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

(10) **Patent No.:** **US D713,020 S**

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(54) **HEAT PIPE COOLING DEVICE**

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

(21) Appl. No.: **29/371,467**

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(30) **Foreign Application Priority Data**

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Nov. 10, 2010 (JP) 2010-027000
Dec. 28, 2010 (JP) 2010-031223

(51) **LOC (10) Cl.** **23-03**

(52) **U.S. Cl.**
USPC **D23/322**

(58) **Field of Classification Search**
USPC D23/322, 323, 335, 411, 499, 370, 377;
D13/197; 174/15.1, 16.3; 361/690,
361/697, 702, 709, 711, 514
See application file for complete search history.

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(57) **CLAIM**

The ornamental design for a heat pipe cooling device, substantially as shown and described.

DESCRIPTION

FIG. 1 is a front view of the heat pipe cooling device showing our new design;

FIG. 2 is a plan view thereof;

FIG. 3 is a bottom view thereof;

FIG. 4 is a right side view thereof;

FIG. 5 is a left side view thereof;

FIG. 6 is a back view thereof; and,

FIG. 7 is a cross sectional view thereof, taken along line XIV-XIV in FIG. 4.

This article is a heat pipe cooling device, which is configured to cool a semiconductor device or the like to be used for a vehicle control apparatus and the like. This article comprises a heat block configured to contact the semiconductor device or the like, a plurality of heat pipes, and a plurality of heat dissipation fins connected by the heat pipes. This article is configured such that heat is transferred from the semiconductor device or the like to the heat block, then transferred from the heat block to the heat dissipation fins through the heat pipes, and finally dissipated from the heat dissipation fins.

1 Claim, 7 Drawing Sheets

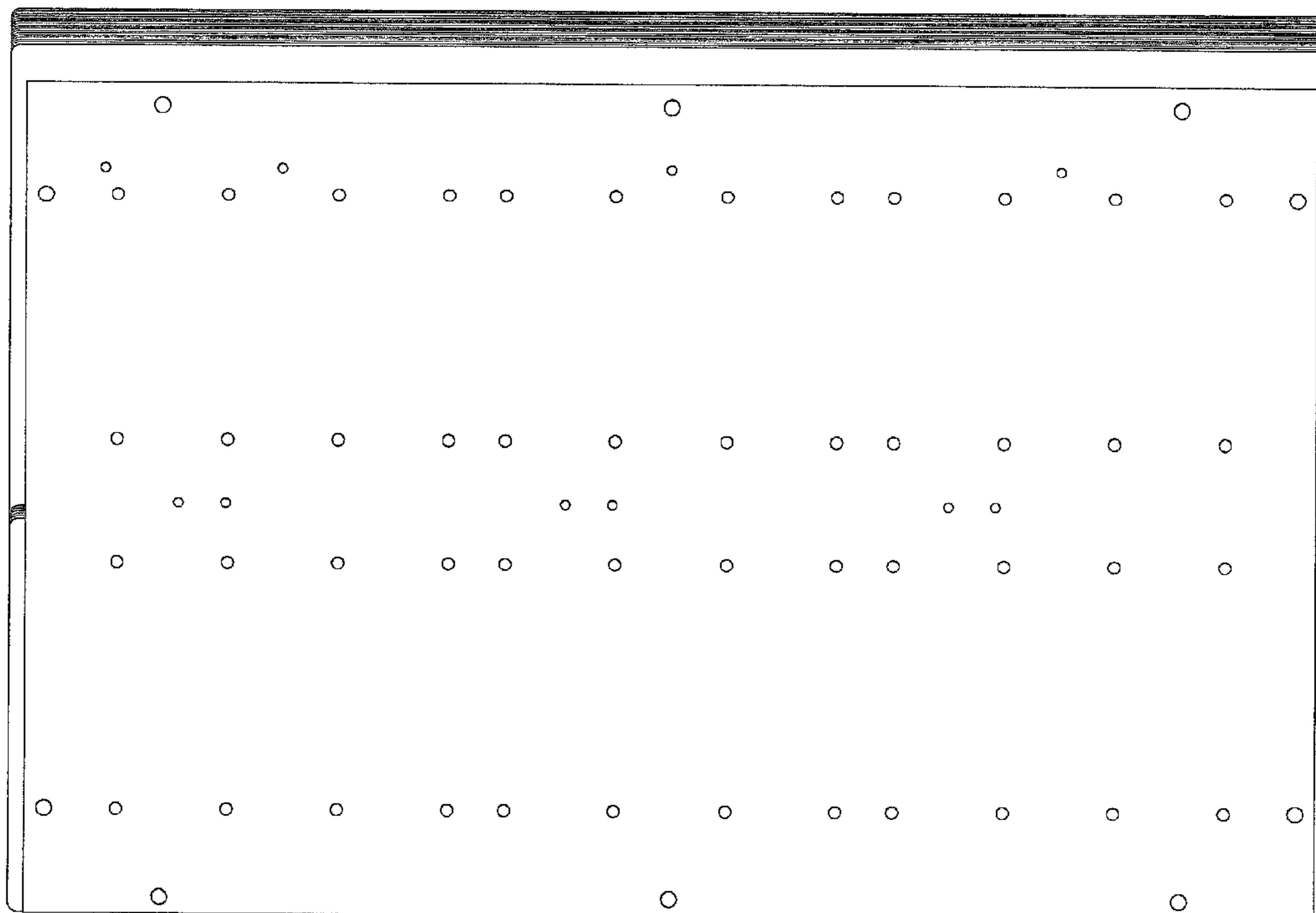


FIG. 1

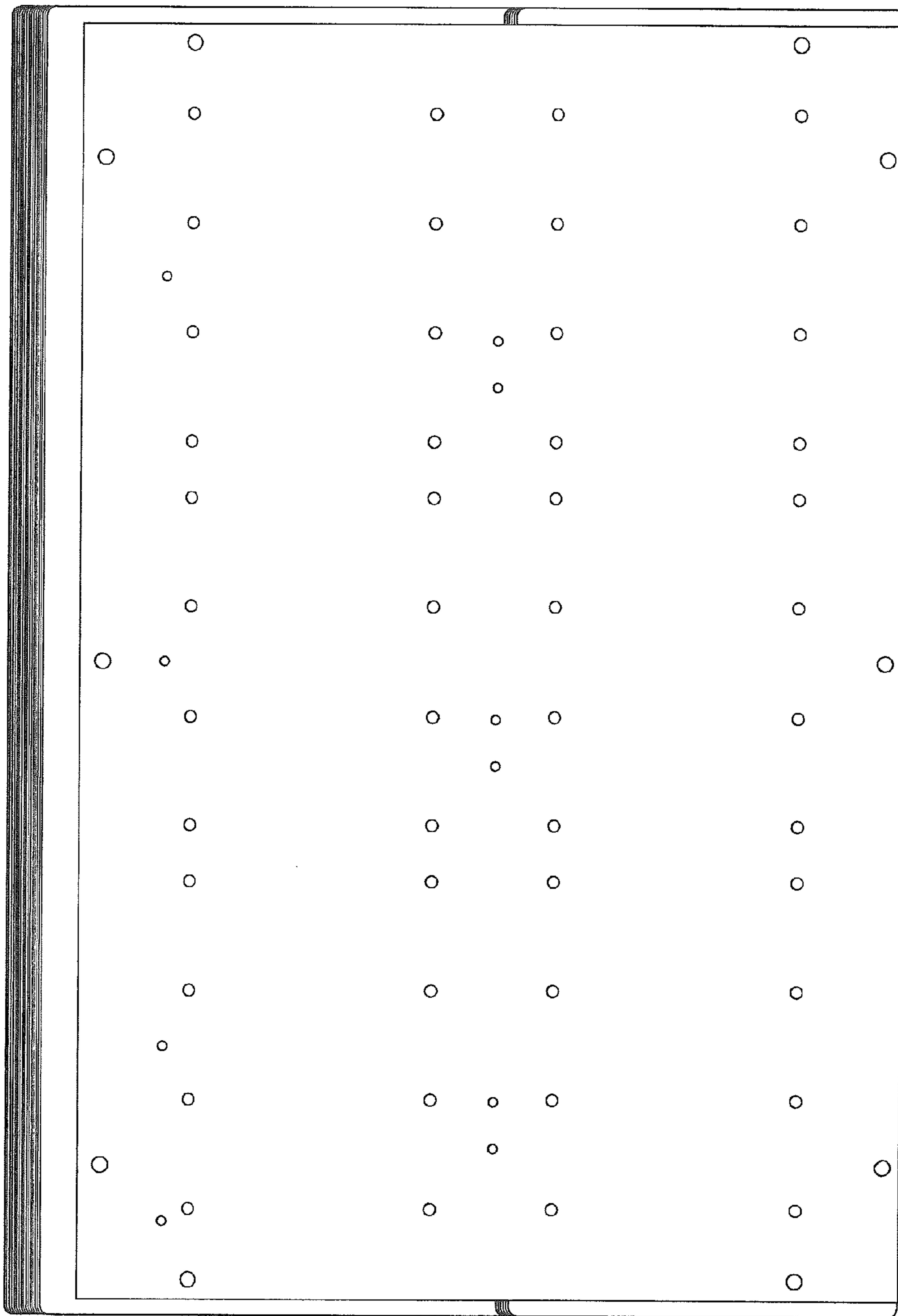


FIG. 2

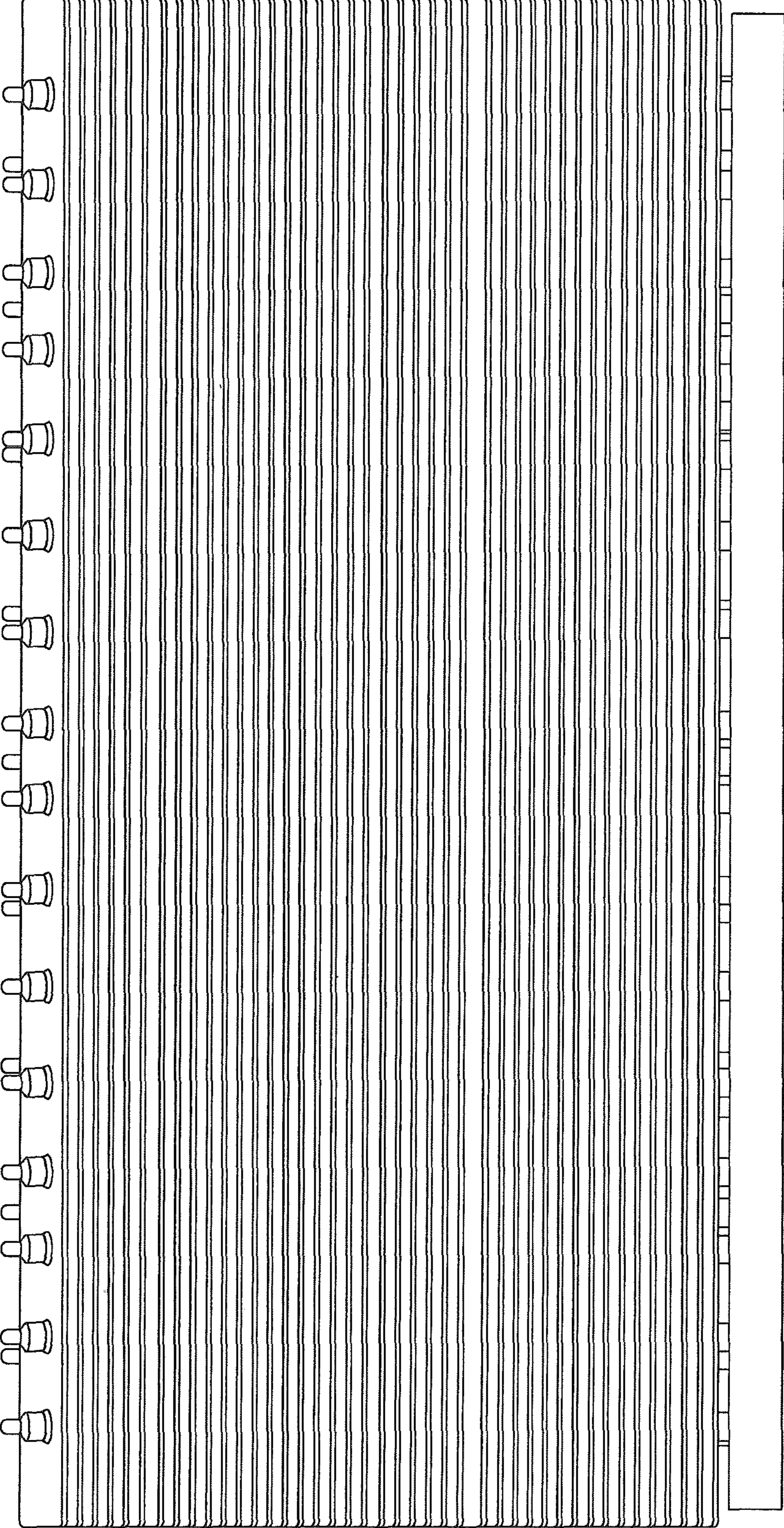


FIG. 3

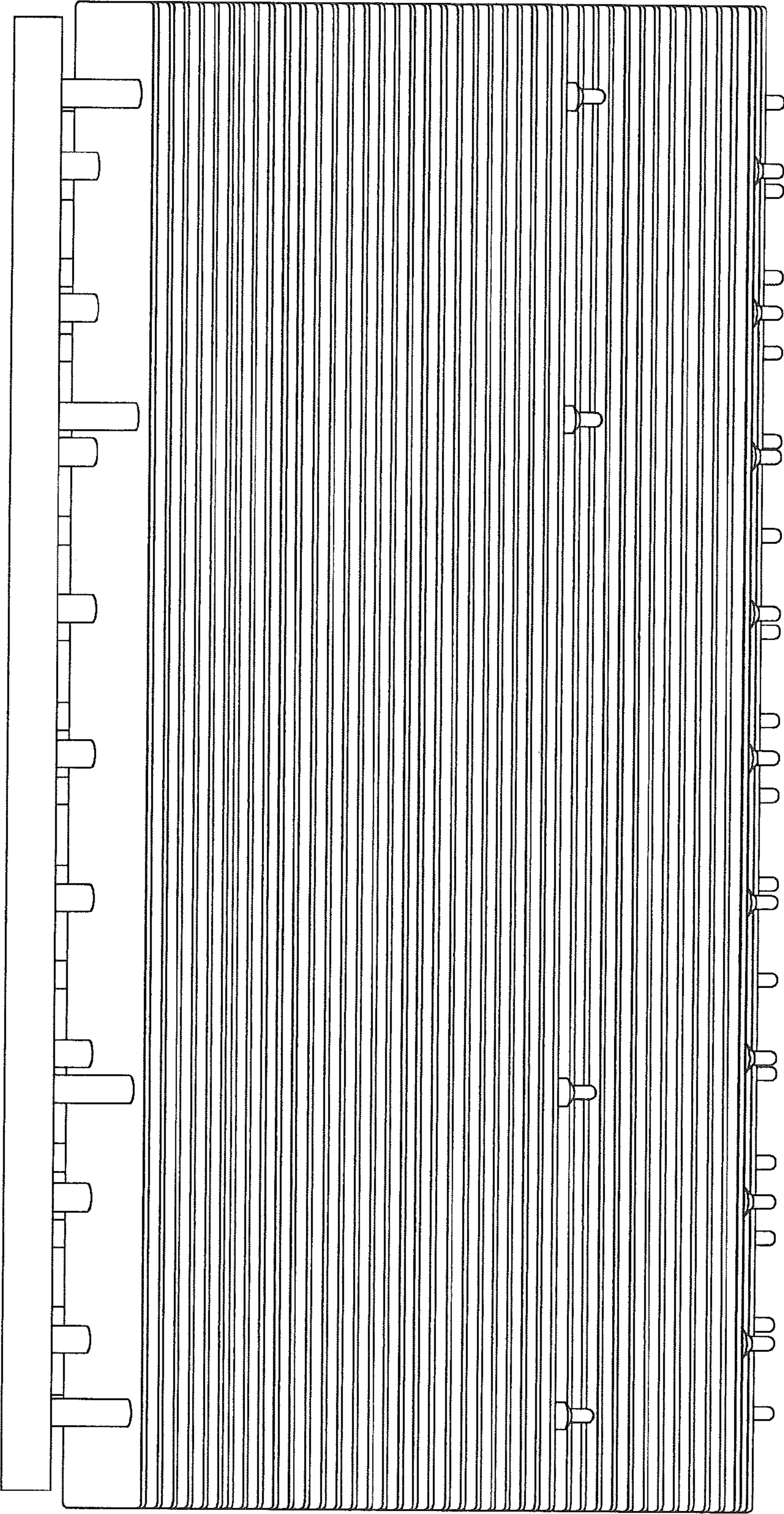


FIG. 4

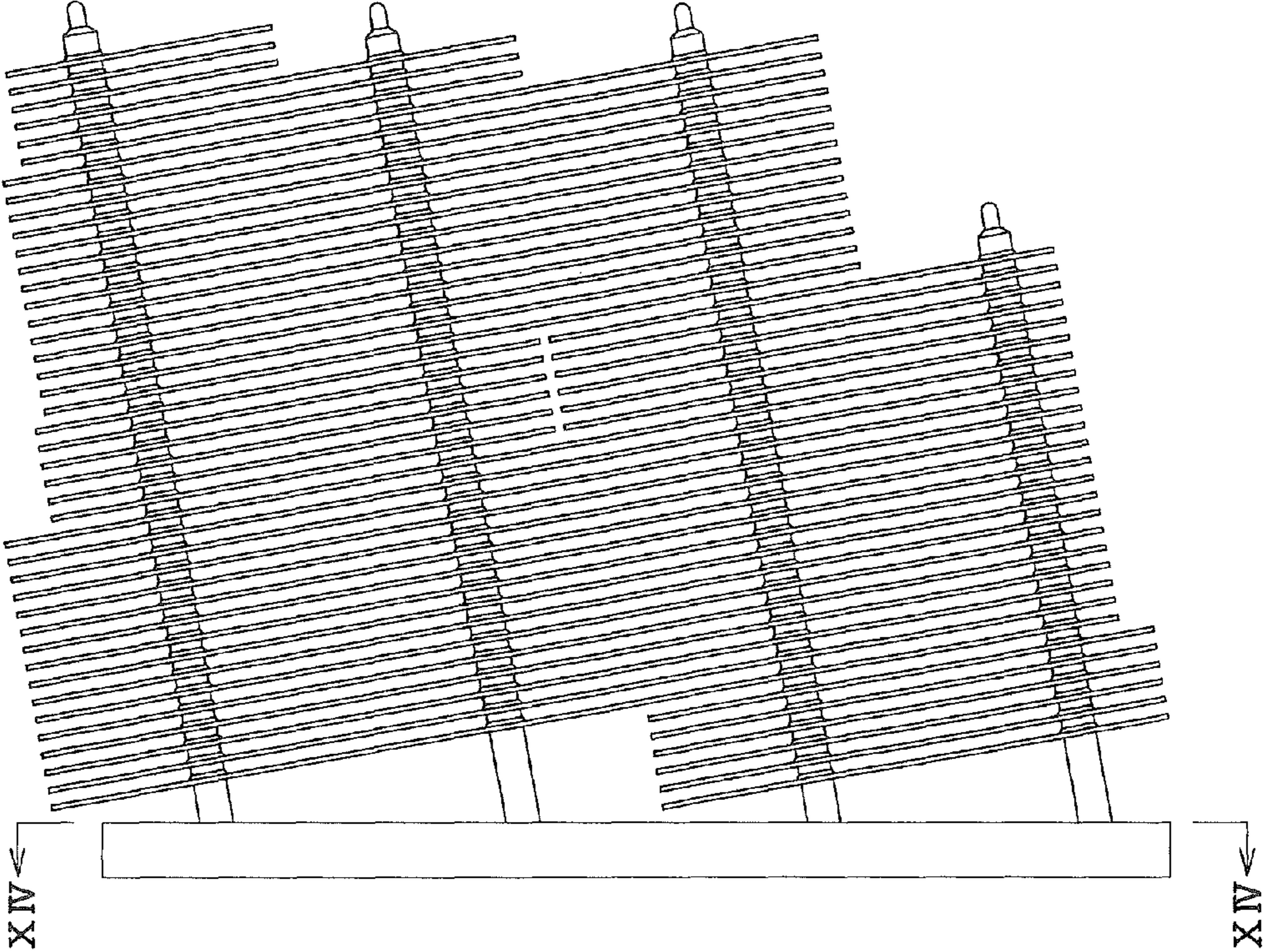


FIG. 5

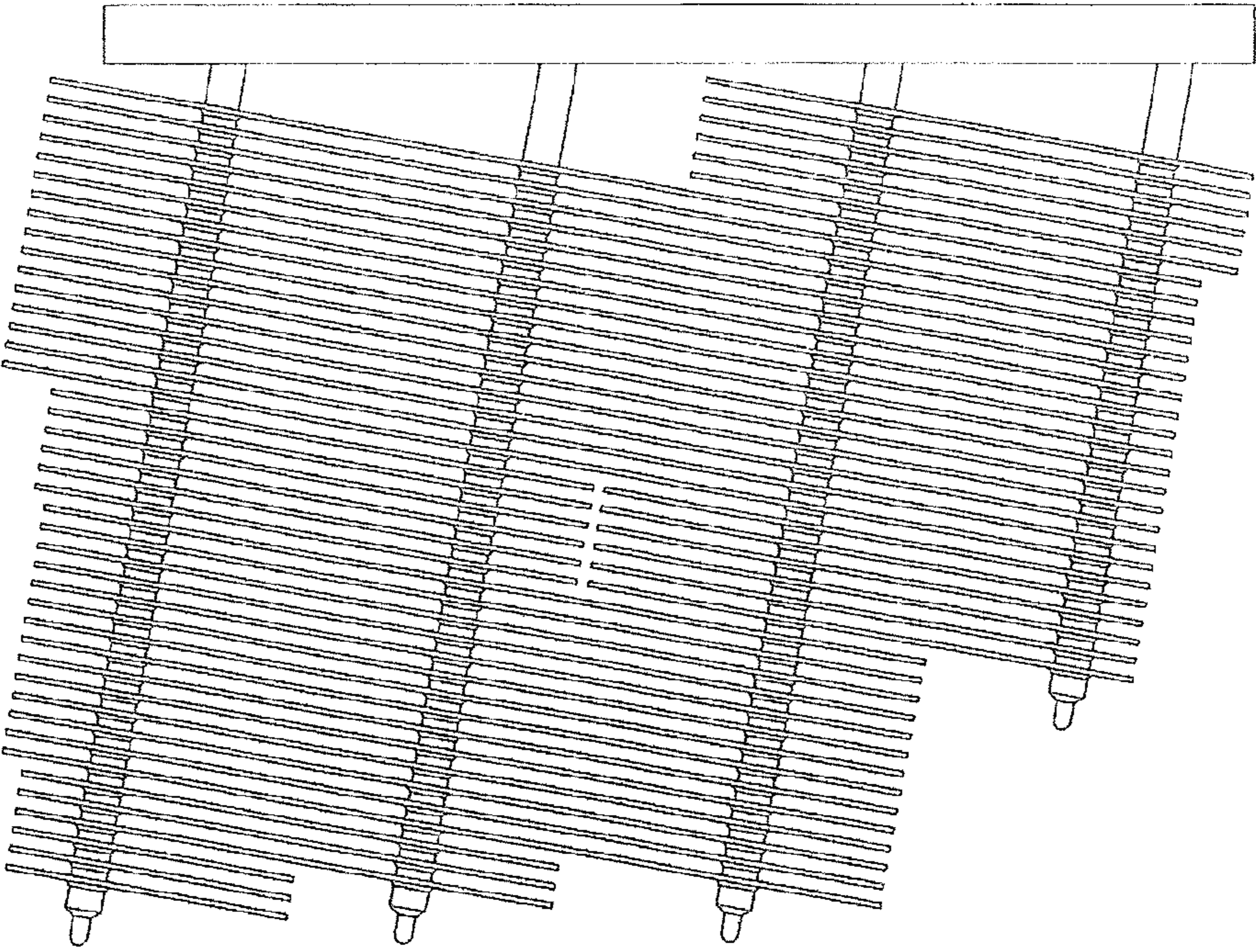


FIG. 6

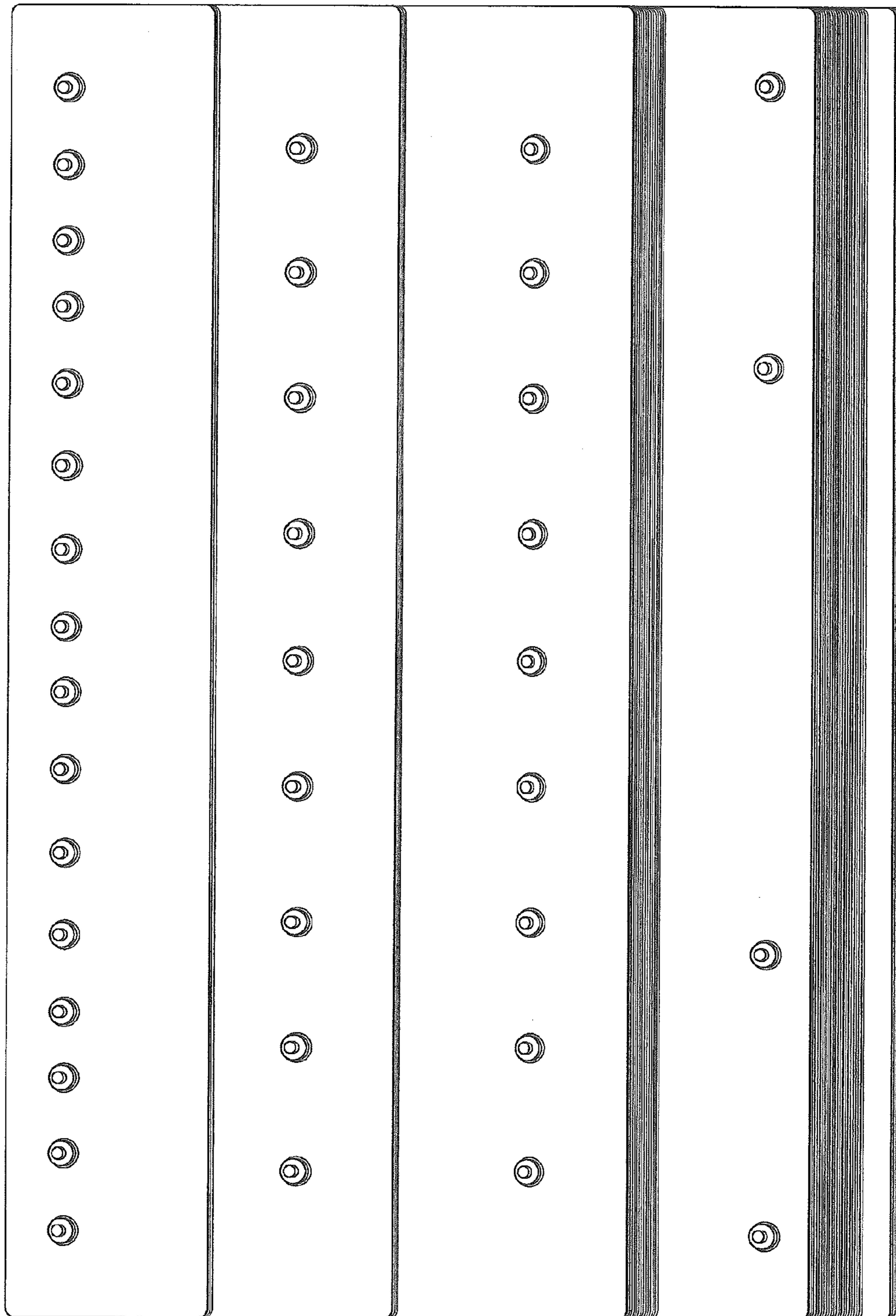


FIG. 7

