



US00D820780S

(12) **United States Design Patent** (10) **Patent No.:** **US D820,780 S**
Desjardins et al. (45) **Date of Patent:** **** Jun. 19, 2018**

(54) **SINGLE FLOW ION EXCHANGE DEVICE**

(56) **References Cited**

(71) Applicant: **MANN + HUMMEL GMBH**,
Ludwigsburg (DE)
(72) Inventors: **Michael Desjardins**, Willow Springs,
NC (US); **Stuart Miller**, Clayton, NC
(US)
(73) Assignee: **MANN + HUMMEL GmbH**,
Ludwigsburg (DE)
(**) Term: **15 Years**
(21) Appl. No.: **29/554,529**
(22) Filed: **Feb. 12, 2016**

U.S. PATENT DOCUMENTS

D202,894 S *	11/1965	Carr	417/49
D351,337 S *	10/1994	Bonnema	D27/141
D462,050 S *	8/2002	Smith	D13/101
D539,734 S *	4/2007	Brady	D13/110
D615,488 S *	5/2010	Chen	D13/101
D653,760 S *	2/2012	Johnson	D24/164
D680,059 S *	4/2013	Rosenzweig	D13/101
D702,628 S *	4/2014	Williams	D13/101
D716,427 S *	10/2014	Lim	D23/364
2009/0038315 A1 *	2/2009	Johnson	H01M 14/00 60/783
2010/0147606 A1 *	6/2010	Kalenborn	B60K 6/24 180/65.21
2016/0197363 A1 *	7/2016	Na	H01M 8/04044 210/86

* cited by examiner

Primary Examiner — Derrick E Holland
(74) *Attorney, Agent, or Firm* — James Hasselbeck

(57) **CLAIM**

We claim the ornamental design for a single flow ion exchange device, as shown and described.

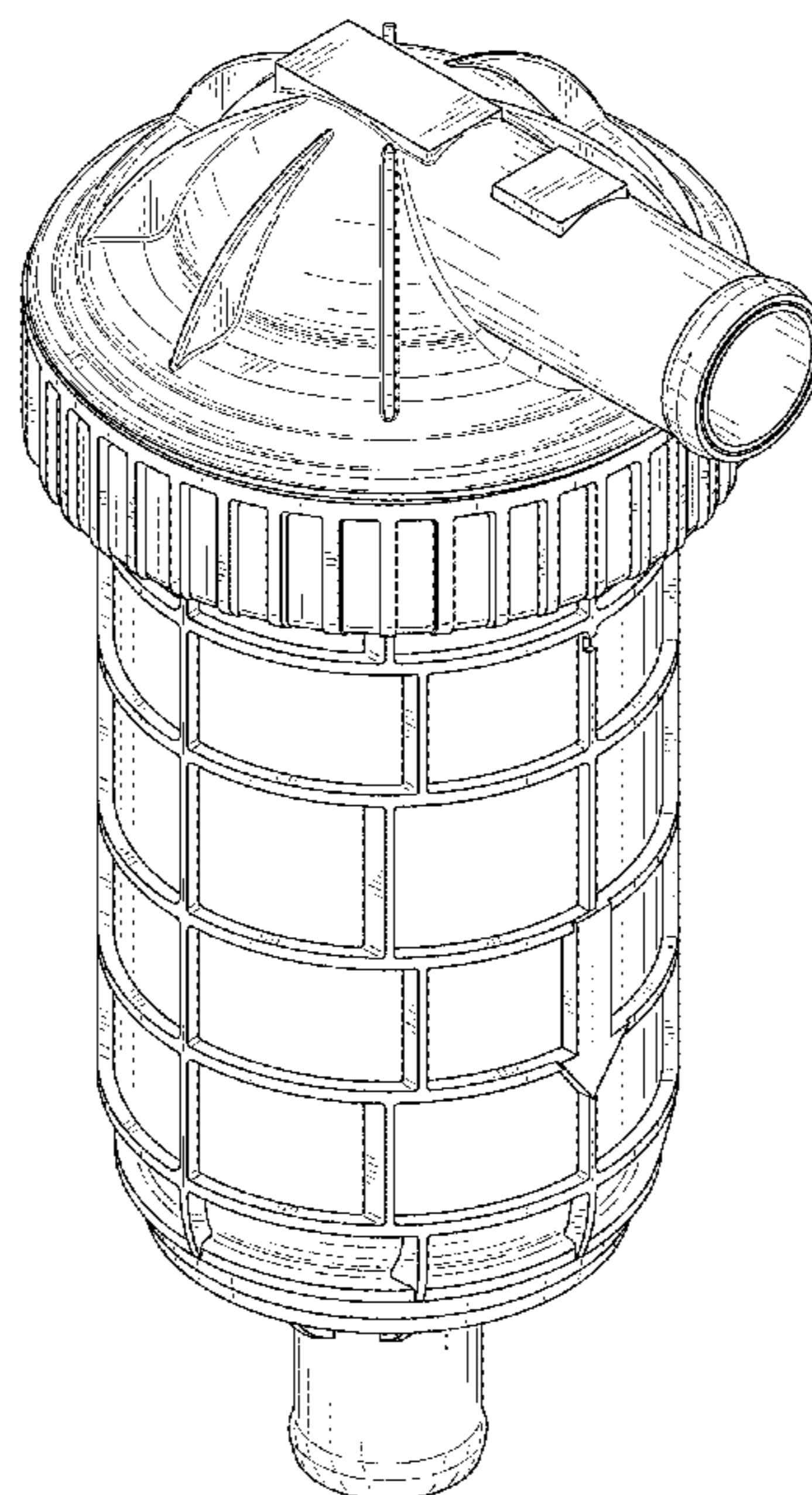
DESCRIPTION

FIG. 1 is a perspective view of a single flow ion exchange device showing our new design;
FIG. 2 is a front elevational view thereof;
FIG. 3 is a rear elevational view thereof;
FIG. 4 is a right side elevational view thereof;
FIG. 5 is a left side elevational view thereof;
FIG. 6 is a top plan view thereof;
FIG. 7 is a bottom plan view thereof; and,
FIG. 8 is a bottom-front perspective view thereof.
The broken lines shown represent unclaimed subject matter and form no part of the claimed design.

Related U.S. Application Data

(63) Continuation of application No. 29/536,146, filed on Aug. 13, 2015, now Pat. No. Des. 799,418.
(51) **LOC (11) Cl.** **13-02**
(52) **U.S. Cl.**
USPC **D13/101**
(58) **Field of Classification Search**
USPC D13/101, 118, 122, 133, 184, 199;
356/432, 436, 437; 422/28, 37, 129, 139,
422/140, 141, 145, 236; 423/477, 478;
376/220, 228, 230, 347
CPC H01M 8/02; H01M 8/04; H01M 8/1007;
H01M 8/04014; H01M 8/04044; H01M
8/04089; H01M 8/04201; H01M 8/04932;
H01M 2250/20; B01J 47/14; Y02T 90/32
See application file for complete search history.

1 Claim, 7 Drawing Sheets



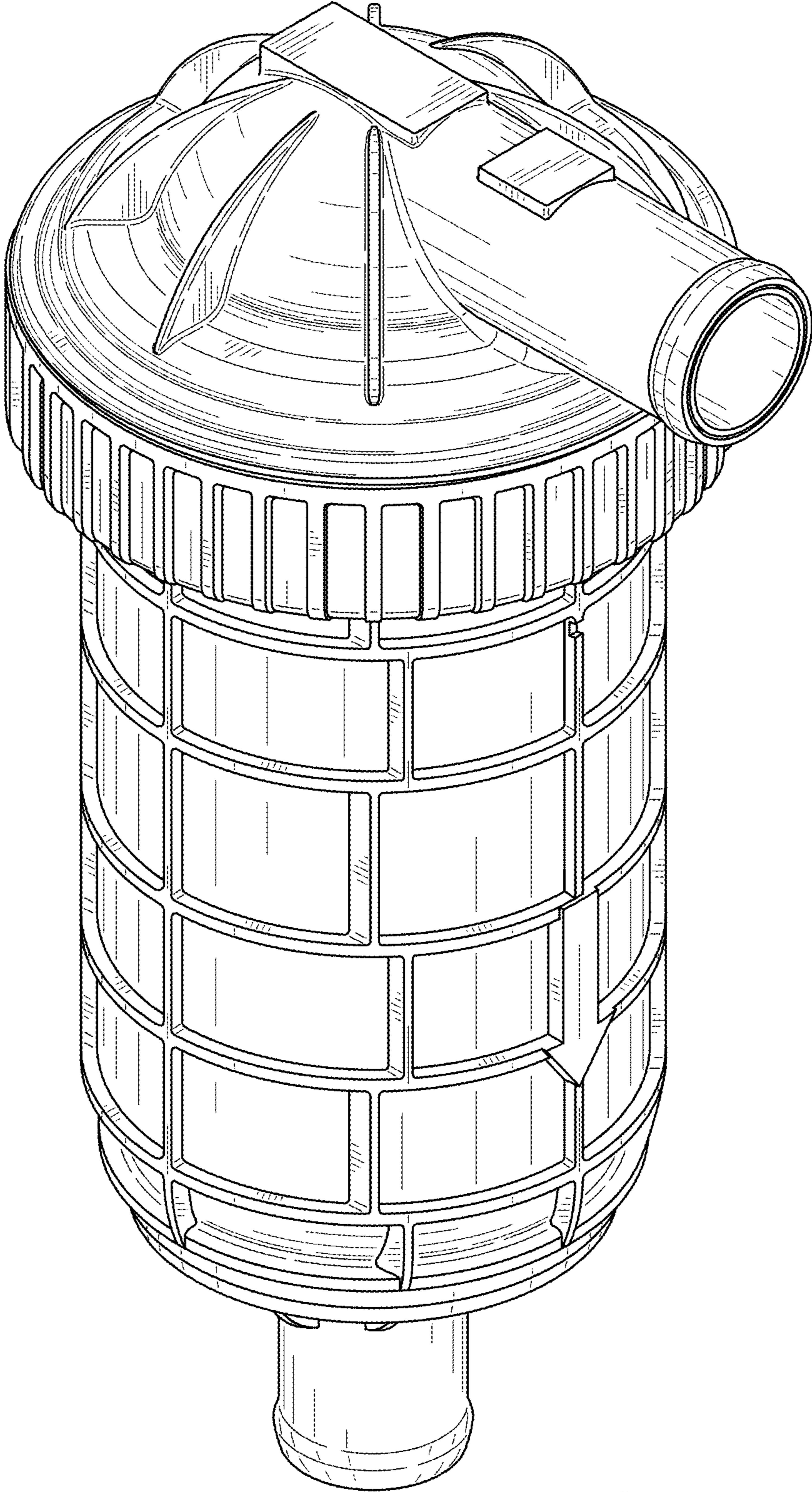


FIG. 1

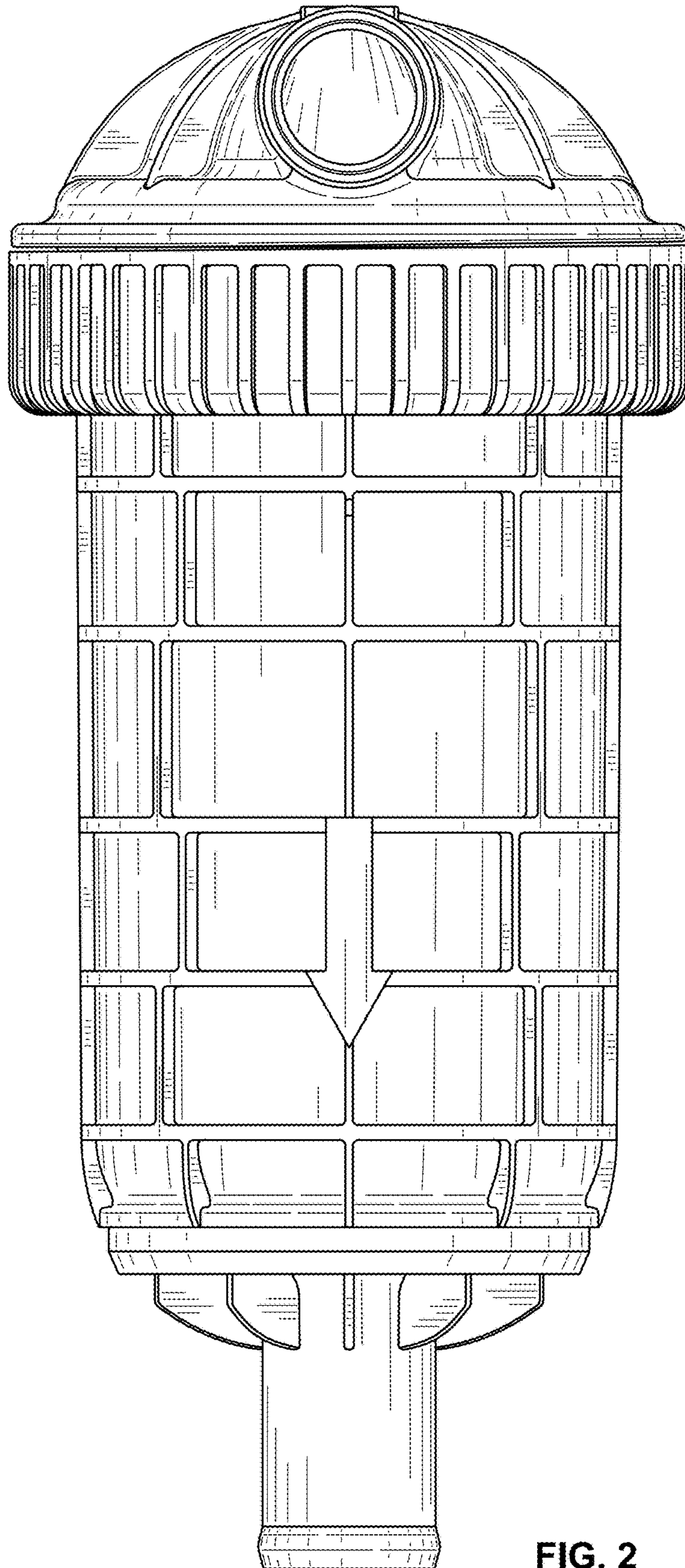


FIG. 2

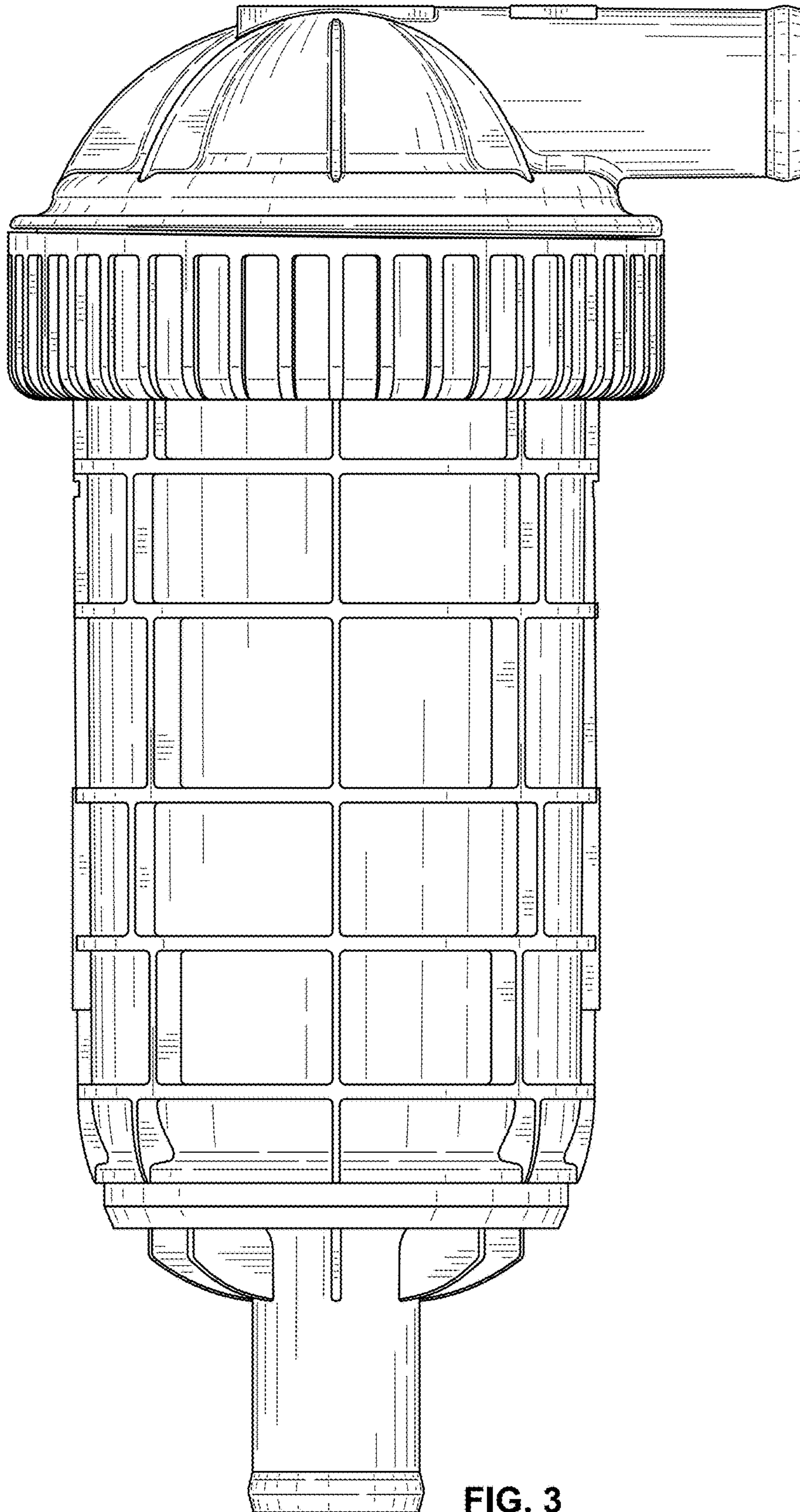


FIG. 3

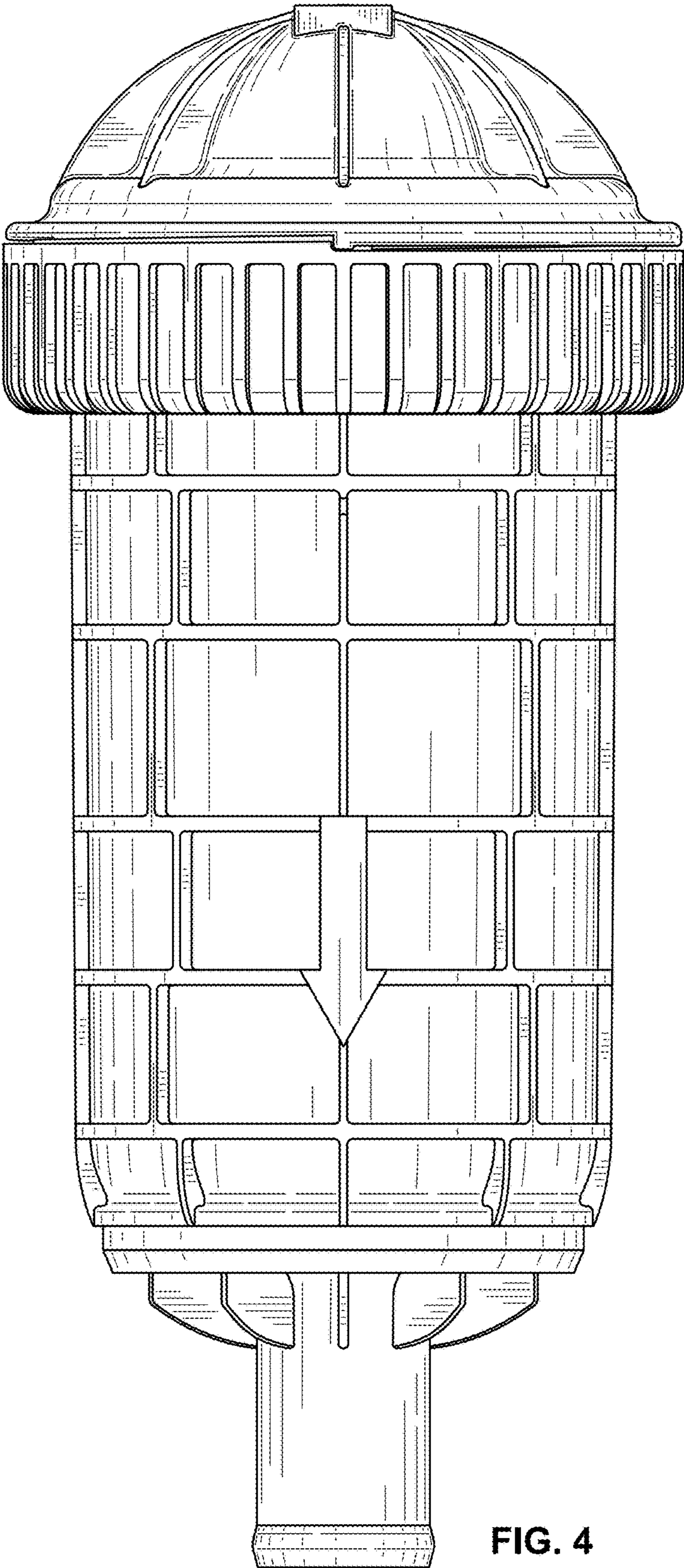


FIG. 4

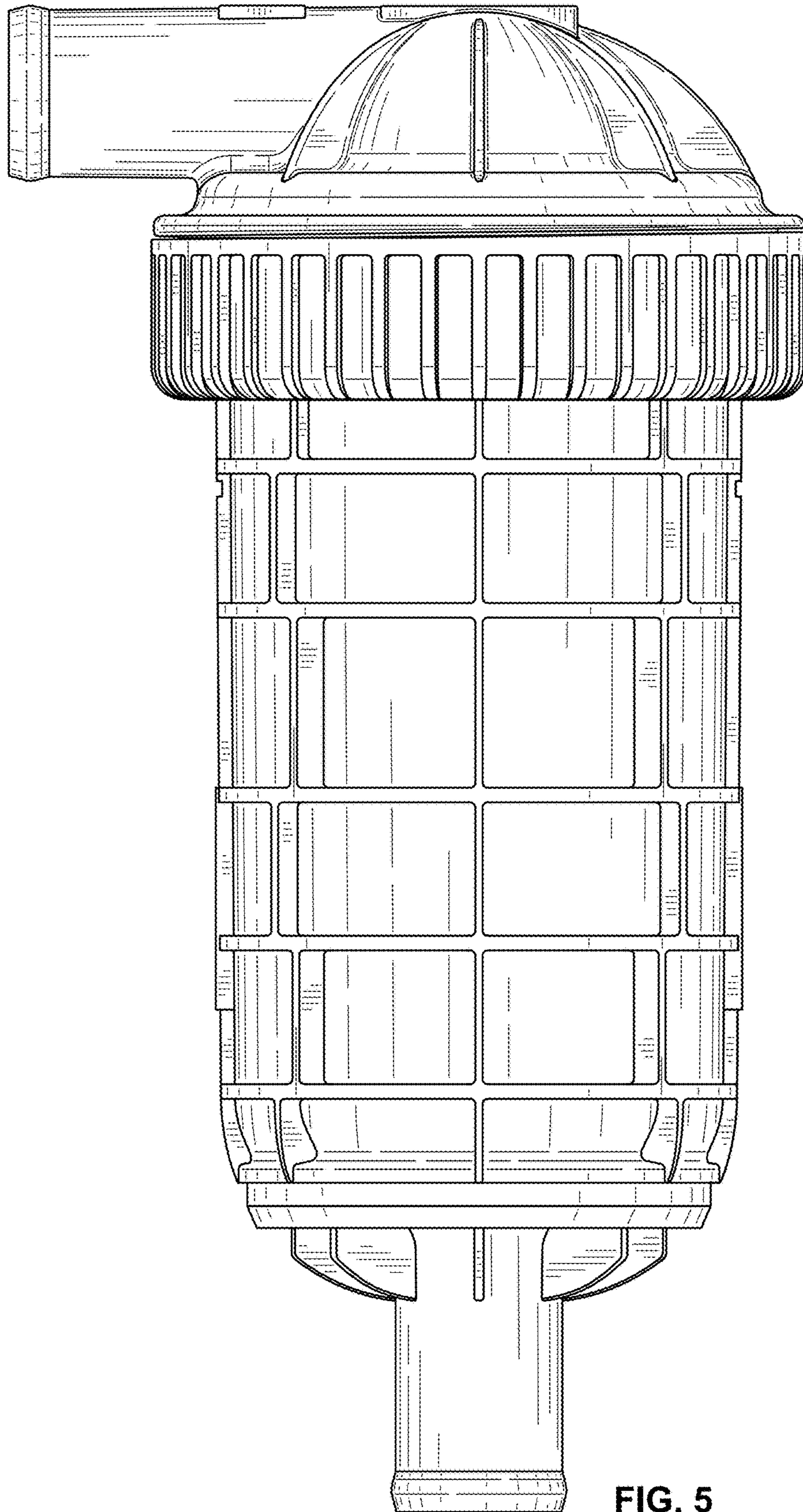


FIG. 5

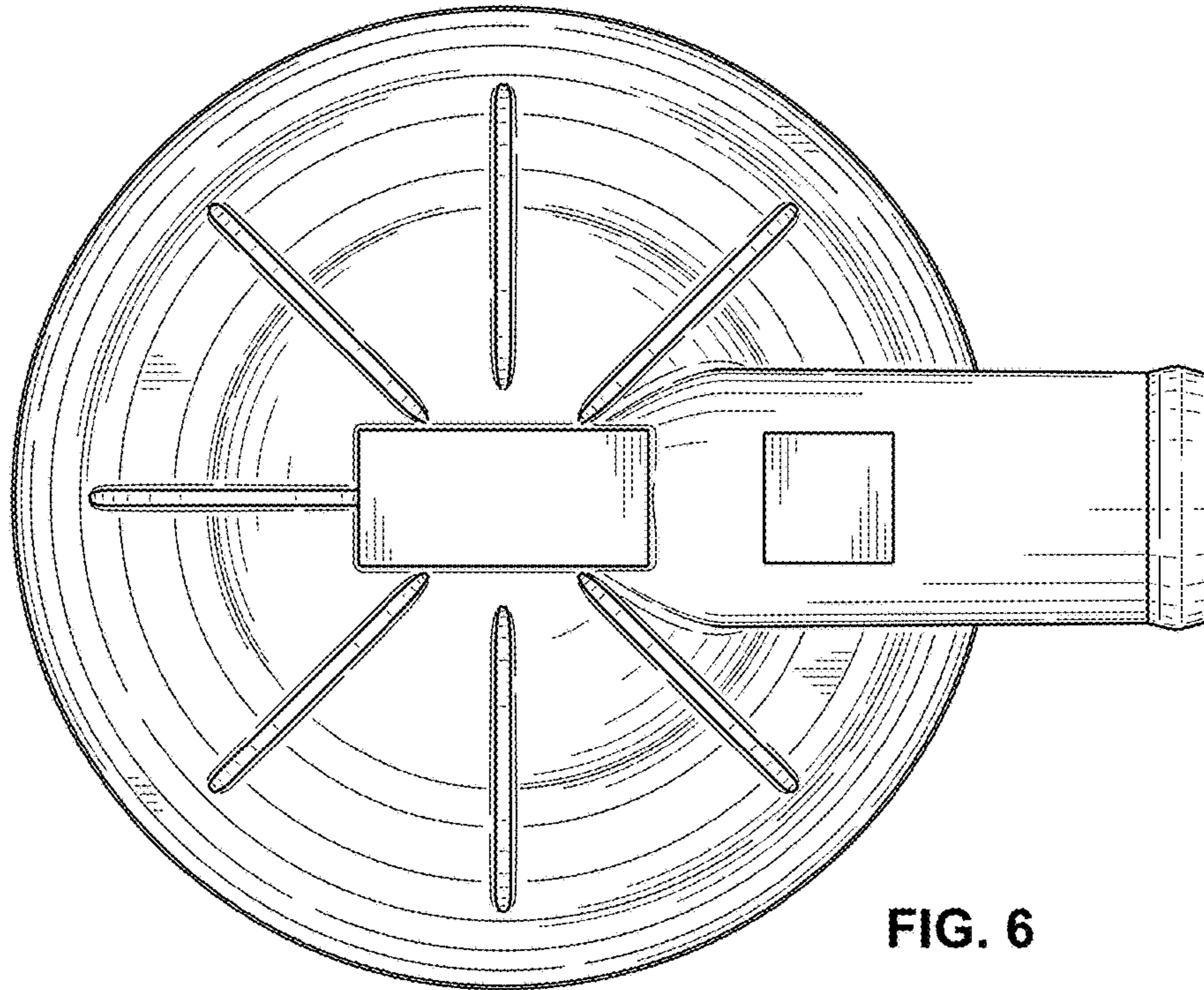


FIG. 6

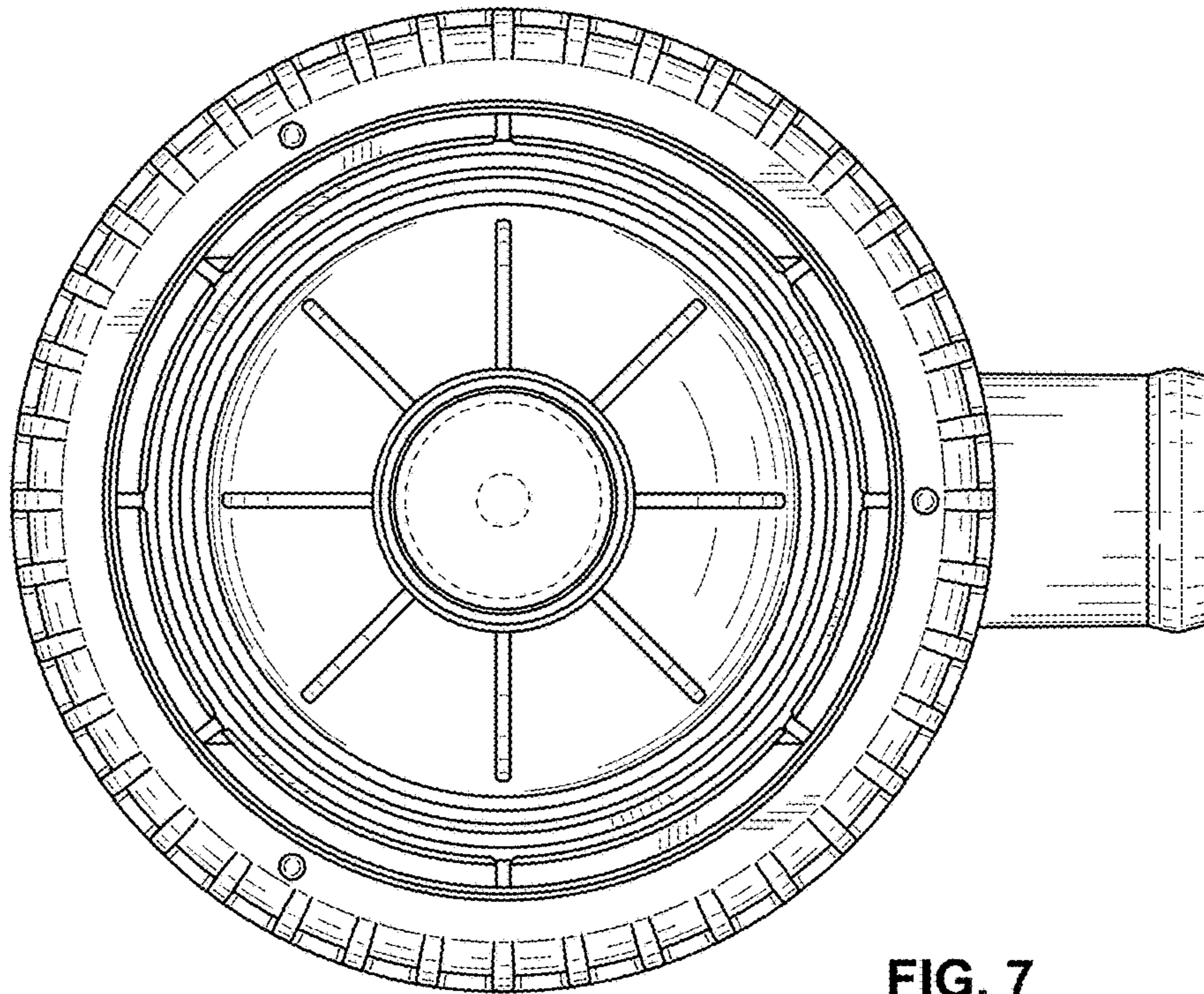


FIG. 7

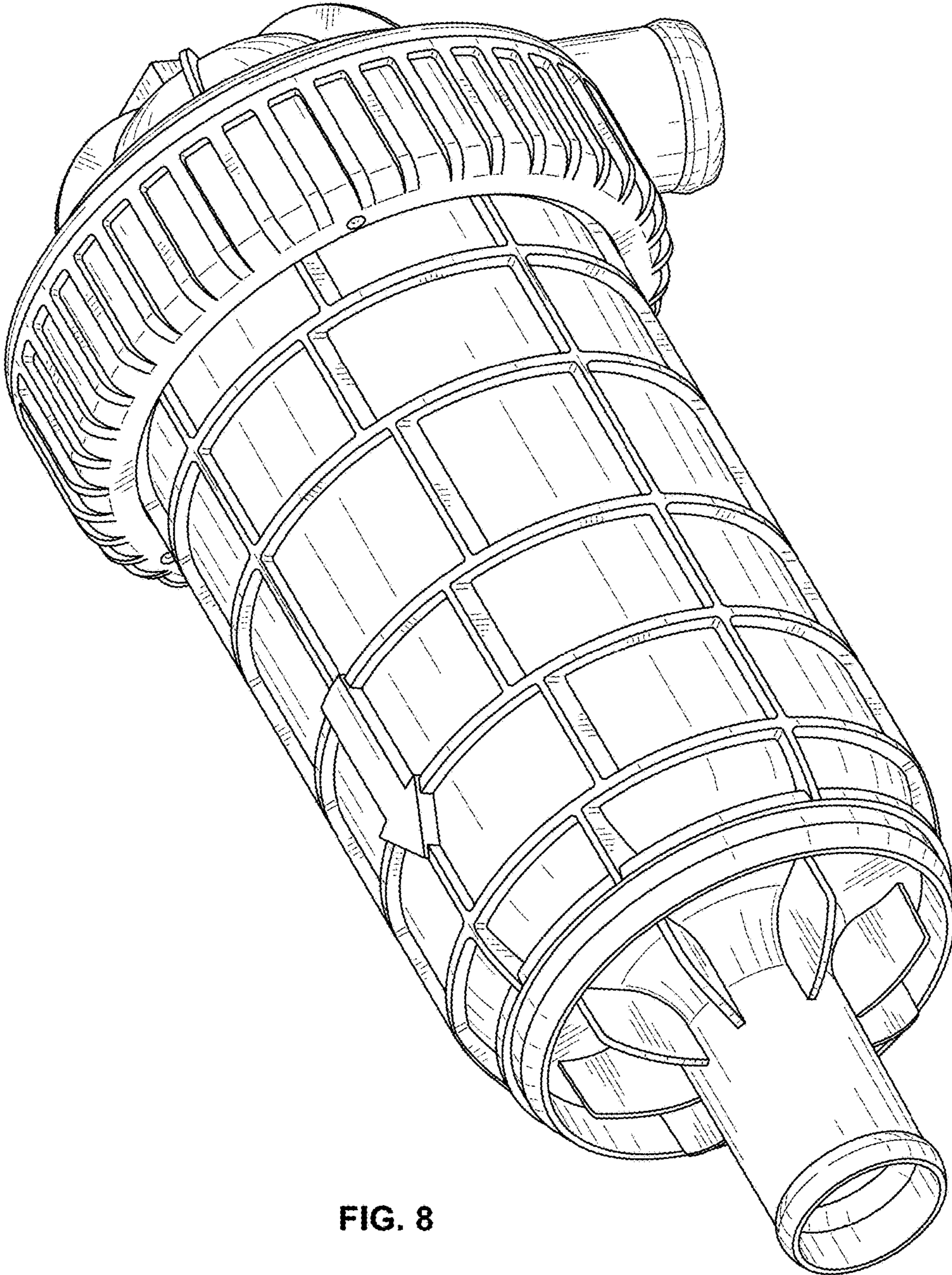


FIG. 8