



US00D978694S

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

(10) **Patent No.:** **US D978,694 S**
(45) **Date of Patent:** **** Feb. 21, 2023**

- (54) **SPRAY SENSOR**
- (71) Applicant: **Intelligent Agricultural Solutions LLC, Fargo, ND (US)**
- (72) Inventors: **Kory Weckman, Fargo, ND (US); Dan Bjertness, Fargo, ND (US); Ross Eickhoff, Fargo, ND (US)**
- (73) Assignee: **Intelligent Agricultural Solutions, LLC, Fargo, ND (US)**
- (**) Term: **15 Years**
- (21) Appl. No.: **29/800,668**
- (22) Filed: **Jul. 22, 2021**
- (51) **LOC (14) Cl.** **10-05**
- (52) **U.S. Cl.**
USPC **D10/96**
- (58) **Field of Classification Search**
USPC D10/40, 85, 96, 97, 99, 101, 102, 103;
D13/162; D15/13; D23/206, 233, 235,
D23/239, 244, 245; D24/129
CPC . G01F 25/10; G01F 15/14; G01F 1/58; G01F
1/8409; G01F 1/00; G01F 1/3218; G01F
1/26; G01F 23/14; G01F 25/0092; A01G
25/165
See application file for complete search history.

- D850,960 S * 6/2019 Headley D10/96
- 10,394,209 B2 8/2019 Goodon et al.
- 10,624,257 B2 4/2020 Wilger
- D902,061 S * 11/2020 Dabule D10/99
- D929,544 S * 8/2021 Okawara D23/233

OTHER PUBLICATIONS

Office Action from Brazilian Design Patent Application No. 3020220002011, dated May 17, 2022, 4 pages.
 "Procedure for Measuring Sprayer Nozzle Wear Rate" from ASAE S471 Mar. 1991 (R2012) Copyright American Society of Agricultural and Biological Engineers, dated Mar. 1991, 4 pages.
 "Spray Nozzle Classification by Droplet Spectra" from ANSI/ASAE S572.1 W/Corr. Mar. 1, 2009 (R2013) Copyright American Society of Agricultural and Biological Engineers, dated Mar. 2009, 6 pages.
 Product Brochure "Sentry 6140 Tip Flow Monitor", 98-01449-R3, © TeeJet Technologies 2014, 2 pages.

* cited by examiner

Primary Examiner — George D. Kirschbaum
Assistant Examiner — Lillian Windham

(57) **CLAIM**

The ornamental design for a spray sensor, as shown and described.

DESCRIPTION

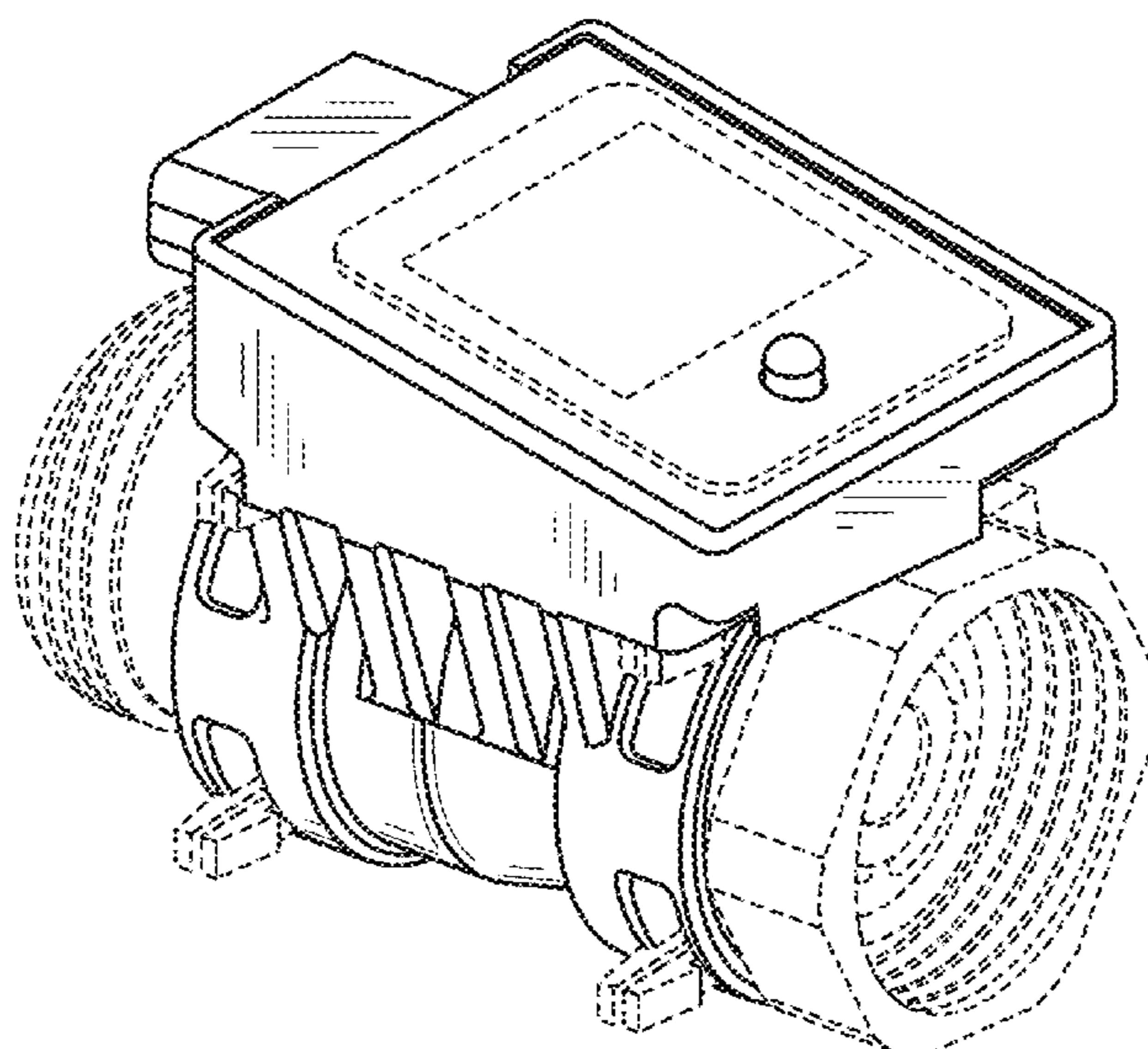
FIG. 1 is a left front perspective view;
 FIG. 2 is a right front perspective view;
 FIG. 3 is a right rear perspective view;
 FIG. 4 is a left rear perspective view;
 FIG. 5 is a top plan view;
 FIG. 6 is a bottom plan view;
 FIG. 7 is a front elevational view; and,
 FIG. 8 is a rear elevational view.
 The broken lines shown represent portions of the spray sensor and form no part of the claimed design.

1 Claim, 8 Drawing Sheets

(56) **References Cited**

U.S. PATENT DOCUMENTS

- D278,316 S * 4/1985 Bengtson D10/96
- 5,144,767 A 9/1992 McCloy et al.
- D460,526 S * 7/2002 Weingarten D23/244
- 7,502,665 B2 3/2009 Giles et al.
- D604,805 S * 11/2009 Samborn D23/233
- D682,715 S * 5/2013 Wang D10/40
- 9,532,563 B2 1/2017 Arenson et al.
- D812,504 S * 3/2018 Headley D10/96
- D832,123 S * 10/2018 Nakai D10/96
- 10,219,506 B2 3/2019 Ni



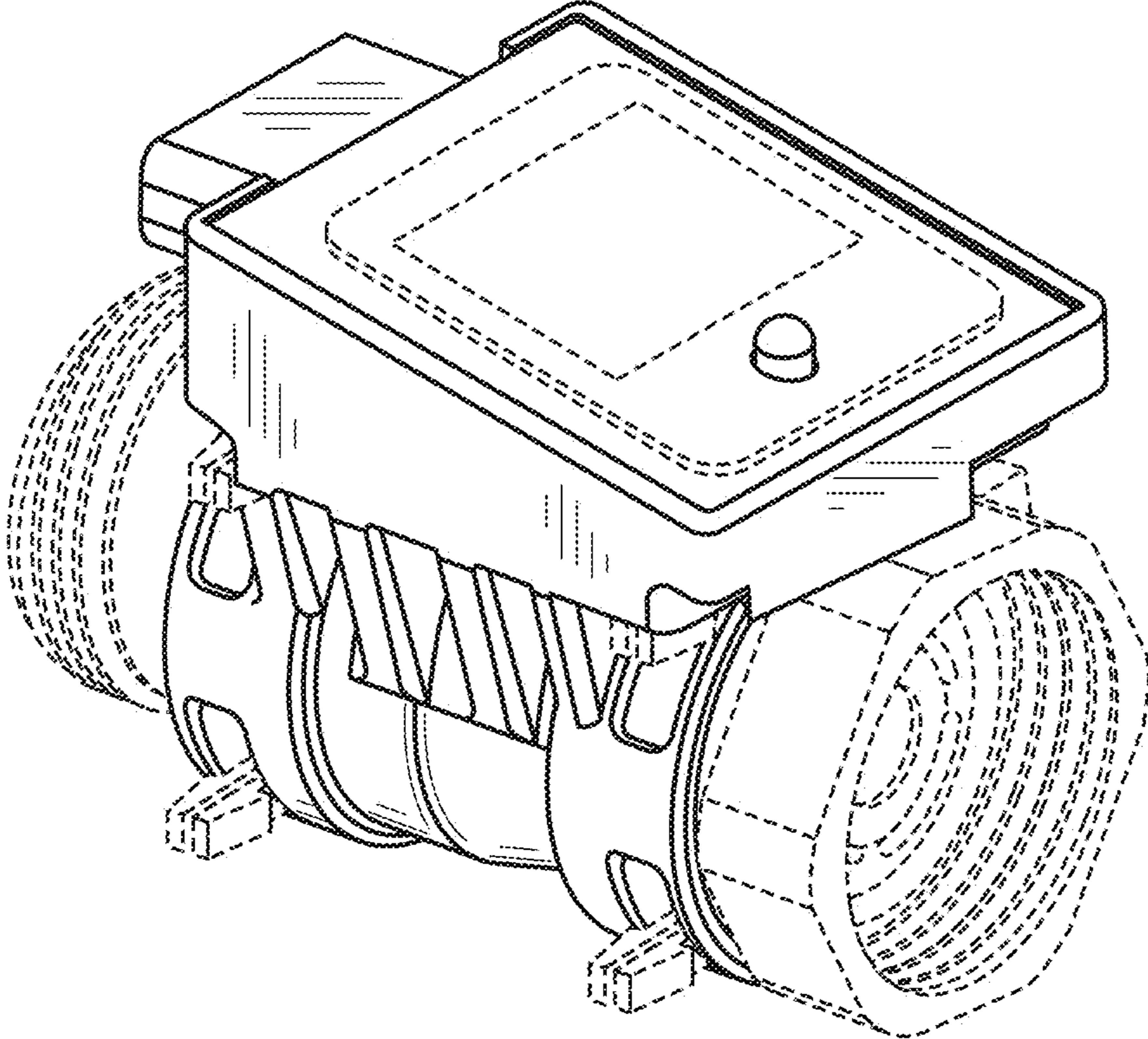


FIG. 1

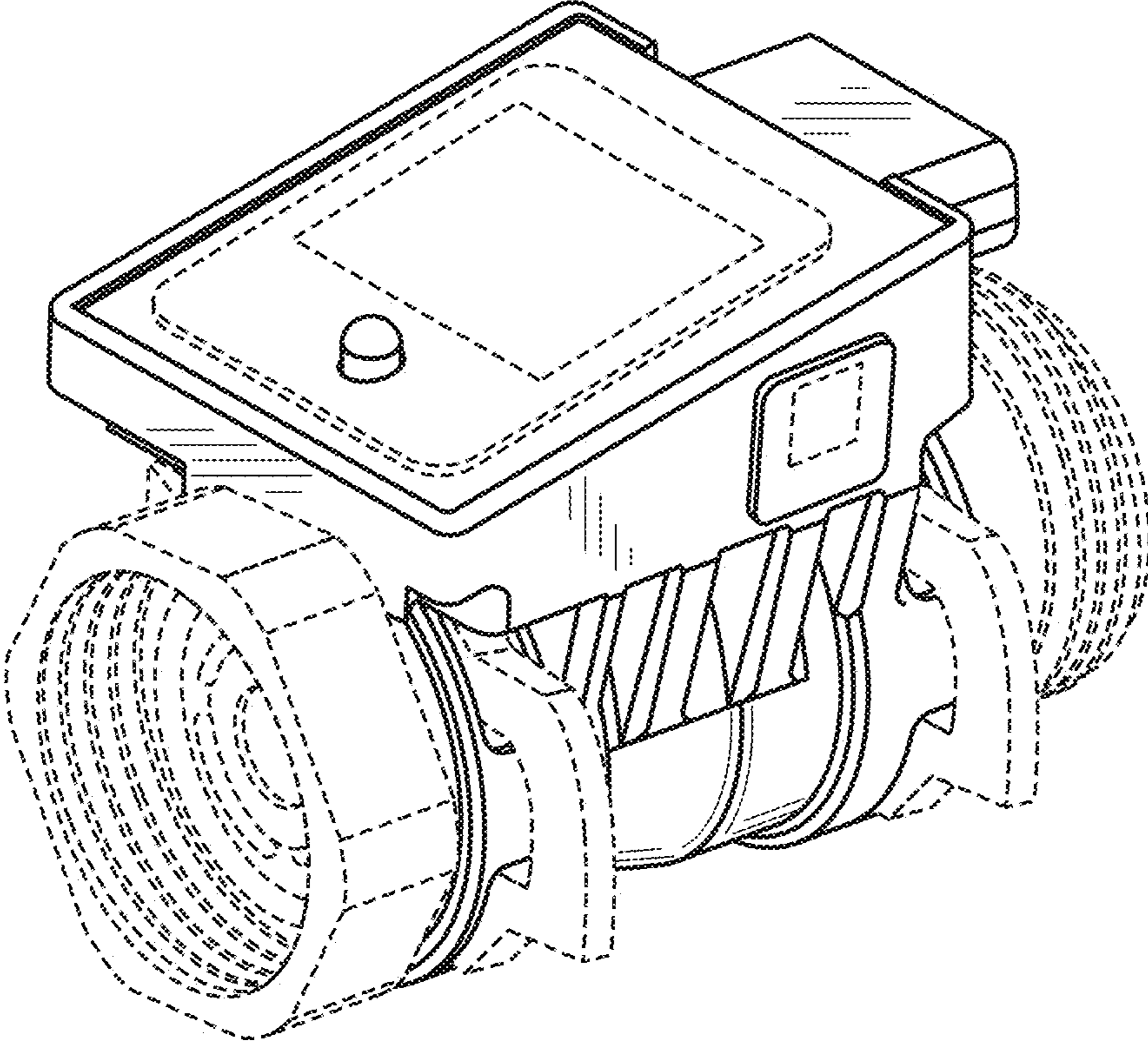


FIG. 2

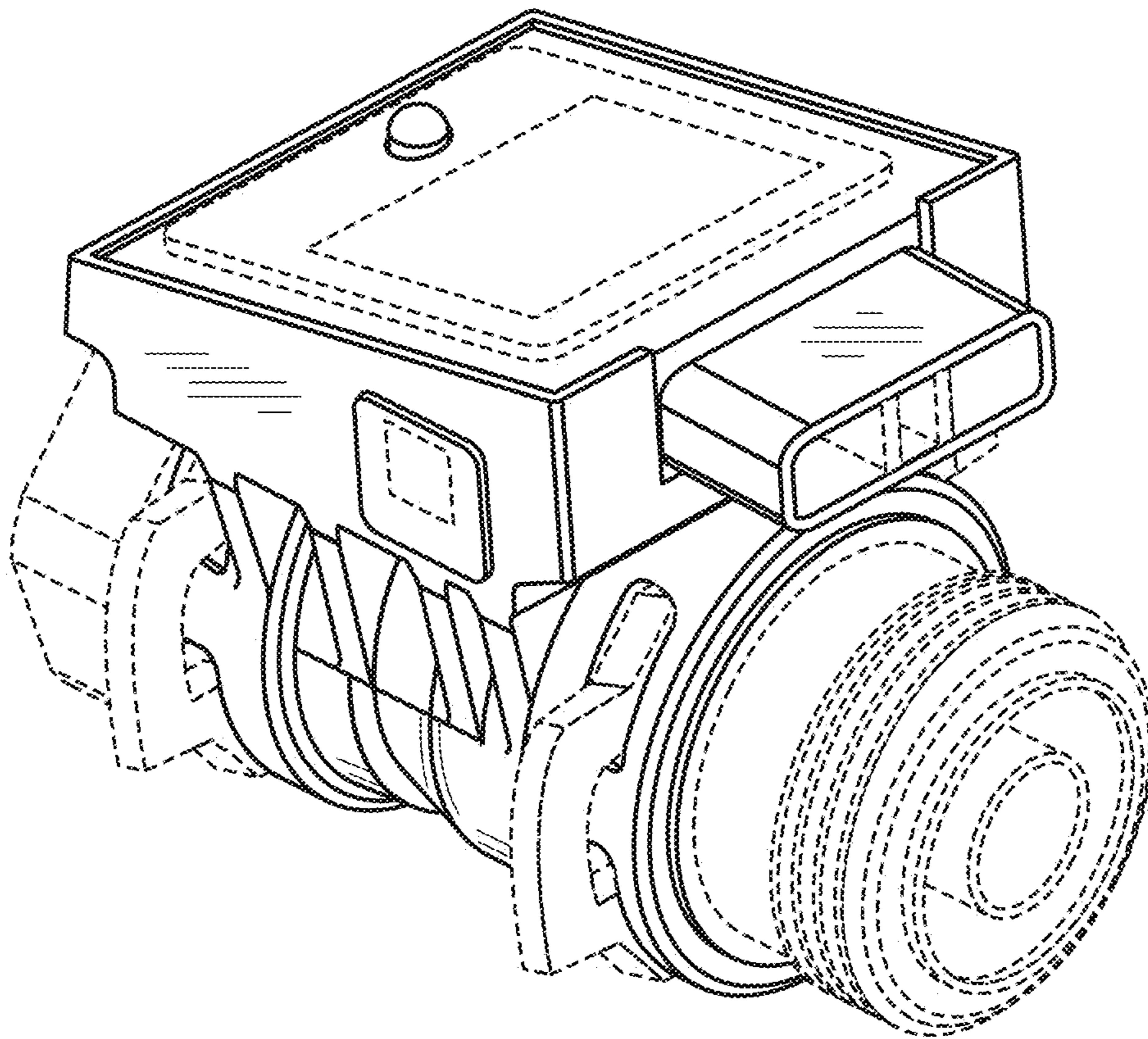


FIG. 3

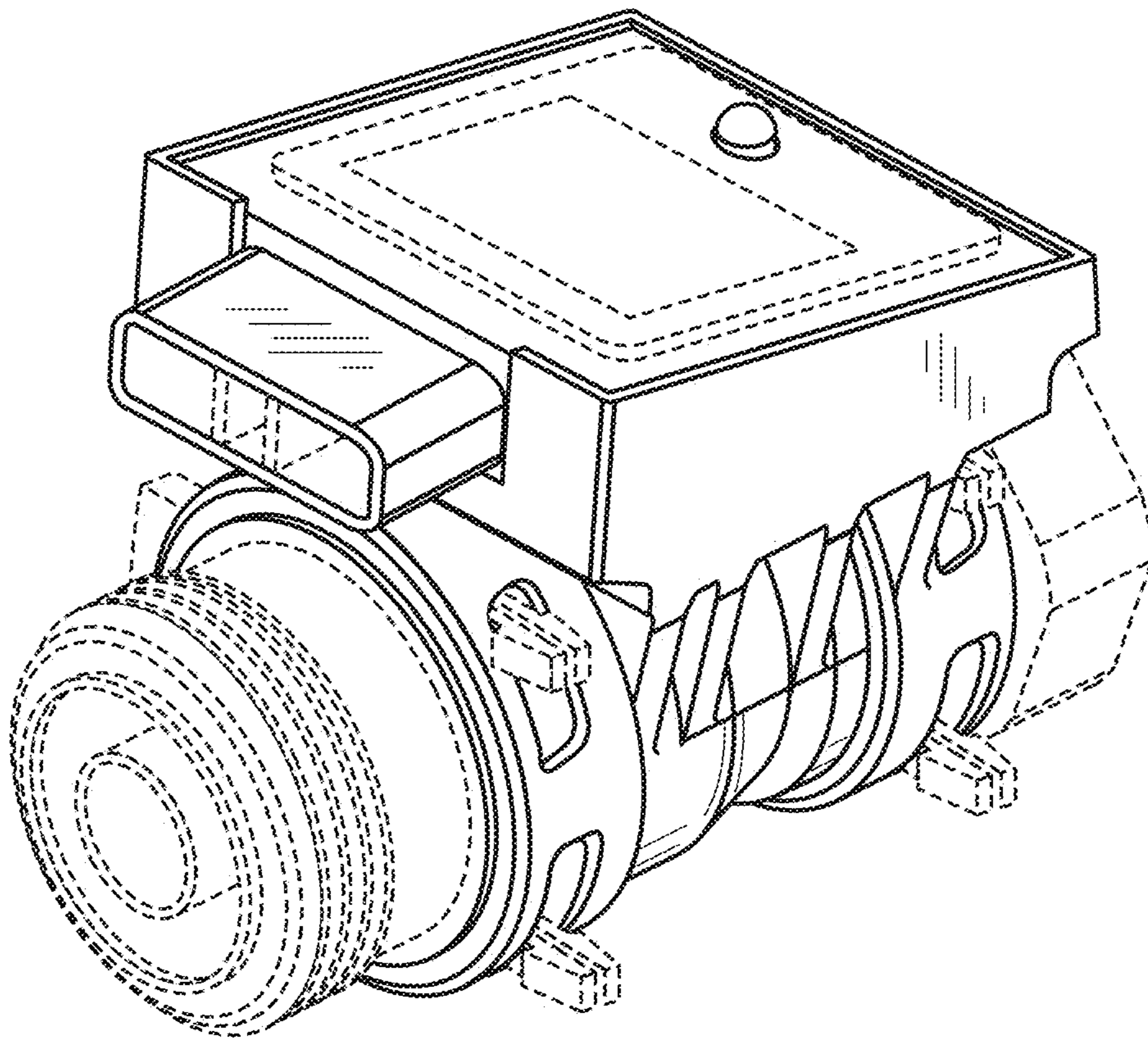


FIG. 4

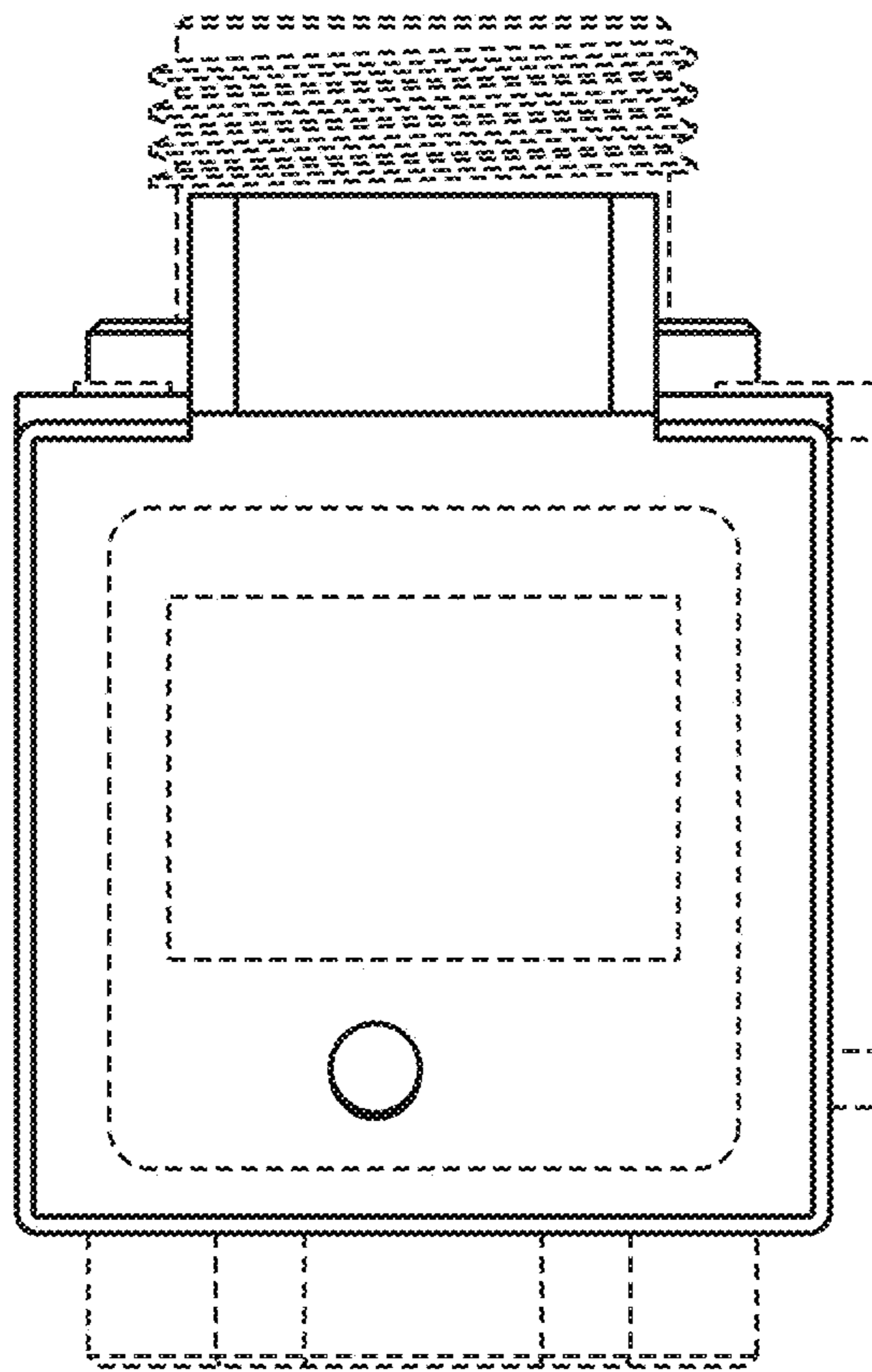


FIG. 5

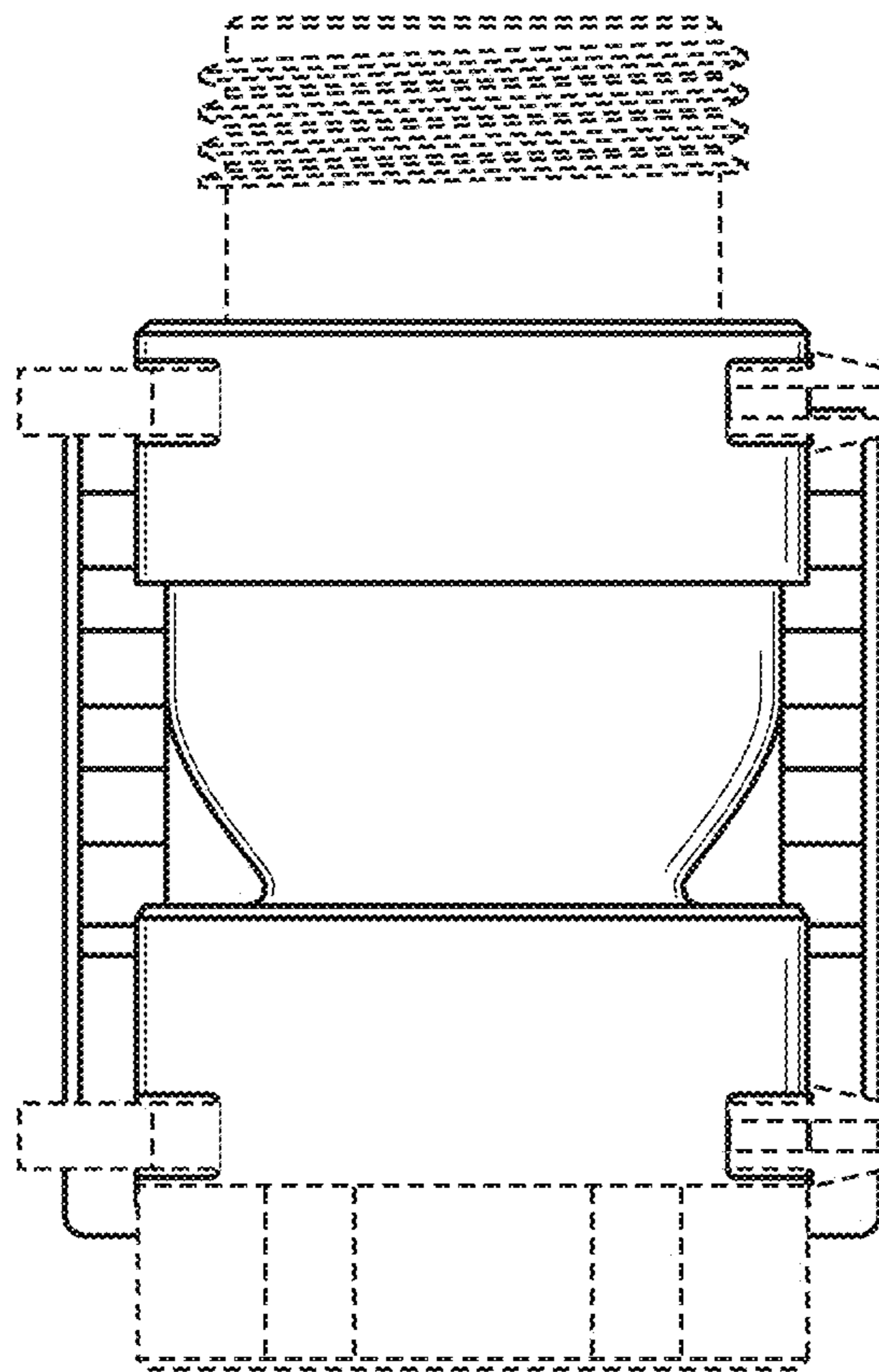


FIG. 6

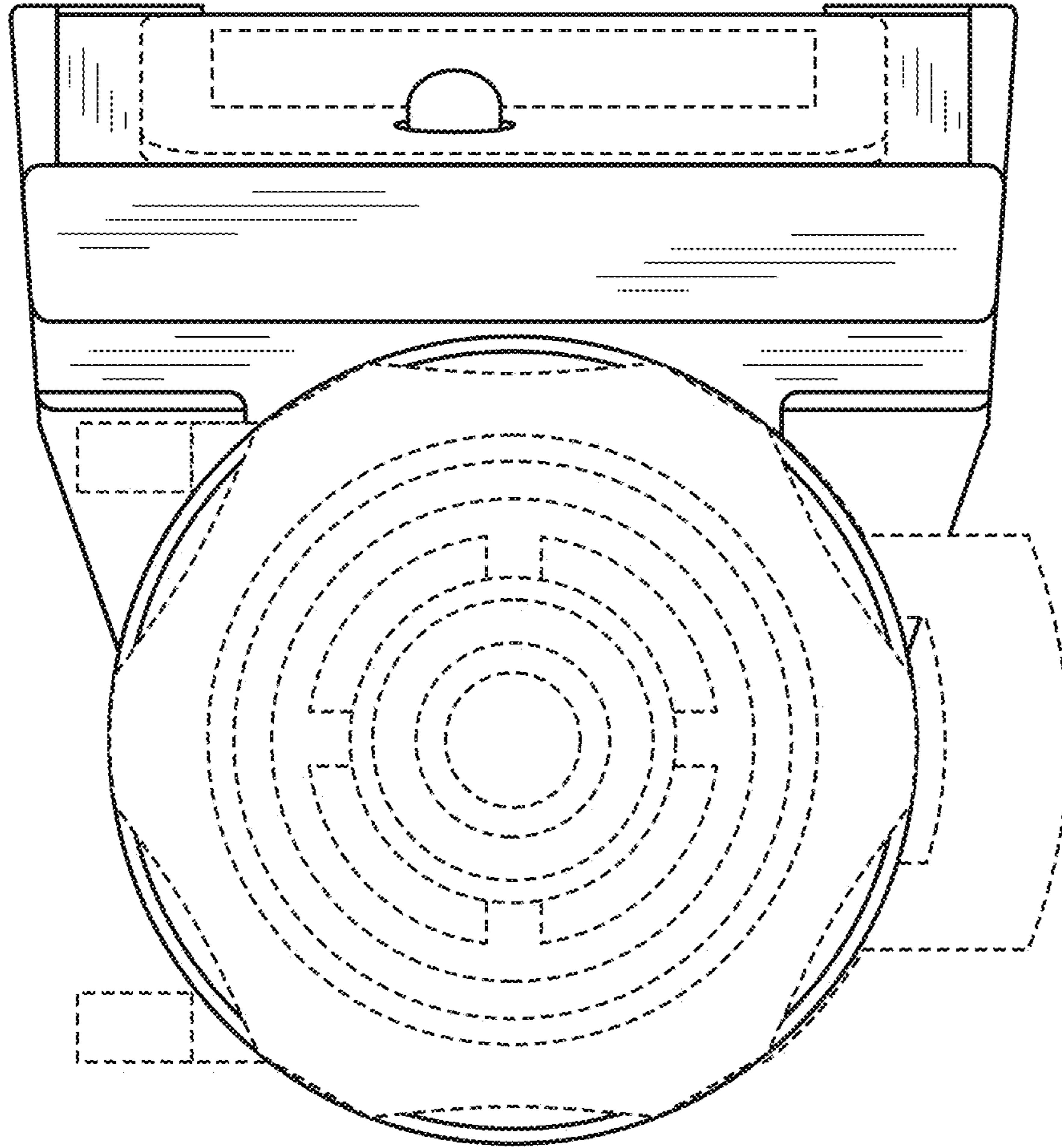


FIG. 7

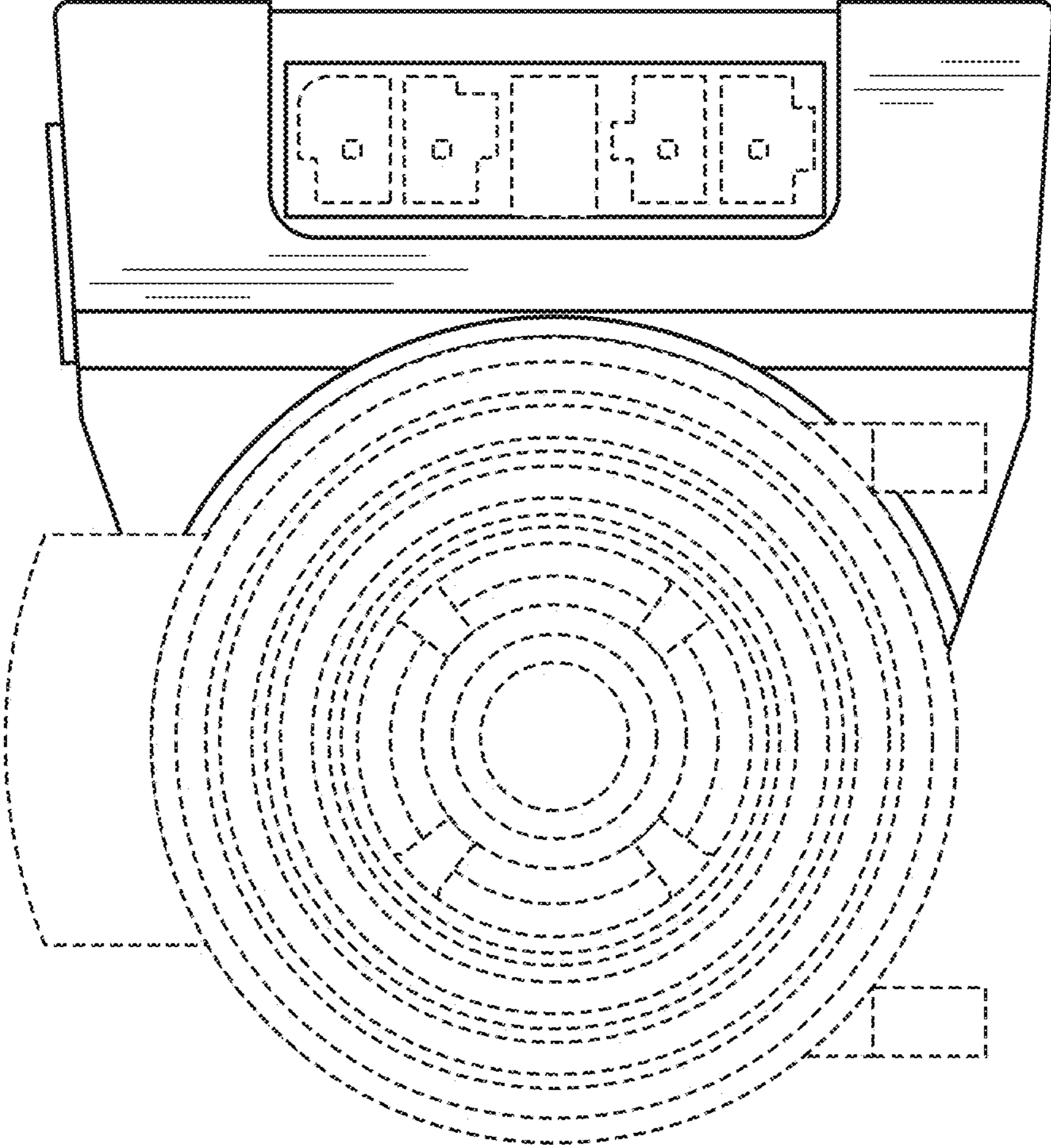


FIG. 8