



US00D958946S

(12) **United States Design Patent** (10) **Patent No.:** **US D958,946 S**
Huan et al. (45) **Date of Patent:** **** Jul. 26, 2022**

(54) **HEAT EXCHANGER**

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(73) Assignee: **DANFOSS MICRO CHANNEL HEAT EXCHANGER (JIAXING) CO., LTD.**, Zhejiang (CN)

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

(21) Appl. No.: **29/637,577**

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(30) **Foreign Application Priority Data**

Aug. 21, 2017 (CN) 201730385072.7

(51) **LOC (13) Cl.** **23-03**

(52) **U.S. Cl.**
USPC **D23/323**

(58) **Field of Classification Search**
USPC D23/323, 322, 324, 325, 326, 327, 330, D23/386, 352, 354

(Continued)

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Primary Examiner — Ania Aman

(74) *Attorney, Agent, or Firm* — McCormick, Paulding & Huber PLLC

(57) **CLAIM**

The ornamental design for a heat exchanger, substantially as shown and described.

DESCRIPTION

FIG. 1 is a front, left side and top perspective view of a heat exchanger comprising a new, original and ornamental design;

FIG. 2 is a front view thereof;

FIG. 3 is a rear view thereof;

FIG. 4 is a left side view thereof;

FIG. 5 is a right side view thereof;

FIG. 6 is a top view thereof;

FIG. 7 is a bottom view thereof;

FIG. 8 is a front, left side and top perspective view of the heat exchanger in accordance with a second embodiment;

FIG. 9 is a front view thereof;

FIG. 10 is a rear view thereof;

FIG. 11 is a left side view thereof;

FIG. 12 is a right side view thereof;

FIG. 13 is a top view thereof;

FIG. 14 is a bottom view thereof;

FIG. 15 is a front, left side and top perspective view of the heat exchanger in accordance with a third embodiment;

FIG. 16 is a front view thereof;

FIG. 17 is a rear view thereof;

FIG. 18 is a left side view thereof;

FIG. 19 is a right side view thereof;

FIG. 20 is a top view thereof;

FIG. 21 is a bottom view thereof;

FIG. 22 is a front, left side and top perspective view of the heat exchanger in accordance with a fourth embodiment;

FIG. 23 is a front view thereof;

FIG. 24 is a rear view thereof;

FIG. 25 is a left side view thereof;

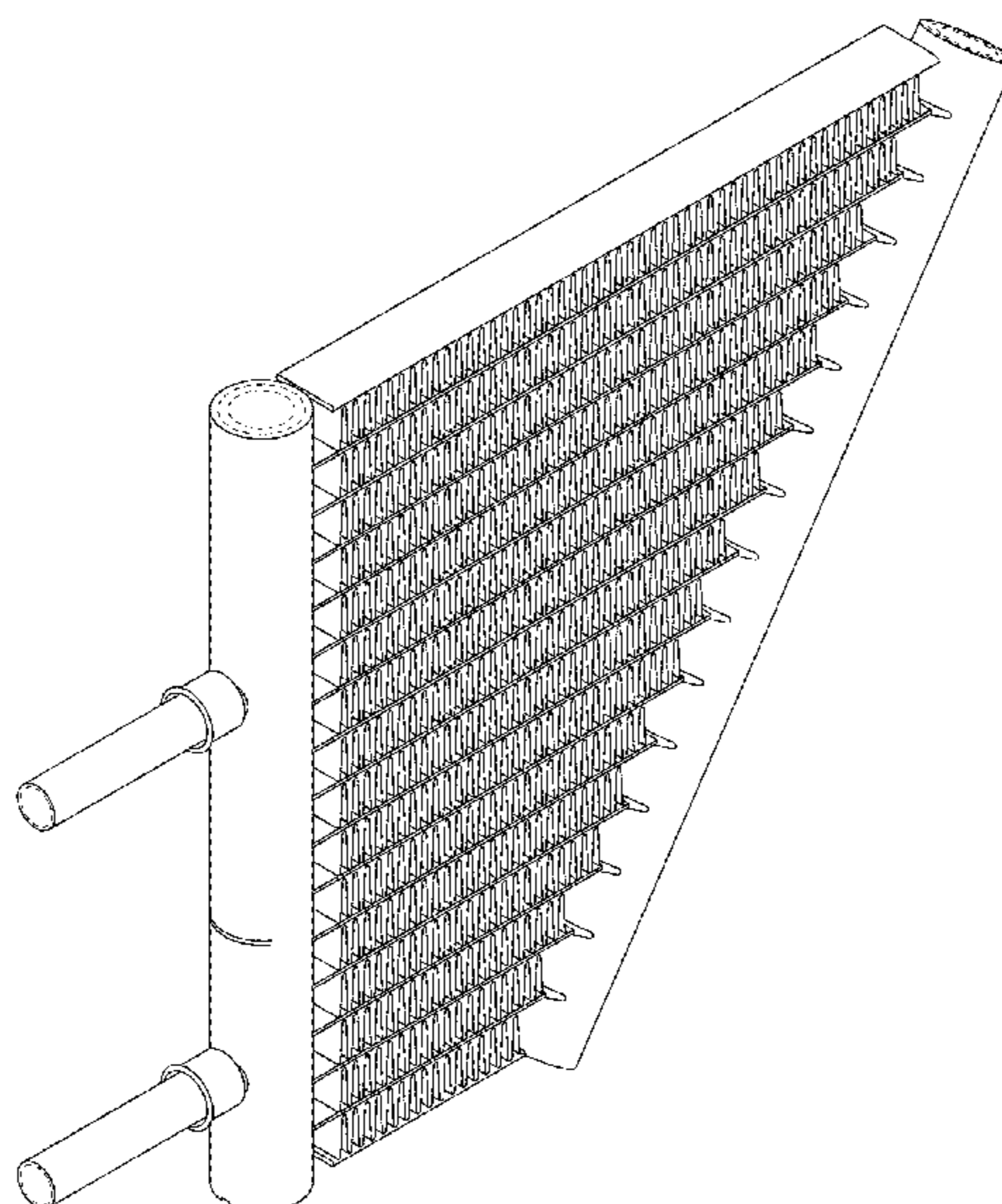
FIG. 26 is a right side view thereof;

FIG. 27 is a top view thereof; and,

FIG. 28 is a bottom view thereof.

The broken lines show portions of the heat exchanger that form no part of the claimed design.

1 Claim, 28 Drawing Sheets



(58) **Field of Classification Search**

CPC F28F 1/06; F28F 1/16; F28F 1/21; F28F
9/02; F28D 1/047; F28D 13/12; F28D
7/06; F28D 7/10; F28D 2001/0266; B21D
53/02; F28B 1/06

See application file for complete search history.

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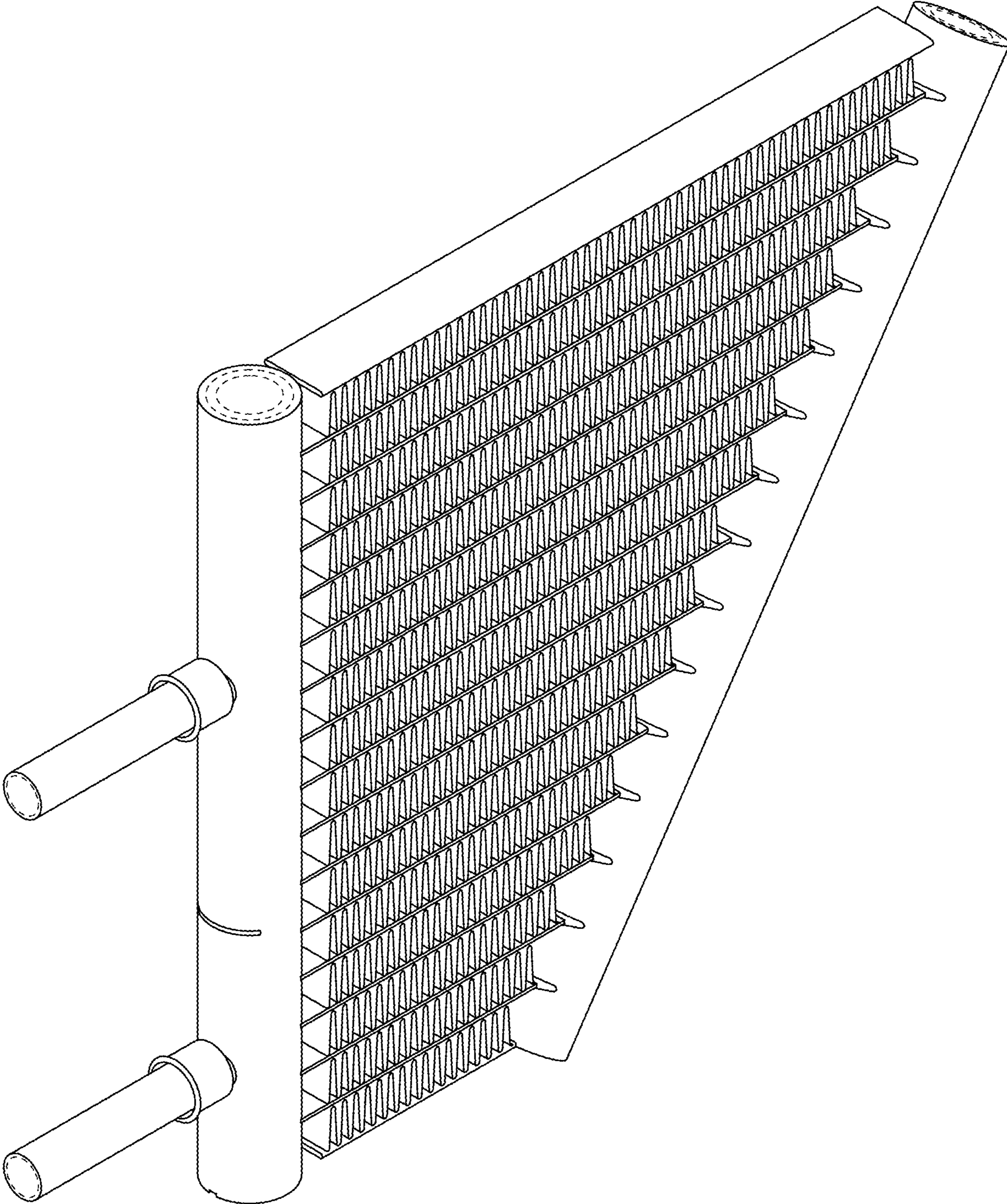


FIG. 1

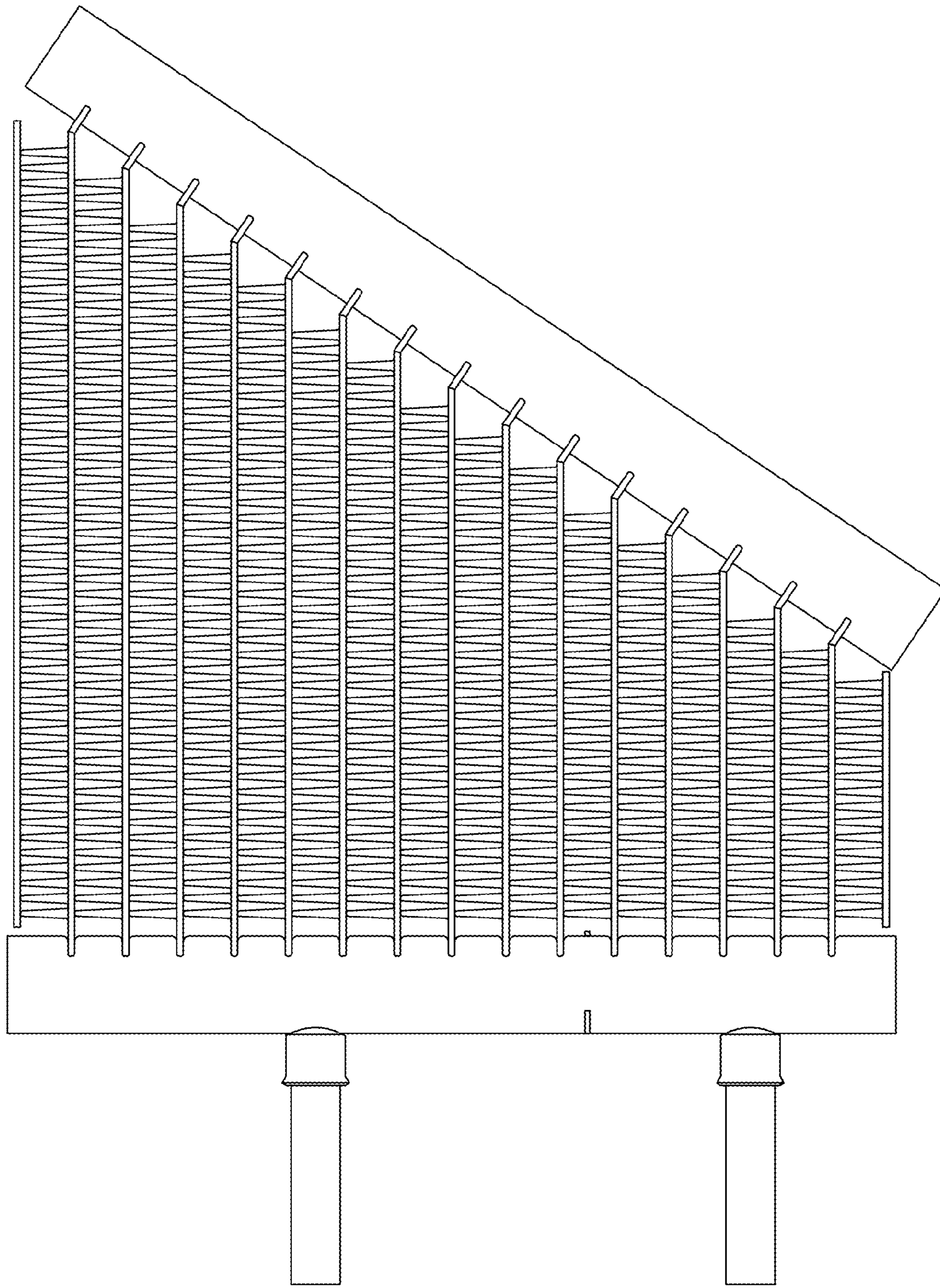


FIG. 2

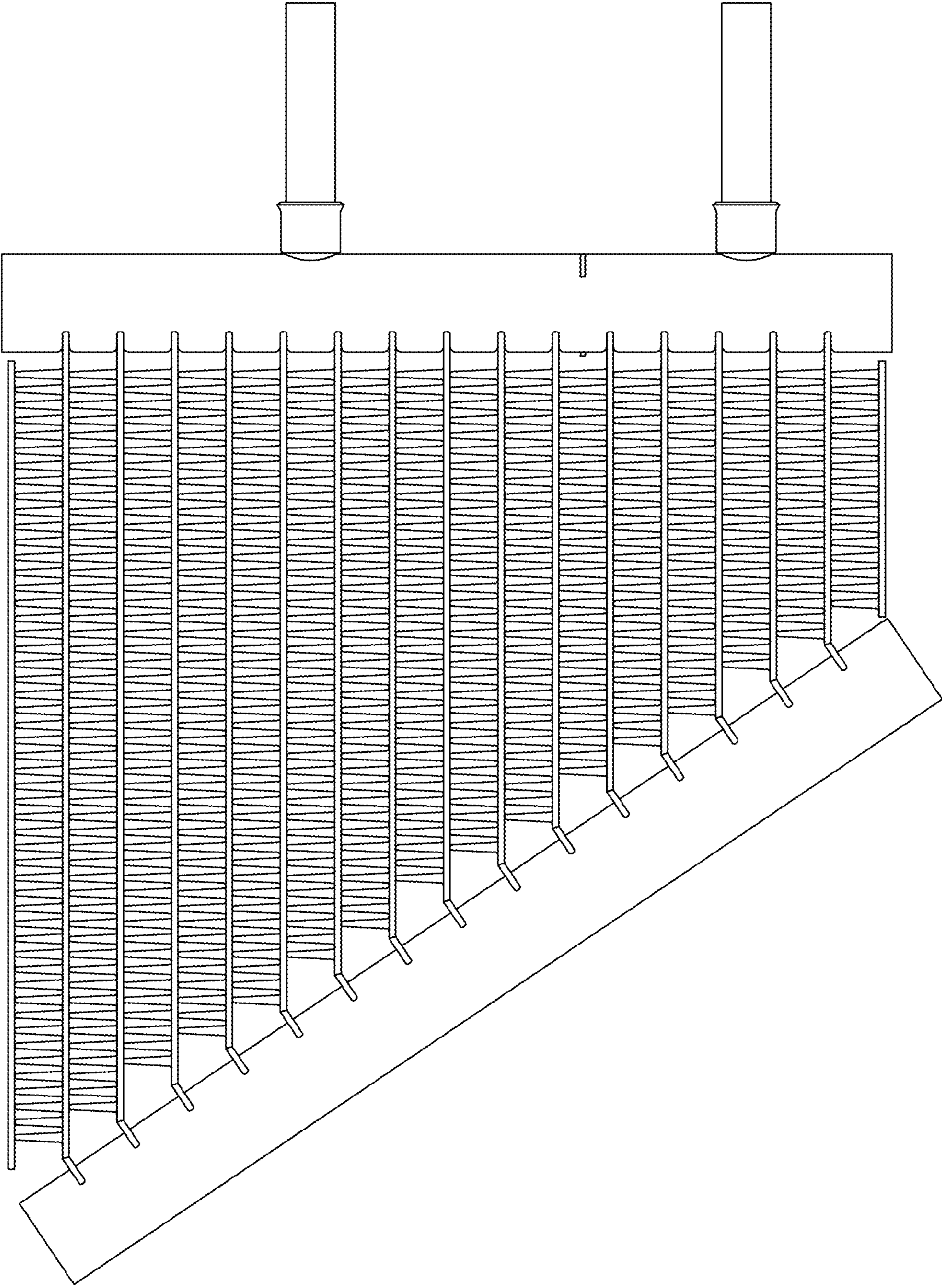


FIG. 3



FIG. 4



FIG. 5

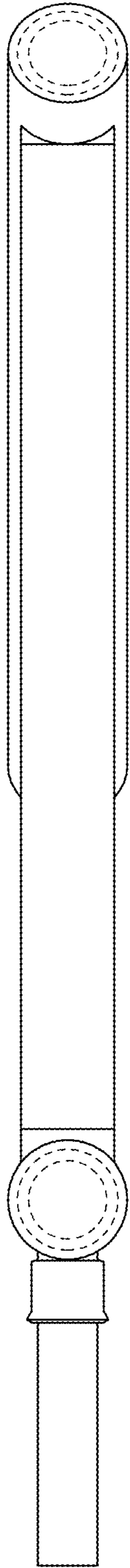


FIG. 6

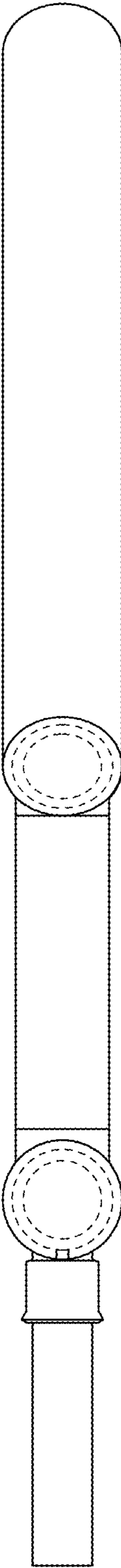


FIG. 7

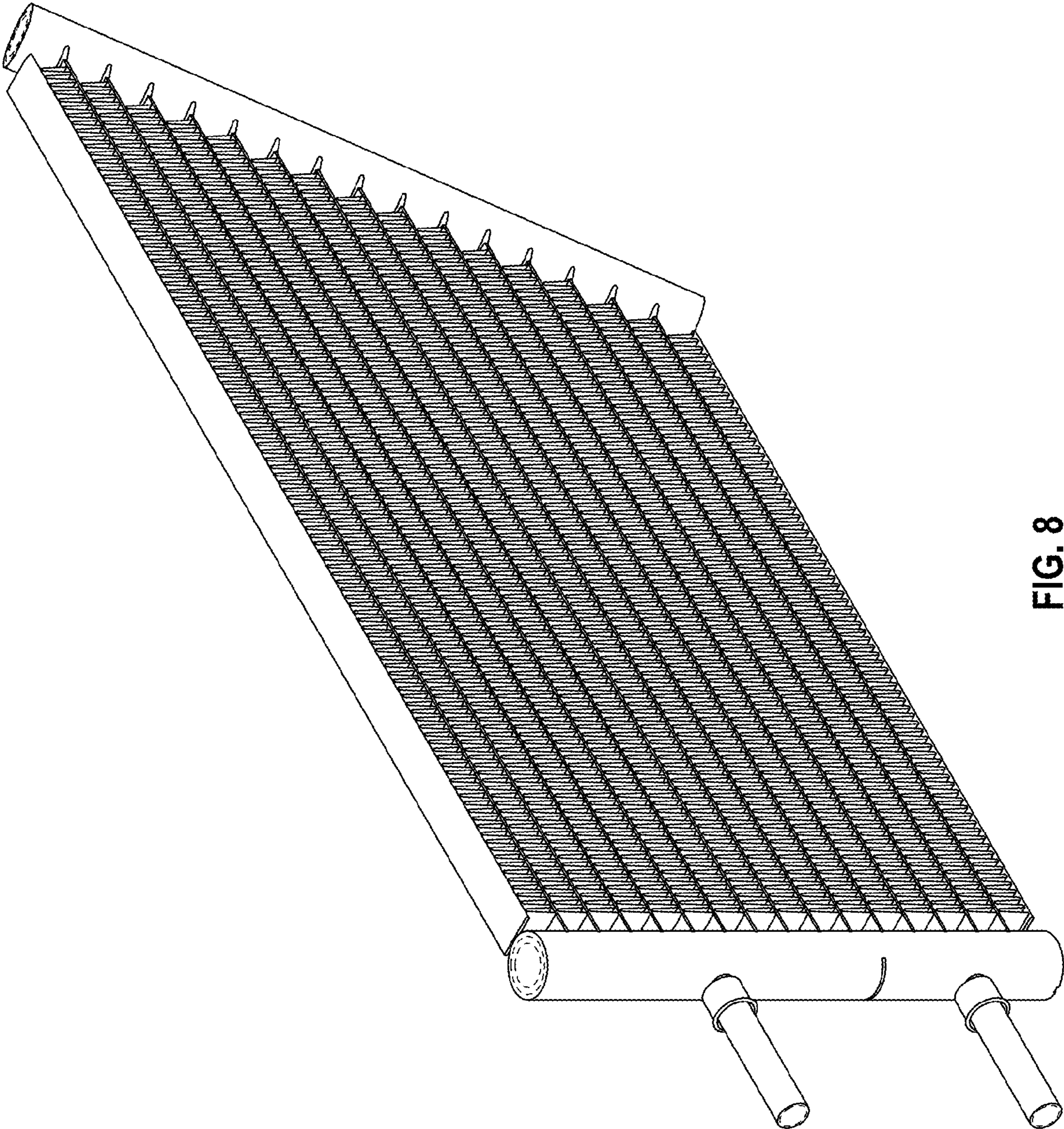


FIG. 8

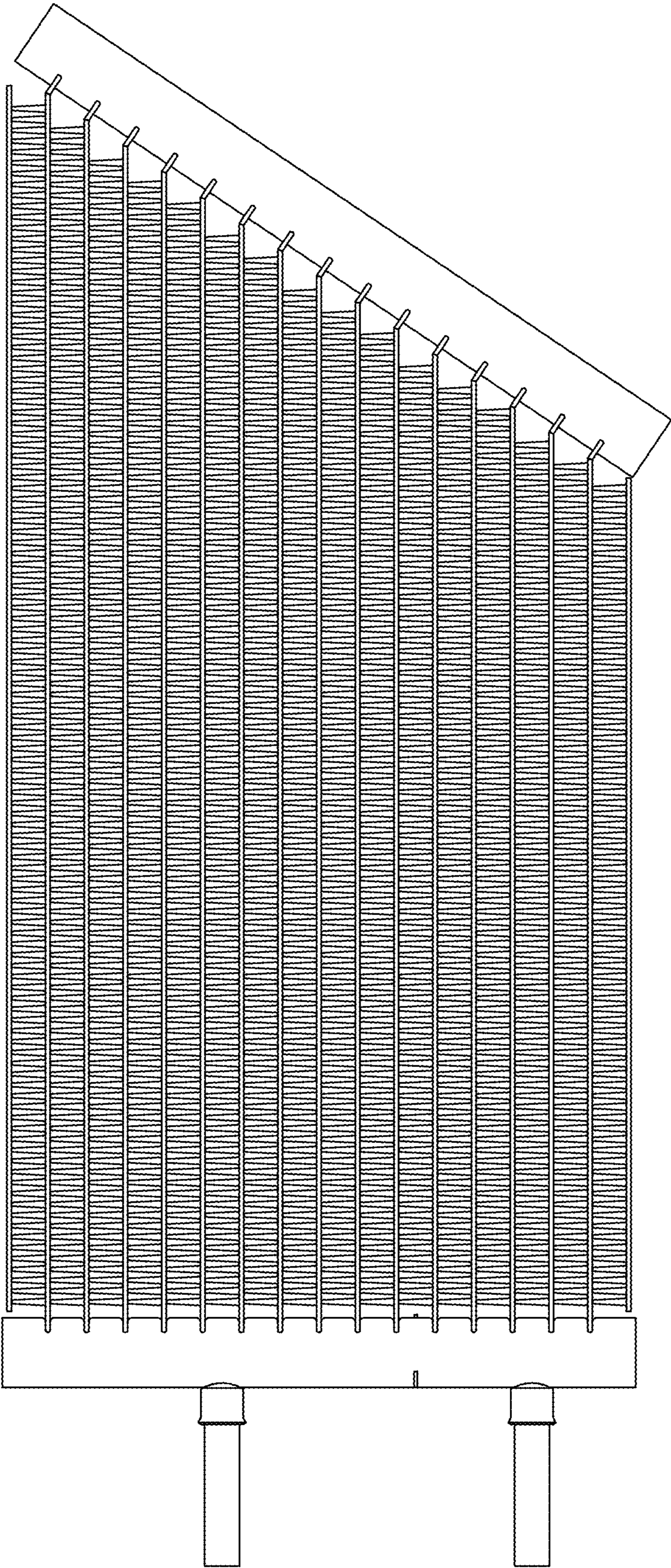


FIG. 9

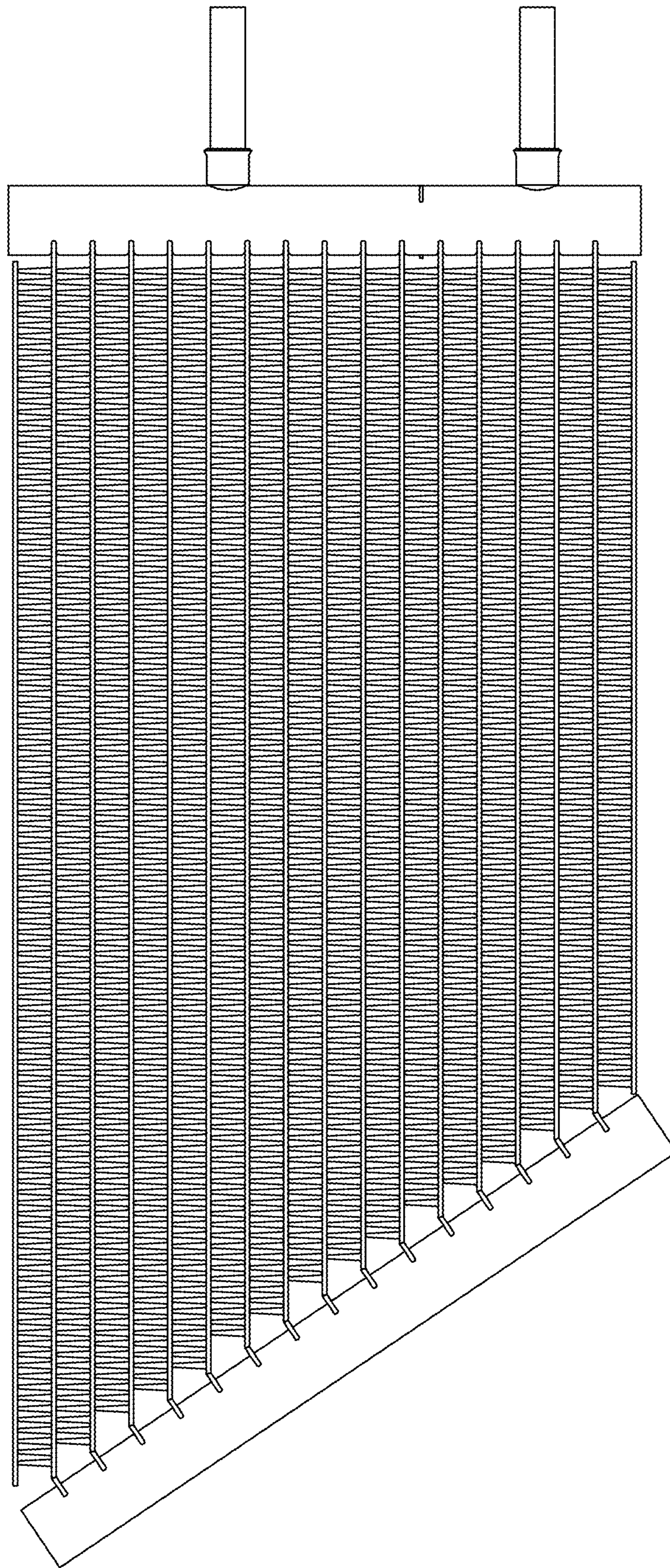


FIG. 10

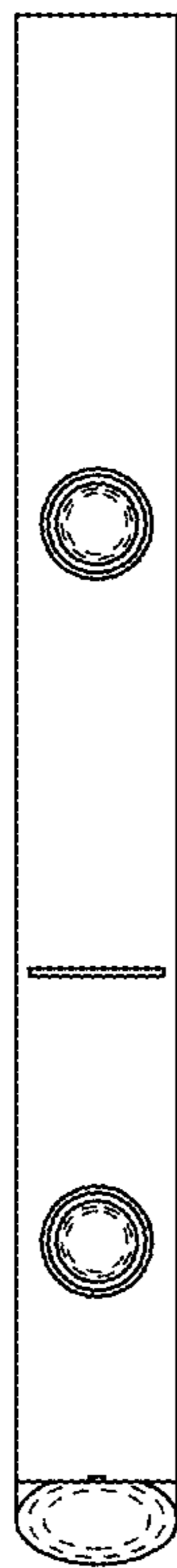


FIG. 11



FIG. 12

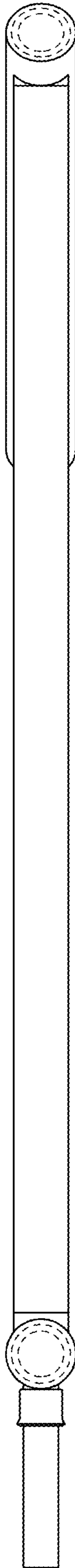


FIG. 13

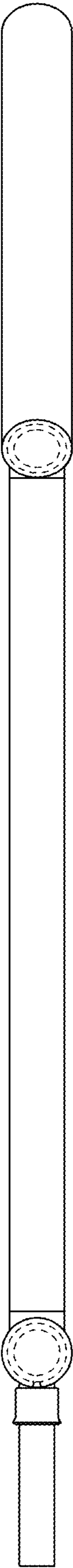


FIG. 14

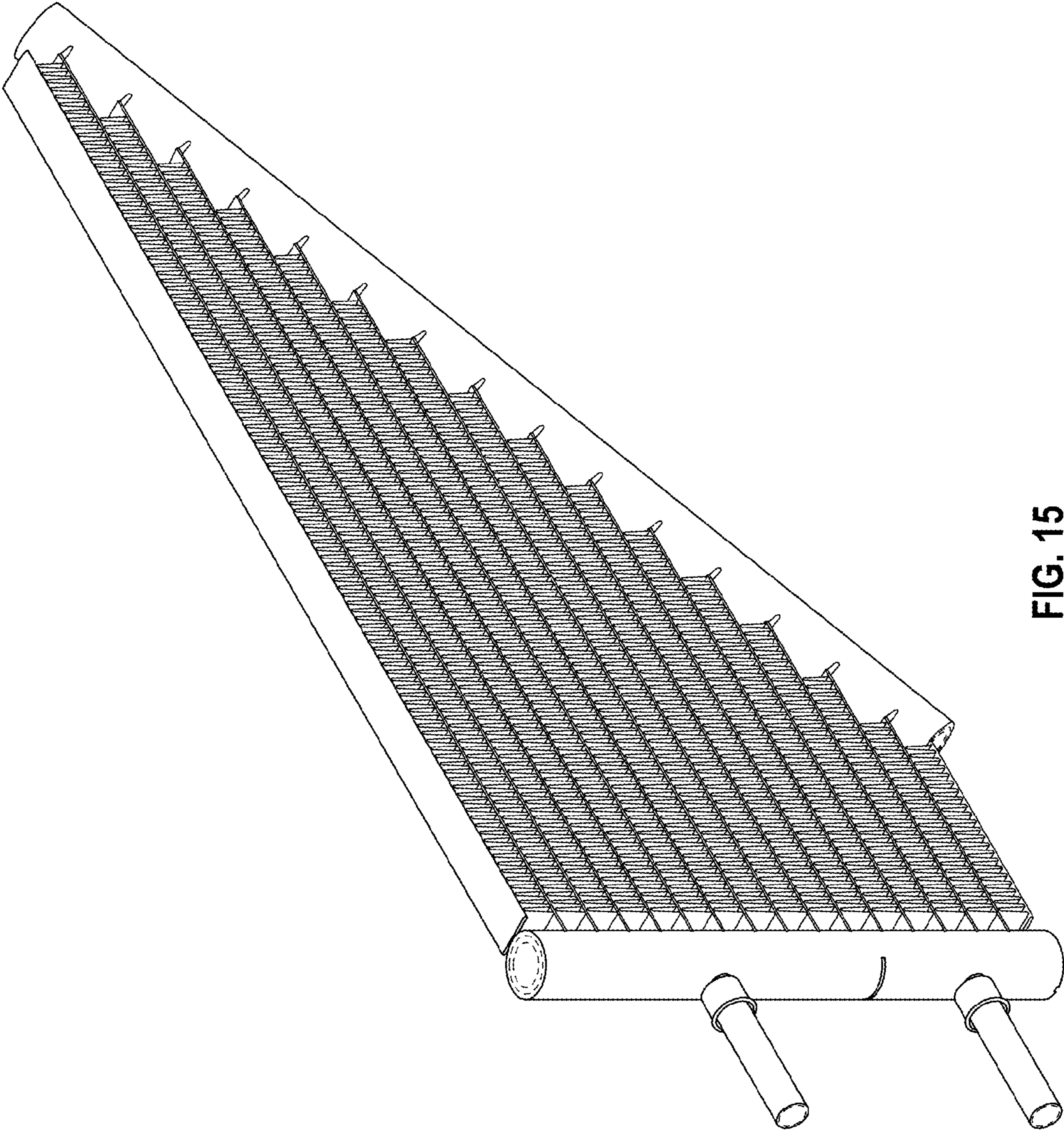


FIG. 15

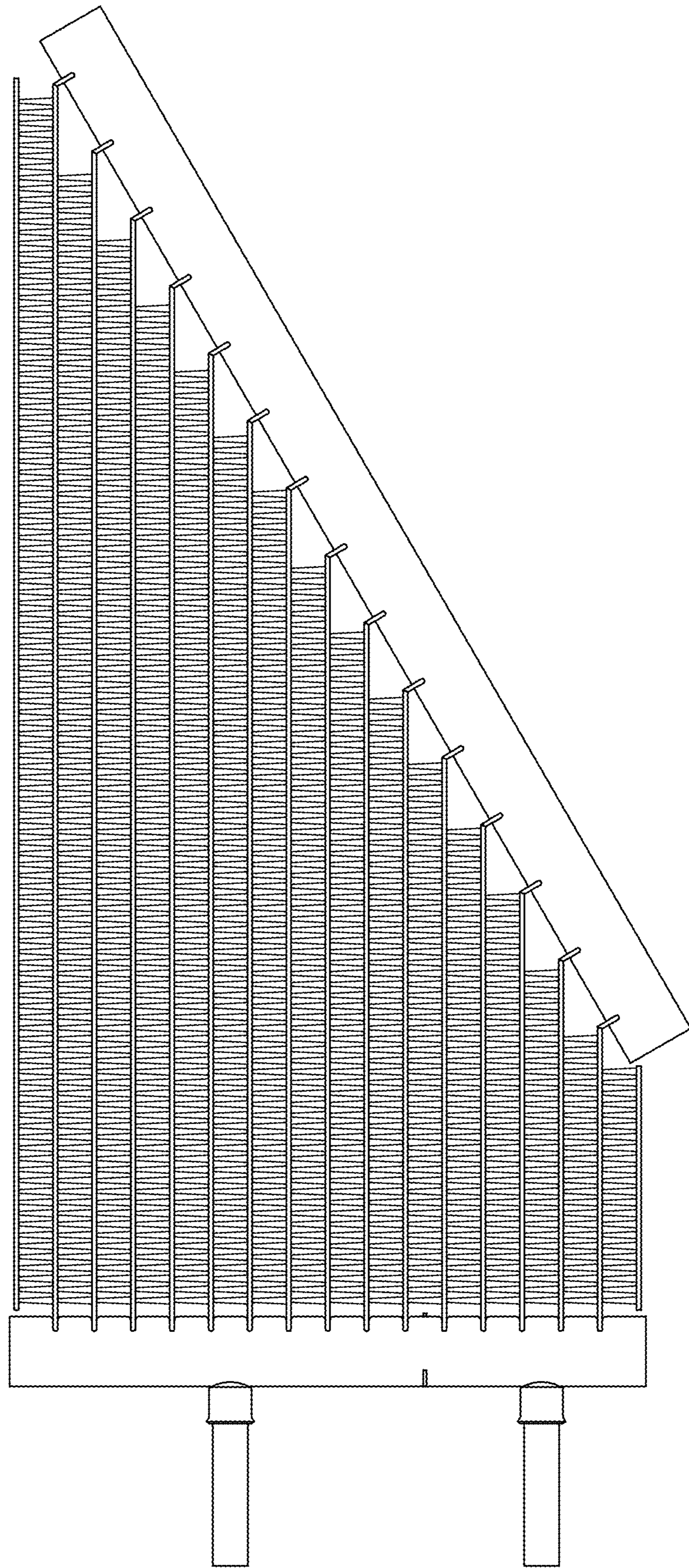


FIG. 16

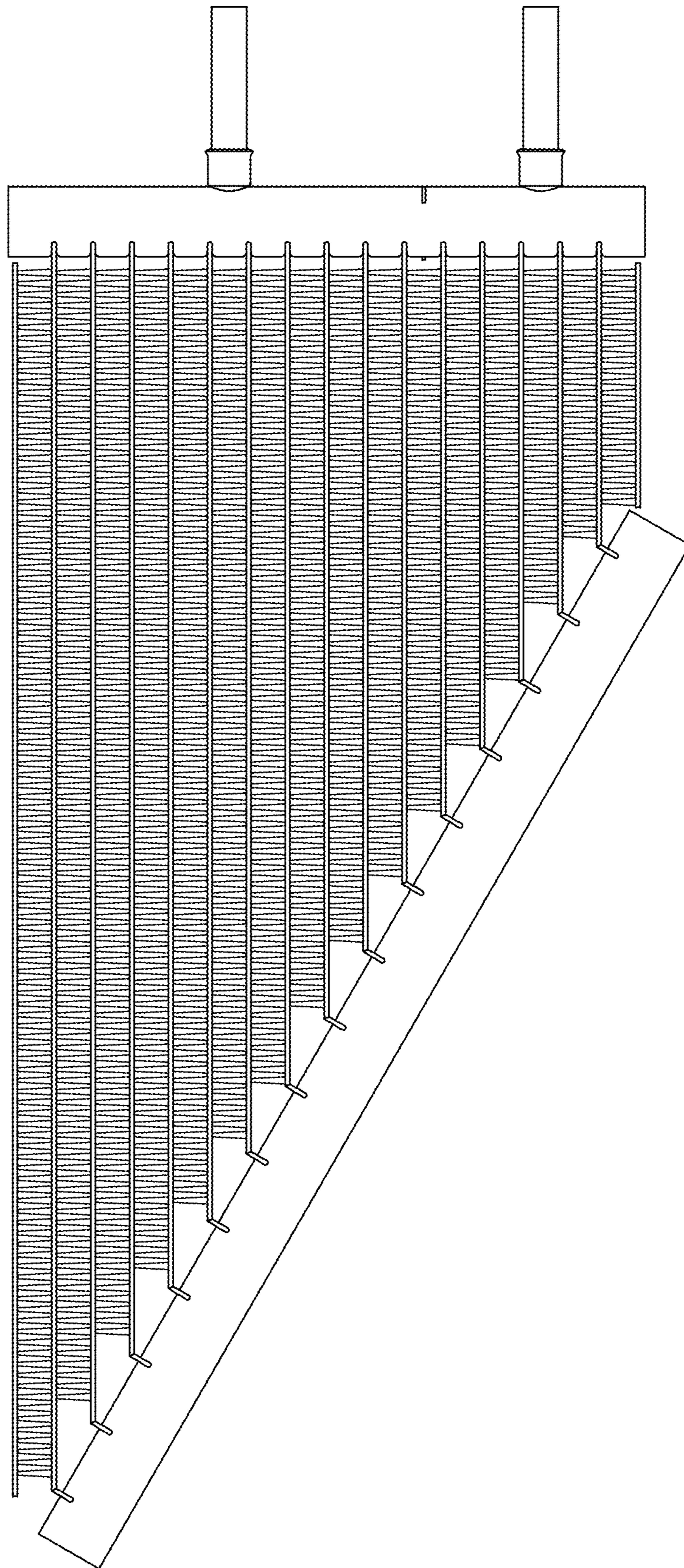


FIG. 17

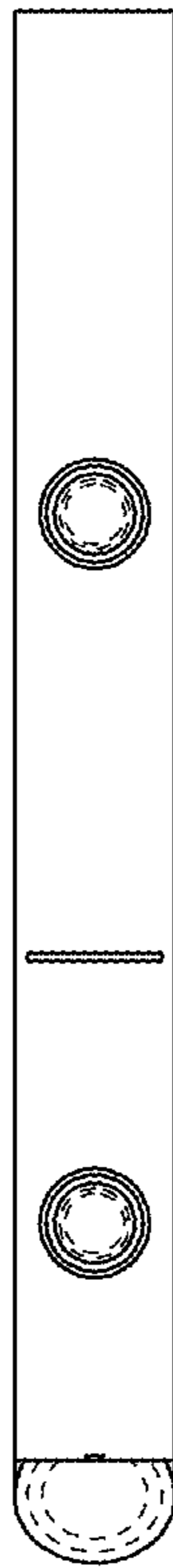


FIG. 18

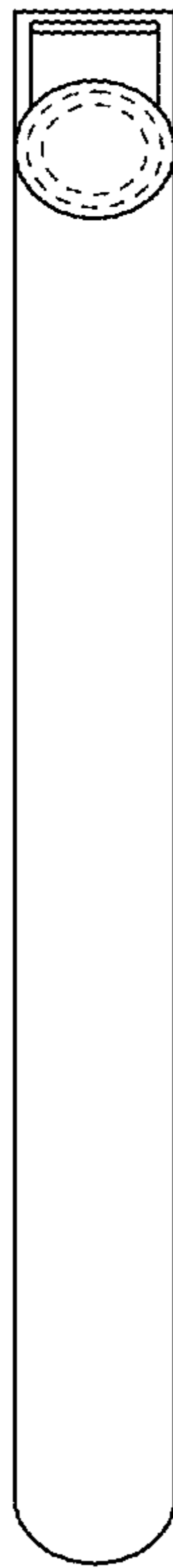


FIG. 19

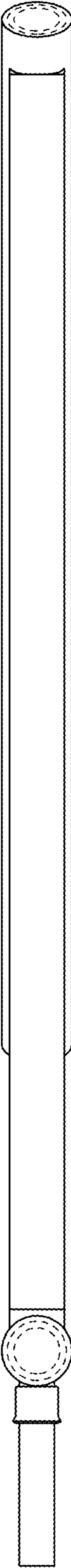


FIG. 20

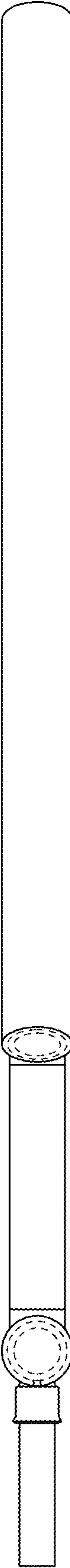


FIG. 21

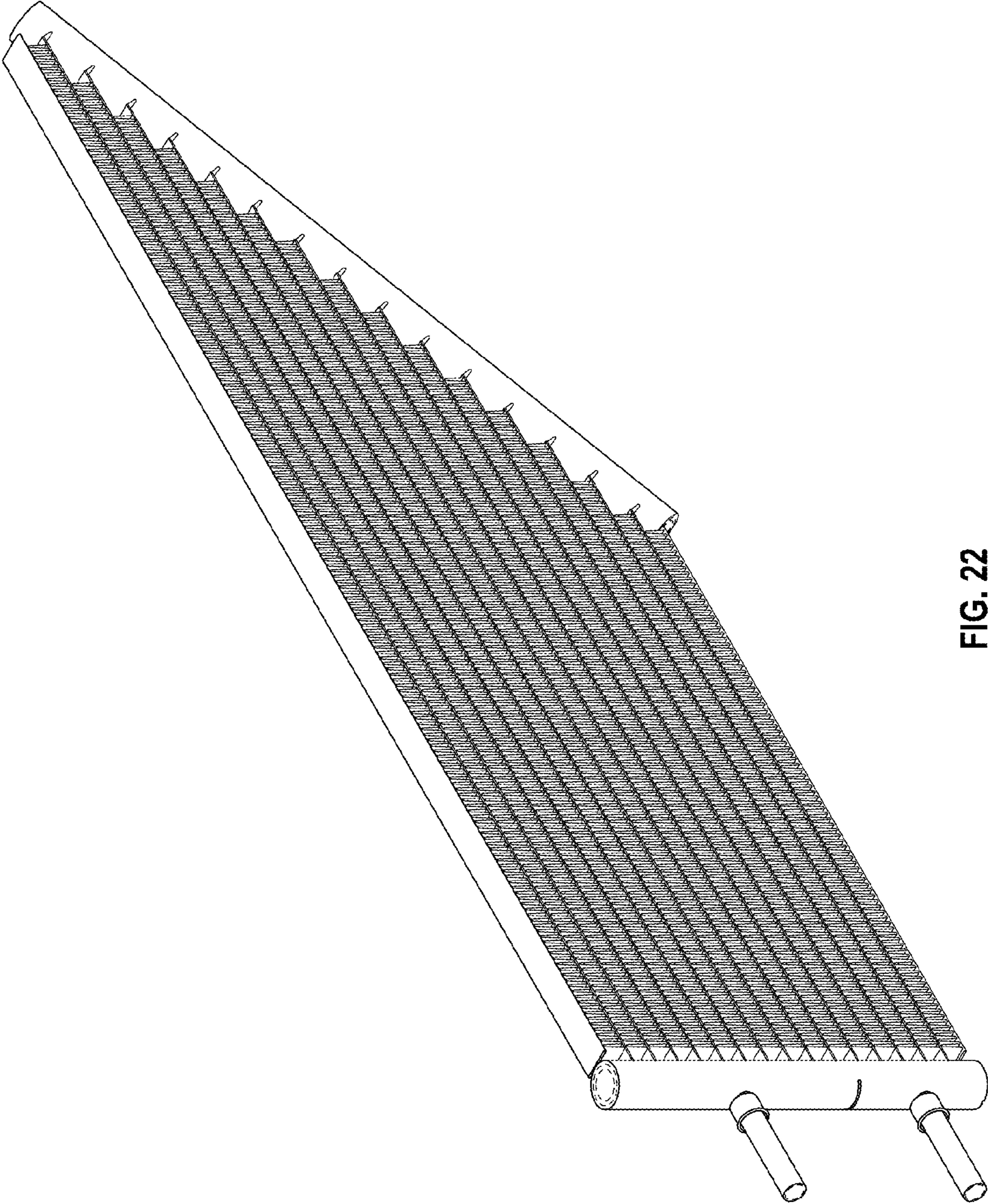


FIG. 22

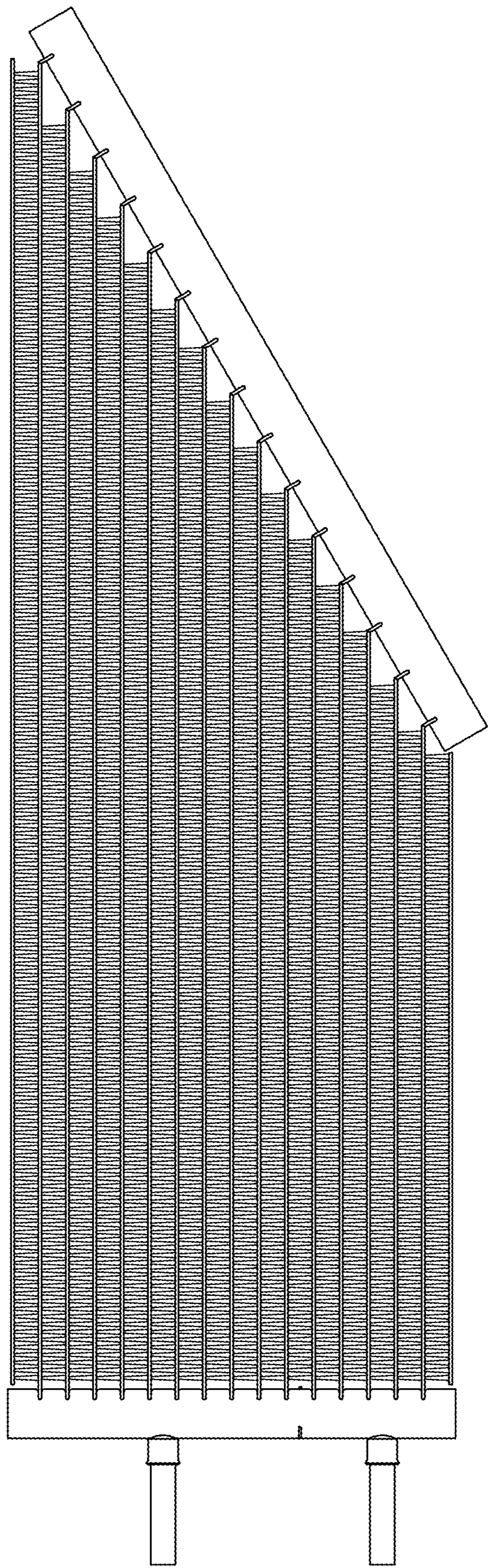


FIG. 23

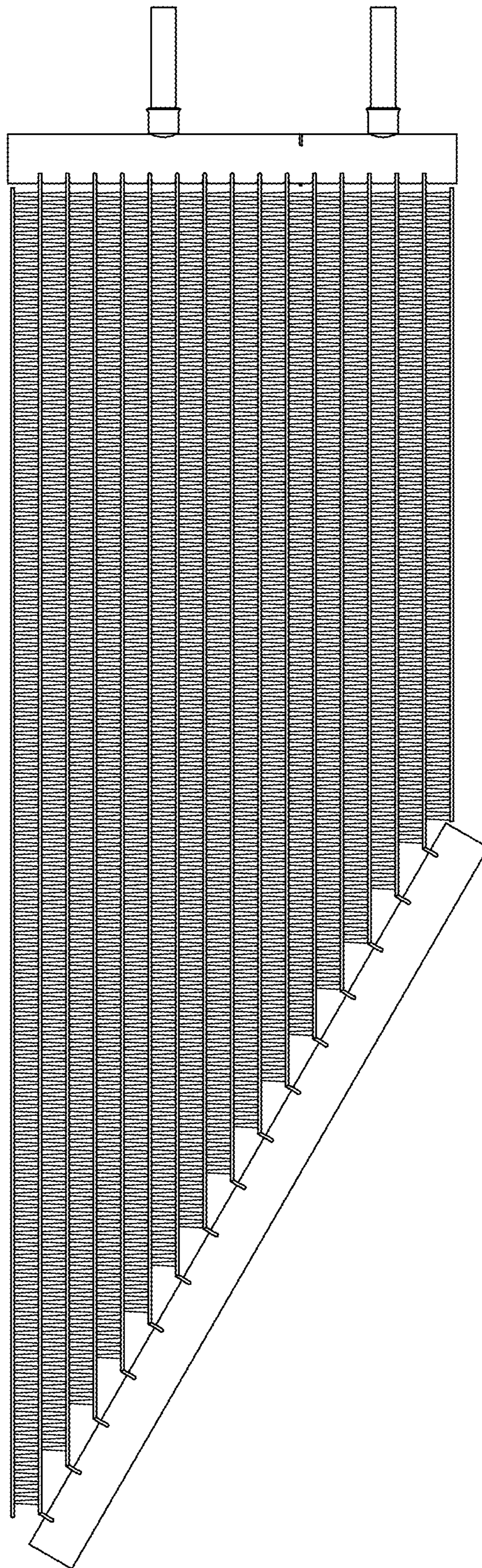


FIG. 24

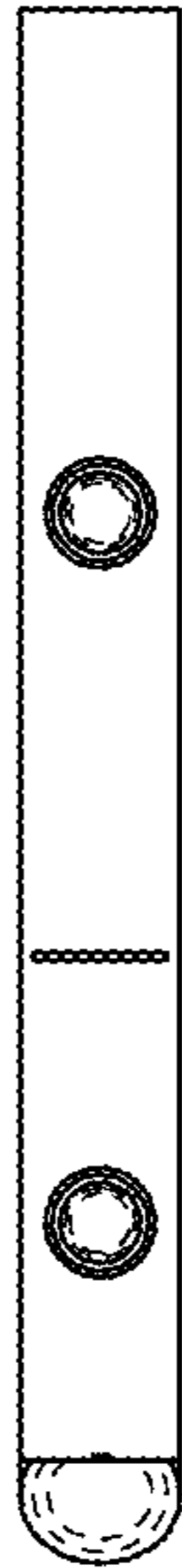


FIG. 25



FIG. 26

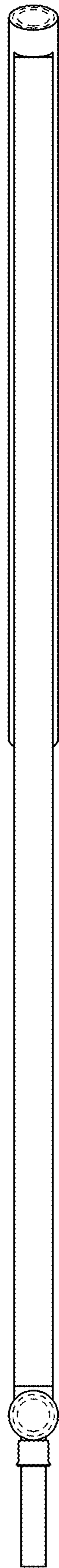


FIG. 27

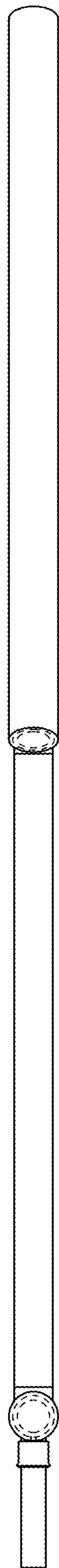


FIG. 28