



US00D809460S

(12) **United States Design Patent** (10) **Patent No.:** **US D809,460 S**
Fukami et al. (45) **Date of Patent:** **** Feb. 6, 2018**

(54) **VORTEX GENERATOR FOR WIND TURBINES**

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(71) Applicant: **mitsubishi Heavy Industries, LTD.**, Tokyo (JP)

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

(57) **CLAIM**

The ornamental design for a vortex generator for wind turbines, as shown and described.

(21) Appl. No.: **29/609,422**

(22) Filed: **Jun. 30, 2017**

DESCRIPTION

Related U.S. Application Data

(63) Continuation of application No. 35/501,108, filed on Mar. 16, 2016 (U.S. filing date under 35 U.S.C. 384),
(Continued)

First Embodiment

FIG. 1 is a perspective view of a vortex generator for wind turbines that bears the design in accordance with a first embodiment.

(51) **LOC (11) Cl.** **13-01**

(52) **U.S. Cl.**
USPC **D13/115**

(58) **Field of Classification Search**
USPC D13/115, 112, 139.4, 137.1–137.2, 103, D13/108; D21/694; D15/28, 5; D23/379; D10/106.91

FIG. 2 is a front view of the vortex generator of FIG. 1.
FIG. 3 is a back view of the vortex generator of FIG. 1.
FIG. 4 is a right side view of the vortex generator of FIG. 1.
A left side view of the vortex generator is a mirror image of FIG. 4.

FIG. 5 is a top view of the vortex generator of FIG. 1.
FIG. 6 is a bottom view of the vortex generator of FIG. 1.
Second Embodiment

FIG. 7 is a perspective view of a vortex generator for wind turbines that bears the design in accordance with a second embodiment.

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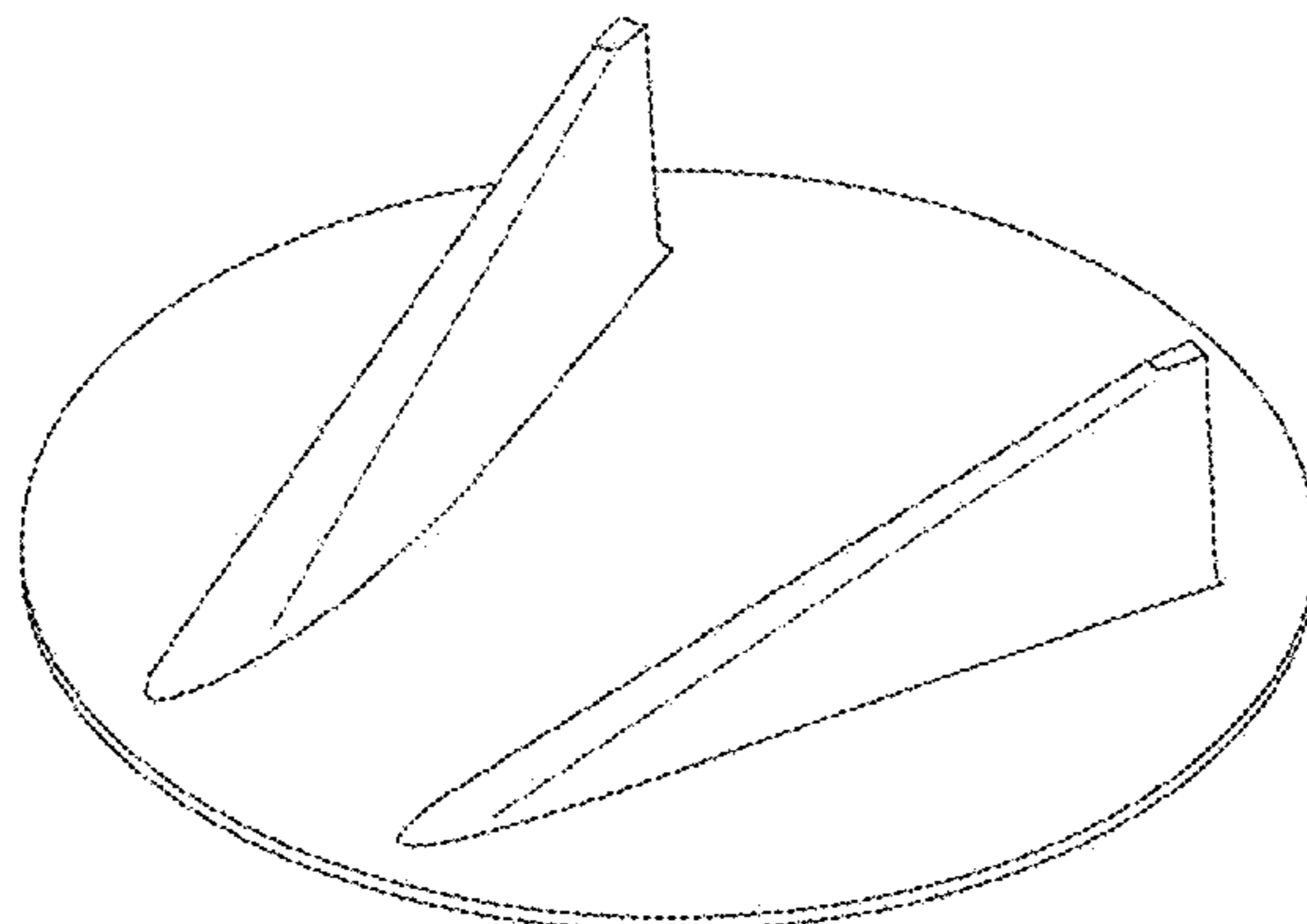
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FIG. 8 is a front view of the vortex generator of FIG. 7.
FIG. 9 is a back view of the vortex generator of FIG. 7.
FIG. 10 is a right side view of the vortex generator of FIG. 7. A left side view of the vortex generator is a mirror image of FIG. 10.

FIG. 11 is a top view of the vortex generator of FIG. 7; and, FIG. 12 is a bottom view of the vortex generator of FIG. 7.

(Continued)



The first and second embodiments are associated with a vortex generator where a pair of fins is disposed on a circular base plate.

1 Claim, 12 Drawing Sheets

Related U.S. Application Data

and having an international filing date of Mar. 16, 2016, now abandoned.

(58) **Field of Classification Search**

CPC H01R 31/51; H01R 13/66664
See application file for complete search history.

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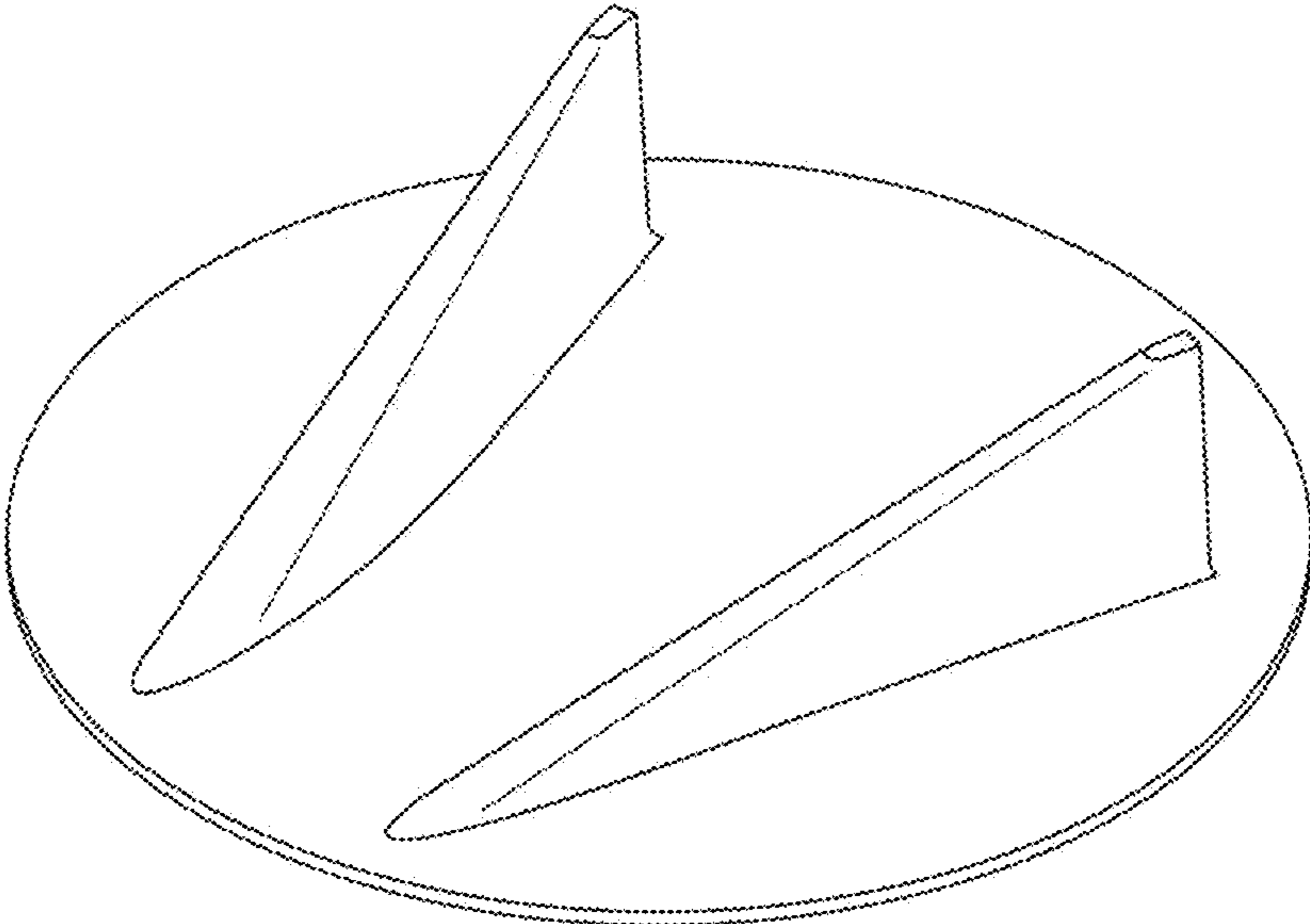


Fig. 1

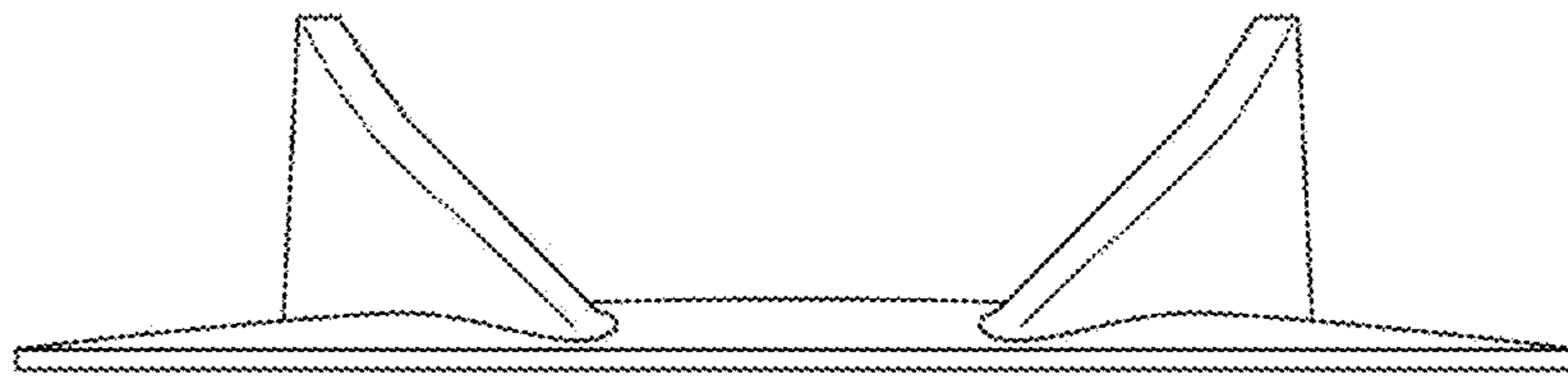


Fig. 2

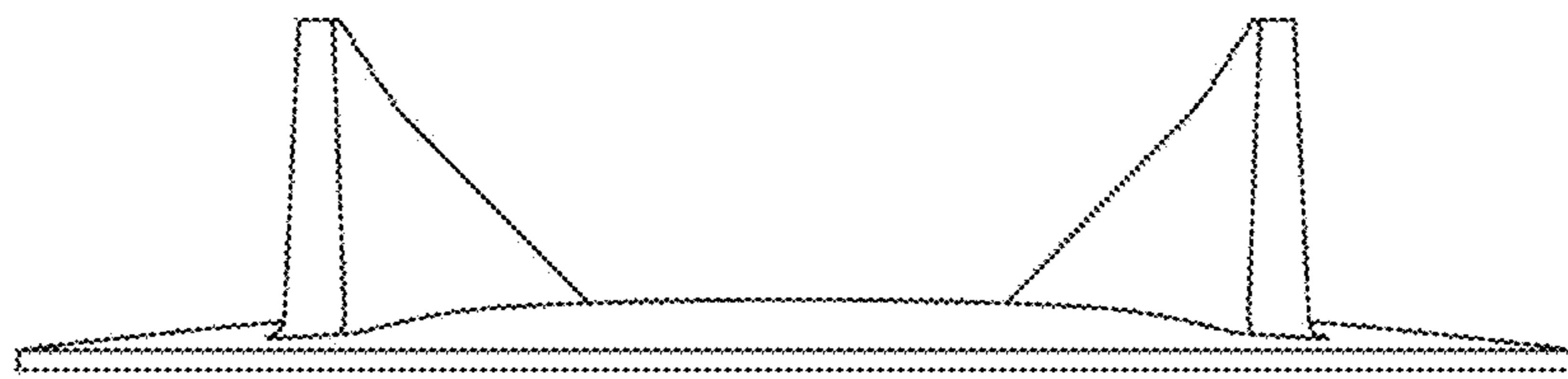


Fig. 3

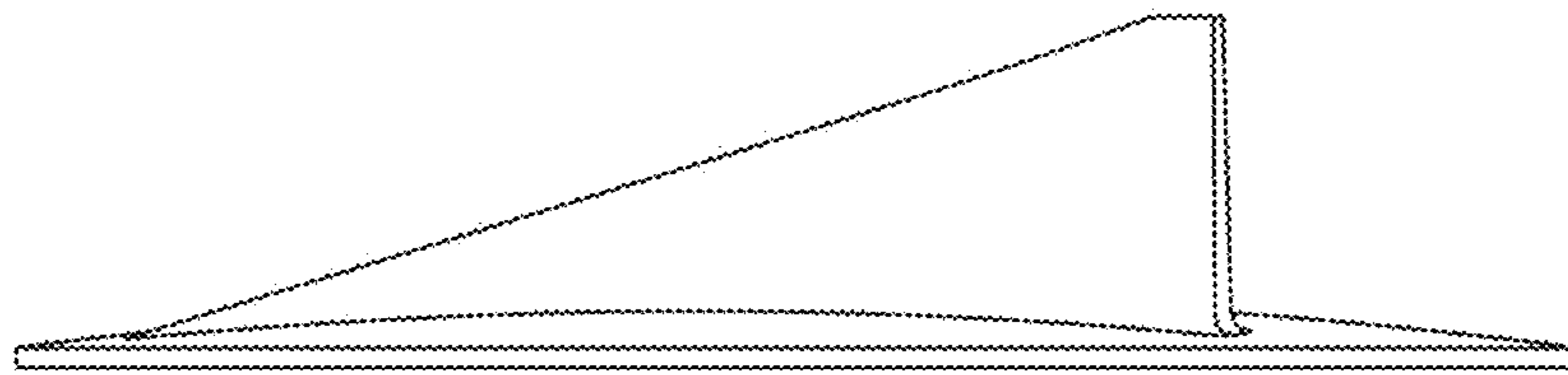


Fig. 4

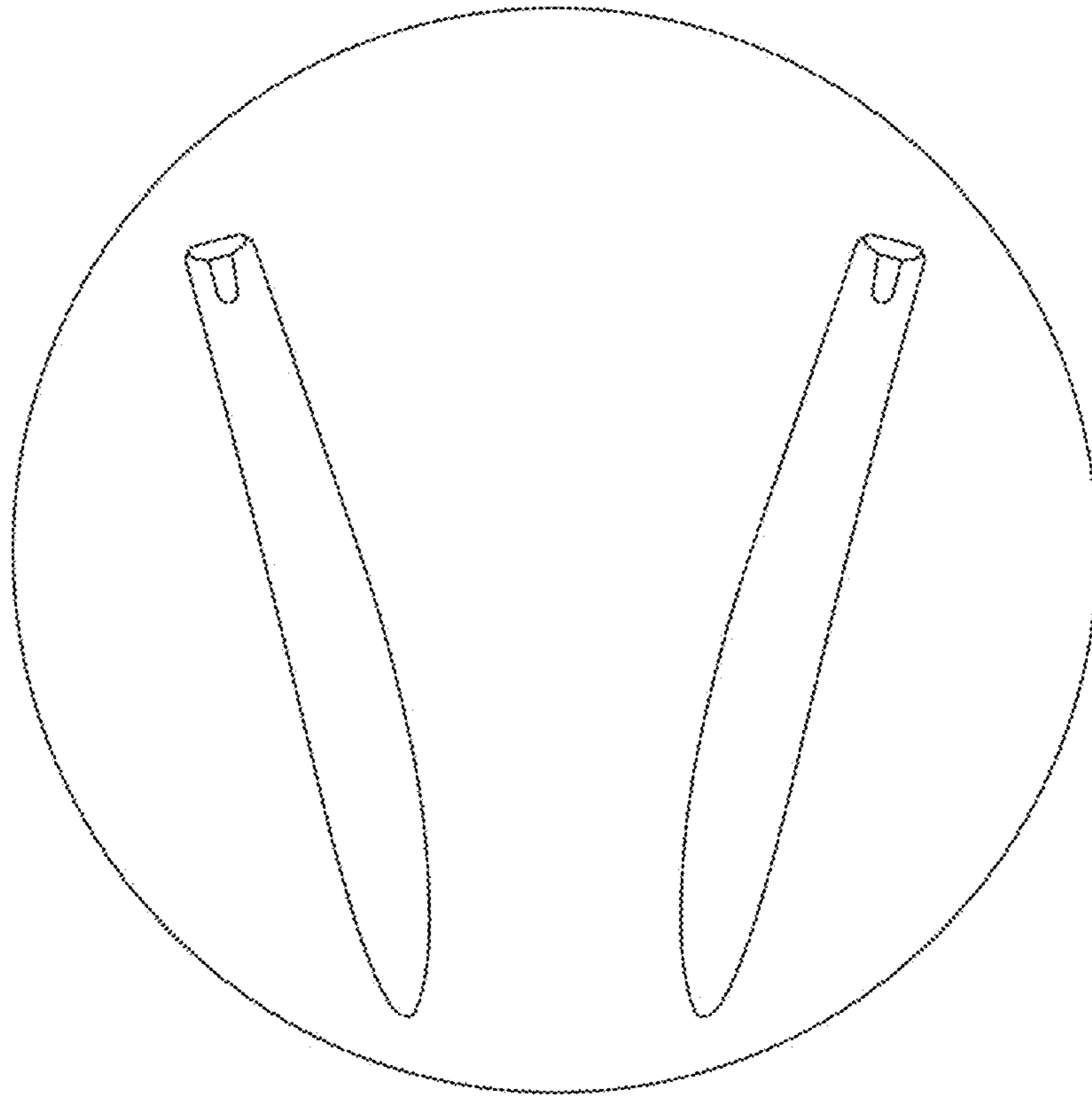


Fig. 5

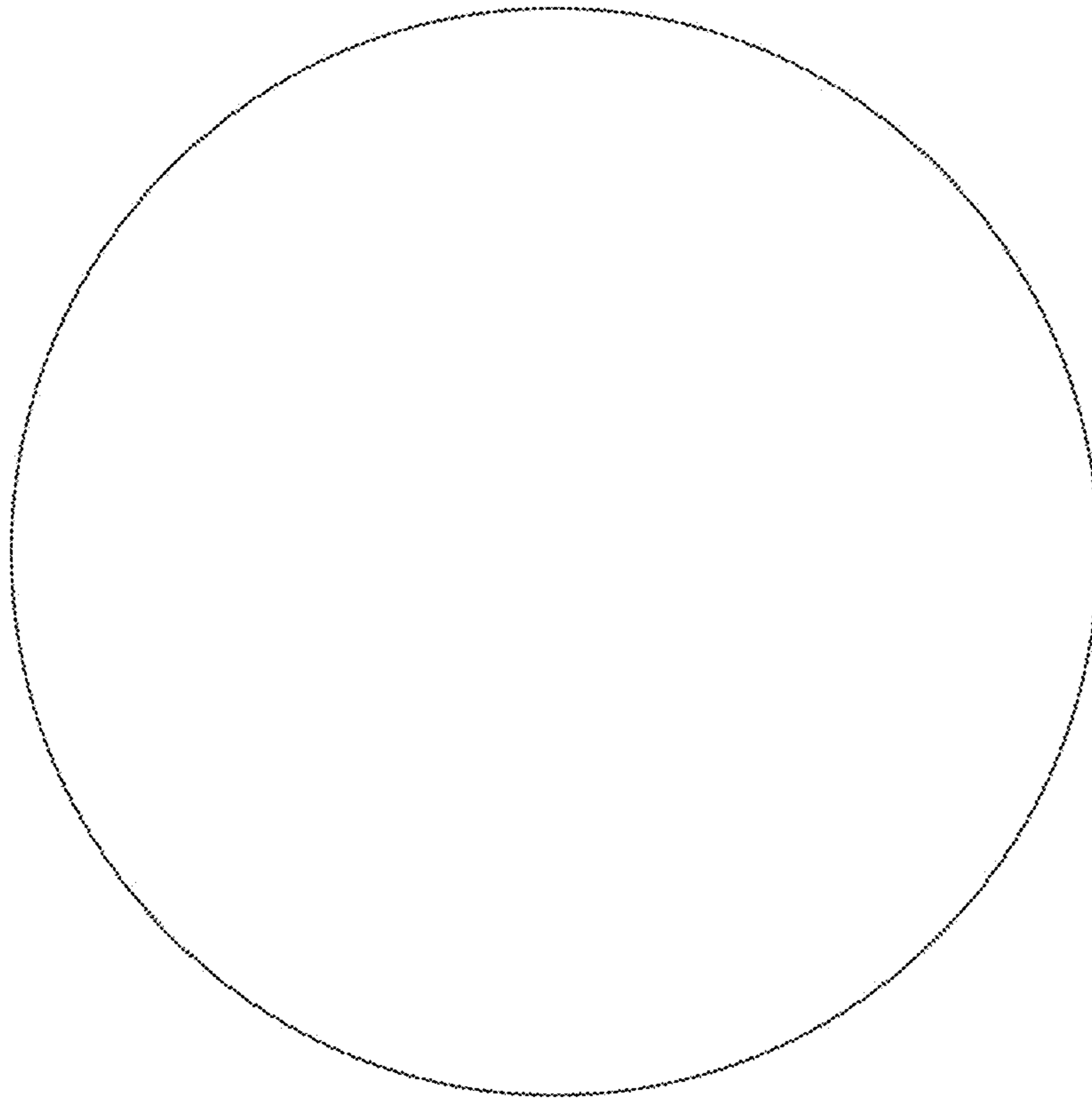


Fig. 6

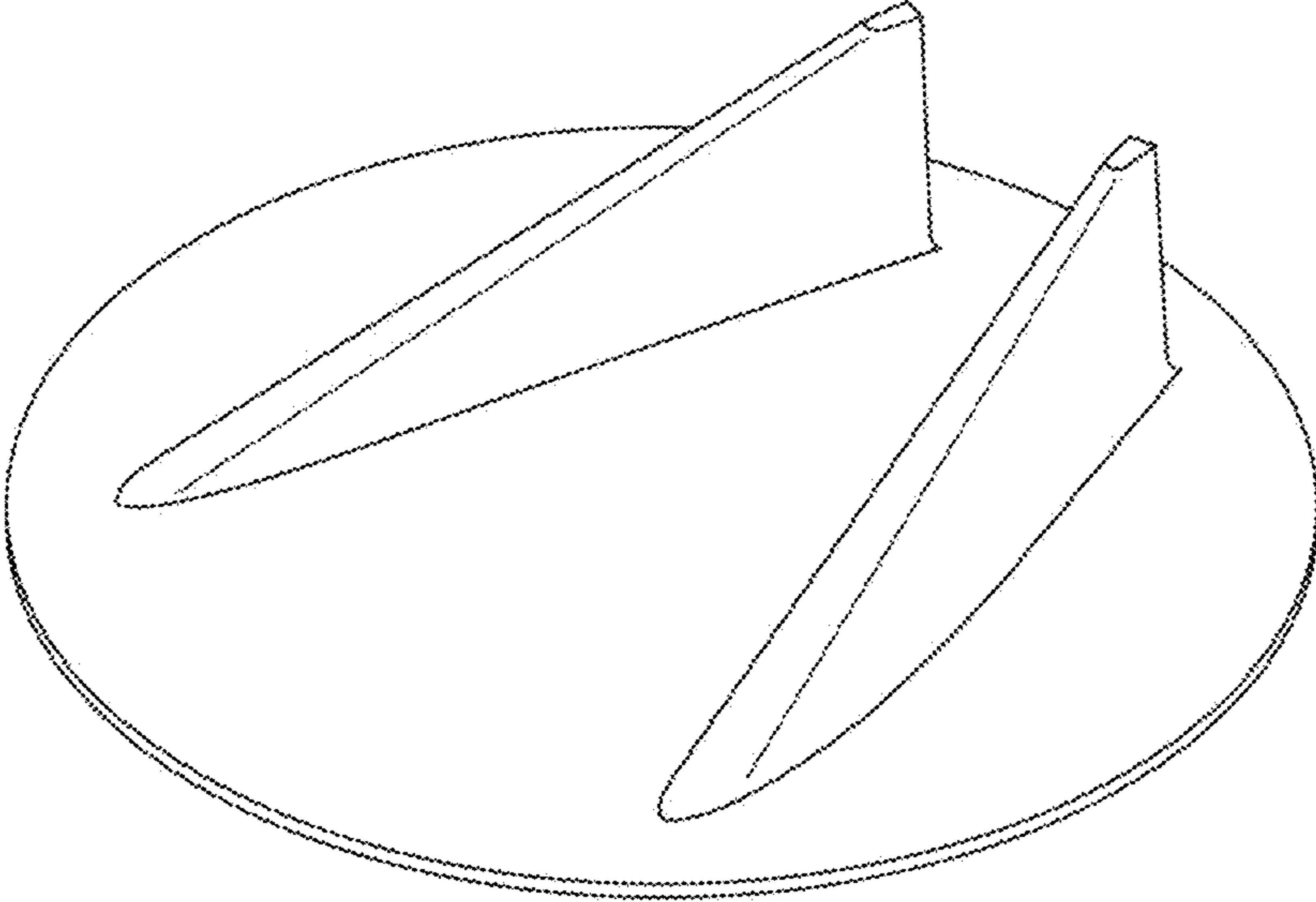


Fig. 7

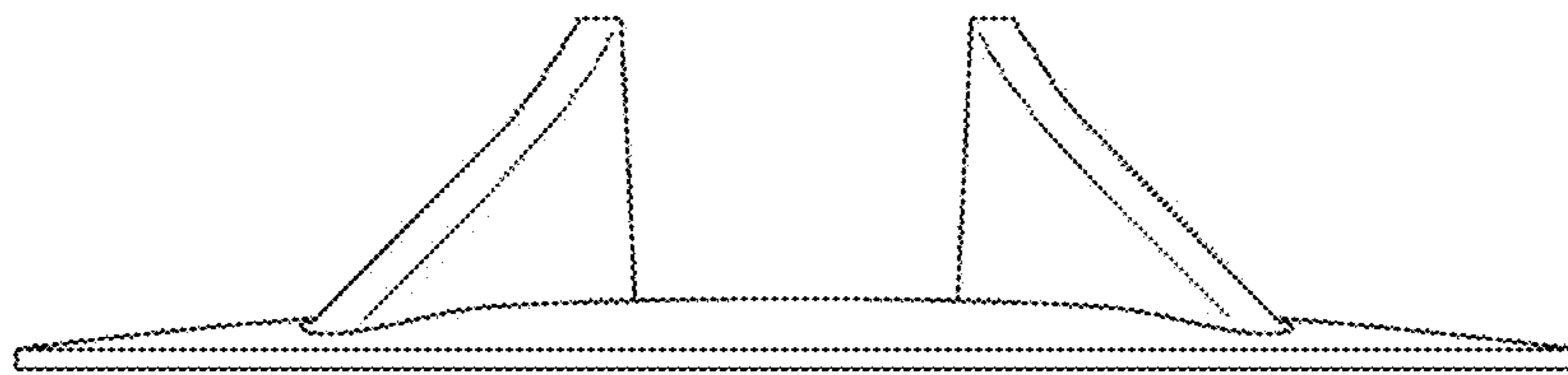


Fig. 8

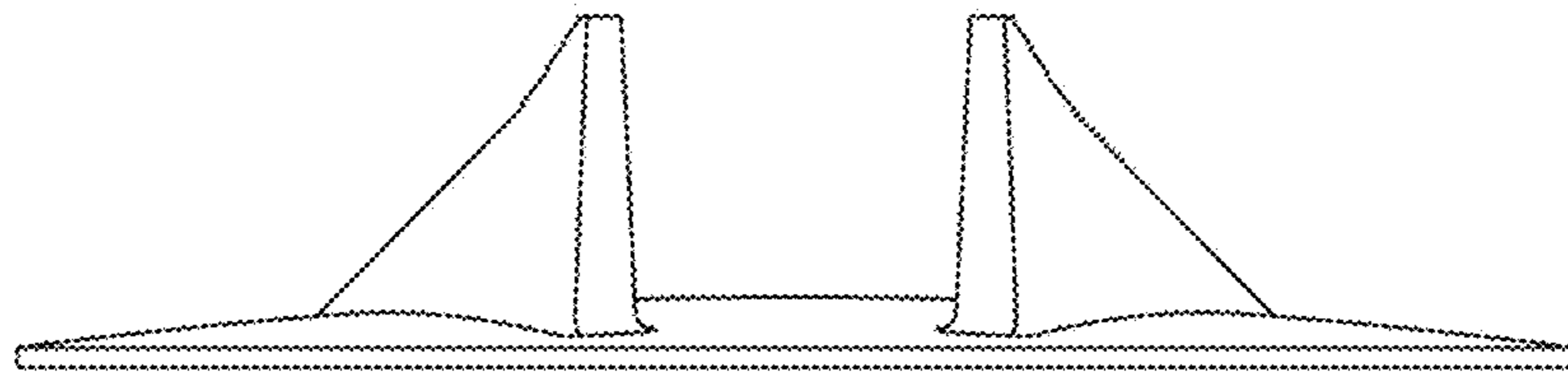


Fig. 9

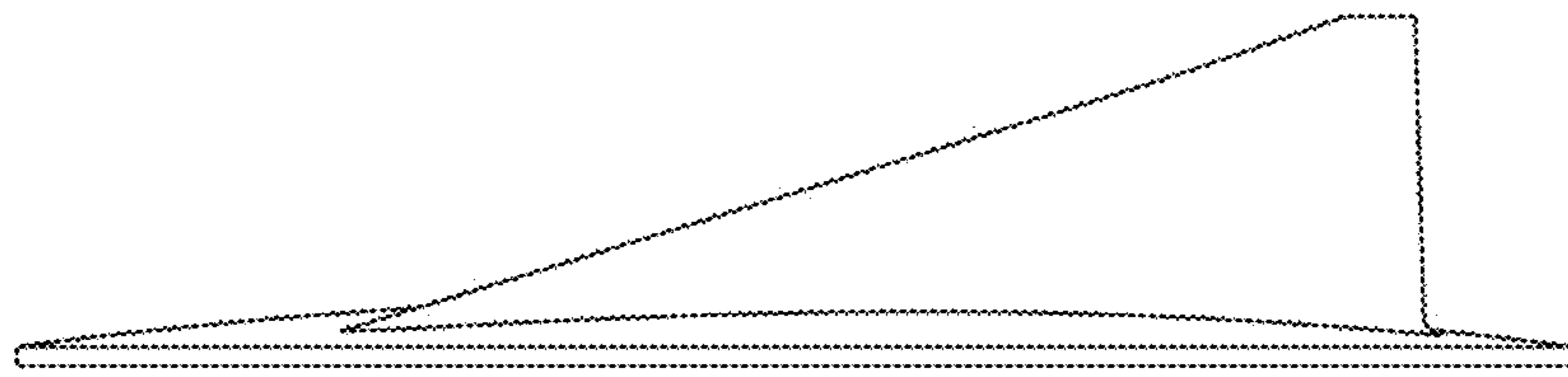


Fig. 10

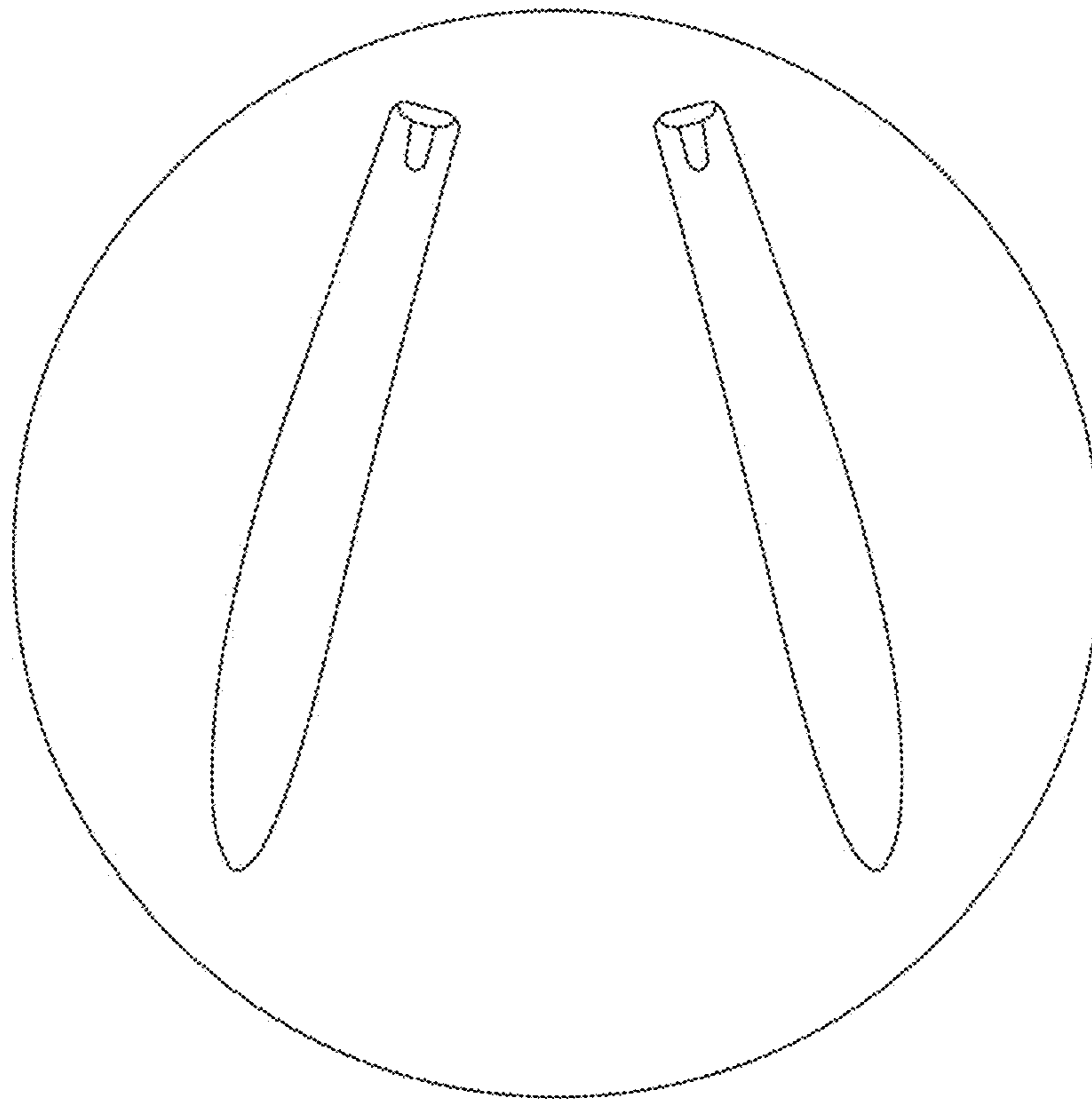


Fig. 11

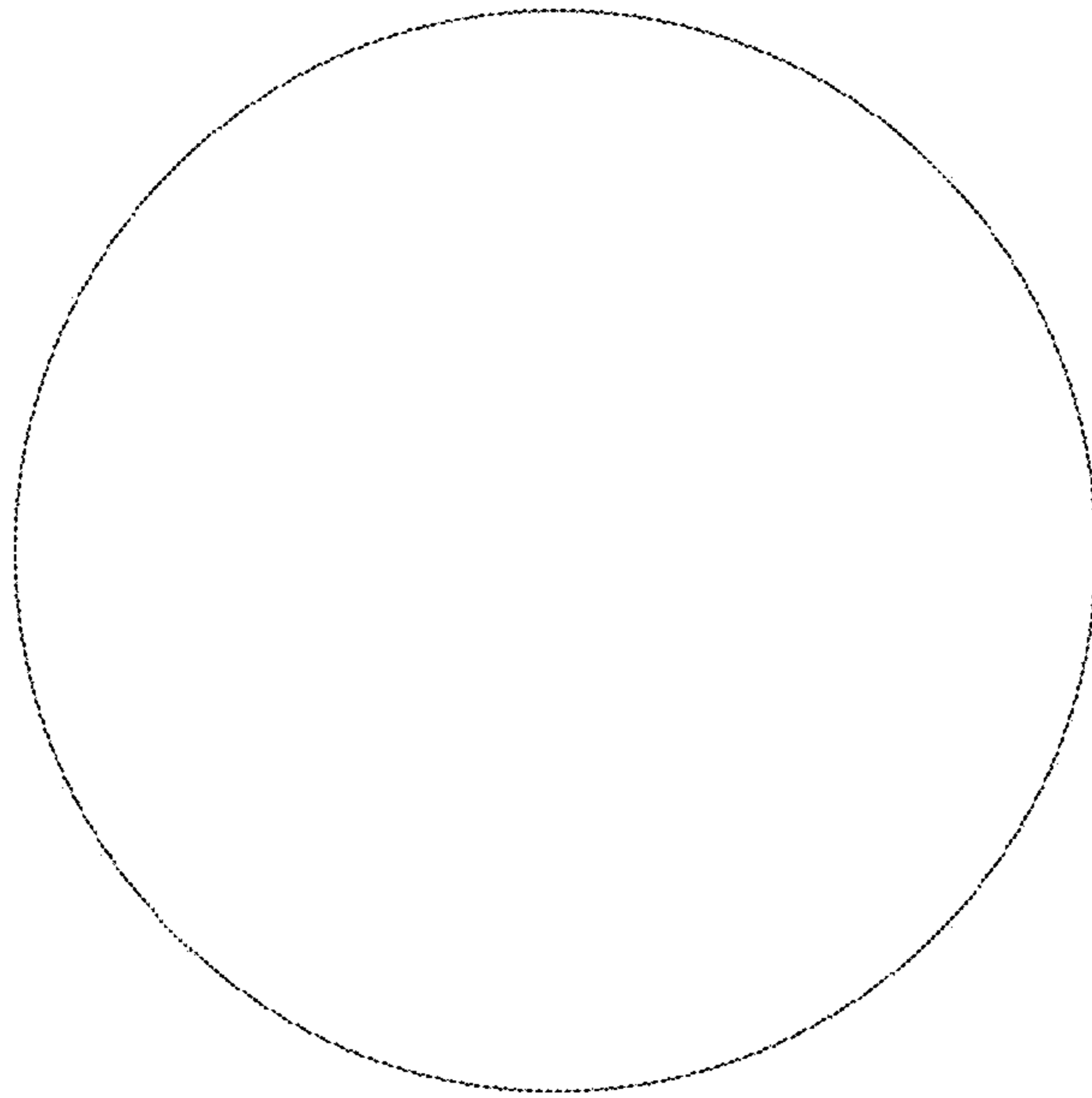


Fig. 12