



US00D978845S

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

(10) **Patent No.:** **US D978,845 S**

(45) **Date of Patent:** **** *Feb. 21, 2023**

(54) **DISPLAY MODULE**
(71) Applicant: **Samsung Display Co., Ltd.**, Yongin-si (KR)
(72) Inventors: **Jun-Sang Lyu**, Seoul (KR); **Jun Yong Park**, Seoul (KR); **Ho-Seok Han**, Cheonan-si (KR)

(73) Assignee: **Samsung Display Co., Ltd.**, Yongin-si (KR)

(*) Notice: This patent is subject to a terminal disclaimer.

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

(21) Appl. No.: **29/647,763**

(22) Filed: **May 15, 2018**

(30) **Foreign Application Priority Data**

Feb. 2, 2018 (KR) 30-2018-0005967

(51) **LOC (14) Cl.** **14-03**

(52) **U.S. Cl.**
USPC **D14/248; D14/250; D14/439**

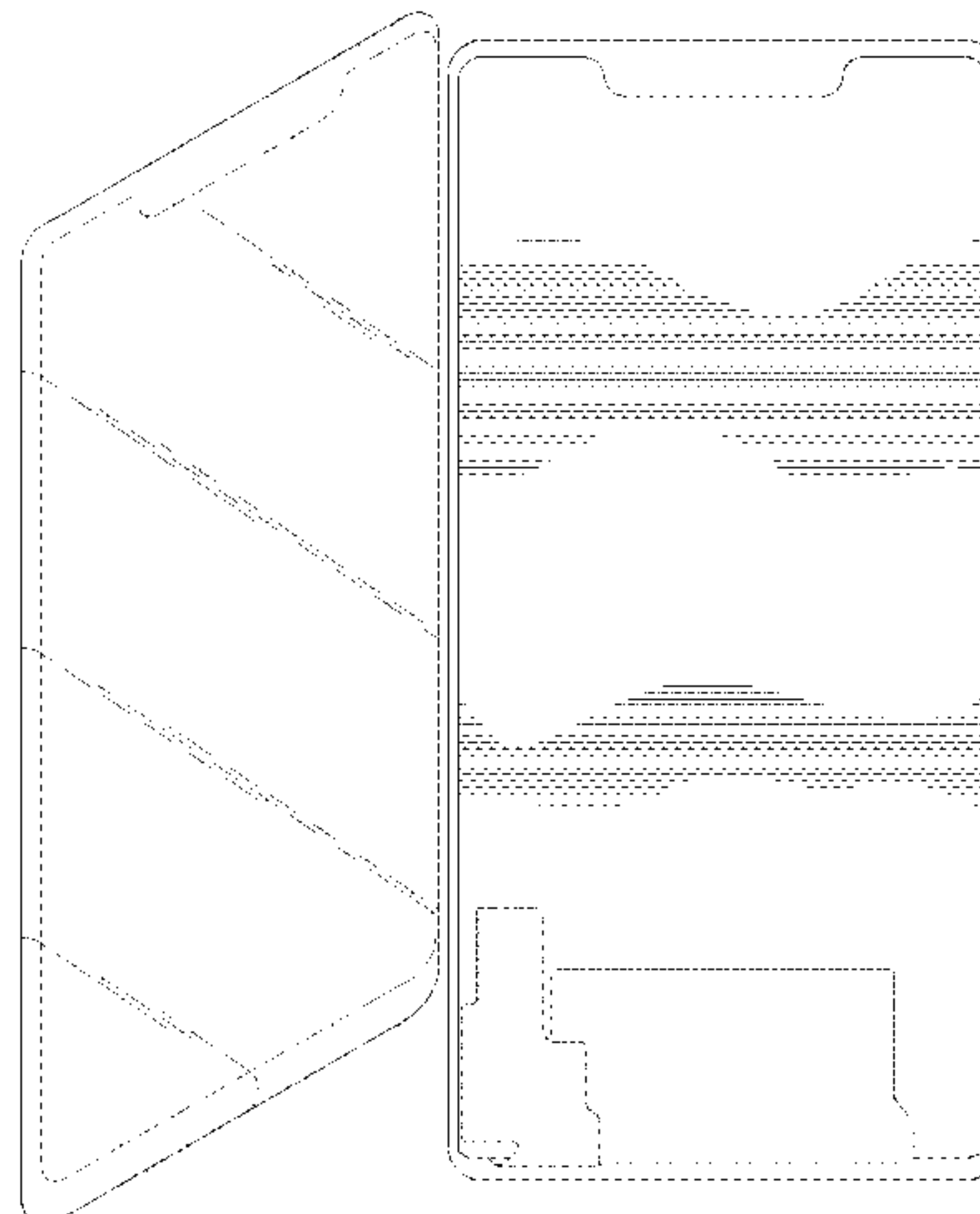
(58) **Field of Classification Search**
USPC D14/138 R, 138 AA, 138 C, 138 G, D14/140.11, 203.1, 203.3, 203.7, 250, D14/217, 371, 374, 289, 424, 432, 464, D14/214, 348, 505, 501-502, 405; 455/575.1, 575.8; D13/162, 184; D21/324-325, 329, 332; 359/391, 656, 359/811; D19/75-76
CPC C09J 7/00; C09J 7/29; C09J 2201/122; G06F 1/1626; H04B 1/3888
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,943,649 A 3/1976 Foley
D249,766 S 10/1978 Munn

D447,517 S 9/2001 Flores, Jr. et al.
D502,031 S * 2/2005 Cassidy D20/40
D505,809 S * 6/2005 Cassidy D3/319
D629,771 S 12/2010 Haspil et al.
7,983,037 B2 7/2011 Zhang et al.
8,116,073 B2 2/2012 Hung et al.
D665,808 S 8/2012 Wang
D693,785 S 11/2013 Sutherland et al.
D728,469 S 5/2015 Castelli
D732,540 S * 6/2015 Kang D14/439
D735,175 S * 7/2015 Liu D14/239
D735,176 S * 7/2015 Liu D14/239
D749,053 S * 2/2016 Pihonen D14/138 G
D772,199 S * 11/2016 Igarashi D14/217
9,542,866 B1 1/2017 Cowan
D786,246 S 5/2017 Park et al.
D793,376 S * 8/2017 Kwon D14/248
D794,005 S * 8/2017 Kwon D14/248
D794,636 S 8/2017 Park et al.
D796,496 S 9/2017 Lee
D800,129 S * 10/2017 Wadsworth D14/432
D800,131 S * 10/2017 Wadsworth D14/432
D804,462 S 12/2017 Lamb
D804,463 S 12/2017 Lamb
D804,464 S 12/2017 Lamb
D806,705 S 1/2018 Akana et al.
D811,407 S 2/2018 Wadsworth et al.
D814,452 S * 4/2018 Kwon D14/248
D815,632 S * 4/2018 Akana D14/341
D815,633 S 4/2018 Akana et al.
D817,314 S 5/2018 Kwon et al.
D817,945 S * 5/2018 Wadsworth D14/250
9,979,425 B2 5/2018 Wolf, II
D820,833 S 6/2018 Kim et al.
D820,835 S 6/2018 Kim et al.
D828,335 S 9/2018 Lin
D828,828 S 9/2018 Kim et al.
D829,205 S 9/2018 Akana et al.
D832,266 S 10/2018 Akana et al.
D832,267 S 10/2018 Akana et al.
D832,829 S 11/2018 Kwon et al.
D832,846 S 11/2018 Wadsworth et al.
D832,847 S 11/2018 Wadsworth et al.
D832,850 S 11/2018 Oh
D833,439 S * 11/2018 MacDonald D14/432
D833,440 S * 11/2018 Beaupre D14/432
D833,441 S * 11/2018 Beaupre D14/432
D833,442 S 11/2018 Wadsworth et al.
D833,443 S * 11/2018 Wadsworth D14/432
D834,024 S * 11/2018 Beaupre D14/432
D834,550 S * 11/2018 Ryu D14/138 G
D834,552 S 11/2018 Ryu et al.
D835,623 S * 12/2018 Wadsworth D14/432



US D978,845 S

D836,115 S *	12/2018	Beaupre	D14/432	D925,531 S	7/2021	Kim et al.	
D840,382 S	2/2019	Ryu et al.		D925,541 S	7/2021	Ahn et al.	
D840,383 S	2/2019	Ryu et al.		D926,176 S *	7/2021	Seo	D14/248
D840,987 S	2/2019	Ryu et al.		D926,765 S	8/2021	Akana et al.	
D841,634 S	2/2019	Ryu et al.		D926,770 S	8/2021	Akana et al.	
D844,011 S	3/2019	Lin		D928,144 S	8/2021	Satzger et al.	
D849,010 S	5/2019	Akana et al.		11,093,006 B2	8/2021	Yu et al.	
D854,528 S	7/2019	Ryu et al.		11,106,076 B2 *	8/2021	Lee	G02F 1/133512
D855,042 S	7/2019	Ryu et al.		11,111,418 B2 *	9/2021	Colby	B32B 27/283
D855,043 S	7/2019	Ryu et al.		D933,655 S *	10/2021	Lyu	D14/371
D855,044 S *	7/2019	Cho	D14/248	D934,216 S *	10/2021	Seo	D14/248
D855,599 S	8/2019	Ryu et al.		D938,428 S *	12/2021	Akana	D14/432
D855,600 S	8/2019	Ryu et al.		D938,429 S *	12/2021	Akana	D14/432
D856,337 S	8/2019	Akana et al.		D947,852 S *	4/2022	Lee	D14/439
D856,338 S	8/2019	Akana et al.		2012/0309469 A1	12/2012	Fornara	
D863,245 S *	10/2019	Yuan	D14/138 G	2014/0077690 A1	3/2014	Lee	
D863,307 S	10/2019	Yi et al.		2015/0246514 A1	9/2015	LaColla et al.	
D863,308 S	10/2019	Yi et al.		2015/0291854 A1	10/2015	Colby et al.	
D867,350 S	11/2019	Park et al.		2016/0286920 A1 *	10/2016	Lean	H03K 17/9622
D868,057 S *	11/2019	Kim	D14/341	2017/0297268 A1	10/2017	Witham et al.	
D870,706 S	12/2019	Lin		2017/0339261 A1	11/2017	Chiang	
D872,076 S	1/2020	Kim et al.		2018/0196475 A1	7/2018	Bao et al.	
D873,257 S *	1/2020	Park	D14/248	2018/0272669 A1	9/2018	Kim et al.	
D873,258 S *	1/2020	Park	D14/248	2018/0307278 A1	10/2018	Mody et al.	
D873,266 S *	1/2020	Kim	D14/341	2019/0033922 A1	1/2019	Chou et al.	
D874,417 S	2/2020	Chong et al.		2019/0047815 A1	2/2019	Kim	
D874,450 S *	2/2020	Cha	D14/248	2019/0098120 A1	3/2019	Deng	
D875,061 S	2/2020	Cho et al.		2019/0215390 A1	7/2019	Liu et al.	
D875,702 S *	2/2020	Kim	D14/138 G	2019/0235574 A1	8/2019	Groves et al.	
D875,703 S *	2/2020	Kim	D14/138 G	2019/0339746 A1	11/2019	Kim et al.	
D876,415 S	2/2020	Yi et al.		2020/0050047 A1	2/2020	Son et al.	
D876,438 S	2/2020	Lin		2020/0094467 A1 *	3/2020	Cho	B29C 63/0004
D877,110 S *	3/2020	Cho	D14/138 G	2020/0117041 A1	4/2020	Nakamori et al.	
D877,710 S *	3/2020	Wu	D14/138 G	2020/0183523 A1	6/2020	Luo et al.	
D879,064 S *	3/2020	Park	D14/138 G	2020/0198223 A1 *	6/2020	Sorensen	B29C 63/0047
D879,081 S *	3/2020	Kim	D14/248	2020/0214154 A1	7/2020	Liang	
D879,736 S *	3/2020	Park	D14/138 G	2020/0220958 A1	7/2020	Bian	
D883,942 S	5/2020	Cha et al.		2020/0303664 A1	9/2020	Choi et al.	
D883,945 S *	5/2020	Park	D14/138 G	2020/0305298 A1	9/2020	Lee et al.	
D883,946 S	5/2020	Xu et al.		2020/0319677 A1 *	10/2020	Canning	G06F 3/041
D884,688 S *	5/2020	Cha	D14/248	2020/0348722 A1 *	11/2020	Lee	G02B 1/16
D886,090 S *	6/2020	Cha	D14/248	2020/0355851 A1	11/2020	Yee et al.	
D886,091 S *	6/2020	Cha	D14/248	2020/0401227 A1	12/2020	Kim et al.	
D886,756 S	6/2020	Li et al.		2021/0183985 A1 *	6/2021	Lim	H01L 27/3276
D886,757 S *	6/2020	Cho	D14/138 G	2021/0204434 A1 *	7/2021	Hooton	H05K 5/04
D886,813 S *	6/2020	Cha	D14/248	2021/0204435 A1 *	7/2021	Choi	H05K 5/04
D888,030 S *	6/2020	Kim	D14/248	2021/0241984 A1	8/2021	Moon et al.	
D888,701 S *	6/2020	Nam	D14/248	2021/0252770 A1	8/2021	Lee et al.	
D890,152 S *	7/2020	Yi	D14/248				
D893,490 S *	8/2020	Akana	D14/439				
10,754,463 B2	8/2020	Kim					
D894,857 S	9/2020	Cha et al.					
D894,883 S	9/2020	Park et al.					
D895,627 S *	9/2020	Akana	D14/439				
D897,979 S	10/2020	Choi et al.					
D900,112 S *	10/2020	Cho	D14/439				
D900,778 S	11/2020	Cheng et al.					
D900,799 S *	11/2020	Cho	D14/248				
D901,508 S *	11/2020	Akana	D14/439				
D904,380 S *	12/2020	Seo	D14/248				
D904,994 S *	12/2020	Lee	D14/138 G				
D904,995 S *	12/2020	Baek	D14/138 G				
D905,030 S *	12/2020	Seo	D14/248				
D905,653 S	12/2020	Park et al.					
D905,669 S	12/2020	Park et al.					
D905,670 S *	12/2020	Seo	D14/248				
D905,695 S *	12/2020	Akana	D14/439				
D906,306 S *	12/2020	Akana	D14/248				
D908,706 S	1/2021	Ahn et al.					
10,882,285 B2 *	1/2021	Kim	C09J 7/29				
D912,057 S	3/2021	Chang					
D914,024 S	3/2021	Kim et al.					
D915,409 S *	4/2021	Koo	D14/439				
D917,490 S *	4/2021	Lee	D14/439				
D920,313 S *	5/2021	Seo	D14/248				
11,009,911 B2 *	5/2021	Lin	G06F 1/1637				
D922,999 S *	6/2021	Andre	D14/341				
11,036,259 B2 *	6/2021	Chou	G06F 1/1626				
11,050,911 B1 *	6/2021	Ondracek	H04N 5/2254				

FOREIGN PATENT DOCUMENTS

CN	303805685	2/2016
CN	304980691	3/2018
CN	304725453	* 7/2018
CN	304894674	11/2018
CN	305385342	10/2019
CN	305482127	12/2019
CN	305924944	7/2020
CN	305970076	8/2020
CN	305996647	8/2020
JP	D1585966	9/2016
JP	D1585966	* 9/2017
KR	301025955.0000	* 10/2019
KR	300974404.0000	10/2020

OTHER PUBLICATIONS

NPL#1: Screen Protector for Apple iPhone 11 Pro, JTech, amazon.com, published by JTech on Aug. 23, 2017 © 1996-2020 Amazon.com, Inc., online, site visited Jun. 26, 2020. Available at URL: <https://www.amazon.co.uk/JETech-Screen-Protector-Friendly-Tempered/dp/B075175151> (Year: 2017).*

NPL #2: iPhone X Screen Protector, various manufacturers, dgit.com, published by John Callahan on Oct. 27, 2017 © 2020 DGIT, online, site visited Feb. 21, 2020. Available from Internet, URL: <https://dgit.com/iphone-x-screen-protectors-52439/> (Year: 2017).*

NPL #3: iPhone X Screen Protector, Zagg, amazon.com, published by Zagg, customer review with images from on Dec. 17, 2017 ©

1996-2020, online, site visited Feb. 21, 2020. Available at URL: <https://www.amazon.com/ZAGG-InvisibleShield-Definition-Tempered-Protector/dp/B074SCLR2S/?tag=at88-20&th=1> (Year: 2017).*

NPL #4: iPhone X Screen Protector, Olixar, youtube.com, published by MobileFun on Nov. 3, 2017 © not listed, online, site visited Feb. 24, 2020. Available from Internet, URL: <https://www.youtube.com/watch?v=gqSlrfYDbal> (Year: 2017).*

Restriction/Election Office Action issued in Design U.S. Appl. No. 29/647,774 by the USPTO, dated Jul. 7, 2020, 8 pages.

NPL#1: Replacement Parts for Samsung Galaxy, MEI HE-Parts, amazon.com, posted by MEI HE-Parts on Mar. 7, 2019 © 1996-2020 Amazon.com, Inc., online, site visited Sep. 1, 2020. Available at URL: <https://www.amazon.com/Replacement-Samsung-Original-Display-Cell-phone/dp/B07P HX3 R7 M?th = 1> (Year: 2019).

NPL#2: X30 Front Panel Leaks, VIVO, gizchina.com, posted by Qayyum Ajneri on Jan. 26, 2018 © 2012-2020 GizChina.com, Inc., online, site visited Sep. 1, 2020. Available at URL: <https://www.gizchina.com/2018/01/26/alleged-vivo-x30-front-panel-leaks-another-notch-design-appears/> (Year: 2018).

NPL#1: Tempered Glass for Samsung Galaxy, Islandse_Mobile, amazon.com, published by Islandse Mobile on Aug. 30, 2019 © 1996-2020 Amazon.com, Inc., online, site visited Sep. 4, 2020. Available at URL: <https://www.amazon.com/Islandse%F0%9F%92%96%F0%9F%92%96-Samsung-Tempered-Protector-Without/dp/B07TRK...> (Year: 2019).

NPL #2: OEM Back LCD Screen Sticker Part for Samsung Galaxy, brand not listed, oan.cl, author and date not listed © 2020 Shopping Online, online, site visited Sep. 4, 2020. Available at URL: <https://www.oan.cl/oem-back-lcd-screen-sticker-part-for-samsung-galaxy-a30-galaxy-a30s/> (Year: 2020).

U.S. Office Action dated Sep. 23, 2020, issued in U.S. Appl. No. 29/647,774, 14 pages.

U.S. Office Action dated Sep. 23, 2020, issued in U.S. Appl. No. 29/691,104, 14 pages.

NPL #1: Module for Samsung Galaxy, Samsung, hotcomputers.ru, author unlisted, published on Mar. 20, 2015 © Online store "HotComputers", online, site visited Jun. 29, 2020. Available URL: <https://www.hotcomputers.ru/product/zhk-matrica-tachskrin-ams499qp01-5-samsung-galaxy-s4-i9500-belyj-1920x1080-full-hd/> (Year: 2015).

U.S. Restriction Requirement dated Aug. 11, 2020, issued in U.S. Appl. No. 29/647,767 (7 pages).

U.S. Restriction Requirement dated Aug. 11, 2020, issued in U.S. Appl. No. 29/647,773 (7 pages).

U.S. Notice of Allowance dated Jun. 17, 2021, issued in U.S. Appl. No. 29/647,774 (8 pages).

NPL #1: iPhone X OLEO Screen, Apple, rewatechnology.com, published by Phryne on Nov. 23, 2017 © 2008-2018, online, site visited Nov. 13, 2020. Available at URL: <https://blog.rewatechnology.com/iphone-x-oled-screen-total-teardown/> (Year: 2017).

U.S. Office action dated Dec. 23, 2020, issued in U.S. Appl. No. 29/647,767 (15 pages).

U.S. Office action dated Jan. 11, 2021, issued in U.S. Appl. No. 29/647,773 (14 pages).

U.S. Final Office Action dated Jan. 18, 2022, issued in U.S. Appl. No. 29/691,104 (8 pages).

U.S. Office Action dated Oct. 1, 2021, issued in U.S. Appl. No. 29/647,773 (12 pages).

Notice of Allowance for U.S. Appl. No. 29/647,767 dated May 24, 2022, 9 pages.

Notice of Allowance for U.S. Appl. No. 29/647,773 dated May 24, 2022, 10 pages.

NPL#1: Mate 20, Huawei, amazon.com, published by Huawei, first available on Aug. 10, 2018 © 1996-2020 Amazon.com, Inc., online,

site visited May 16, 2022. Available at URL: <https://www.amazon.com/Huawei-Display-Battery-Unlocked-HMA-L29/dp/B07KMFRPR1> (Year: 2018).

NPL Screen Protector for Huawei Mate 20, Mr. Shield, amazon.com, published by Mr. Shield, first available on Jan. 24, 2018 © 1996-2020 Amazon.com, Inc., online, site visited May 16, 2022. Available at URL: <https://www.amazon.com/Mr-Shield-Tempered-Protector-Lifetime-Replacement/dp/B07P JX9JWR> (Year: 2018).

U.S. Advisory Action dated Jun. 20, 2022, issued in U.S. Appl. No. 29/691,104 (4 pages).

US Notice of Allowance dated Sep. 28, 2022, issued in U.S. Appl. No. 29/647,767 (8 pages).

US Notice of Allowance dated Sep. 28, 2022, issued in U.S. Appl. No. 29/647,773 (8 pages).

US Ex Parte Quayle Action dated Nov. 30, 2022, issued in U.S. Appl. No. 29/691,104 (6 pages).

* cited by examiner

Primary Examiner — Holly E Thurman

Assistant Examiner — Altaira J Swangin

(74) *Attorney, Agent, or Firm* — Lewis Roca Rothgerber Christie LLP

(57)

CLAIM

The ornamental design for display module, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a first embodiment of the display module according to the present design;
 FIG. 2 is a front view of the first embodiment thereof;
 FIG. 3 is a rear view of the first embodiment thereof;
 FIG. 4 is a left side view of the first embodiment thereof;
 FIG. 5 is a right side view of the first embodiment thereof;
 FIG. 6 is a top view of the first embodiment thereof;
 FIG. 7 is a bottom view of the first embodiment thereof;
 FIG. 8 is a perspective view of a second embodiment of the display module according to the present design;
 FIG. 9 is a front view of the second embodiment thereof;
 FIG. 10 is a rear view of the second embodiment thereof;
 FIG. 11 is a left side view of the second embodiment thereof;
 FIG. 12 is a right side view of the second embodiment thereof;
 FIG. 13 is a top view of the second embodiment thereof;
 FIG. 14 is a bottom view of the second embodiment thereof;
 FIG. 15 is a perspective view of a third embodiment of the display module according to the present design;
 FIG. 16 is a front view of the third embodiment thereof;
 FIG. 17 is a rear view of the third embodiment thereof;
 FIG. 18 is a left side view of the third embodiment thereof;
 FIG. 19 is a right side view of the third embodiment thereof;
 FIG. 20 is a top view of the third embodiment thereof; and,
 FIG. 21 is a bottom view of the third embodiment thereof.
 The broken lines shown in the drawings represent portions of the display module that form no part of the claimed design.

1 Claim, 21 Drawing Sheets

FIG. 1

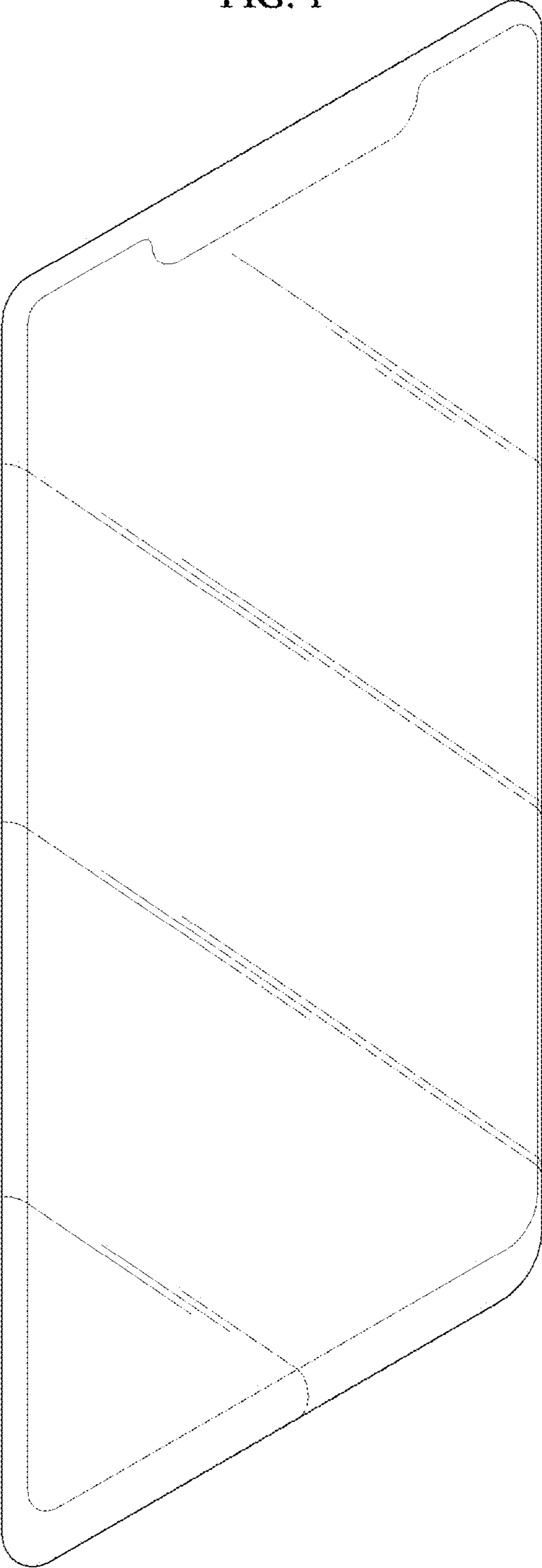


FIG. 2

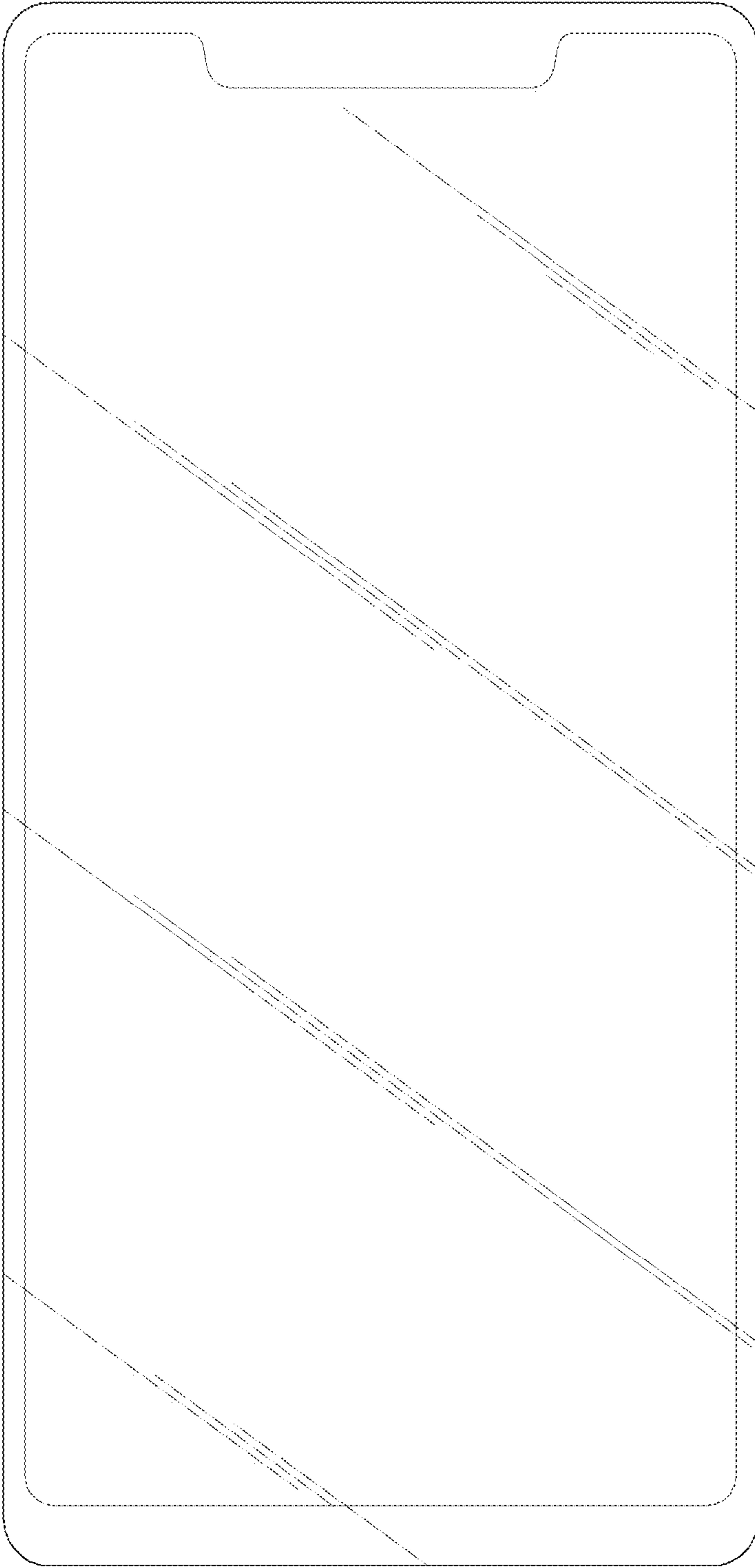


FIG. 3

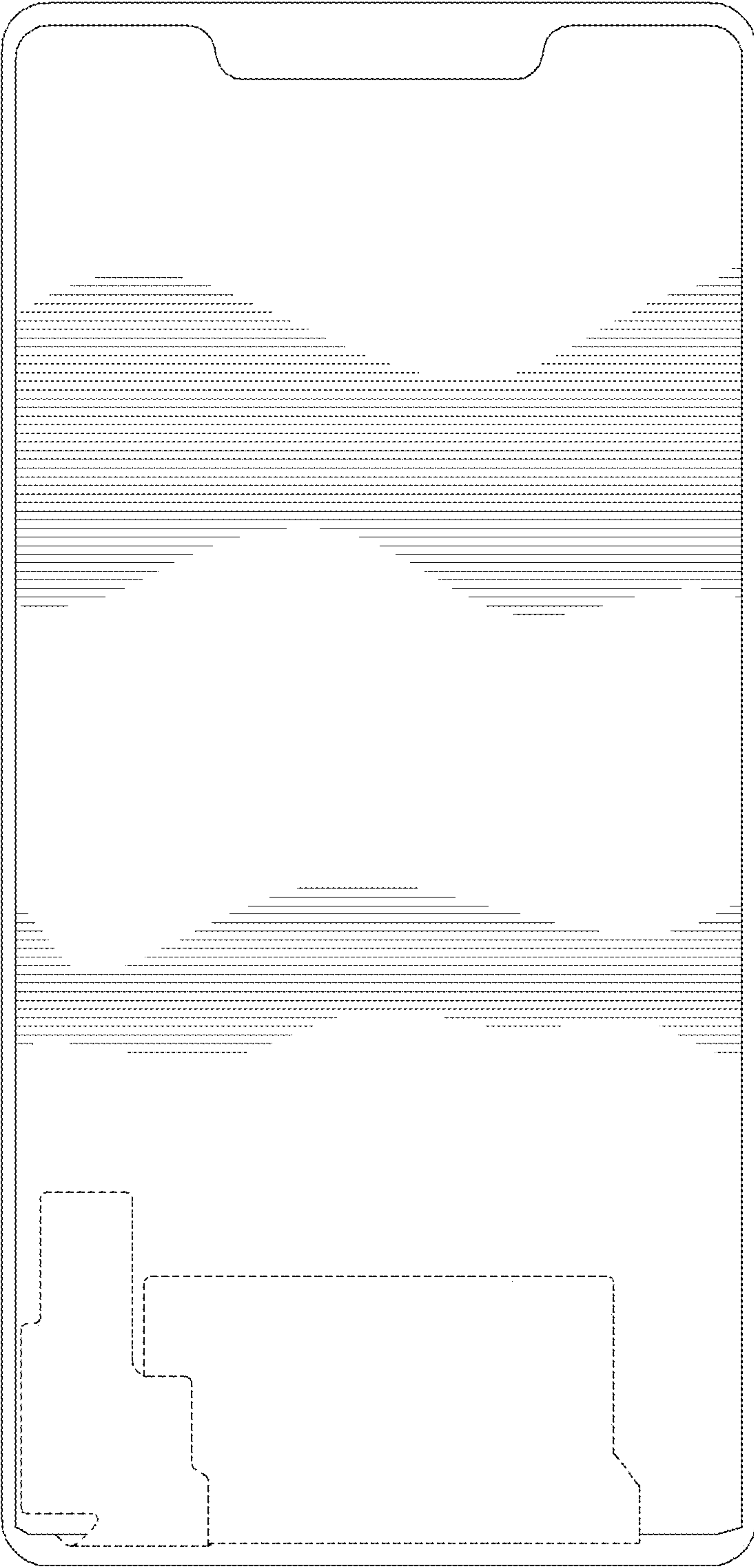


FIG. 4

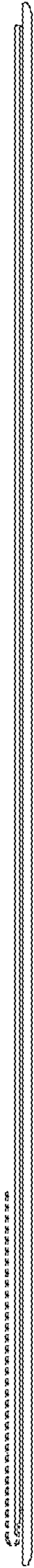


FIG. 5

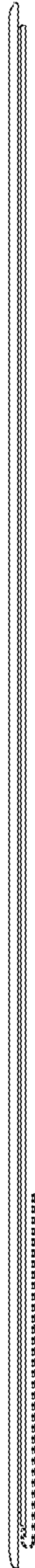


FIG. 6

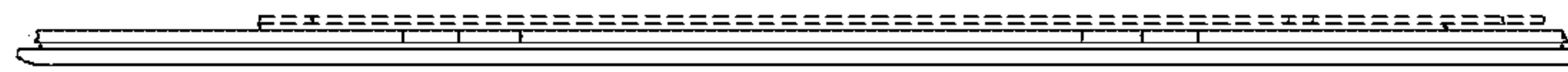


FIG. 7

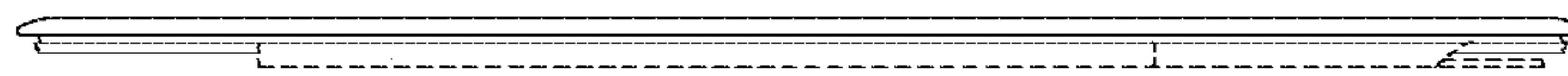


FIG. 8

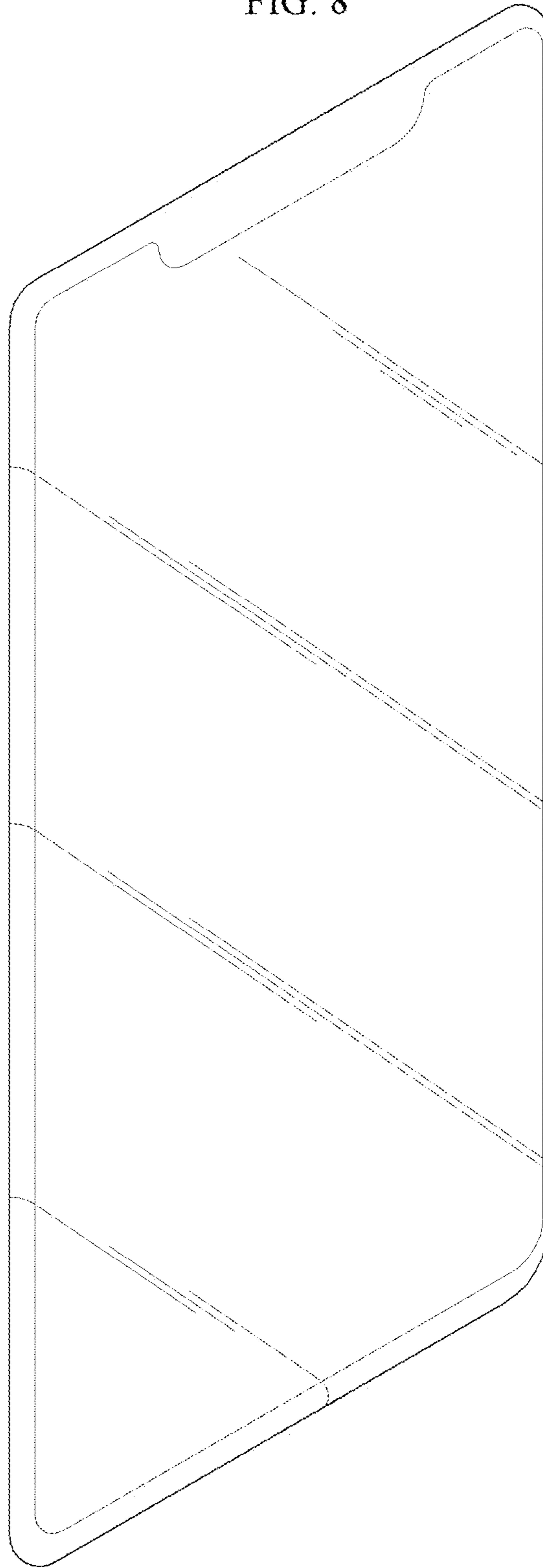


FIG. 9

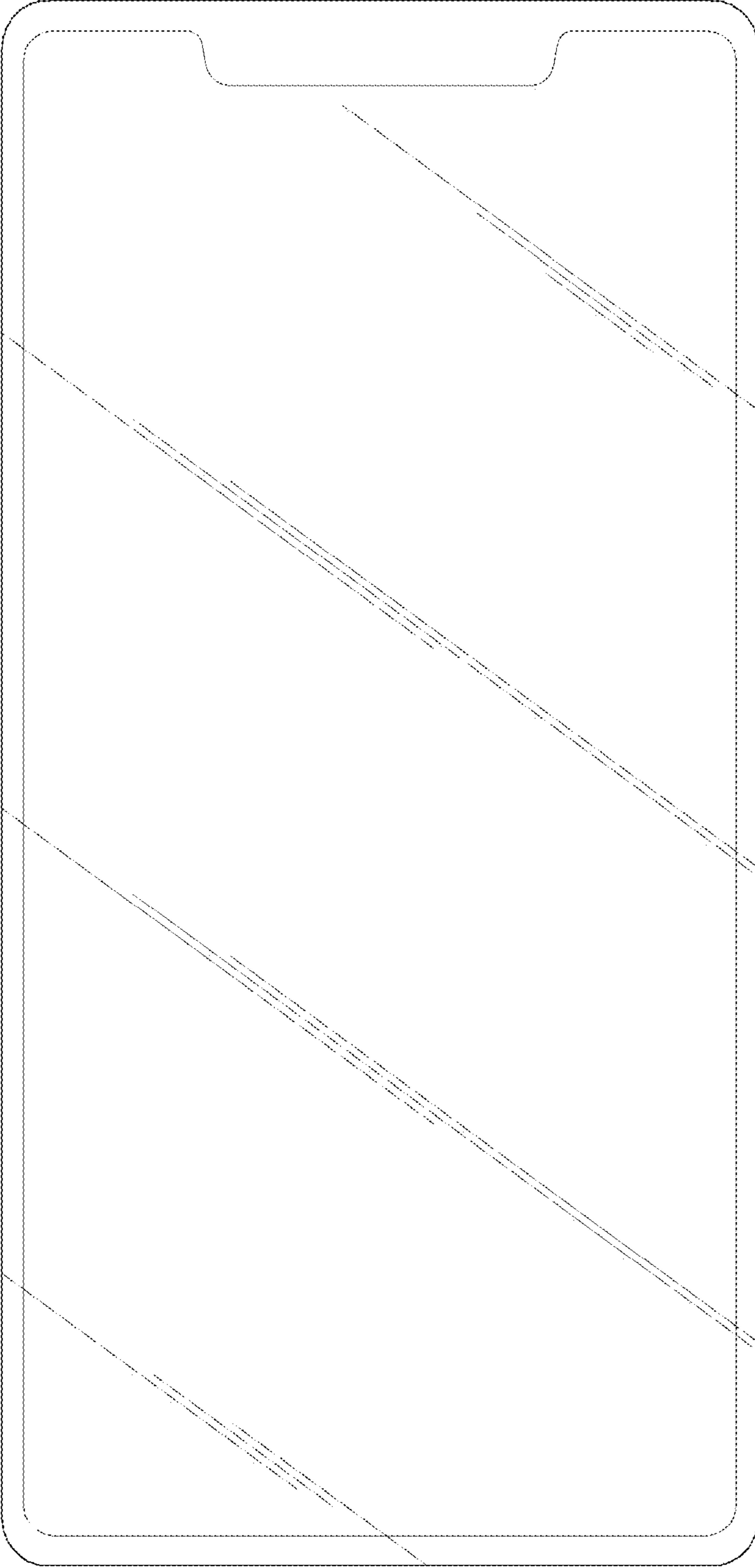


FIG. 10

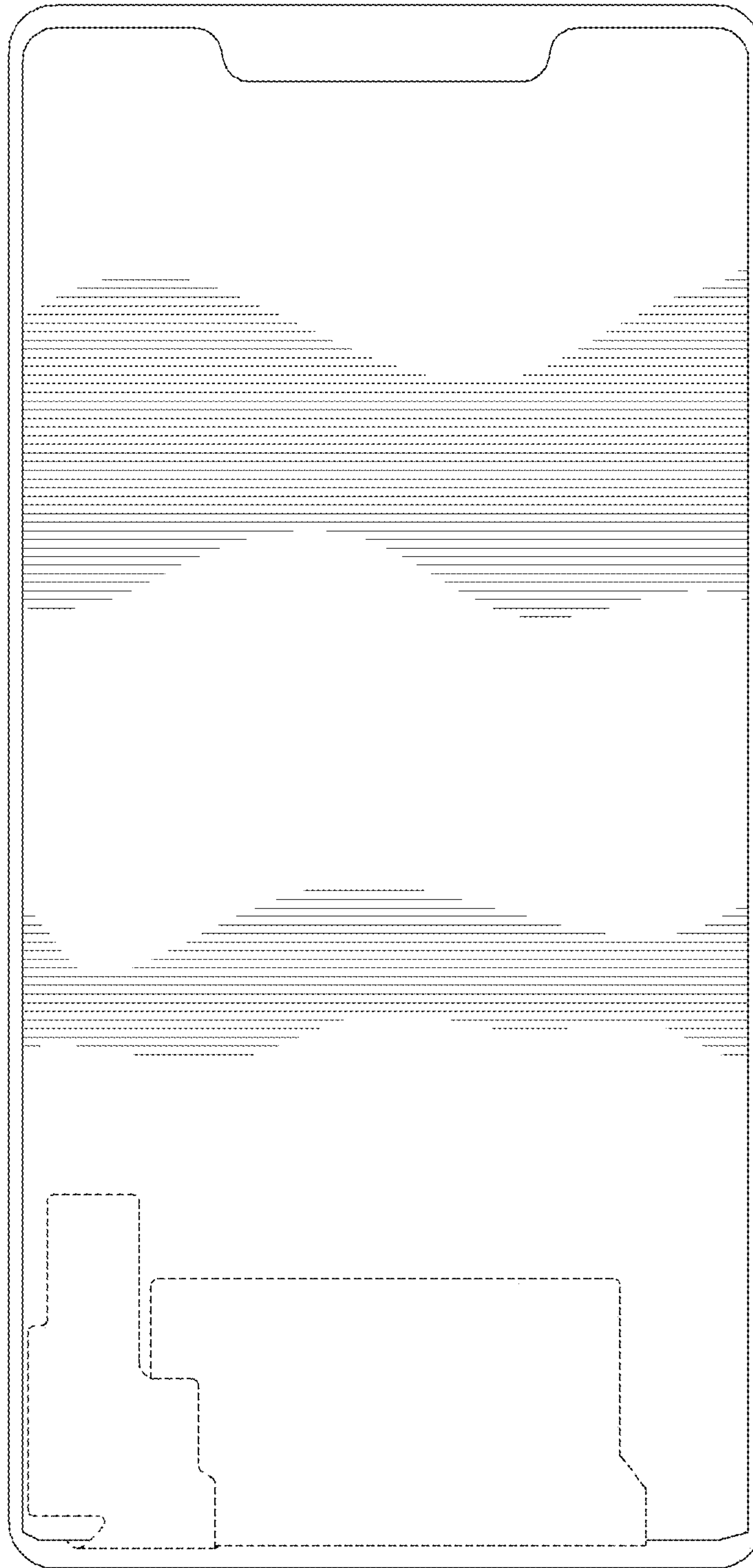


FIG. 11



FIG. 12



FIG. 13

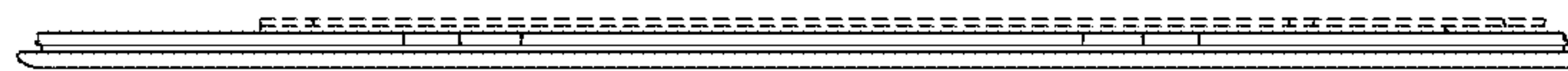


FIG. 14

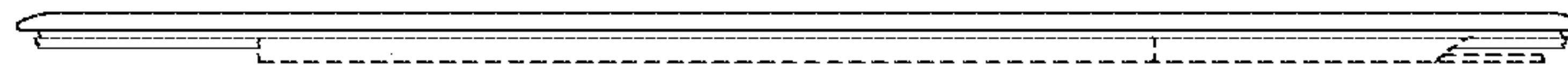


FIG. 15

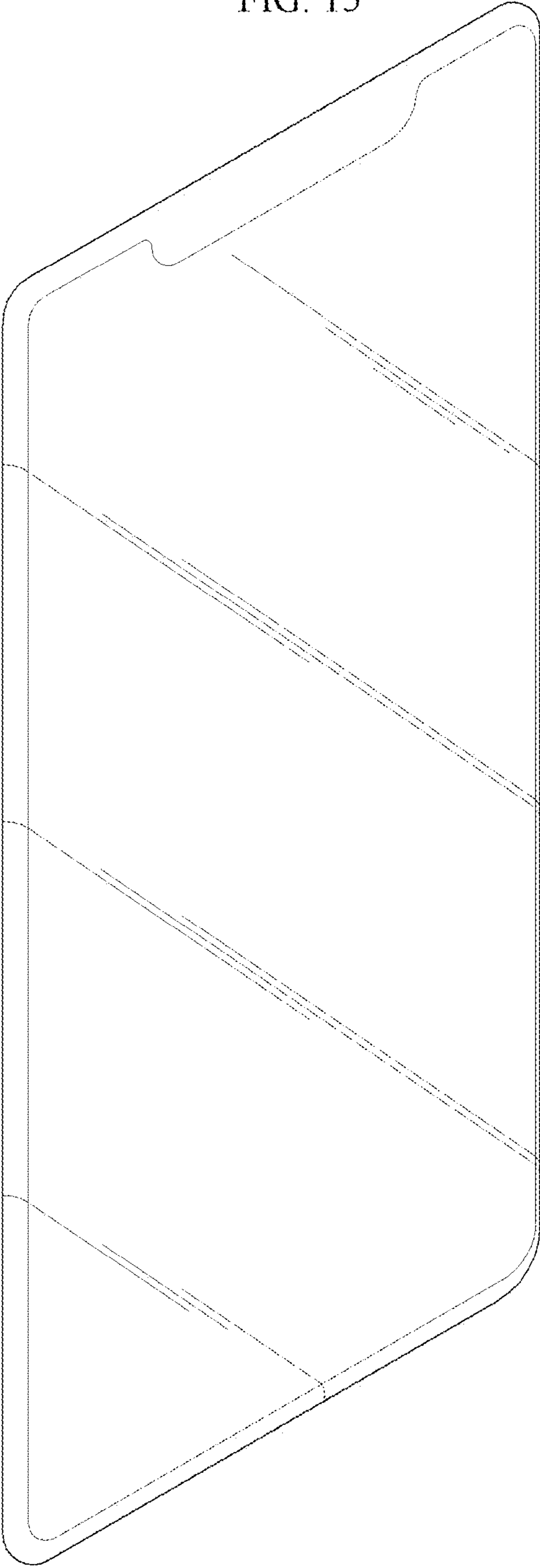


FIG. 16

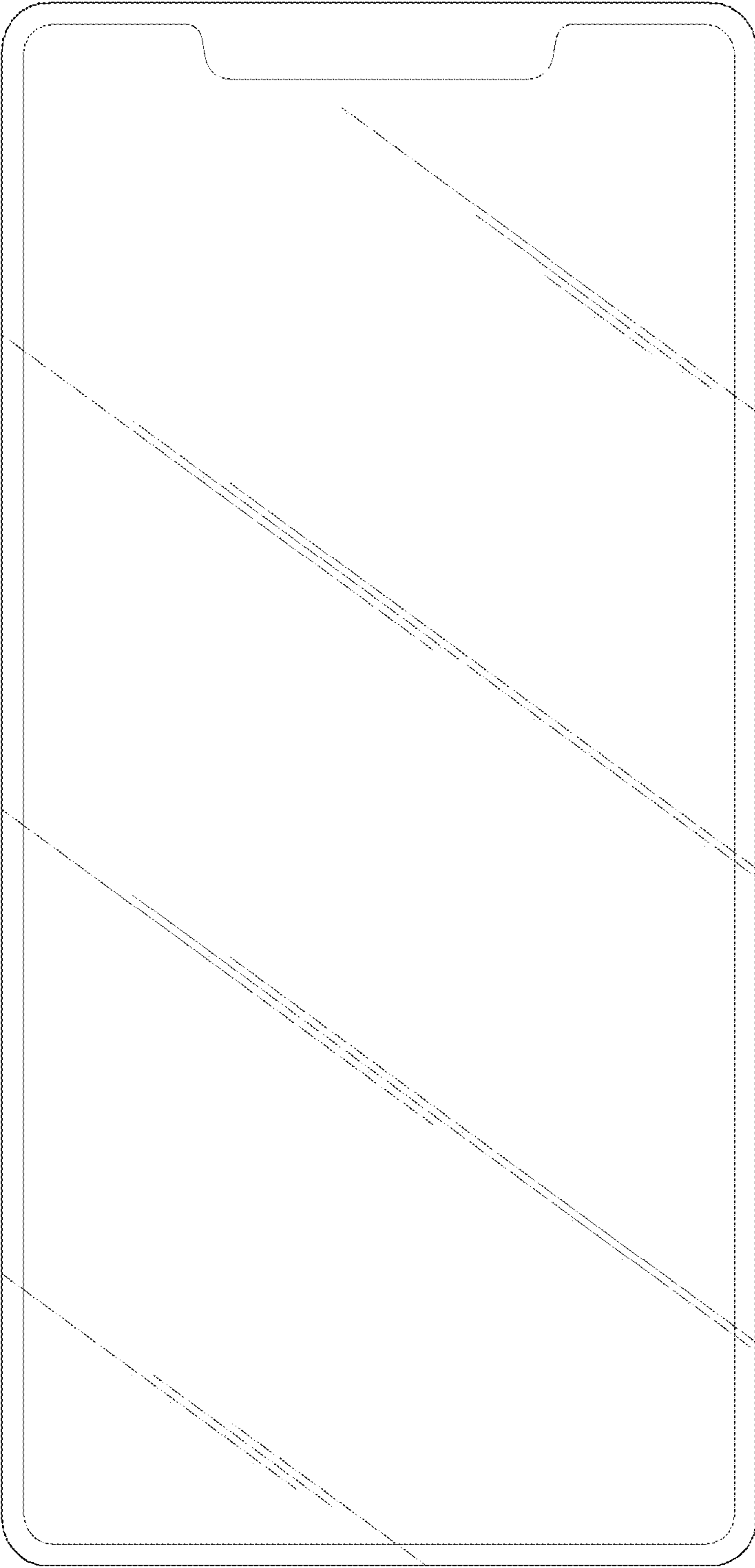


FIG. 17

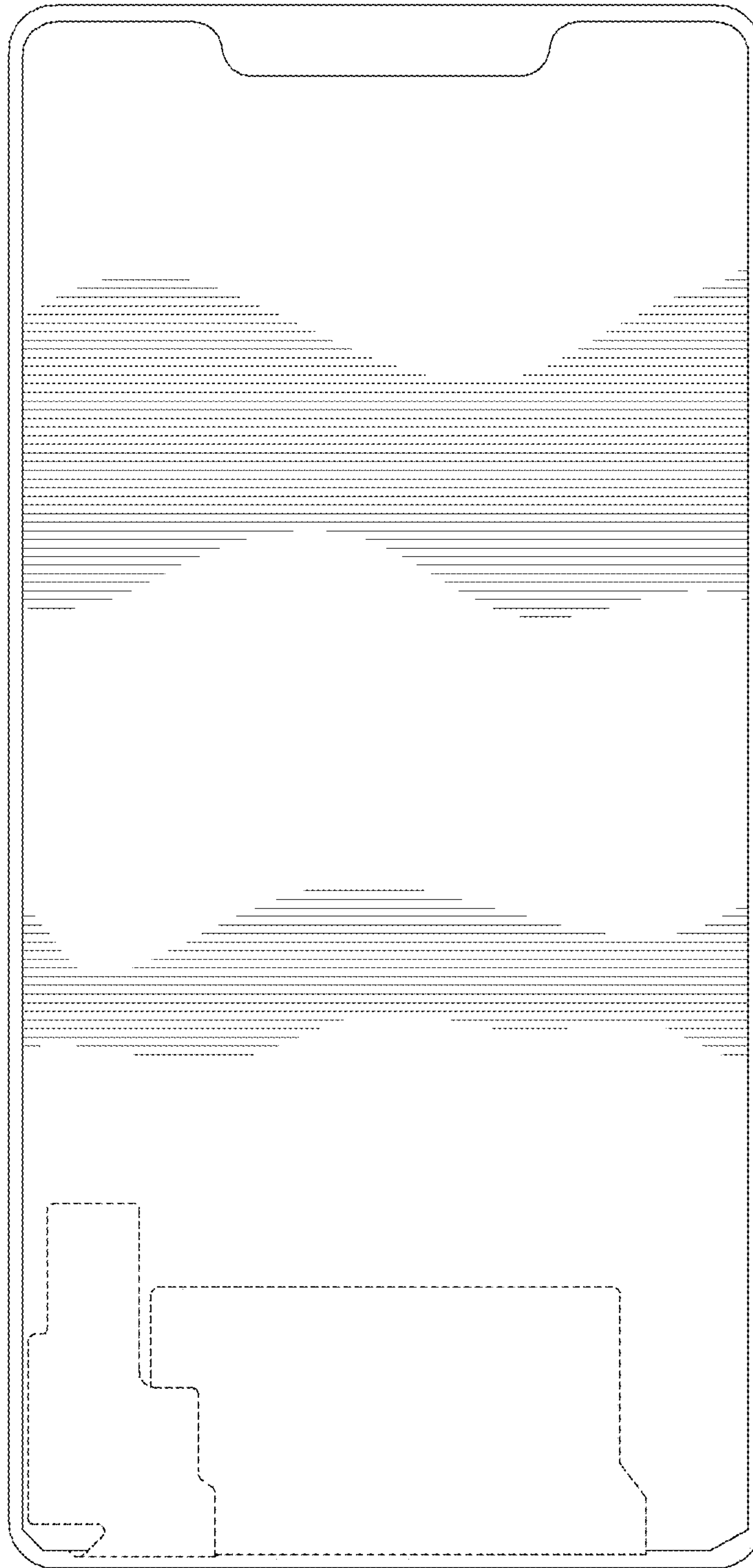


FIG. 18

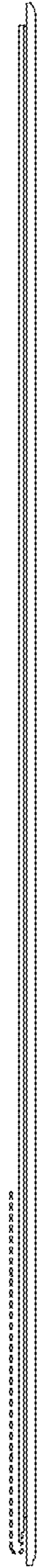


FIG. 19

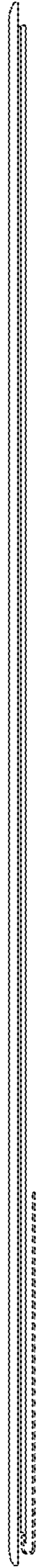


FIG. 20

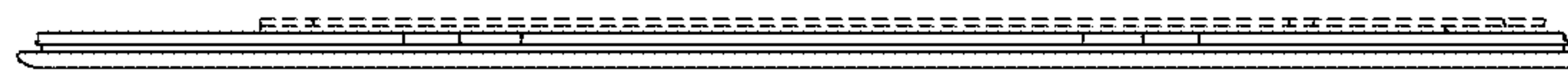


FIG. 21

