

US00D570778S

(12) **United States Design Patent** (10) **Patent No.:** **US D570,778 S**
Yu et al. (45) **Date of Patent:** **** Jun. 10, 2008**

(54) **COMBINED PLUGGABLE OPTICAL
TRANSCIVER AND LATCH-RELEASE
SLEEVE**

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(75) Inventors: **Juhyun Yu**, Hitachi (JP); **Yoshinori
Sunaga**, Hitachinaka (JP)

(57) **CLAIM**

The ornamental design for a combined pluggable optical transceiver and latch-release sleeve, as shown and described.

(73) Assignee: **Hitachi Cable, Ltd.**, Tokyo (JP)

DESCRIPTION

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

(21) Appl. No.: **29/250,559**

(22) Filed: **Nov. 21, 2006**

(30) **Foreign Application Priority Data**

Jun. 26, 2006 (JP) 2006-016513

(51) **LOC (8) Cl.** **13-03**

(52) **U.S. Cl.** **D13/123**

(58) **Field of Classification Search** D13/123,
D13/133, 146, 147, 184, 199; 385/88, 89,
385/92, 385; 361/728, 754, 759; 439/357,
439/372, 359, 358, 76.1, 607, 608, 609

See application file for complete search history.

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Primary Examiner—Daniel Bui

Assistant Examiner—Thomas J Johannes

This article is a combined pluggable optical transceiver and latch-release sleeve, used for optical communication, and including an optical transmitter and an optical receiver that are integrally formed. The combined pluggable optical transceiver and latch-release sleeve has a latch mechanism that is plugged to a network apparatus to serve as a retainer when this article is installed on the network apparatus. The latch mechanism connected to a latch-release sleeve can be released by pulling the latch-release sleeve to the forward direction, so that this article can be detached from the network apparatus. Respective corners of the latch-release sleeve are formed to have a round shape, so that the latch-release sleeve can be easily hold along omni-direction, namely, vertical and horizontal directions. Upper and lower surfaces of the latch-release sleeve that are often held by a user are provided with plural grooves with a constant pitch to prevent the user's fingers from being slipped. Further, a height of the latch-release sleeve is slowly increased from a main body side to a front side thereof, such that a holding force can be easily transmitted to the latch mechanism. Still further, the latch-release sleeve is provided with a stopper for limiting a front position thereof with respect to an optical transceiver housing, to avoid an application of an excessive force being to the latch mechanism.

FIG. 1 is an enlarged top, front and right side perspective view of a combined pluggable optical transceiver and latch-release sleeve showing our new design;

FIG. 2 is a front view thereof;

FIG. 3 is a back view thereof;

FIG. 4 is a right side view thereof;

FIG. 5 is a left side view thereof;

FIG. 6 is a top view thereof;

FIG. 7 is a bottom view thereof;

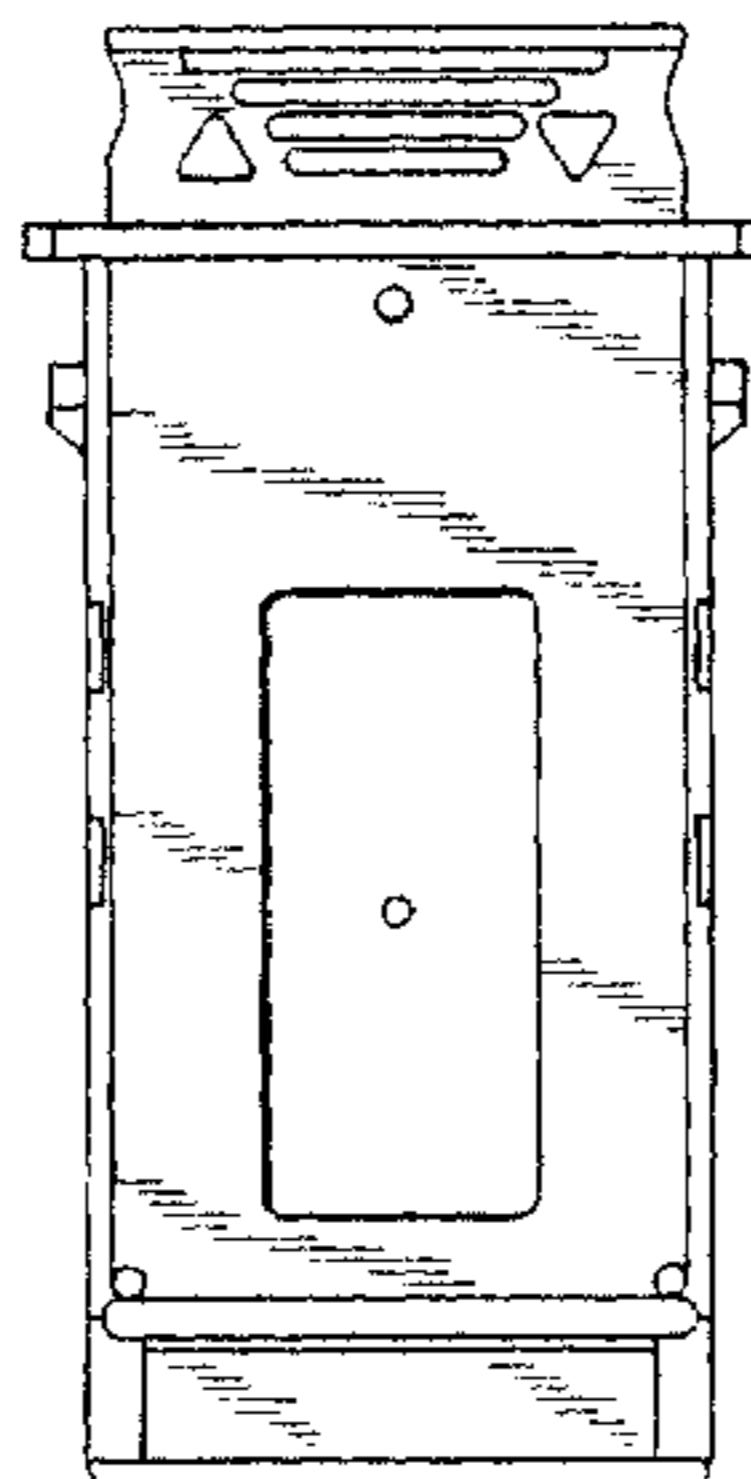


FIG. 8 is an enlarged top, front and right side perspective view of a combined pluggable optical transceiver and latch-release sleeve in a state where a latch is released showing an alternate usage condition;

FIG. 9 is a front view thereof;

FIG. 10 is a back view thereof;

FIG. 11 is a right side view thereof;

FIG. 12 is a left side view thereof;

FIG. 13 is a top view thereof;

FIG. 14 is a bottom view thereof;

FIG. 15 is an enlarged top, front and right perspective view of the latch-release sleeve disassembled from a combined pluggable optical receiver shown separately for clarity;

FIG. 16 is a front view thereof;

FIG. 17 is a back view thereof;

FIG. 18 is a right side view thereof;

FIG. 19 is a left side view thereof;

FIG. 20 is a top view thereof;

FIG. 21 is a bottom view thereof; and,

FIG. 22 is a cross sectional view thereof, taken along line 22—22 in FIG. 21.

In FIGS. 6 and 13, small circles shown at two points on a rear portion of the optical transceiver housing and an outer circle of a double circle shown at one point on a front portion of the optical transceiver housing are holes.

In FIGS. 7 and 14, small circles shown at two points on the rear portion, one point on a front-center portion, and one point on a center portion of the optical transceiver housing are holes. Further, in FIGS. 7 and 14, a rectangular concave portion with a depth of about 0.1 mm is formed at the center portion along a longitudinal direction.

The broken line showing in the figure drawings is included for illustrative purposes only and forms no part of the claimed design.

1 Claim, 22 Drawing Sheets

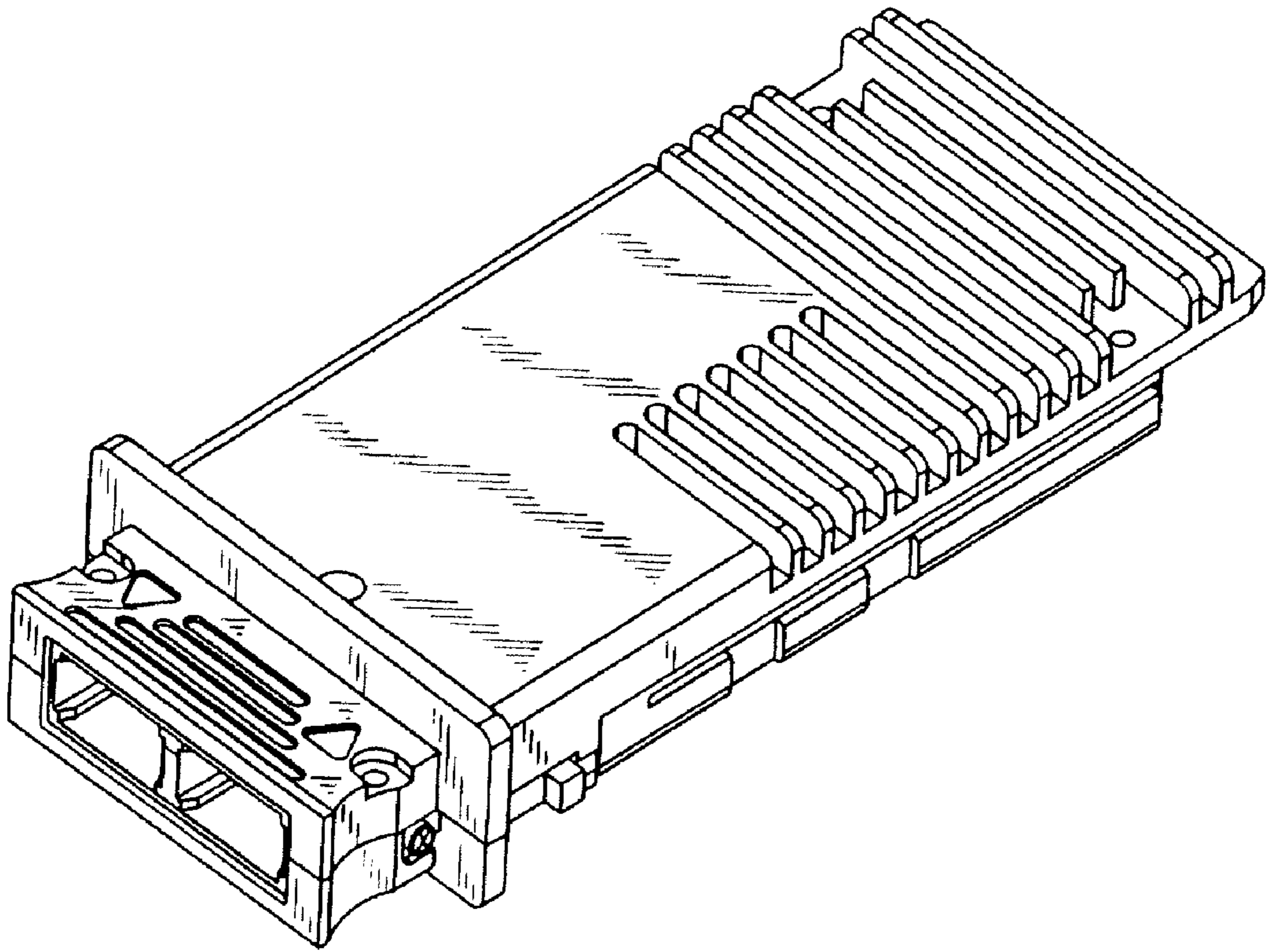


FIG. 1

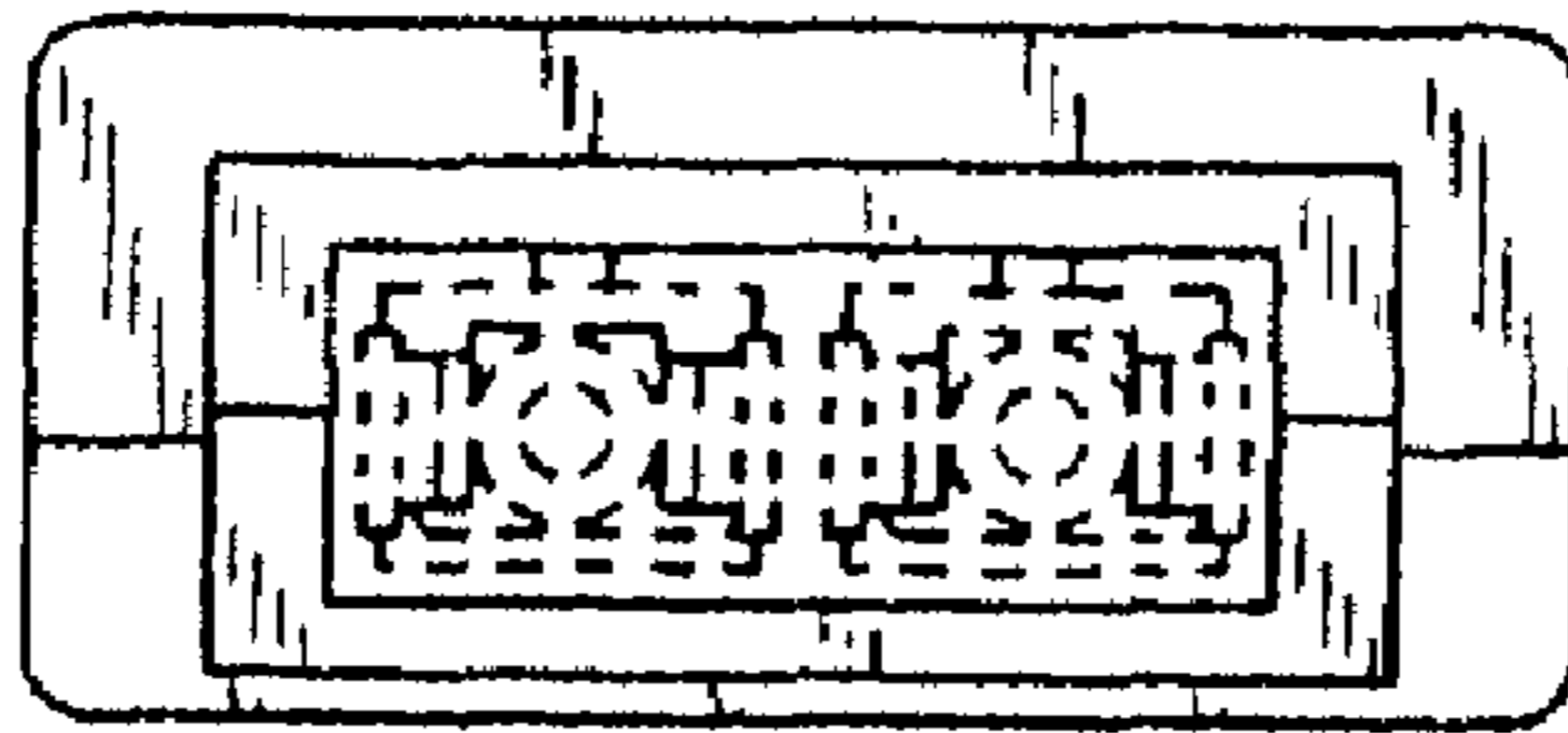


FIG. 2

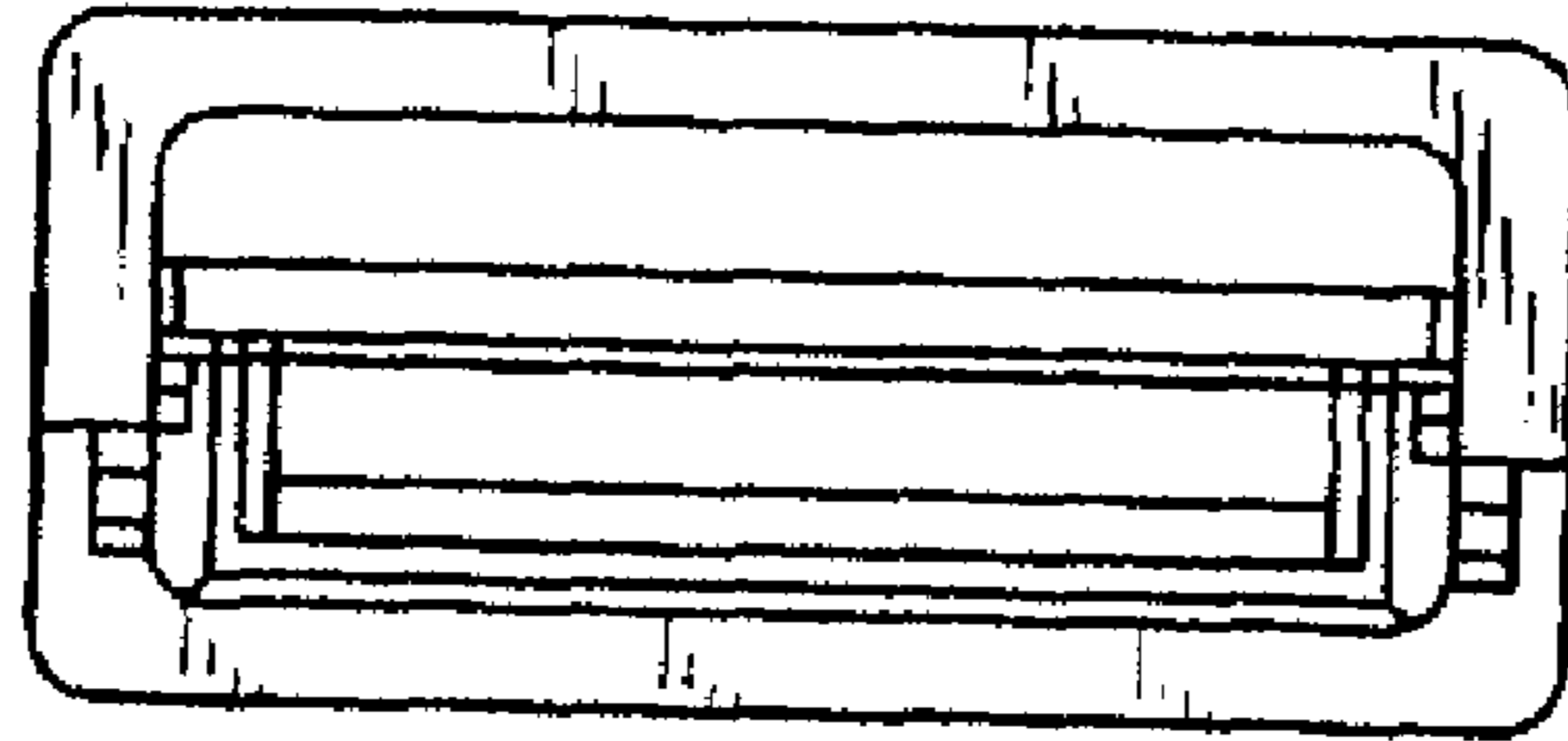


FIG. 3

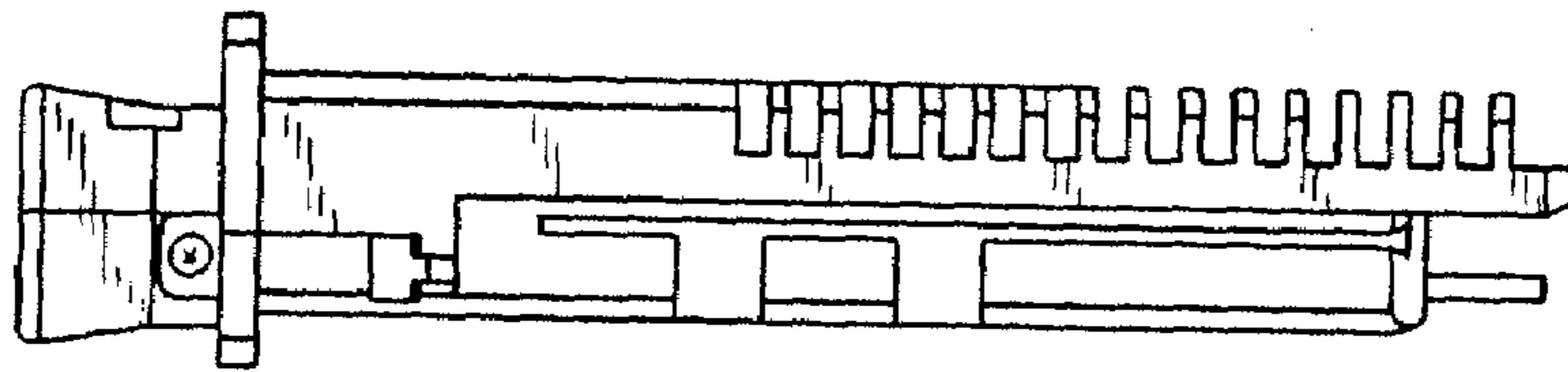


FIG. 4

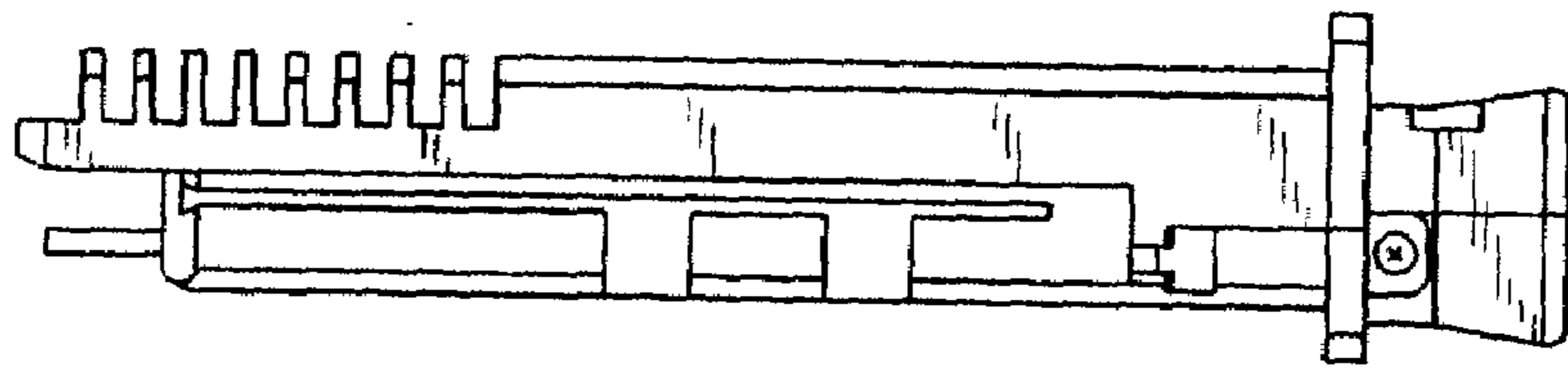


FIG. 5

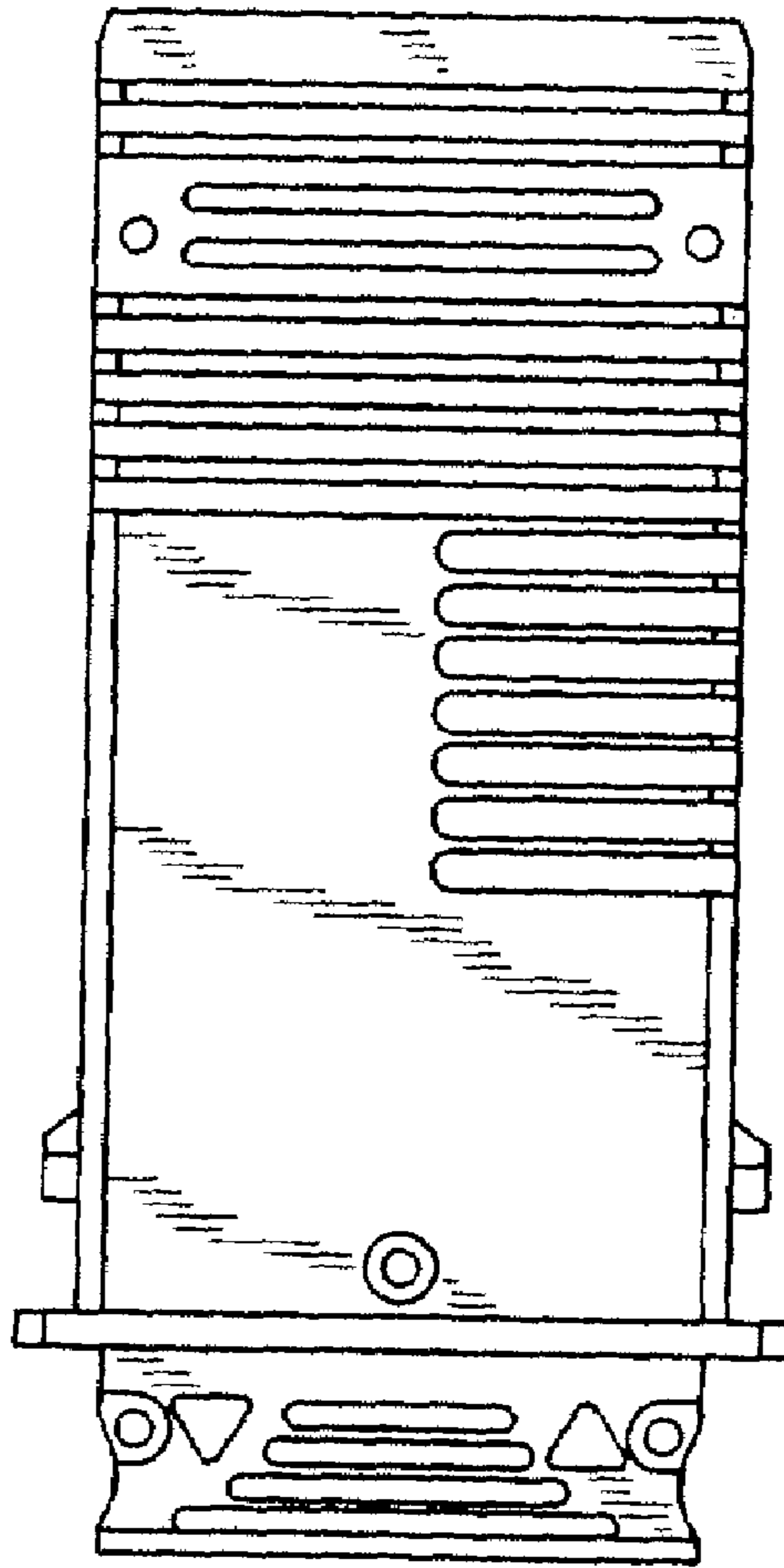


FIG. 6

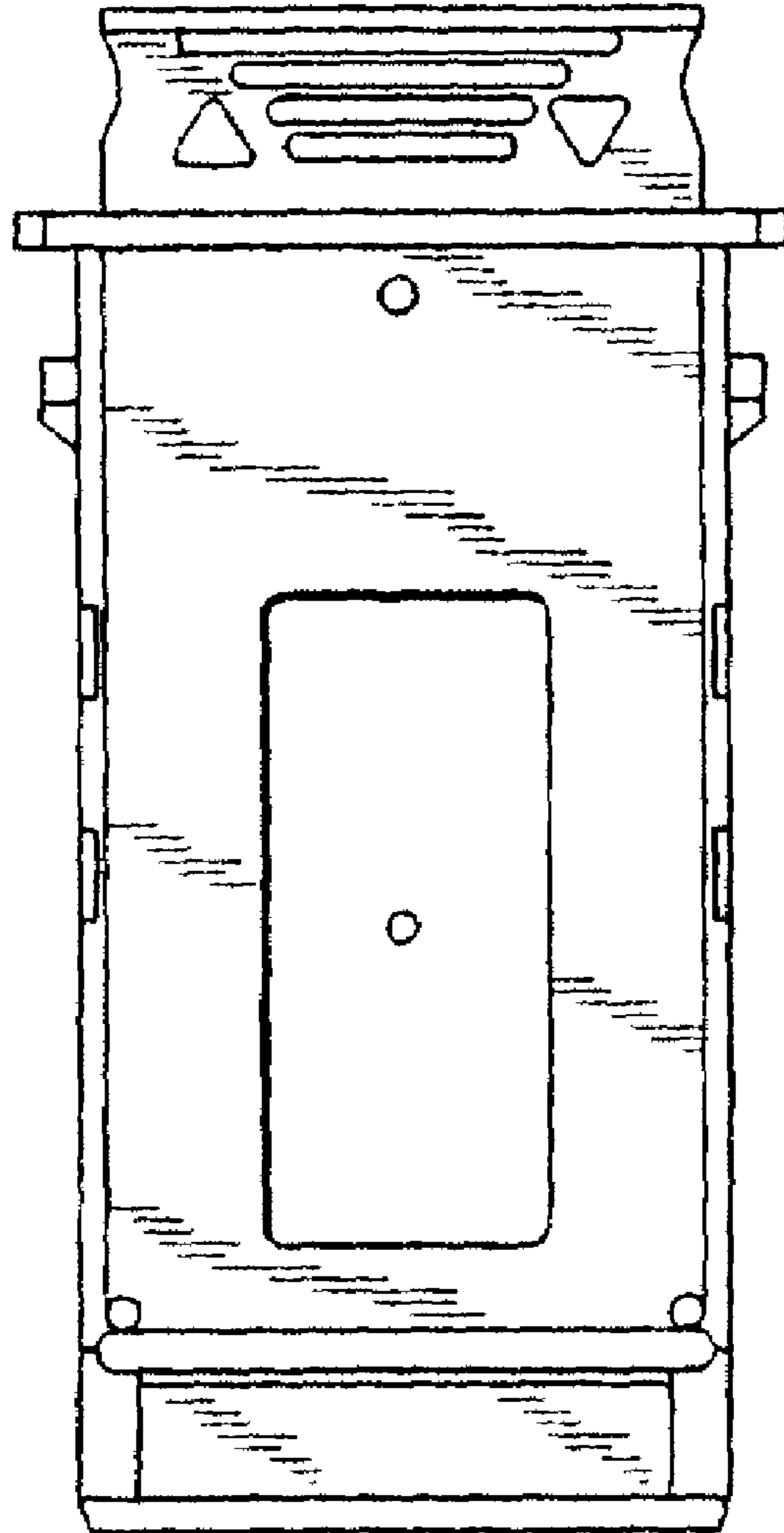


FIG. 7

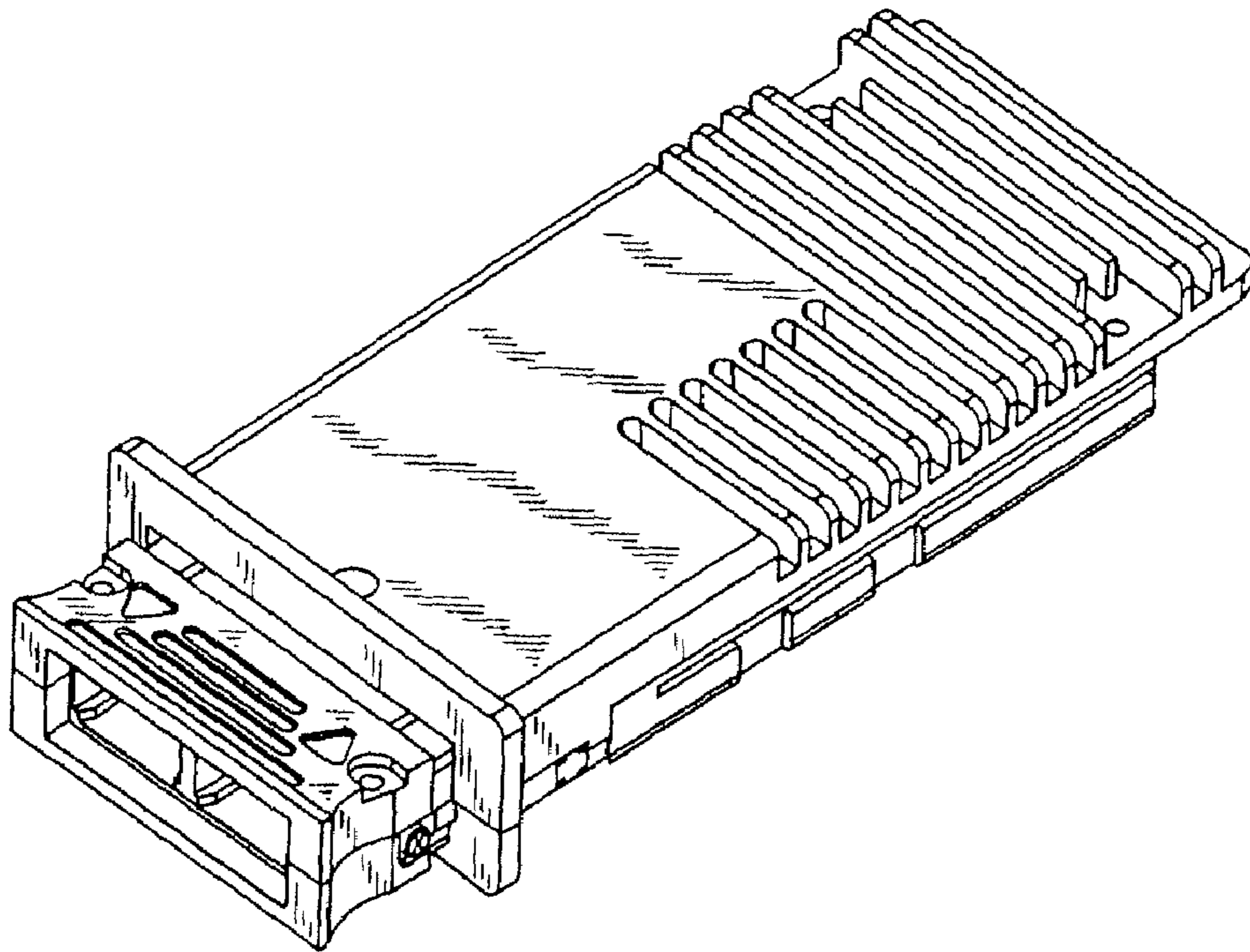


FIG. 8



FIG. 9

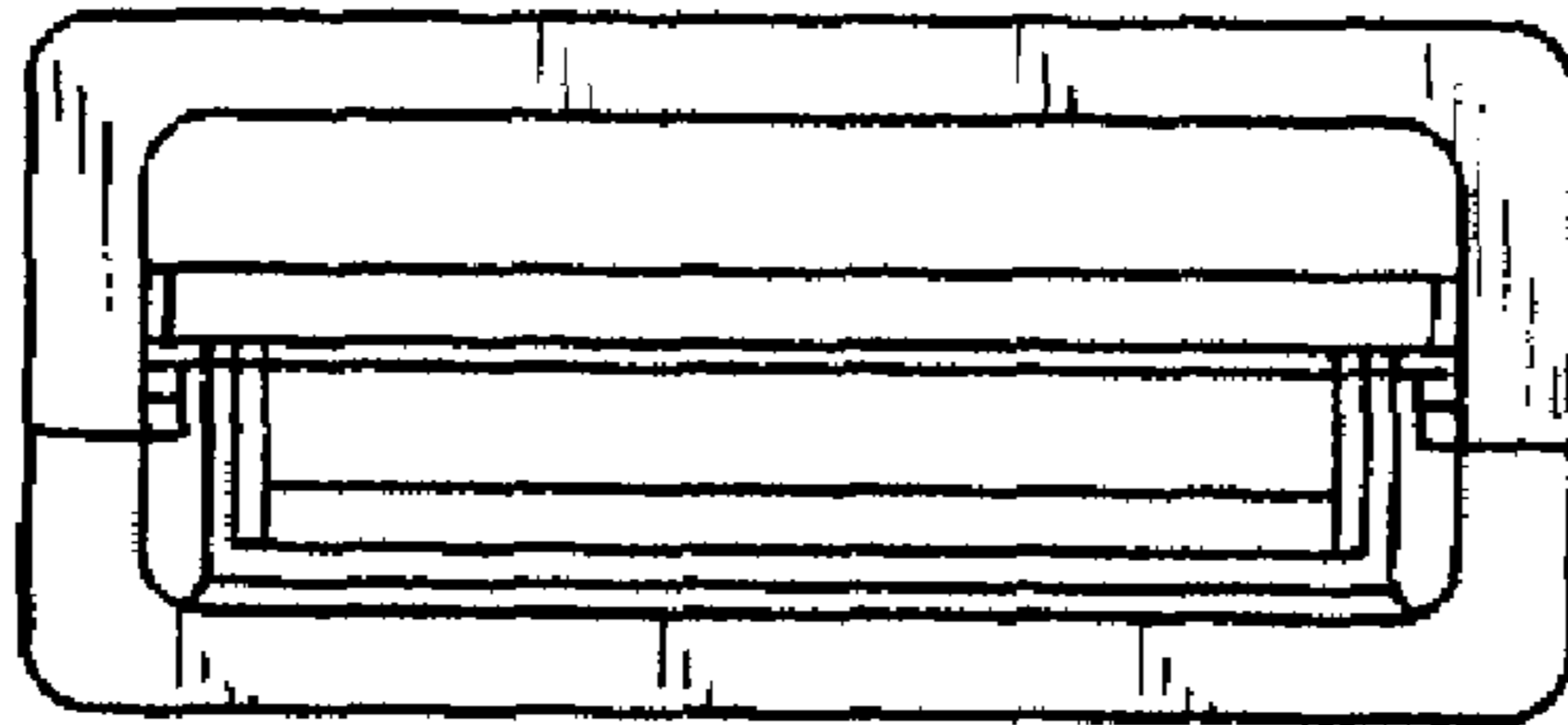


FIG. 10

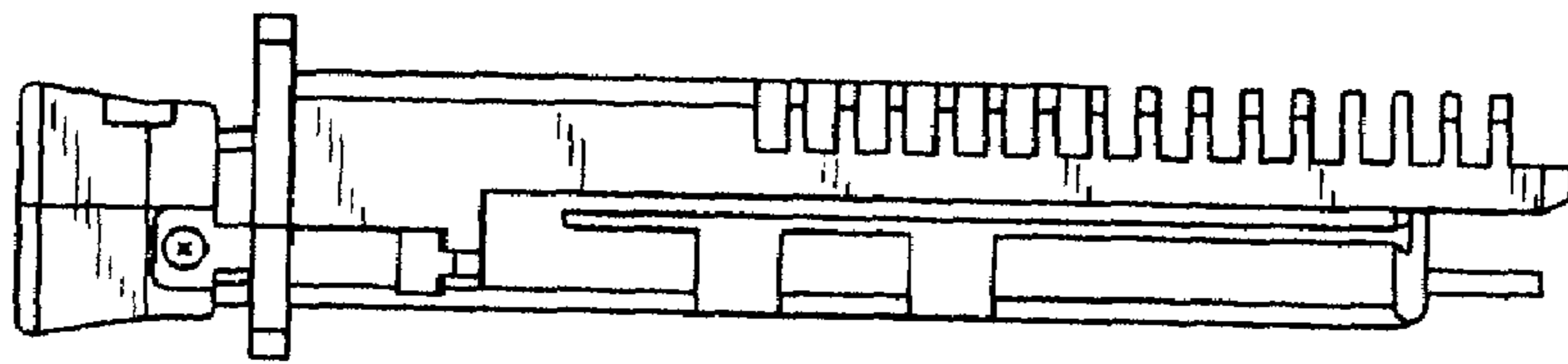


FIG. 11

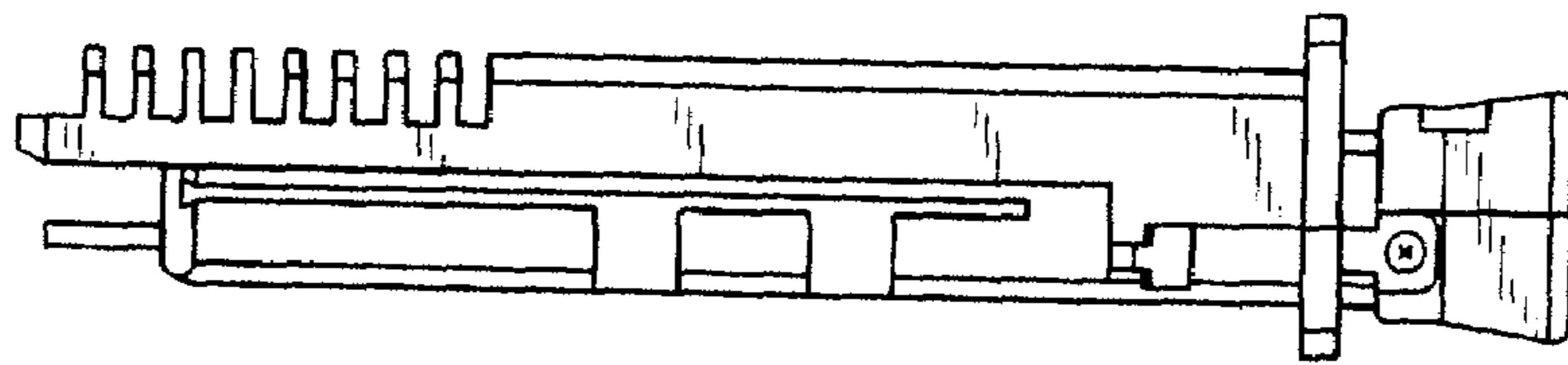


FIG. 12

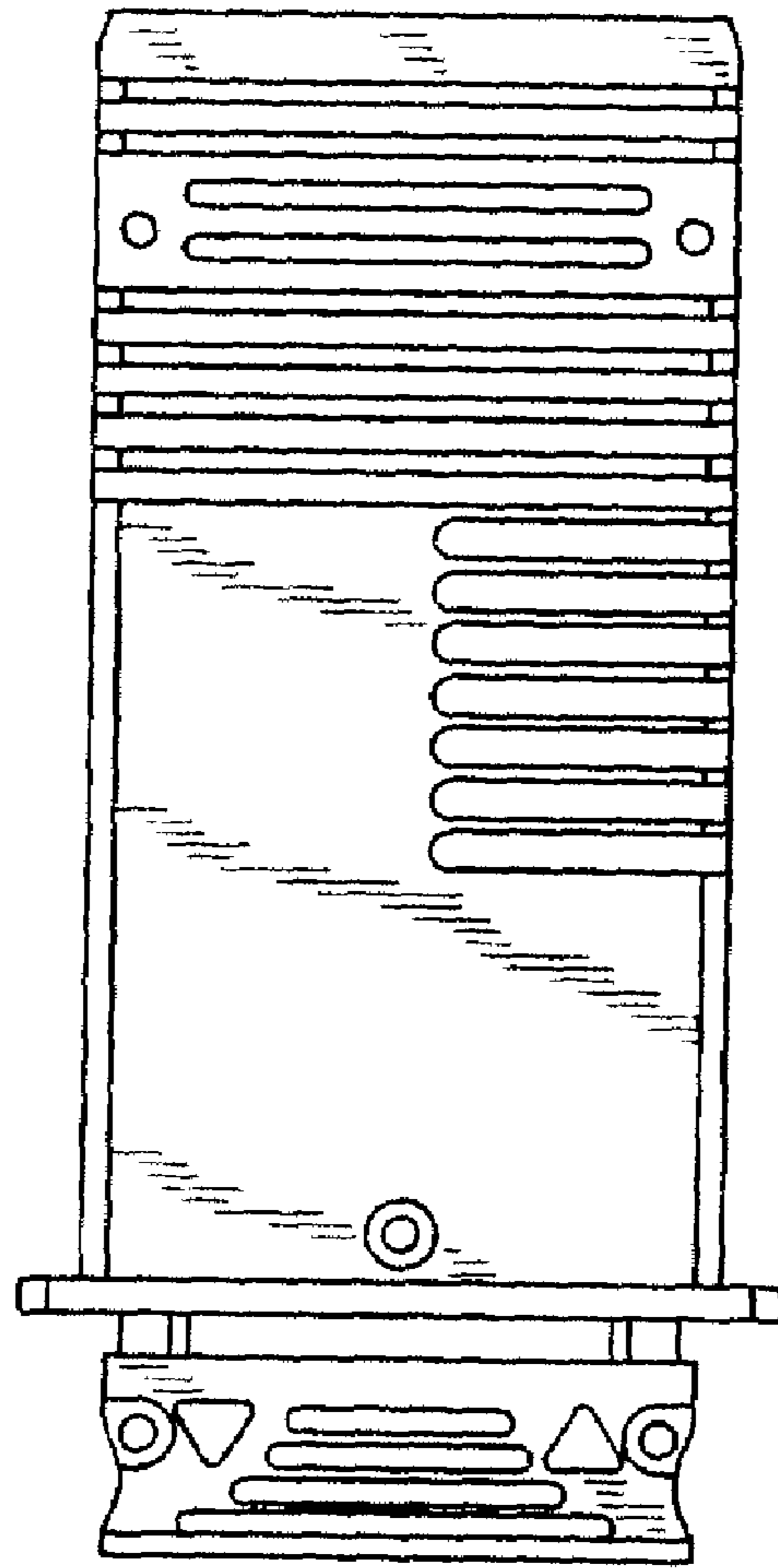


FIG. 13

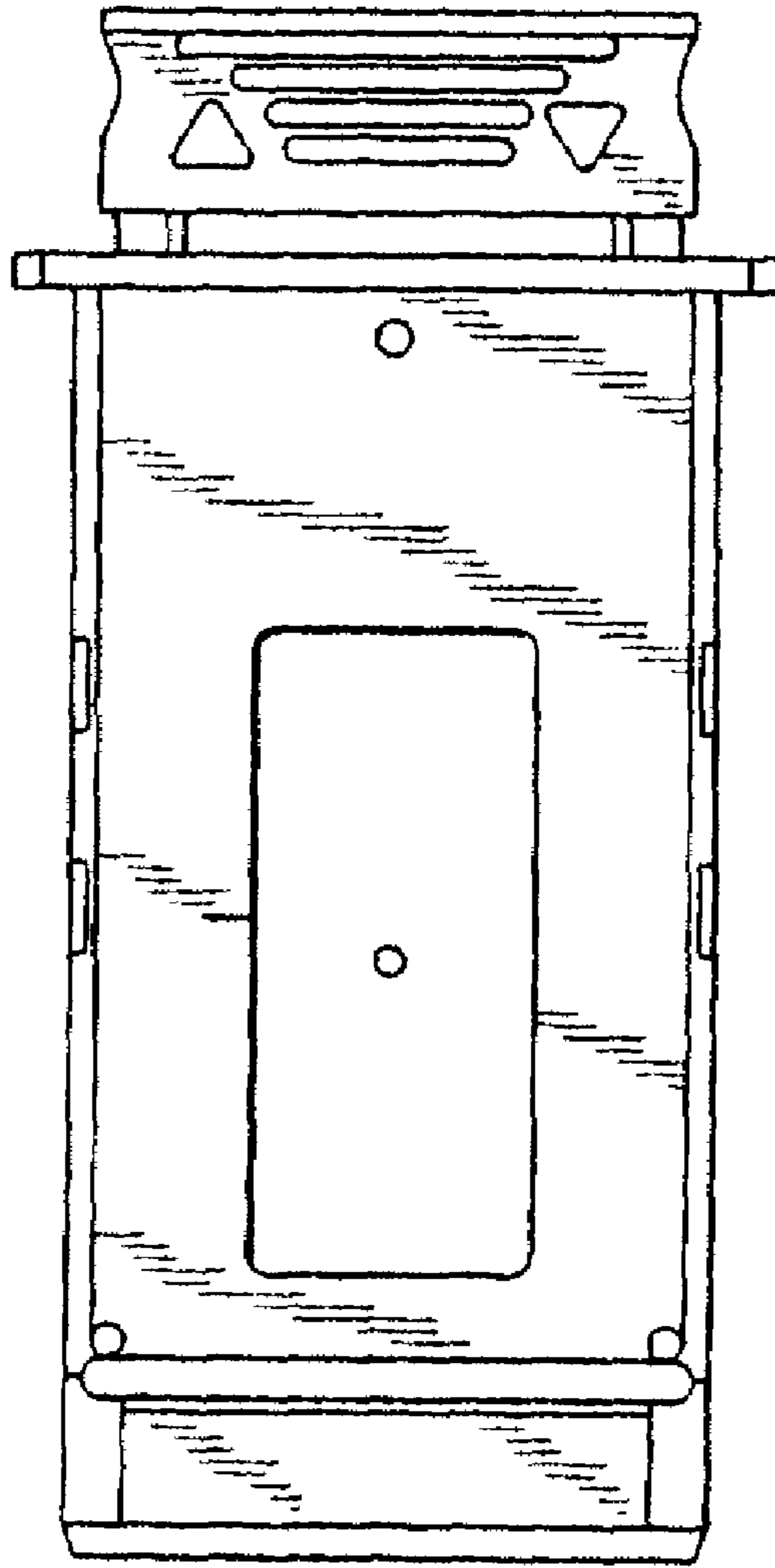


FIG. 14

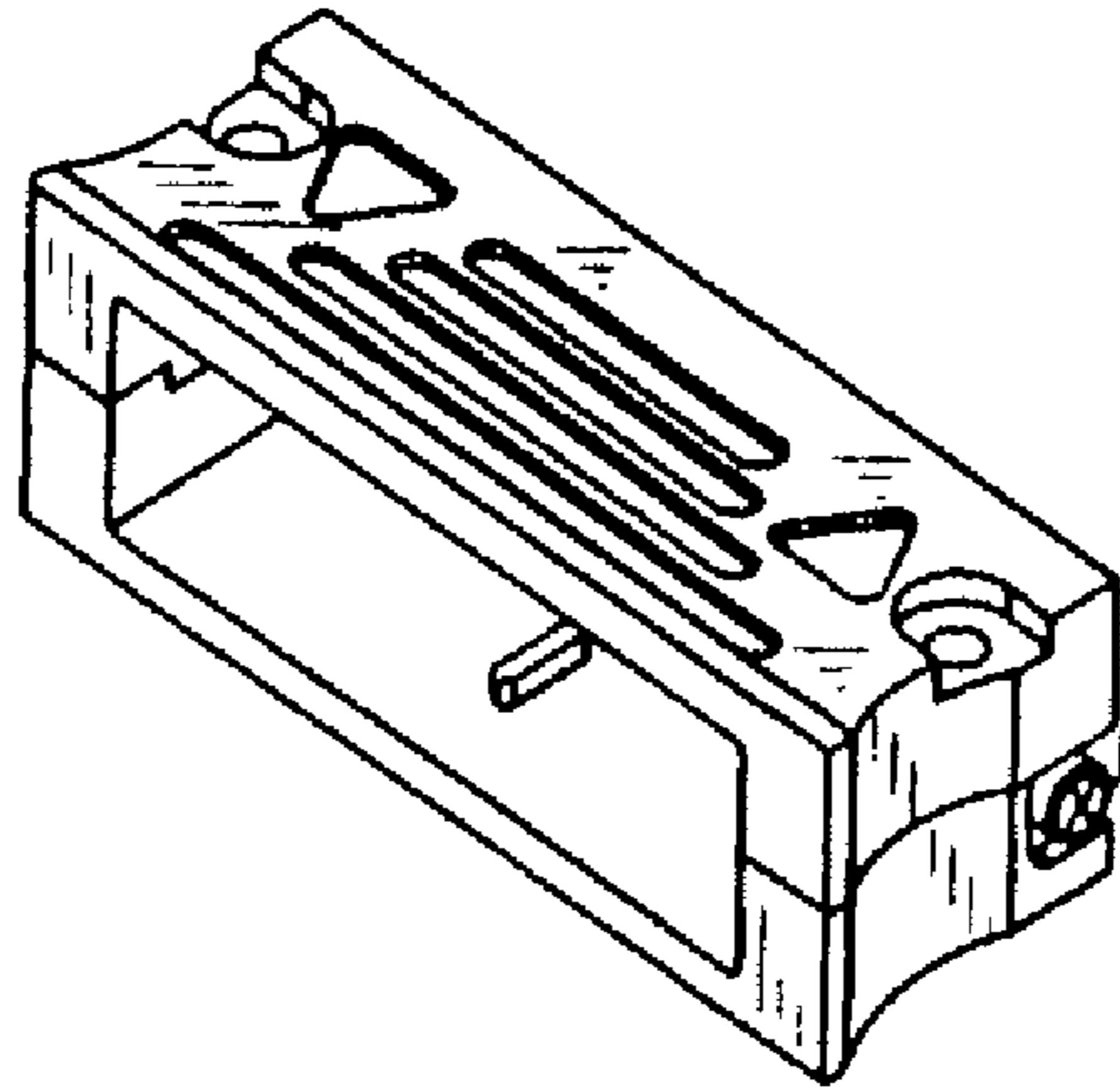


FIG. 15

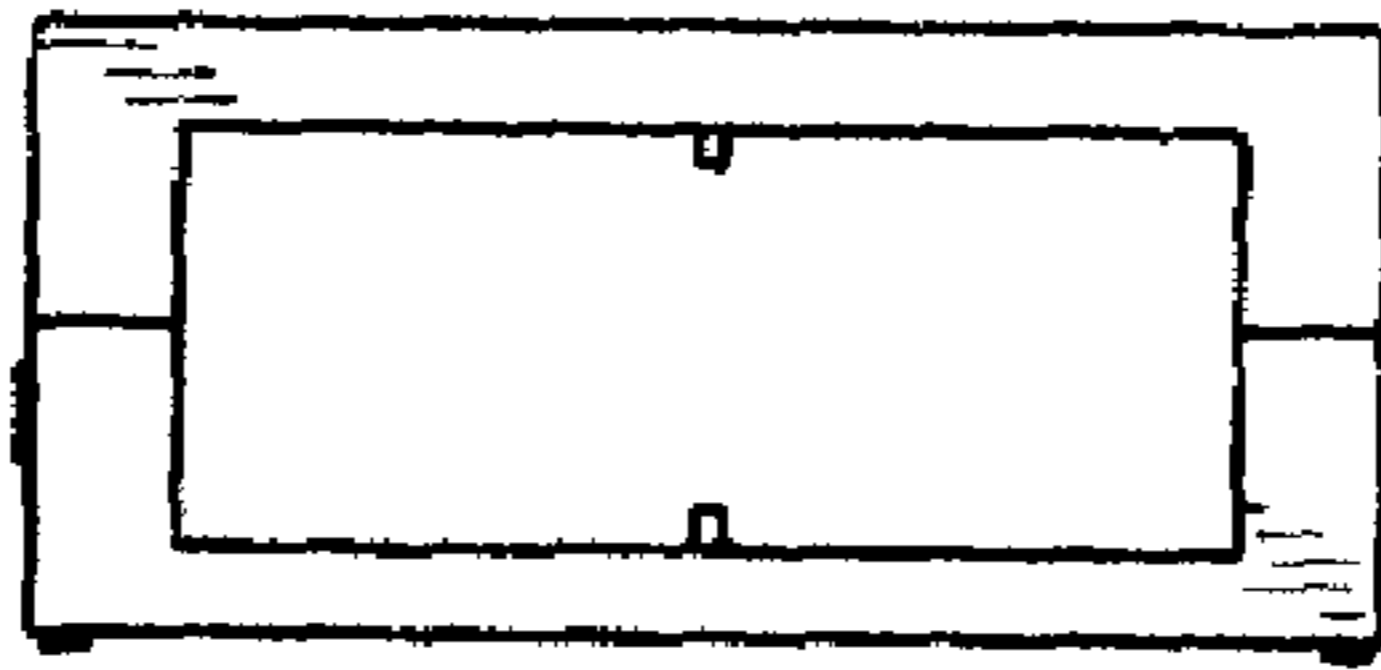


FIG. 16

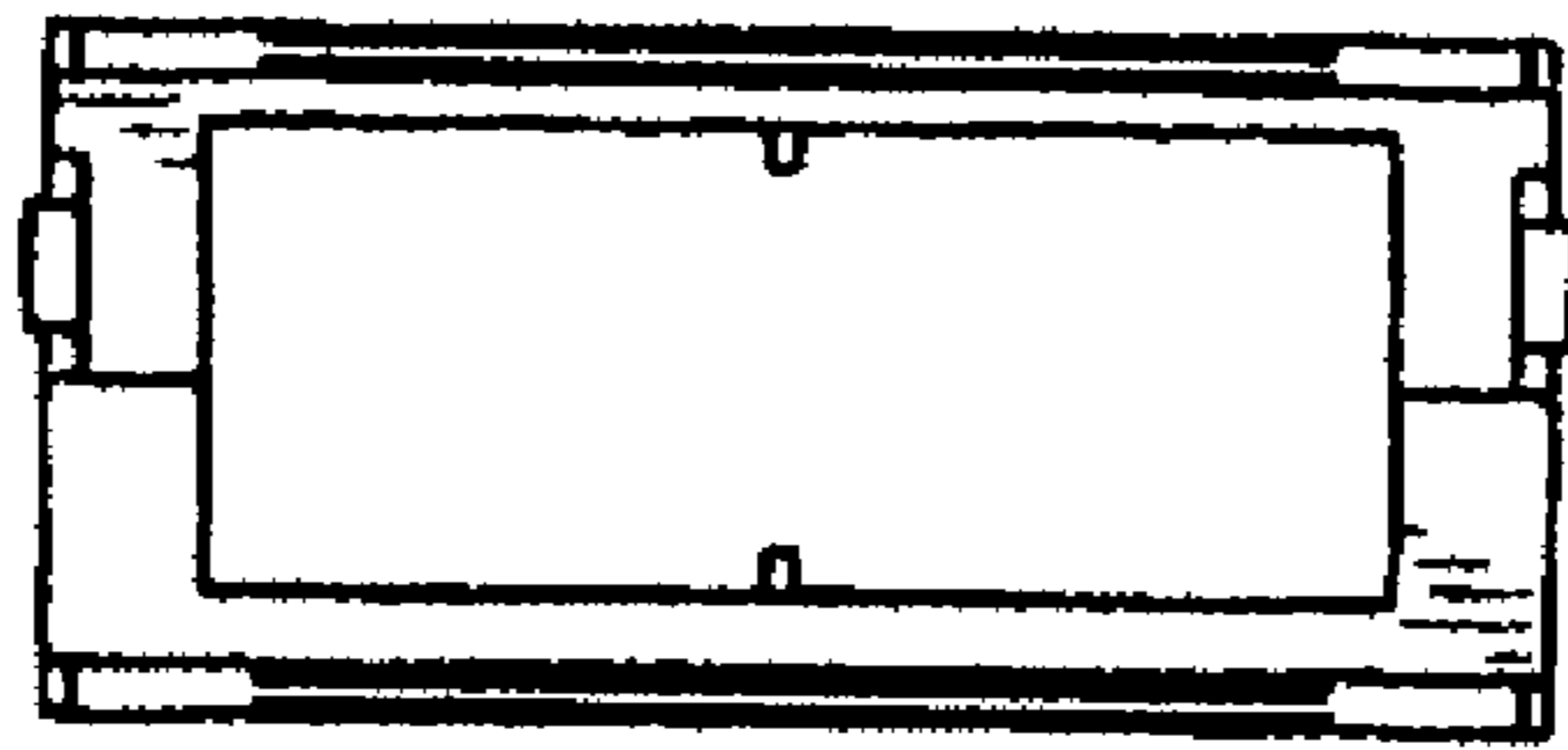


FIG. 17

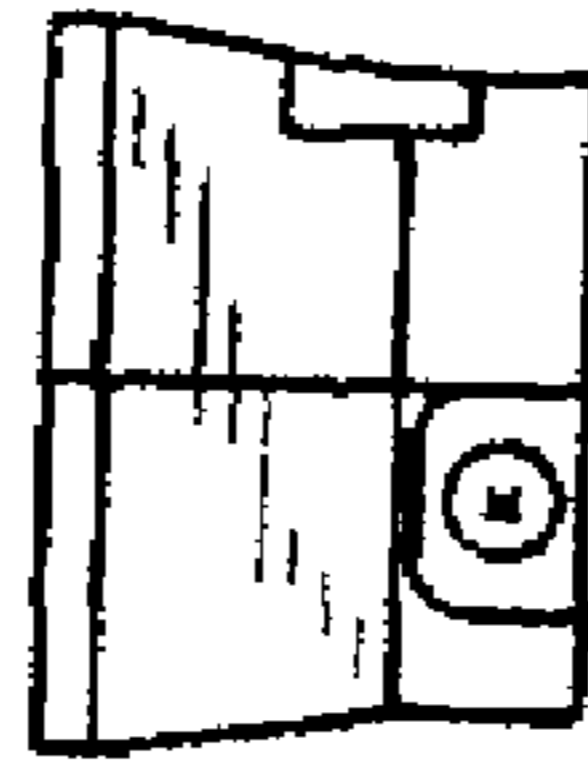


FIG. 18

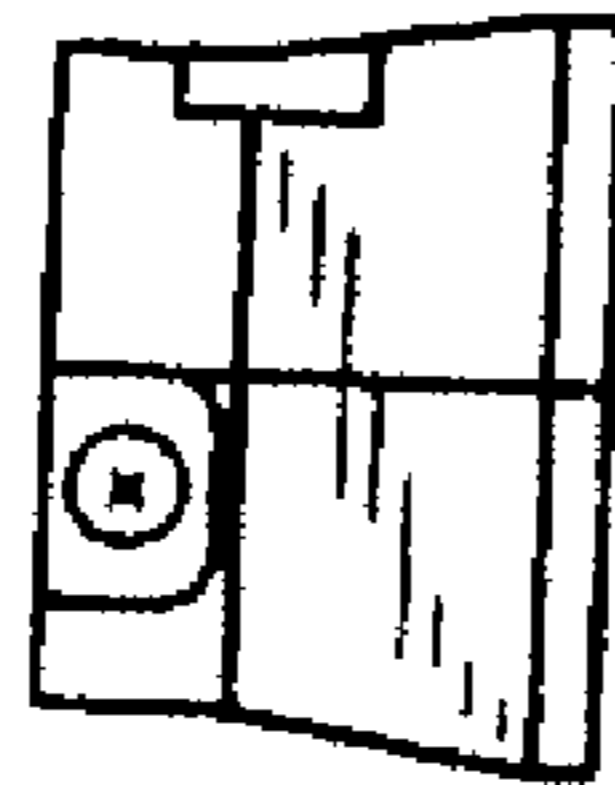


FIG. 19

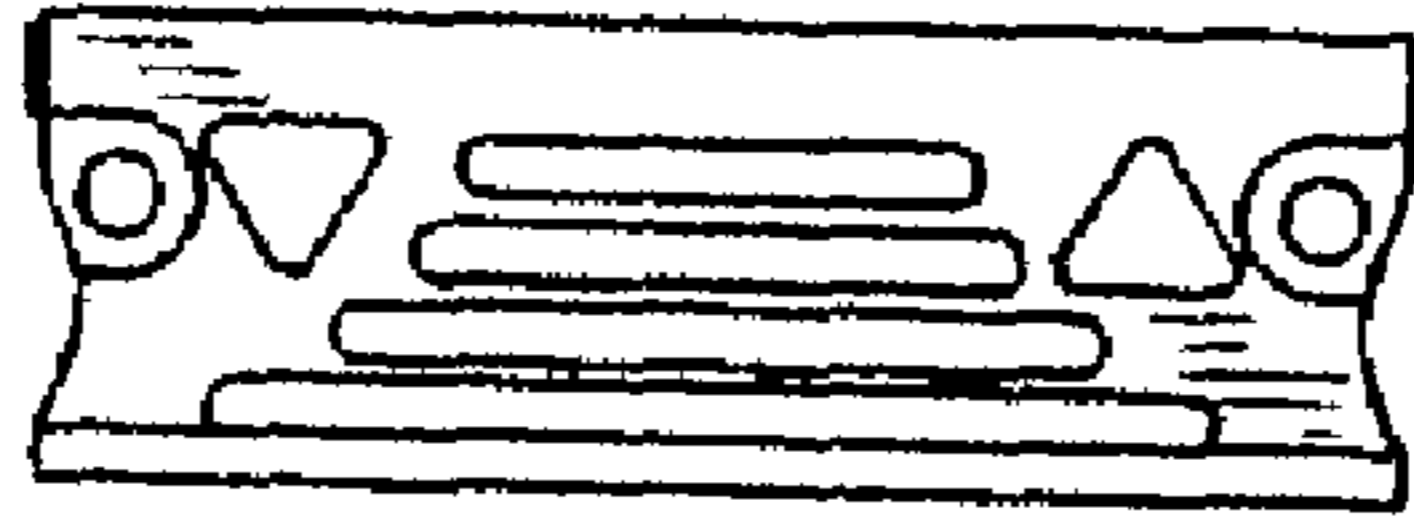


FIG. 20

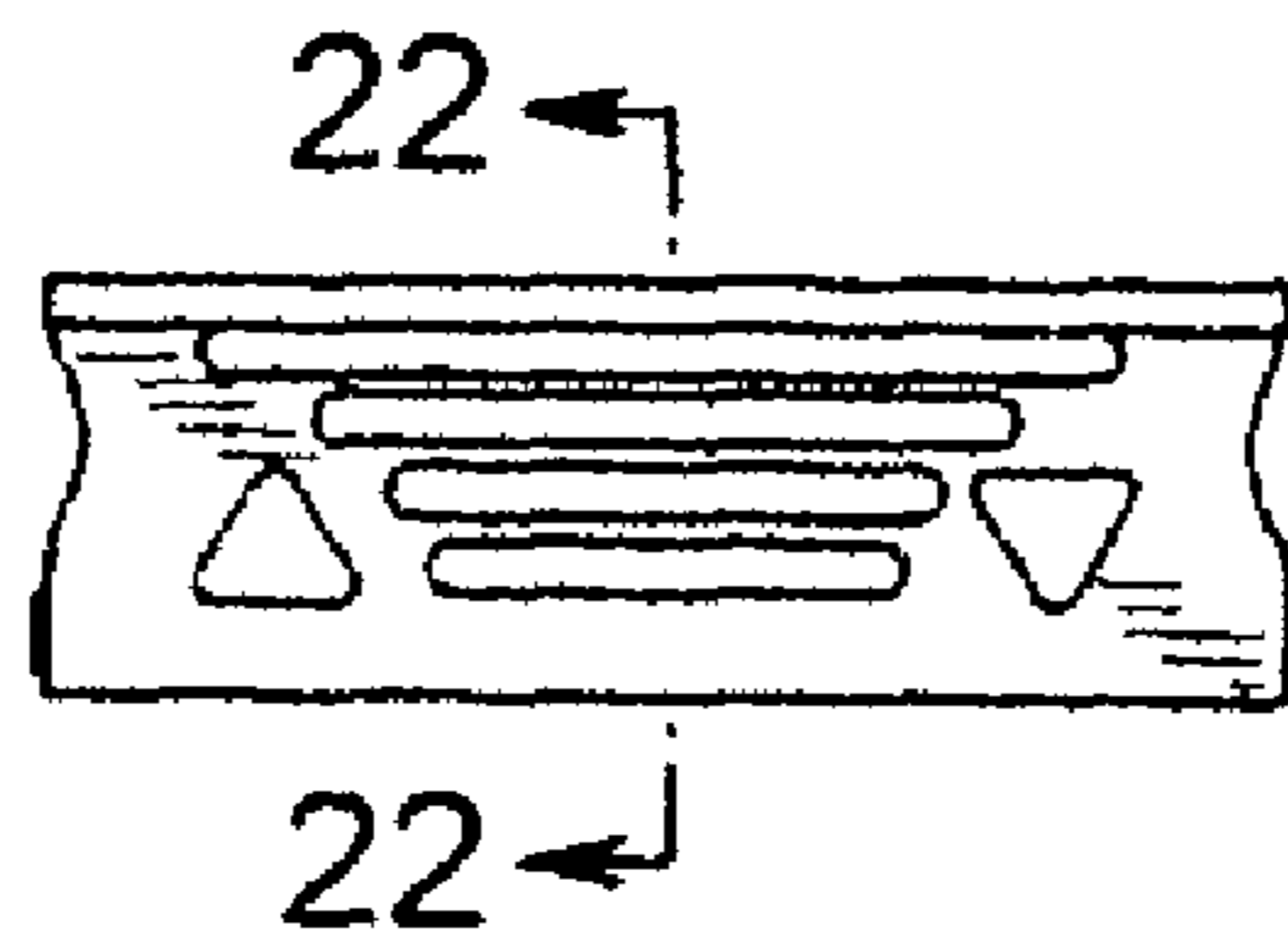


FIG. 21

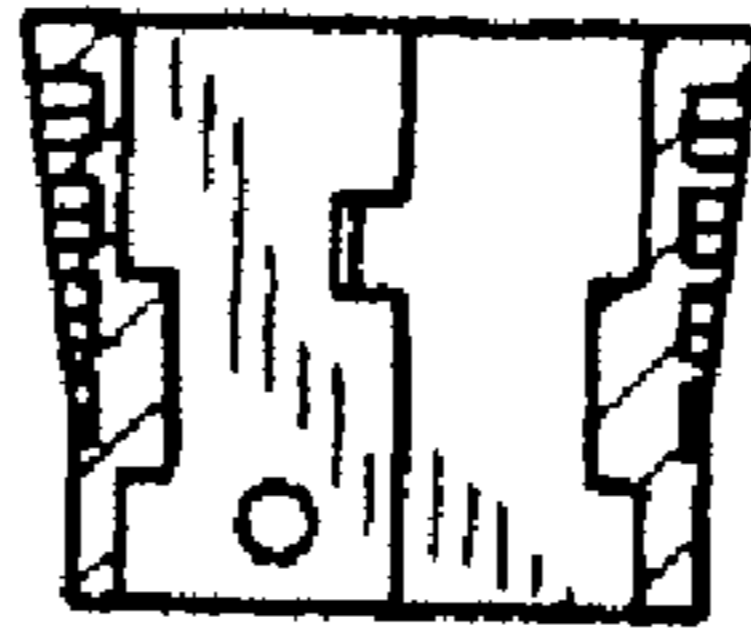


FIG. 22