



US00D816518S

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

(10) **Patent No.:** **US D816,518 S**

(45) **Date of Patent:** **\*\* May 1, 2018**

(54) **MULTI-SENSOR**

- (71) Applicant: **View, Inc.**, Milpitas, CA (US)
- (72) Inventors: **Stephen C. Brown**, San Mateo, CA (US); **Alexander Rumer**, Milpitas, CA (US); **Nilesh T. Desai**, San Jose, CA (US)
- (73) Assignee: **View, Inc.**, Milpitas, CA (US)
- (\*\*) Term: **15 Years**
- (21) Appl. No.: **29/560,076**
- (22) Filed: **Apr. 1, 2016**

**Related U.S. Application Data**

- (63) Continuation of application No. 14/998,019, filed on Oct. 6, 2015.
- (51) **LOC (11) Cl.** ..... **10-07**
- (52) **U.S. Cl.**  
USPC ..... **D10/46**
- (58) **Field of Classification Search**  
USPC ..... D10/40, 46, 47, 49, 50, 51, 52, 53, 56, D10/61, 63, 65, 70, 71, 78, 81, 82, 83, D10/90, 95, 102, 106.6, 106.8, 106.9, D10/114.3, 118, 118.2; D14/125, D14/137-139, 218, 341-348, 480.1, D14/507-510; D16/202, 203, 217, 220  
(Continued)

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

- D256,787 S \* 9/1980 Petersen ..... D10/106.5
  - D258,871 S \* 4/1981 Rajotte, Jr. .... D10/57
- (Continued)

**FOREIGN PATENT DOCUMENTS**

- CN 101969207 A 2/2011
  - EP 2357544 A2 8/2011
- (Continued)

**OTHER PUBLICATIONS**

C-Bus Multi-Sensors, posted on clipsal.com, no posted date given, no production date given, [online], [site visited Apr. 7, 2017], Available from Internet, <URL: https://www.clipsal.com/Trade/Products/Integrated-Systems/C-Bus-Control-and-Management-System/C-Bus-Input-Units/Sensors-and-Detectors#.WOf1LvkrLmE>.\*

(Continued)

*Primary Examiner* — Melanie H Tung

*Assistant Examiner* — Fritzgerald L Butac

(74) *Attorney, Agent, or Firm* — Weaver Austin Villeneuve & Sampson LLP

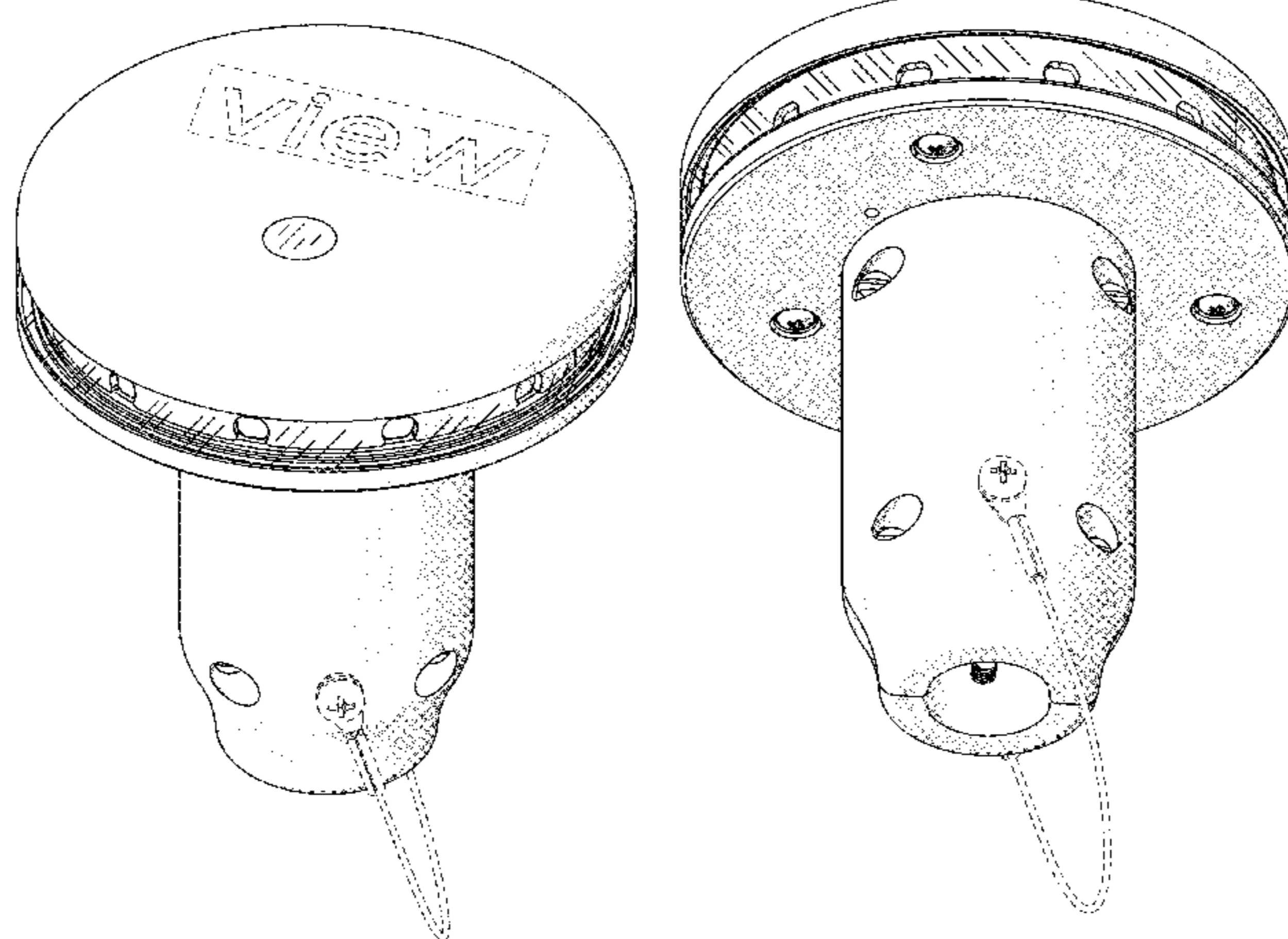
(57) **CLAIM**

We claim the ornamental design for a multi-sensor, as shown and described.

**DESCRIPTION**

FIG. 1 is an isometric view of a multi-sensor.  
 FIG. 2 is a front view of the multi-sensor.  
 FIG. 3 is a back view of the multi-sensor.  
 FIG. 4 is a right side view of the multi-sensor.  
 FIG. 5 is a left side view of the multi-sensor.  
 FIG. 6 is a top view of the multi-sensor.  
 FIG. 7 is a bottom view of the multi-sensor; and,  
 FIG. 8 is an off-angle view of the multi-sensor.  
 Diagonal line shading is used to indicate a transparent area of the multi-sensor through which light may pass.  
 Stipple shading is used in FIGS. 1 through 8 to convey surface contours; the stipple shading is not to be understood as conveying a particular surface finish.  
 The broken lines show portions of the multi-sensor that form no part of the claimed design.  
 The “dash-dot” broken lines define the bounds of the claimed design and form no part thereof.

**1 Claim, 8 Drawing Sheets**



(58) **Field of Classification Search**

CPC ..... G01S 7/032  
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,355,896	A	10/1982	Laue et al.	
4,491,727	A	1/1985	Appelbaum et al.	
D278,132	S *	3/1985	Powell .....	D10/98
5,606,393	A	2/1997	Schoenherr et al.	
5,621,526	A	4/1997	Kuze	
5,656,807	A	8/1997	Packard	
5,670,774	A	9/1997	Hill	
D439,532	S *	3/2001	Off .....	D10/81
7,049,602	B2	5/2006	Tokhtuev et al.	
7,587,289	B1	9/2009	Sivertsen	
7,873,490	B2	1/2011	MacDonald	
8,102,586	B2	1/2012	Albahri	
8,254,013	B2	8/2012	Mehtani et al.	
8,270,059	B2	9/2012	Friedman et al.	
8,300,298	B2	10/2012	Wang et al.	
8,432,603	B2	4/2013	Wang et al.	
8,456,729	B2	6/2013	Brown et al.	
8,582,193	B2	11/2013	Wang et al.	
8,705,162	B2	4/2014	Brown et al.	
8,764,950	B2	7/2014	Wang et al.	
8,764,951	B2	7/2014	Wang et al.	
D712,759	S *	9/2014	Forsberg .....	D10/66
D723,600	S *	3/2015	Nauli .....	D16/131
D725,284	S *	3/2015	Karlsson .....	D24/169
D727,467	S *	4/2015	Batiste .....	D23/249
D747,988	S *	1/2016	Matsumiya .....	D10/102
D748,508	S *	2/2016	Park .....	D10/65
D761,135	S *	7/2016	Allen, Sr. ....	D10/50
D780,612	S *	3/2017	Alexander .....	D10/102
9,638,978	B2	5/2017	Brown et al.	
9,664,974	B2	5/2017	Kozlowski et al.	
2002/0075472	A1	6/2002	Holton	
2003/0076480	A1	4/2003	Bu Rbulla	
2004/0135989	A1	7/2004	Klebe	
2006/0038983	A1	2/2006	Bickel et al.	
2007/0012349	A1	1/2007	Gaudiana et al.	
2007/0145252	A1	6/2007	Litchfield et al.	
2009/0079349	A1	3/2009	Sibalich et al.	
2010/0235206	A1	9/2010	Miller et al.	
2011/0308318	A1	12/2011	Magnussen	
2012/0007507	A1	1/2012	Niemann et al.	
2012/0133315	A1	5/2012	Berman et al.	
2013/0271813	A1	10/2013	Brown	
2013/0271814	A1	10/2013	Brown	
2014/0067733	A1	3/2014	Humann	
2014/0236323	A1	8/2014	Brown et al.	
2014/0268287	A1	9/2014	Brown et al.	
2017/0097259	A1	4/2017	Brown et al.	
2017/0122802	A1	5/2017	Brown	
2017/0276542	A1	9/2017	Klawuhn et al.	
2017/0293049	A1	10/2017	Frank et al.	

FOREIGN PATENT DOCUMENTS

WO	WO2011/124720	10/2011
WO	WO2013/105244	7/2013
WO	WO2013/181408	12/2013
WO	WO2014/121863	8/2014
WO	WO2015/171886	11/2015
WO	WO2017/062592	4/2017

OTHER PUBLICATIONS

Gen5 Z-Wave Plus 6-in-1 Multisensor, posted on thesmartesthouse.com, Earliest review on Aug. 27, 2015, no production date given, [online], [site visited Apr. 7, 2015], Available from Internet, <URL: <https://www.thesmartesthouse.com/products/aeotec-by-aeon-labs-z-wave-5-in-1-multisensor#shopify-product-reviews>>.\*

Preliminary Amendment dated Jan. 23, 2017 in U.S. Appl. No. 15/287,646.  
Preliminary Amendment ded Sep. 6, 2017 in U.S. Appl. No. 15/513,535.  
Office Action dated Aug. 2, 2017 in U.S. Appl. No. 14/998,019.  
International Search Report and Written Opinion dated Jan. 14, 2016 in PCT/US2015/052822.  
International Preliminary Report on Patentability dated Apr. 13, 2017 in PCT/US2015/052822.  
International Search Report and Written Opinion dated Dec. 18, 2015 in PCT/US2015/053041.  
International Search Report and Written Opinion dated Dec. 15, 2016 in PCT/US2016/055709.  
International Preliminary Report on Patentability dated Apr. 13, 2017 in PCT/US2015/053041.  
Canadian Office Action dated Apr. 11, 2017 in CA Design Application No. 170770.  
Chinese Office Action dated Apr. 27, 2017 in CN Design Application No. 201630492174.4.  
Hoosier Energy, "How do they do that? Measuring Real-Time Cloud Activity" Hoosier Energy Current Connections, undated. (<http://members.questline.com/Article.aspx?articleID=18550&accountID=196000&nl=11774>).  
Kleissl, Jan et al., "Recent Advances in Solar Variability Modeling and Solar Forecasting at UC San Diego," Proceedings, American Solar Energy Society, 2013 Solar Conference, Apr. 16-20, 2013, Baltimore, MD.  
Haby, Jeff, "Cloud Detection (IR v. VIS)," (undated) [<http://theweatherprediction.com/habyhints2/512/>].  
Graham, Steve, "Clouds & Radiation," Mar. 1, 1999. [<http://earthobservatory.nasa.gov/Features/Clouds/>].  
National Aeronautics & Space Administration, "Cloud Radar System (CRS)," (undated) [<http://har.gsfc.nasa.gov/index.php?section=12>].  
Science and Technology Facilities Council, "Cloud Radar: Predicting The Weather More Accurately," ScienceDaily.com, Oct. 1, 2008, pp. 2. [webpage] [retrieved Sep. 17, 2014] <URL:<http://www.sciencedaily.com/releases/2008/09/080924085200.htm>>.  
"Remote Sensing: Clouds," Department of Atmospheric and Ocean Science, University of Maryland, (undated) [[http://www.atmos.umd.edu/~pinker/remote\\_sensing\\_clouds.htm](http://www.atmos.umd.edu/~pinker/remote_sensing_clouds.htm)].  
National Aeronautics & Space Administration (NASA), "Cloud Remote Sensing and Modeling," [webpage] [retrieved Sep. 17, 2014] <URL: <http://atmospheres.gsfc.nasa.gov/climate/index.php?section=134>>.  
Kipp & Zonen, "Solar Radiation" (undated) [<http://www.kippzonen.com/Knowledge-Center/Theoretical-info/Solar-Radiation>].  
Duchon, Claude E. et al., "Estimating Cloud Type from Pyranometer Observations," Journal of Applied Meteorology, vol. 38, Jan. 1999, pp. 132-141.  
Clay, R.W., et al., "A cloud monitoring system for remote sites," Publications of the Astronomical Society of Australia, vol. 15, No. 3, Jan. 1998, pp. 332-335.  
Idso, Sherwood B., "Humidity measurement by infrared thermometry," Remote Sensing of Environment, vol. 12, 1982, pp. 87-91.  
Maghrabi, A., et al., "Design and development of a simple infrared monitor for cloud detection," Energy Conversion and Management, vol. 50, 2009, pp. 2732-2737.  
Maghrabi, A., et al., "Precipitable water vapour estimation on the basis of sky temperatures measured by a single-pixel IR detector and screen temperatures under clear skies," Meteorological Applications, vol. 17, 2010, pp. 279-286.  
Morris, V.R. et al., "Deployment of an infrared thermometer network at the atmospheric radiation measurement program southern great plains climate research facility," Sixteenth ARM Science Team Meeting Proceedings, Albuquerque, NM, Mar. 27-31, 2006, 11 pp.  
Thompson, Marcus, "Boltwood cloud sensor," Cloudynights.com, Nov. 25, 2005, 6 pp. [online], [retrieved Dec. 15, 2016]. Retrieved from the internet <URL <http://www.cloudynights.com/page/articles/cat/user-reviews/photography/photography-accessories/boltwood-cloud-sensor-r1222>>.

(56)

**References Cited**

OTHER PUBLICATIONS

Werner, Christian, "Automatic cloud cover indicator system," *Journal of Applied Meteorology*, vol. 12, Dec. 1973, pp. 1394-1400.

Boltwood Cloud Sensor II by Diffraction Limited, 2016, [online], [retrieved Dec. 15, 2016]. Retrieved from the internet <URL <http://diffractionlimited.com/product/boltwood-cloud-sensor-ii/>>.

Mims III, Forrest M., et al., "Measuring total column water vapor by pointing an infrared thermometer at the sky," *Bulletin of the American Meteorological Society*, Oct. 2011, pp. 1311-1320.

Sloan, Raymond, et al., "Infrared Emission Spectrum of the Atmosphere," *Journal of the Optical Society of America*, vol. 45, No. 6, Jun. 1955, pp. 455-460.

SurroundVideo Series, "Pioneering Multi-Sensor IP Megapixel Cameras," [webpage] 10 pp. [retrieved Jul. 24, 2015] <URL:<http://web.archive.org/web/20150724235343/http://www.arecontvision.com/landing-pages/surround-video/overview.php>>.

Melexis "MLX90614 family Datasheet" (3901090614, Rev. 004), Jul. 30, 2008, 42 pages.

Canadian Office Action dated Nov. 15, 2017 in CA Design Application No. 170770.

\* cited by examiner

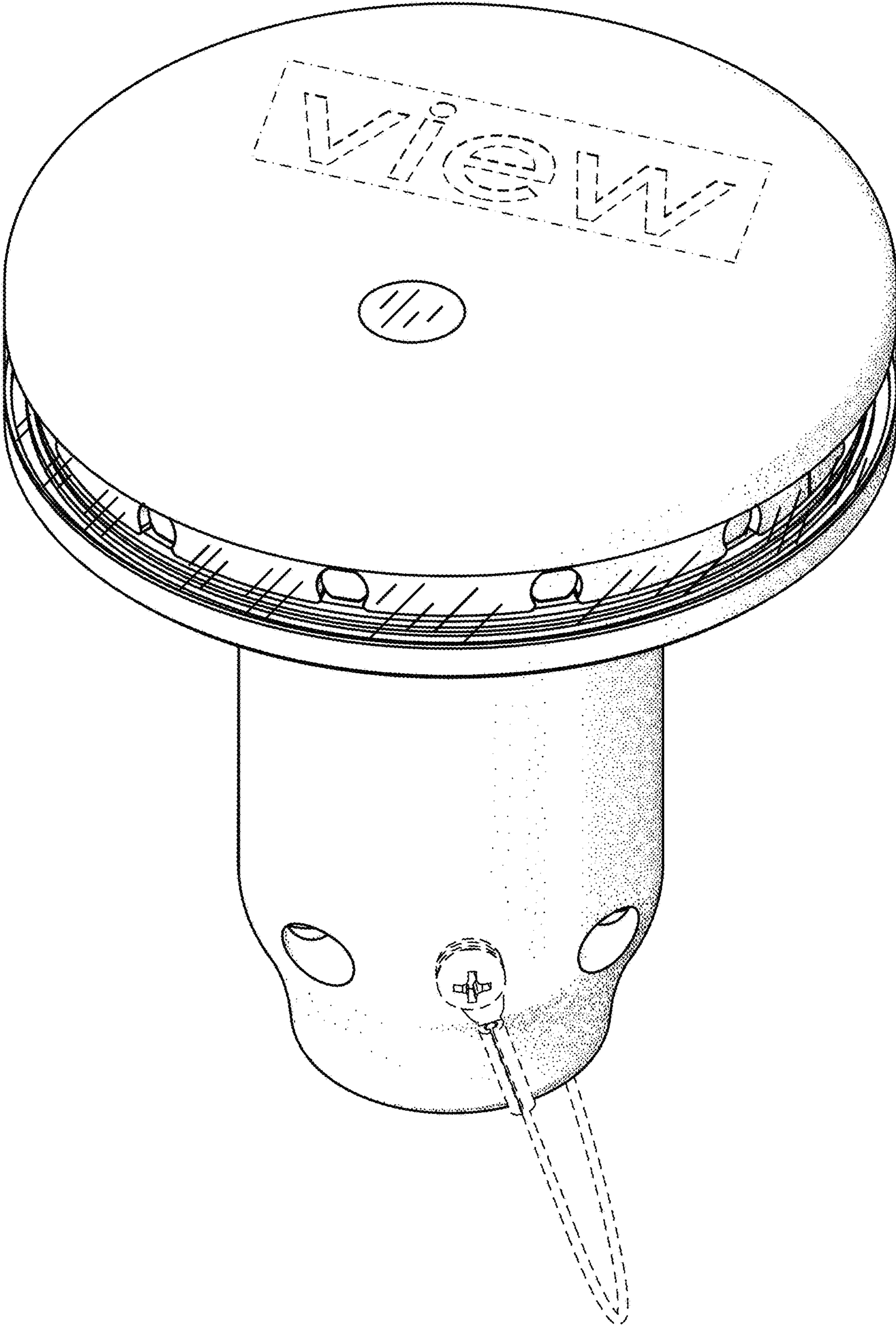


Figure 1

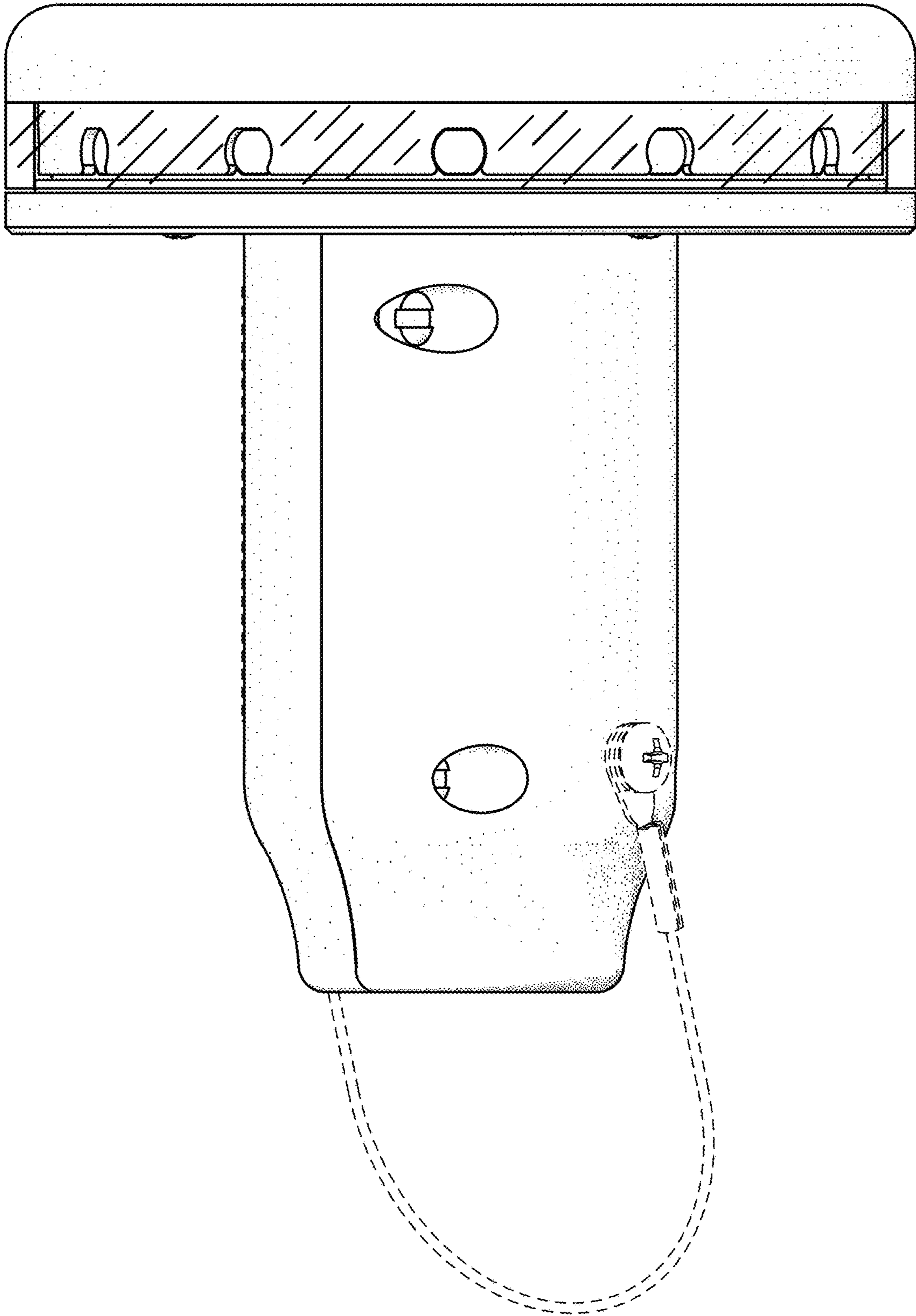


Figure 2

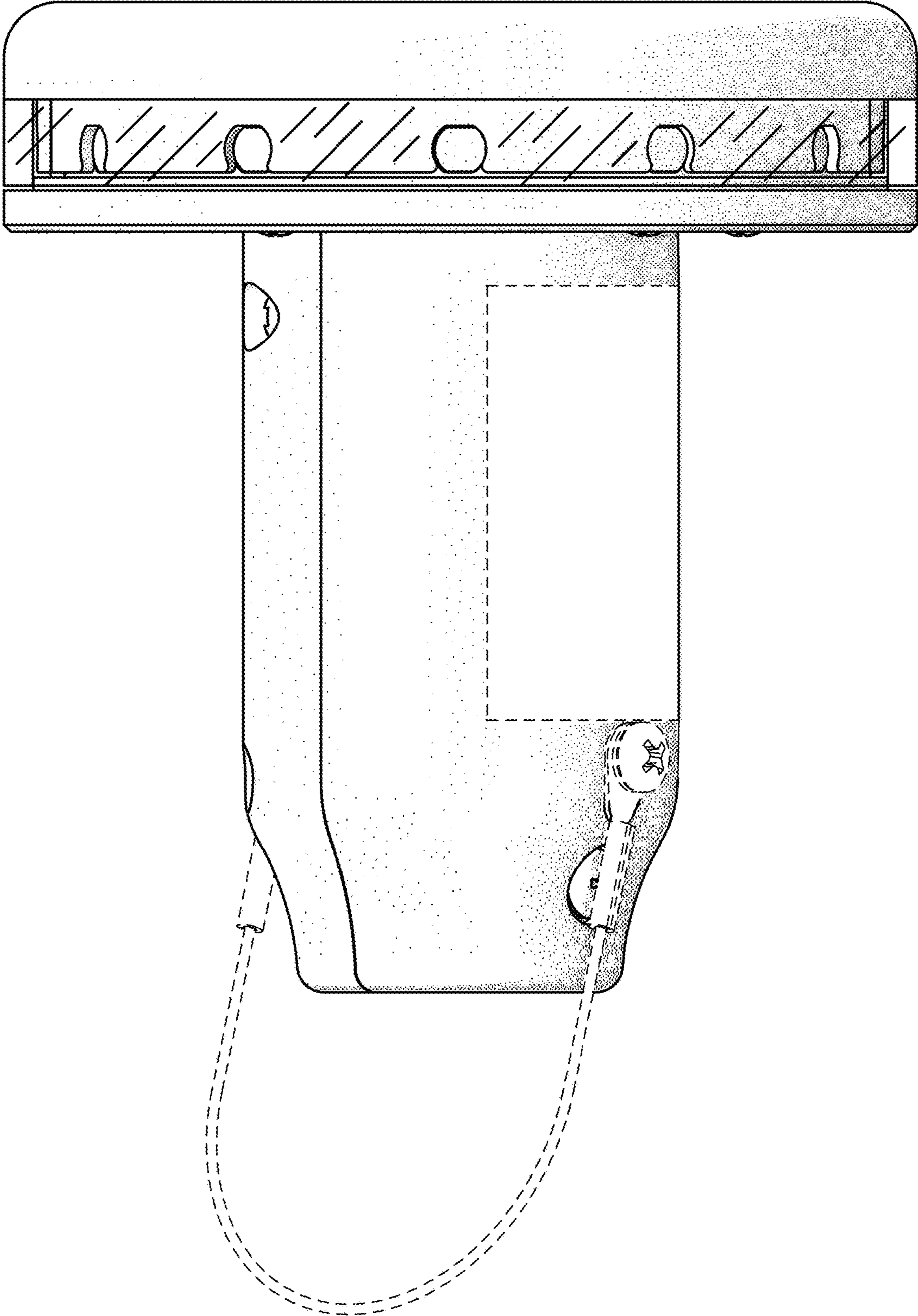


Figure 3

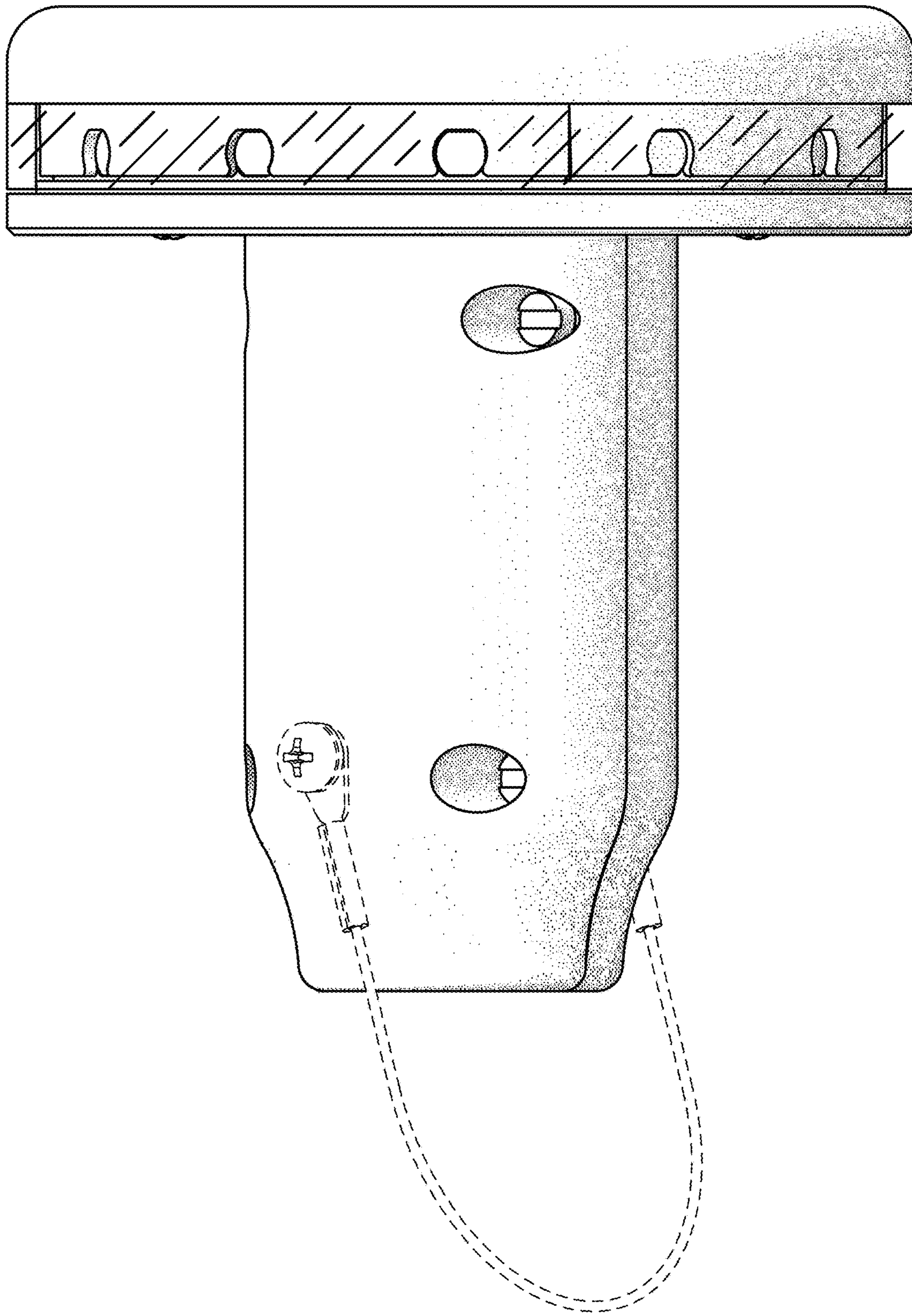


Figure 4

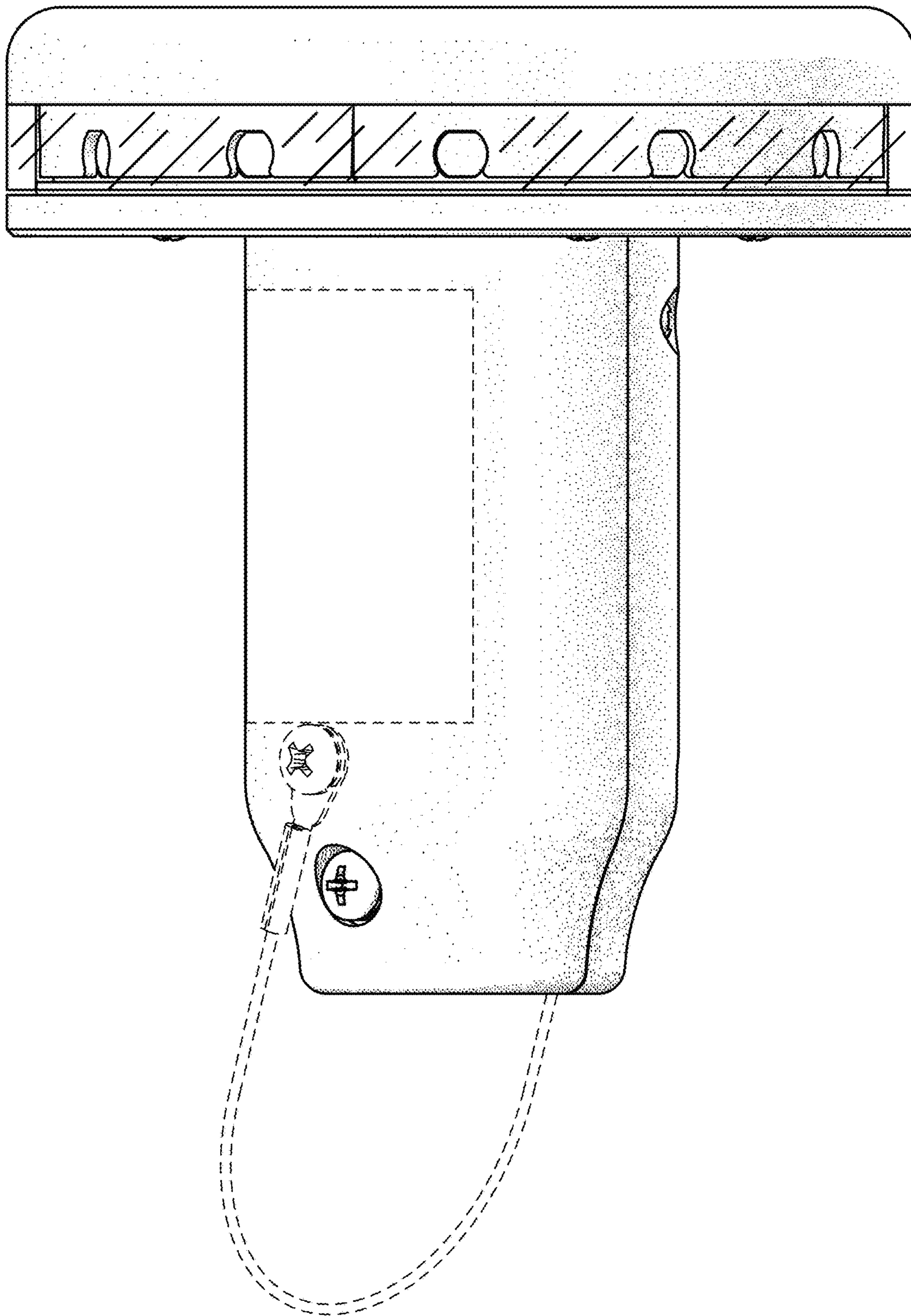


Figure 5



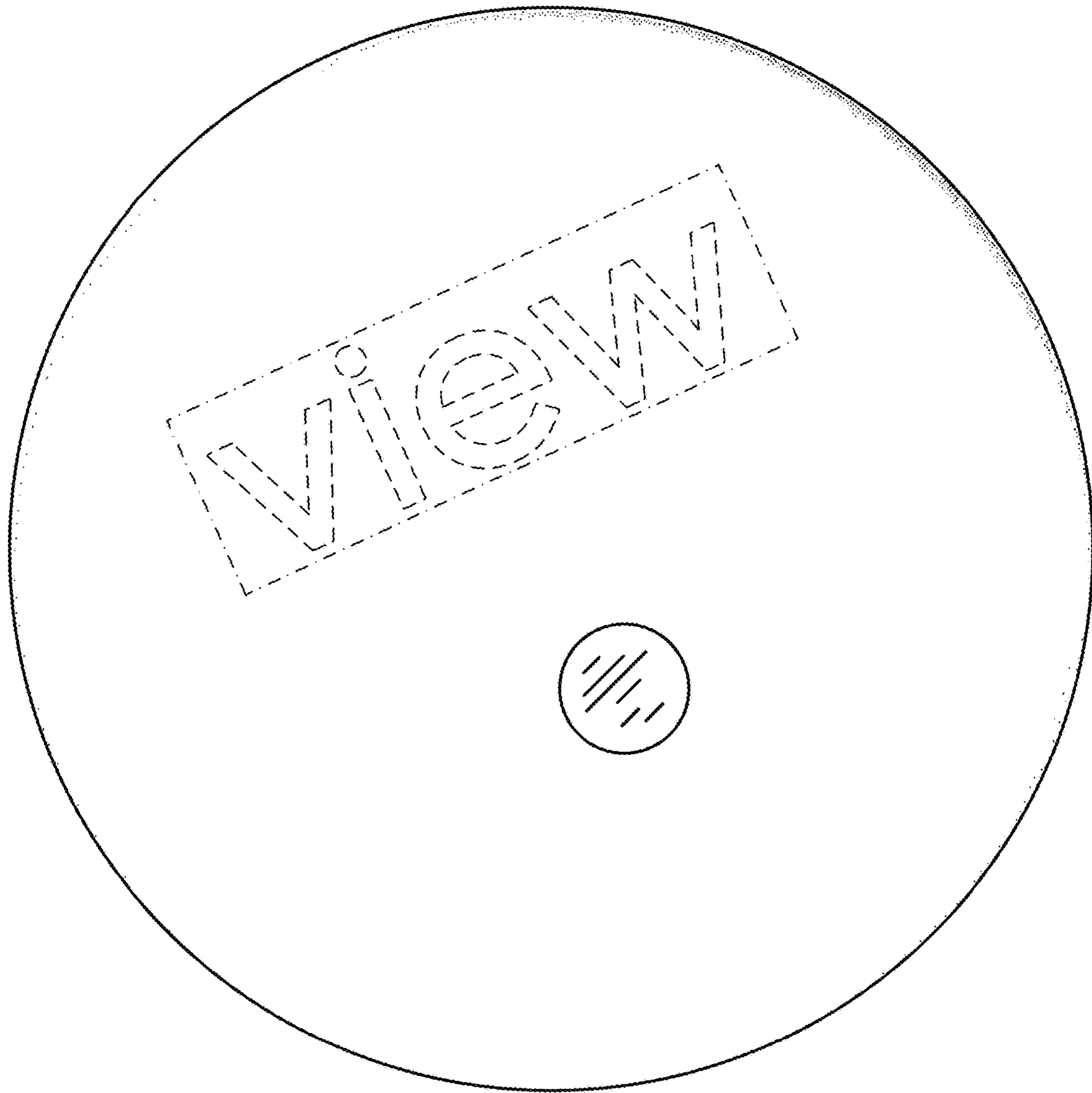


Figure 6

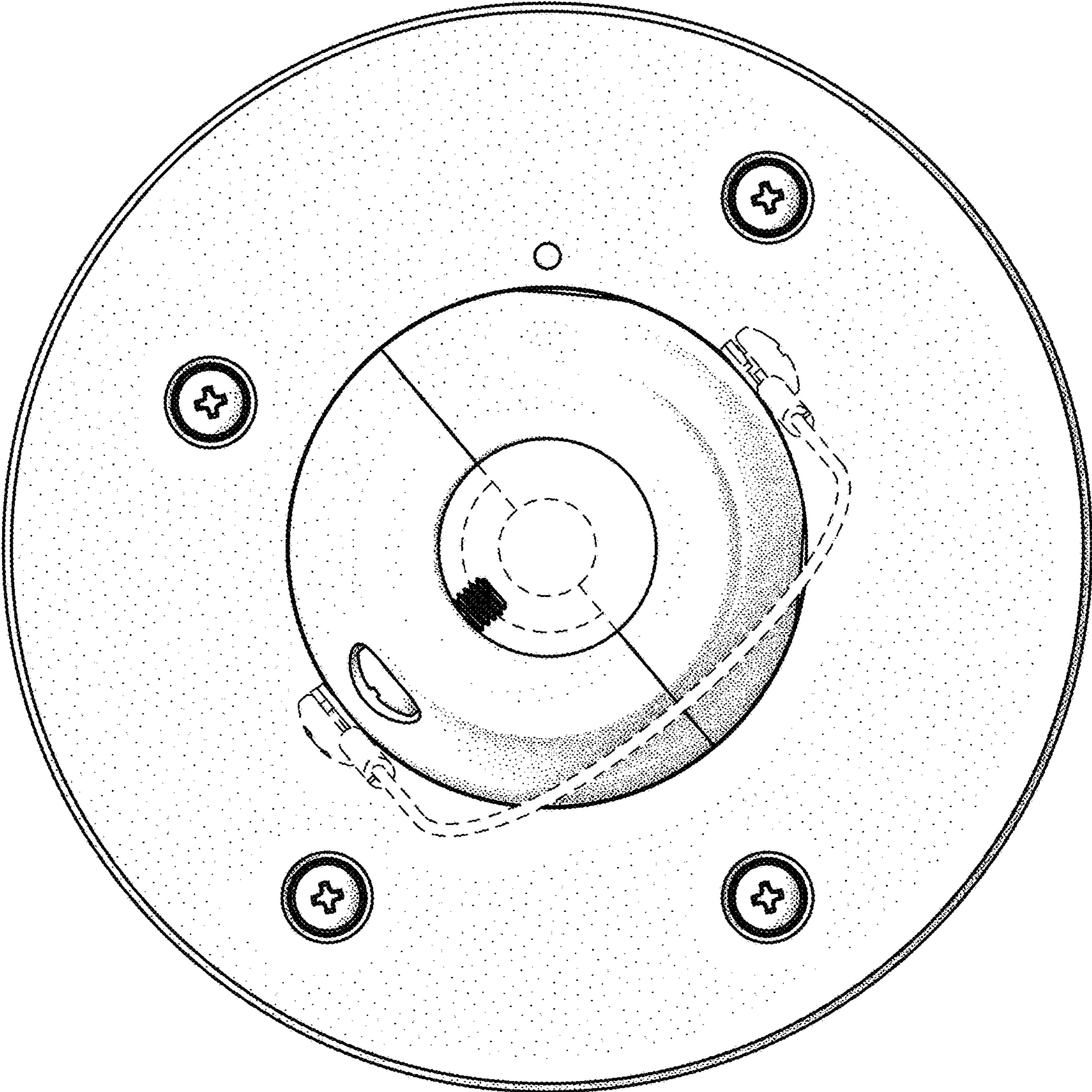


Figure 7

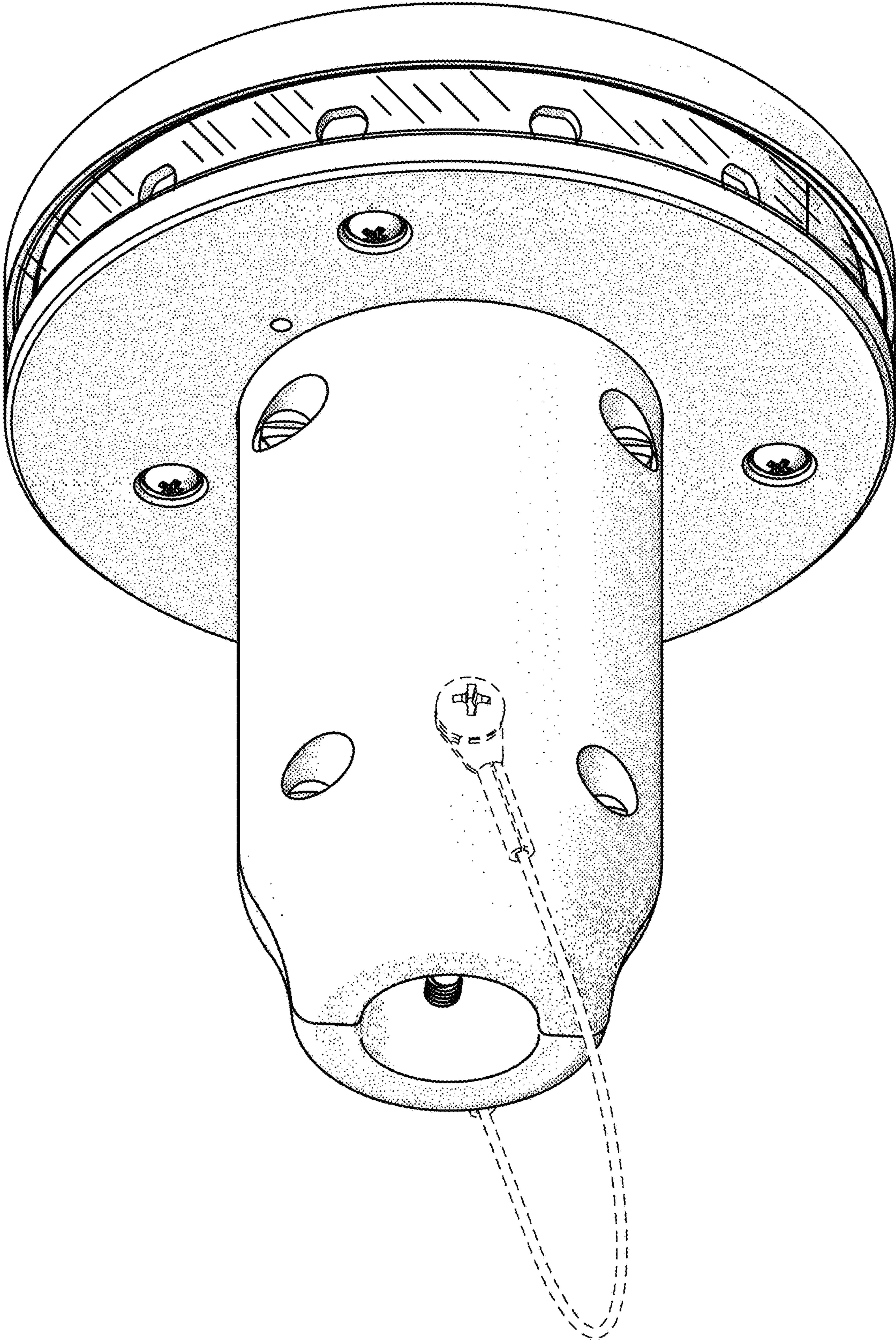


Figure 8