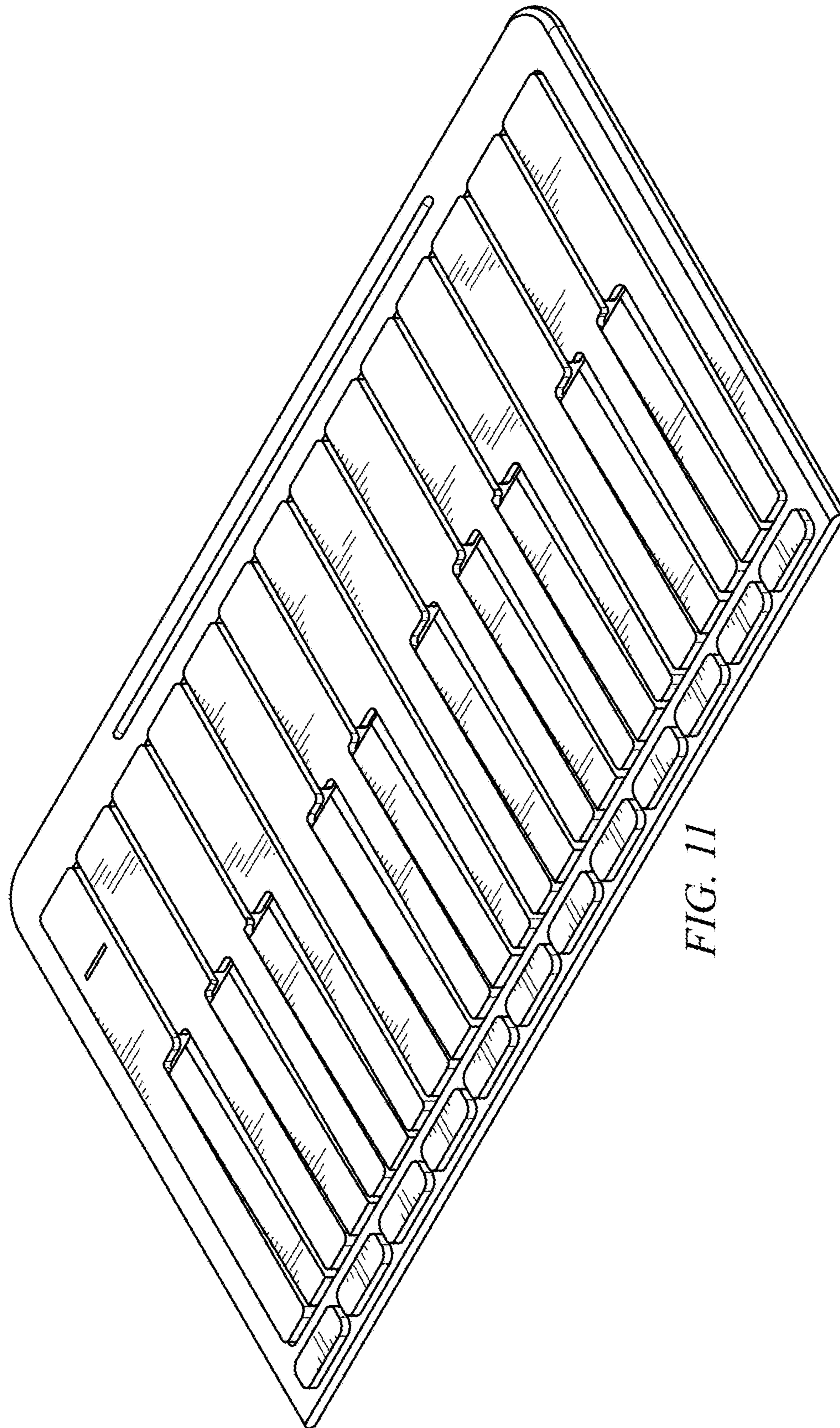


FIG. 11

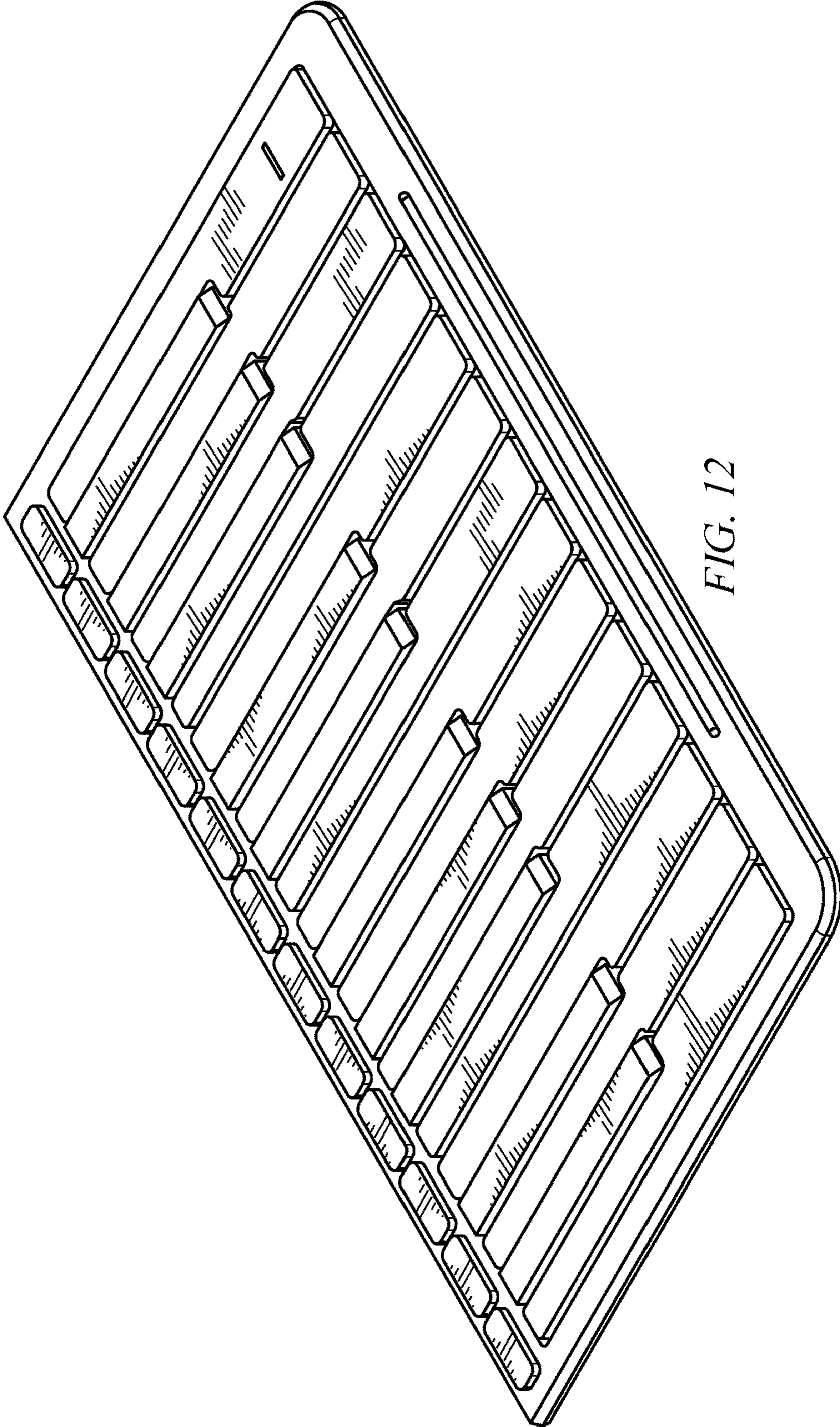


FIG. 12

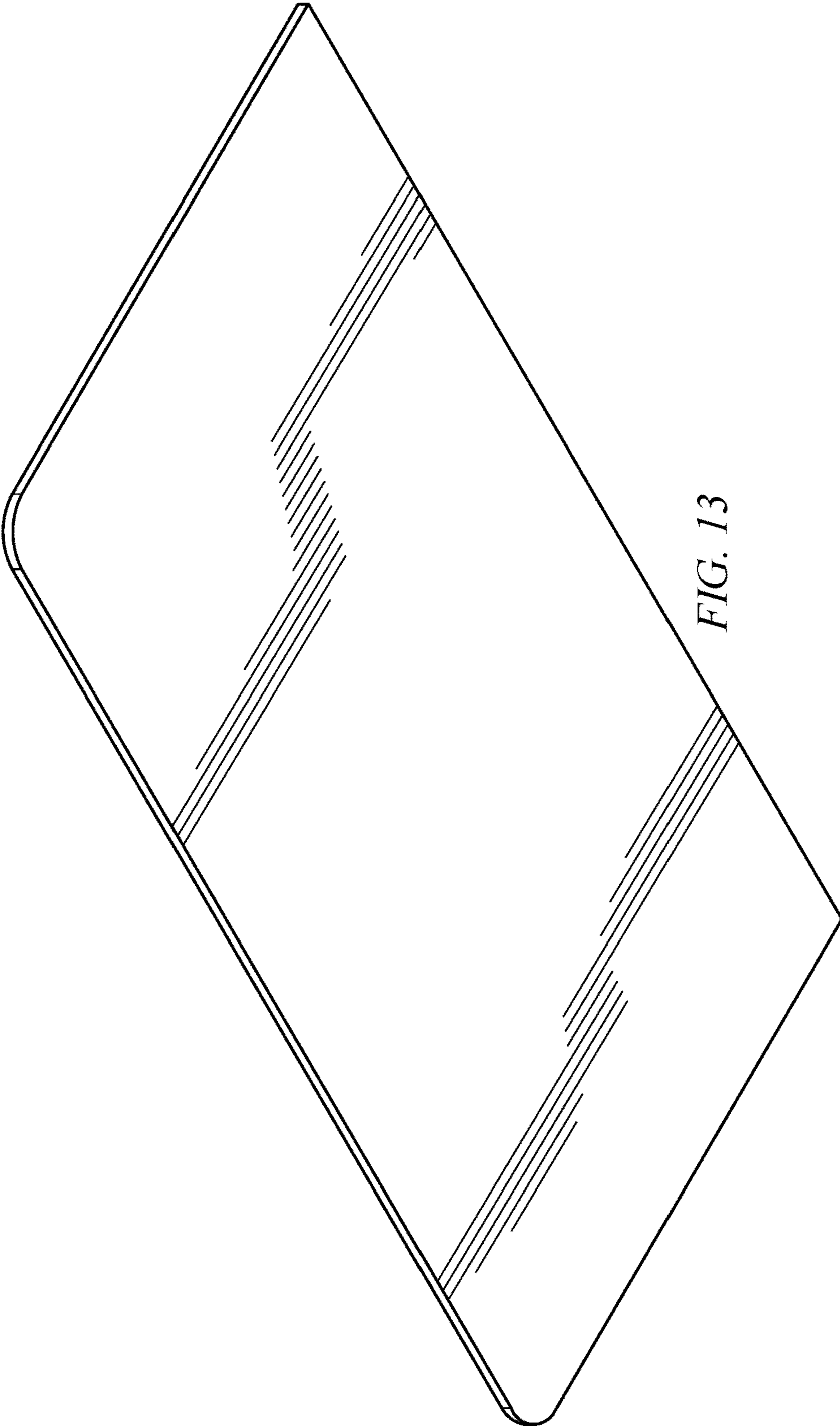


FIG. 13

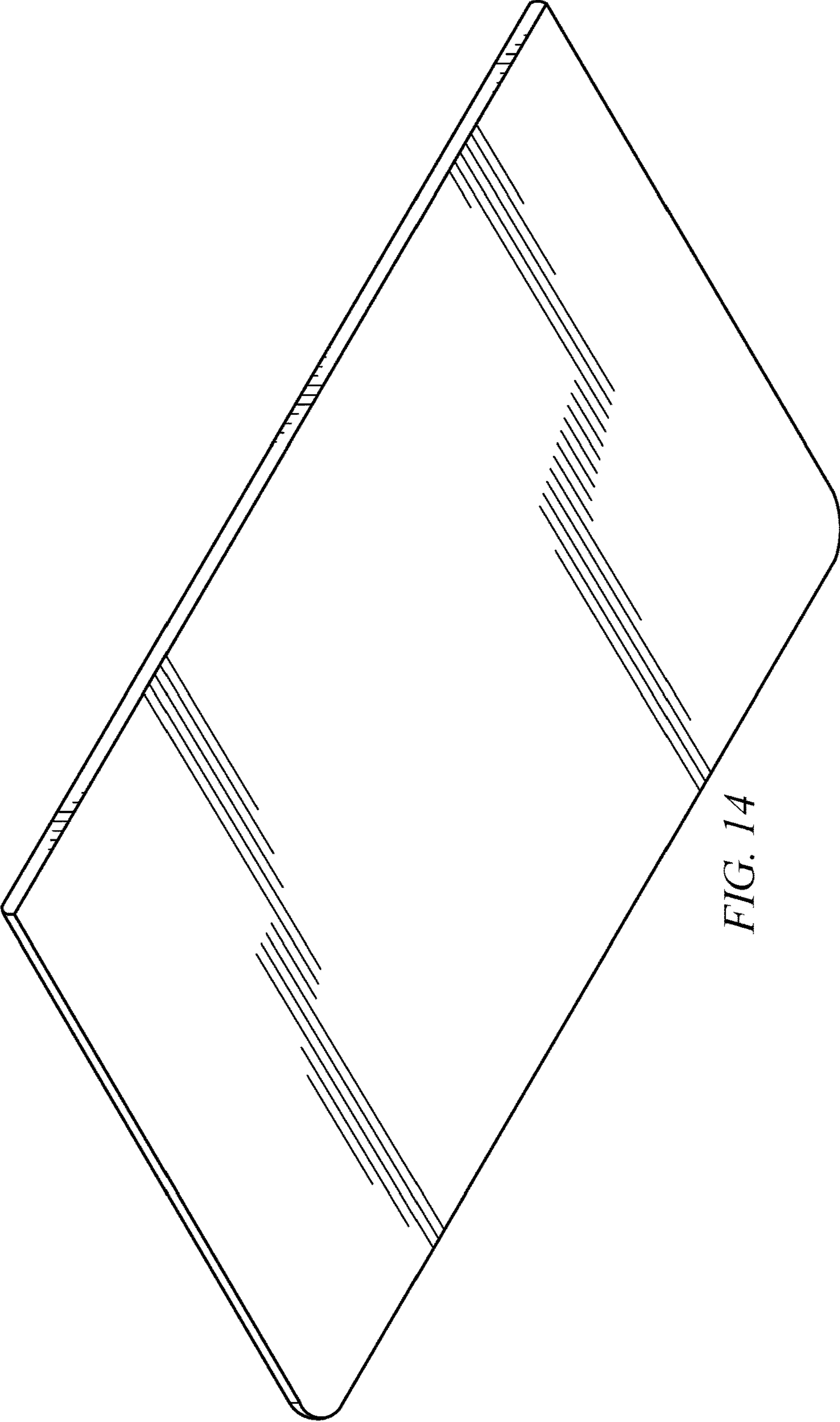
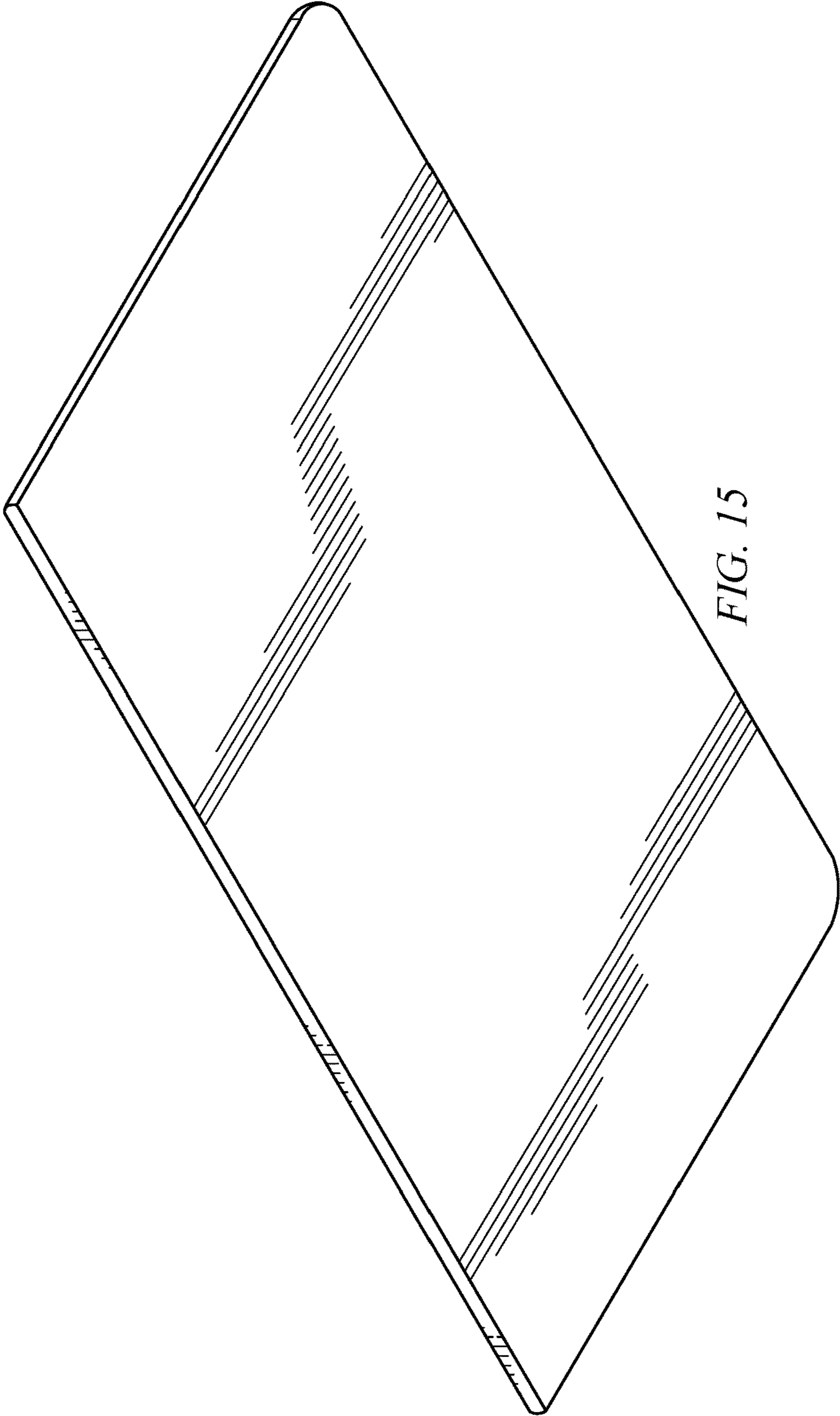


FIG. 14



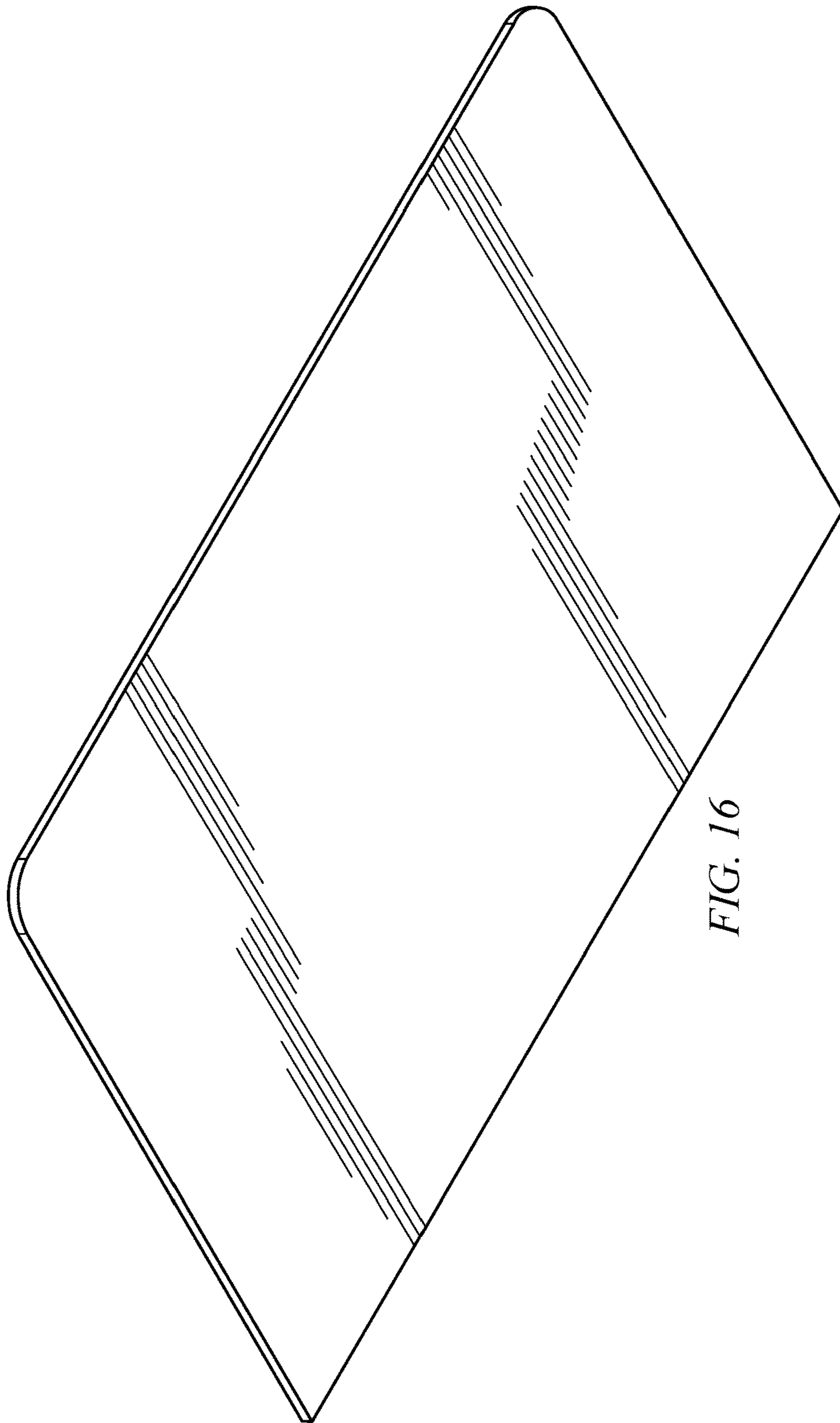


FIG. 16