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(12) **United States Design Patent**  
**Tureaud**

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(45) **Date of Patent:** **\*\* Dec. 6, 2011**

(54) **BUOYANCY ENGINE MODULE FOR AN UNMANNED UNDERWATER VEHICLE**

(74) *Attorney, Agent, or Firm* — Womble Carlyle Sandridge & Rice, PLLC

(75) Inventor: **Thomas F. Tureaud**, Fairfax, VA (US)

(57) **CLAIM**

The ornamental design for a buoyancy engine module for an unmanned underwater vehicle, as shown and described.

(73) Assignee: **Vehicle Control Technologies, Inc.**, Reston, VA (US)

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

**DESCRIPTION**

(21) Appl. No.: **29/355,946**

The present invention was made with Government support under Contract Nos. STTR N08-T016 and N00014-09-C-0527 awarded by the United States Navy. The Government has certain rights in the invention.

(22) Filed: **Feb. 17, 2010**

(51) **LOC (9) Cl.** ..... **12-06**

(52) **U.S. Cl.** ..... **D12/317; D12/308**

(58) **Field of Classification Search** ..... D12/214, D12/308, 317, 318; 114/20.1, 244, 245, 114/312, 315, 316, 318, 319, 322, 330–333, 114/337, 338; 440/49, 51, 53, 61 R, 61 T, 440/66, 76, 79–81, 89 R  
See application file for complete search history.

FIG. 1 is a perspective view of a buoyancy engine module for an unmanned underwater vehicle in accordance with a first embodiment of the present invention, wherein a centrally located pair of adjacent dashed lines is included for indicating that no particular length is being claimed;

FIG. 2 is a front elevation view of the apparatus of FIG. 1;

FIG. 3 is a rear elevation view of the apparatus of FIG. 1;

FIG. 4 is a right elevation view of the apparatus of FIG. 1;

FIG. 5 is a top plan view of the apparatus of FIG. 1;

FIG. 6 is a left elevation view of the apparatus of FIG. 1;

FIG. 7 is a bottom plan view of the apparatus of FIG. 1;

FIG. 8 is a perspective view of a buoyancy engine module for an unmanned underwater vehicle in accordance with a second embodiment of the present invention, wherein a centrally located pair of adjacent dashed lines is included for indicating that no particular length is being claimed;

FIG. 9 is a front elevation view of the apparatus of FIG. 8;

FIG. 10 is a rear elevation view of the apparatus of FIG. 8;

FIG. 11 is a right elevation view of the apparatus of FIG. 8;

FIG. 12 is a top plan view of the apparatus of FIG. 8;

FIG. 13 is a left elevation view of the apparatus of FIG. 8; and,

FIG. 14 is a bottom plan view of the apparatus of FIG. 8.

The broken lines shown are included for the purpose of illustrating the unclaimed portions of the article and forms no part of the claimed design.

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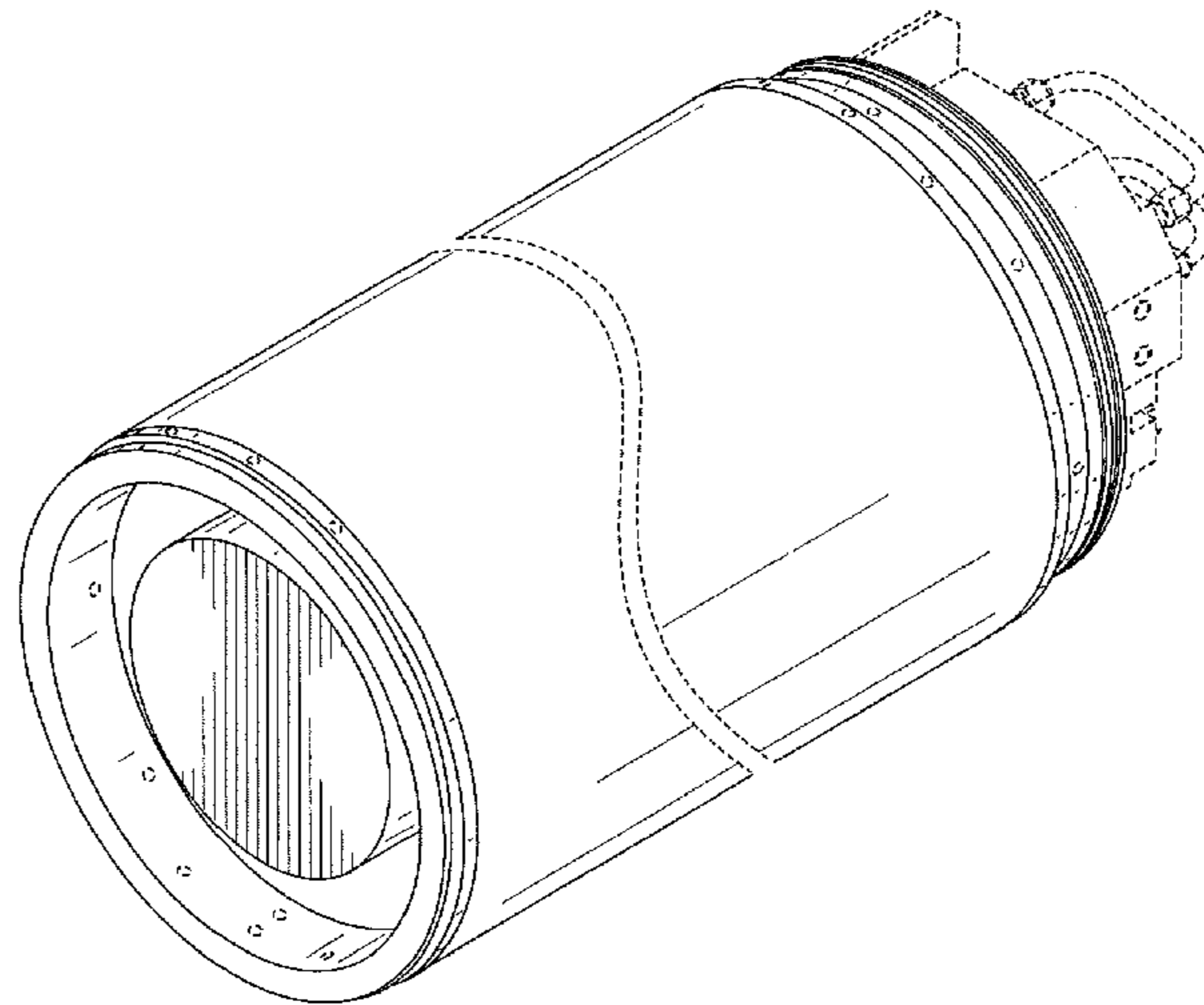
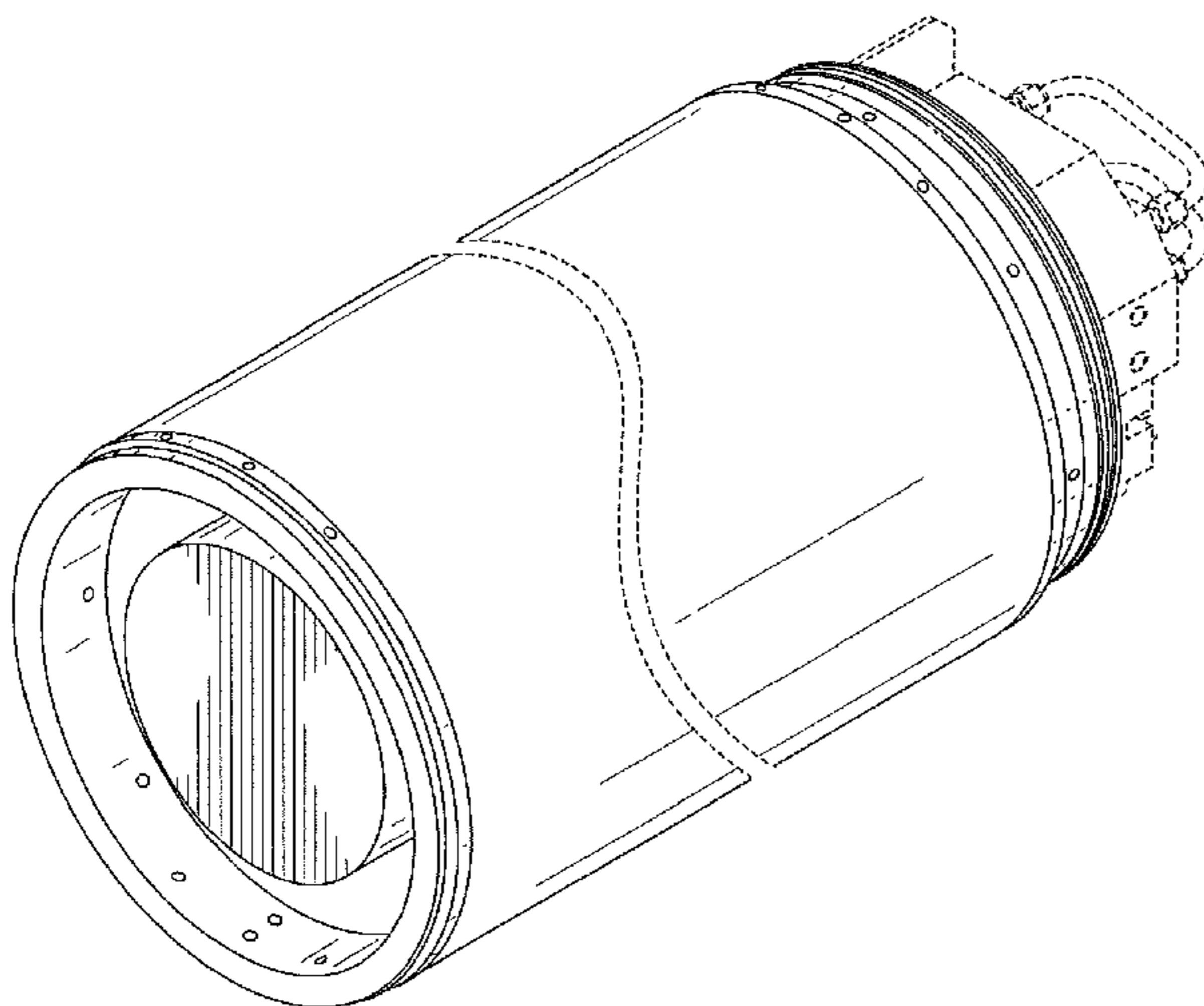
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*Primary Examiner* — Cynthia M Chin

**1 Claim, 14 Drawing Sheets**



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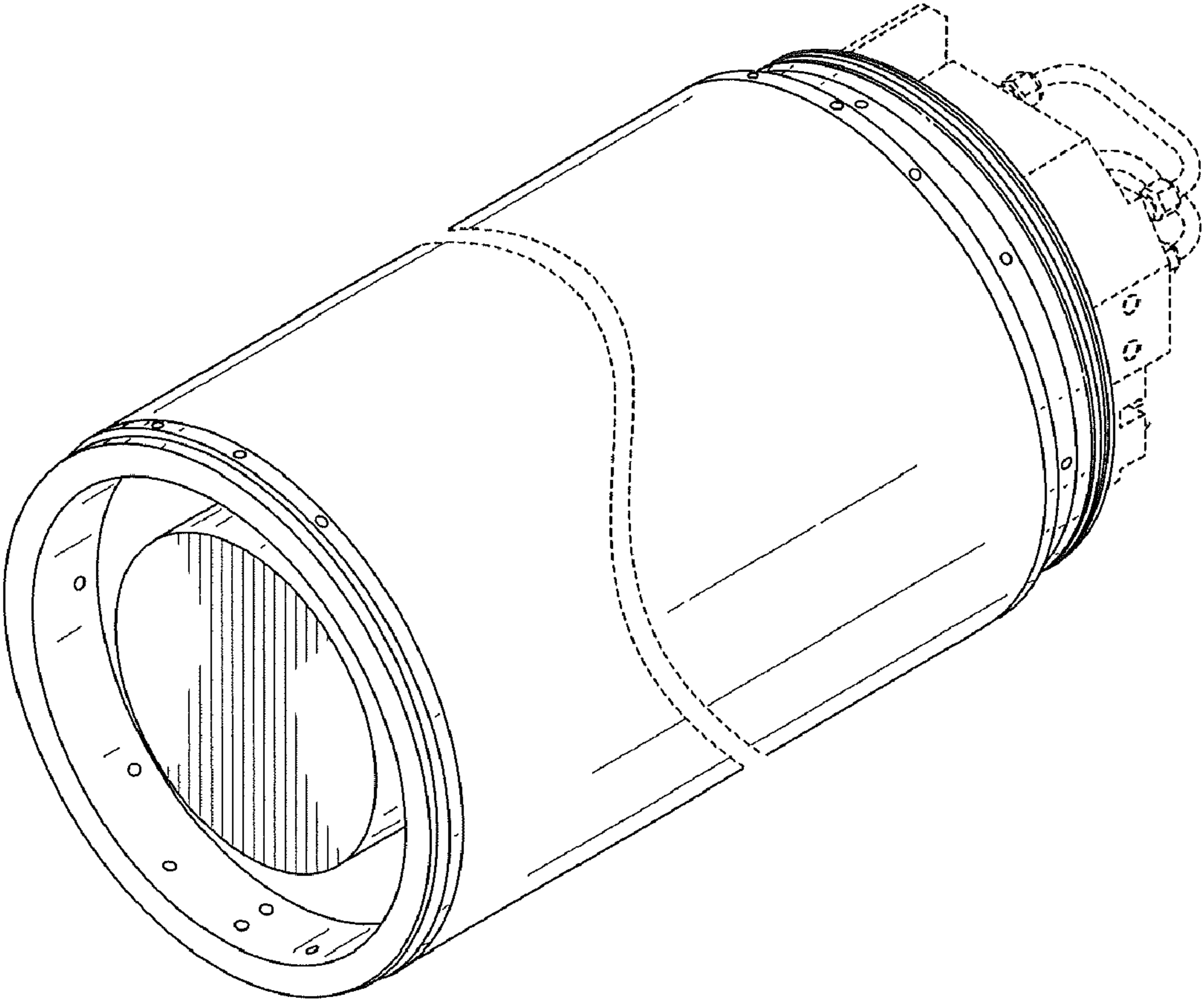


FIG. 1

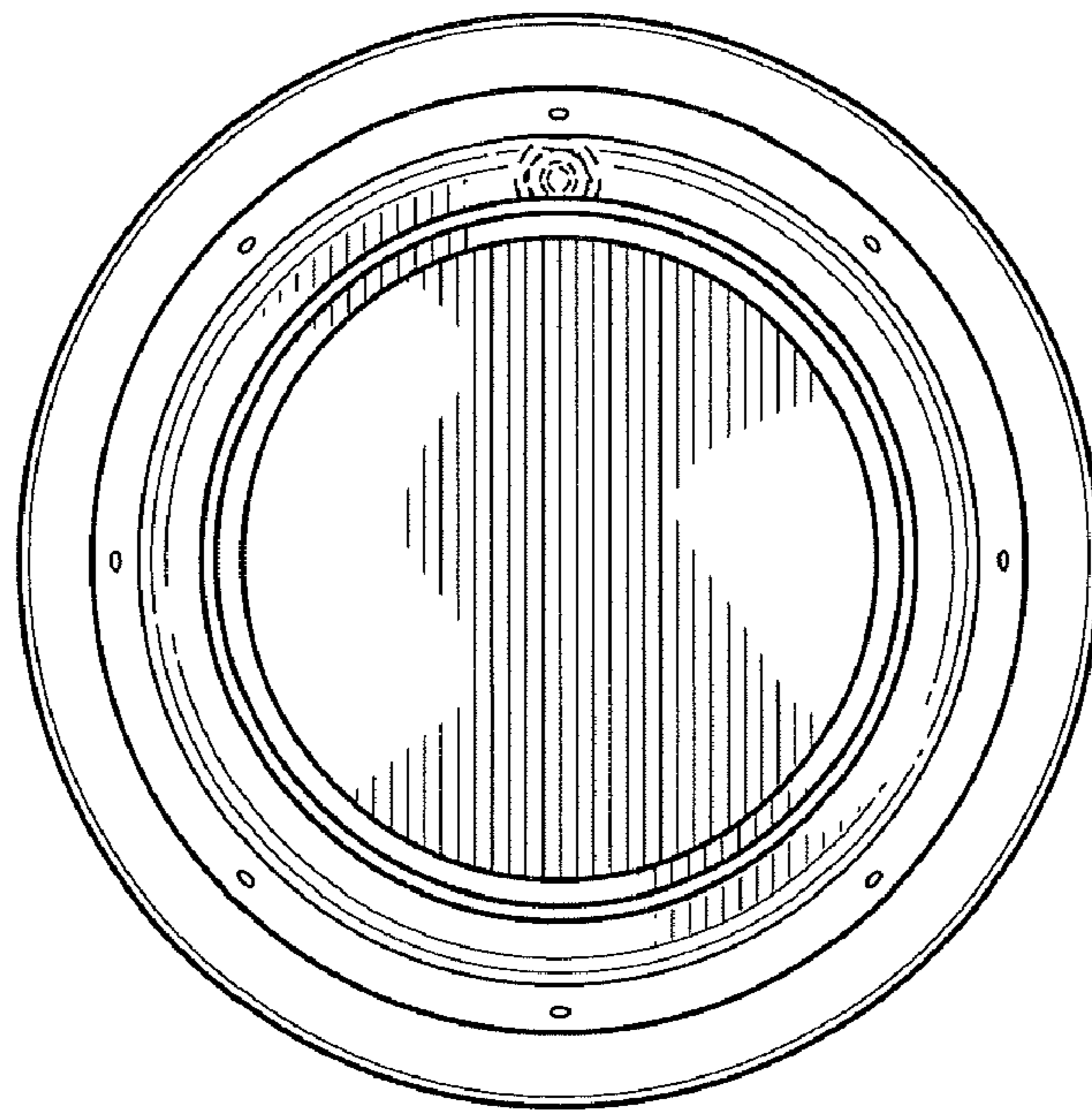
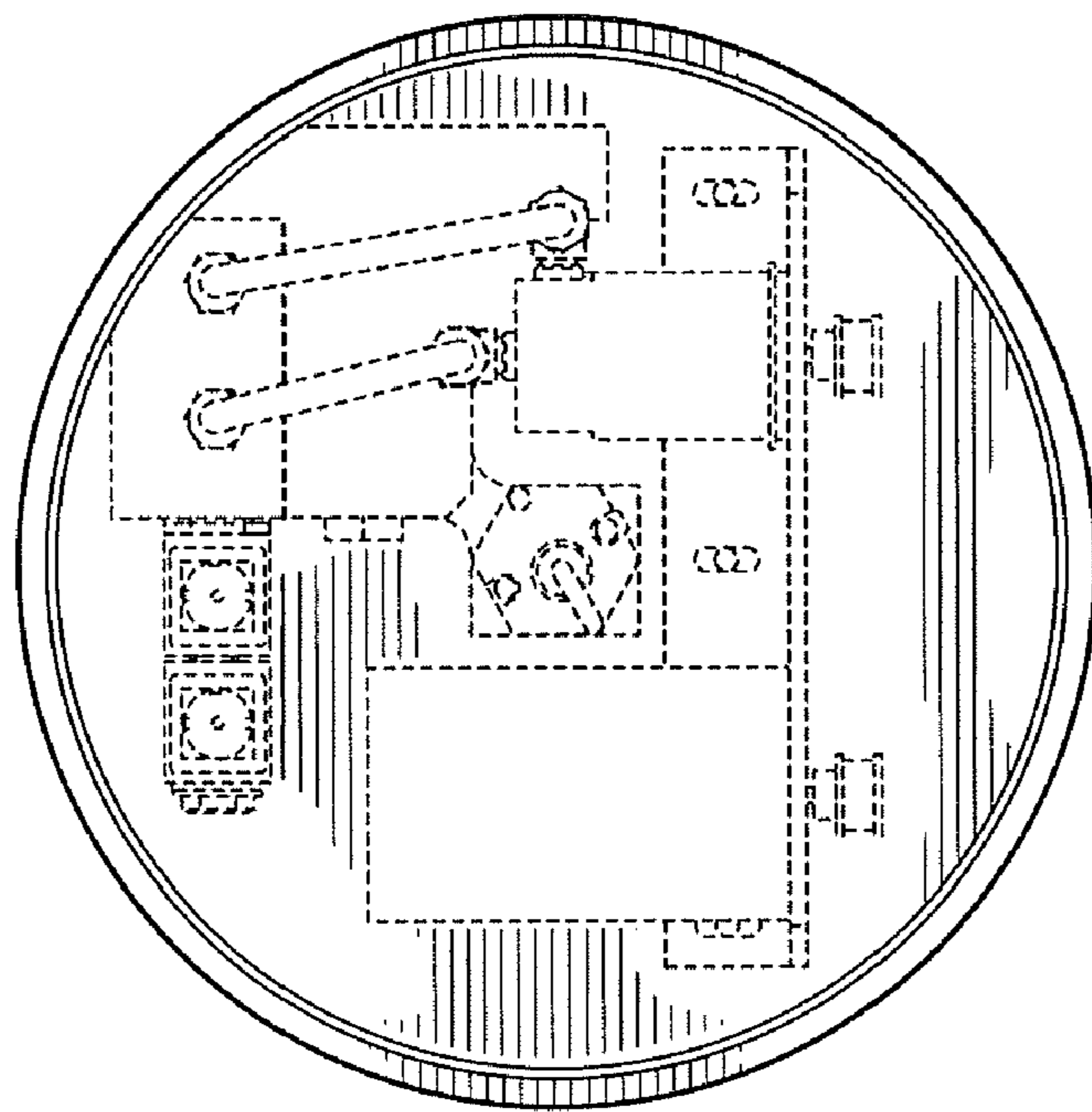


FIG. 2



**FIG. 3**

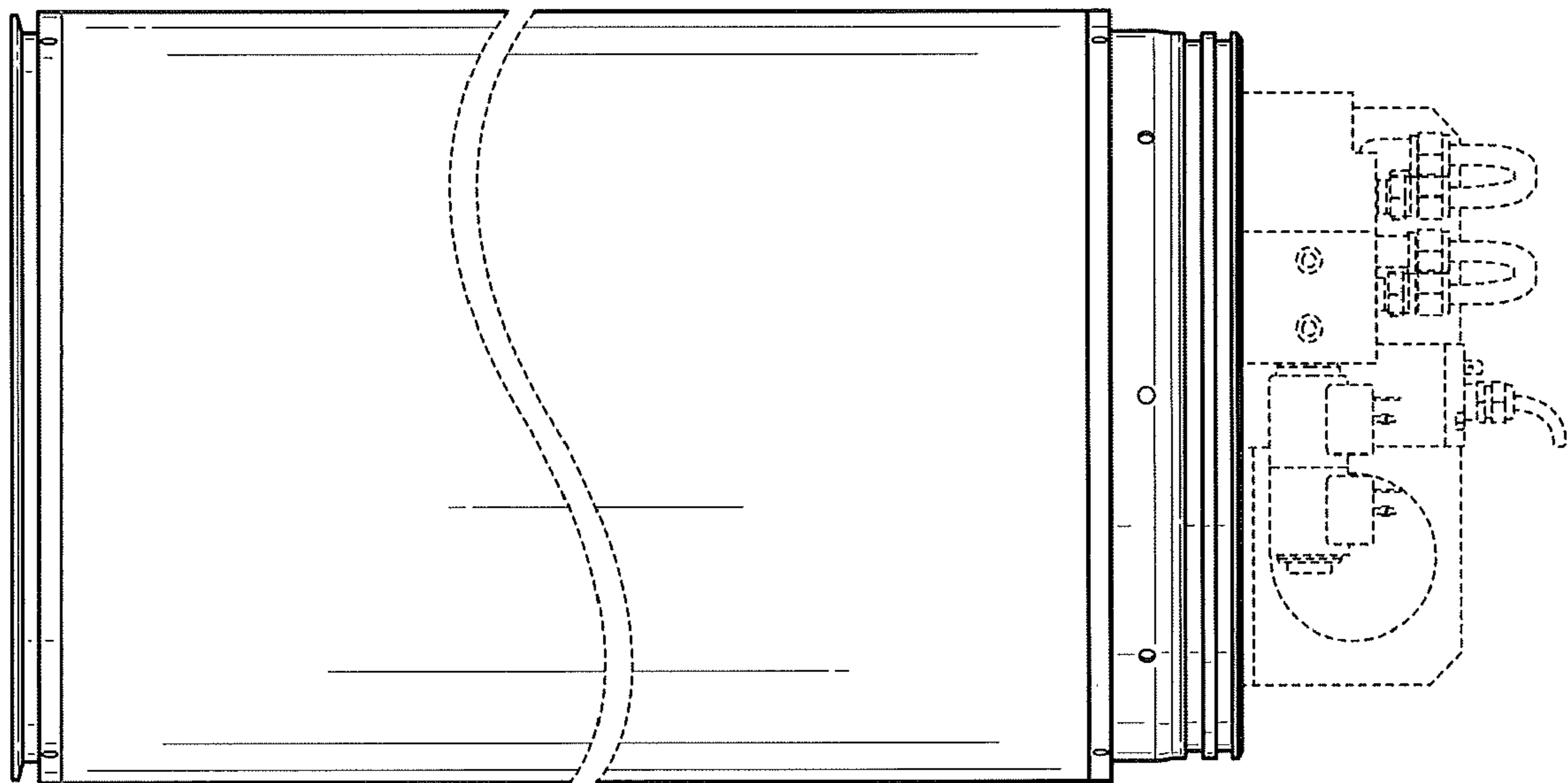


FIG. 4

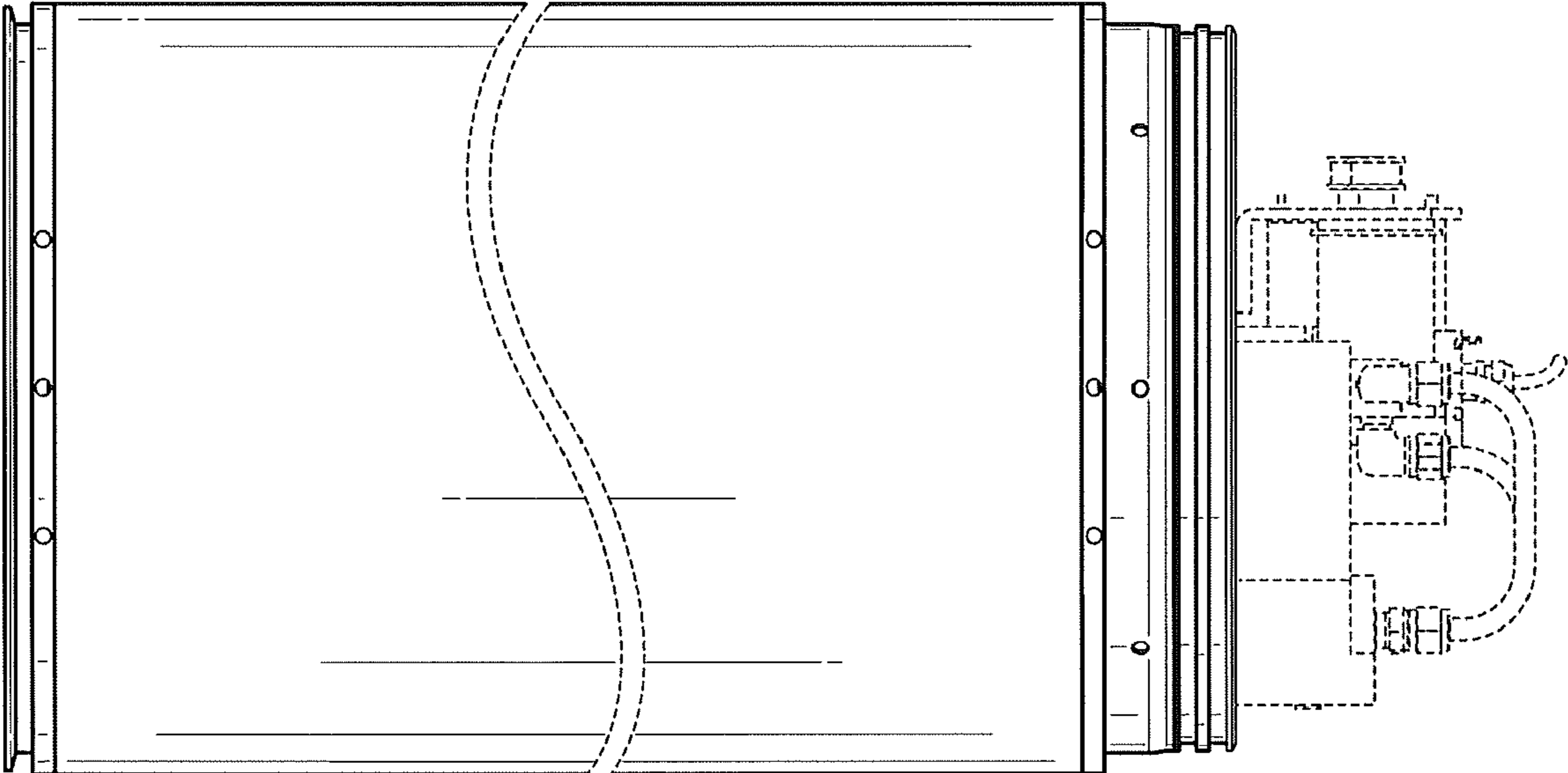


FIG. 5

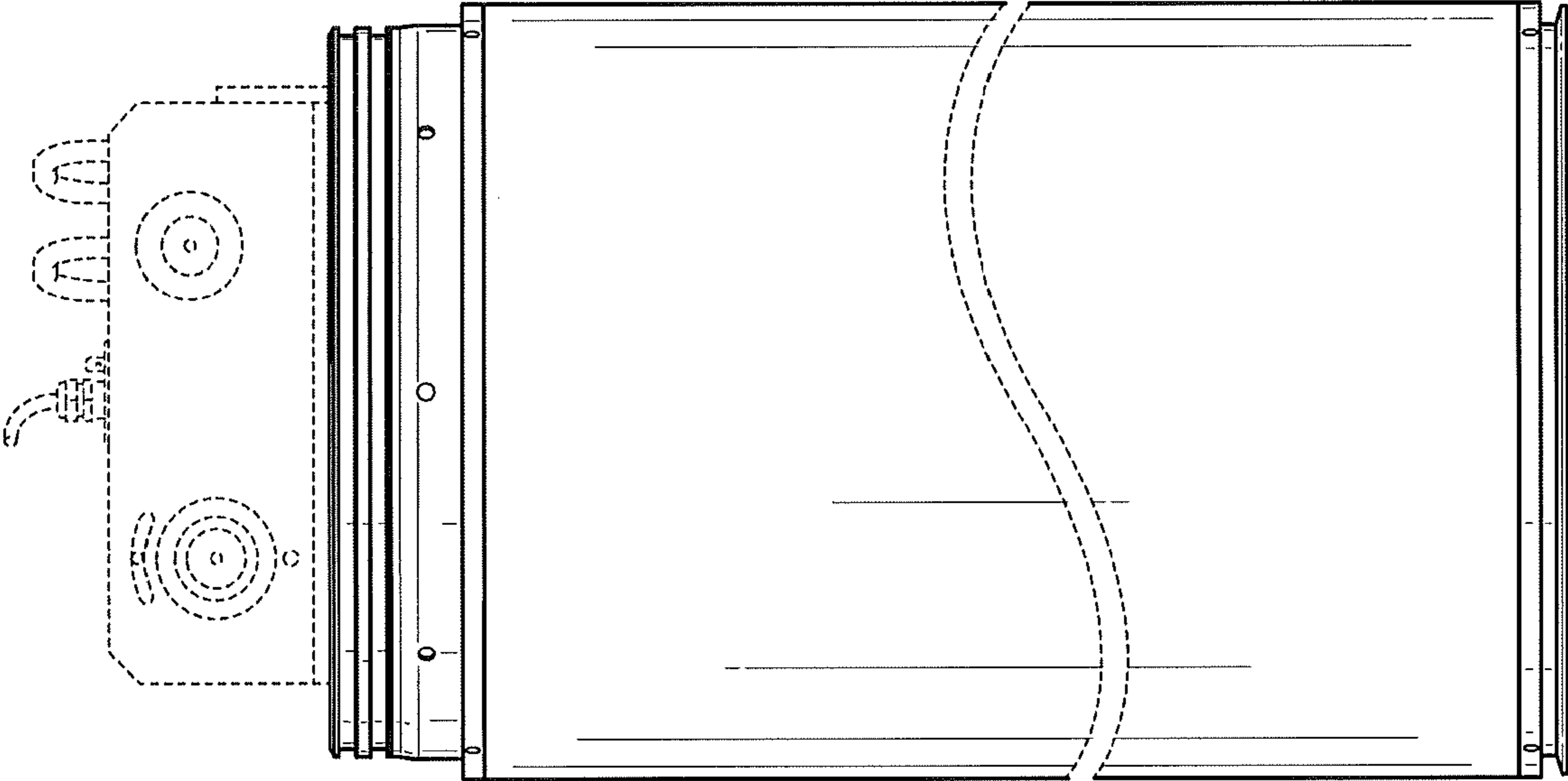


FIG. 6



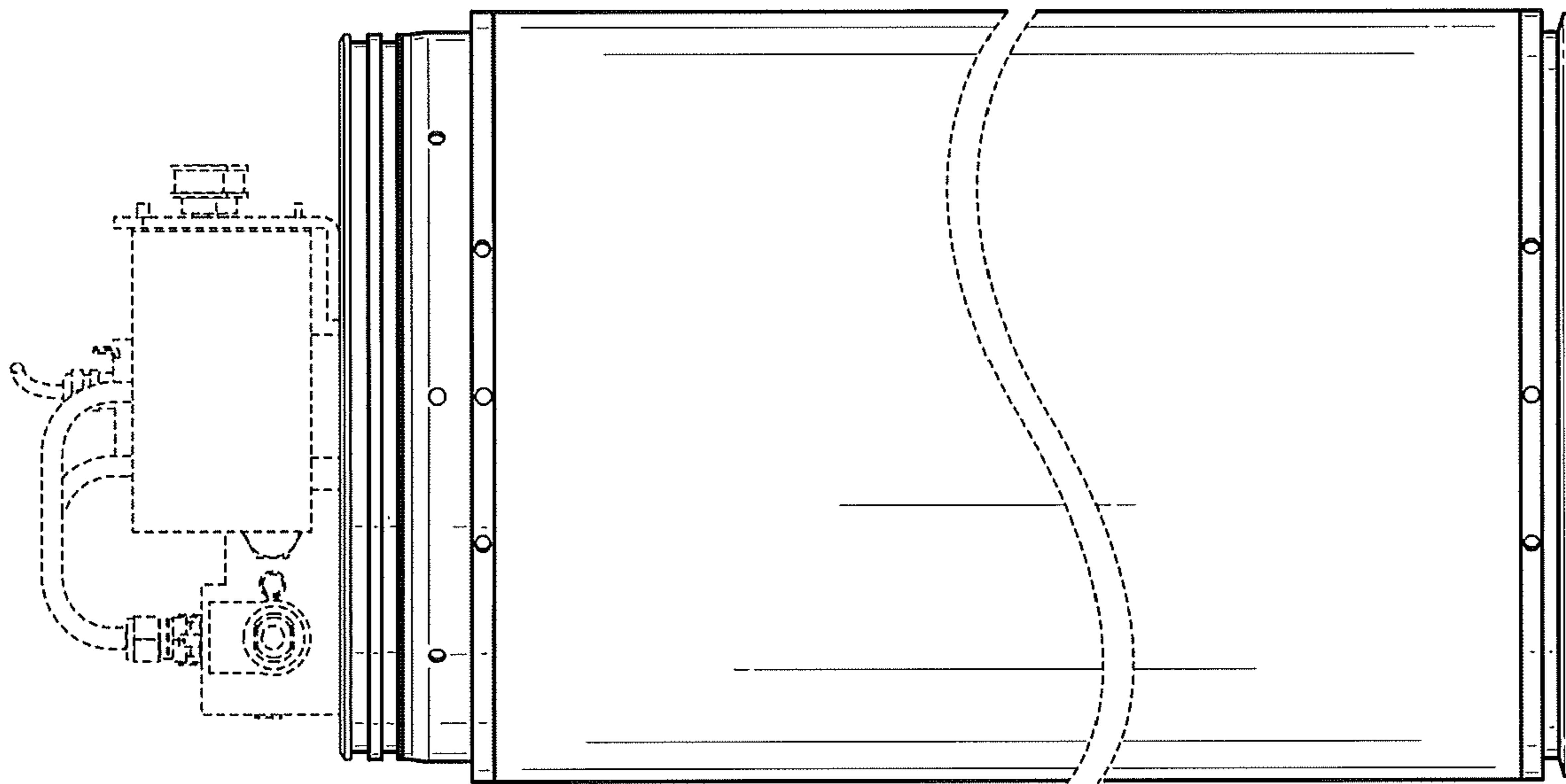


FIG. 7

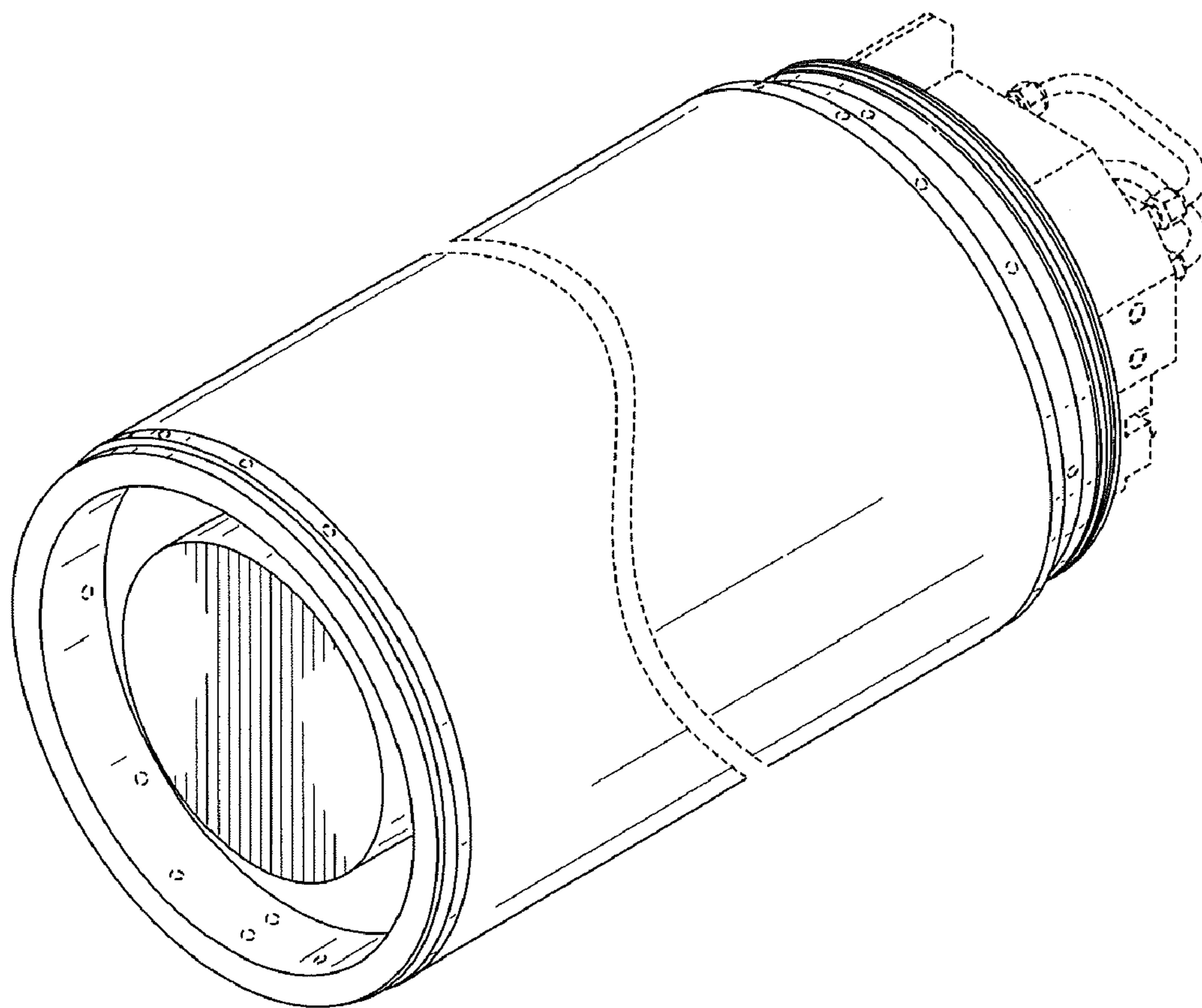


FIG. 8

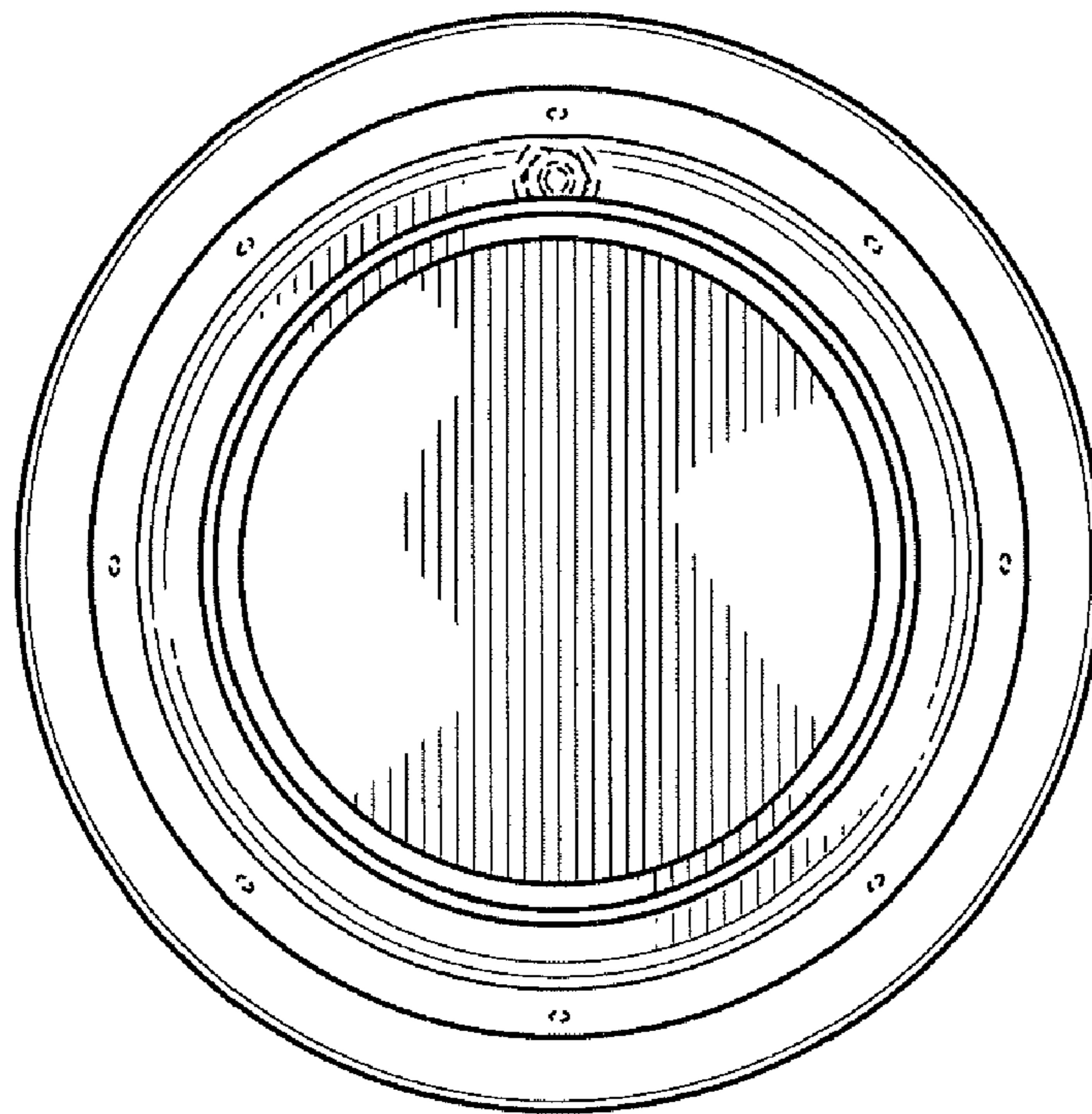
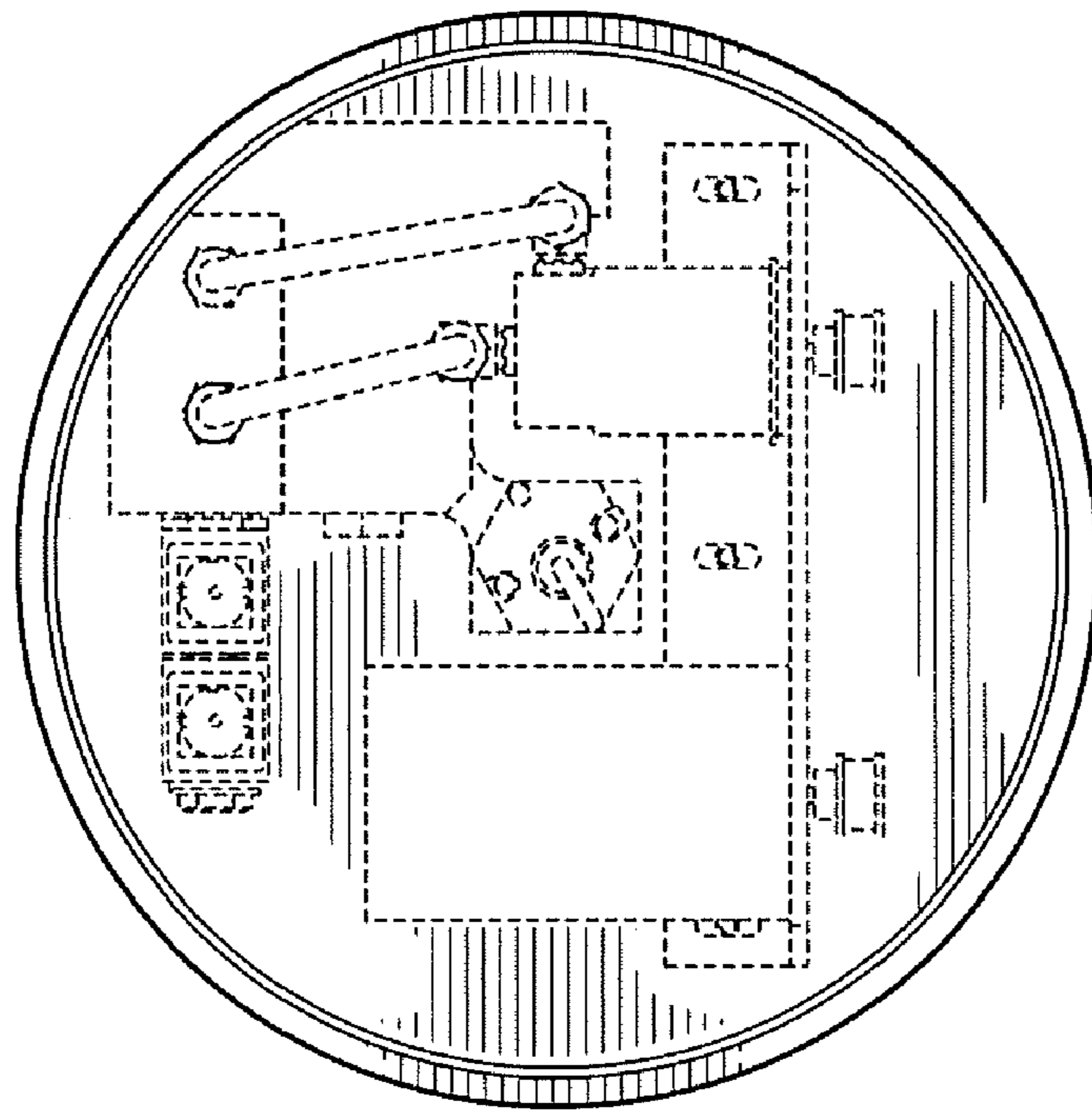


FIG. 9



**FIG. 10**

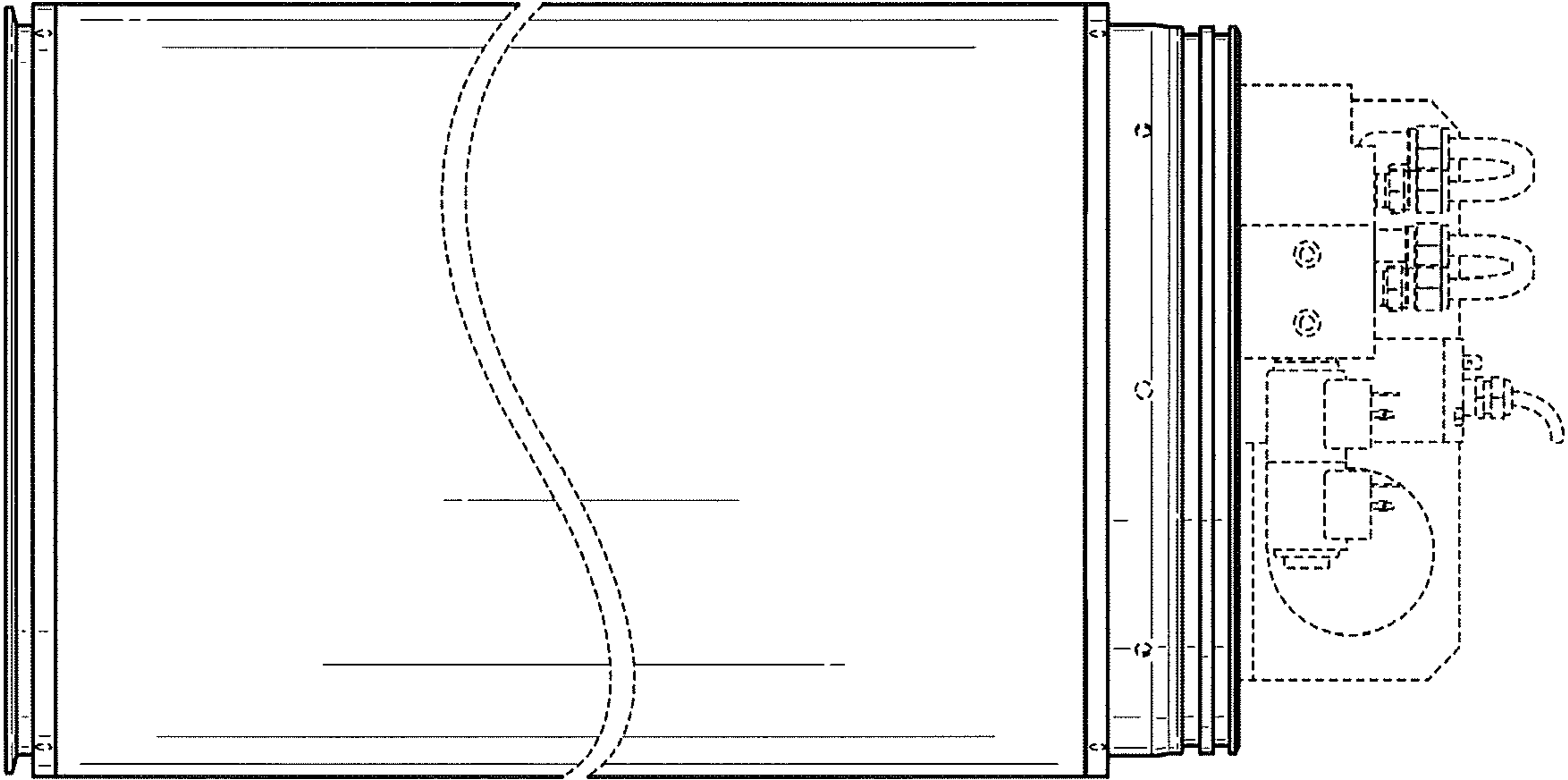


FIG. 11

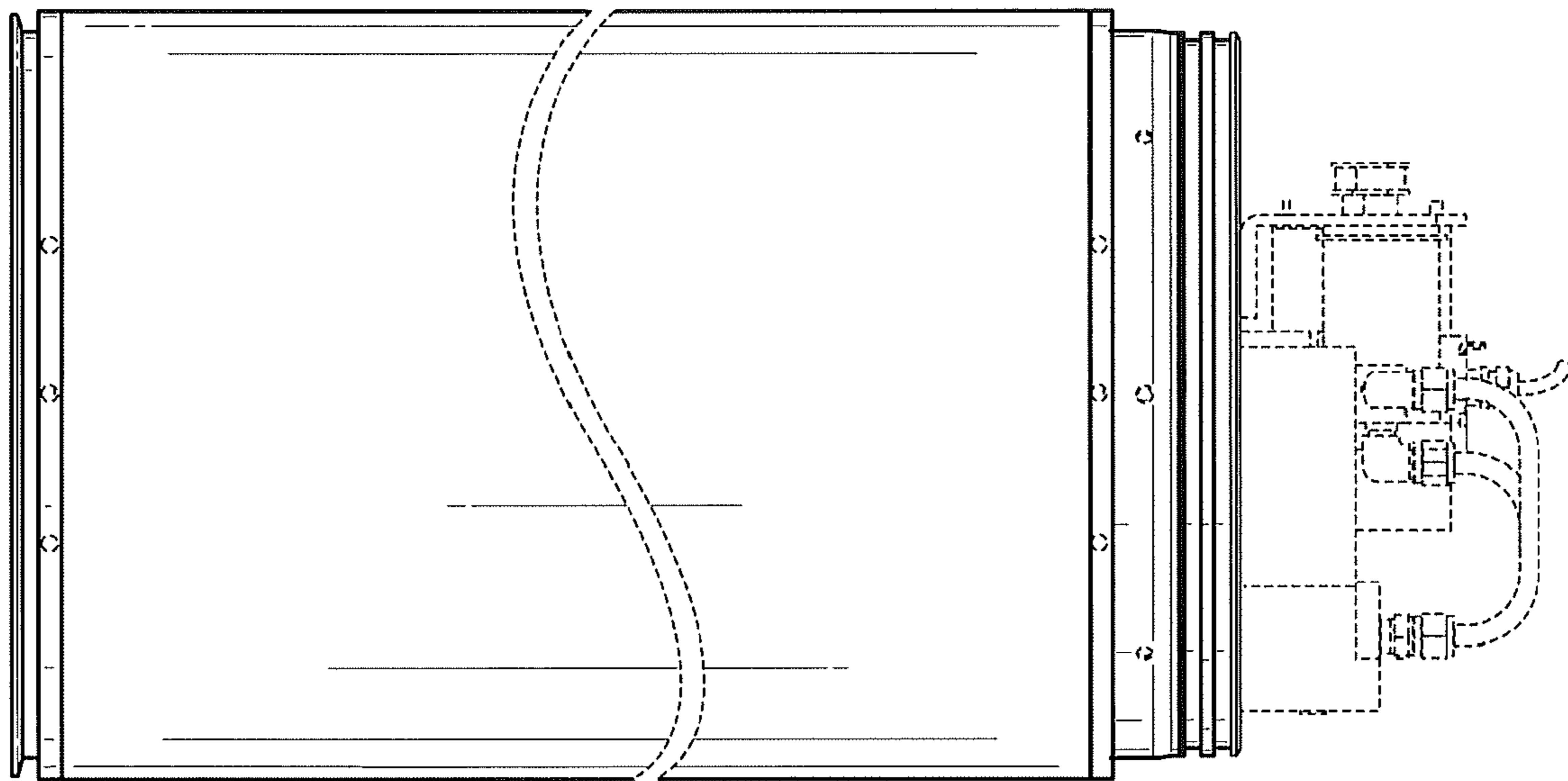


FIG. 12

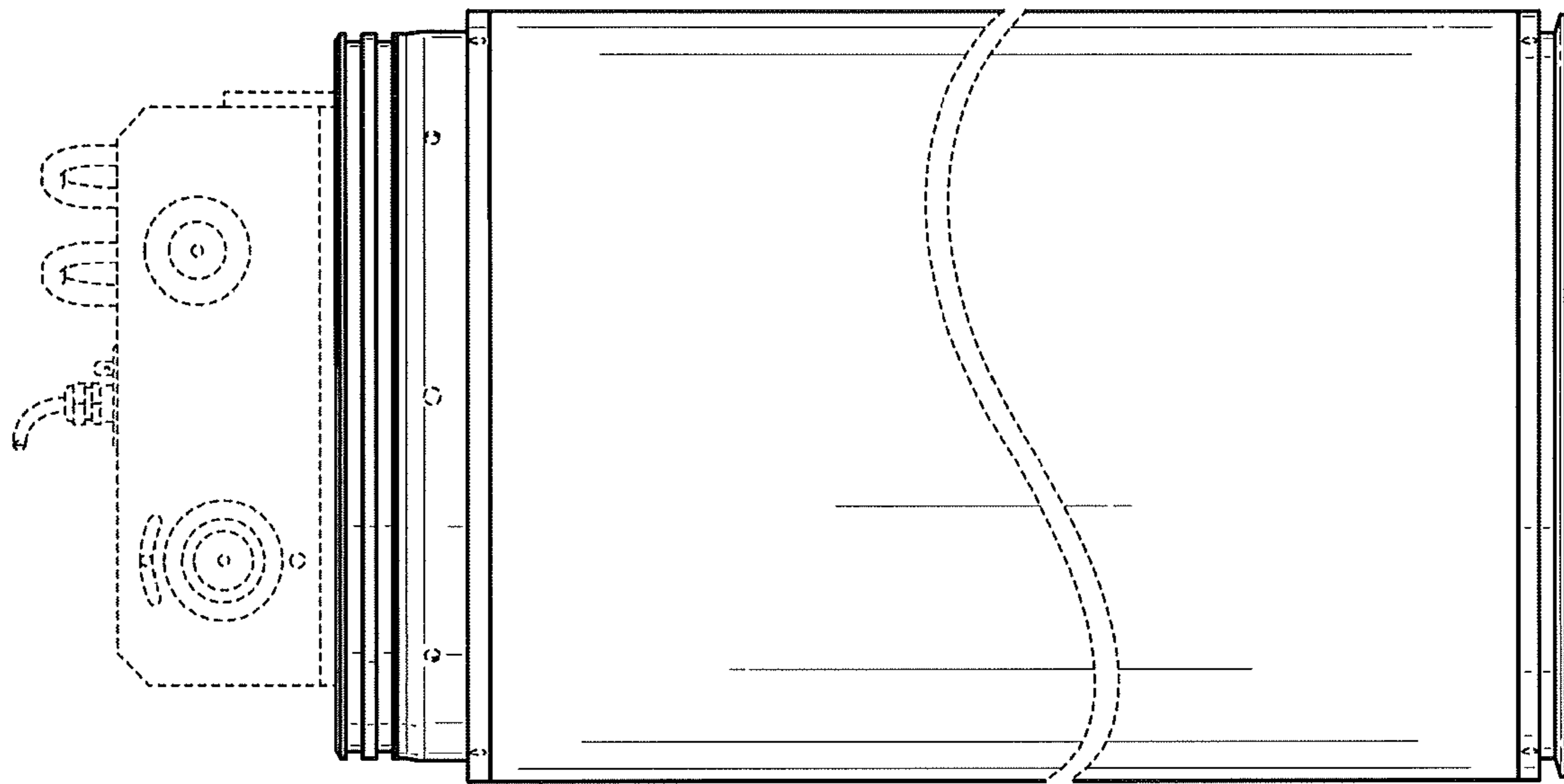


FIG. 13

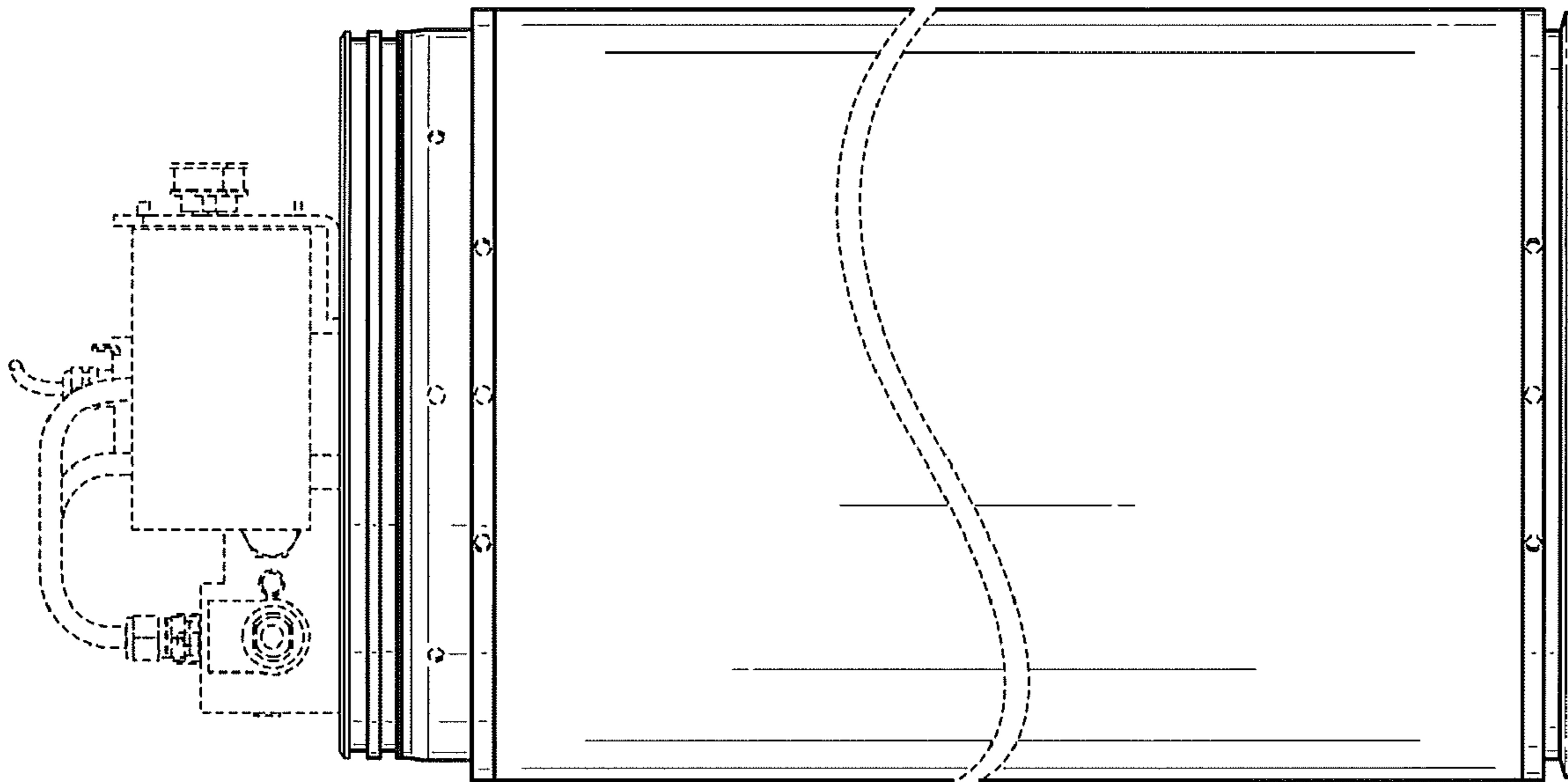


FIG. 14