



US00D827841S

(12) **United States Design Patent** (10) **Patent No.:** **US D827,841 S**  
**Tanaka et al.** (45) **Date of Patent:** **\*\* Sep. 4, 2018**

(54) **ULTRASONIC SENSOR**

FOREIGN PATENT DOCUMENTS

(71) Applicant: **Panasonic Intellectual Property Management Co., Ltd.**, Osaka-shi, Osaka (JP)  
(72) Inventors: **Naoki Tanaka**, Mie (JP); **Masahiko Hashimoto**, Kanagawa (JP); **Takuya Iwamoto**, Kanagawa (JP); **Katsu Takeda**, Mie (JP); **Takuji Watanabe**, Mie (JP); **Kenji Sano**, Mie (JP)  
(73) Assignee: **PANASONIC INTELLECTUAL PROPERTY MANAGEMENT CO., LTD.**, Osaka (JP)

CN 302779584 S 4/2014  
*Primary Examiner* — Ian Simmons  
*Assistant Examiner* — Mark Cavanna  
(74) *Attorney, Agent, or Firm* — Brinks Gilson & Lione

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

(57) **CLAIM**

We claim the ornamental design for an ultrasonic sensor, as shown and described.

(21) Appl. No.: **29/570,697**

**DESCRIPTION**

(22) Filed: **Jul. 11, 2016**

(30) **Foreign Application Priority Data**

Jan. 22, 2016 (JP) ..... 2016-001174  
Jan. 22, 2016 (JP) ..... 2016-001175  
Jan. 22, 2016 (JP) ..... 2016-001176

FIG. 1 is a front and top perspective view of an ultrasonic sensor showing a first embodiment of the present invention; FIG. 2 is a front view thereof; FIG. 3 is a rear view thereof; FIG. 4 is a right side view thereof; FIG. 5 is a left side view thereof; FIG. 6 is a top view thereof; and FIG. 7 is a bottom view thereof. FIG. 8 is a front and top perspective view of an ultrasonic sensor showing a second embodiment of the present invention; FIG. 9 is a front view thereof; FIG. 10 is a rear view thereof; FIG. 11 is a left side view thereof; FIG. 12 is a second side view thereof; FIG. 13 is a top view thereof; and FIG. 14 is a bottom view thereof. FIG. 15 is a front and top perspective view of an ultrasonic sensor showing a third embodiment of the present invention; FIG. 16 is a front view thereof; FIG. 17 is a rear view thereof; FIG. 18 is a right side view thereof; FIG. 19 is a left side view thereof; FIG. 20 is a top view thereof; and FIG. 21 is a bottom view thereof.

(51) **LOC (11) Cl.** ..... **24-01**  
(52) **U.S. Cl.**  
USPC ..... **D24/187**  
(58) **Field of Classification Search**  
USPC ..... D24/186–187, 200; D10/47, 50, 78, 81, D10/85, 106.6; D3/302; D9/443, 446, D9/454

(Continued)

The broken lines shown represent unclaimed subject matter and form no part of the claimed design.

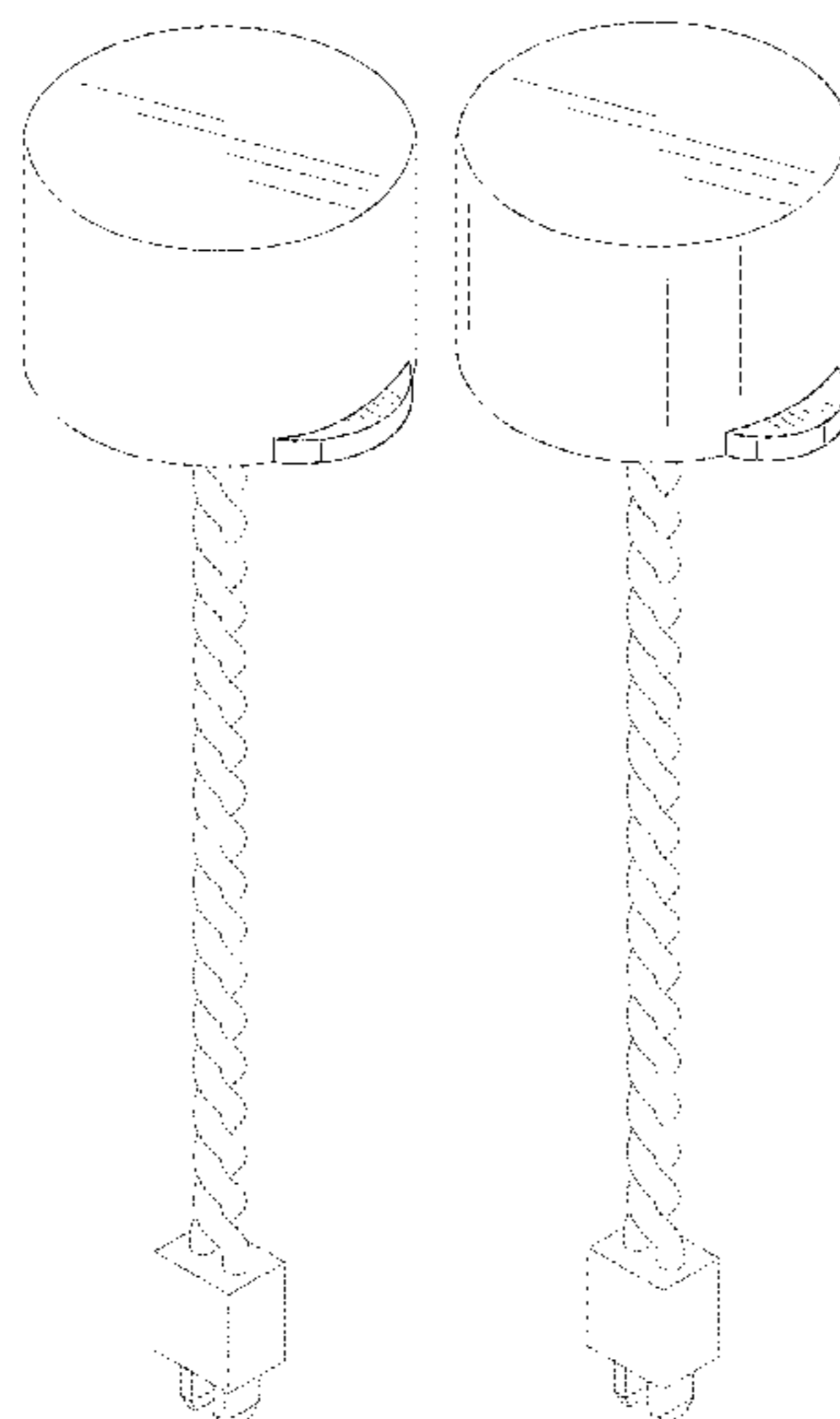
(56) **References Cited**

U.S. PATENT DOCUMENTS

2,614,406 A \* 10/1952 Carpenter ..... B65D 25/20 220/718  
D329,355 S \* 9/1992 Yagi ..... D7/534

(Continued)

**1 Claim, 21 Drawing Sheets**



(58) **Field of Classification Search**

CPC ..... A61B 1/00142; A61B 1/0052; A61B 17/22004; A61B 17/22012; A61B 17/2202; A61B 17/320068; A61B 17/320092; A61B 17/3403; A61B 5/02007; A61B 5/6842; A61B 8/00; A61B 8/06; A61B 8/08; A61B 8/0825; A61B 8/0833; A61B 8/0841; A61B 8/0858; A61B 8/0875; A61B 8/10; A61B 8/12; A61B 8/14; A61B 8/42; A61B 8/4209; A61B 8/4272; A61B 8/4281; A61B 8/4405; A61B 8/4411; A61B 8/4427; A61B 8/4444; A61B 8/445; A61B 8/4455; A61B 8/4461; A61B 8/4483; A61B 8/4488; A61B 8/4494; A61B 8/463; A61B 8/546; A61N 7/00; A61N 7/02; A61N 7/022; B65D 23/065; B65D 25/20

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D336,596 S \* 6/1993 Osgood ..... D7/608  
 D339,958 S \* 10/1993 Olsen ..... D9/454  
 5,277,324 A \* 1/1994 Cash ..... B65D 23/065  
 215/275  
 D350,300 S \* 9/1994 Browning ..... D10/106.2  
 D359,451 S \* 6/1995 Dees ..... D9/454  
 D365,247 S \* 12/1995 Sokolski ..... D7/510

D371,485 S \* 7/1996 Hickey ..... D9/443  
 D384,281 S \* 9/1997 Wong ..... D9/443  
 D384,282 S \* 9/1997 Wong ..... D9/443  
 D386,683 S \* 11/1997 Wong ..... D9/443  
 5,740,804 A \* 4/1998 Cerofolini ..... A61B 8/12  
 600/459  
 5,779,639 A \* 7/1998 Yeung ..... A61B 8/4461  
 600/446  
 D413,532 S \* 9/1999 Atterbury ..... D10/47  
 D417,339 S \* 12/1999 Miller ..... D9/443  
 D470,428 S \* 2/2003 Kryskowski ..... D10/85  
 D481,258 S \* 10/2003 Brady ..... D7/412  
 D490,902 S \* 6/2004 Pitzen ..... D24/200  
 D519,860 S \* 5/2006 Bugbee ..... D10/47  
 D522,499 S \* 6/2006 Marcichow ..... D14/225  
 D544,795 S \* 6/2007 Reed ..... D9/454  
 7,251,843 B2 \* 8/2007 Malloy ..... A47K 11/12  
 4/144.1  
 D559,677 S \* 1/2008 Laib ..... D3/302  
 D584,613 S \* 1/2009 Yan ..... D9/454  
 D585,740 S \* 2/2009 Wilson ..... D9/454  
 D603,050 S 10/2009 Chen  
 D606,399 S \* 12/2009 Scuturio ..... D9/446  
 D622,154 S \* 8/2010 Vishab ..... D9/454  
 D623,546 S \* 9/2010 Nishikawa ..... D10/106.6  
 D623,547 S 9/2010 Nishikawa et al.  
 D629,526 S \* 12/2010 Ladwig ..... D24/187  
 D676,745 S \* 2/2013 MacNeill ..... D9/443  
 D684,863 S \* 6/2013 Snyder ..... D9/454  
 D744,276 S \* 12/2015 Olin ..... D7/392.1  
 D783,422 S \* 4/2017 Kashimoto ..... D10/50  
 2014/0276082 A1 \* 9/2014 Janicki ..... A61B 8/4444  
 600/461

\* cited by examiner

FIG. 1

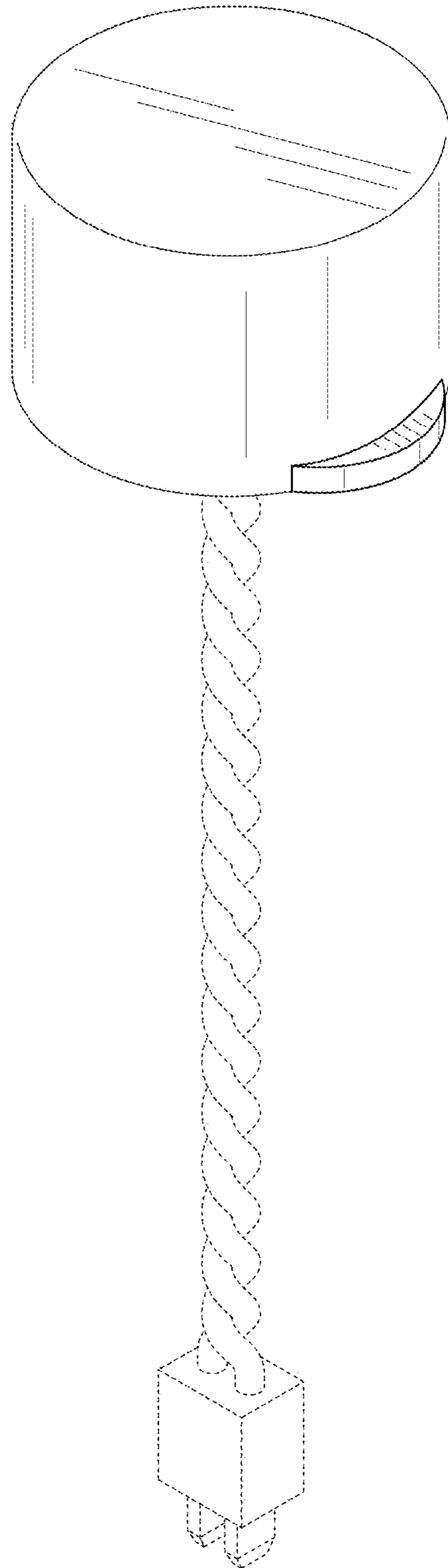


FIG. 2

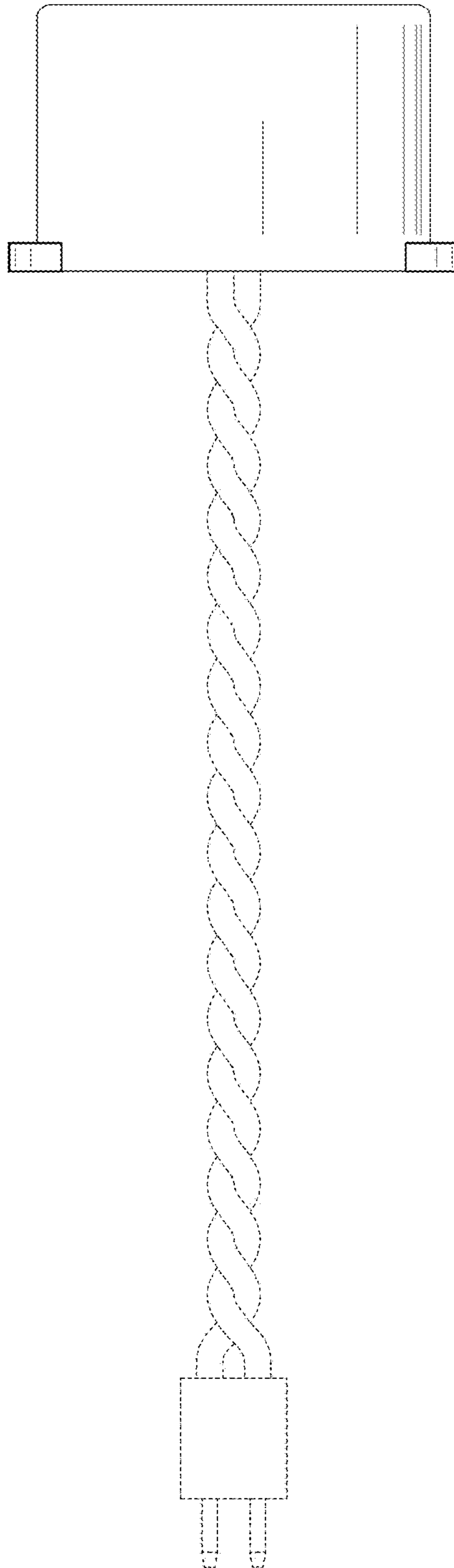


FIG. 3

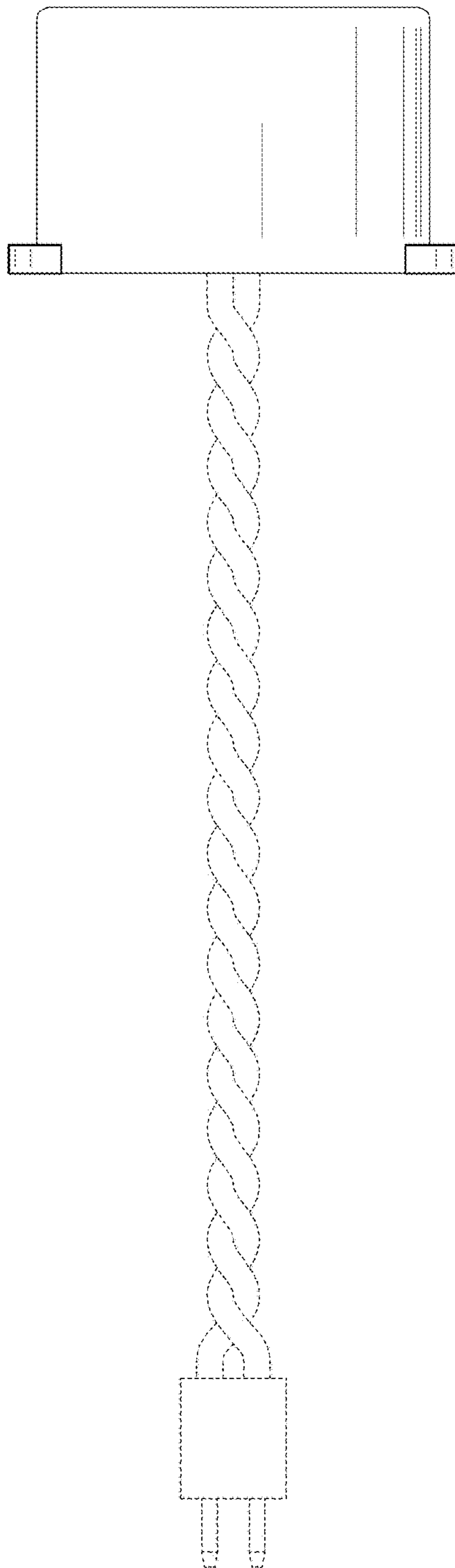


FIG. 4

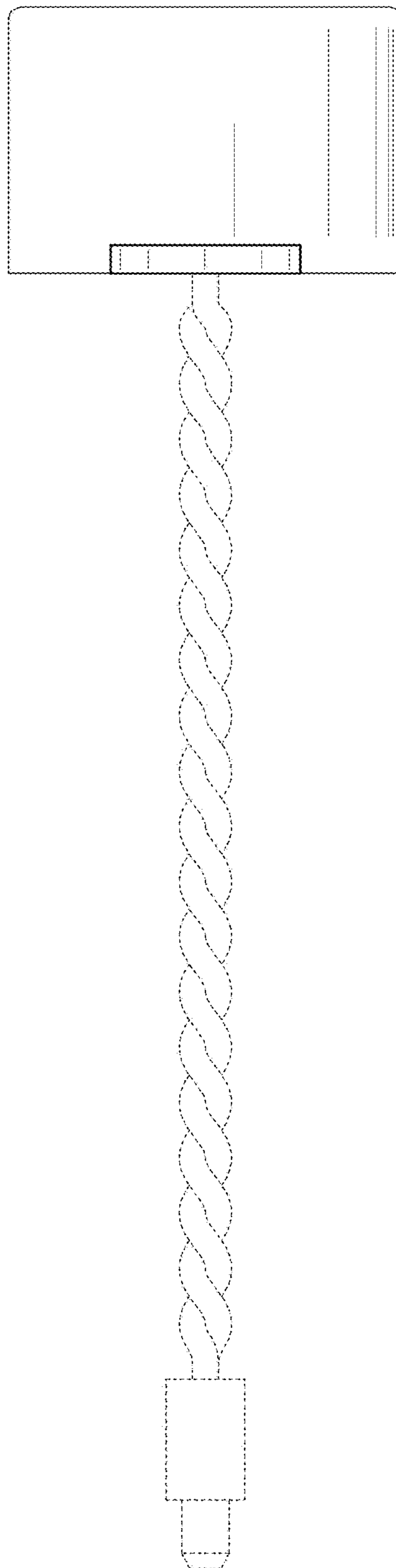


FIG. 5

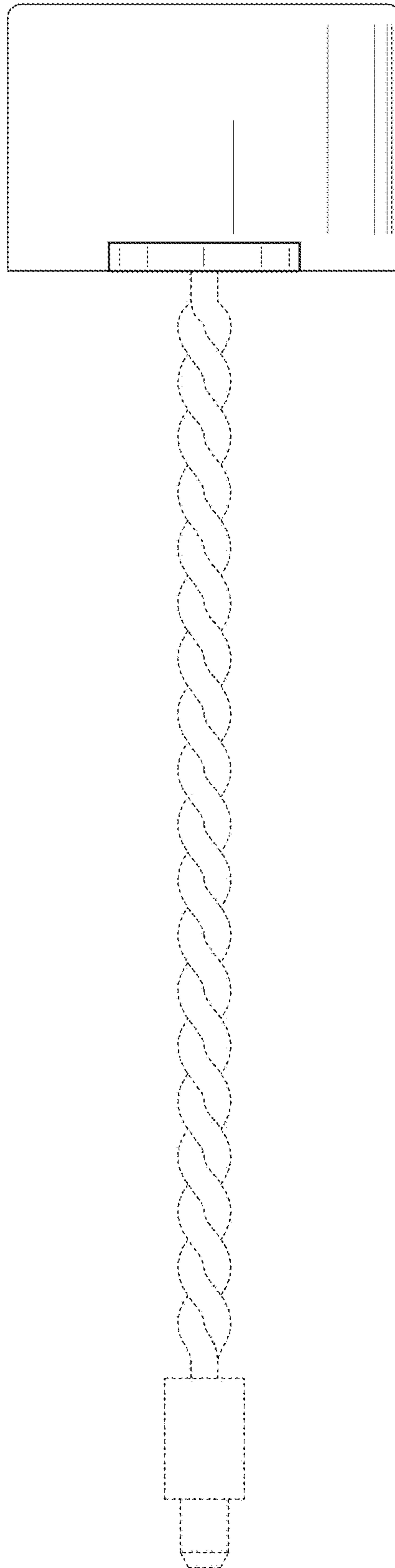


FIG. 6

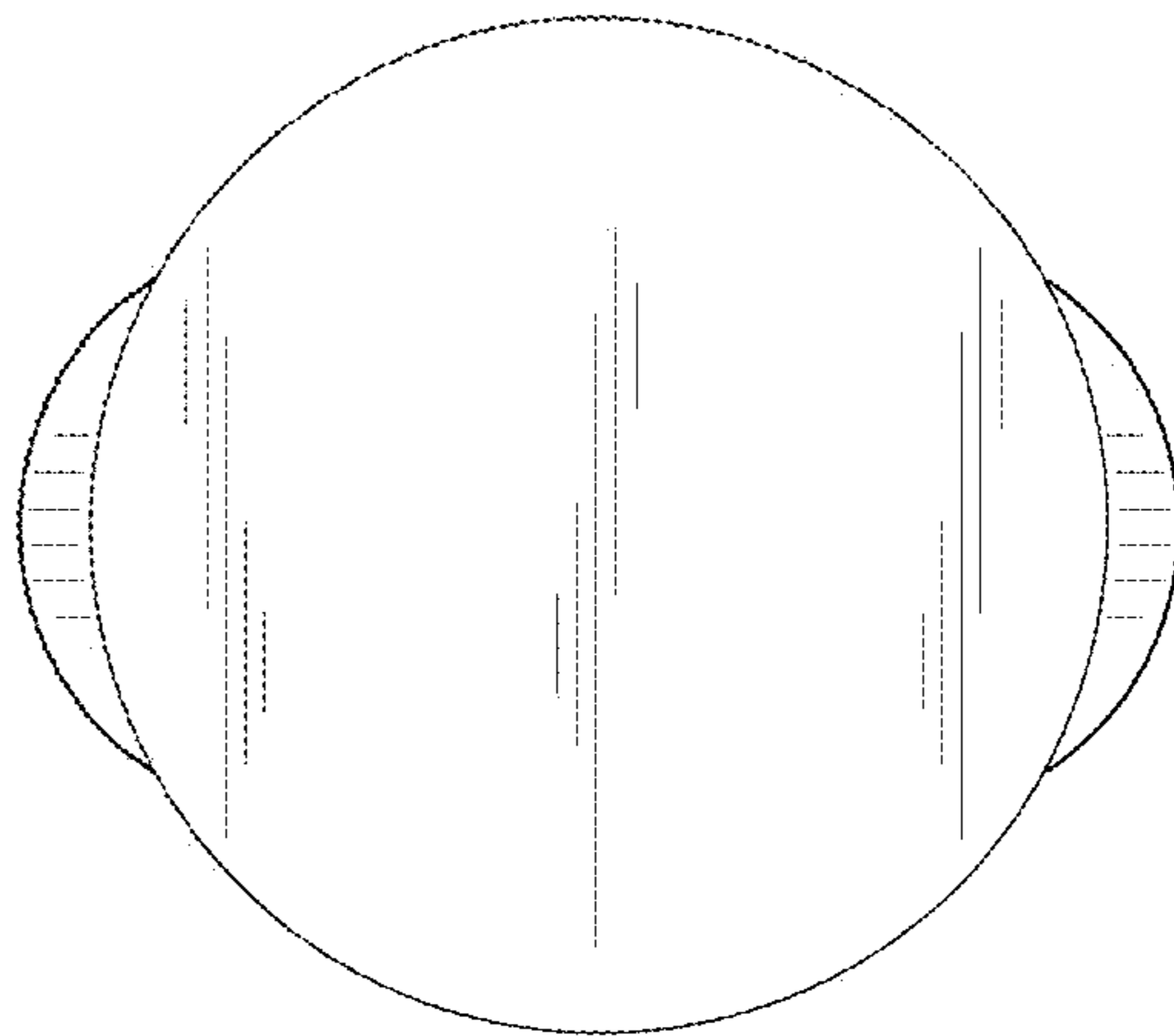




FIG. 7

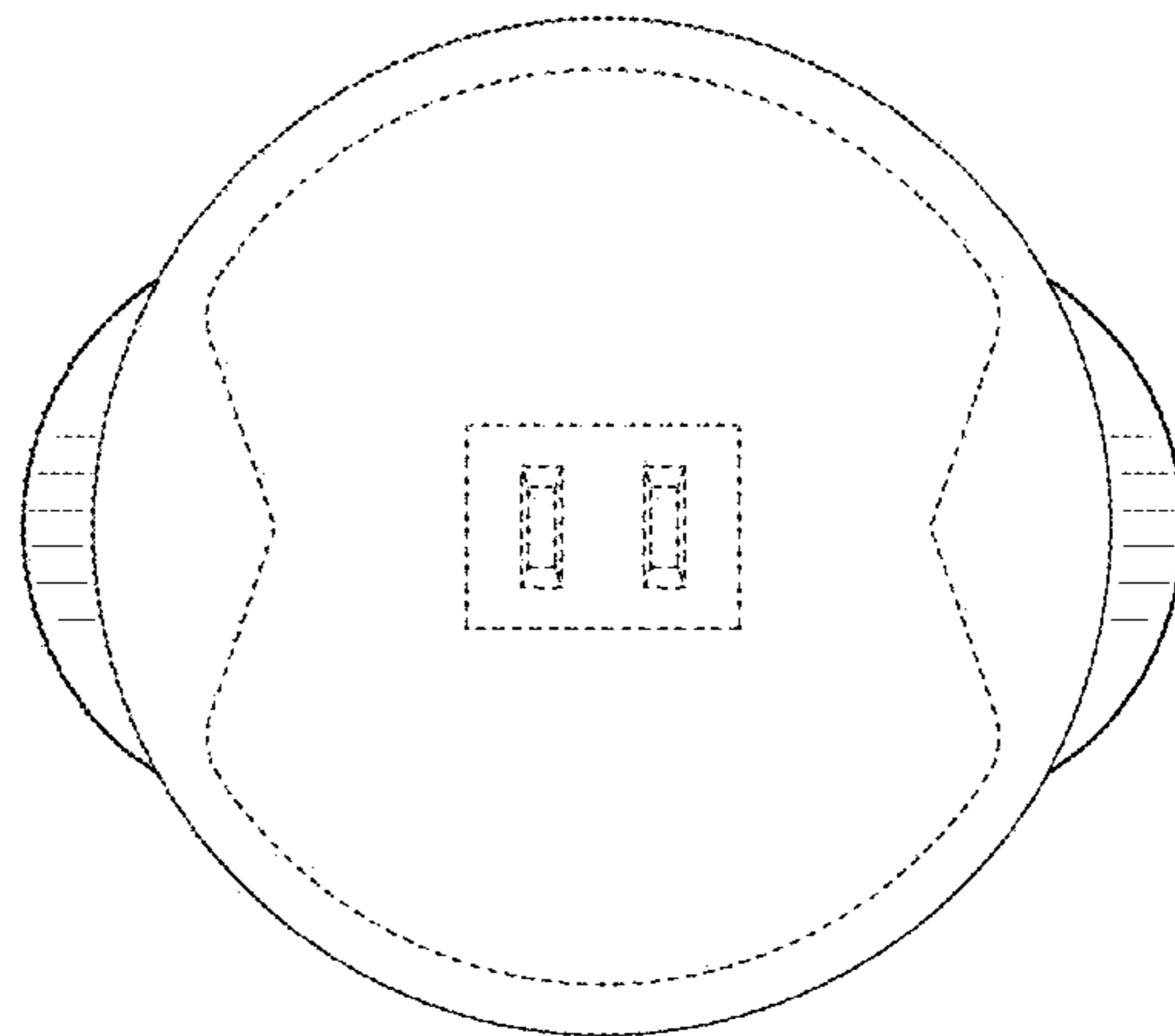


FIG. 8

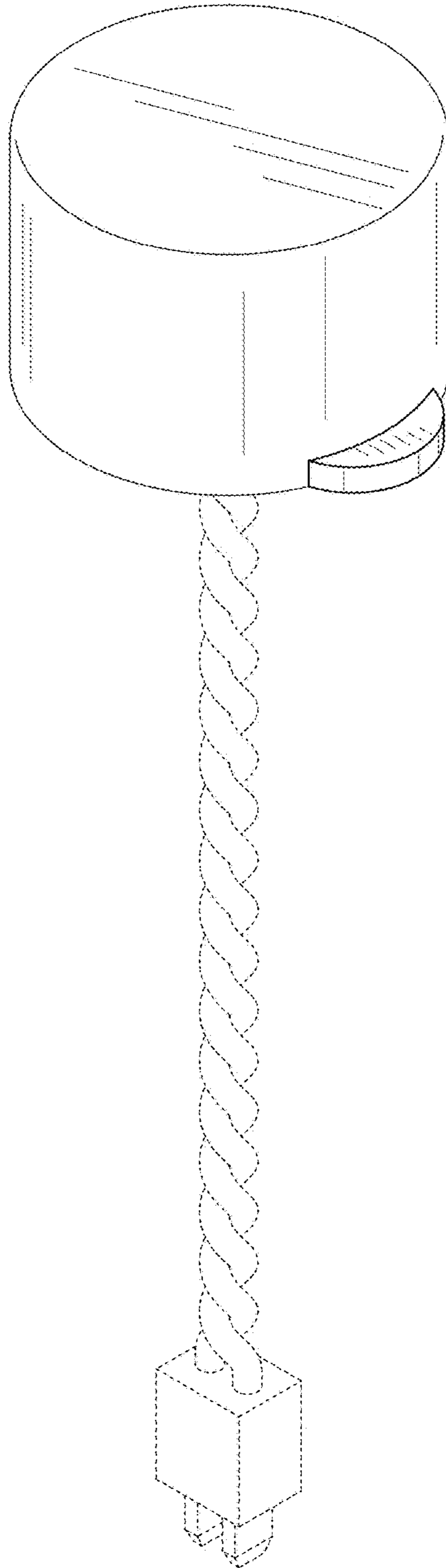


FIG. 9

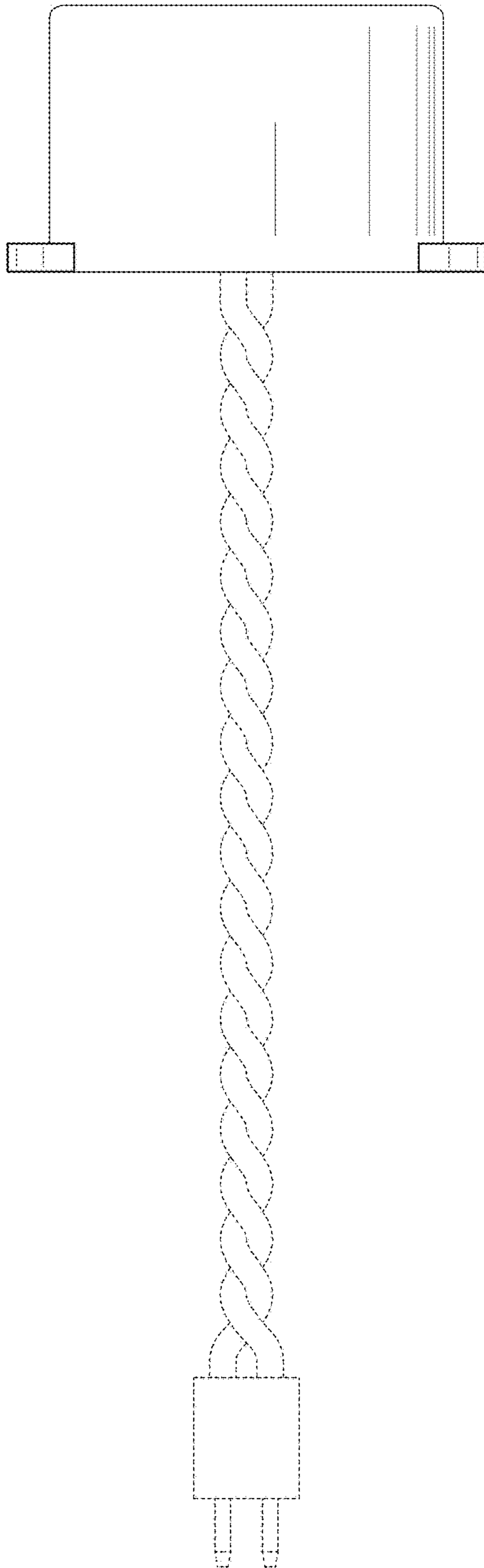


FIG. 10

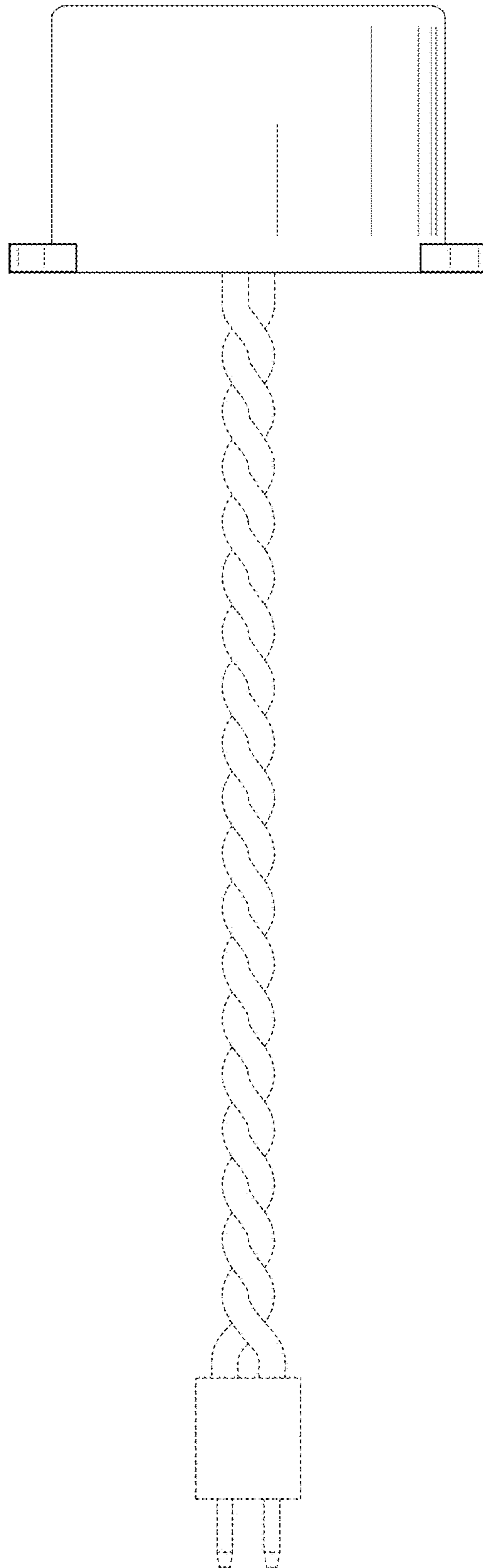


FIG. 11

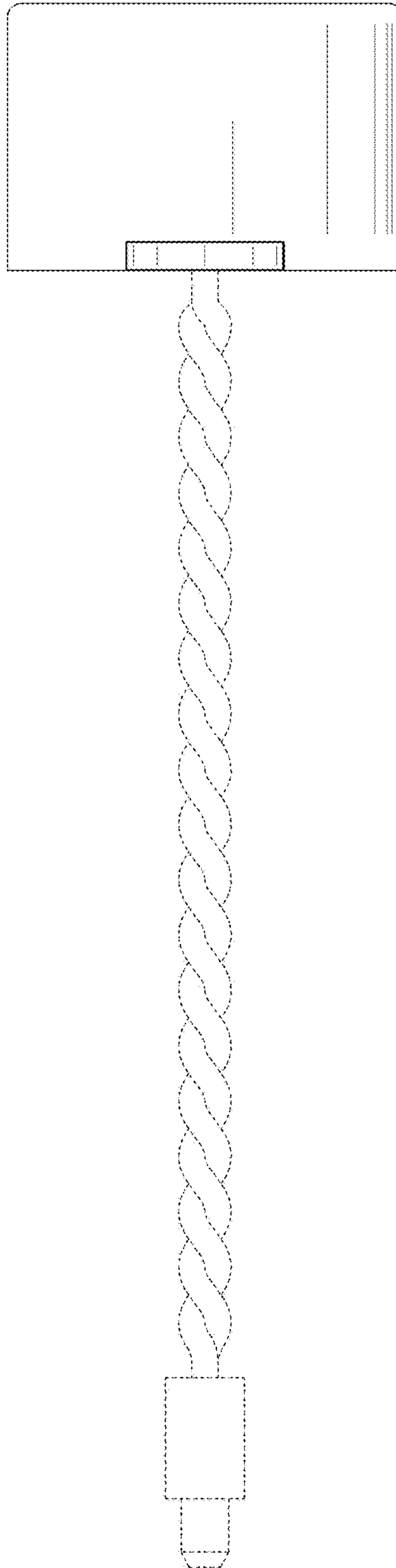


FIG. 12

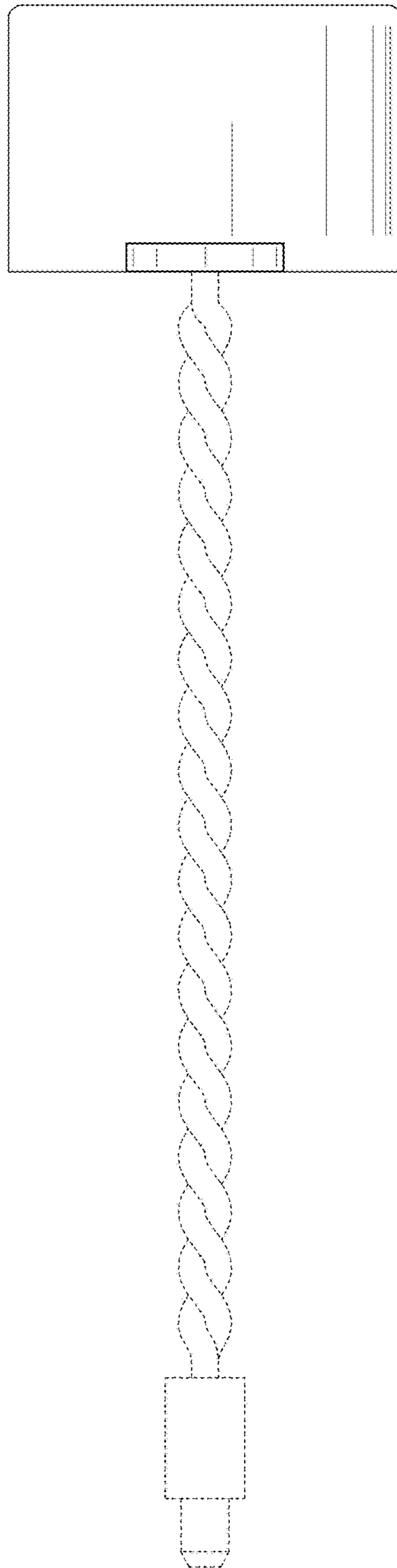


FIG. 13

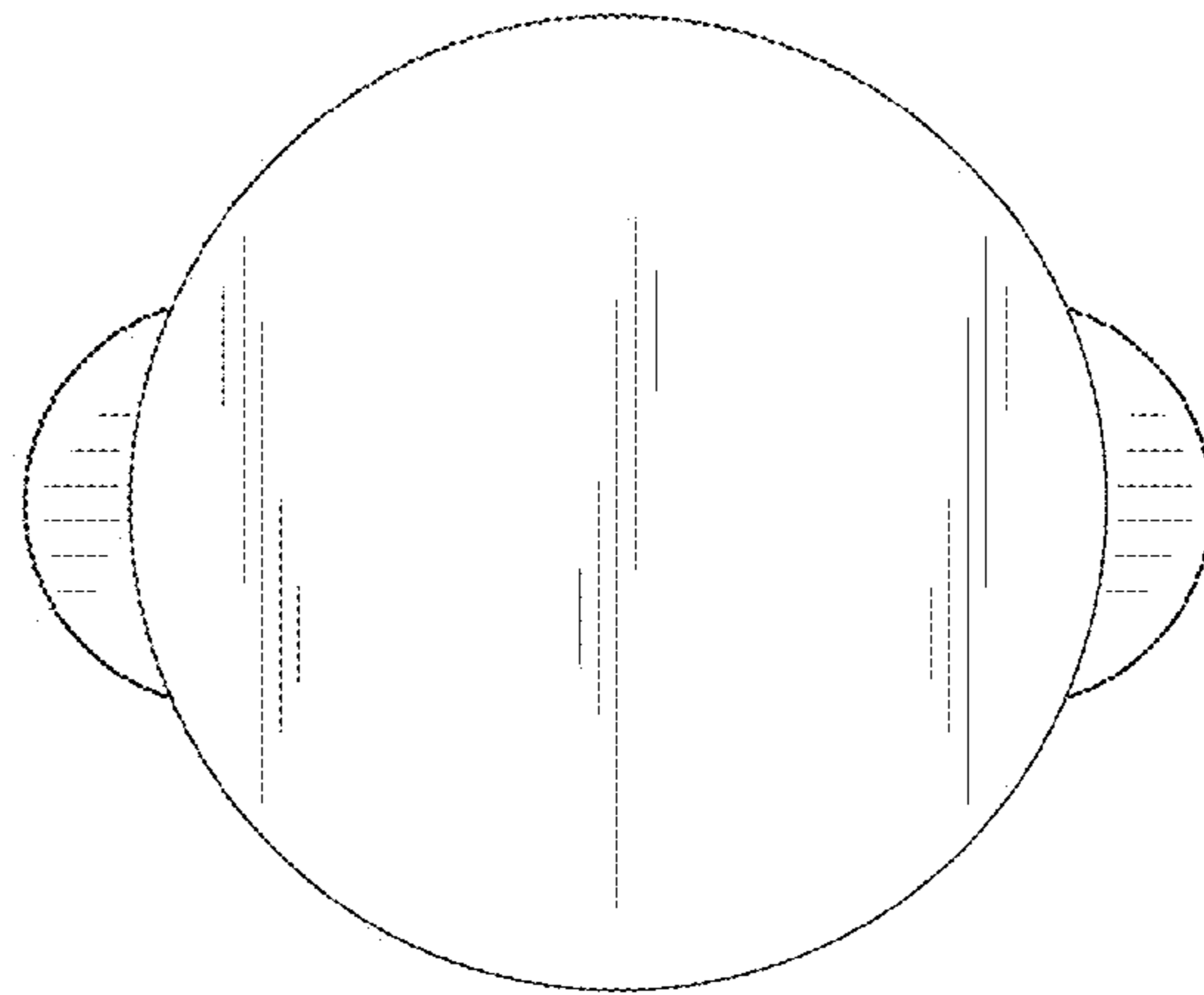


FIG. 14

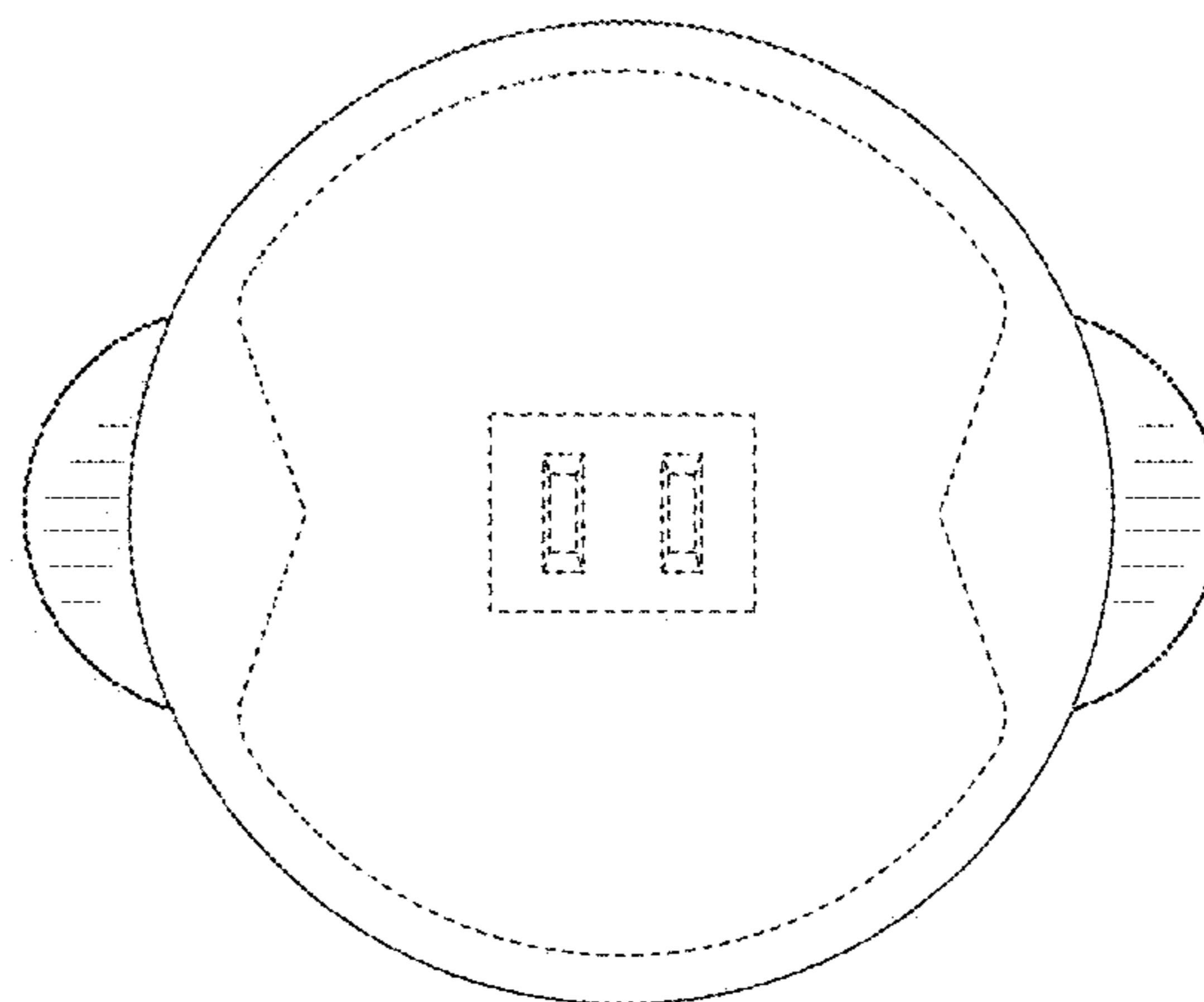




FIG. 15

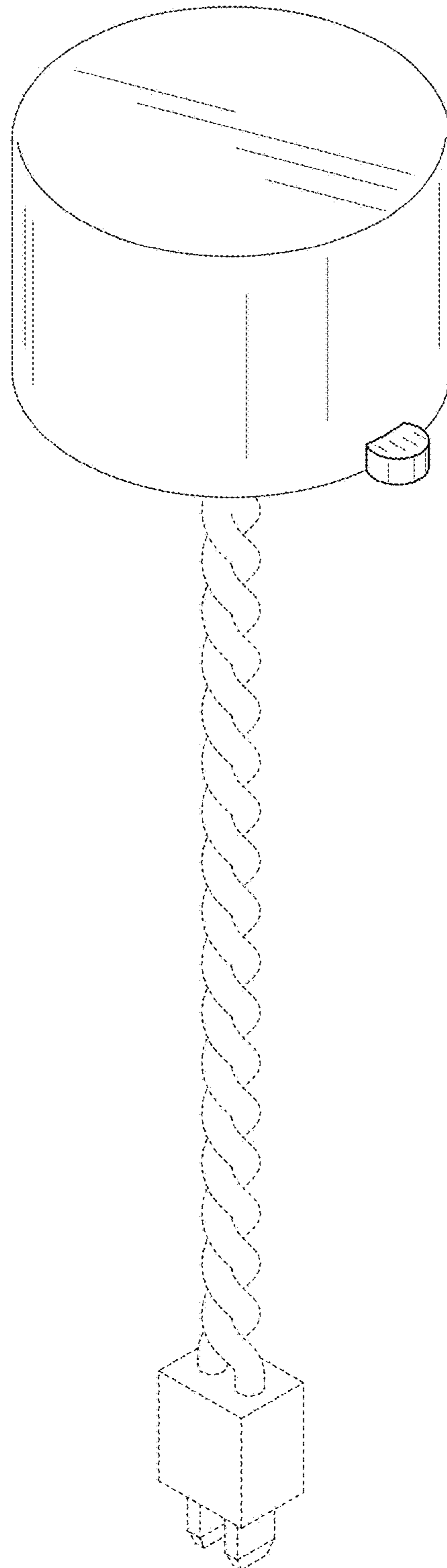


FIG. 16

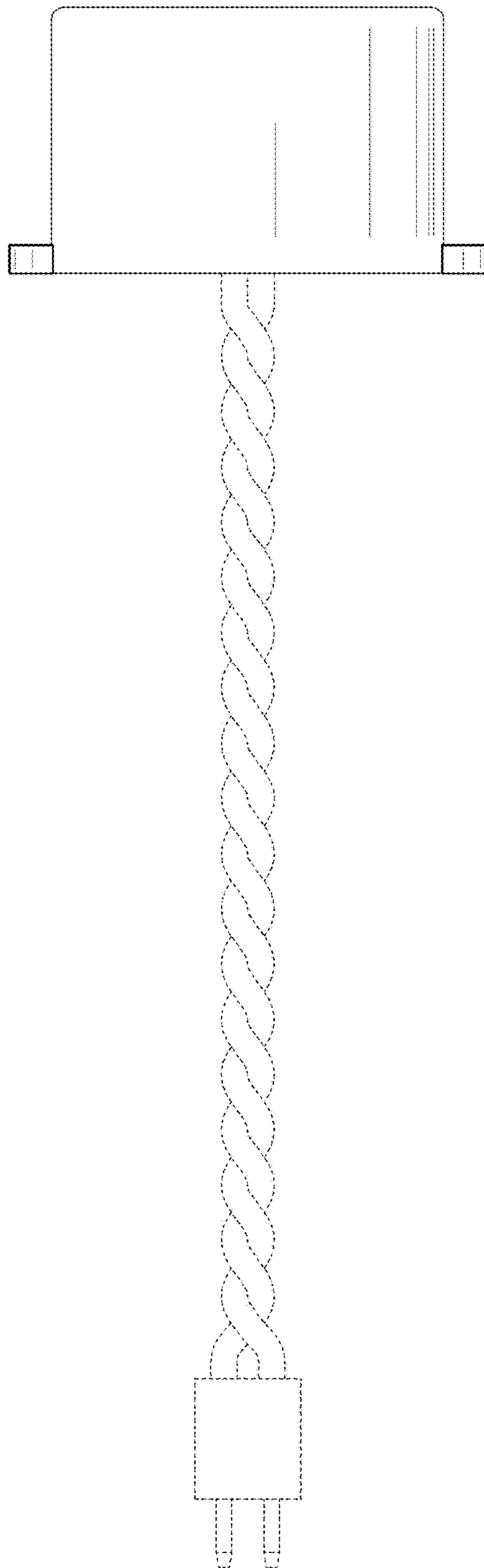


FIG. 17

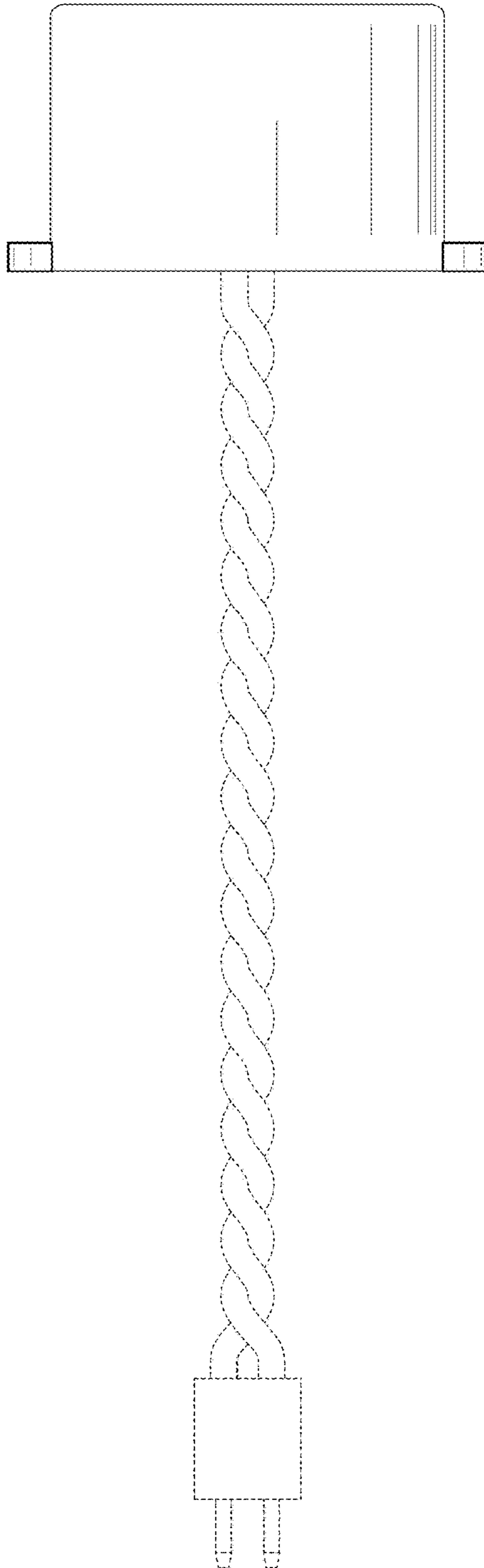


FIG. 18

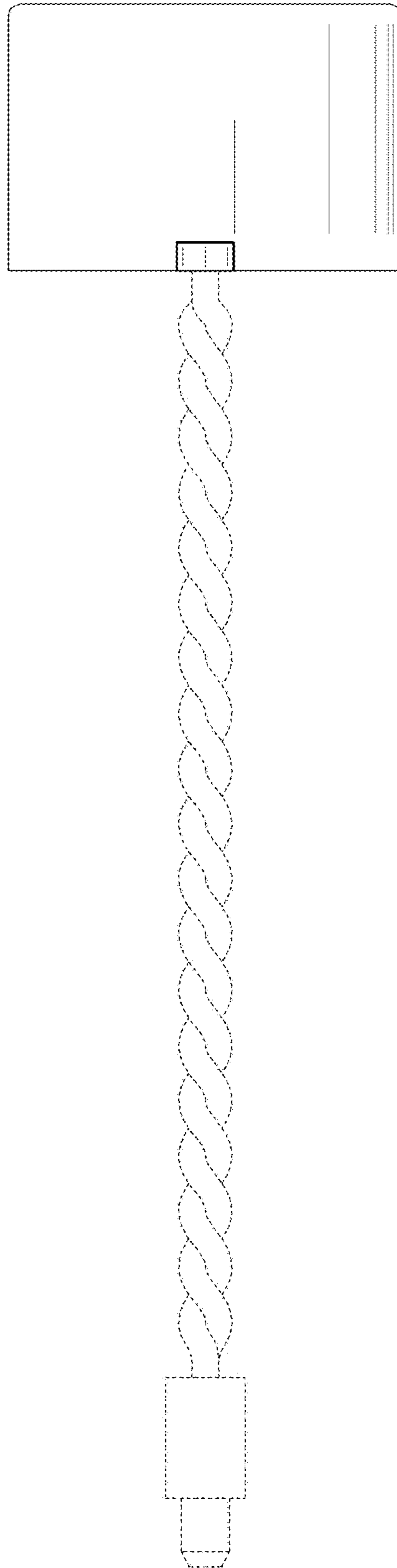


FIG. 19

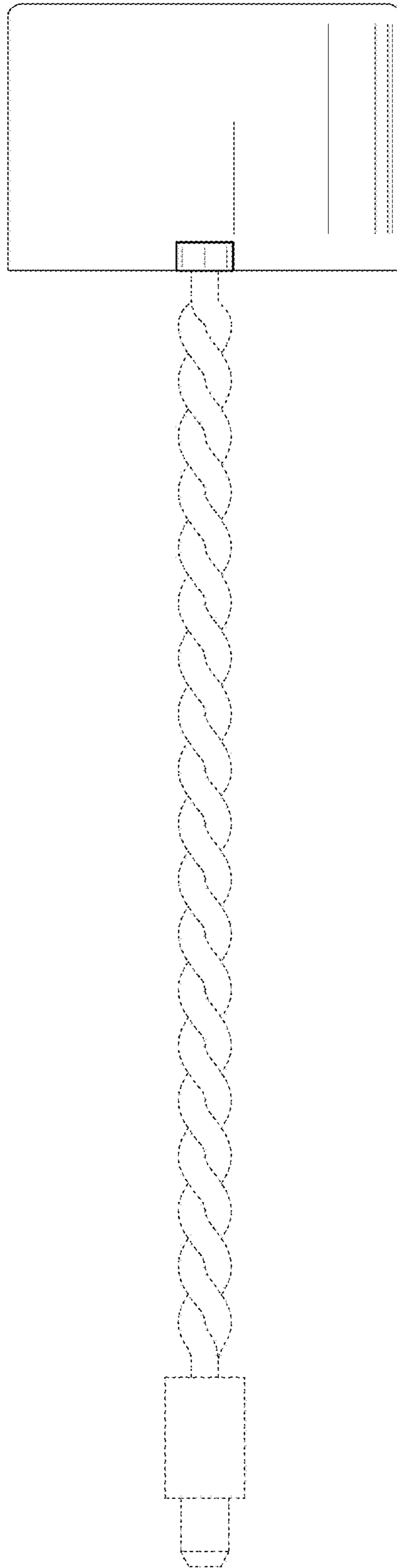


FIG. 20

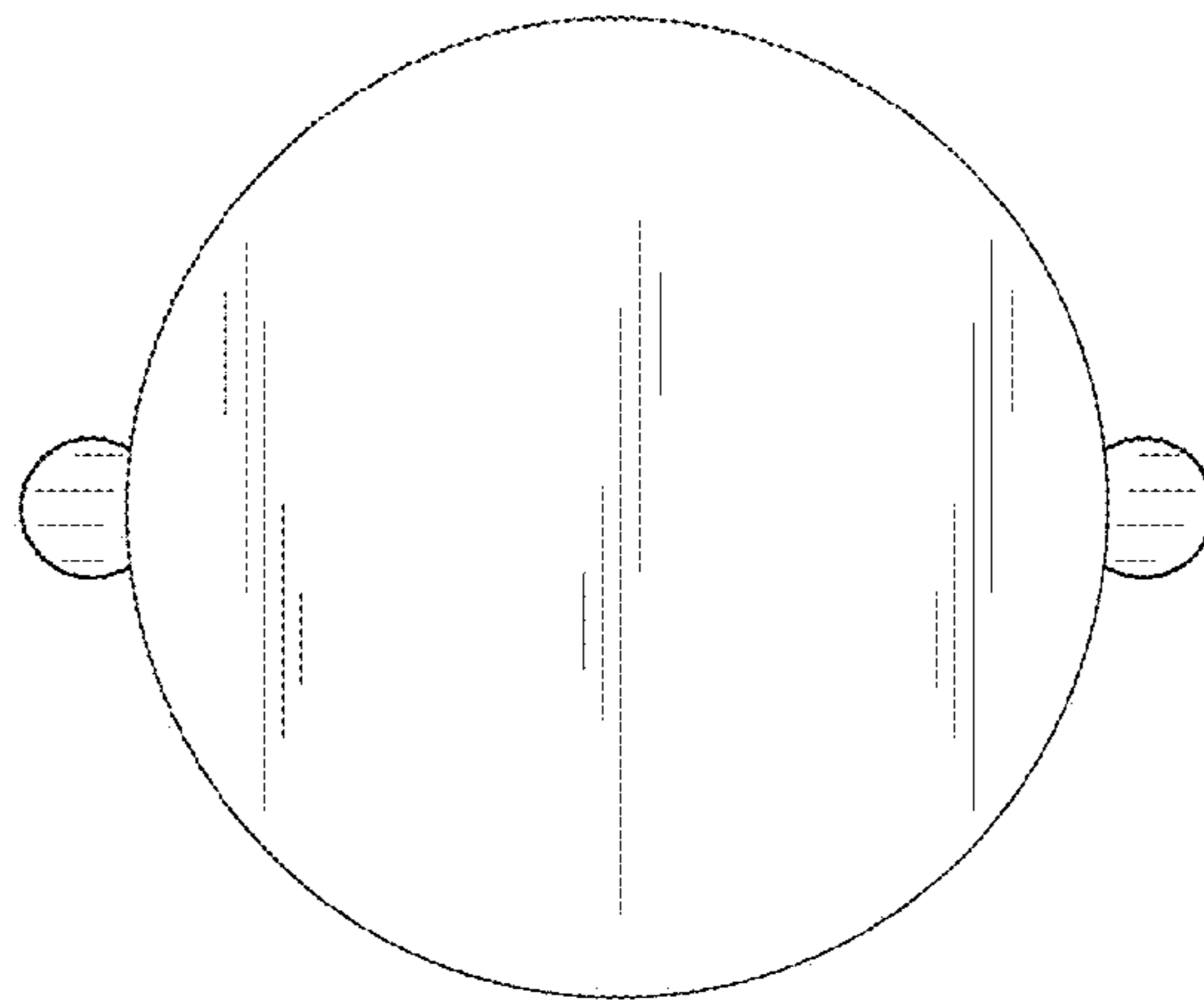


FIG. 21

