



US00D811486S

(12) **United States Design Patent** (10) **Patent No.:** **US D811,486 S**
Zekelman et al. (45) **Date of Patent:** **** Feb. 27, 2018**

- (54) **PROGRAMMING TILE**
- (71) Applicant: **Tangible Play, Inc.**, Palo Alto, CA (US)
- (72) Inventors: **Ariel Zekelman**, Palo Alto, CA (US); **Felix Hu**, Palo Alto, CA (US); **Eric Uchalik**, Palo Alto, CA (US)
- (73) Assignee: **Tangible Play, Inc.**, Palo Alto, CA (US)
- (**) Term: **15 Years**
- (21) Appl. No.: **29/565,827**
- (22) Filed: **May 24, 2016**
- (51) **LOC (11) Cl.** **21-01**
- (52) **U.S. Cl.**
USPC **D21/333**
- (58) **Field of Classification Search**
USPC D21/324, 328, 329, 333, 334, 445, 398; D14/346, 138 R, 496, 341, 345, 356, D14/203.1–203.8, 204; D19/59–64; 382/103, 155, 162, 173–180, 232, 382/236–239, 254, 276, 285, 312; 273/236, 292, 293, 148 R, 148 B, 273/459–461; 345/156–160, 173–178, 345/501, 531, 1.1, 1.2, 3.1–3.4, 30, 903, 345/901, 905; 463/1, 7, 9, 11, 31–34; 434/81, 82, 85, 128, 129, 155, 159, 276, 434/308, 365, 317, 323, 324, 162–177
CPC A63F 1/00; A63F 7/38; A63F 13/00; A63F 13/02; A63F 13/20; G06K 7/00; G06K 9/00; G06K 9/46; G06K 9/4604
See application file for complete search history.

- D365,588 S 12/1995 Fernandez
5,594,469 A * 1/1997 Freeman G05B 19/106
345/157
D407,748 S * 4/1999 Tsang D19/60
D409,895 S 5/1999 Schron, Jr. et al.
6,043,805 A * 3/2000 Hsieh G06F 3/0425
345/158
6,175,954 B1 1/2001 Nelson et al.
(Continued)

FOREIGN PATENT DOCUMENTS

WO 2006027627 A1 3/2006

OTHER PUBLICATIONS

Dsessa, "Changing Minds Computers, Learning, and Literacy: How It Might Be," 2000, pp. 29-44 (17 pages).
(Continued)

Primary Examiner — Prabhakar G Deshmukh
(74) *Attorney, Agent, or Firm* — Patent Law Works LLP

(57) **CLAIM**

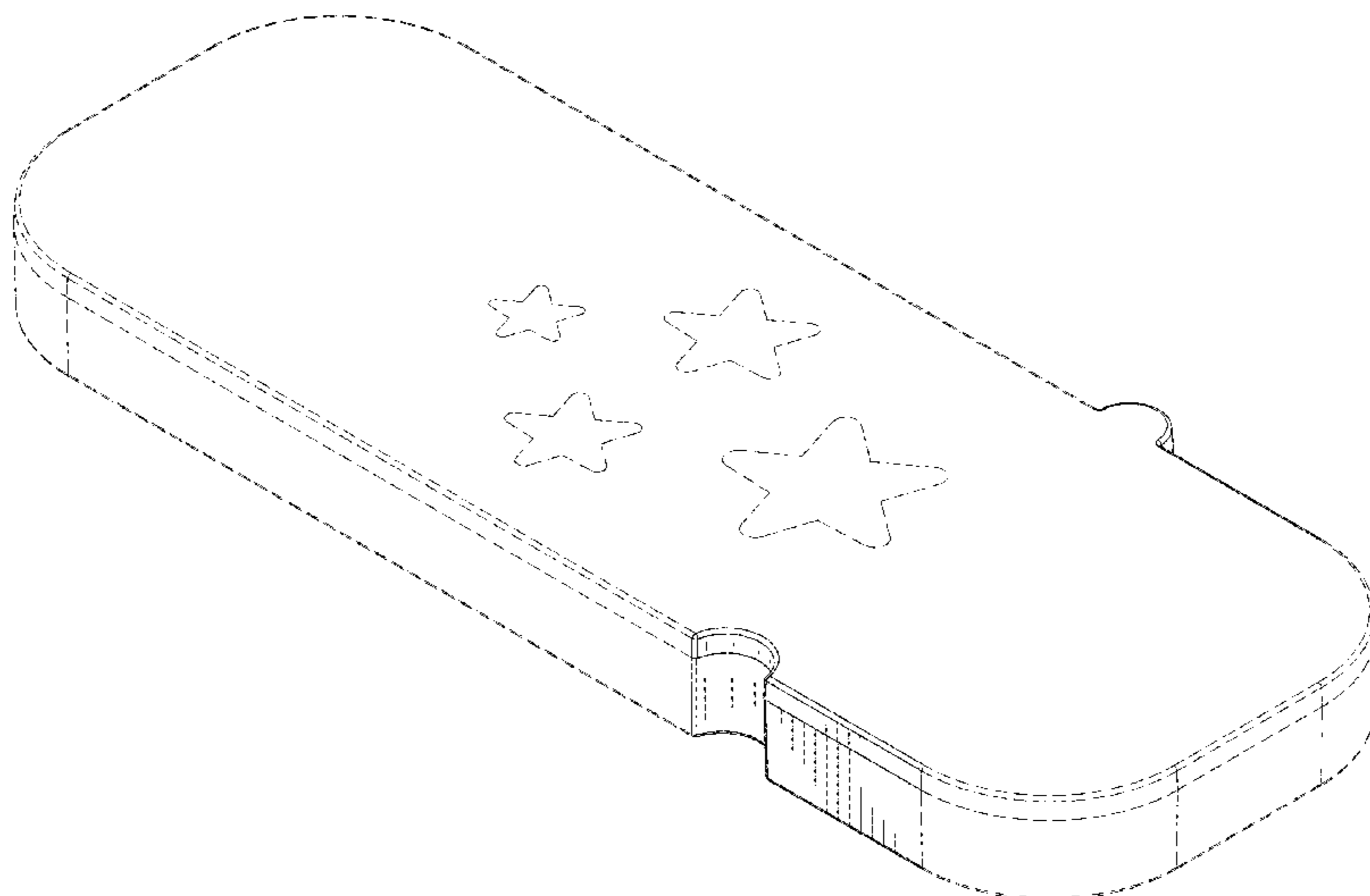
The ornamental design for a programming tile, as shown and described.

DESCRIPTION

FIG. 1 is a top, front, and right perspective view of a programming tile showing the new design.
FIG. 2 is a bottom, rear, and left perspective view thereof.
FIG. 3 is a top plan view thereof.
FIG. 4 is a bottom plan view thereof.
FIG. 5 is a left side elevational view thereof.
FIG. 6 is a right side elevational view thereof.
FIG. 7 is a front elevational view thereof; and,
FIG. 8 is a rear elevational view thereof.
The broken lines illustrate unclaimed portions of the claimed design. The broken lines immediately adjacent to the shade lines define the bounds of the claimed design. None of the broken lines form part of the claimed design.

1 Claim, 6 Drawing Sheets

- (56) **References Cited**
U.S. PATENT DOCUMENTS
D310,185 S 8/1990 Tick
D351,890 S 10/1994 Rasmusson



(56)

References Cited

U.S. PATENT DOCUMENTS

D476,555 S 7/2003 Niwa
 6,614,422 B1 * 9/2003 Rafii G06F 1/1626
 345/156
 6,650,318 B1 * 11/2003 Arnon G03H 1/00
 345/156
 D531,668 S * 11/2006 Goodstriker D19/60
 D535,869 S 1/2007 Brunsteter
 7,210,631 B2 * 5/2007 Sali G06K 7/14
 235/462.04
 D545,183 S 6/2007 French et al.
 D563,452 S 3/2008 Tan et al.
 7,777,899 B1 8/2010 Hildreth
 8,126,264 B2 2/2012 Kaftory et al.
 D658,977 S 5/2012 Riddell et al.
 8,225,260 B2 * 7/2012 Huynh G06F 17/5072
 716/116
 8,274,535 B2 9/2012 Hildreth et al.
 8,341,582 B2 * 12/2012 Huynh G06F 17/5063
 707/769
 D682,463 S 5/2013 Bernard
 8,611,587 B2 12/2013 Horovitz
 8,624,932 B2 1/2014 Hildreth et al.
 D698,781 S * 2/2014 Jun D14/341
 D716,362 S 10/2014 Generotti
 8,881,052 B2 * 11/2014 Strauss G06F 9/4443
 715/762
 D726,804 S 4/2015 Voss
 9,003,340 B2 * 4/2015 Huynh G06F 17/5063
 716/108
 9,158,389 B1 10/2015 Sharma et al.
 9,354,716 B1 5/2016 Sharma et al.
 2009/0273560 A1 11/2009 Kalanithi et al.
 2009/0315740 A1 12/2009 Hildreth et al.
 2010/0061637 A1 * 3/2010 Mochizuki G06T 7/12
 382/199
 2010/0066763 A1 3/2010 MacDougall et al.
 2010/0091110 A1 4/2010 Hildreth
 2011/0298724 A1 12/2011 Ameling et al.
 2012/0244922 A1 9/2012 Horovitz
 2013/0321447 A1 12/2013 Horovitz et al.

OTHER PUBLICATIONS

Papert, "Mindstorms: Children, Computers, and Powerful Ideas," 1980 (11 pages).
 Cuban, "Oversold and underused: Computers in the classroom," 2009 (258 pages).
 McNerney, "From turtles to tangible programming bricks: explorations in physical Language design," *Personal Ubiquit Computing*, 2004 (12 pages).

Montemayor, et al., "Tools for Children to Create Physical Interactive StoryRooms," *Computers in Entertainment*, vol. 2, No. 1, 2004 (24 pages).
 Schweikardt, et al., "The Robot is the Program: Interacting with roBlocks," 2008 (2 pages).
 Wyeth, "How Young Children Learn to Program with Sensor, Action, and Logic Blocks," *The Journal of the Learning Sciences*, vol. 17, No. 4, Oct.-Dec. 2008 (35 pages).
 Yard!, "Scratch: Programming for All," *Communications of the ACM*, vol. 52, No. 11, Nov. 2009 (8 pages).
 Sipitakiat, et al., "Robo-Blocks: Desining Debugging Abilities in a Tangible Programming System for Early Primary School Children," 2012 (8 pages).
 Horn, et al., "Tangible Interaction and Learning: the case for a hybrid approach," *Personal Ubiquit Computing*, 2012 (11 pages).
 Pedersen, "Grab and Touch: Empirical Research on Tangible Computing and Touch Interaction," Nov. 2012 (75 pages).
 Flannery, et al., "Designing ScratchJr: Support for Early Childhood Learning Through Computer Programming," 2013 (10 pages).
 Chawla, et al., "Dr. Wagon: A 'stretchable' toolkit for tangible computer programming," 2013 (4 pages).
 Weintrop, et al., "RoboBuilder: A Computational Thinking Game," 2013 (2 pages).
 Sapounidis, et al., "Tangible versus graphical user interfaces for robot programming: exploring cross-age children's preferences," 2013 (12 pages).
 Oh, et al., "The Digital Dream Lab: Tabletop Puzzle Blocks for Exploring Programmatic Concepts," 2013 (6 pages).
 Horn, "The Role of Cultural Forms in Tangible Interaction Design," 2013 (8 pages).
 Horn, et al., "Translating Roberto to Omar: Computational Literacy, Stickerbooks, and Cultural Forms," 2013 (8 pages).
 Wikipedia, "Tangible user interface," retrieved from http://en.wikipedia.org/w/index.php?title=Tangible_user_interface&oldid=549052909 Apr. 2, 2014 (5 pages).
 Hu, et al., "Strawbies: Explorations in Tangible Programming," 2015 (4 pages).
 International Search Report and Written Opinion, mailed Aug. 27, 2015, in PCT/US2015/032041 (14 pages).
 Horn, "Topcodes: Tangible Object Placement Codes," retrieved from <http://users.eecs.northwestern.edu/~mhorn/topcodes/> Sep. 9, 2016 (2 pages).
 McNerney, "Tangible Programming Bricks: An approach to making programming accessible to everyone," Jun. 1983 (86 pages).
 Horn, et al., "Designing Tangible Programming Languages for Classroom Use," 2007 (4 pages).
 "A robot teaching kids code & computer programming," retrieved from www.primotoys.com Jun. 9, 2016 (8 pages).
 "Toys for learning about technology. Playfully!" *KinderLab Robotics*, retrieved from <http://kinderlabrobotics.com> Jun. 9, 2016 (2 pages).
 "Project Bloks—Research," retrieved from <http://projectblocks.withgoogle.com/research/> Sep. 9, 2016 (9 pages).

* cited by examiner

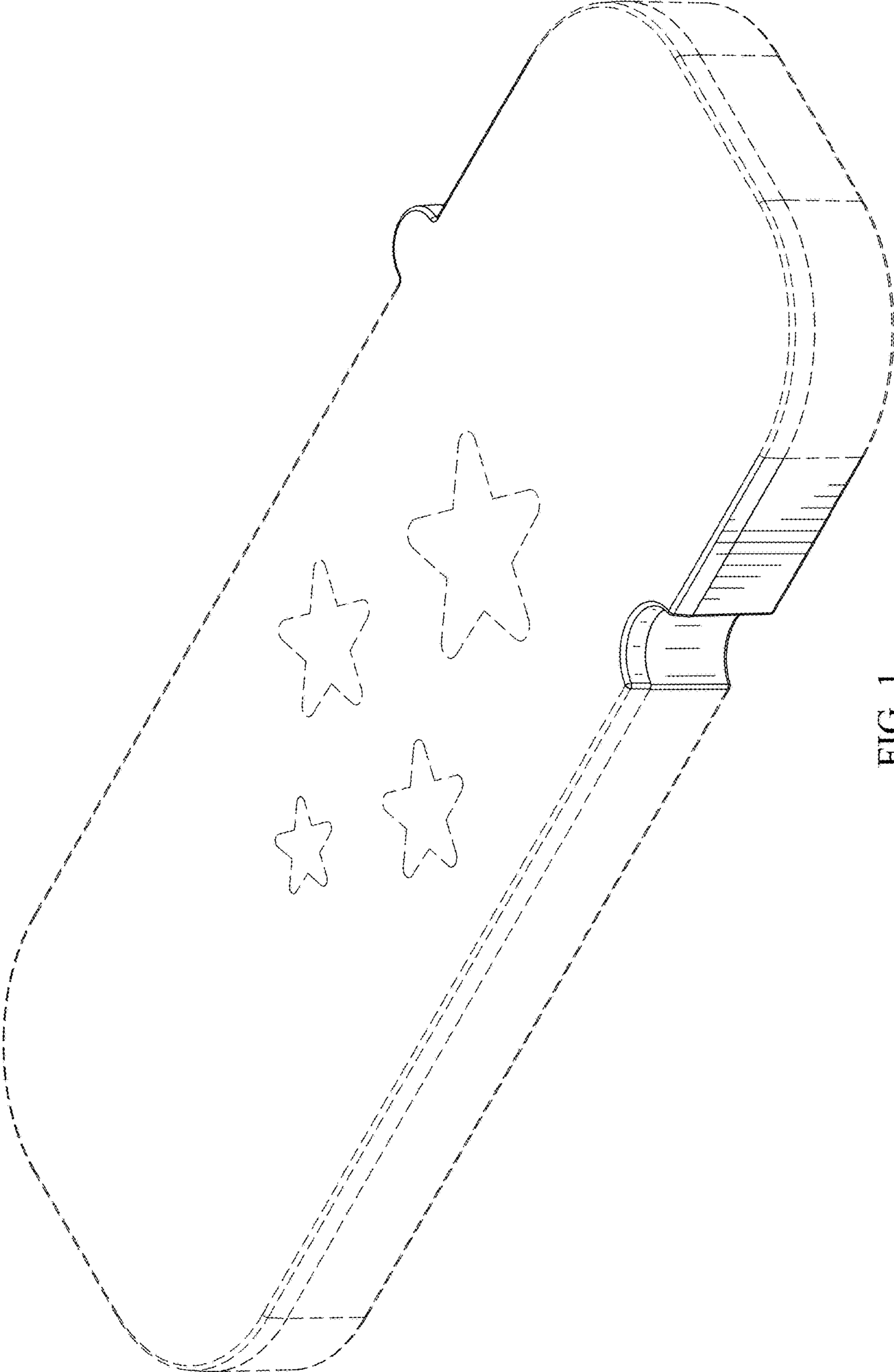


FIG. 1

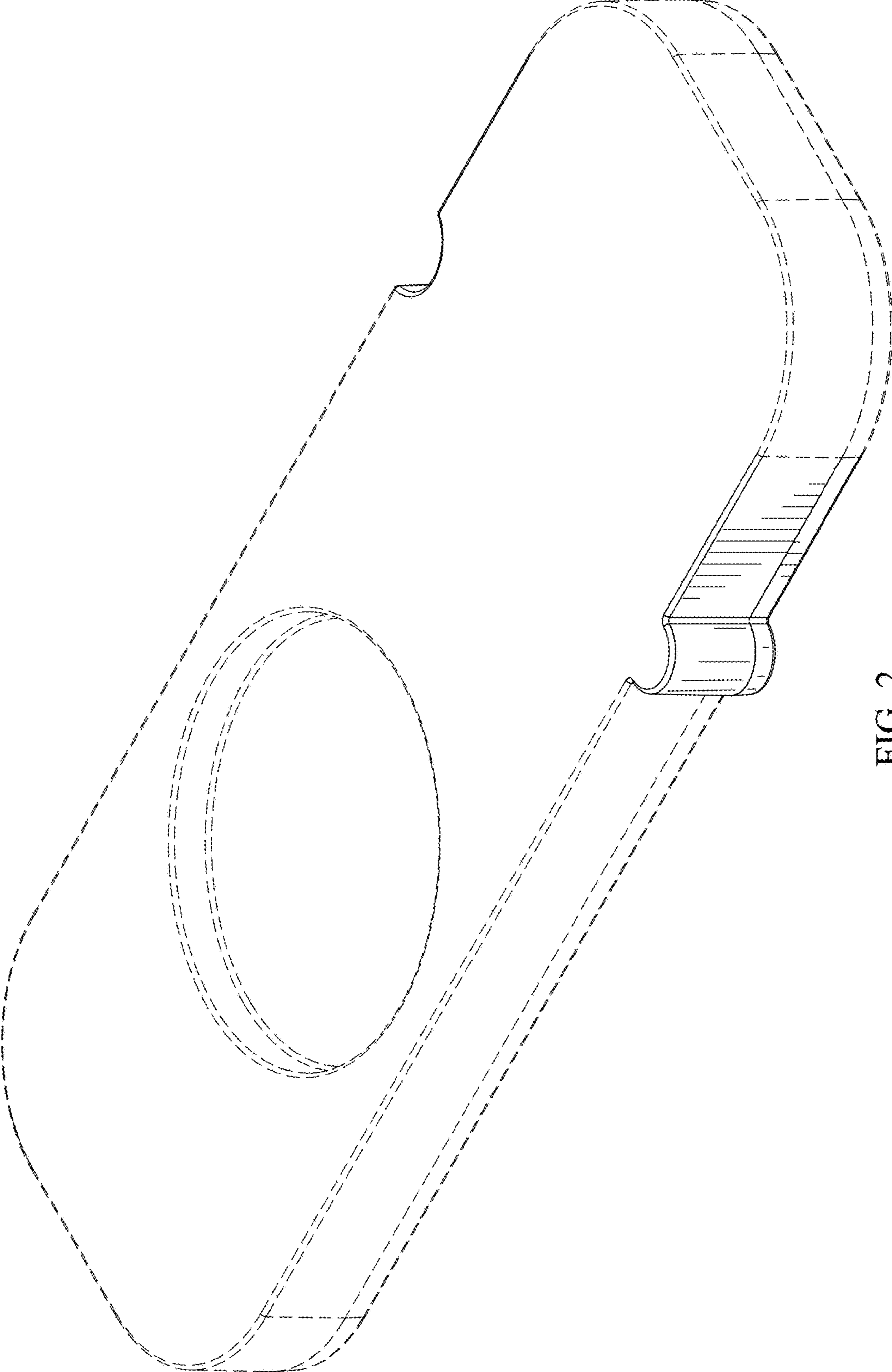


FIG. 2



FIG. 3

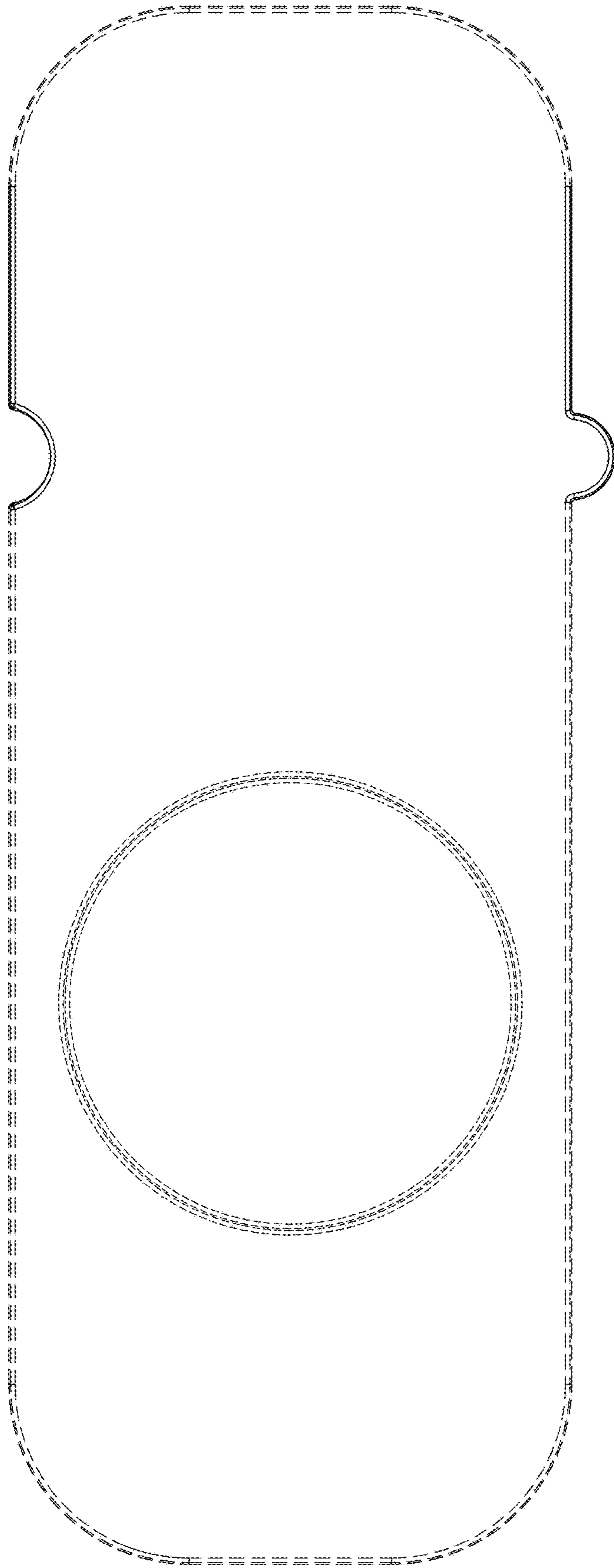


FIG. 4



FIG. 5

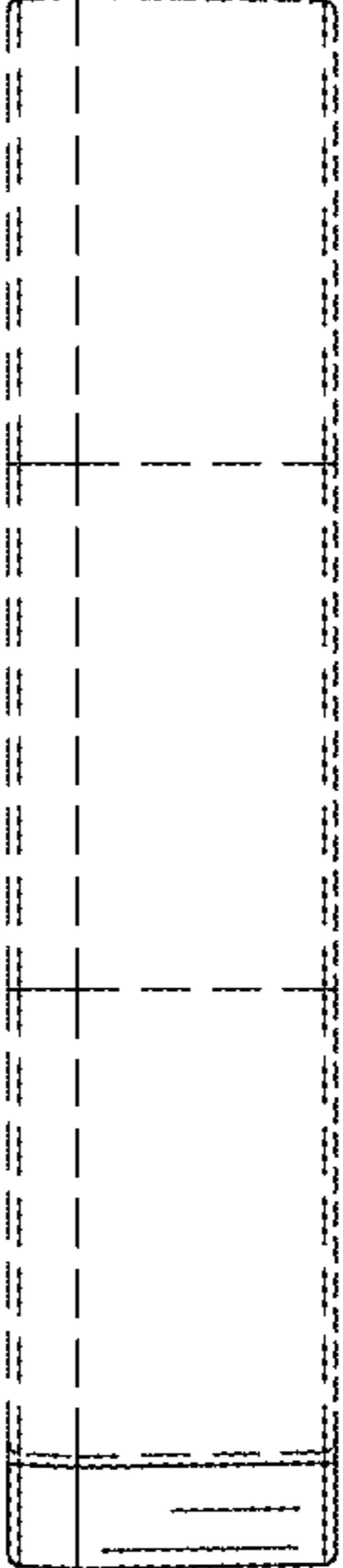


FIG. 6

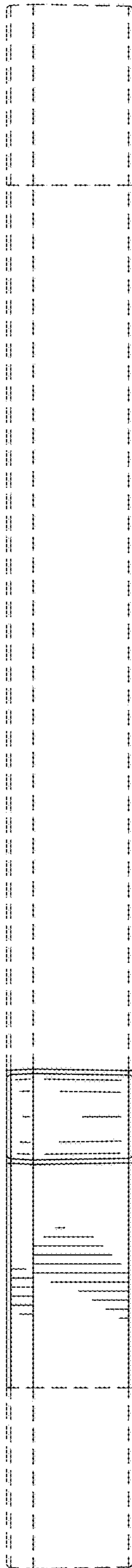


FIG. 7

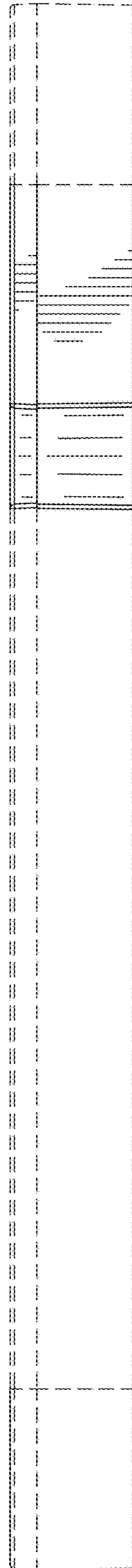


FIG. 8