US00D933104S

(12) United States Design Patent

Ellisor et al.

(10) Patent No.: US D933,104 S
(45) Date of Patent: ** Oct. 12, 2021

(54) **FLUID END FOR A PUMPING SYSTEM**

(71) Applicant: **Vulcan Industrial Holdings, LLC**, Houston, TX (US)

(72) Inventors: **Kyle Matthew Ellisor**, Katy, TX (US); **Chance Ray Mullins**, Spring, TX (US); **Steven Newberg**, Houston, TX (US); **Jason David Smith**, Porter, TX (US)

(73) Assignee: **VULCAN INDUSTRIAL HOLDINGS, LLC**, Houston, TX (US)

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

(21) Appl. No.: **29/769,314**

(22) Filed: **Feb. 4, 2021**

(51) **LOC (13) Cl.** **15-04**

(52) **U.S. Cl.**
USPC **D15/21**; D15/7

(58) **Field of Classification Search**
USPC D15/5; D23/233, 237, 245, 259, 269, D23/235; D10/121; D12/218
CPC ... B29C 44/1271; B29C 44/086; B60T 17/04; F16H 61/30; F16H 61/0267; F15B 13/0817; F15B 13/0821; F15B 13/0839; F15B 13/0896; F16K 27/003; F16K 37/00; F04B 47/00; F04B 41/06; F04B 39/12; F04B 35/00; F04B 53/10; F04B 53/02; E21B 44/06
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D687,125	S *	7/2013	Hawes	D23/233
10,465,680	B1 *	11/2019	Guerra	F04B 53/162
D916,240	S *	4/2021	Nowell	D23/233
2006/0002806	A1 *	1/2006	Baxter	F04B 39/10 417/539
2011/0142701	A1 *	6/2011	Small	F04B 53/16 417/521
2014/0260954	A1 *	9/2014	Young	E21B 43/26 92/169.4
2015/0147194	A1 *	5/2015	Foote	F04B 53/16 417/53
2017/0218993	A1 *	8/2017	Freed	F04B 19/22
2018/0202434	A1 *	7/2018	Barnhouse, Jr.	F04B 19/22
2018/0354081	A1 *	12/2018	Kalyani	F04B 39/123
2019/0011051	A1 *	1/2019	Yeung	F04B 53/10
2019/0032685	A1 *	1/2019	Foster	F04B 1/053

(Continued)

OTHER PUBLICATIONS

Covert Manufacturing, Inc., "Fluid End Block: Covert Manufacturing", (site visited Jul. 30, 2021), covertmfg.com, URL:<http://www.covertmfg.com/our-capabilities/fluid-end-block/> (Year: 2021).*

(Continued)

Primary Examiner — Calvin E Vansant
Assistant Examiner — Mark T. Philipps
(74) *Attorney, Agent, or Firm* — Hogan Lovells US LLP

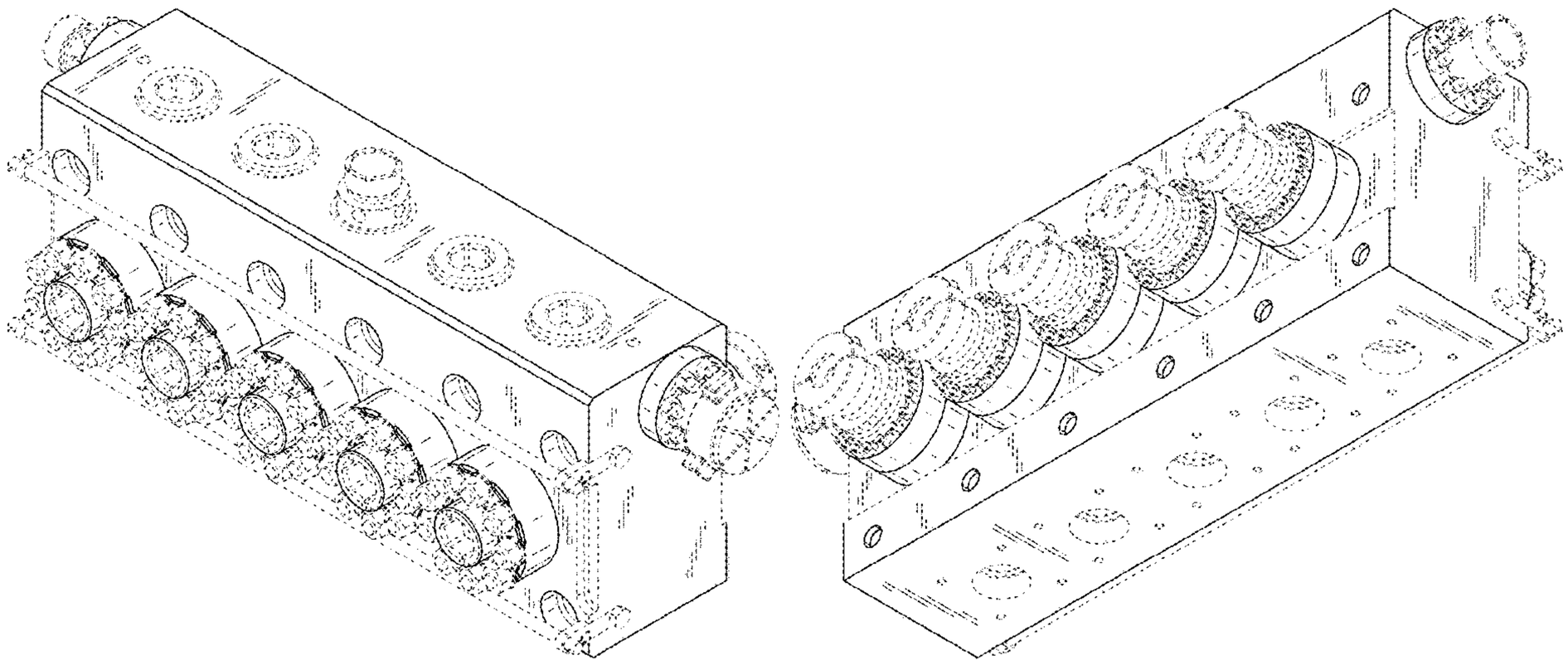
(57) **CLAIM**

The ornamental design for a fluid end for a pumping system, substantially as shown and described.

DESCRIPTION

FIG. **1** is a front perspective view of a fluid end;
FIG. **2** is a back perspective view of the fluid end;
FIG. **3** is a front view of the fluid end;
FIG. **4** is a back view of the fluid end;
FIG. **5** is a left side view of the fluid end;
FIG. **6** is a right side view of the fluid end;
FIG. **7** is a top view of the fluid end; and,
FIG. **8** is a bottom view of the fluid end.
The broken lines in the drawings depict portions of the fluid end for a pumping system that form no part of the claim.

1 Claim, 7 Drawing Sheets



(56) **References Cited**

U.S. PATENT DOCUMENTS

2019/0072089	A1*	3/2019	Buckley	F04B 1/0461
2019/0136842	A1*	5/2019	Nowell	F04B 53/16
2019/0145400	A1*	5/2019	Graham	F04B 1/0538 417/53
2019/0154033	A1*	5/2019	Brooks	F04B 53/1087
2019/0242373	A1*	8/2019	Wernig	F04B 53/16
2021/0010470	A1*	1/2021	Blume	F04B 1/0452
2021/0040836	A1*	2/2021	Baskin	E21B 4/003
2021/0215154	A1*	7/2021	Nowell	F04B 1/0408

OTHER PUBLICATIONS

Kerr Pumps, "the most advanced fluid ends", (site visited Aug. 5, 2021), Kerrpumps.com, URL:<http://kerrpumps.com/fluidends> (Year: 2021).*

Shandong Baorun, 2250 Triplex Plunger Pump Fluid End Exchangeable with Spm, (site visited Aug. 5, 2021), made-in -china.com, URL:<https://sdbaorun.en.made-in-china.com/product/wNixlDXYrshL/China-2250-Triplex-Plunger-Pump-Fluid-End-Exchangeable-with-Spm.html> (Year: 2021).*

* cited by examiner

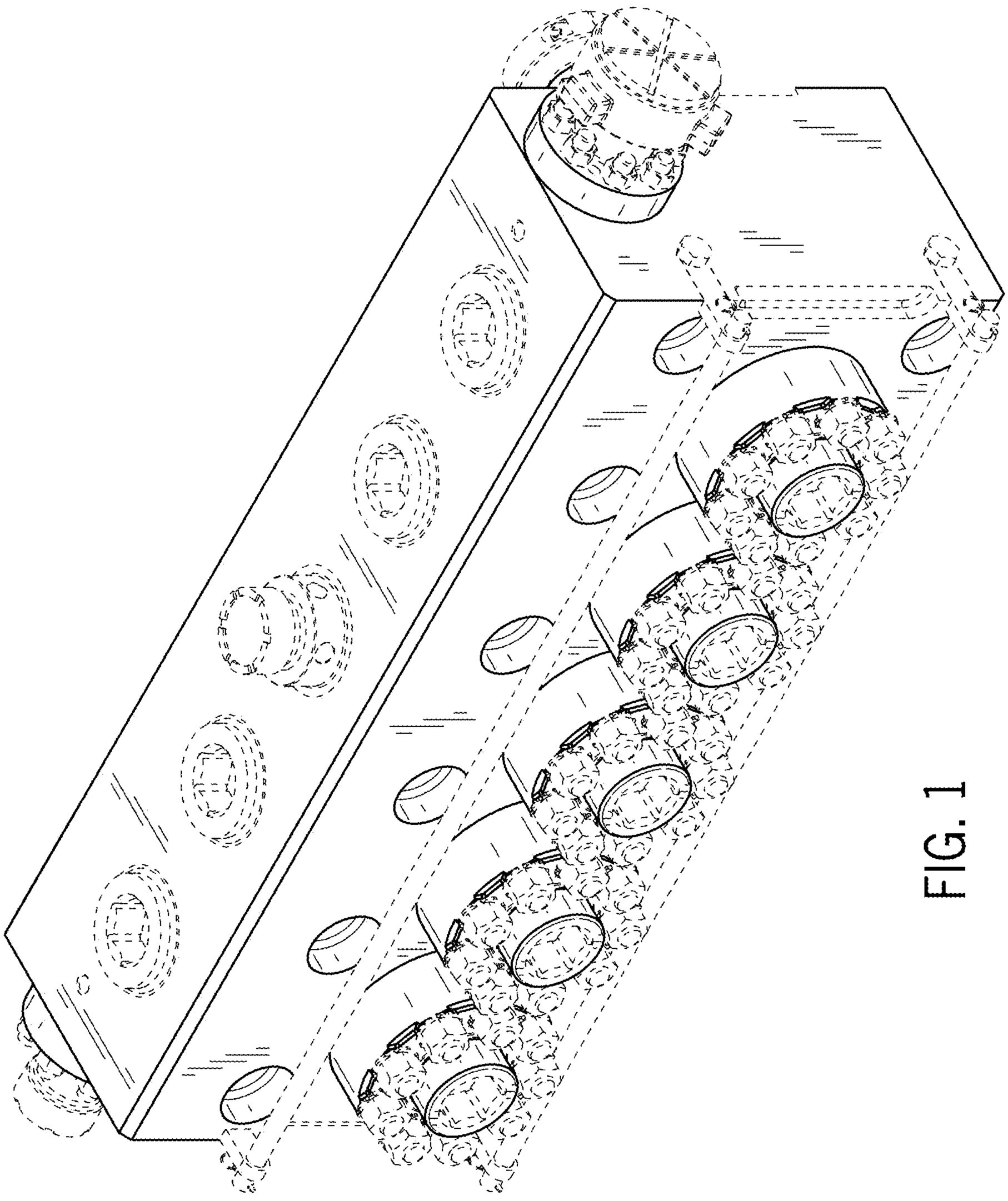


FIG. 1

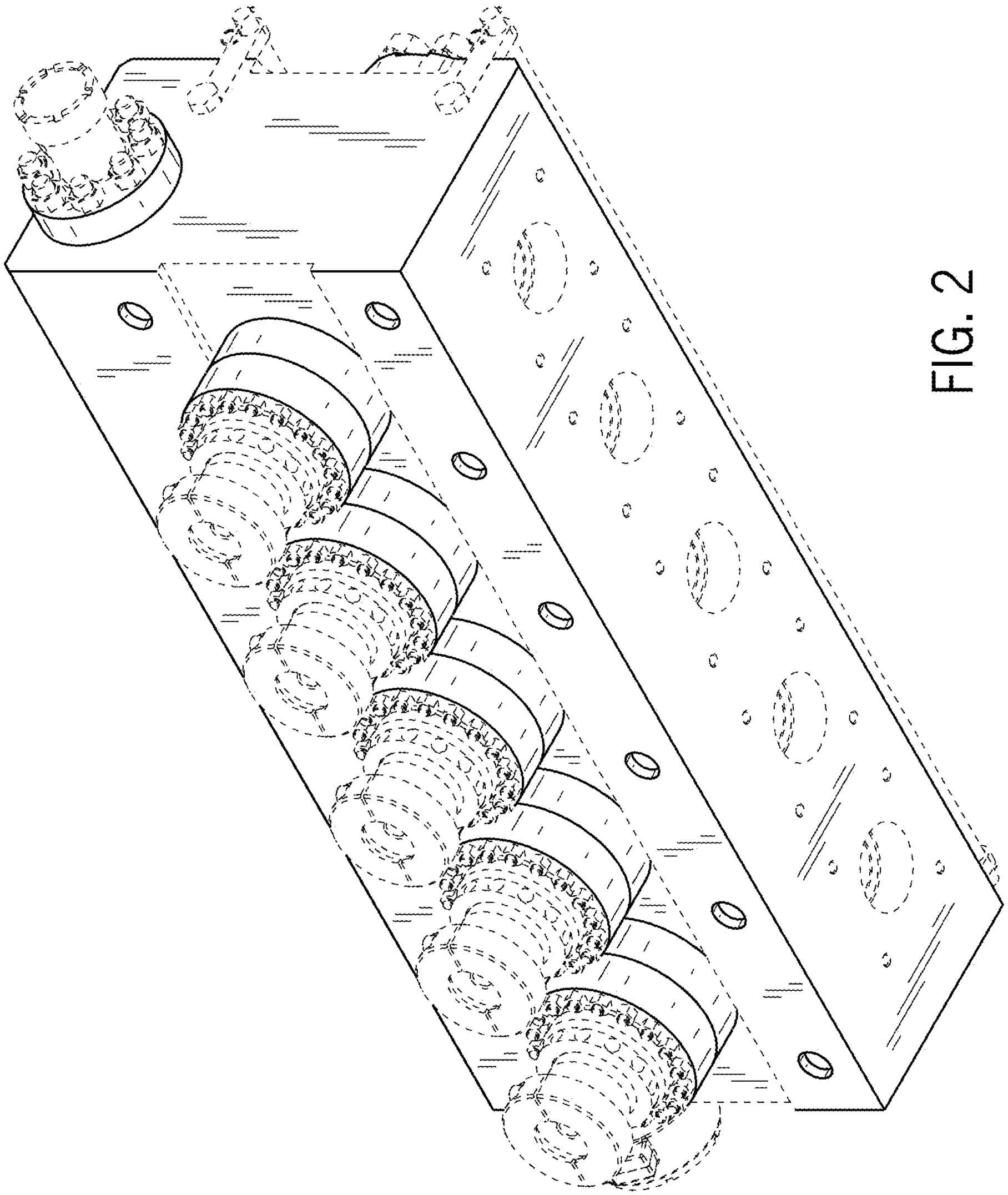


FIG. 2

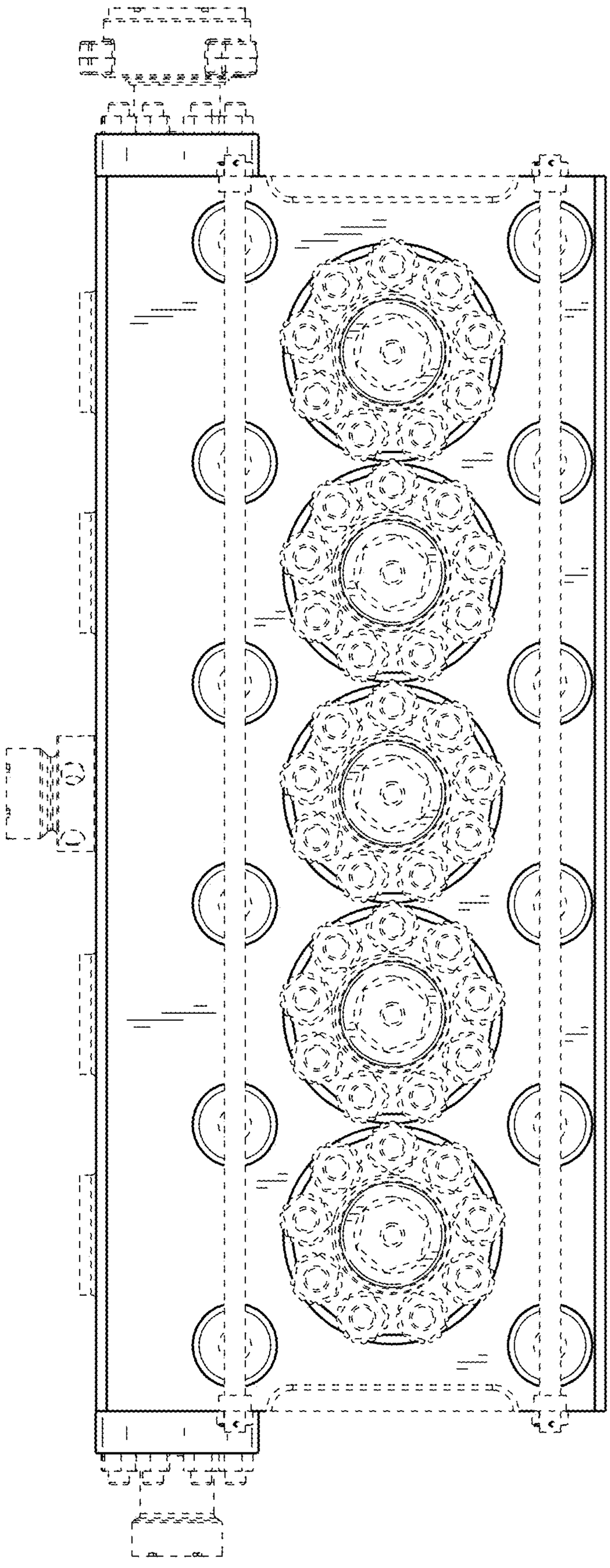


FIG. 3

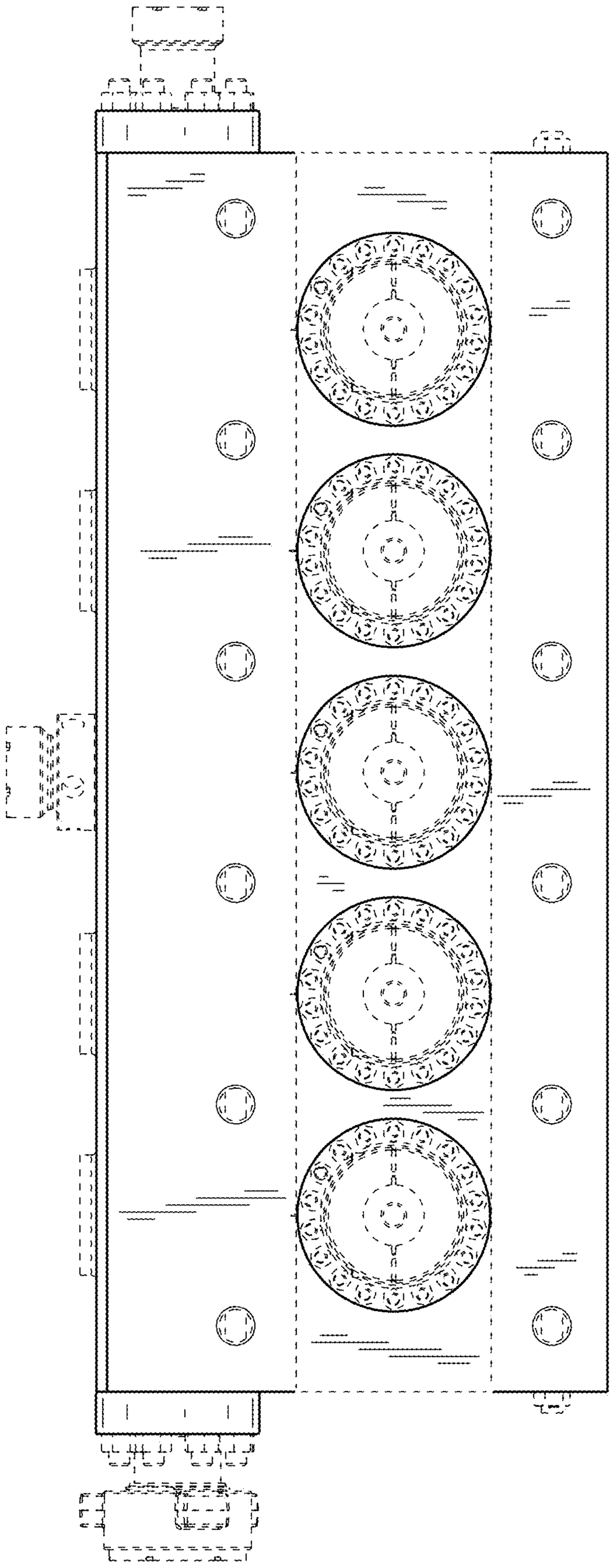


FIG. 4

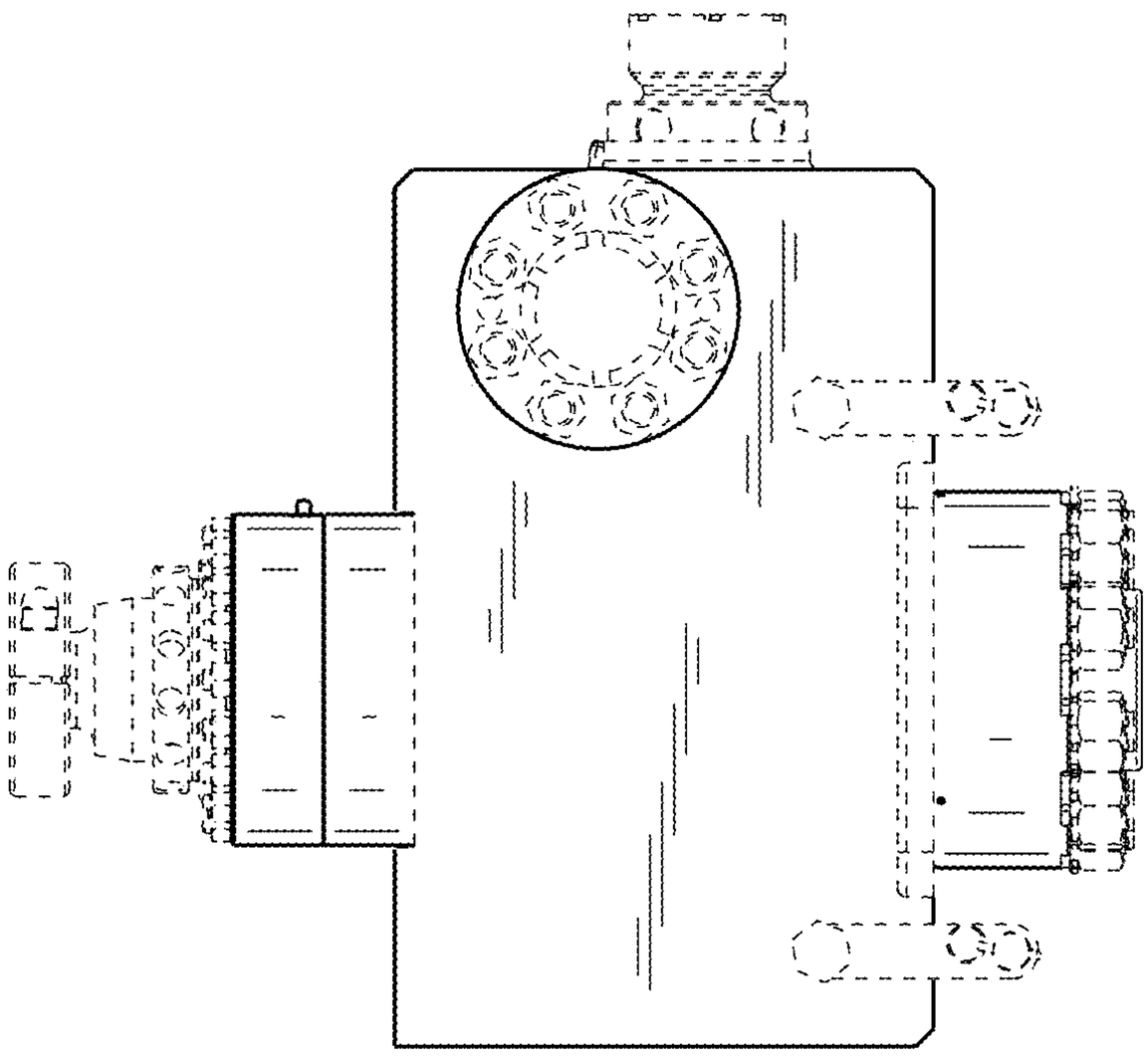


FIG. 5

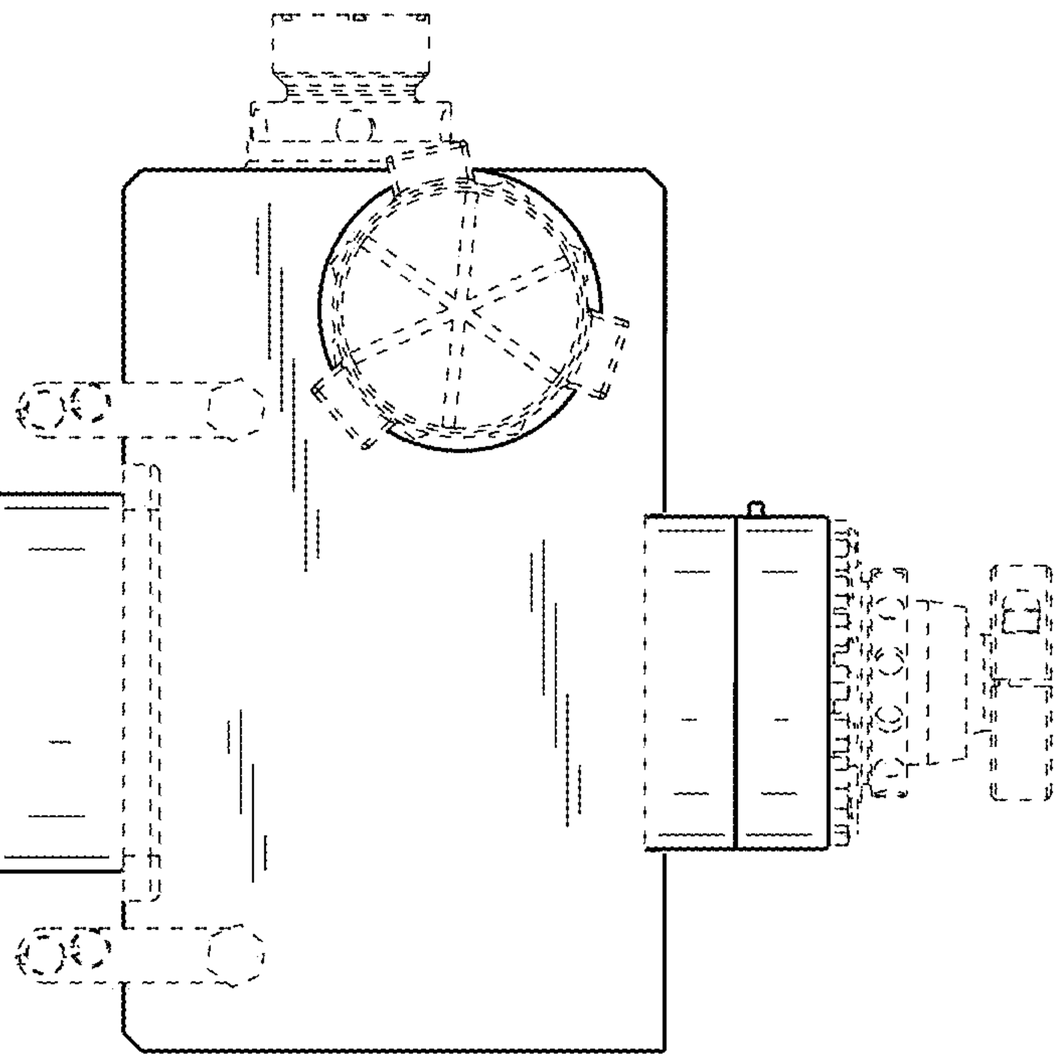


FIG. 6

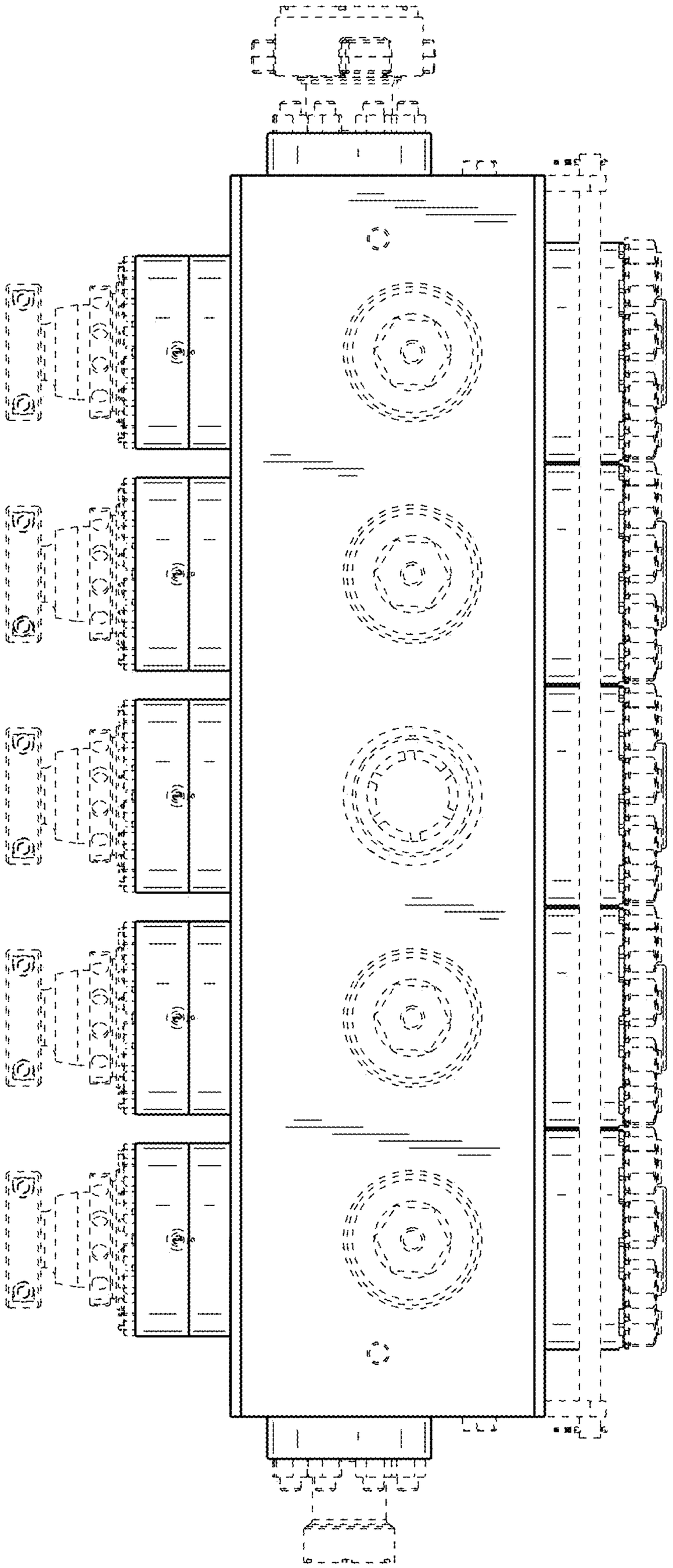


FIG. 7

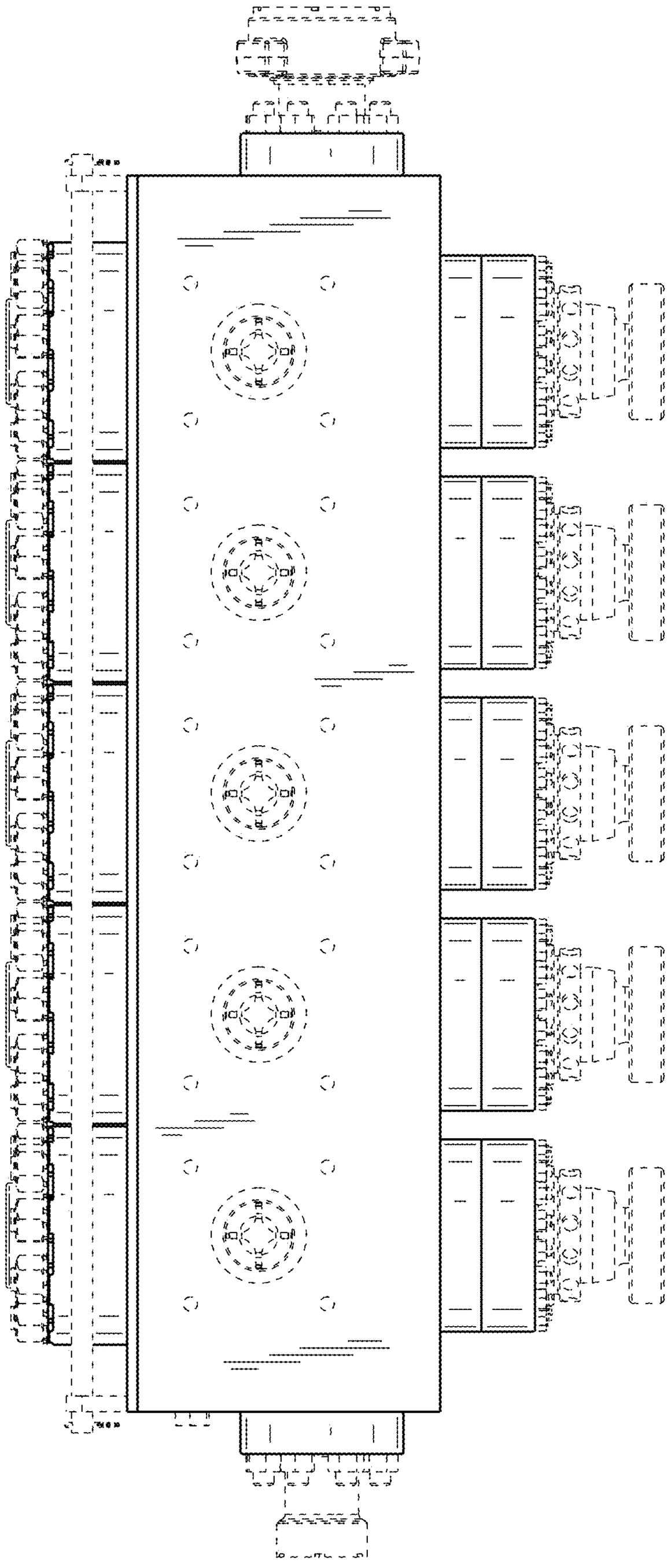


FIG. 8