



US00D706389S

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

(10) **Patent No.:** **US D706,389 S**  
(45) **Date of Patent:** **\*\* Jun. 3, 2014**

(54) **FUEL TANK ISOLATION VALVE**

(56) **References Cited**

(75) Inventors: **Raymond Bruce McLauchlan**,  
Macomb, MI (US); **Vaughn Kevin**  
**Mills**, Chelsea, MI (US); **Ronald Earl**  
**Sexton**, South Lyon, MI (US); **Steven**  
**Lee Ambrose**, Farmington Hills, MI  
(US); **Robert Dean Keller**, Davisburg,  
MI (US); **Daniel Lee Pifer**, Chelsea, MI  
(US)

U.S. PATENT DOCUMENTS

4,227,674 A \* 10/1980 Grant, Jr. .... 251/15  
4,231,542 A \* 11/1980 Grenier .... 251/15

(Continued)

FOREIGN PATENT DOCUMENTS

WO 0190611 A2 11/2001

OTHER PUBLICATIONS

(73) Assignee: **Eaton Corporation**, Cleveland, OH  
(US)

Yojiro Iriyama, Masahide Kobayashi, Takuji Matsubara< Yuusaku Nishimura, Ryosuke Nomura, and Takashi Ishikawa, "Design of a Fuel Vapor-containment System (FVS) to Meet Zero Evaporative Emissions Requirements in a Hybrid Electric Vehicle", SAE International, 2005-01-3825.

(\*\*) Term: **14 Years**

*Primary Examiner* — Cynthia Ramirez

(21) Appl. No.: **29/404,911**

(74) *Attorney, Agent, or Firm* — Quinn Law Group, PLLC

(22) Filed: **Oct. 26, 2011**

(57) **CLAIM**

The ornamental design for a fuel tank isolation valve, as shown and described.

**Related U.S. Application Data**

**DESCRIPTION**

(63) Continuation-in-part of application No. 13/011,676, filed on Jan. 21, 2011, now Pat. No. 8,573,255, which is a continuation-in-part of application No. 12/749,924, filed on Mar. 30, 2010, now Pat. No. 8,584,704.

FIG. 1 is a side view of a fuel tank isolation valve in accordance with the present teachings.

FIG. 2 is an opposite view of the fuel tank isolation valve of FIG. 1.

FIG. 3 is a top view of the fuel tank isolation valve of FIG. 1.

FIG. 4 is a bottom view of the fuel tank isolation valve of FIG. 1.

FIG. 5 is a front view of the fuel tank isolation valve of FIG. 1.

FIG. 6 is a rear view of the fuel tank isolation valve of FIG. 1.

FIG. 7 is a perspective view of the fuel tank isolation valve of FIG. 1; and,

FIG. 8 is another perspective view of the fuel tank isolation valve of FIG. 1.

The broken line showing portions of the fuel tank isolation valve form no part of the claimed design.

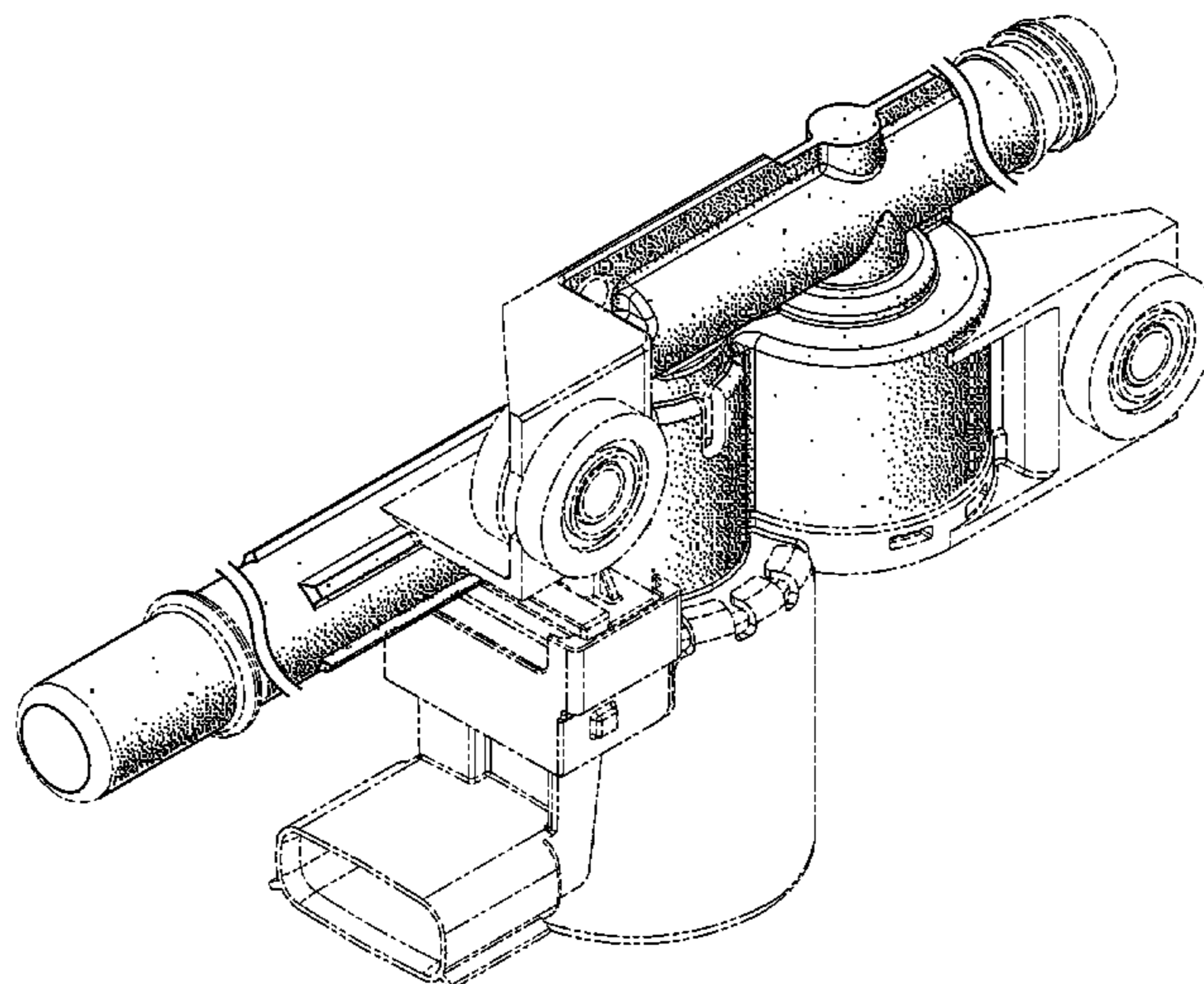
(51) **LOC (10) Cl.** ..... **23-01**

(52) **U.S. Cl.**  
USPC ..... **D23/233**

(58) **Field of Classification Search**  
USPC ..... D23/233–237, 244–249; 192/87.13,  
192/3.57, 87.18; 251/129.01, 137, 282,  
251/324–325, 321, 355, 129.08, 129.07;  
137/398, 545, 547, 549, 556.3, 553,  
137/556.6, 625.65, 625.25

See application file for complete search history.

**1 Claim, 6 Drawing Sheets**



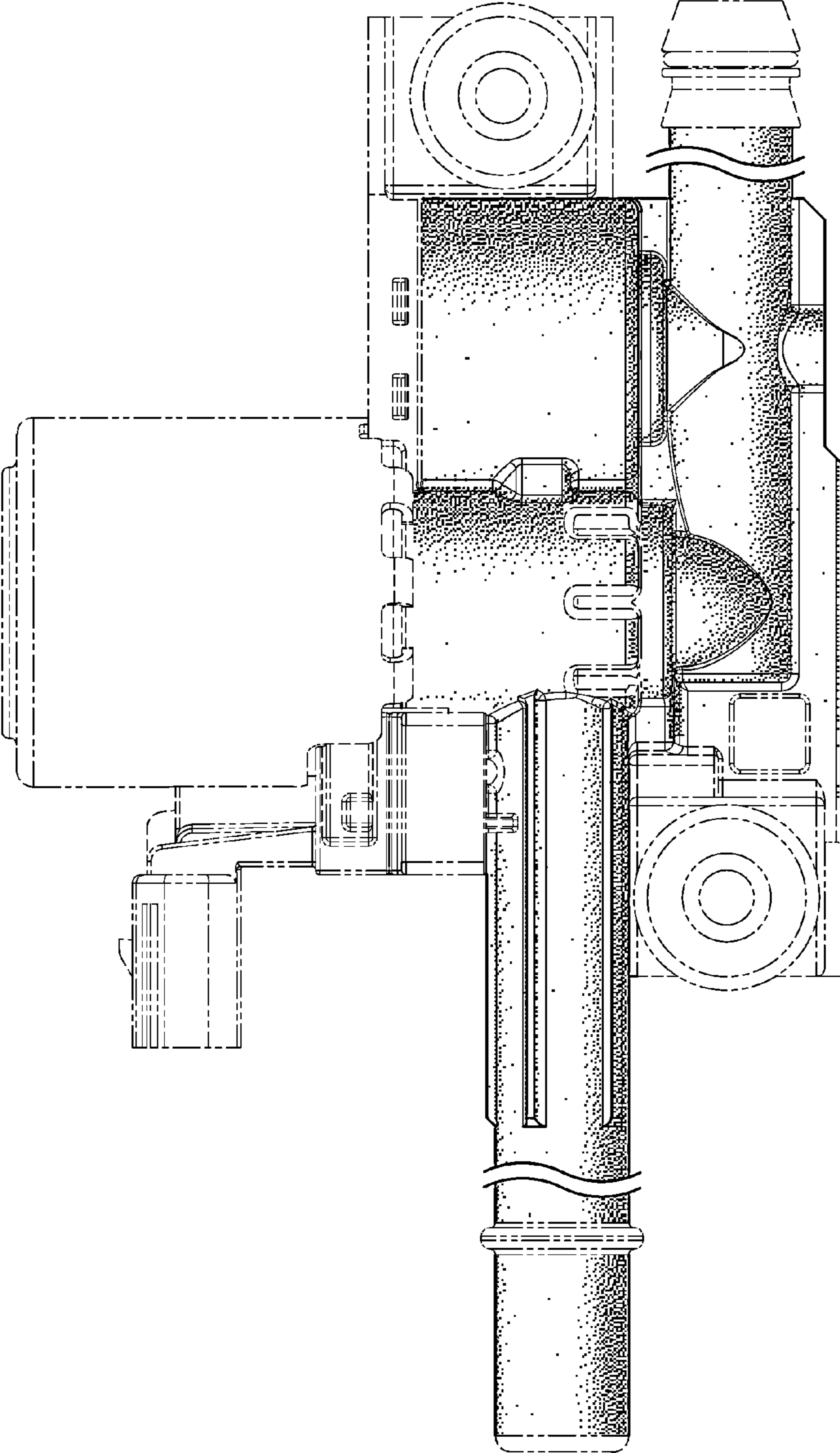
(56)

**References Cited**

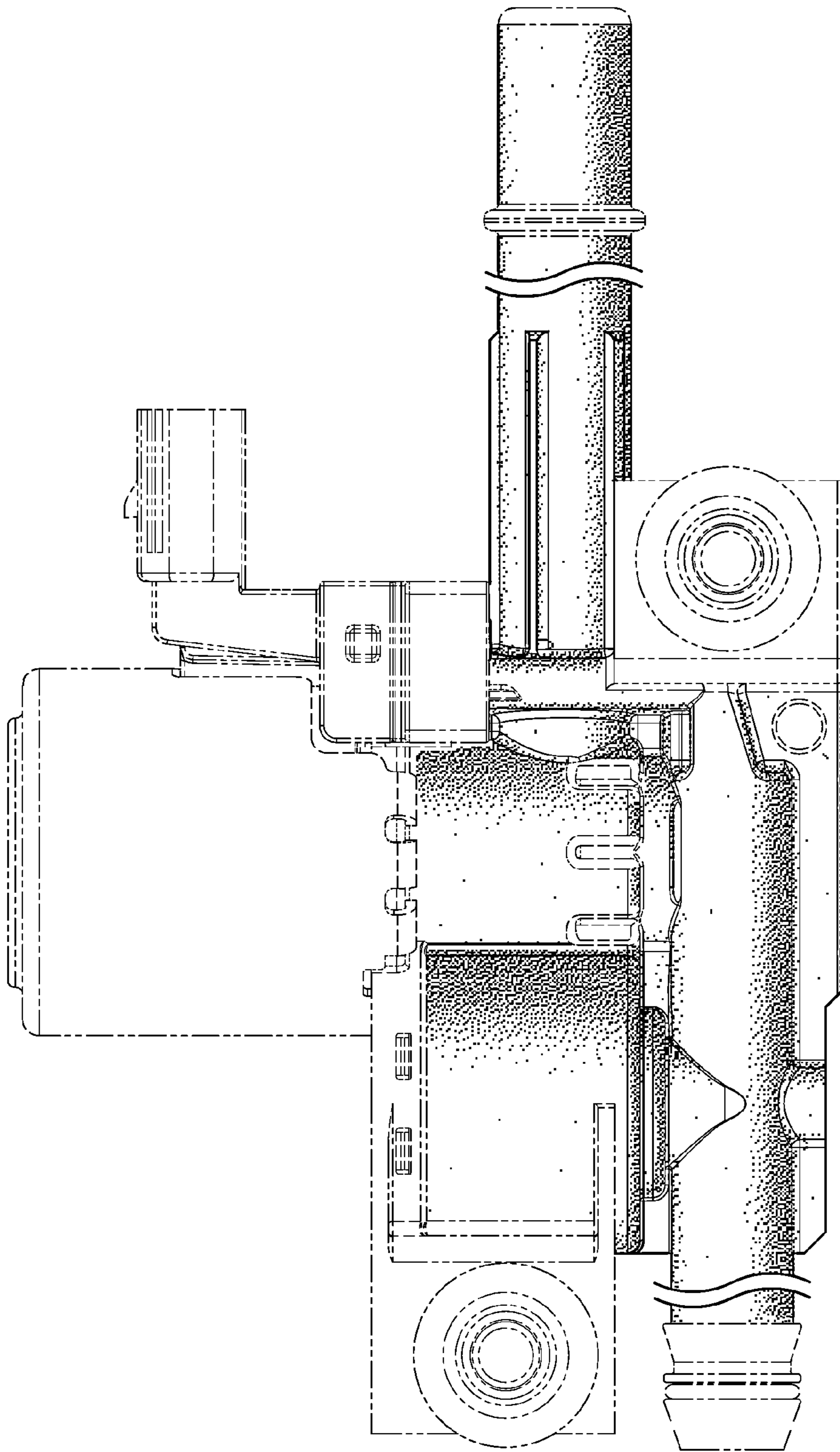
U.S. PATENT DOCUMENTS

4,685,156	A *	8/1987	Brabazon .....	4/676	6,526,951	B2	3/2003	Ishigaki et al.	
4,865,078	A *	9/1989	Ensign .....	137/636.1	D502,762	S *	3/2005	Kriegshauser .....	D23/233
D314,229	S *	1/1991	Nestich .....	D23/233	7,152,587	B2	12/2006	Suzuki	
5,211,151	A	5/1993	Nakajima et al.		7,267,113	B2	9/2007	Tsuge et al.	
5,218,995	A *	6/1993	Lee .....	137/557	7,270,310	B2	9/2007	Takakura	
5,406,975	A	4/1995	Nakamachi et al.		7,448,367	B1	11/2008	Reddy et al.	
5,605,177	A	2/1997	Ohashi et al.		D585,959	S *	2/2009	Caron et al. ....	D23/233
5,996,603	A *	12/1999	Dupler .....	137/1	D621,003	S *	8/2010	Gramegna et al. ....	D23/233
					D686,699	S *	7/2013	Evans et al. ....	D23/233
					2006/0207663	A1	9/2006	Tsuge	

\* cited by examiner

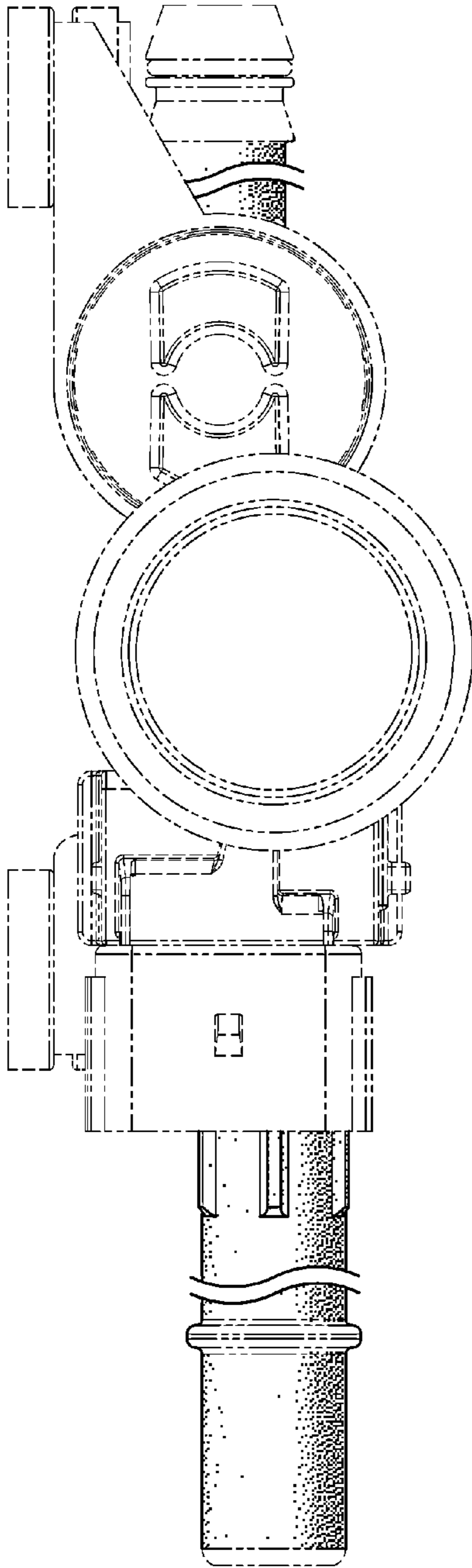


**FIG. 1**

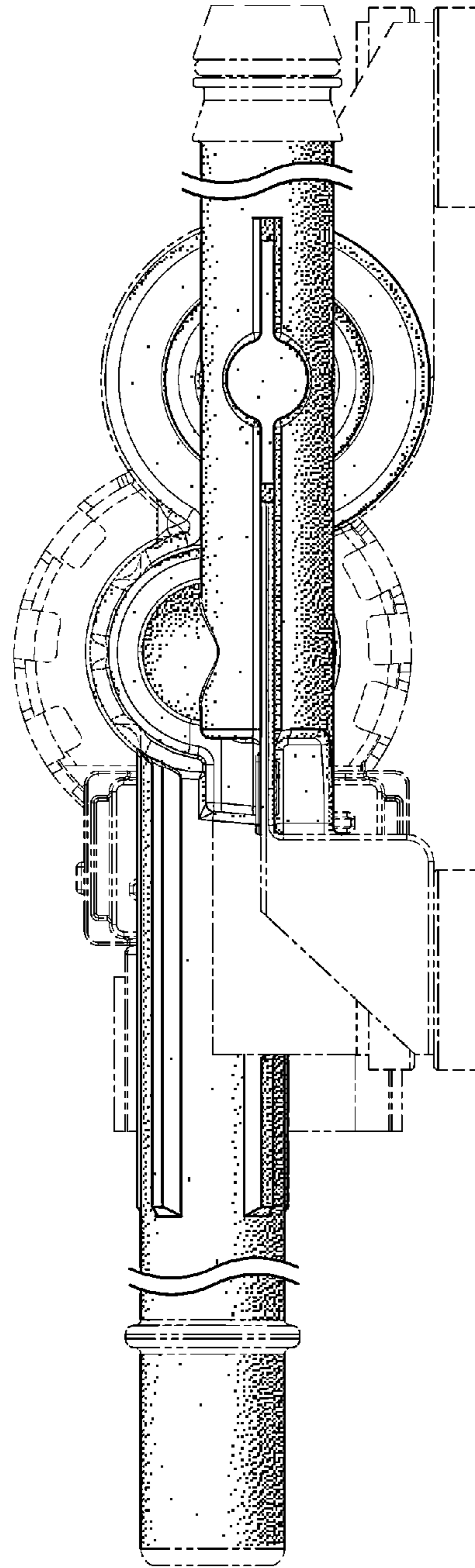


**FIG. 2**

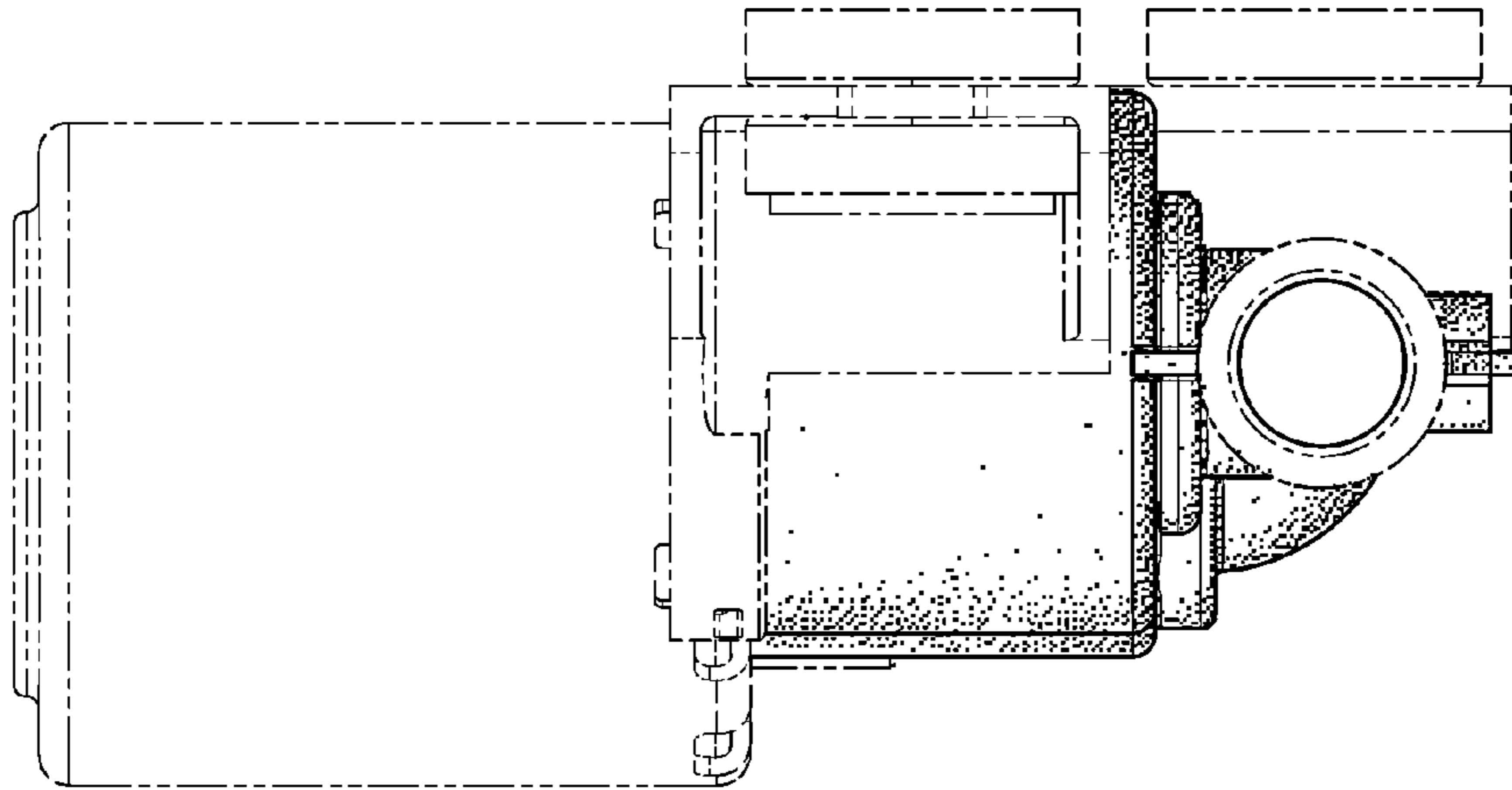




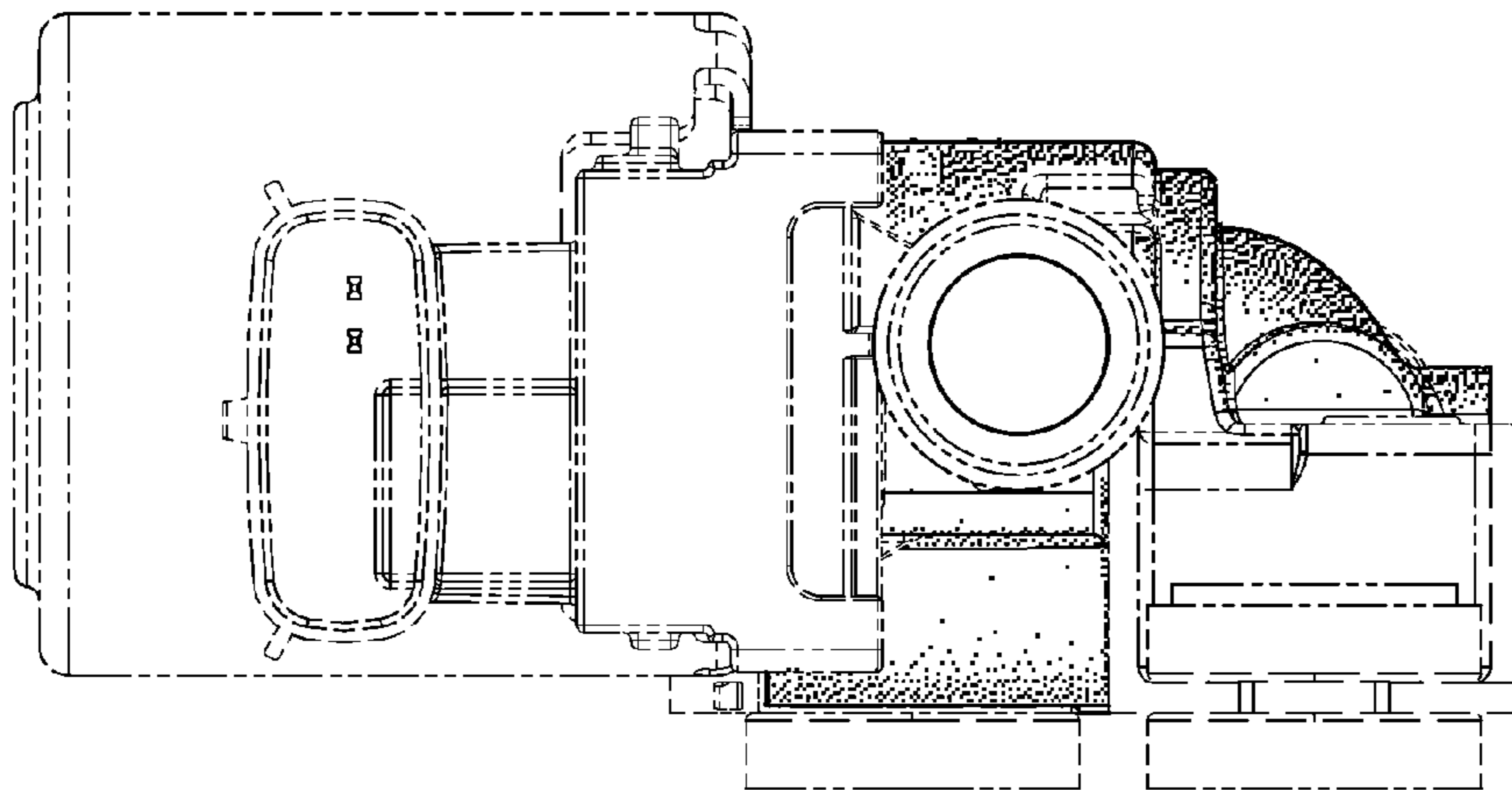
**FIG. 3**



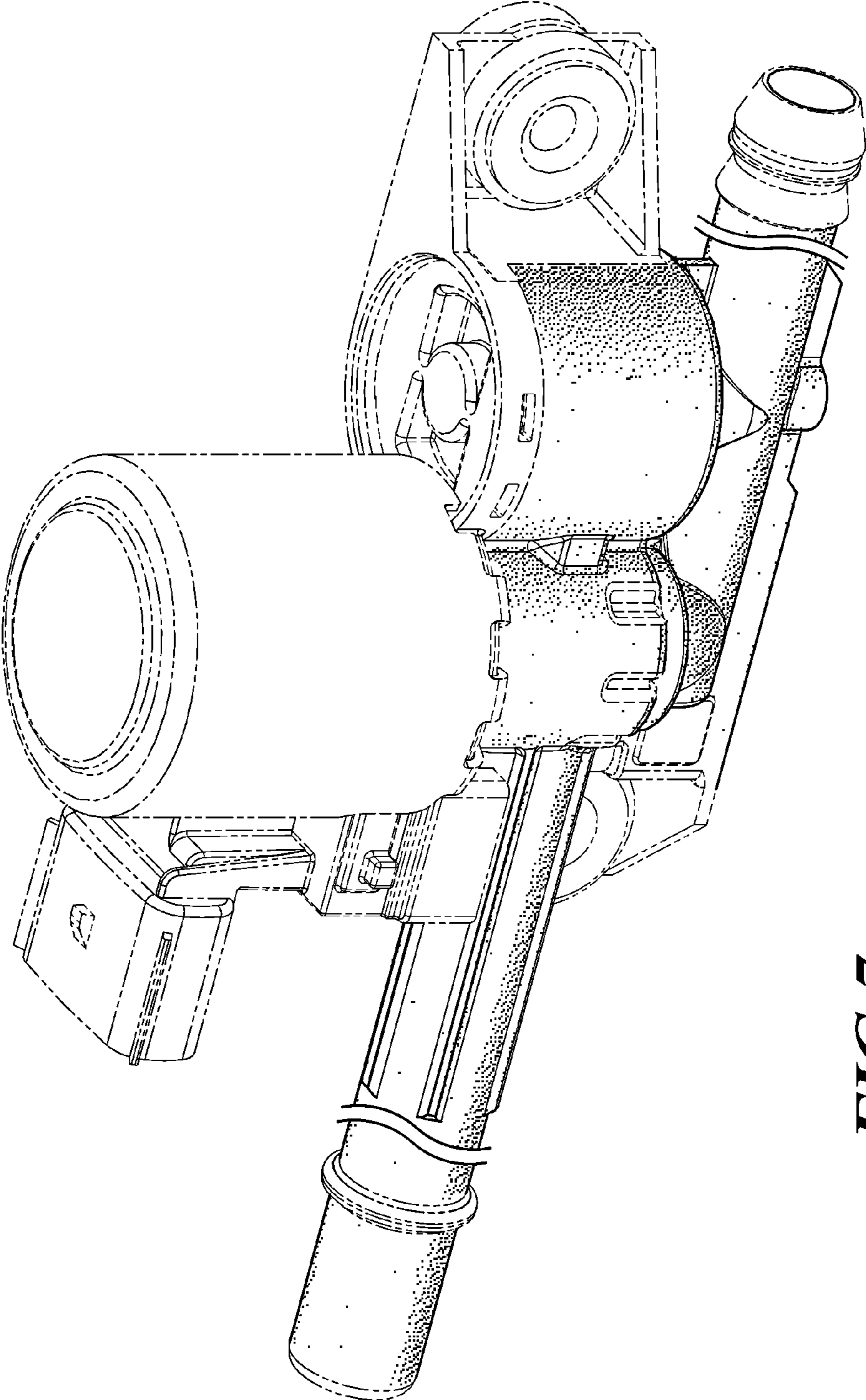
**FIG. 4**



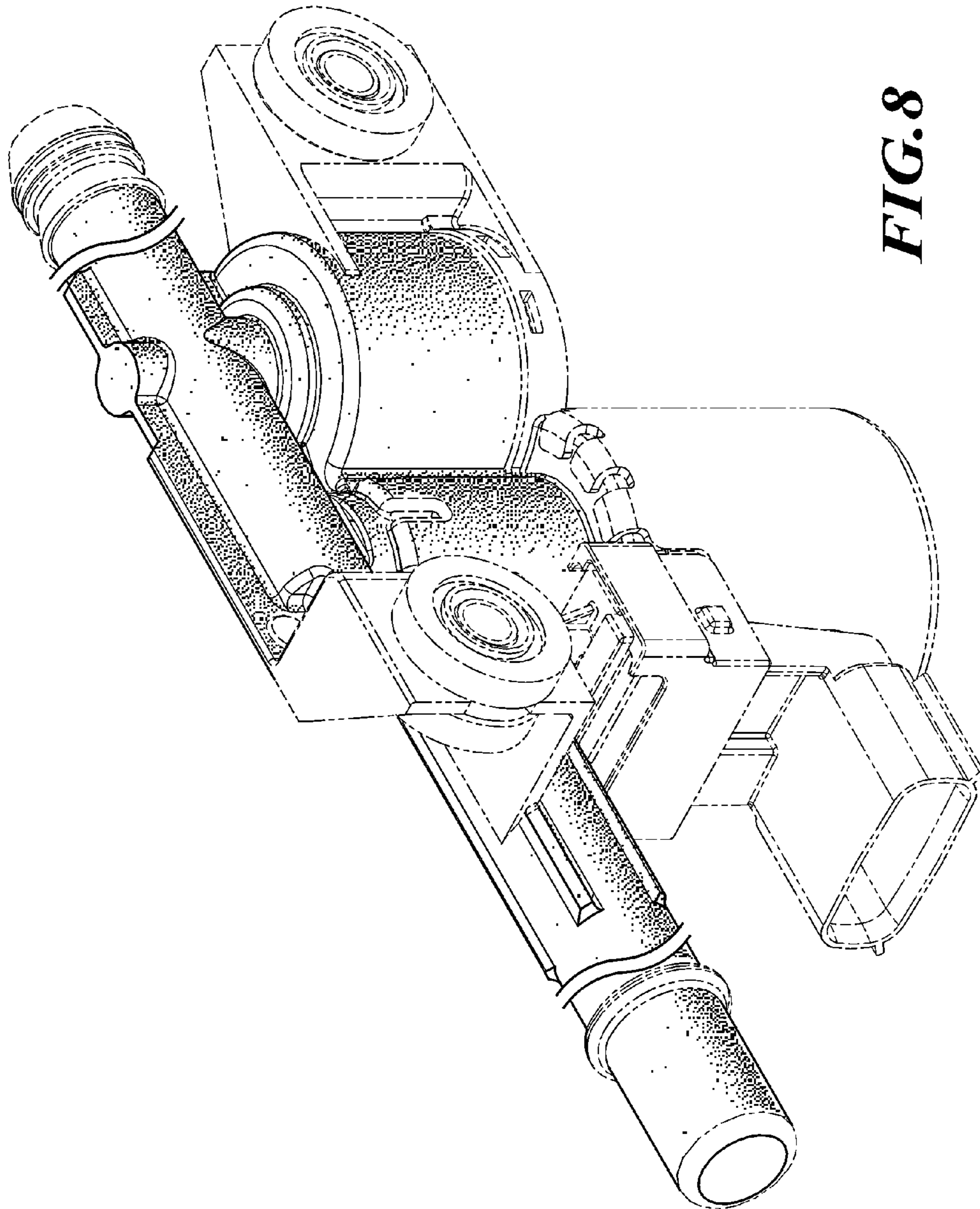
**FIG. 6**



**FIG. 5**



**FIG. 7**



**FIG. 8**