



US00D602142S

(12) **United States Design Patent**  
**Nishizawa et al.**

(10) **Patent No.:** **US D602,142 S**  
(45) **Date of Patent:** **\*\* Oct. 13, 2009**

(54) **AXIAL FAN WITH DOUBLE IMPELLERS  
ROTATING IN MUTUALLY OPPOSITE  
DIRECTIONS**

JP 2004-278371 10/2004  
JP 2005-016323 1/2005  
JP 3108025 4/2005  
JP 3904595 4/2007

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\* cited by examiner

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

(57) **CLAIM**

(21) Appl. No.: **29/296,287**

The ornamental design for an axial fan with double impellers rotating in mutually opposite directions, as shown and described.

(22) Filed: **Oct. 17, 2007**

(30) **Foreign Application Priority Data**

**DESCRIPTION**

Apr. 18, 2007 (JP) ..... 2007-010384

FIG. 1 is a front elevation view.

(51) **LOC (9) Cl.** ..... **23-04**

FIG. 2 is a rear elevation view.

(52) **U.S. Cl.** ..... **D23/370; D13/179**

FIG. 3 is a right side elevation view.

(58) **Field of Classification Search** ..... D13/179;  
D23/351, 354, 370; 165/122; 361/695; 415/61,  
415/176, 191; 416/178, 185

FIG. 4 is a left side elevation view.

See application file for complete search history.

FIG. 5 is a top plan view.

(56) **References Cited**

FIG. 6 is a bottom plan view.

**U.S. PATENT DOCUMENTS**

FIG. 7 is a cross sectional view as taken along 7—7 line in FIG. 4, omitting the lead wires.

6,904,960 B1 \* 6/2005 Su et al. .... 165/122  
D516,194 S 2/2006 Oosawa et al.  
D516,693 S 3/2006 Oosawa et al.  
D560,622 S \* 1/2008 Ishihara et al. .... D13/179  
7,445,423 B2 \* 11/2008 Ishihara et al. .... 415/61  
7,525,800 B1 \* 4/2009 Cheng ..... 361/695  
2005/0105271 A1 \* 5/2005 Lu et al. .... 361/695  
2005/0106026 A1 \* 5/2005 Oosawa et al. .... 416/198 R

FIG. 8 is an enlarged cross sectional view as taken along 8—8 line in FIG. 1; and,

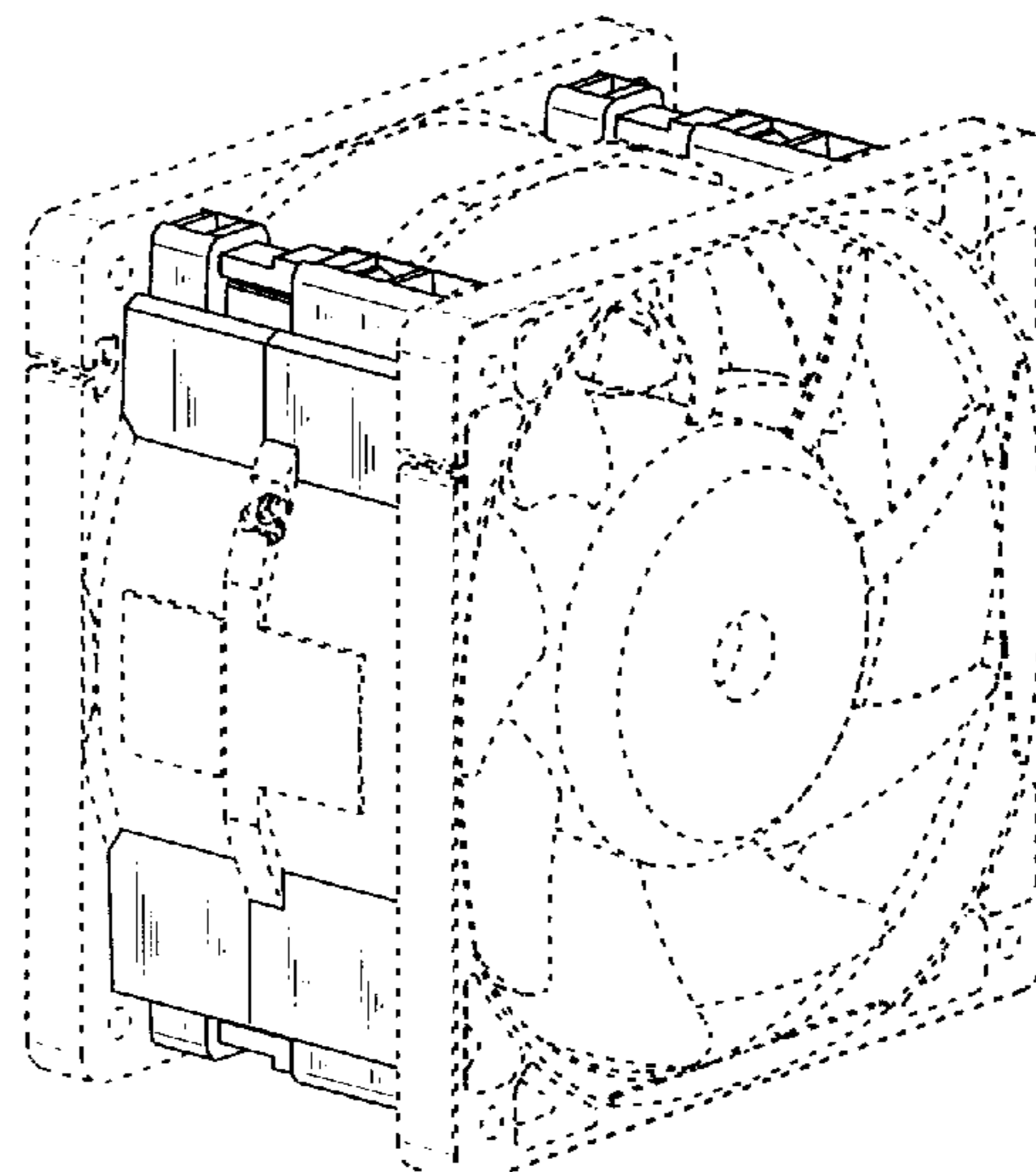
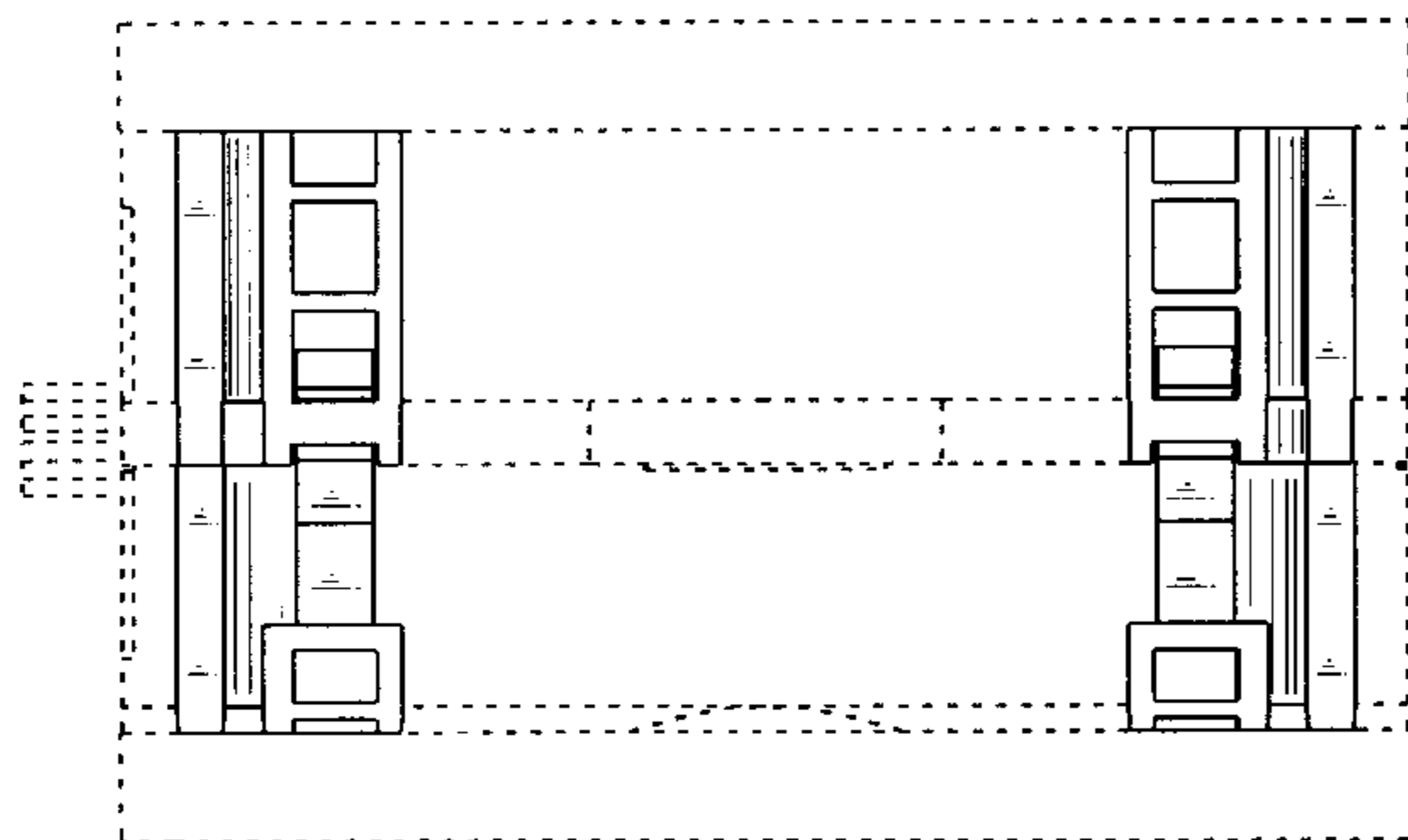
**FOREIGN PATENT DOCUMENTS**

JP 3078627 7/2001

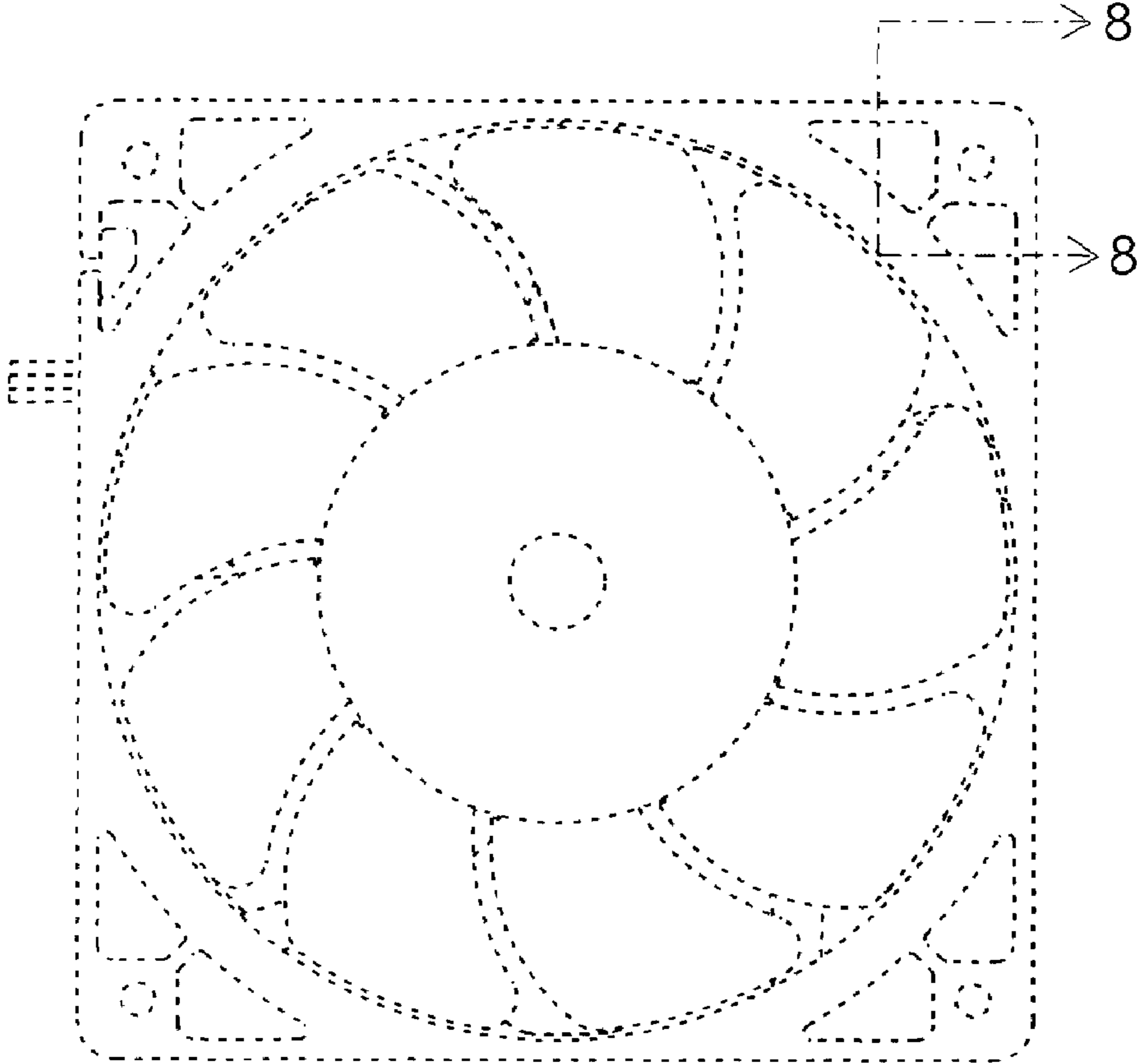
FIG. 9 is a perspective view for reference, omitting the lead wires.

Note that the present ornamental design for which patent protection is sought is shown in solid lines, while the portions shown in dashed lines are environmental features forming no part of the present design.

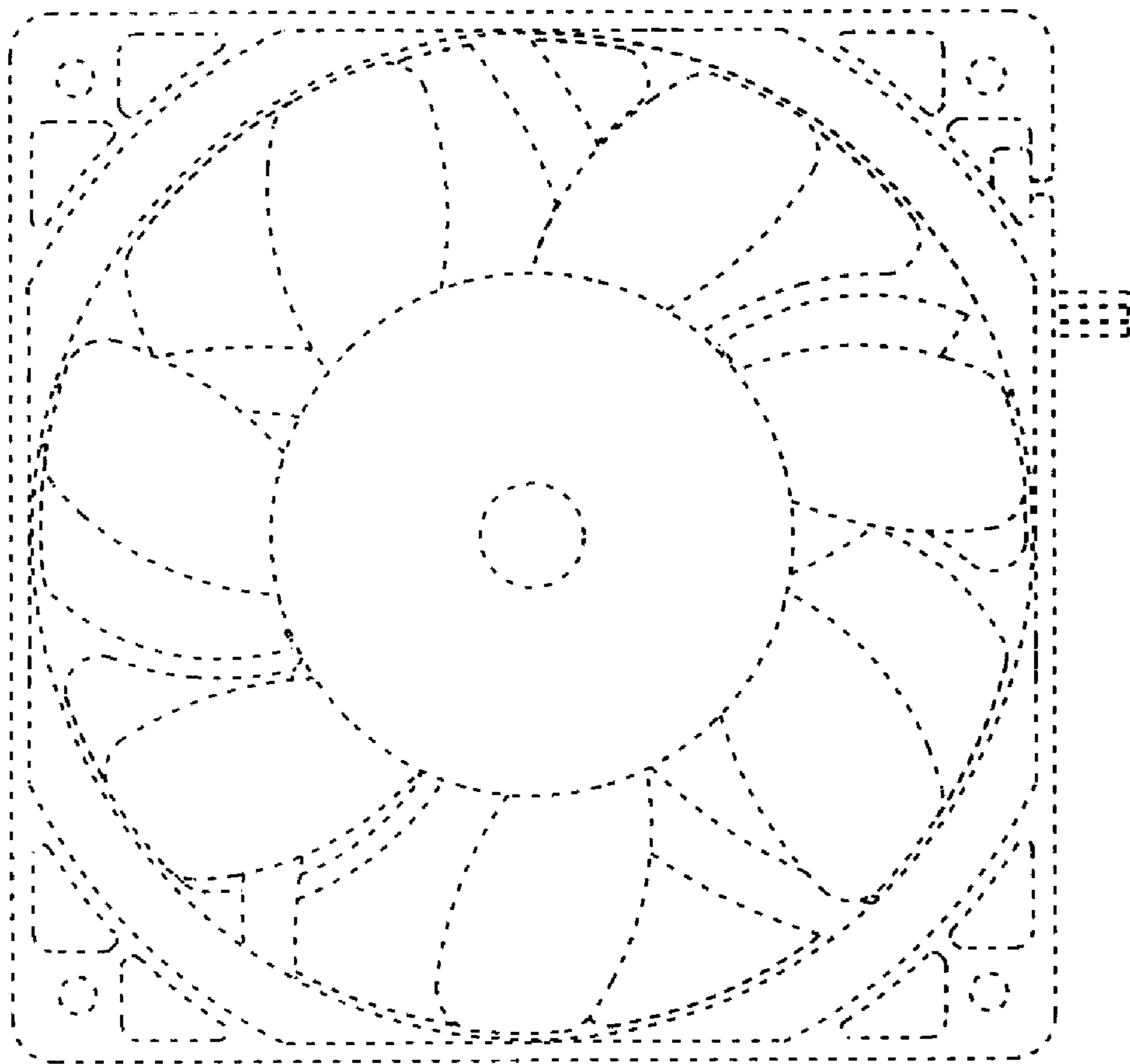
**1 Claim, 9 Drawing Sheets**



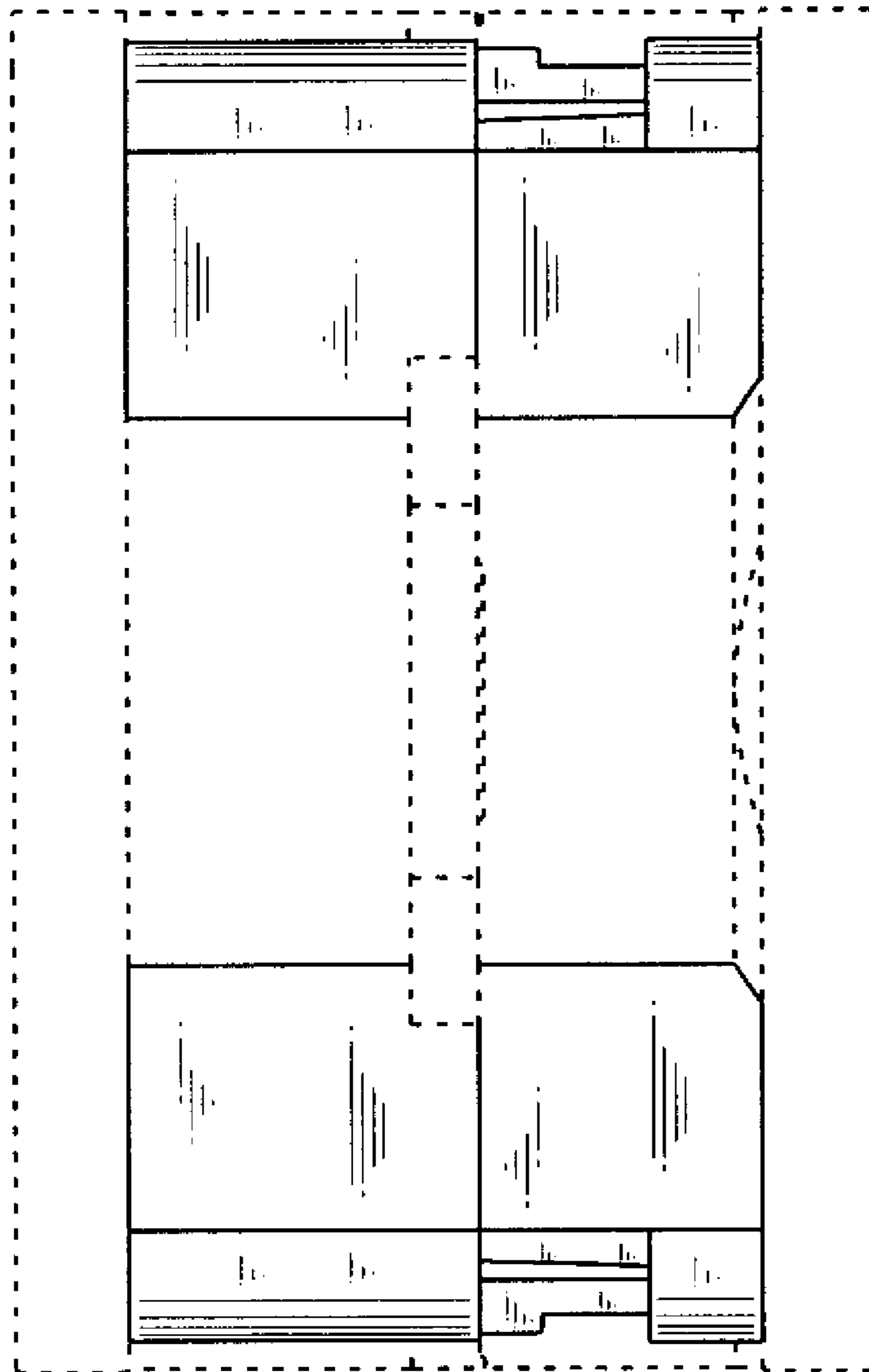
*FIG. 1*



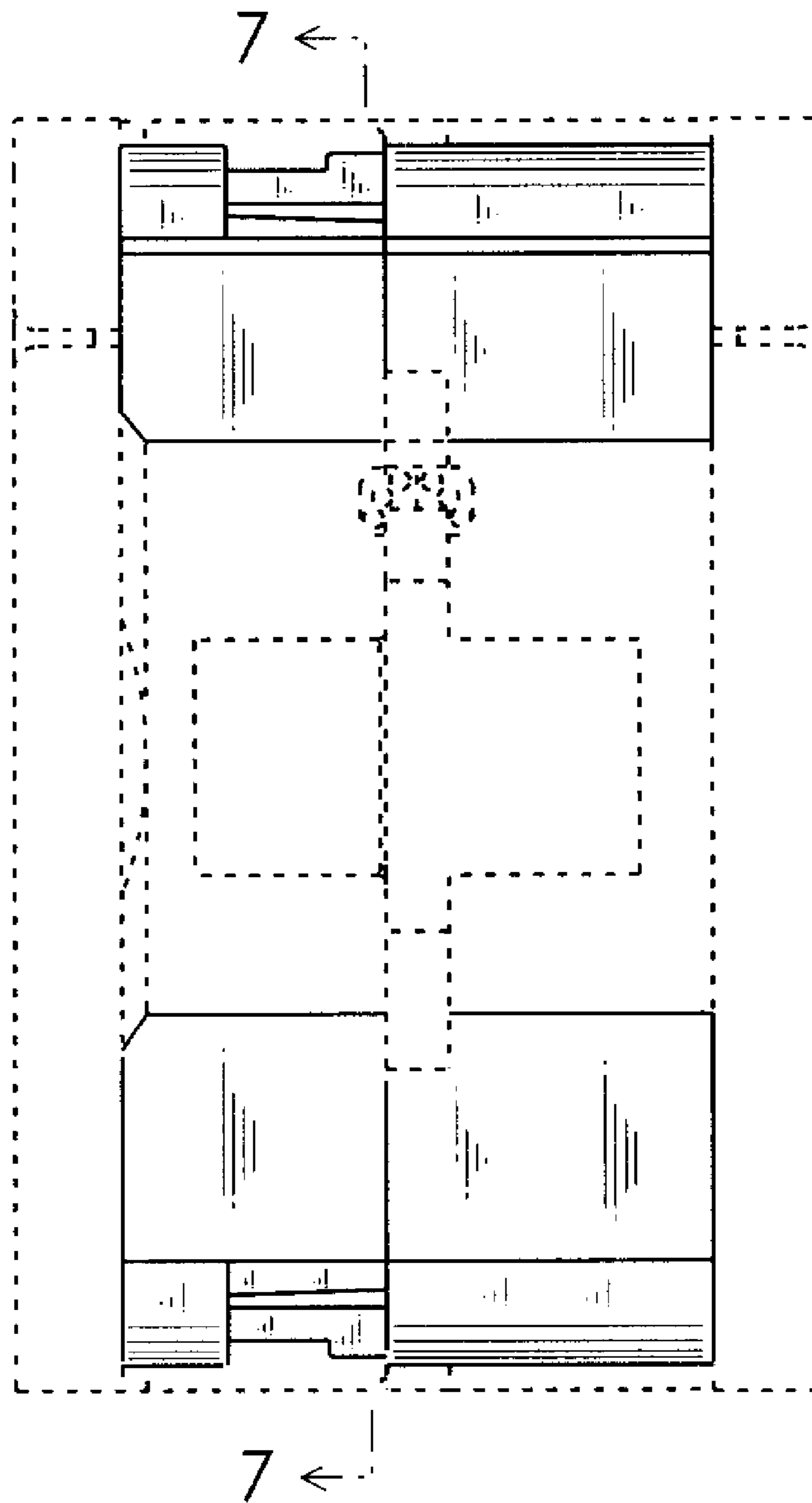
*FIG. 2*



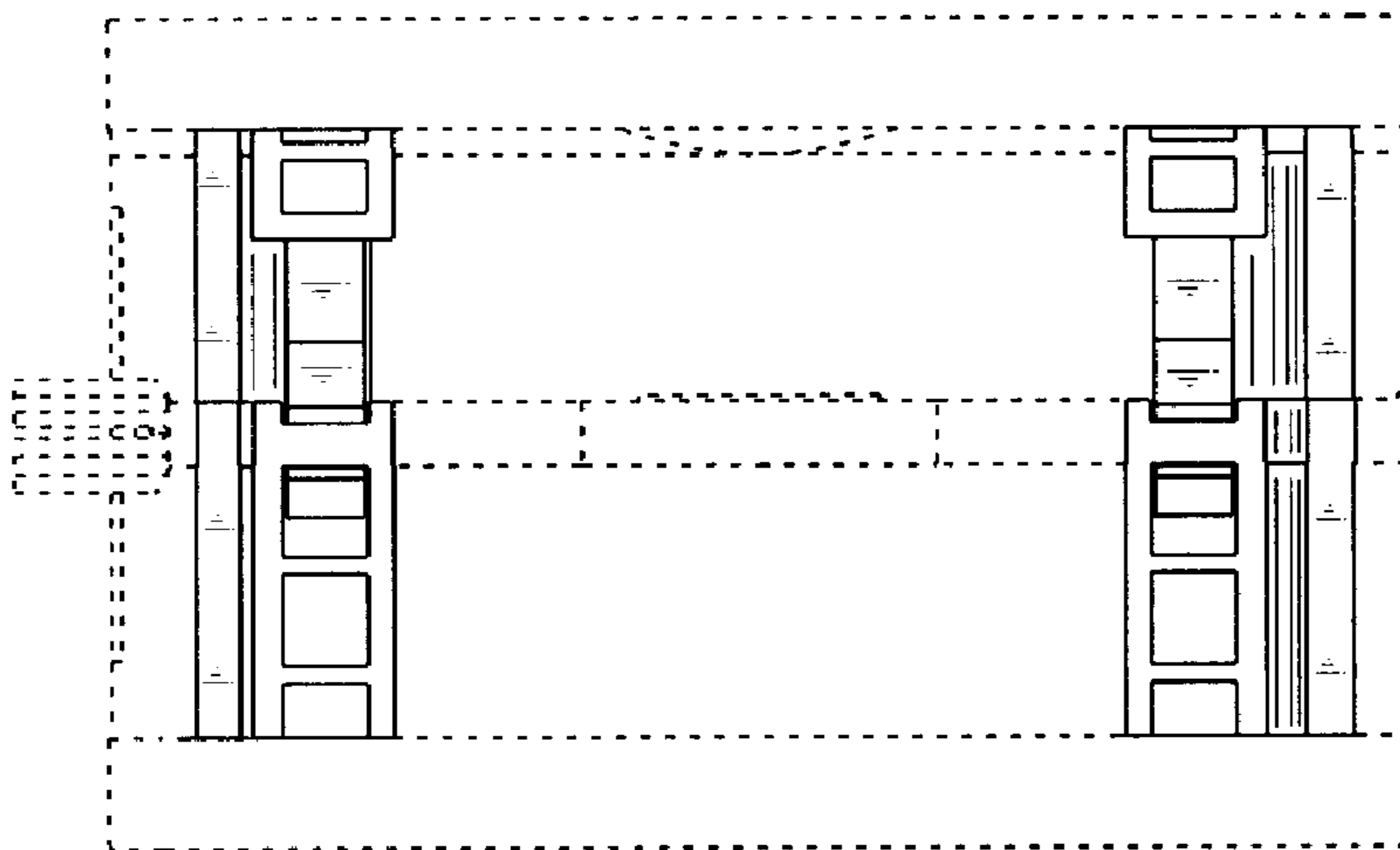
*FIG. 3*



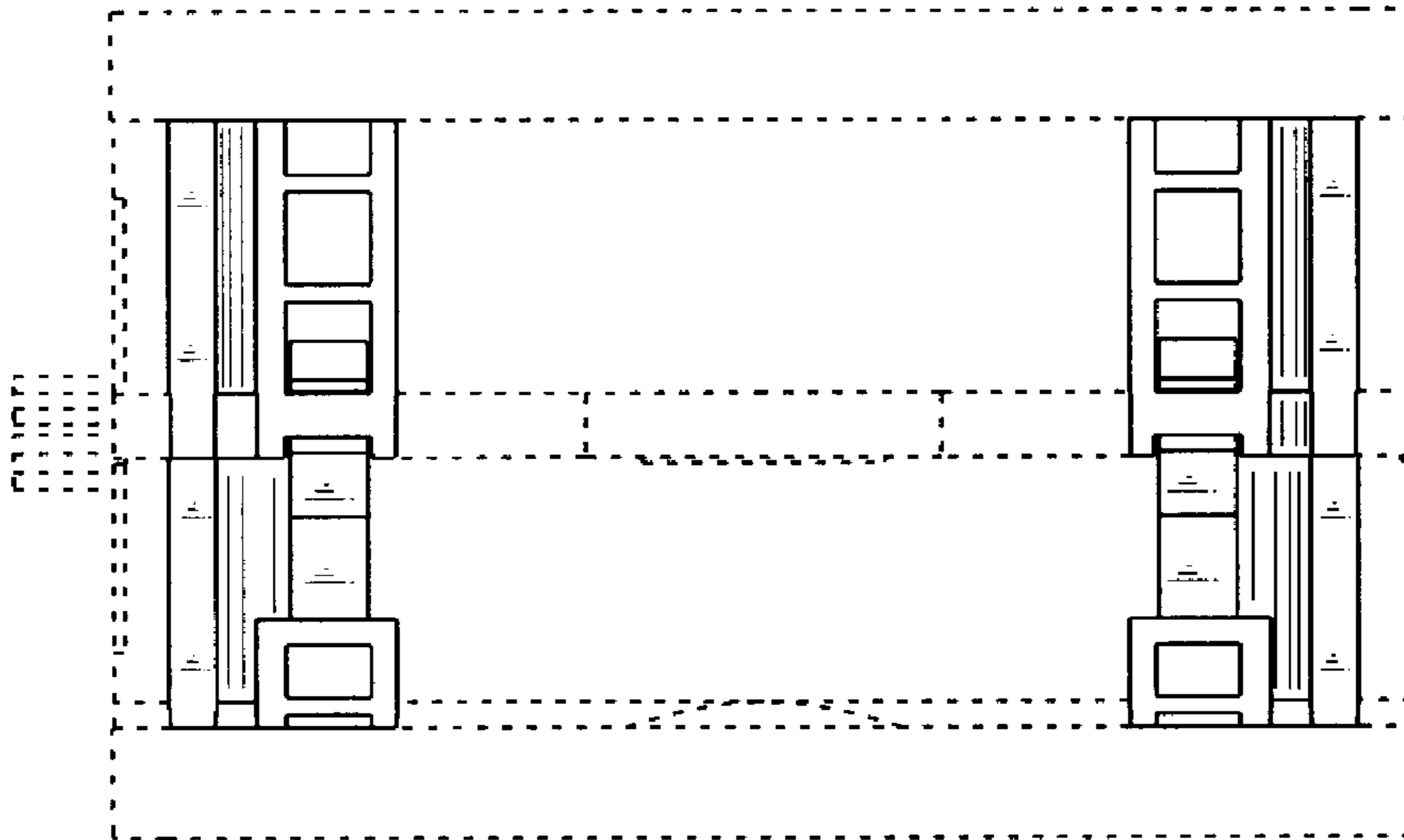
# FIG. 4



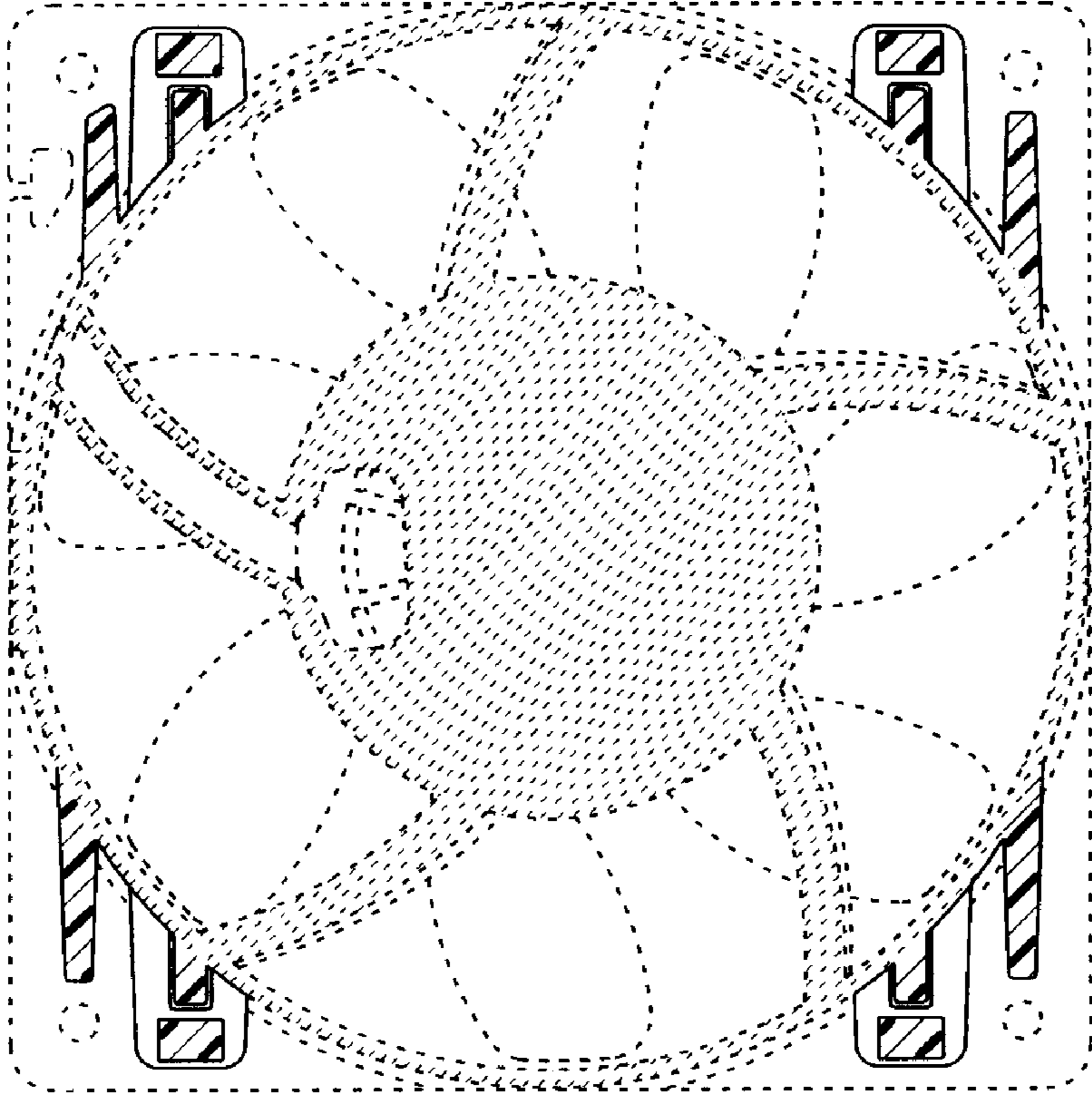
*FIG. 5*



*FIG. 6*

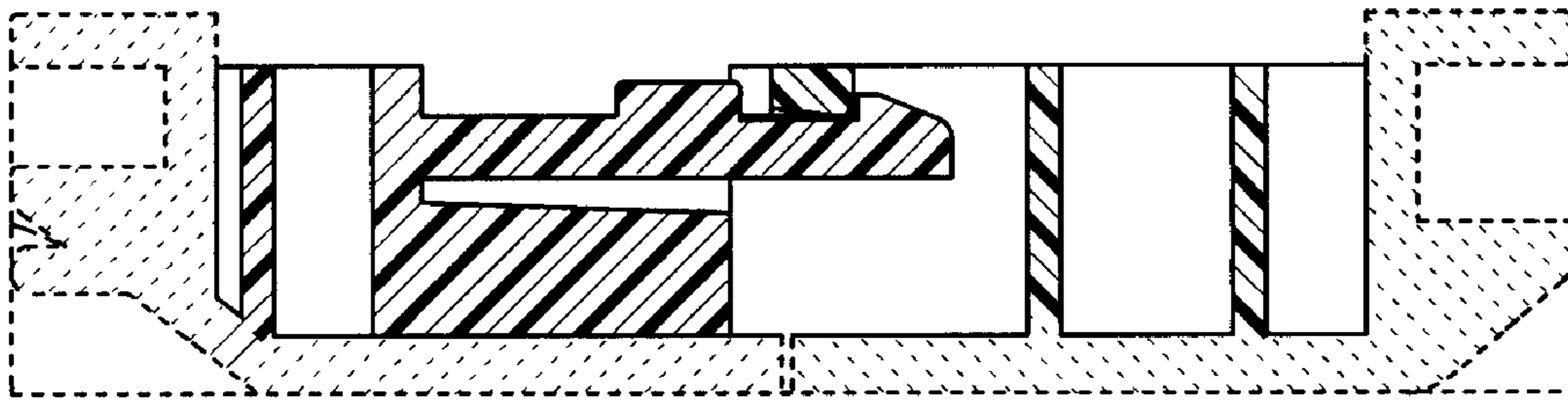


*FIG. 7*





*FIG. 8*



*FIG. 9*

