



US00D939584S

(12) **United States Design Patent** (10) **Patent No.:** **US D939,584 S**
Gasman et al. (45) **Date of Patent:** **** Dec. 28, 2021**

(54) **VOLUTE CASING FOR A PUMP**

- (71) Applicant: **Sulzer Management AG**, Winterthur (CH)
- (72) Inventors: **Teemu Gasman**, Kotka (FI); **Matti Koivikko**, Kotka (FI); **Sami Virtanen**, Kotka (FI)
- (73) Assignee: **SULZER MANAGEMENT AG**, Winterthur (CH)
- (**) Term: **15 Years**
- (21) Appl. No.: **29/657,776**
- (22) Filed: **Jul. 25, 2018**

Related U.S. Application Data

- (62) Division of application No. 29/551,960, filed on Jan. 19, 2016, now Pat. No. Des. 829,770.

(30) **Foreign Application Priority Data**

- Aug. 20, 2015 (EM) 002757914
- (51) **LOC (13) Cl.** **15-02**
- (52) **U.S. Cl.**
USPC **D15/7; D15/9**
- (58) **Field of Classification Search**
USPC D15/7-9; D23/231, 232, 225
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 1,337,916 A * 4/1920 Julinsen F04D 7/02
415/174.2
- D202,145 S * 8/1965 Schroeder D15/7
(Continued)

FOREIGN PATENT DOCUMENTS

- DE 2602624 A1 7/1976
- DE 202009018129 U1 4/2011
(Continued)

OTHER PUBLICATIONS

Sulzer, CPT chemical process pump, (site visited May 12, 2021), Sulzer.com website, URL:<<https://www.sulzer.com/en/shared/products/cpt-chemical-process-pump>> (Year: 2021).*

Primary Examiner — Calvin E Vansant

Assistant Examiner — Mark T. Philipps

(74) *Attorney, Agent, or Firm* — Global IP Counselors, LLP

(57) **CLAIM**

The ornamental design for a volute casing for a pump, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a volute casing for a pump in accordance with our new design;
 FIG. 2 is a first side elevational view of the volute casing illustrated in FIG. 1;
 FIG. 3 is a second side elevational view of the volute casing illustrated in FIG. 1;
 FIG. 4 is a first end elevational view of the volute casing illustrated in FIG. 1;
 FIG. 5 is a second end elevational view of the volute casing illustrated in FIG. 1;
 FIG. 6 is a bottom plan view of the volute casing illustrated in FIG. 1;
 FIG. 7 is a top plan view of the volute casing illustrated in FIG. 1;
 FIG. 8 is a perspective view of a volute casing for a pump in accordance with our new design;
 FIG. 9 is a first side elevational view of the volute casing illustrated in FIG. 8;
 FIG. 10 is a second side elevational view of the volute casing illustrated in FIG. 8;
 FIG. 11 is a first end elevational view of the volute casing illustrated in FIG. 8;
 FIG. 12 is a second end elevational view of the volute casing illustrated in FIG. 8;
 FIG. 13 is a bottom plan view of the volute casing illustrated in FIG. 8;

(Continued)

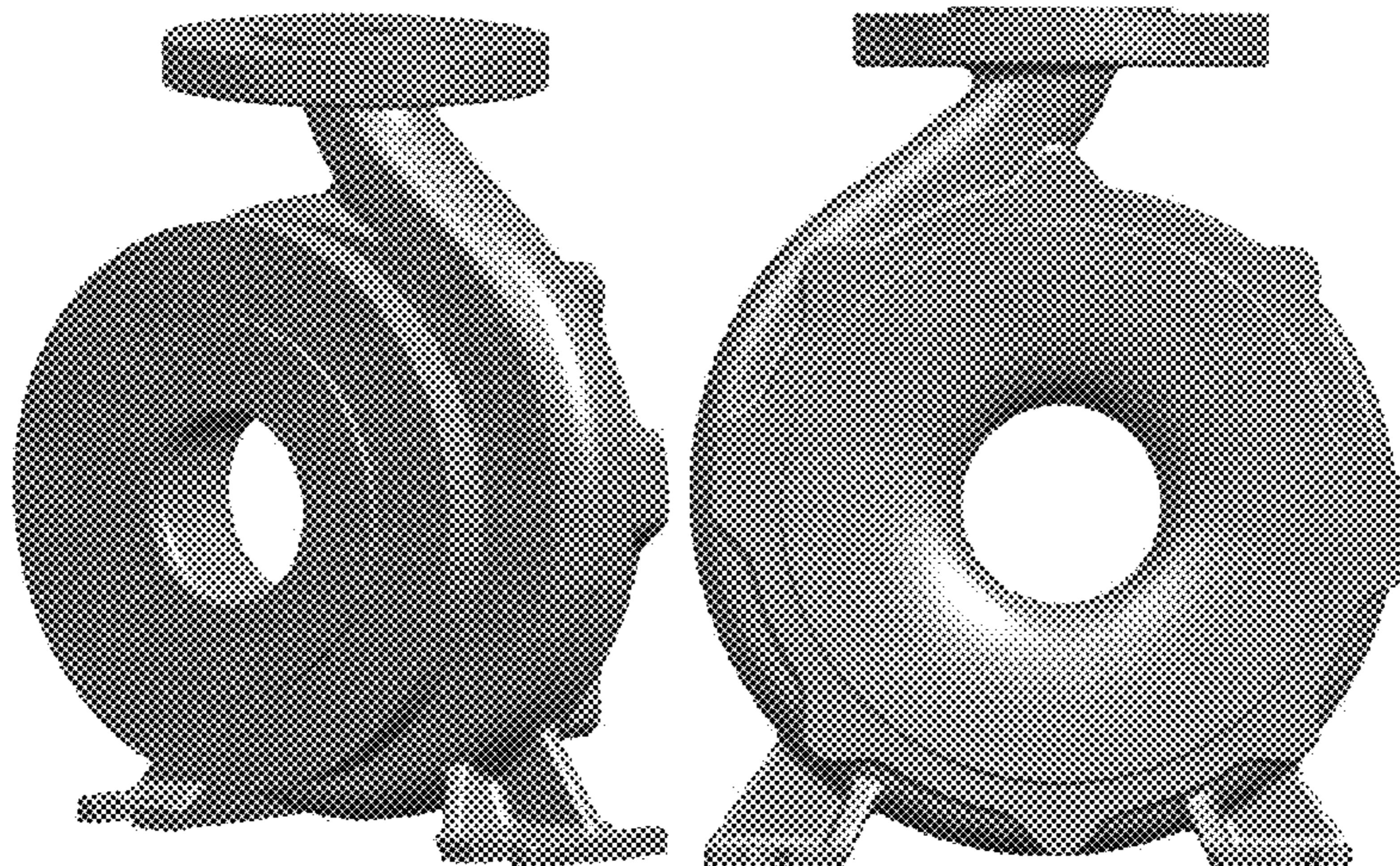


FIG. 14 is a top plan view of the volute casing illustrated in FIG. 8;
 FIG. 15 is a perspective view of a volute casing for a pump in accordance with our new design;
 FIG. 16 is a first side elevational view of the volute casing illustrated in FIG. 15;
 FIG. 17 is a second side elevational view of the volute casing illustrated in FIG. 15;
 FIG. 18 is a first end elevational view of the volute casing illustrated in FIG. 15;
 FIG. 19 is a second end elevational view of the volute casing illustrated in FIG. 15;
 FIG. 20 is a bottom plan view of the volute casing illustrated in FIG. 15;
 FIG. 21 is a top plan view of the volute casing illustrated in FIG. 15;
 FIG. 22 is a perspective view of a volute casing for a pump in accordance with our new design;
 FIG. 23 is a first side elevational view of the volute casing illustrated in FIG. 22;
 FIG. 24 is a second side elevational view of the volute casing illustrated in FIG. 22;
 FIG. 25 is a first end elevational view of the volute casing illustrated in FIG. 22;
 FIG. 26 is a second end elevational view of the volute casing illustrated in FIG. 22;
 FIG. 27 is a bottom plan view of the volute casing illustrated in FIG. 22;
 FIG. 28 is a top plan view of the volute casing illustrated in FIG. 22;
 FIG. 29 is a perspective view of a volute casing for a pump in accordance with our new design;
 FIG. 30 is a first side elevational view of the volute casing illustrated in FIG. 29;
 FIG. 31 is a second side elevational view of the volute casing illustrated in FIG. 29;
 FIG. 32 is a first end elevational view of the volute casing illustrated in FIG. 29;
 FIG. 33 is a second end elevational view of the volute casing illustrated in FIG. 29;
 FIG. 34 is a bottom plan view of the volute casing illustrated in FIG. 29;
 FIG. 35 is a top plan view of the volute casing illustrated in FIG. 29;
 FIG. 36 is a perspective view of a volute casing for a pump in accordance with our new design;
 FIG. 37 is a first side elevational view of the volute casing illustrated in FIG. 36;
 FIG. 38 is a second side elevational view of the volute casing illustrated in FIG. 36;
 FIG. 39 is a first end elevational view of the volute casing illustrated in FIG. 36;
 FIG. 40 is a second end elevational view of the volute casing illustrated in FIG. 36;
 FIG. 41 is a bottom plan view of the volute casing illustrated in FIG. 36;
 FIG. 42 is a top plan view of the volute casing illustrated in FIG. 36;
 FIG. 43 is a perspective view of a volute casing for a pump in accordance with our new design;
 FIG. 44 is a first side elevational view of the volute casing illustrated in FIG. 43;

FIG. 45 is a second side elevational view of the volute casing illustrated in FIG. 43;
 FIG. 46 is a first end elevational view of the volute casing illustrated in FIG. 43;
 FIG. 47 is a second end elevational view of the volute casing illustrated in FIG. 43;
 FIG. 48 is a bottom plan view of the volute casing illustrated in FIG. 43; and,
 FIG. 49 is a top plan view of the volute casing illustrated in FIG. 43.

1 Claim, 49 Drawing Sheets

(58) **Field of Classification Search**

CPC F02M 37/04; F02M 37/14; F04D 29/46;
 F04D 29/4286; F04D 1/00; F04D 1/04;
 F04D 3/02; F04D 13/0646; F04D 17/18;
 F04D 29/322; F04D 29/628; F04B 47/00;
 F04B 25/00-04; F04B 441/06; F04B
 414/03

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D229,236	S	*	11/1973	Doolin	.....	D15/7
D263,839	S		4/1982	Somme		
D285,447	S		9/1986	Dudeck		
D294,266	S		2/1988	Dudeck		
4,900,222	A		2/1990	Meng et al.		
D381,339	S	*	7/1997	Wightley	.....	D15/7
6,152,719	A		11/2000	Nelik		
D608,677	S		1/2010	Glaves		
D609,248	S		2/2010	Wightley		
D609,250	S		2/2010	Foreman		
D610,165	S		2/2010	Glaves		
D616,902	S		6/2010	Foreman		
8,790,077	B2		7/2014	Burgess		
9,022,723	B2	*	5/2015	Leininger	.....	F04D 29/22 415/62
9,057,385	B2	*	6/2015	Burgess	.....	F04D 1/00
D740,327	S		10/2015	Naruoka		
D742,420	S		11/2015	Sullivan		
D767,637	S		9/2016	Pappathopoulos		
D780,226	S		2/2017	Nelson		
D791,840	S		7/2017	Gebert		
D807,924	S		1/2018	Wilkie		
D829,770	S	*	10/2018	Gasman	.....	D15/7
D834,068	S	*	11/2018	Lee	.....	D15/7
D836,676	S	*	12/2018	Geldenhuis	.....	D15/7
D837,833	S	*	1/2019	Geldenhuis	.....	D15/7
D884,033	S	*	5/2020	Sinico	.....	D15/7
D902,961	S	*	11/2020	Park	.....	D15/9
D926,820	S	*	8/2021	Gasman	.....	D15/7
2007/0014662	A1		1/2007	Burgess		
2009/0068002	A1		3/2009	Burgess		
2014/0271162	A1		9/2014	Karl et al.		

FOREIGN PATENT DOCUMENTS

DE	102009010927	A1	9/2019
EP	1855013	A2	4/2007
GB	2266750	A	11/1993
JP	57124098	A	8/1982
JP	05332300	A	12/1993

* cited by examiner

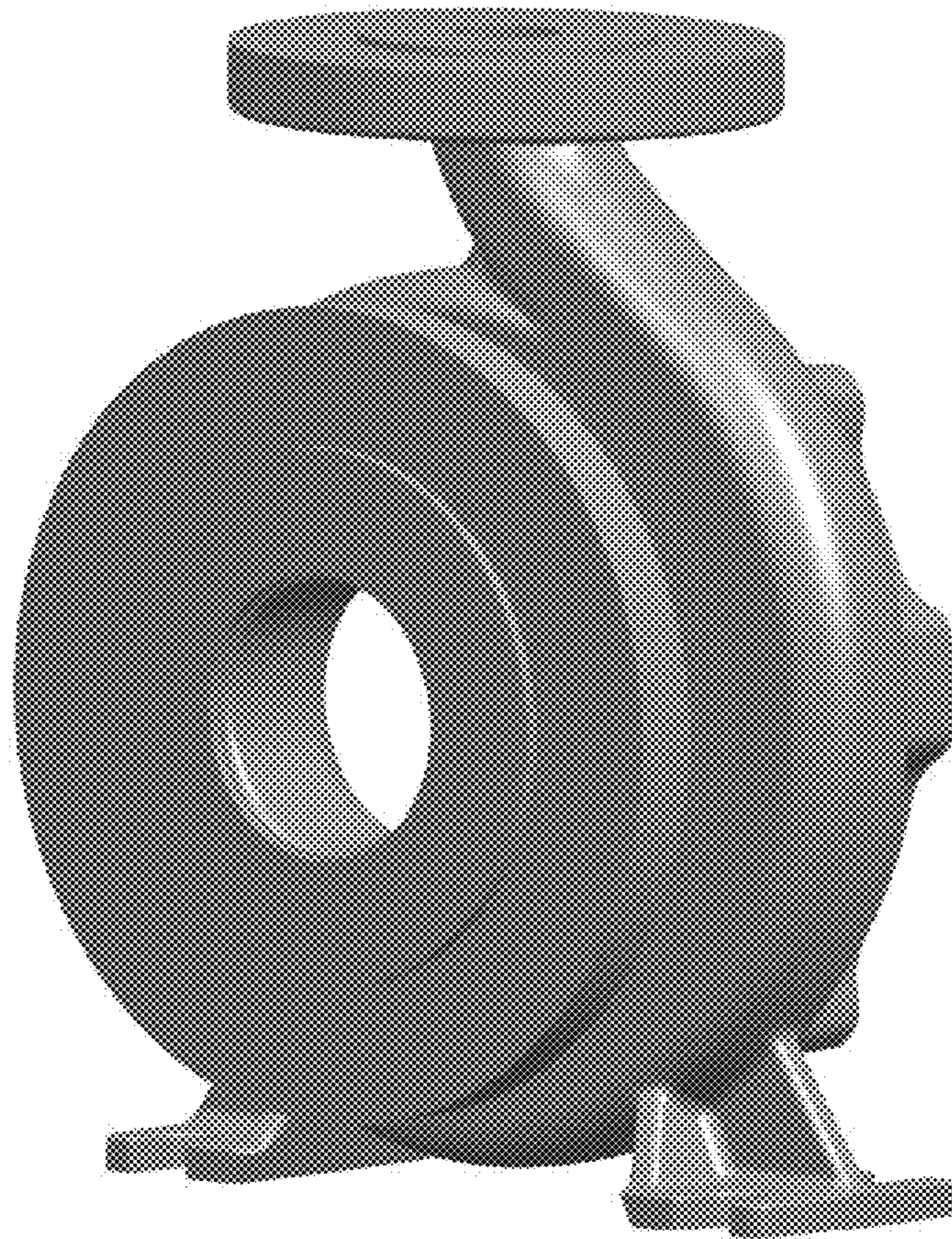


FIG. 1

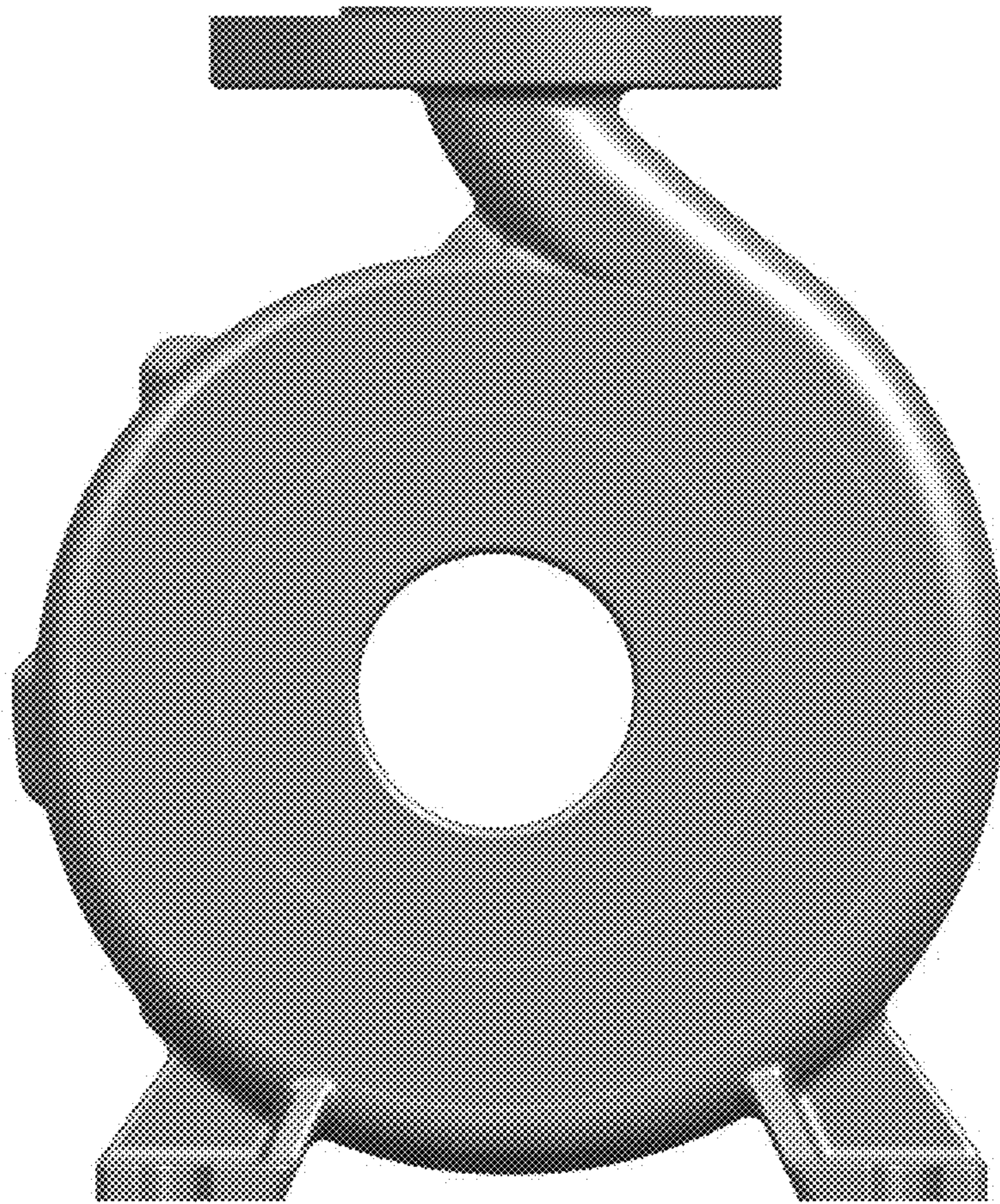


FIG. 2

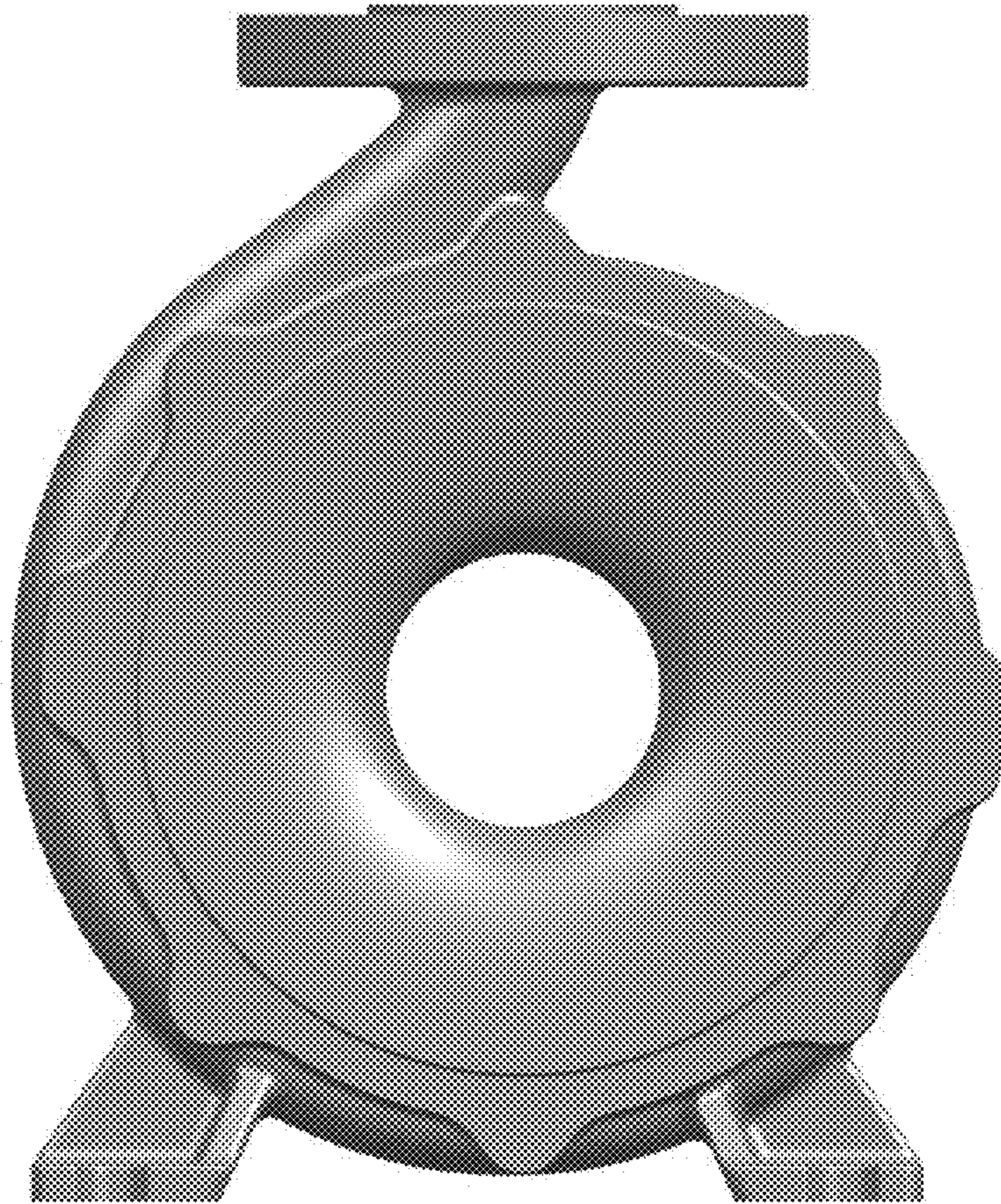


FIG. 3

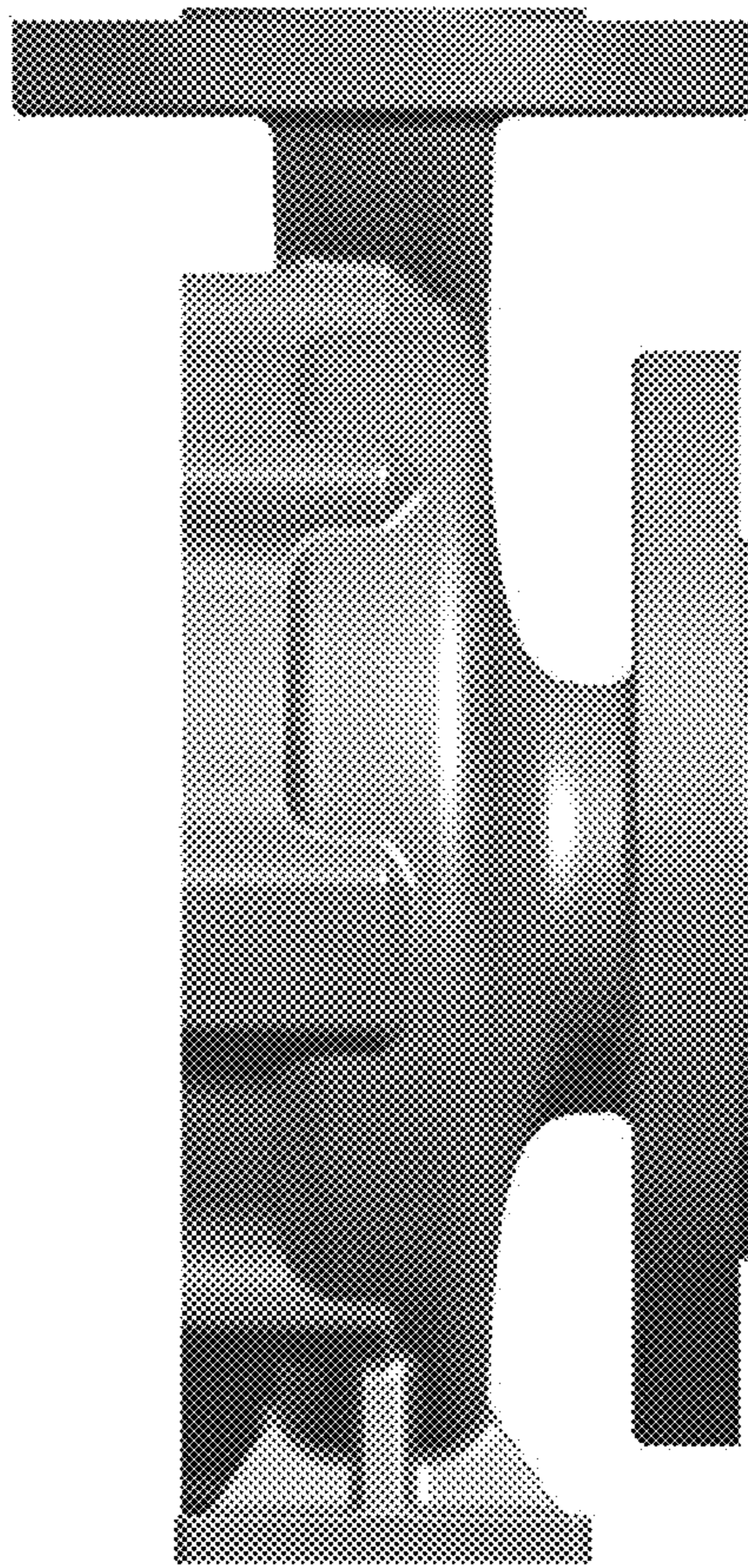


FIG. 4

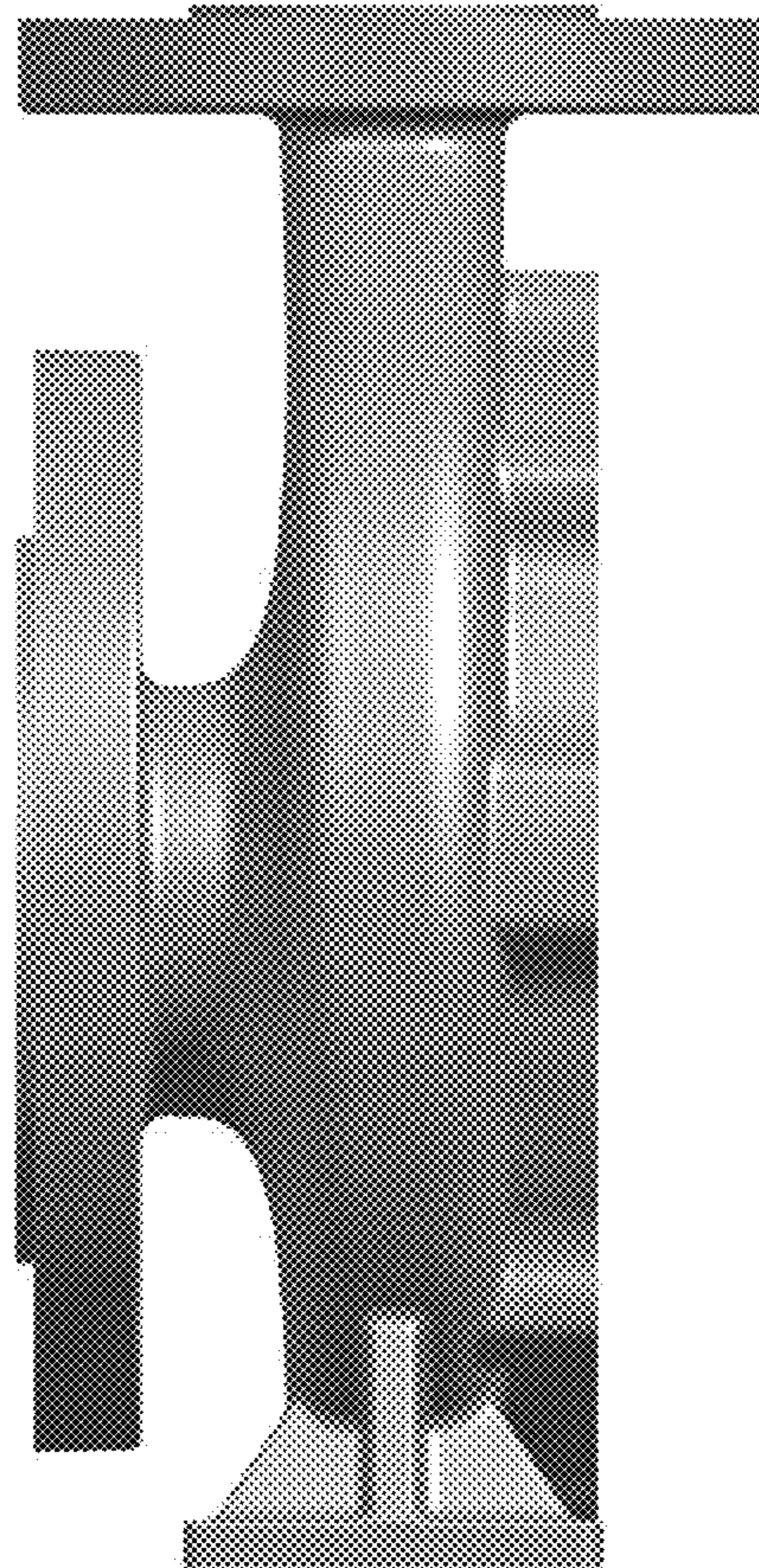


FIG. 5

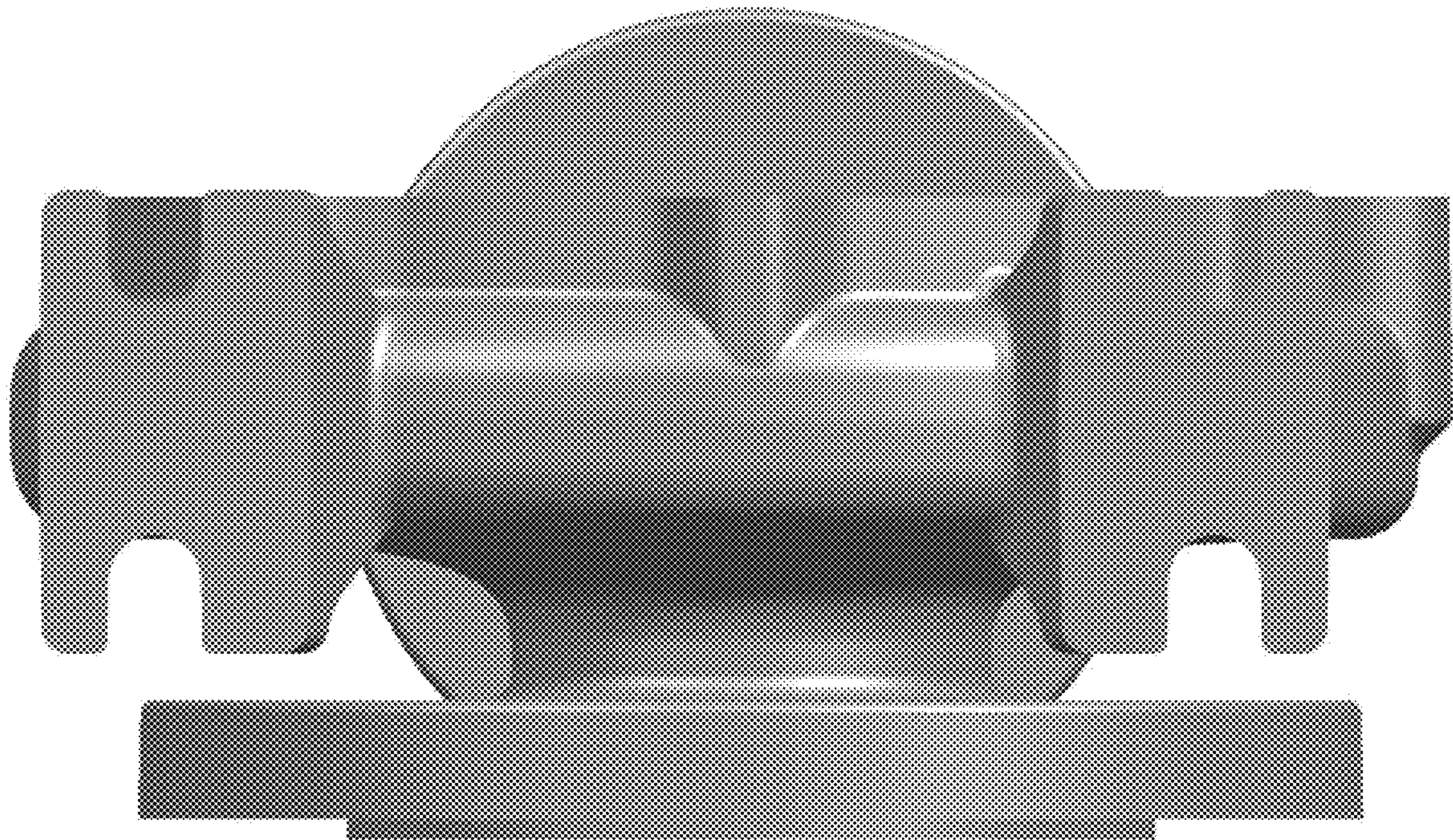


FIG. 6

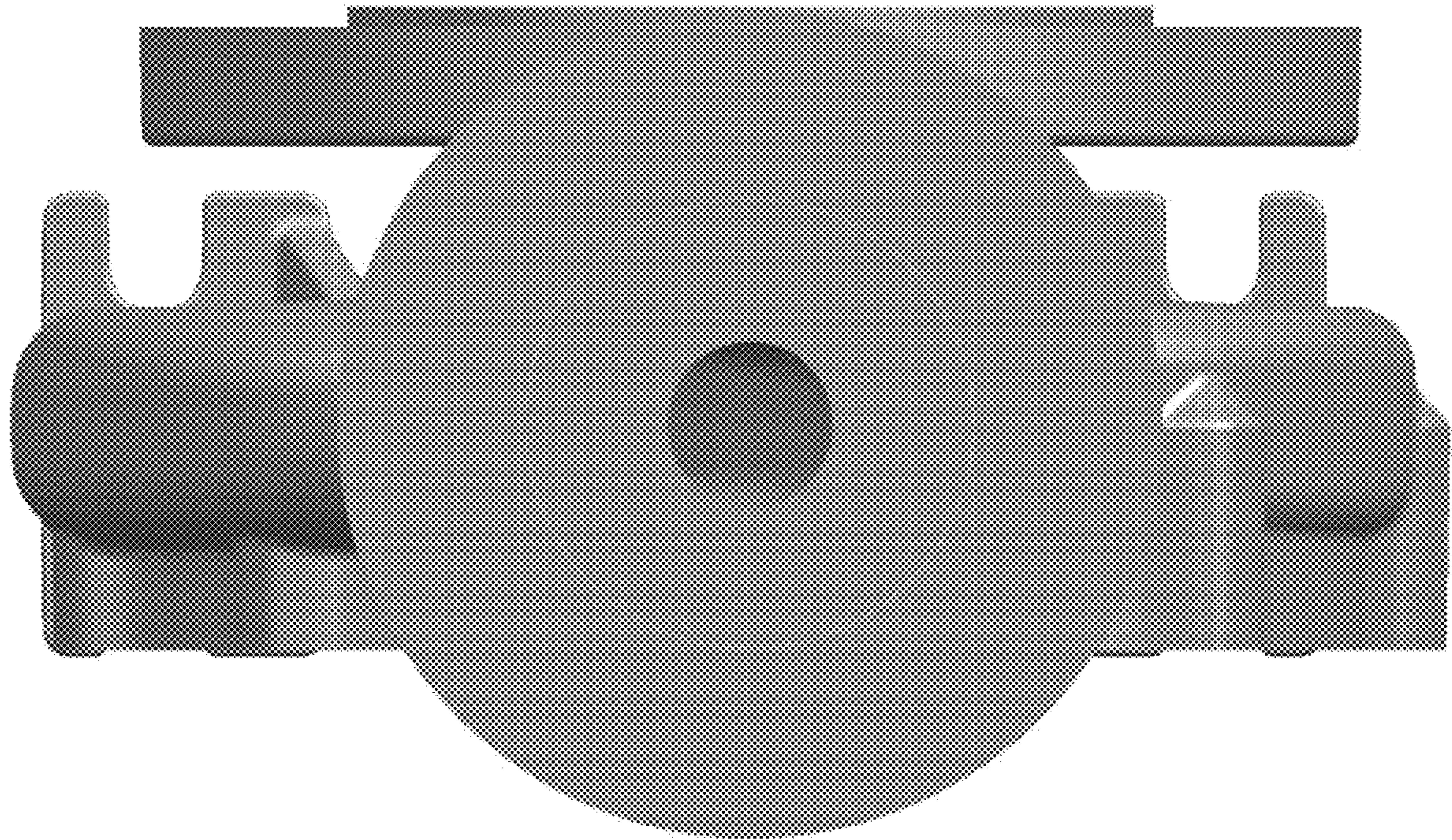


FIG. 7

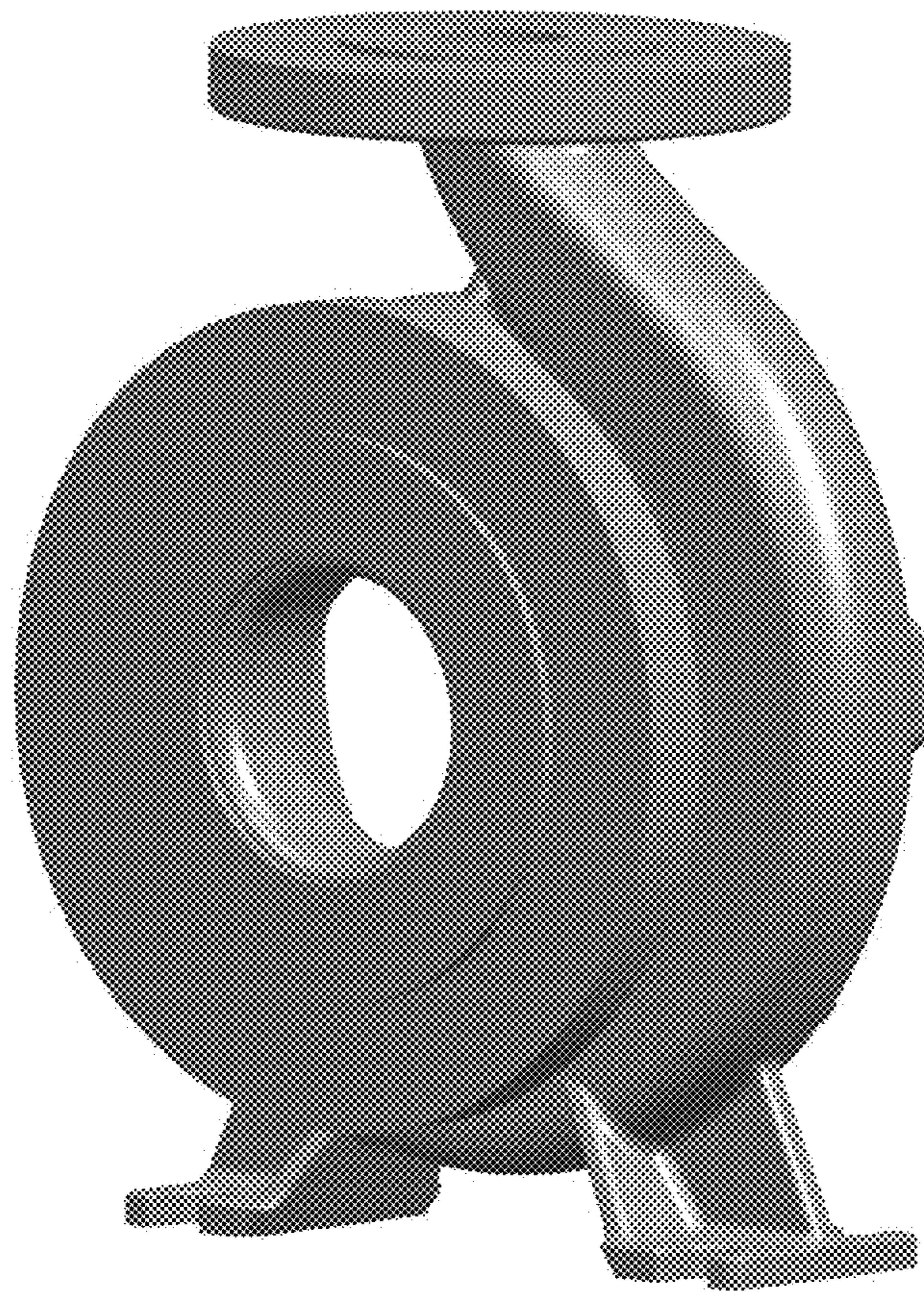


FIG. 8

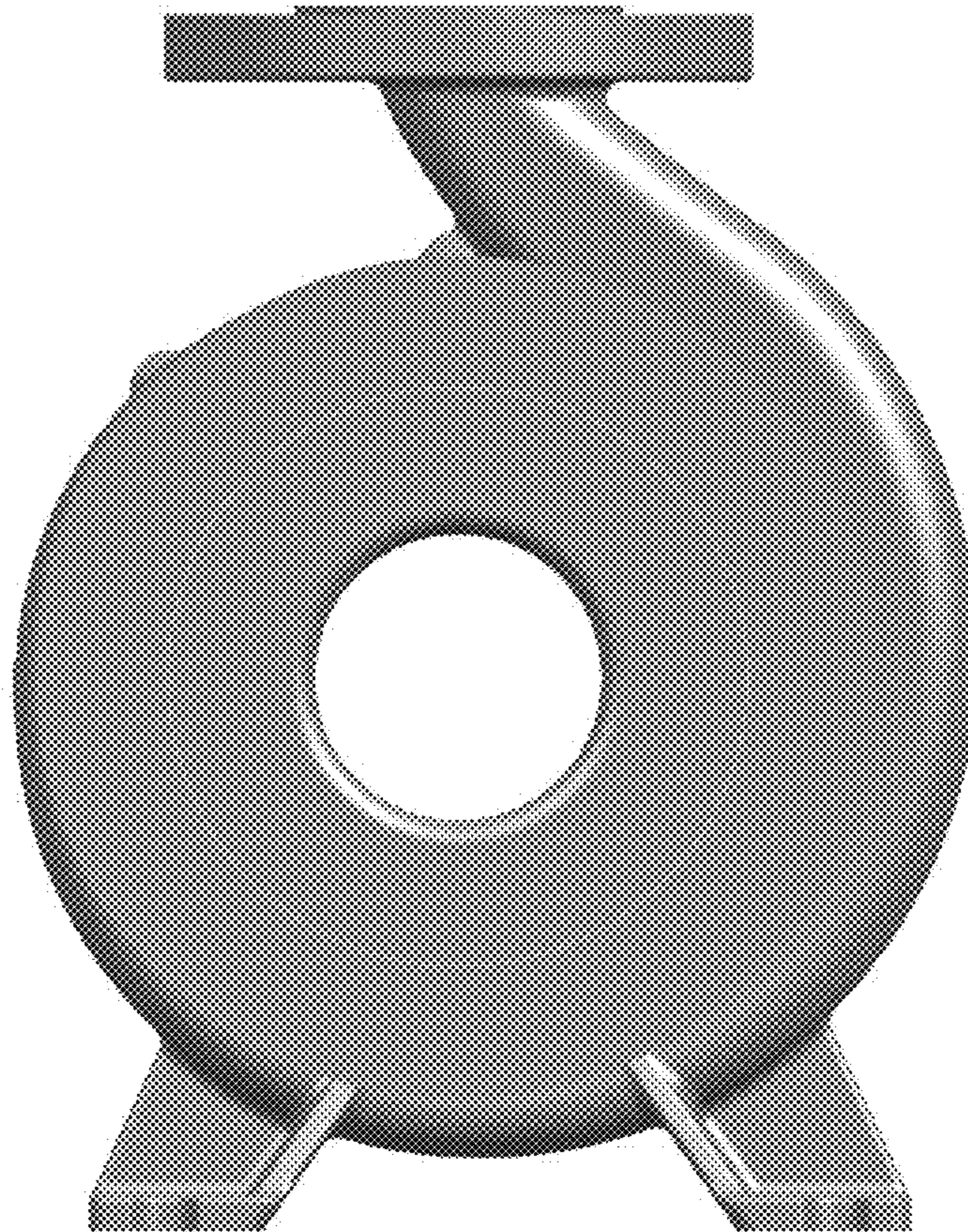


FIG. 9

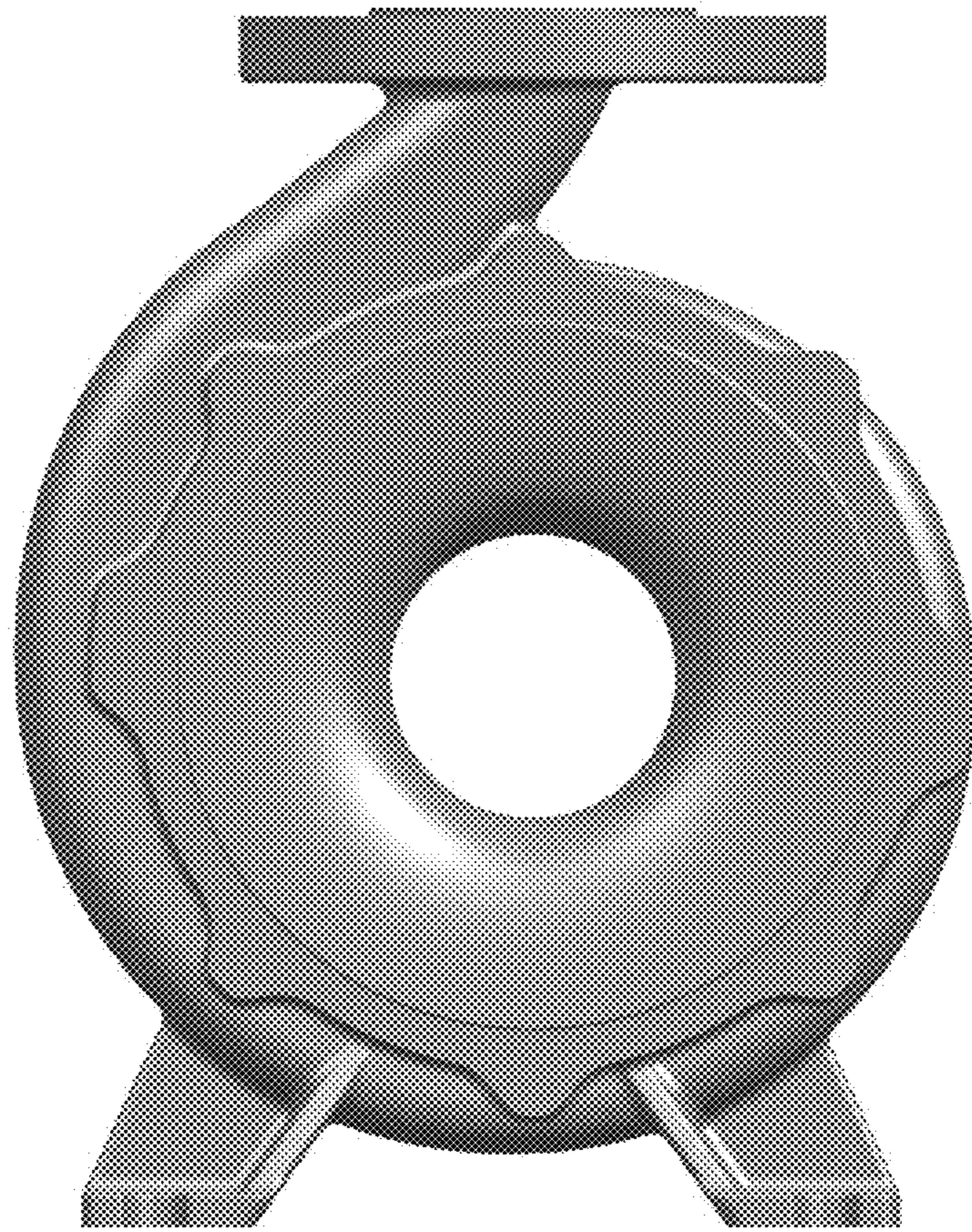


FIG. 10

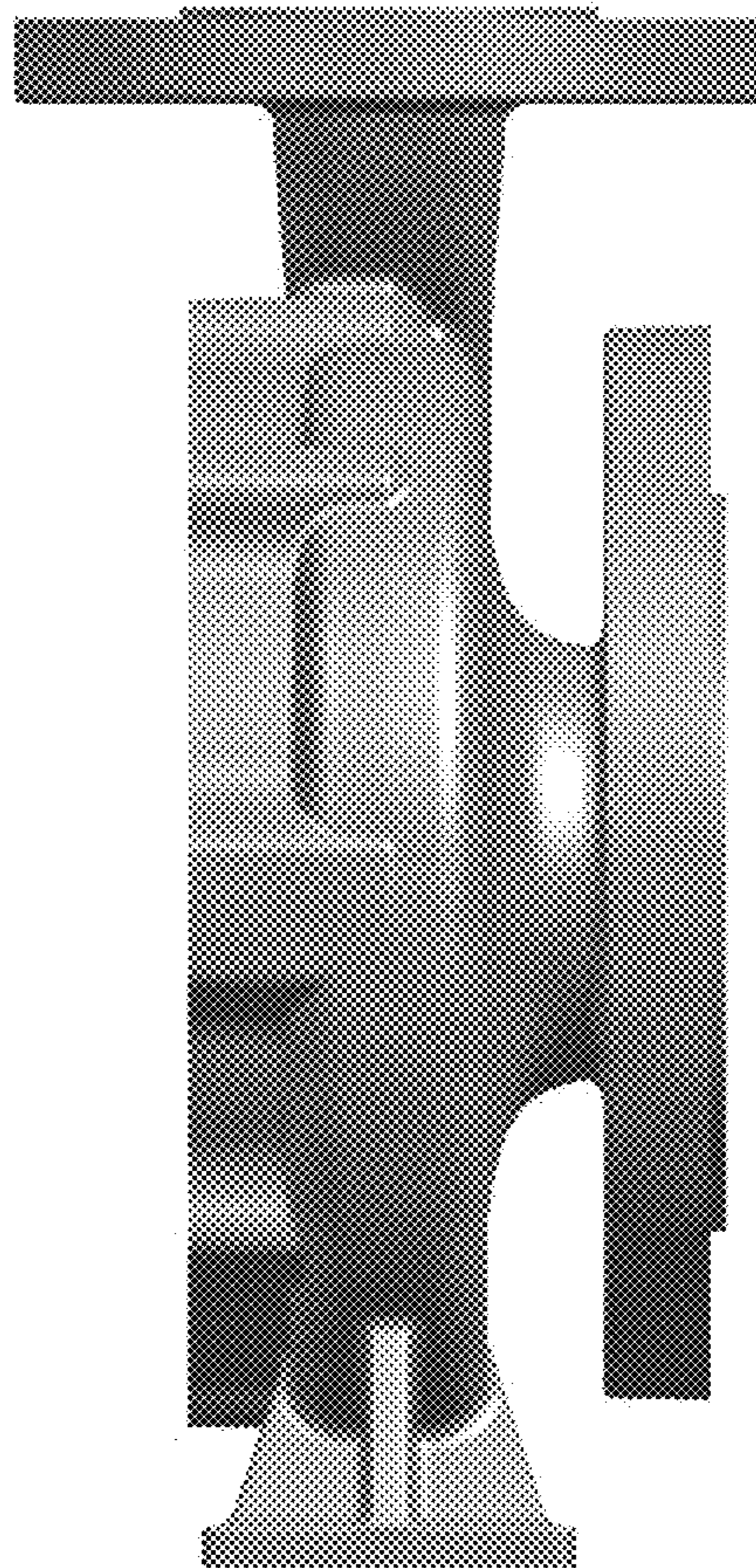


FIG. 11

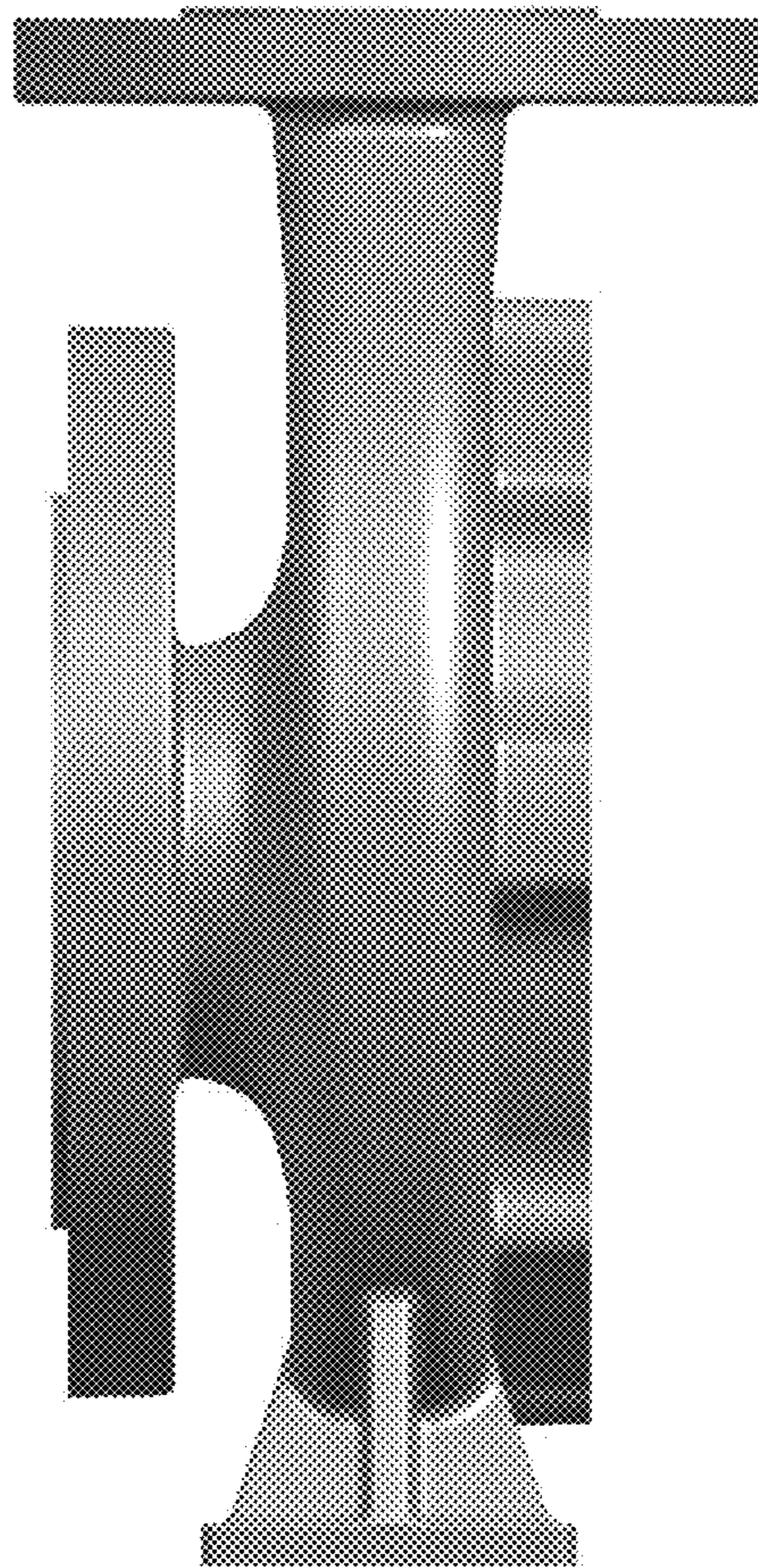


FIG. 12

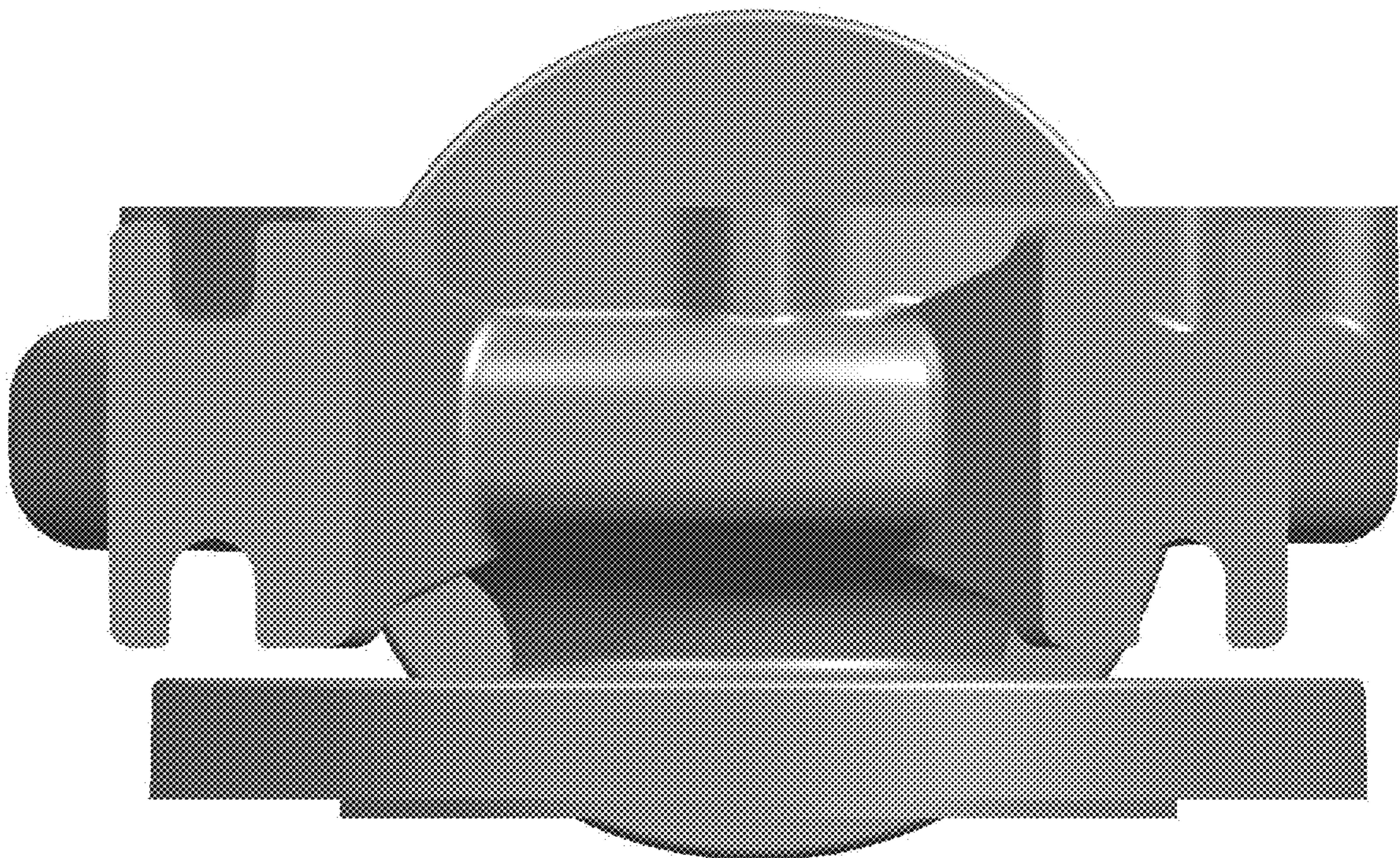


FIG. 13

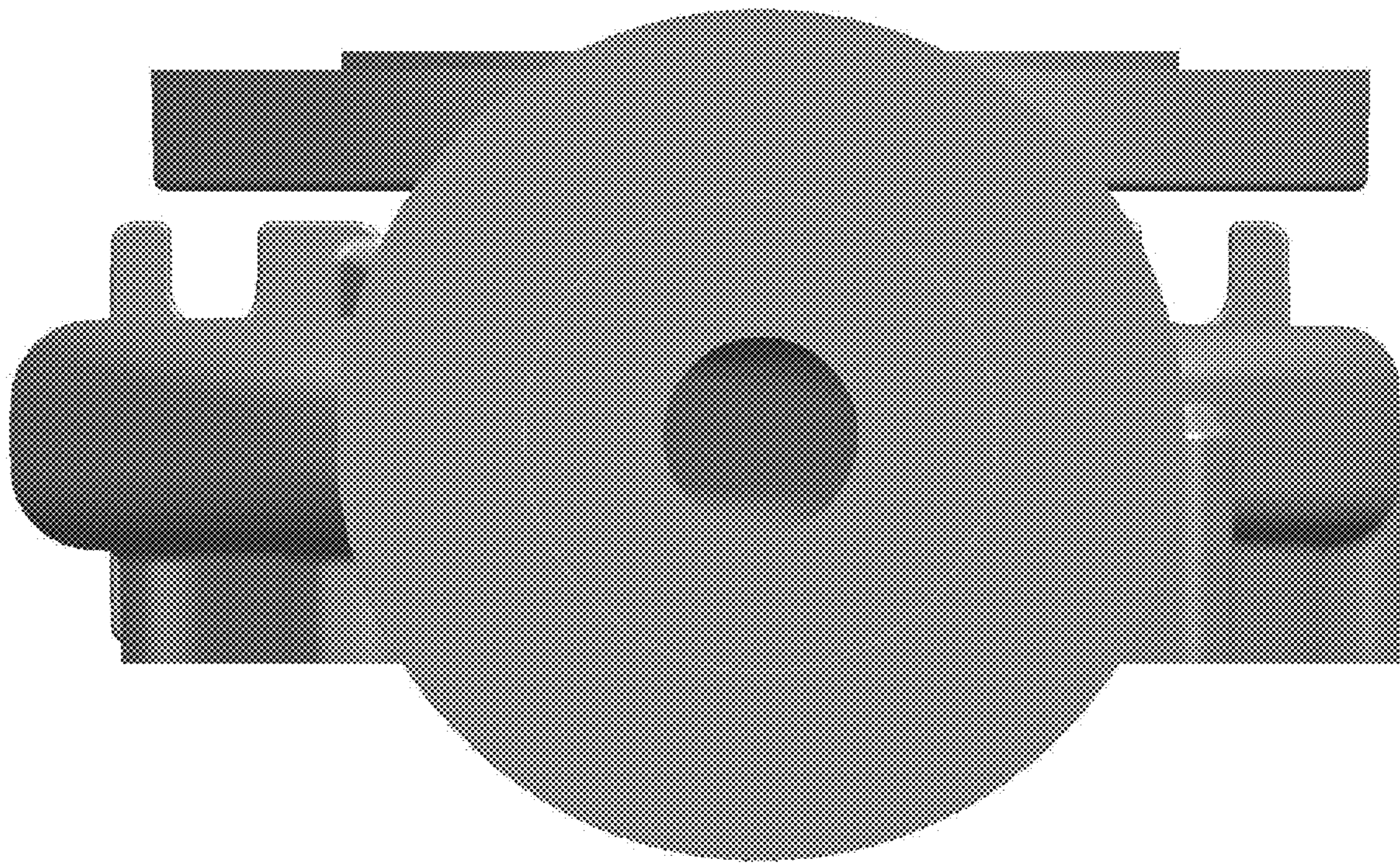


FIG. 14

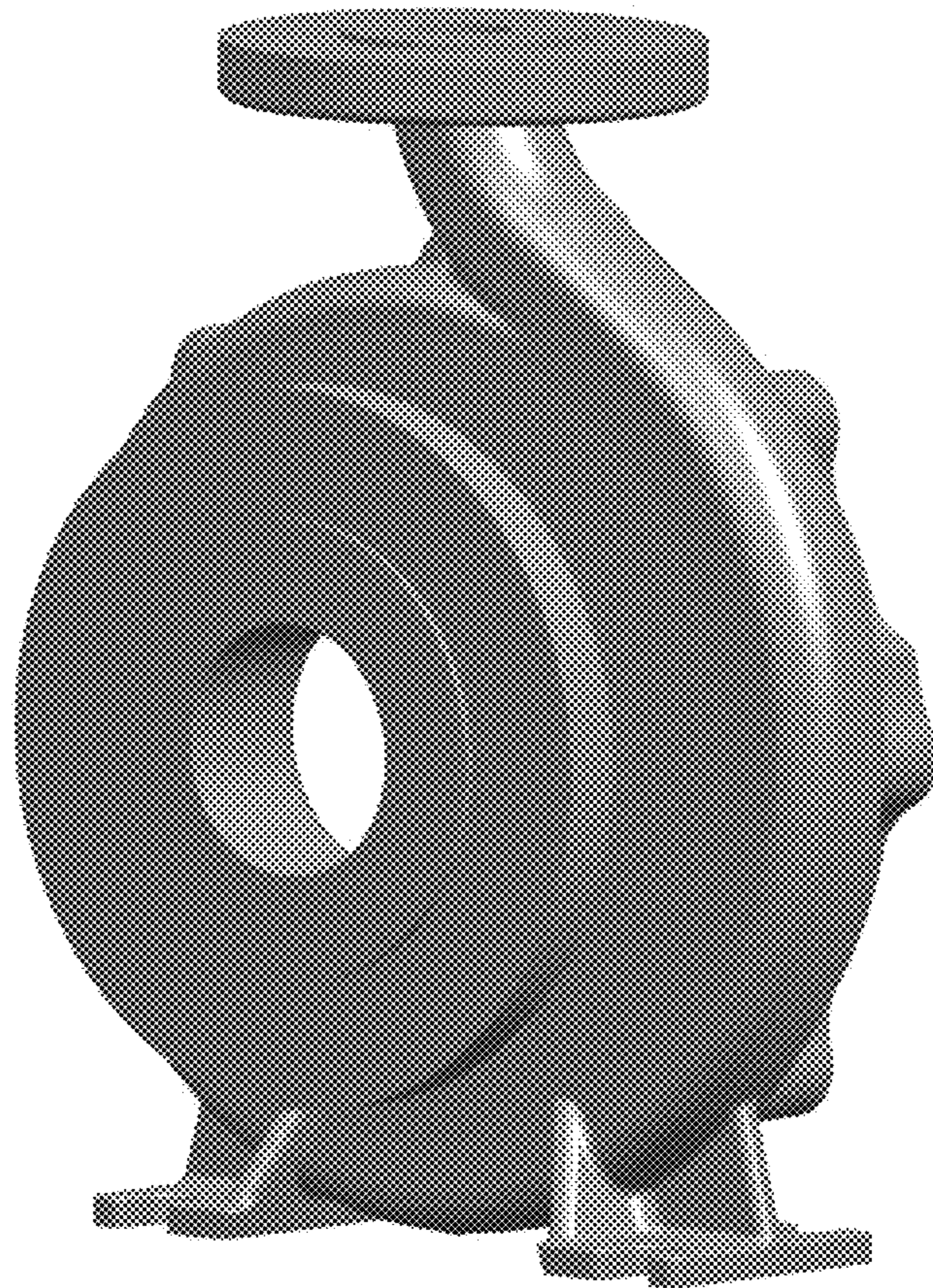


FIG. 15

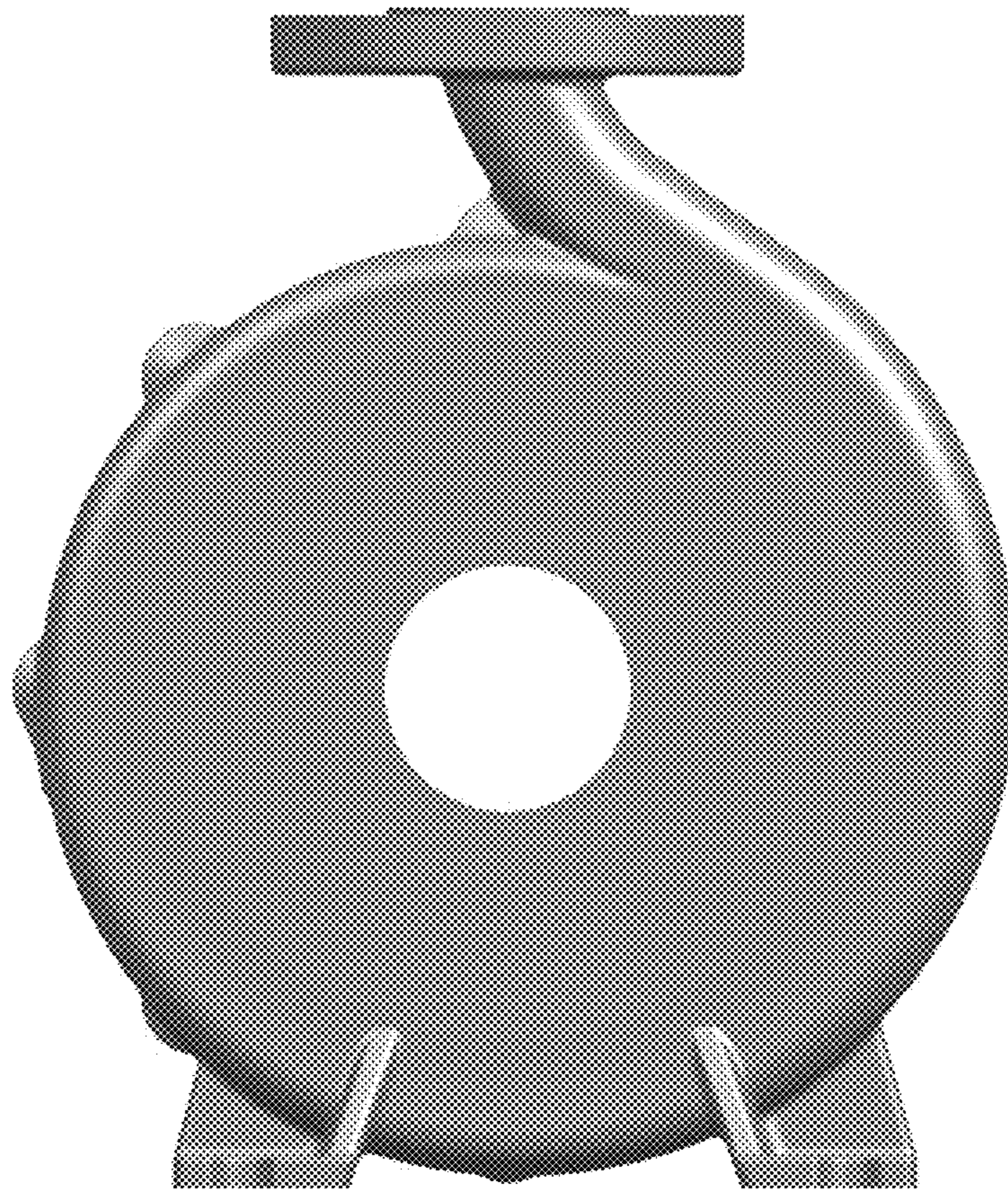


FIG. 16

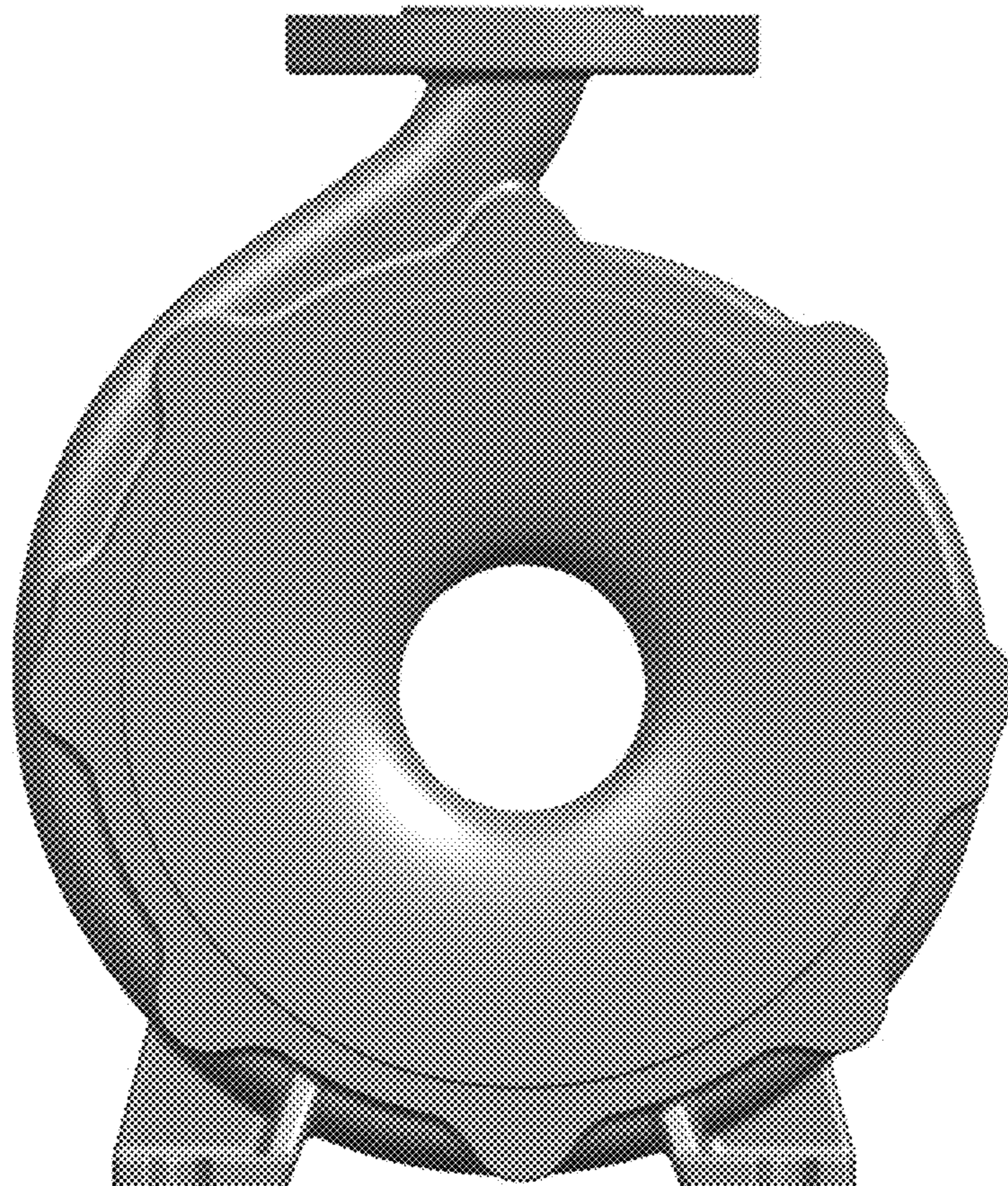


FIG. 17

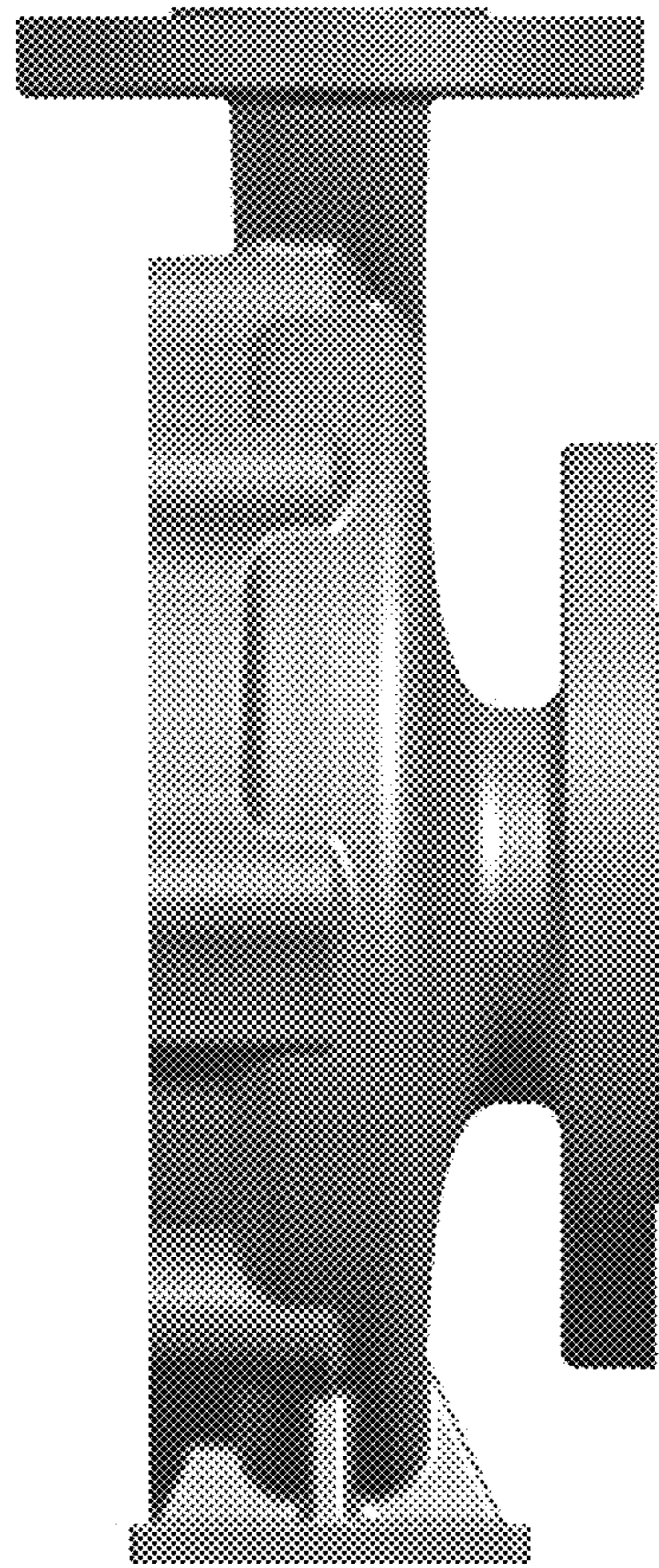


FIG. 18

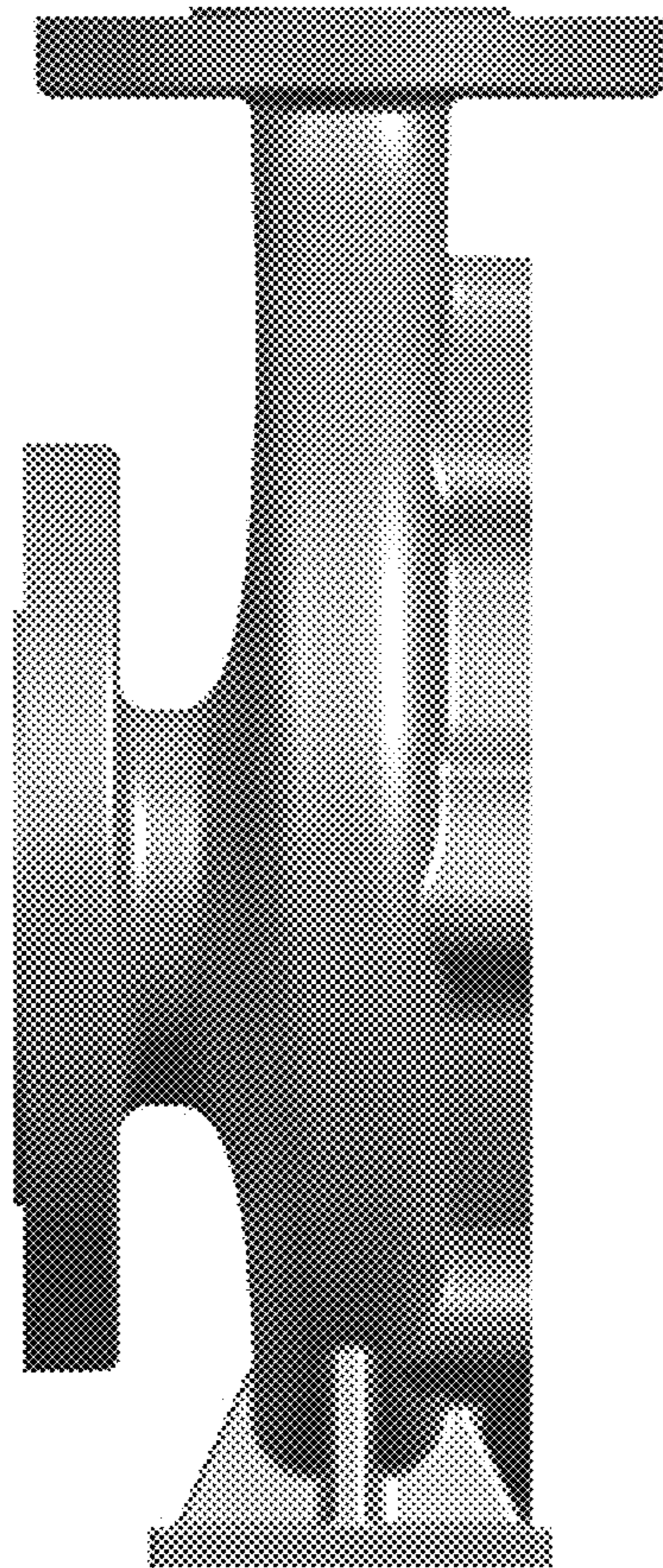


FIG. 19

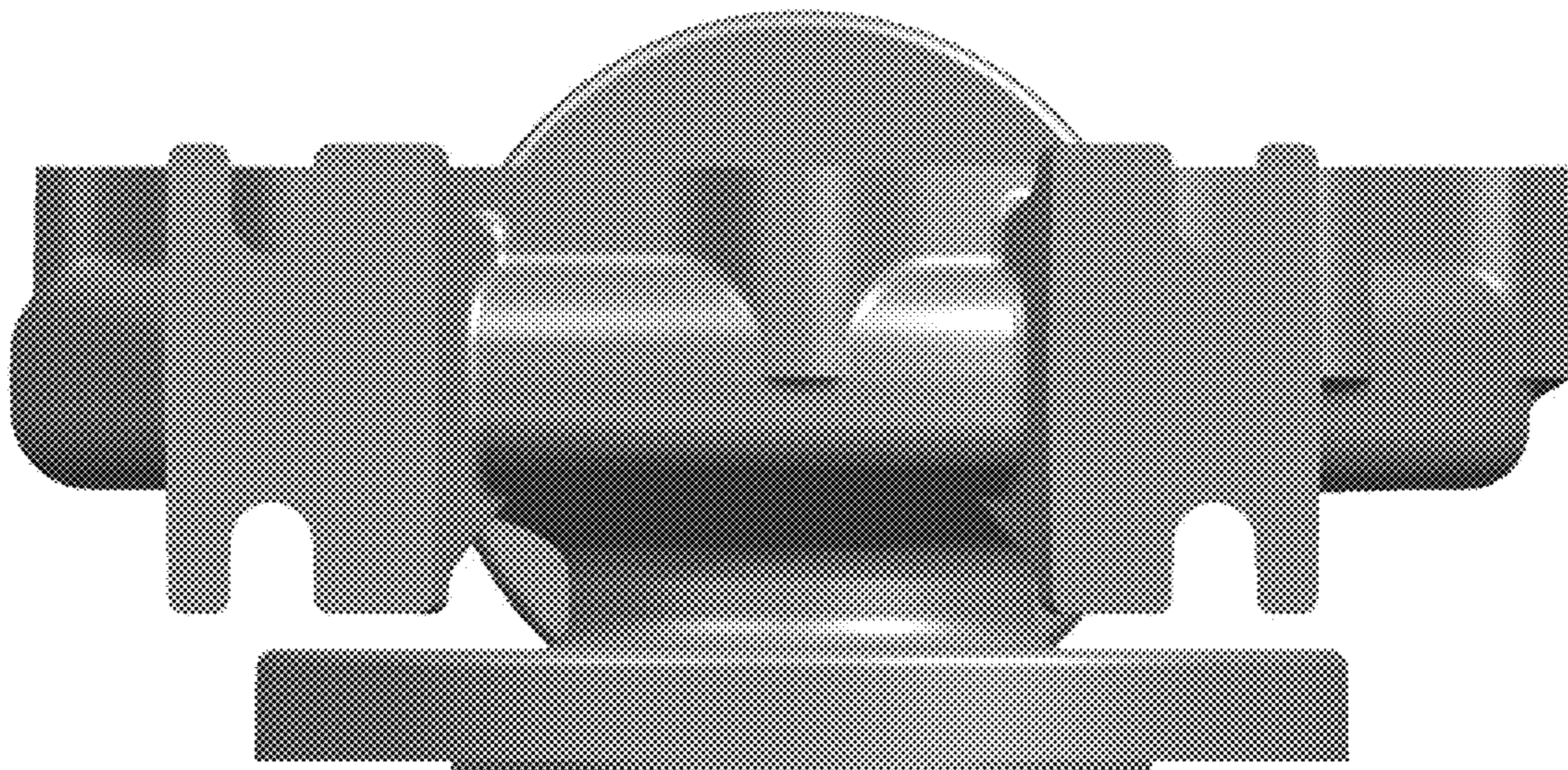


FIG. 20

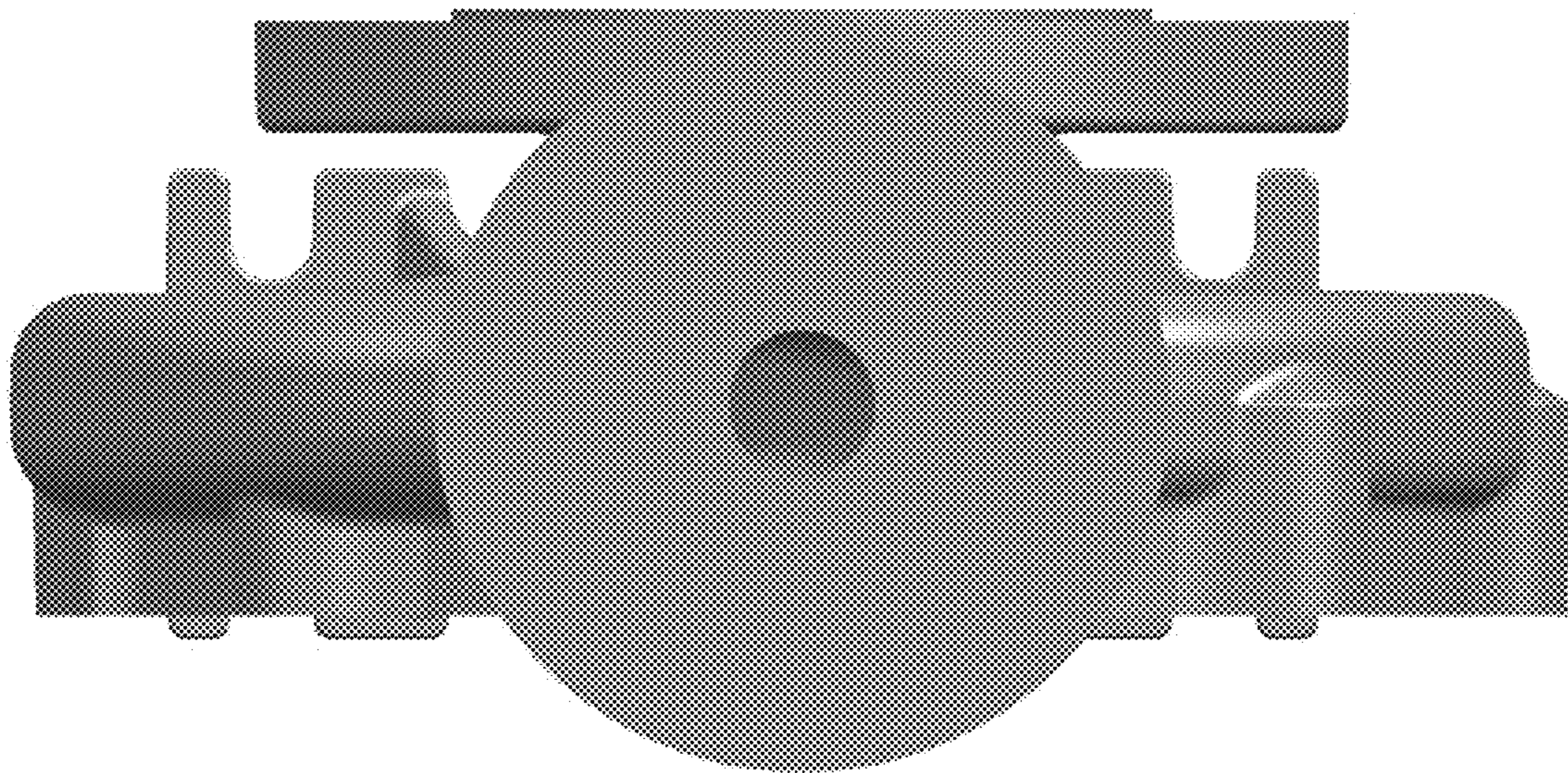


FIG. 21

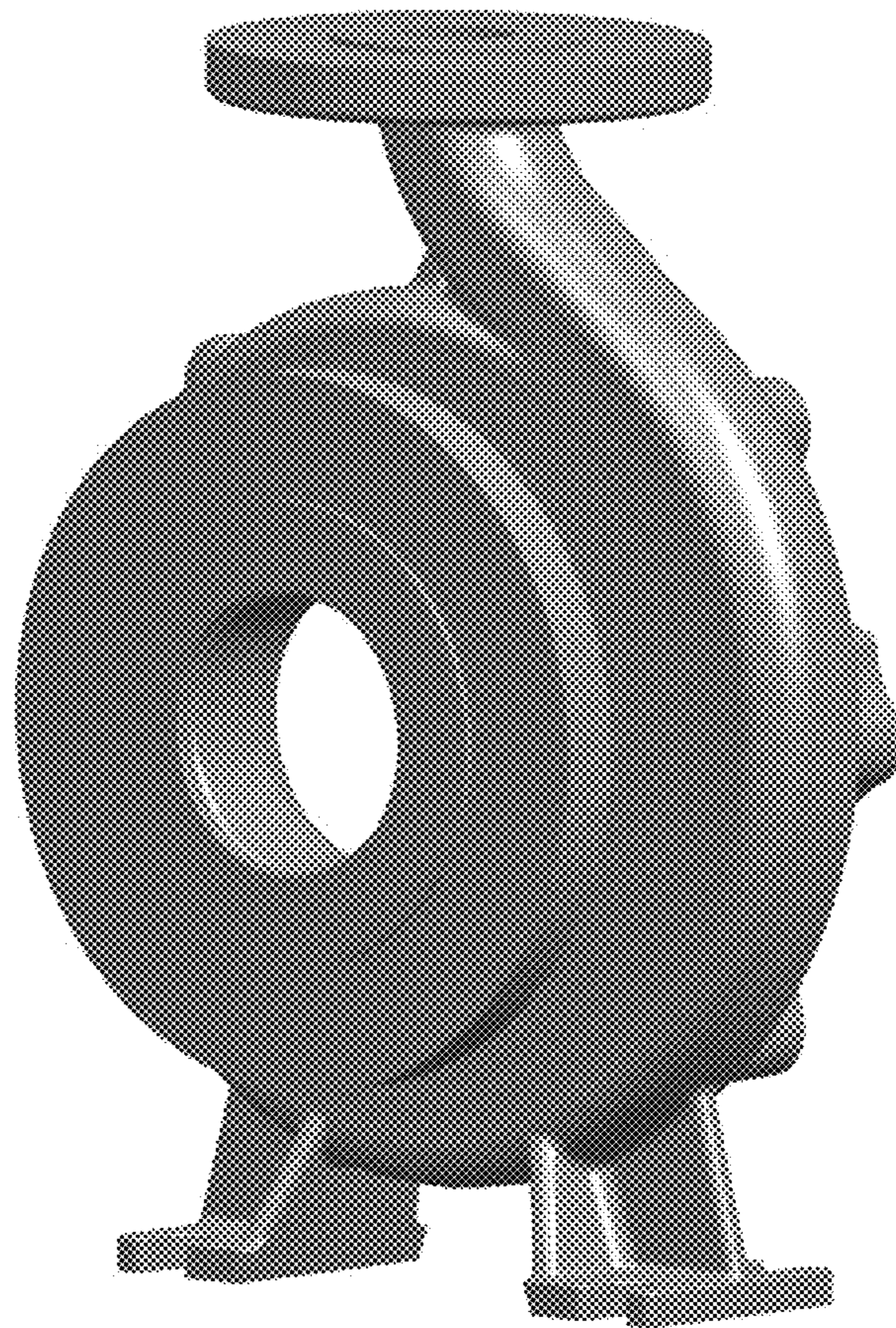


FIG. 22

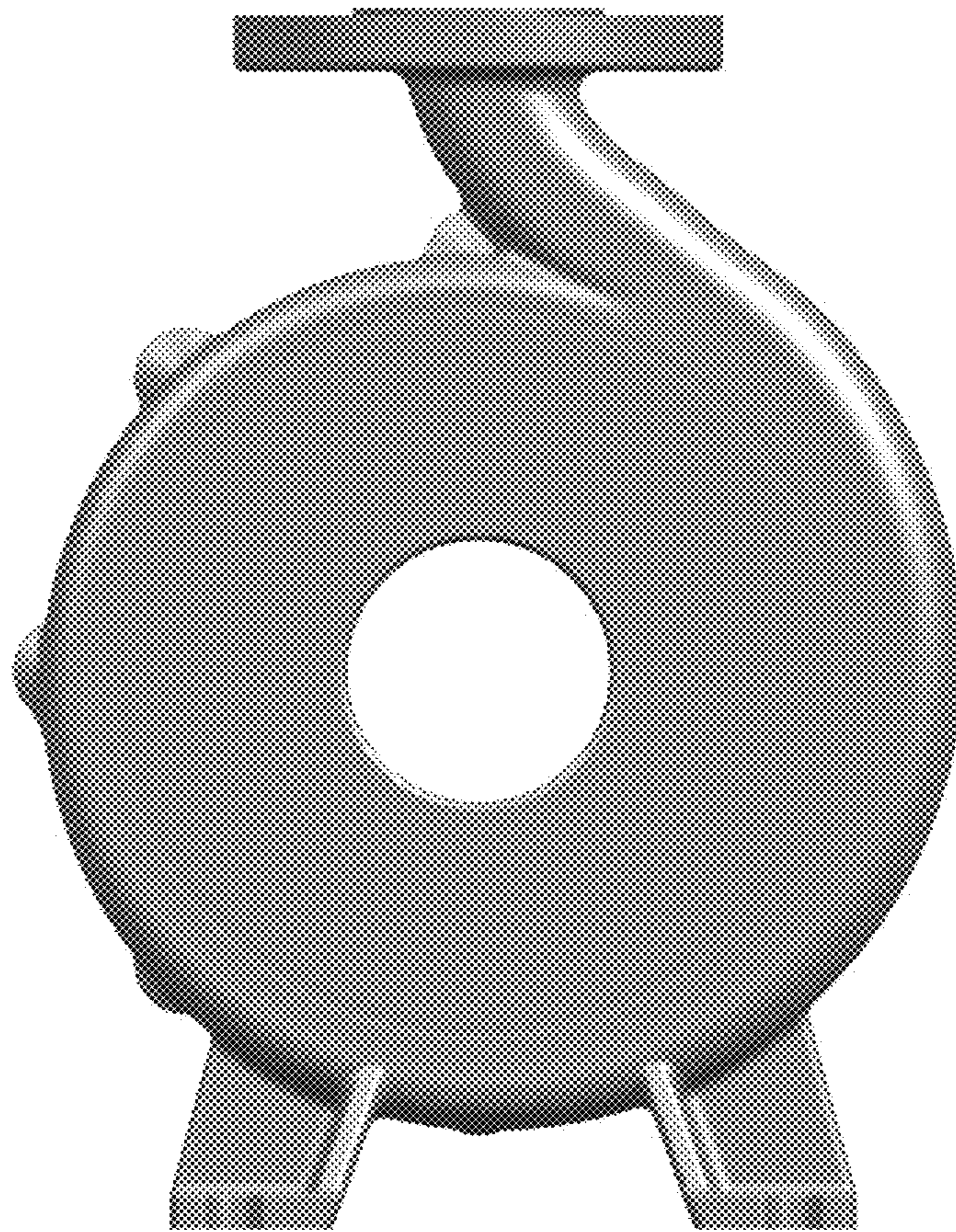


FIG. 23

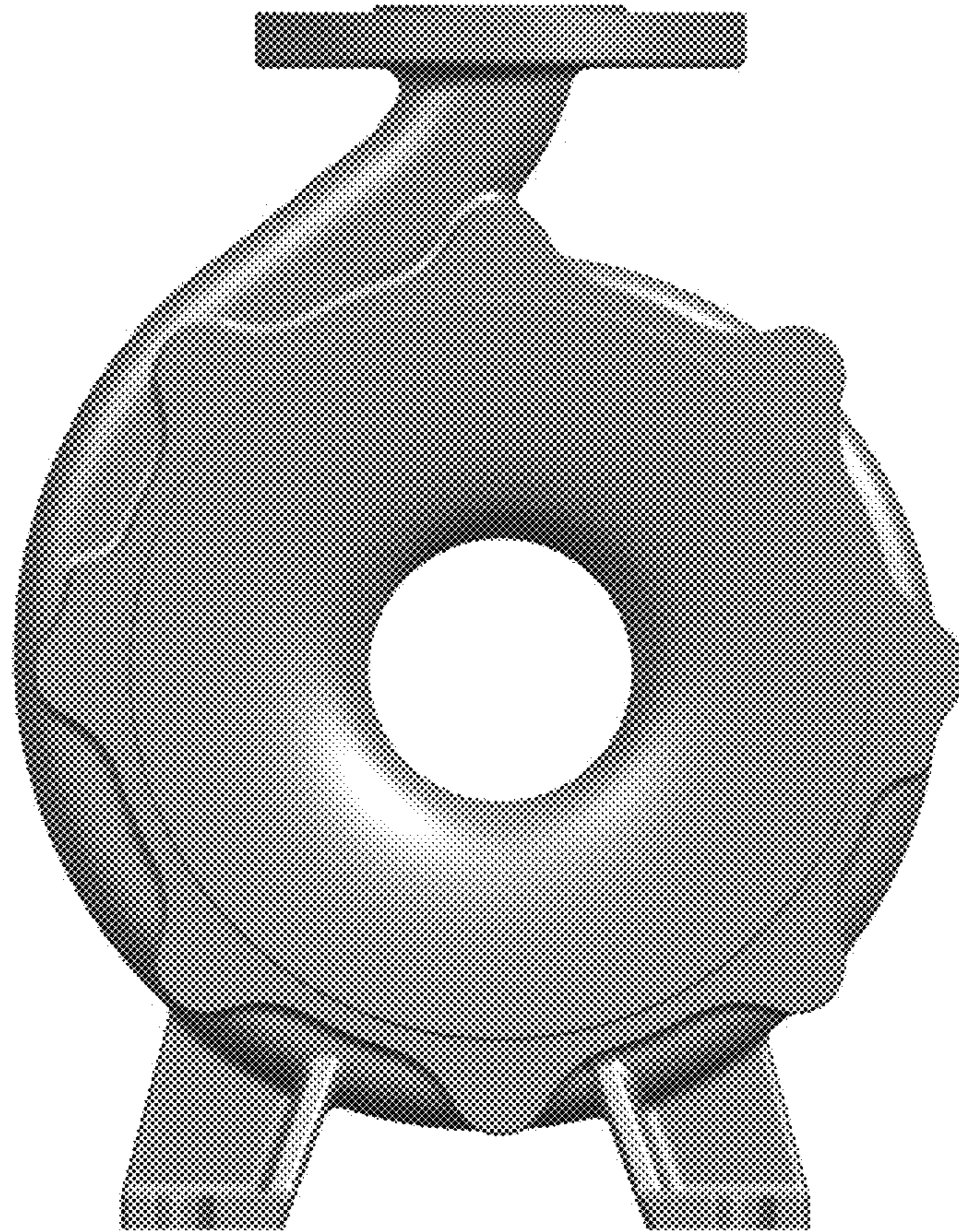


FIG. 24

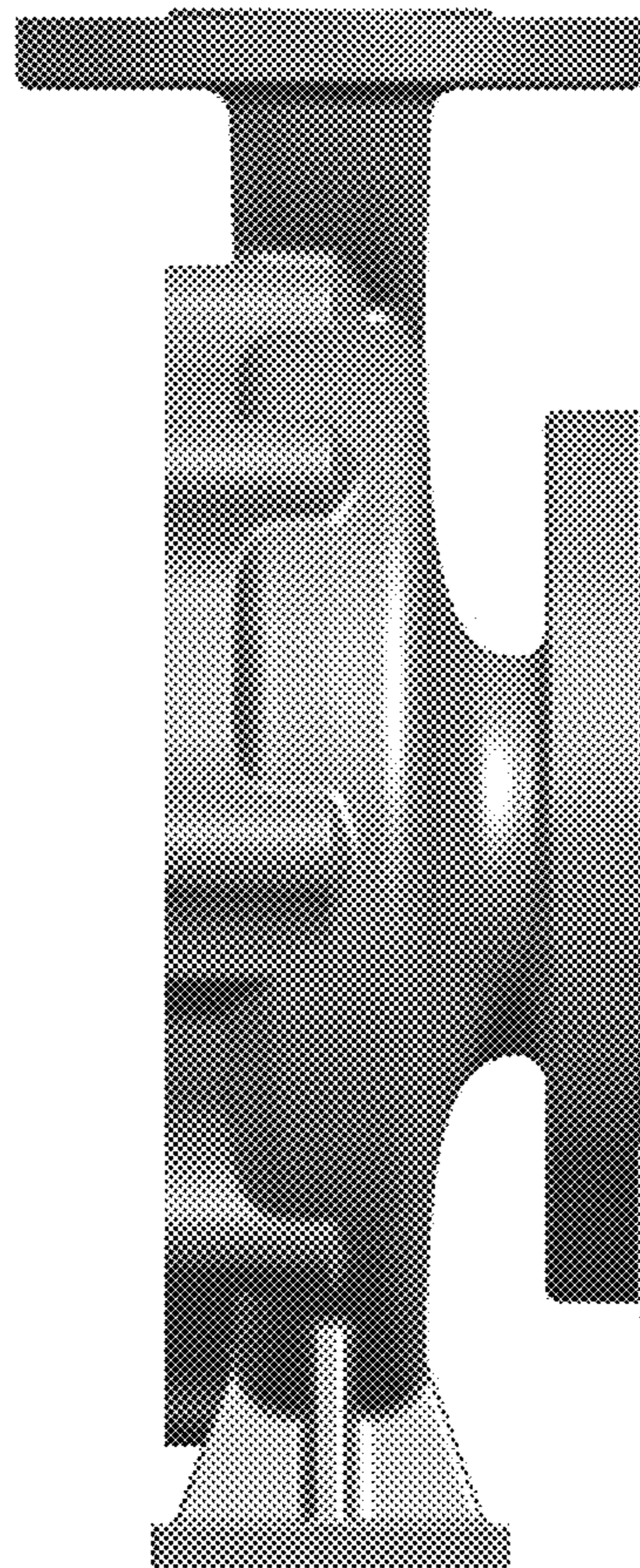


FIG. 25

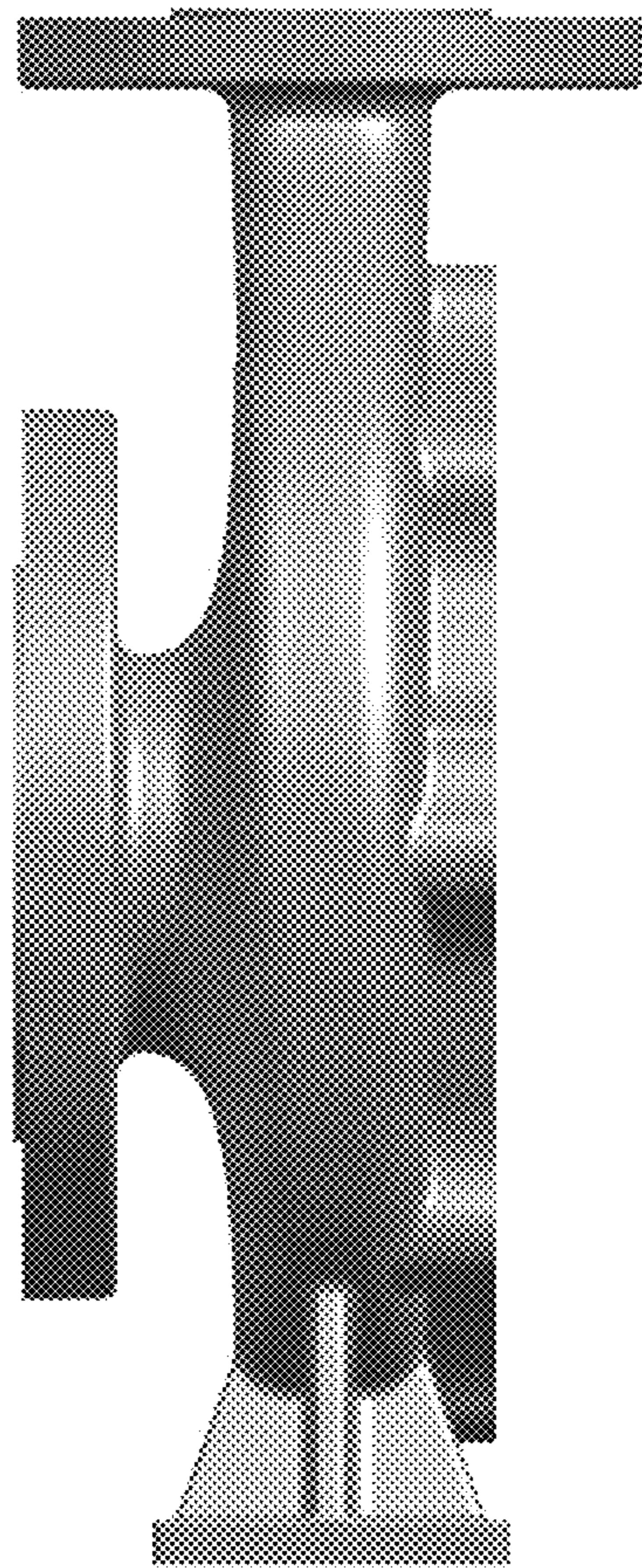


FIG. 26

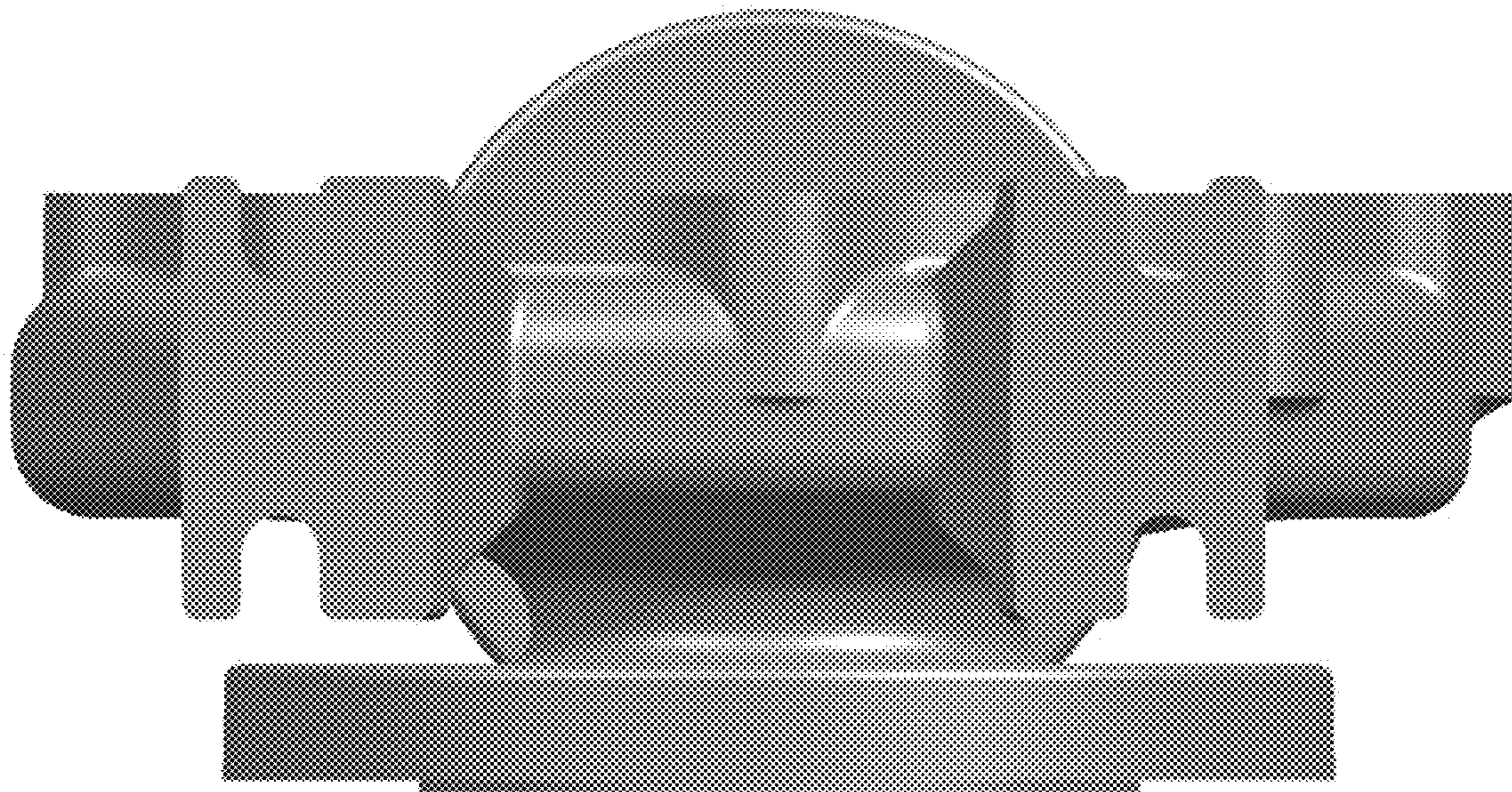


FIG. 27

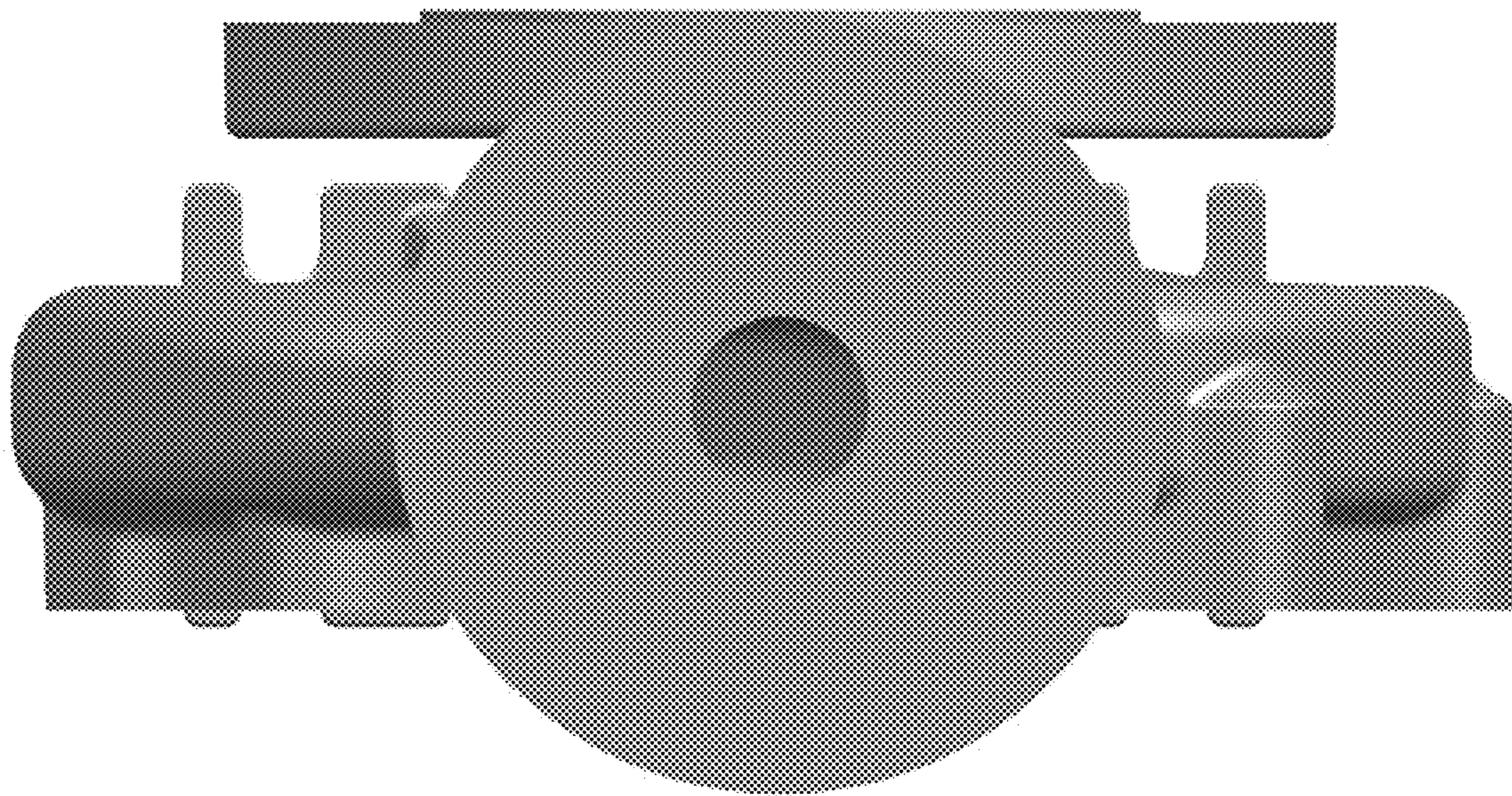


FIG. 28

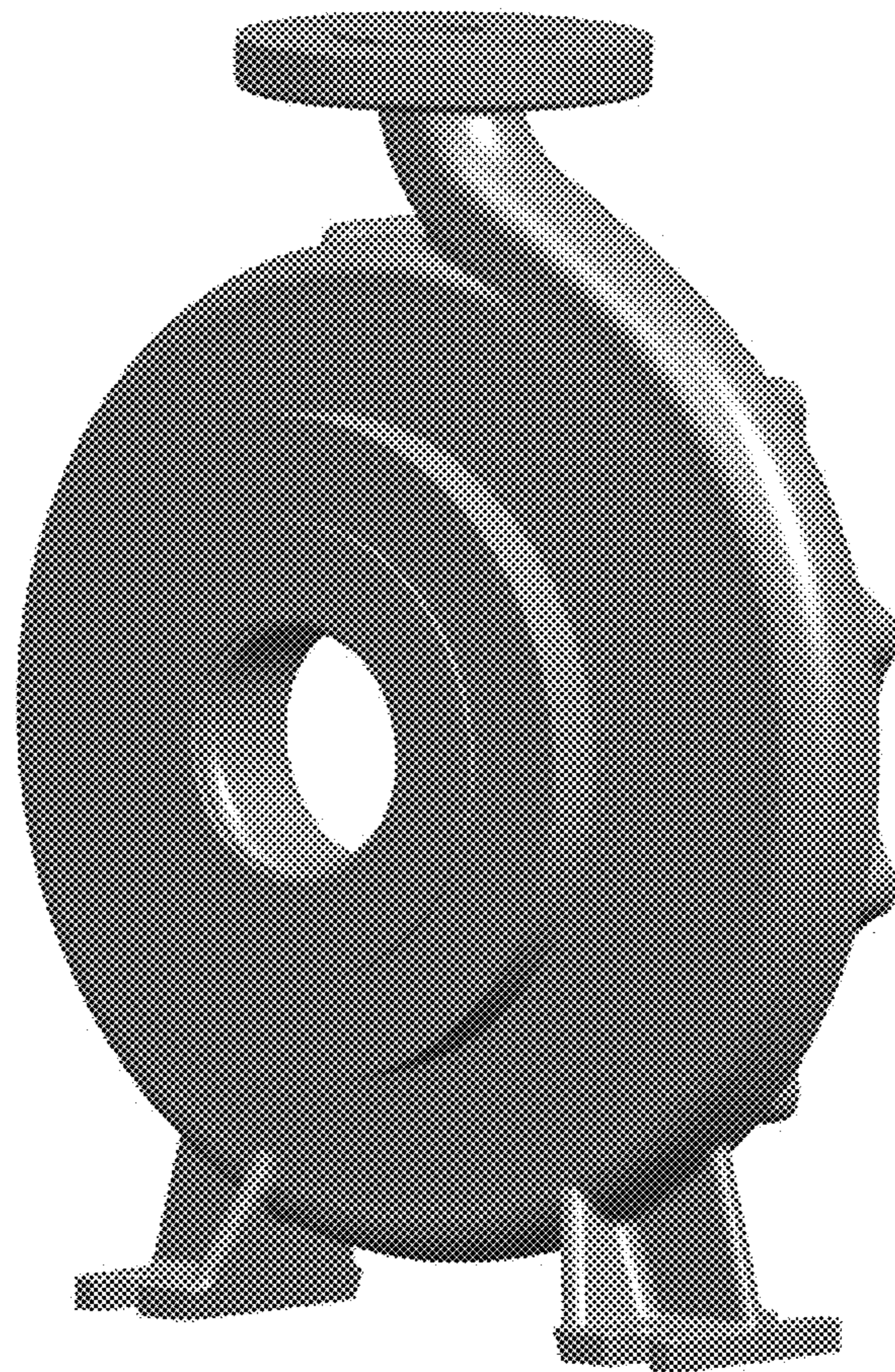


FIG. 29

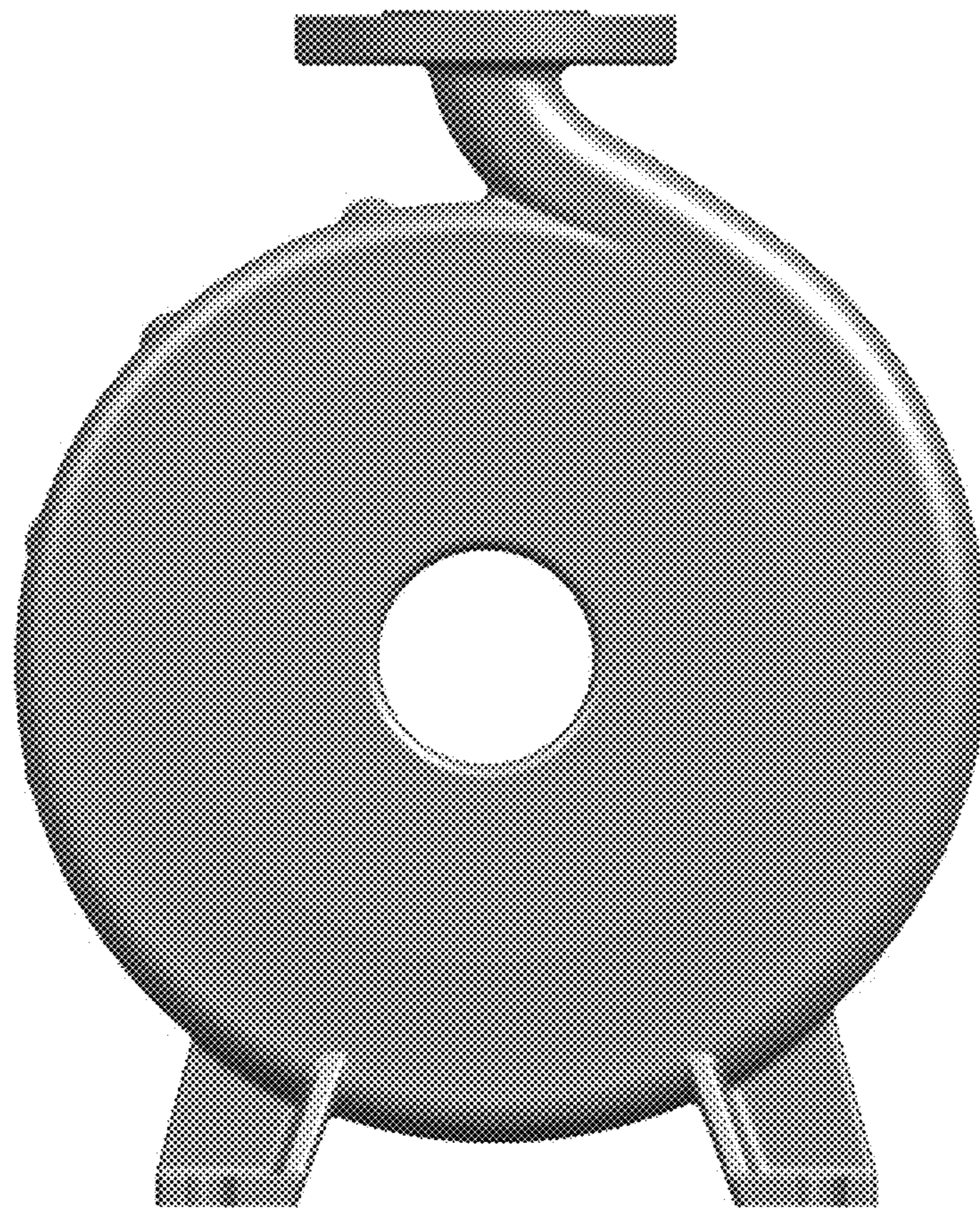


FIG. 30

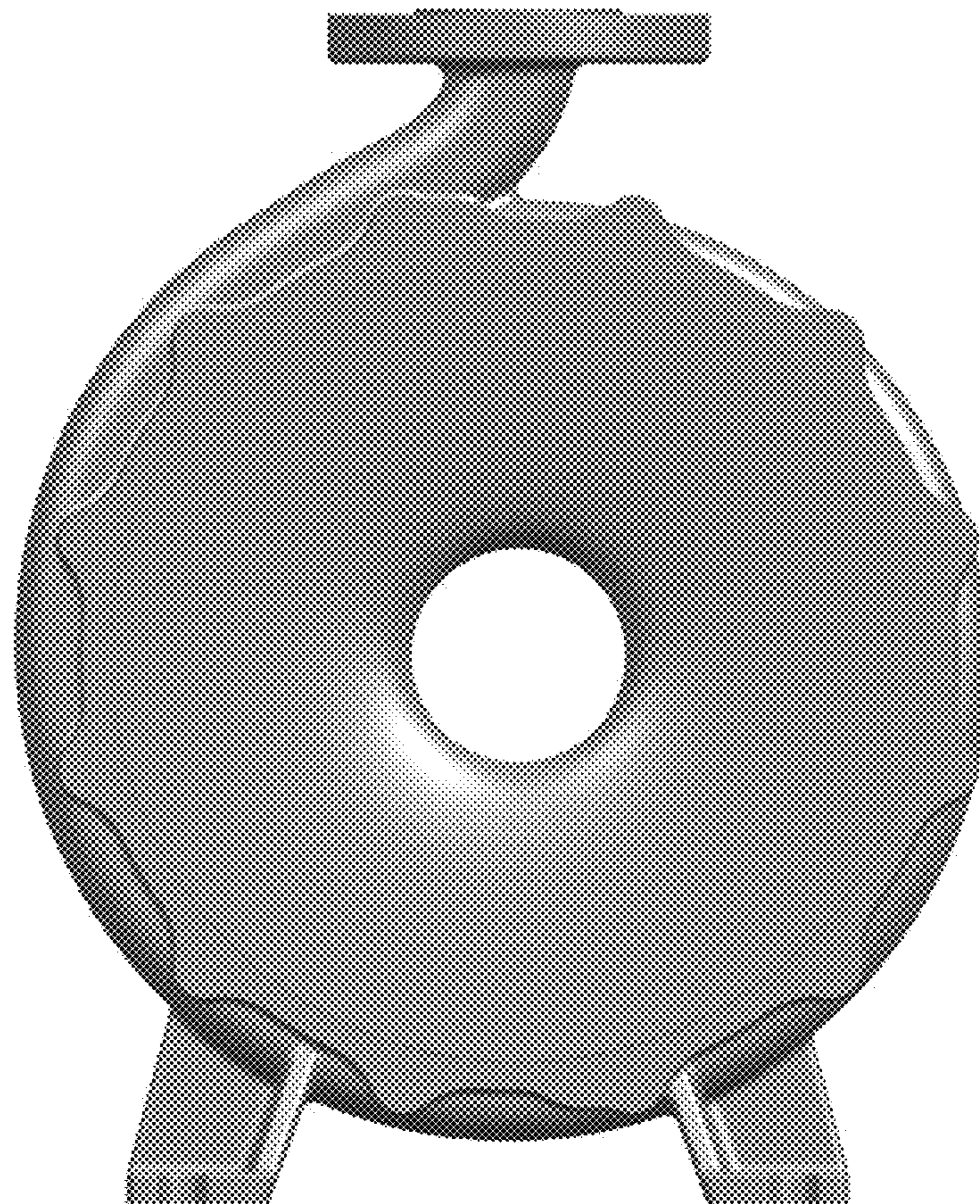


FIG. 31

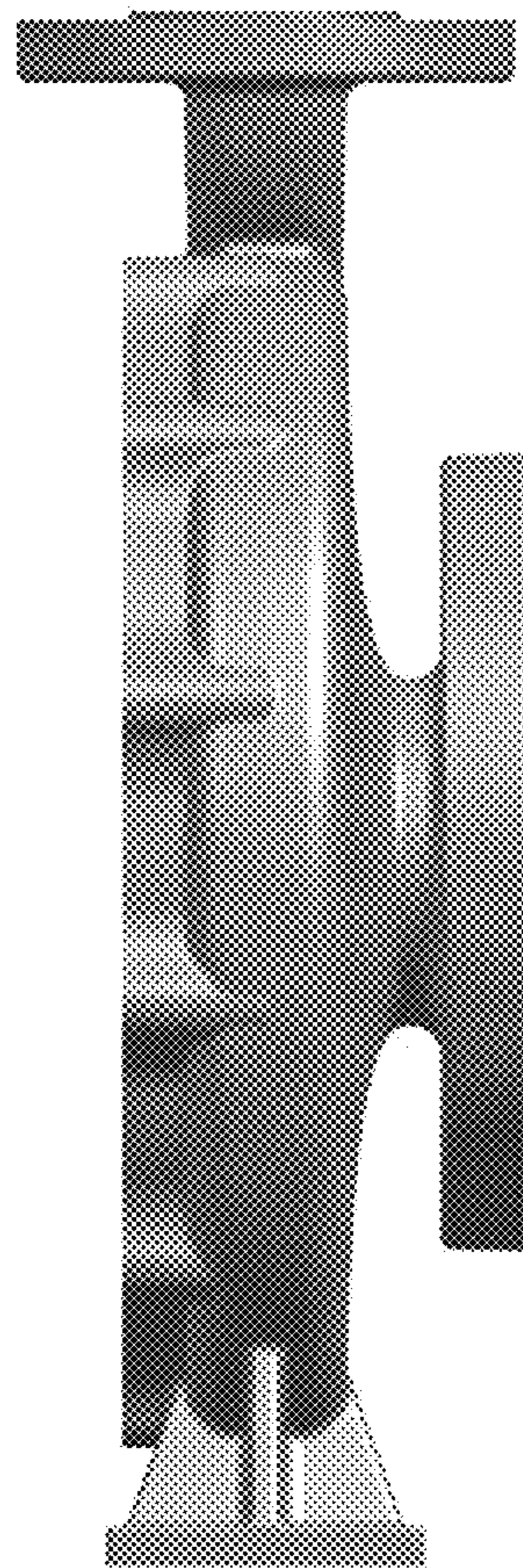


FIG. 32

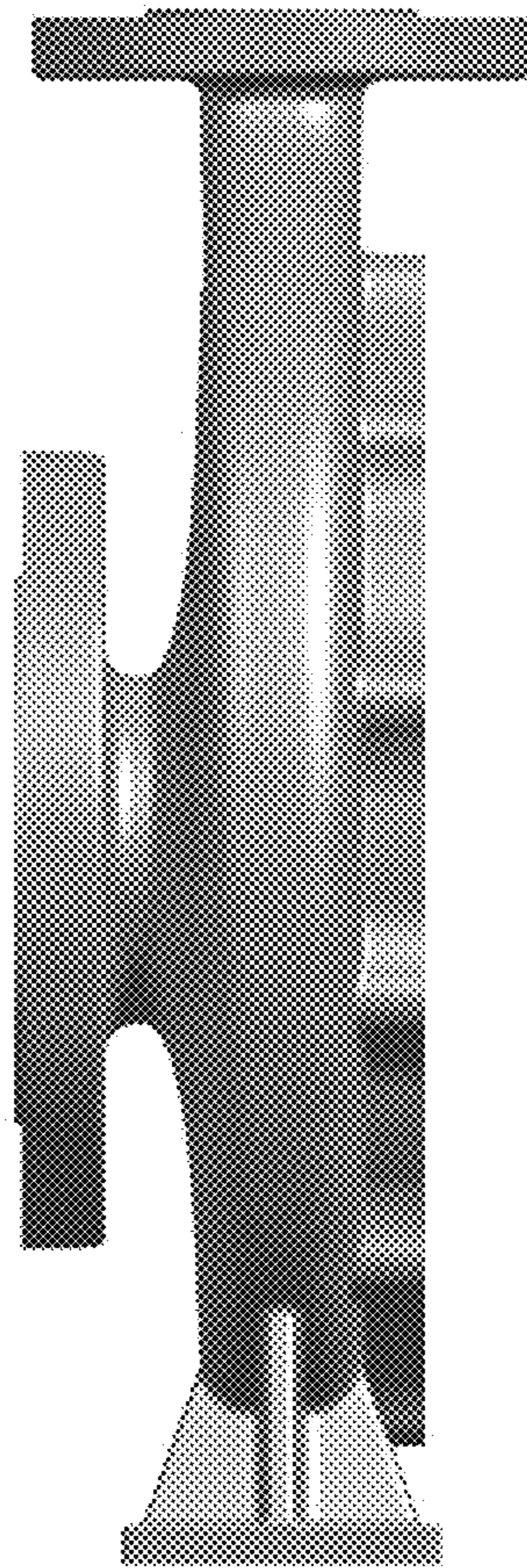


FIG. 33

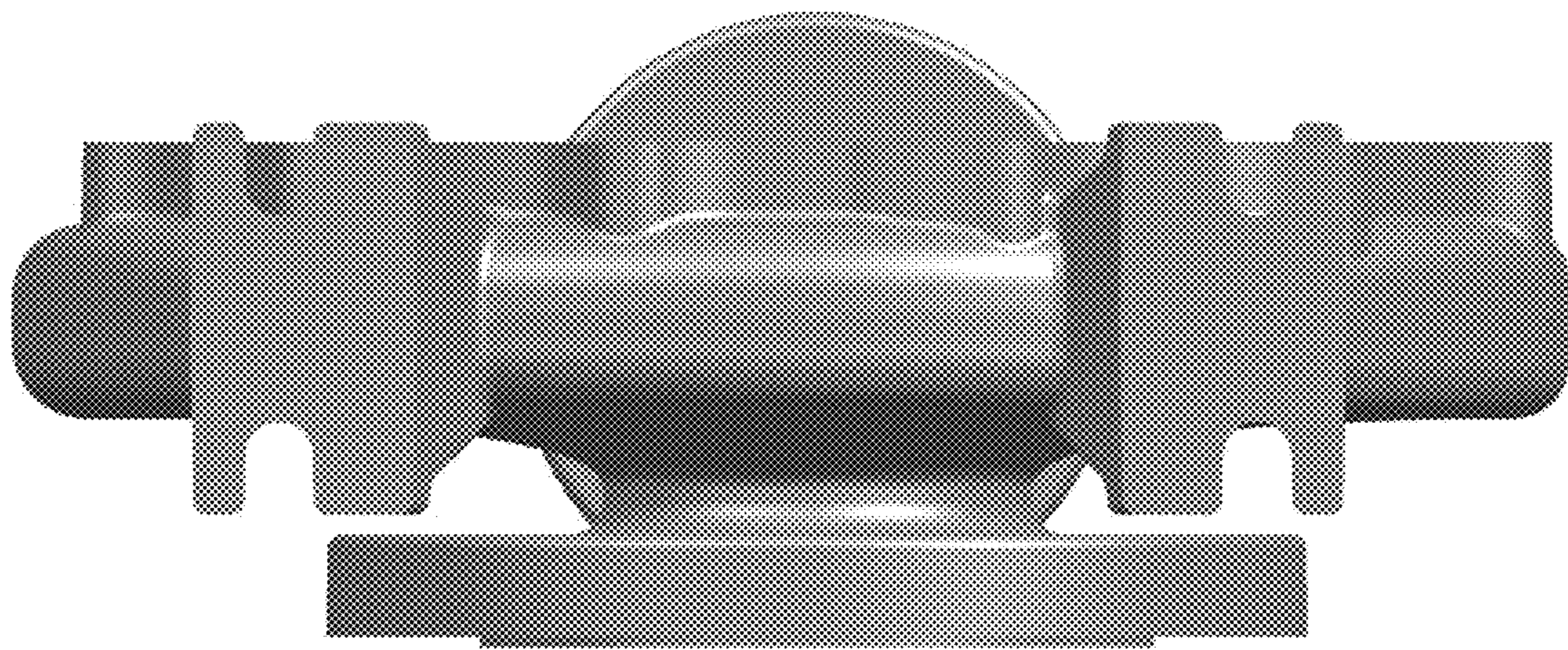


FIG. 34

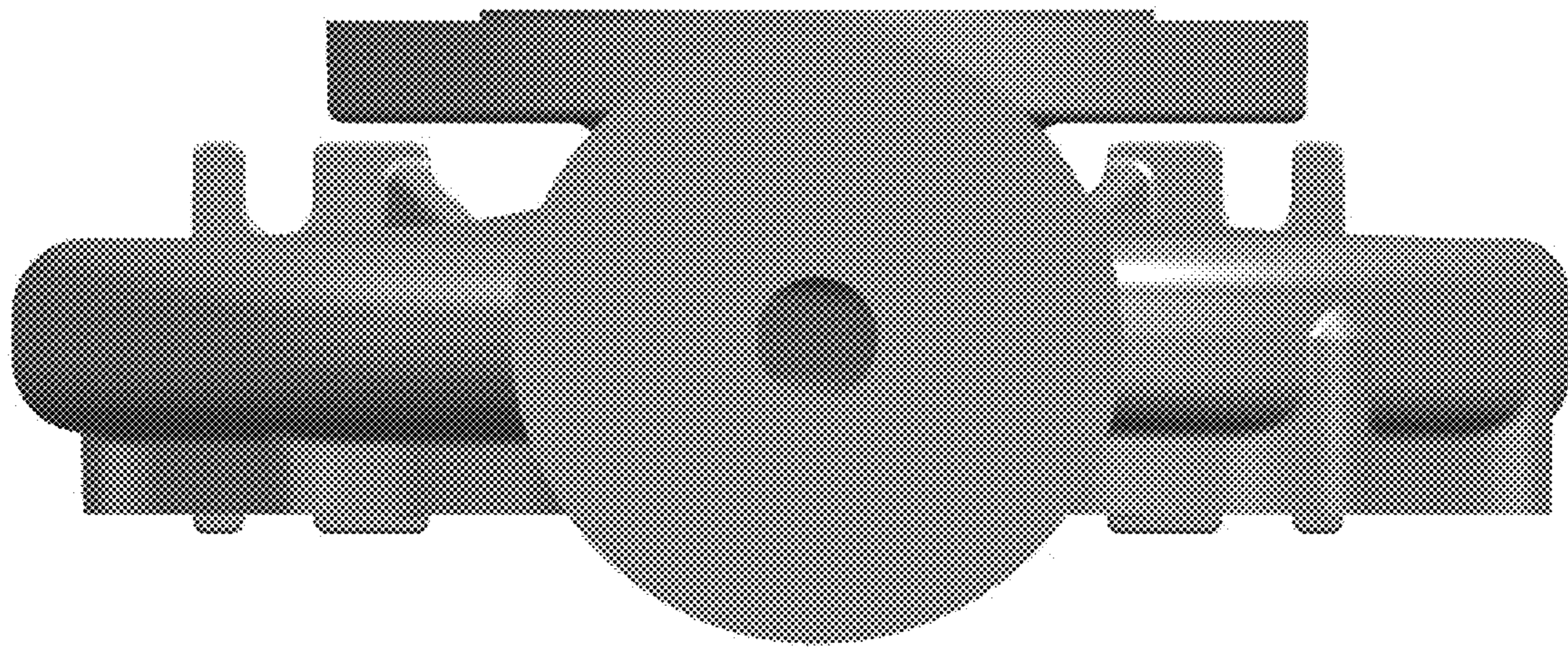


FIG. 35

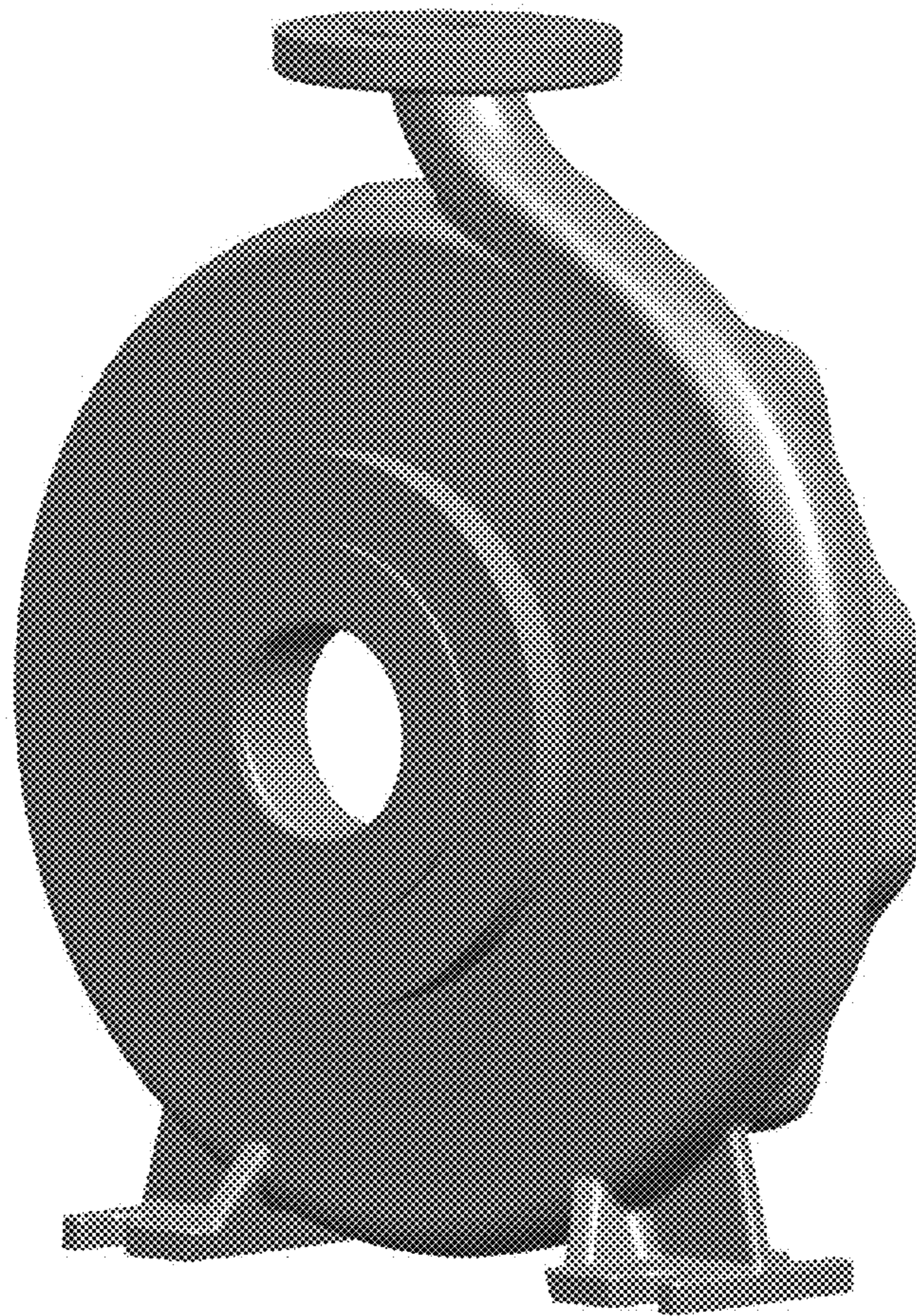


FIG. 36

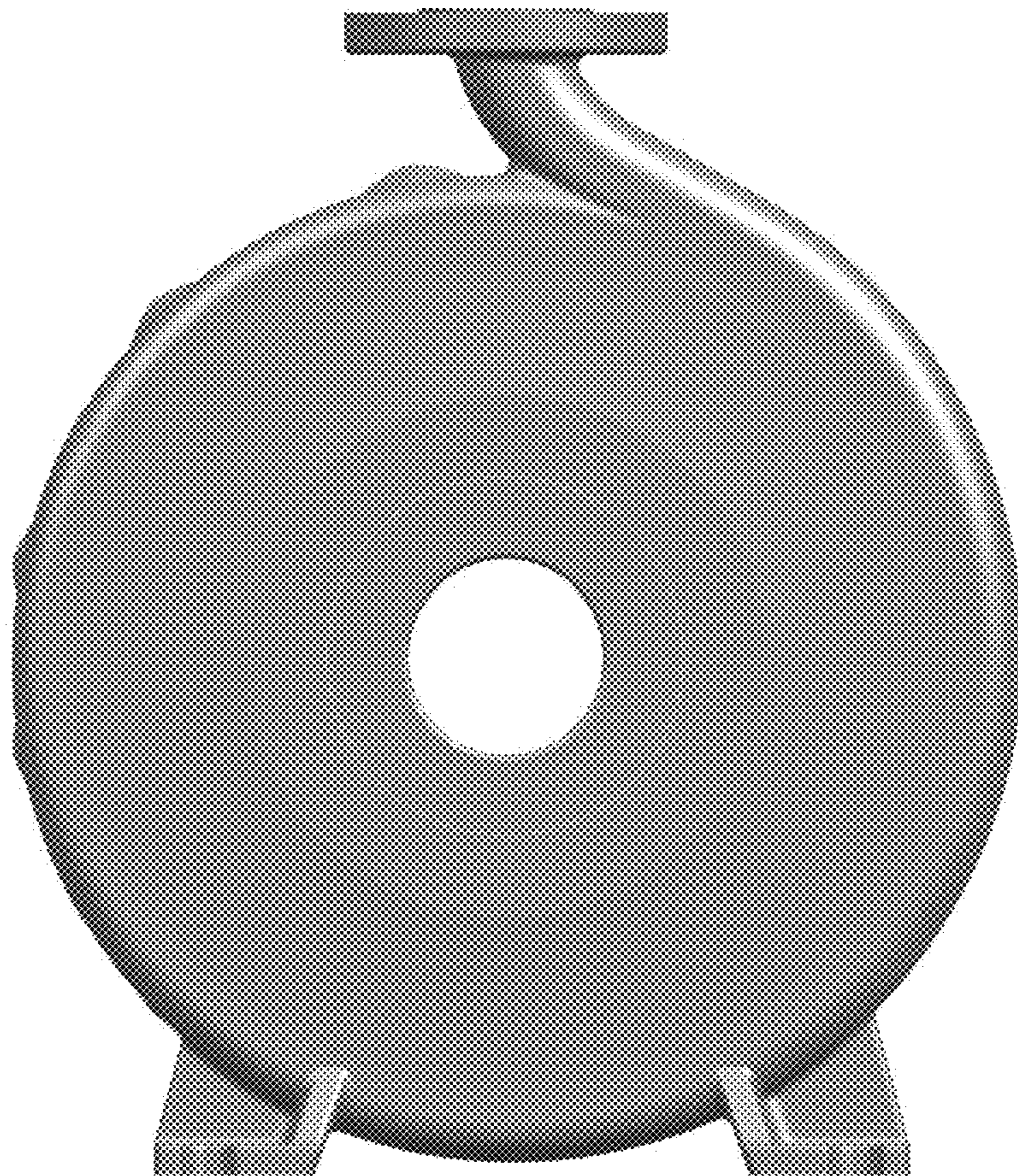


FIG. 37

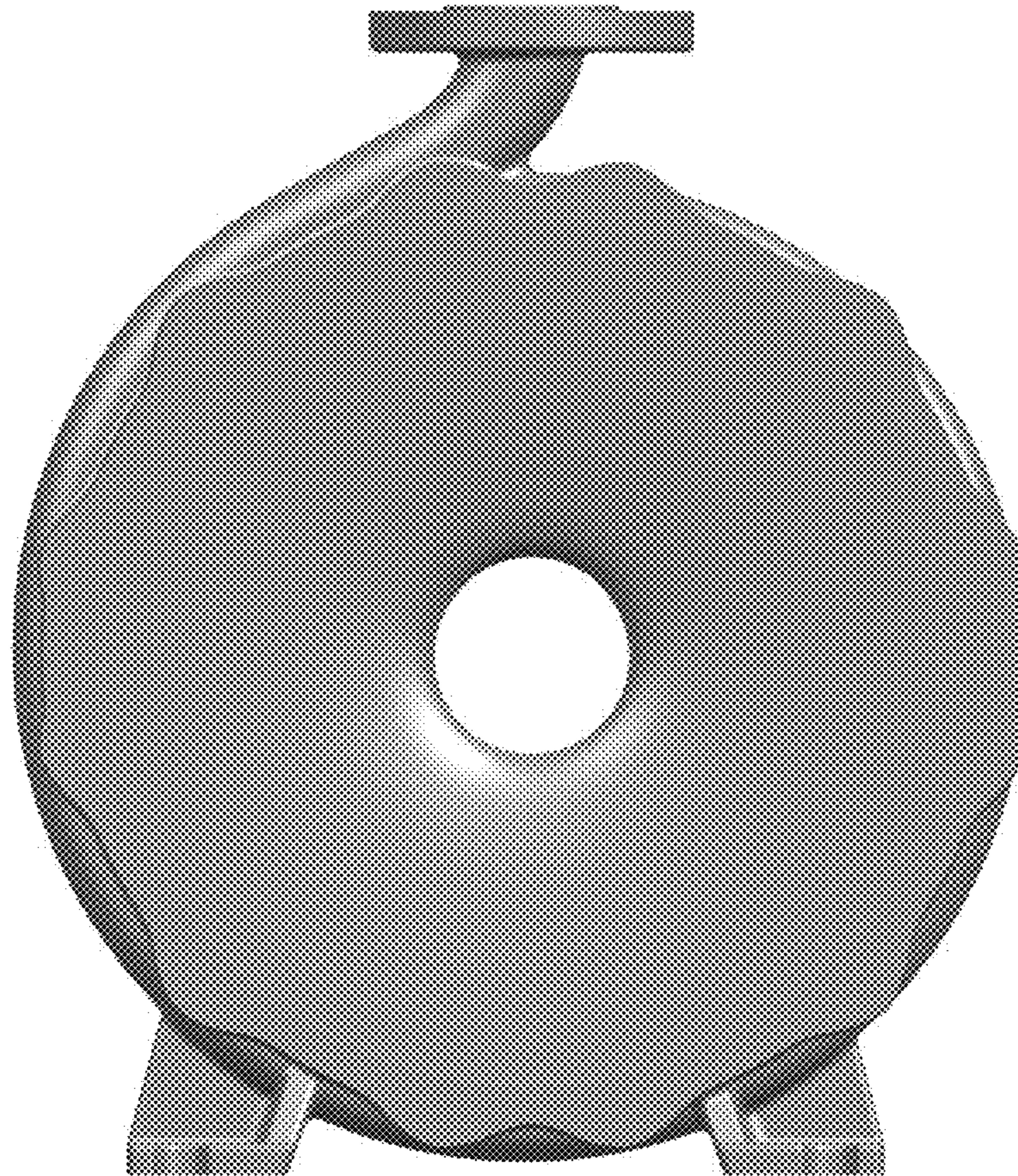


FIG. 38

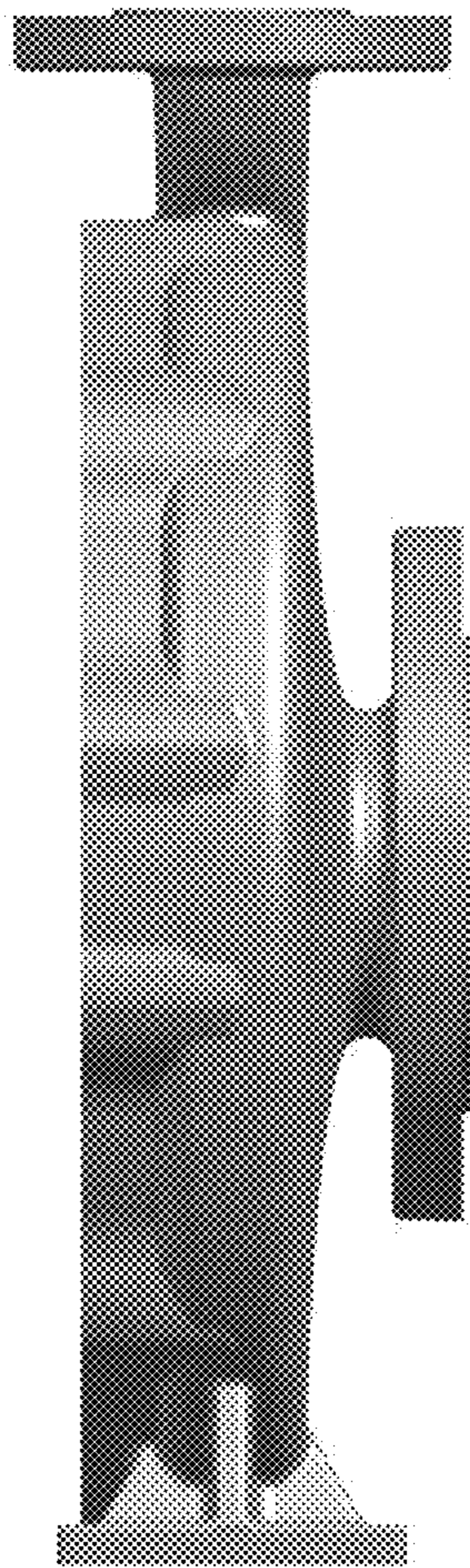


FIG. 39

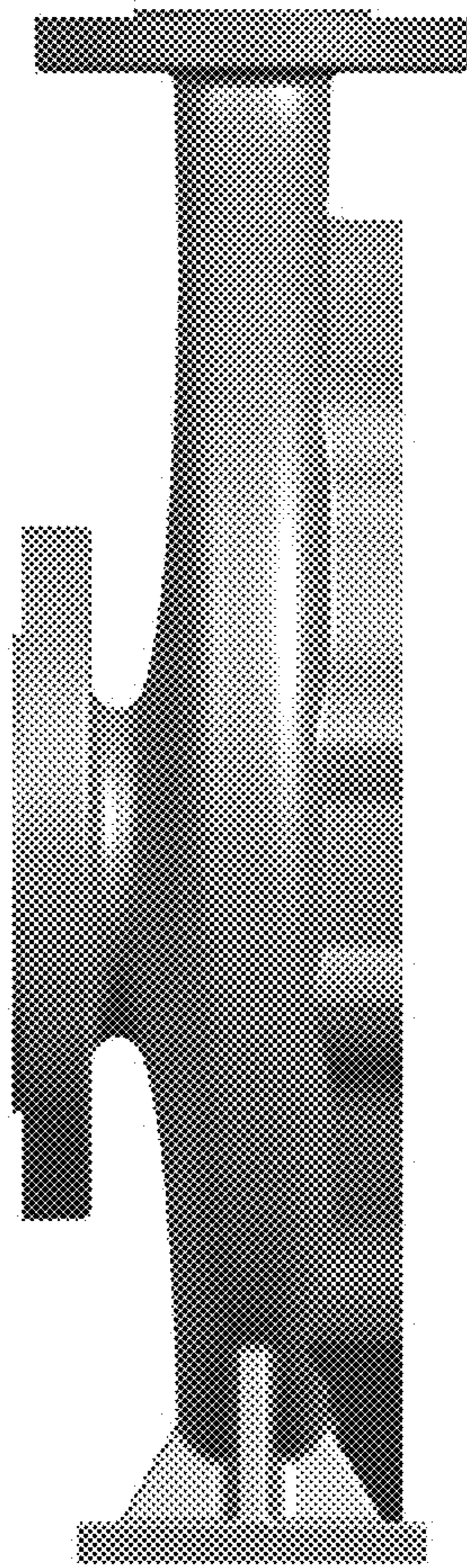


FIG. 40

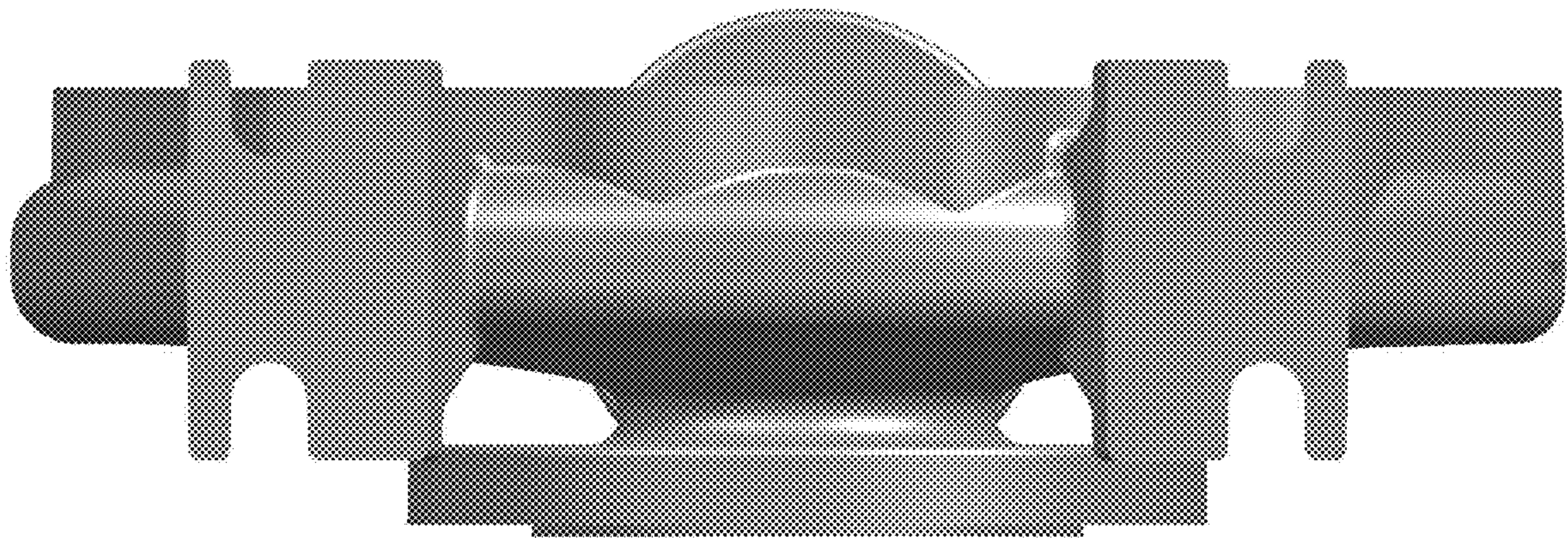


FIG. 41

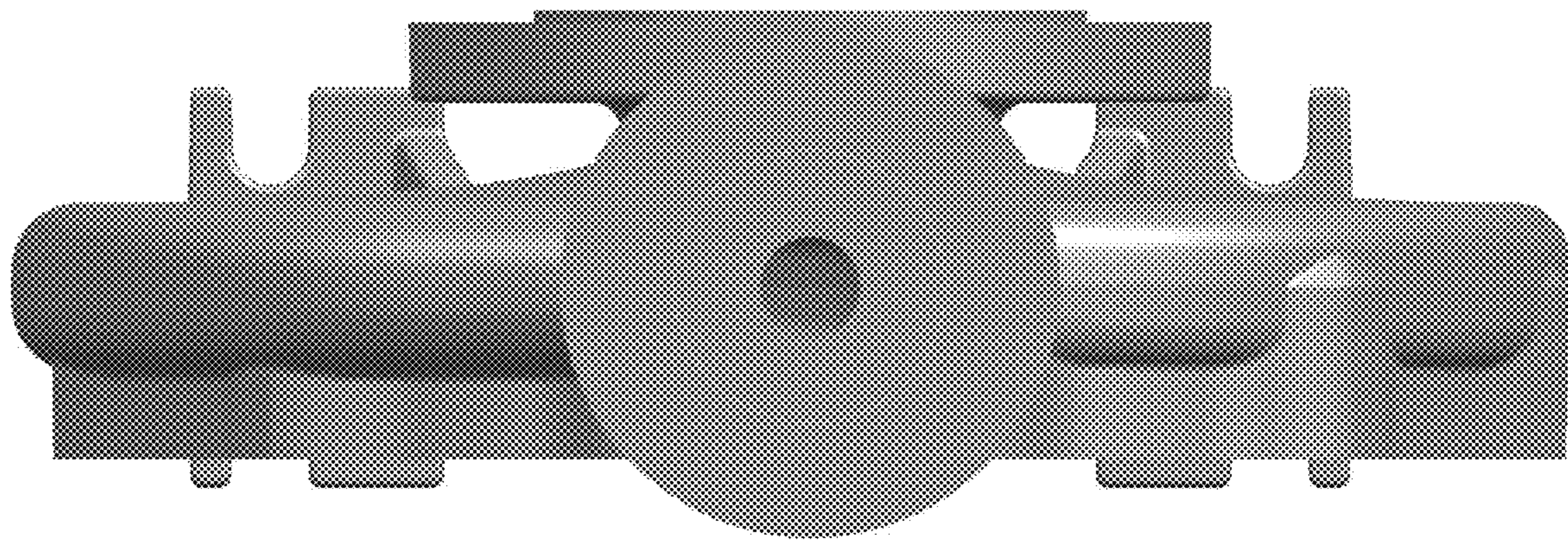


FIG. 42

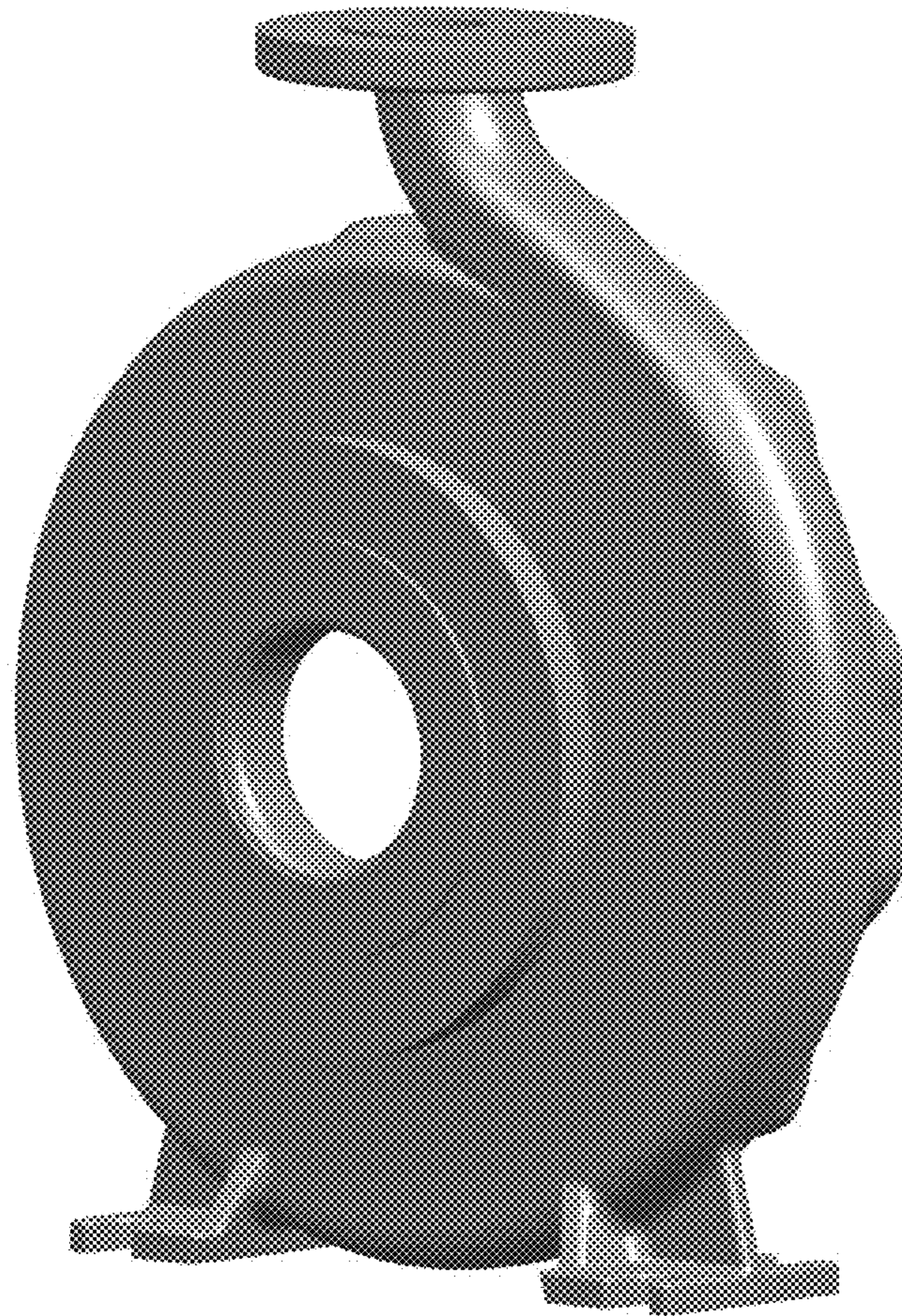


FIG. 43

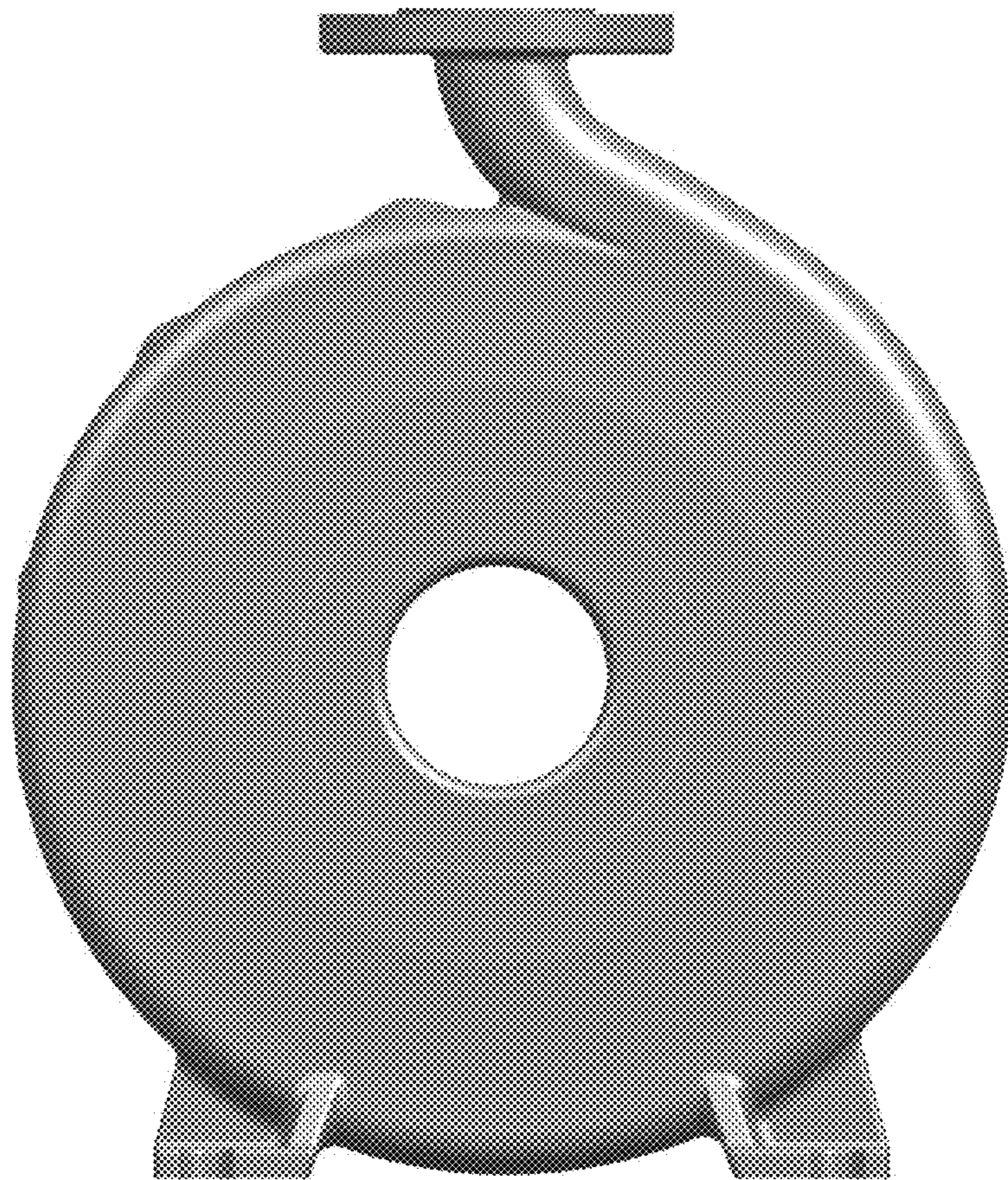


FIG. 44

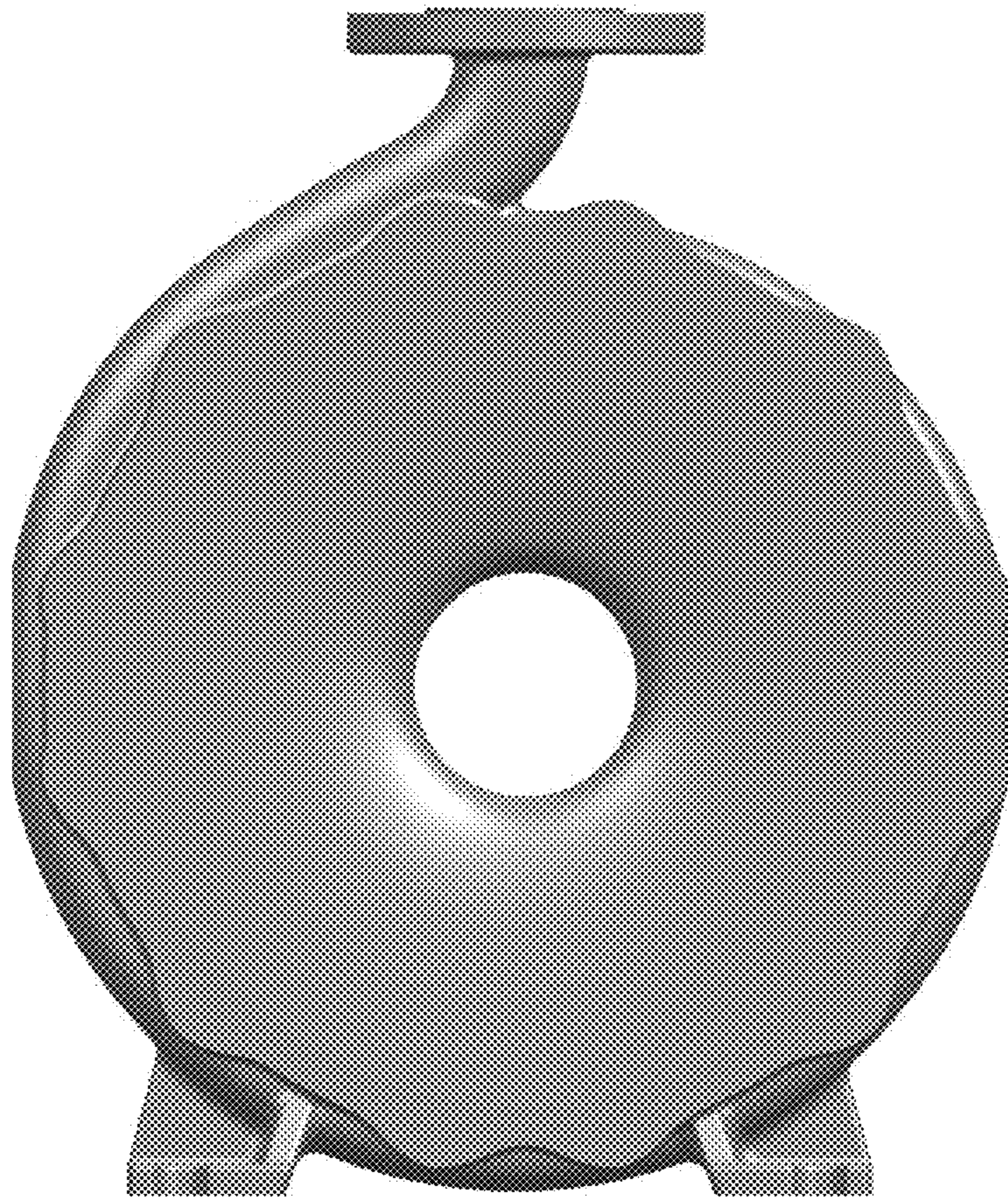


FIG. 45

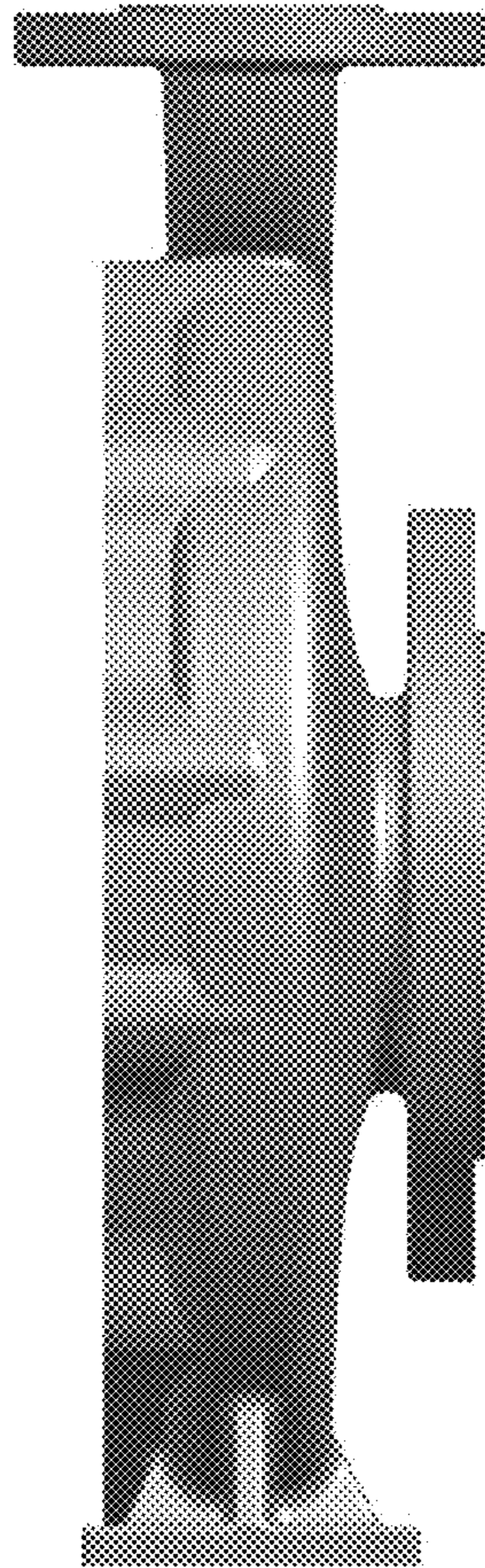


FIG. 46

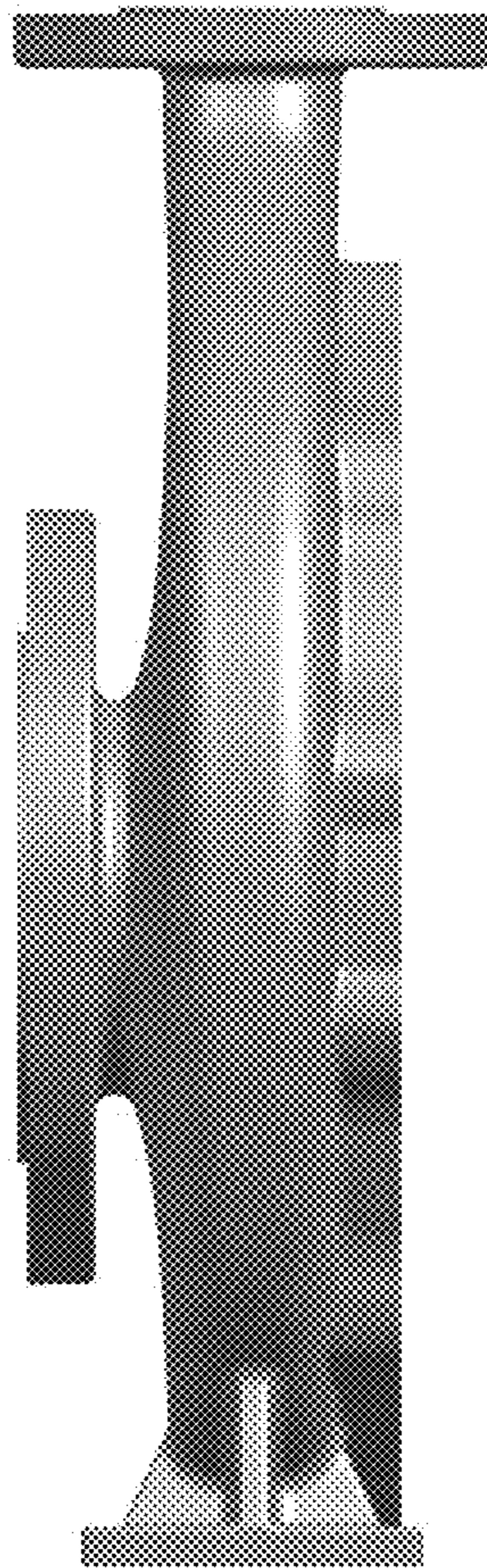


FIG. 47

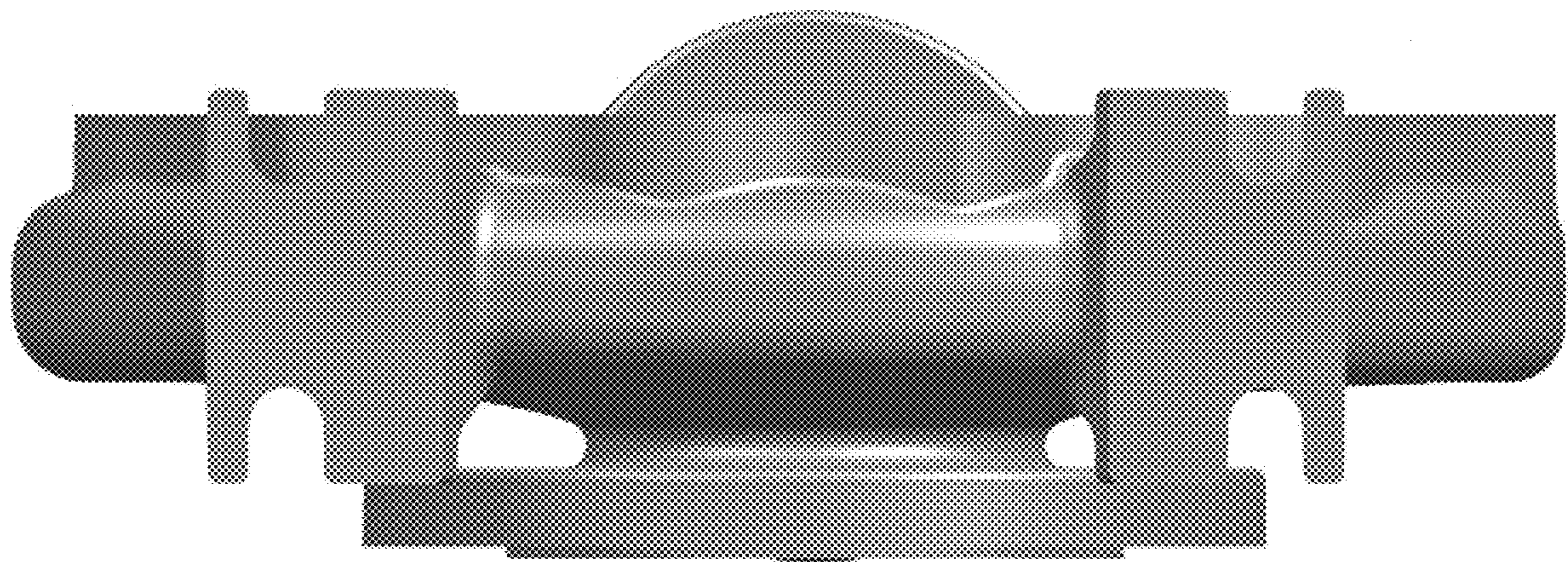


FIG. 48

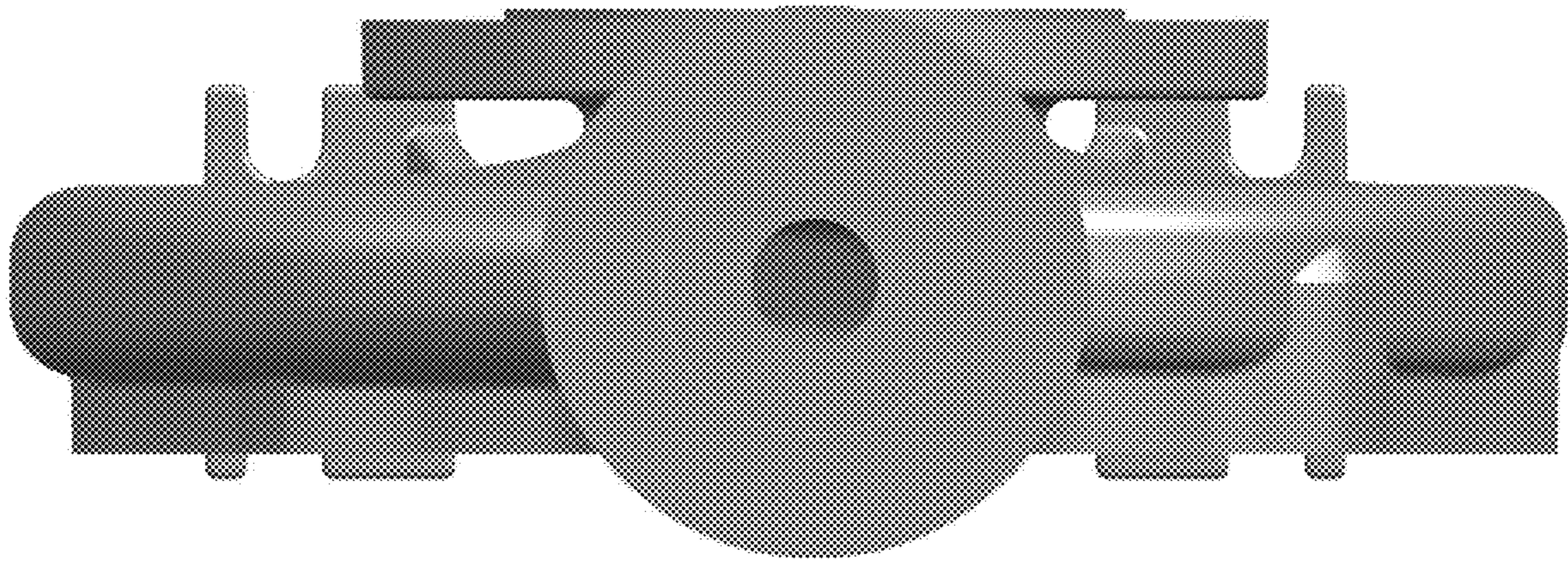


FIG. 49