



US00D411512S

**United States Patent** [19]

[11] **Patent Number: Des. 411,512**

**Kataoka et al.**

[45] **Date of Patent: \*\* Jun. 29, 1999**

[54] **CONNECTOR FOR PRINTED CIRCUIT BOARDS**

OTHER PUBLICATIONS

[75] Inventors: **Yasuhiro Kataoka**, Yokohama; **Terumi Nakashima**, Takatsuki; **Narihiko Hashimoto**, Nagoya, all of Japan

“Electronic Parts Catalog”, Electronic Industries Association of Japan, No. 58, p. 88–13, Oct. 4, 1994 (1995 Edition).

[73] Assignees: **Sony Corporation**, Tokyo; **Solderless Terminal Mfg. Co., Ltd.**, Osaka, both of Japan

*Primary Examiner*—Brian N. Vinson  
*Attorney, Agent, or Firm*—W. F. Fasse; W. G. Fasse

[\*\*] Term: **14 Years**

[57] **CLAIM**

[21] Appl. No.: **29/090,451**

We claim the ornamental design for a connector for printed circuit boards, as shown and described.

[22] Filed: **Jul. 9, 1998**

**DESCRIPTION**

**Related U.S. Application Data**

FIG. 1 is a front view of a connector for printed circuit boards showing our new design in a first embodiment, while the rear view corresponds to the front view.

[62] Division of application No. 29/071,612, Jun. 3, 1997, Pat. No. Des. 402,274.

FIG. 2 is a top view of said connector for printed circuit boards of the first embodiment.

[30] **Foreign Application Priority Data**

FIG. 3 is a bottom view of said connector for printed circuit boards of the first embodiment.

Dec. 11, 1996 [JP] Japan ..... 8-37848  
Dec. 26, 1996 [JP] Japan ..... 8-39611  
Apr. 1, 1997 [JP] Japan ..... 9-50067

FIG. 4 is a left side view of said connector for printed circuit boards of the first embodiment, while the right side view corresponds to the left side view.

[51] **LOC (6) Cl.** ..... **13-03**

FIG. 5 is a sectional view along the line V—V in FIG. 2.

[52] **U.S. Cl.** ..... **D13/147**

FIG. 6 is a sectional view along the line VI—VI in FIG. 1.

[58] **Field of Search** ..... D13/133, 147;  
439/344, 353, 357, 660, 682, 685, 686,  
687, 695, 696, 712, 713

FIG. 7 is a sectional view along the line VI—VI in FIG. 1, wherein said connector for printed circuit boards is shown in a condition connecting two circuit boards, which are drawn in broken lines for illustrative purposes only. The circuit boards drawn in broken lines form no part of the claimed design.

[56] **References Cited**

FIG. 8 is a front view of a connector for printed circuit boards showing our new design in a second embodiment, while the rear view corresponds to the front view.

**U.S. PATENT DOCUMENTS**

D. 312,242 11/1990 Tsubokura et al. .... D13/146  
D. 317,592 6/1991 Yoshizawa .  
D. 357,901 5/1995 Horman .  
D. 359,028 6/1995 Siegel et al. .  
D. 396,449 7/1998 Taylor ..... D13/182  
5,089,929 2/1992 Hilland .

FIG. 9 is a top view of said connector for printed circuit boards of the second embodiment.

**FOREIGN PATENT DOCUMENTS**

898318 5/1994 Japan .  
898319 5/1994 Japan .  
908880 10/1994 Japan .  
908881 10/1994 Japan .

FIG. 10 is a bottom view of said connector for printed circuit boards of the second embodiment.

FIG. 11 is a left side view of said connector for printed circuit boards of the second embodiment, while the right side view corresponds to the left side view.

FIG. 12 is a sectional view along the line XII—XII in FIG. 9.

FIG. 13 is a sectional view along the line XIII—XIII in FIG. 8; and,

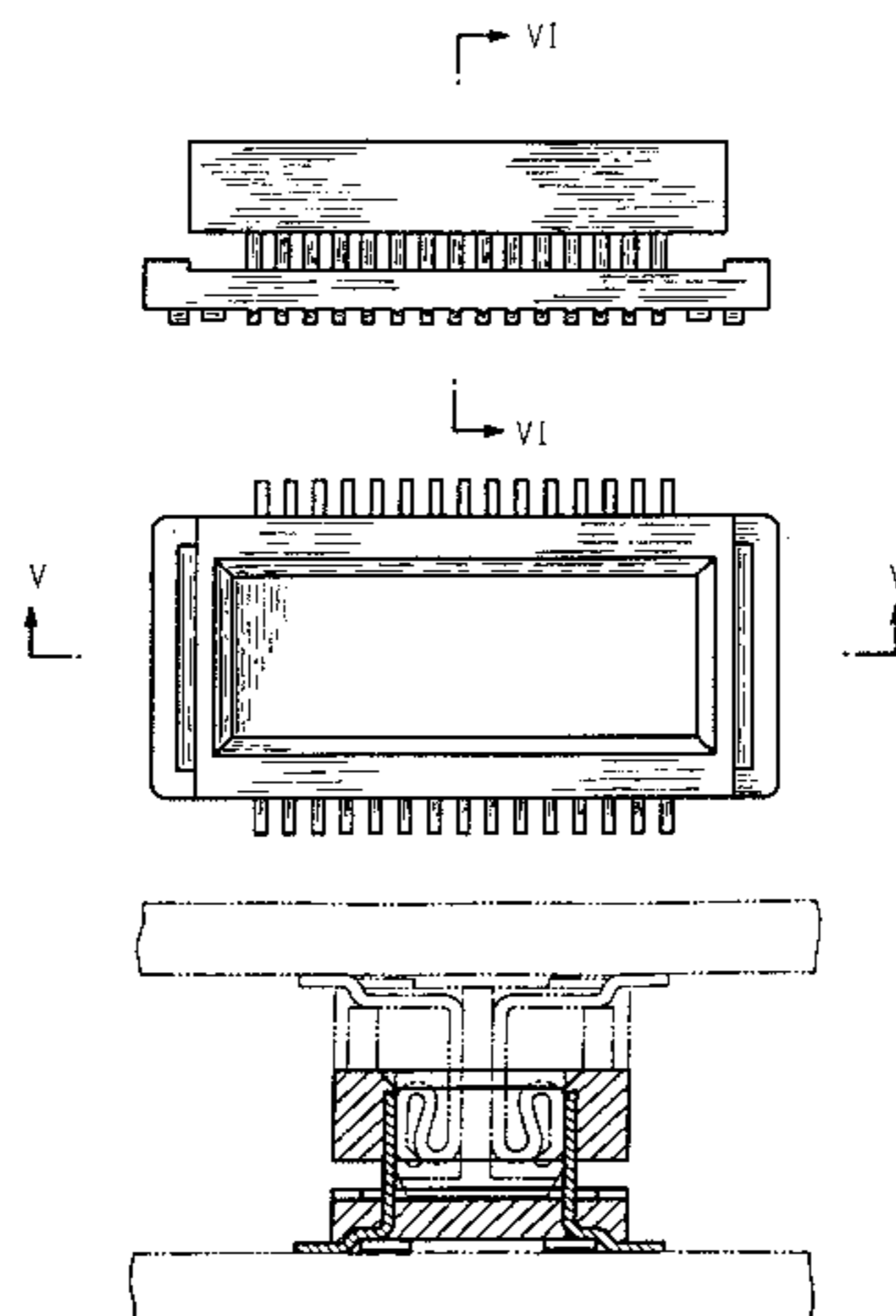


FIG. 14 is a sectional view along the line XIII—XIII in FIG. 8, wherein said connector for printed circuit boards is shown in a condition connecting two circuit boards, which are

drawn in broken lines for illustrative purposes only. The circuit boards drawn in broken lines form no part of the claimed design.

**1 Claim, 8 Drawing Sheets**

FIG. 1

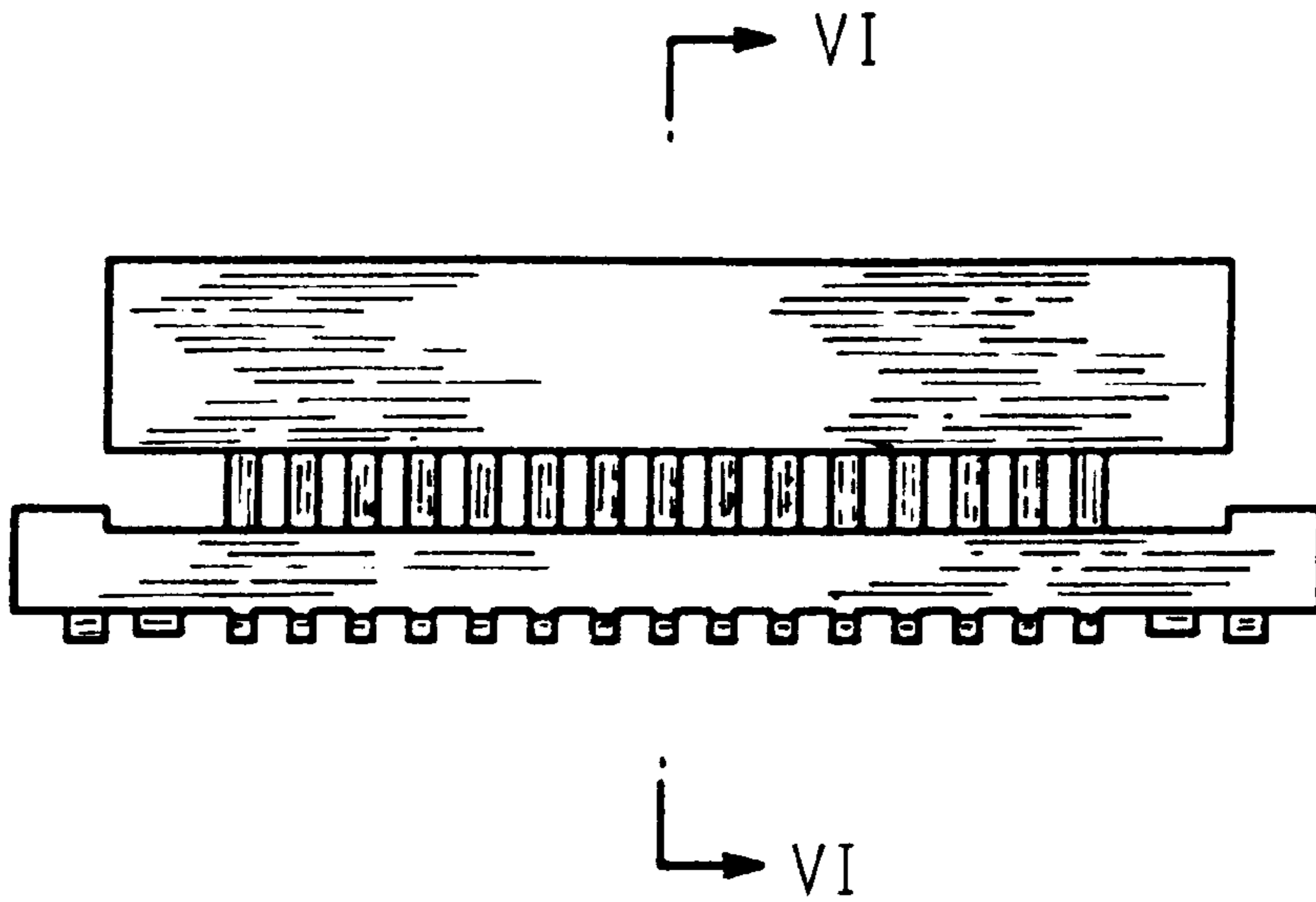


FIG. 2

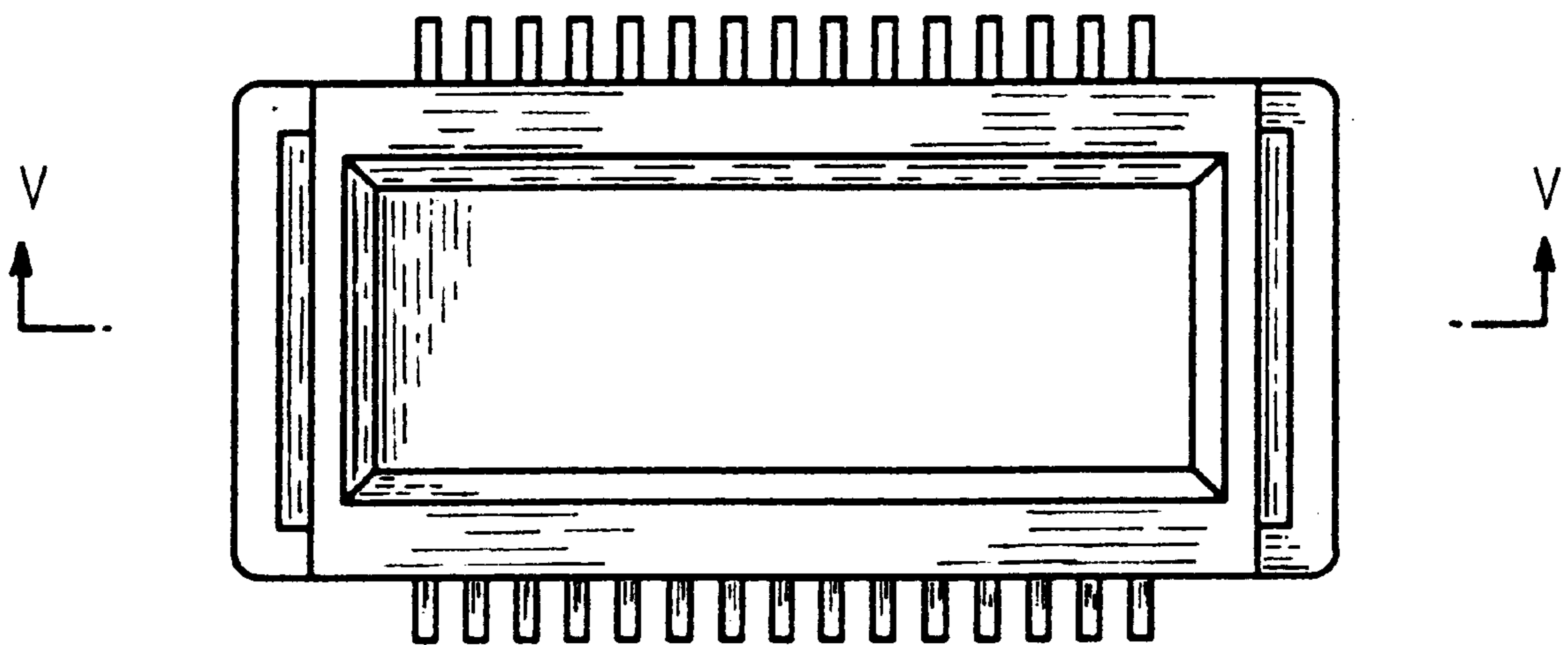


FIG. 3

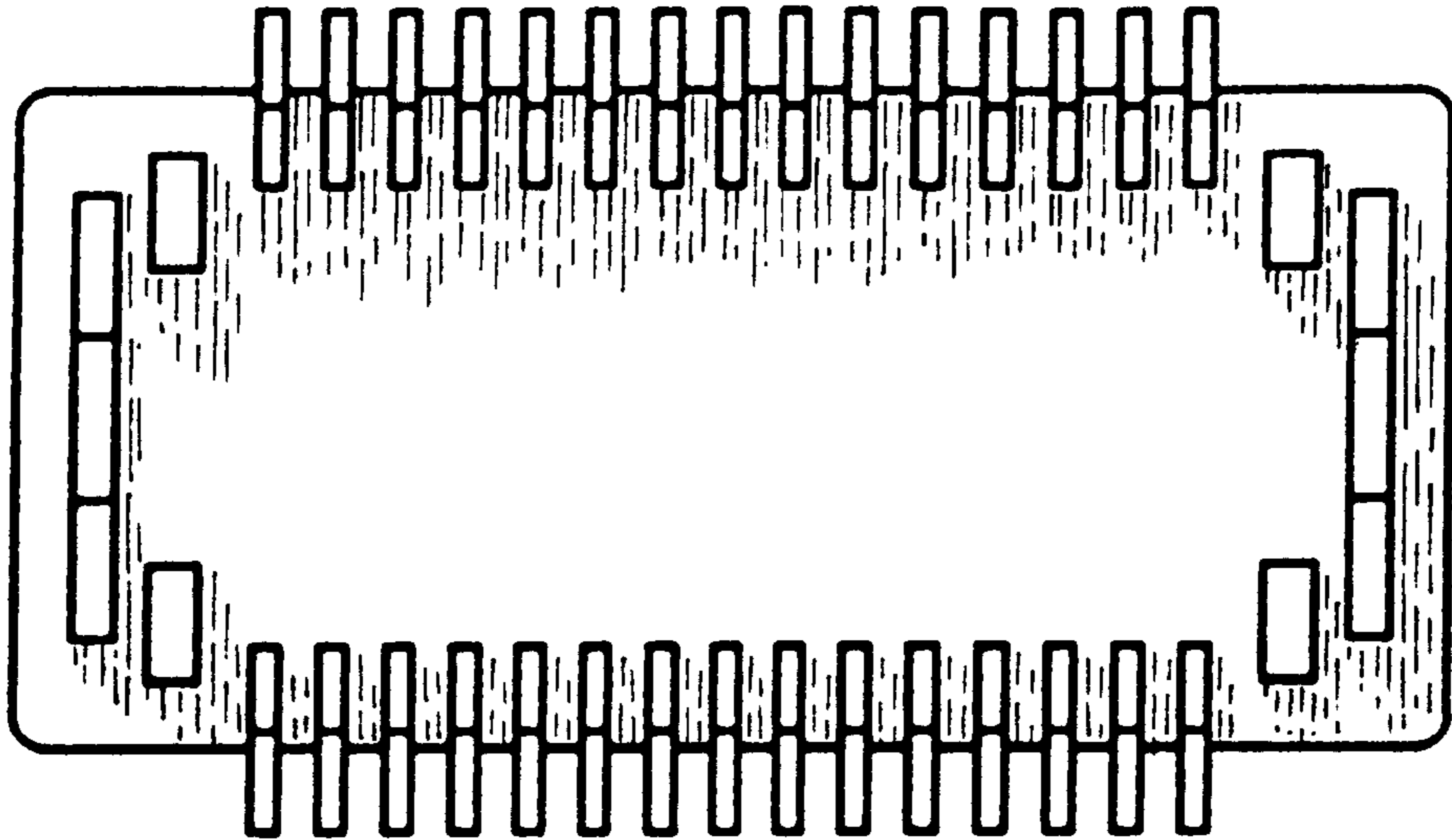


FIG. 4

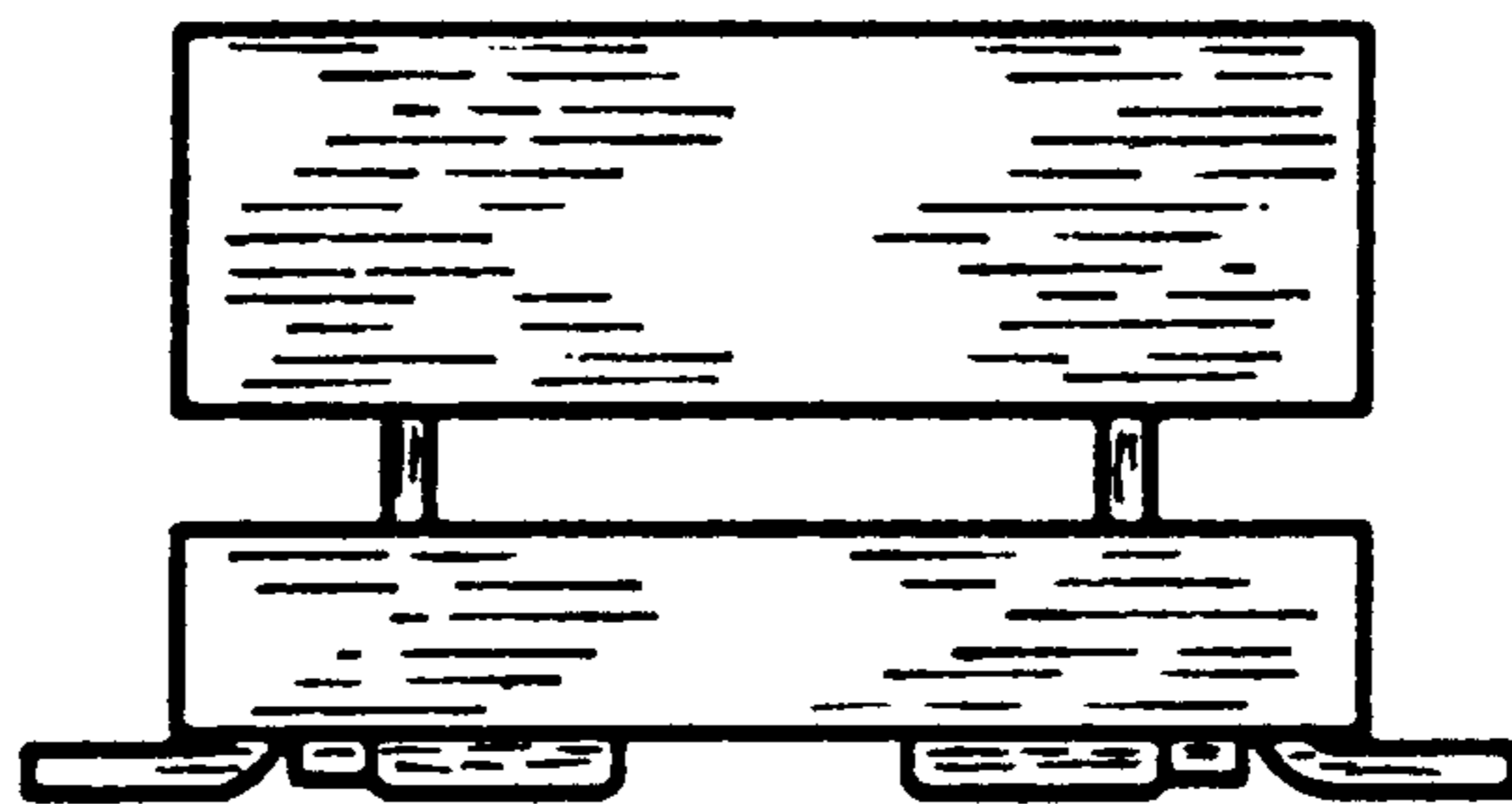


FIG. 5

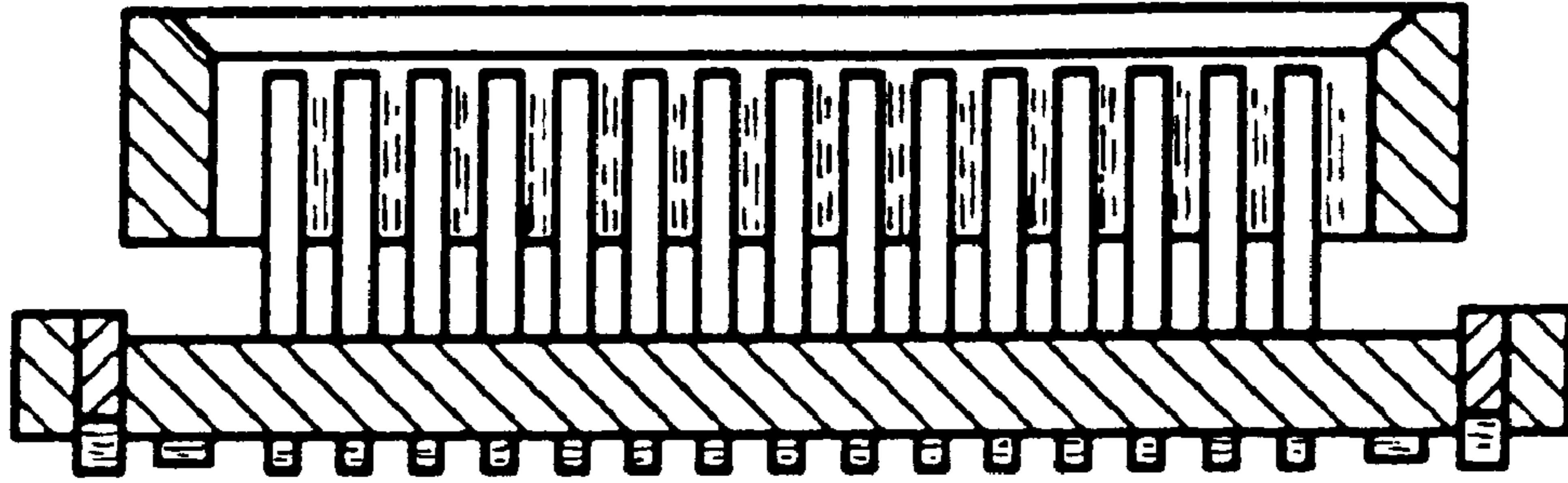


FIG. 6

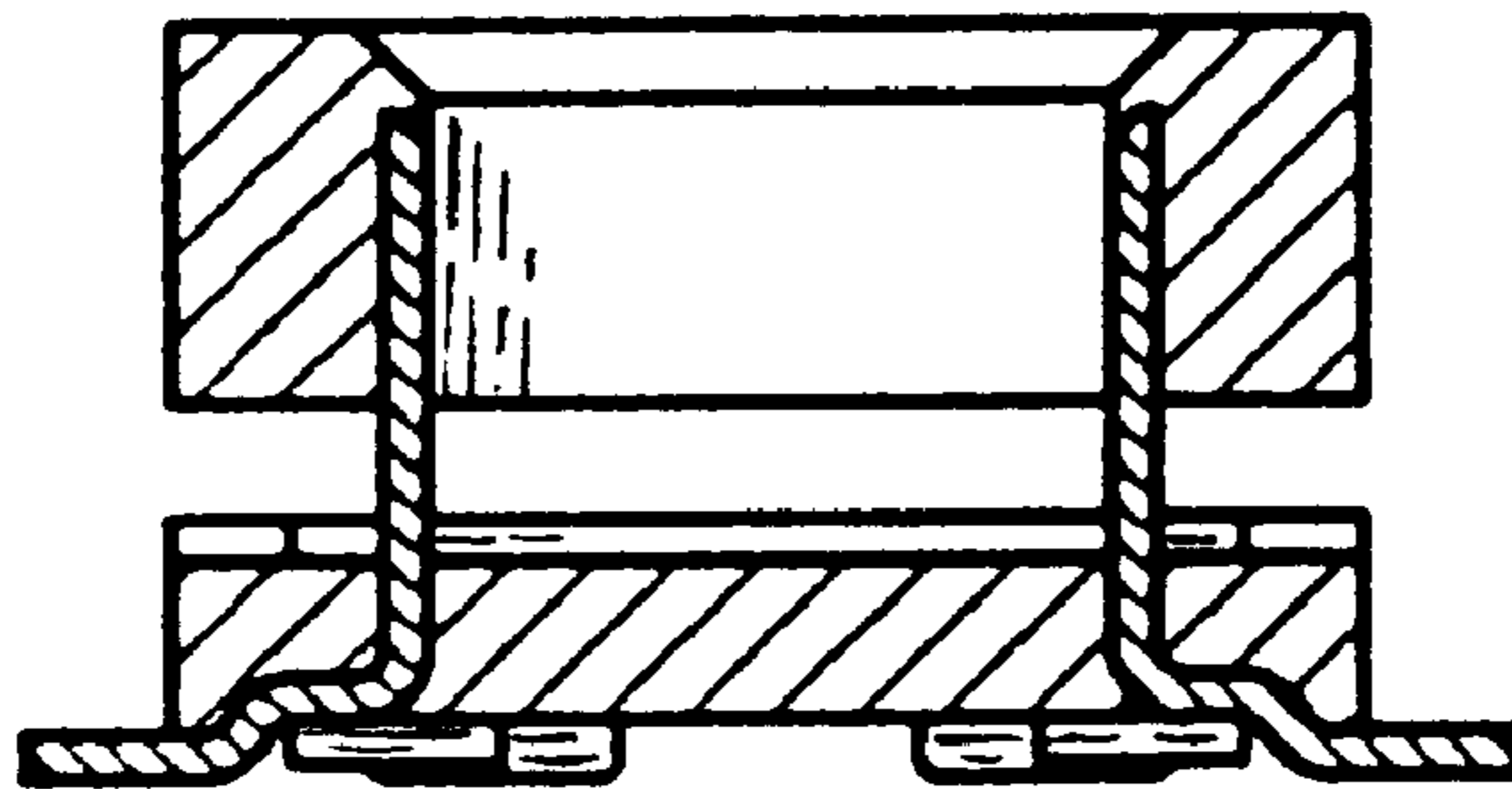


FIG. 7

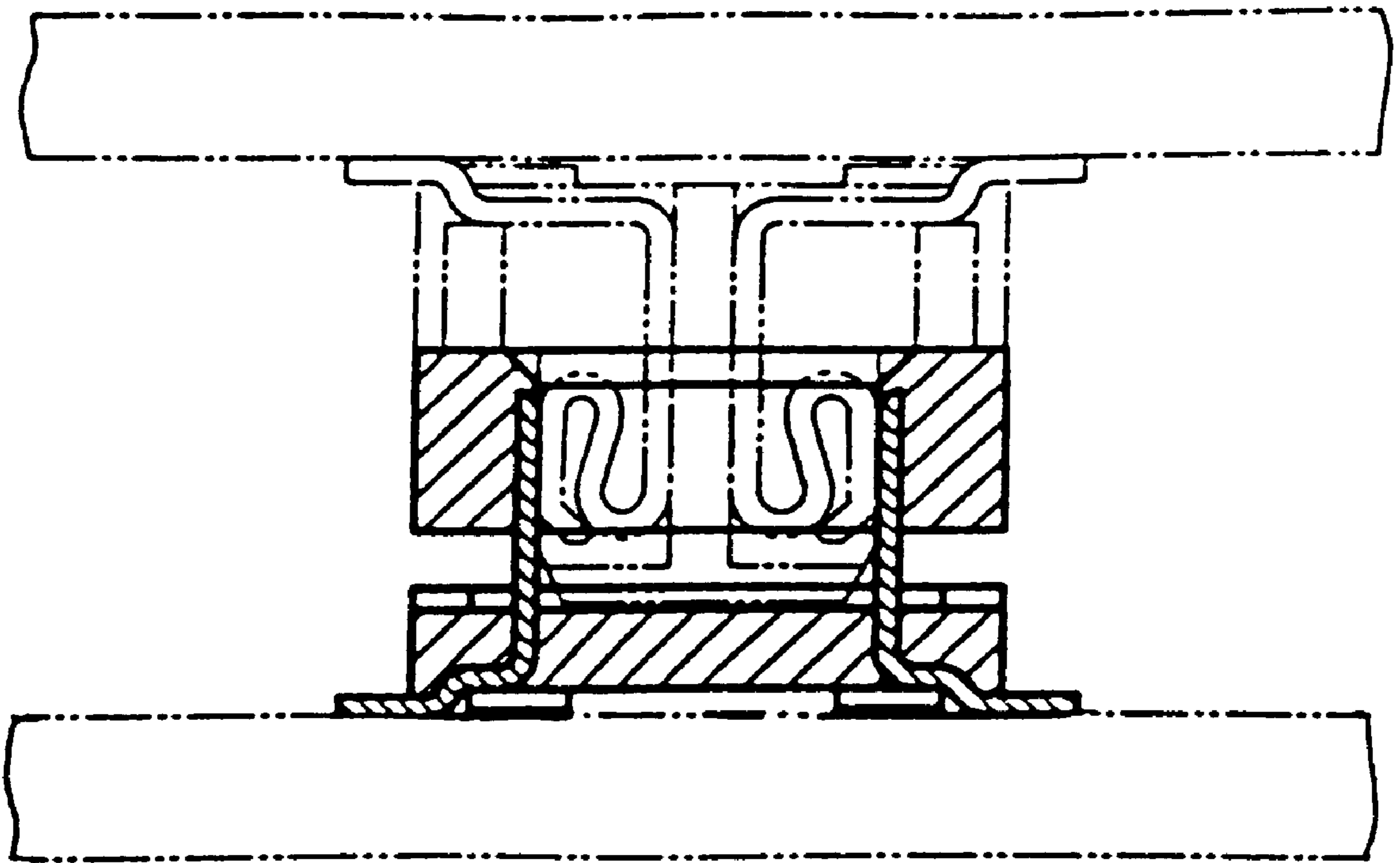


FIG. 8

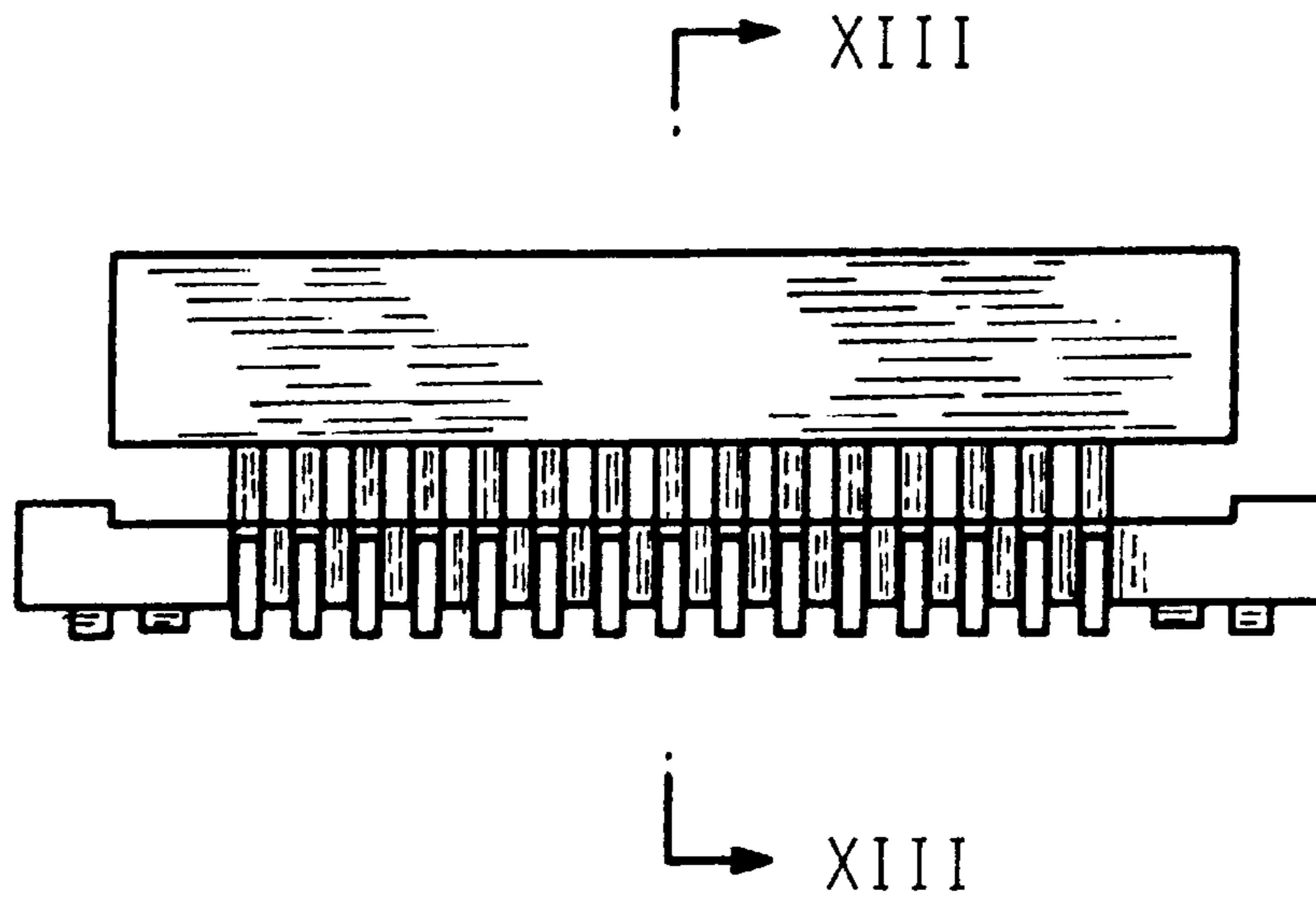


FIG. 9

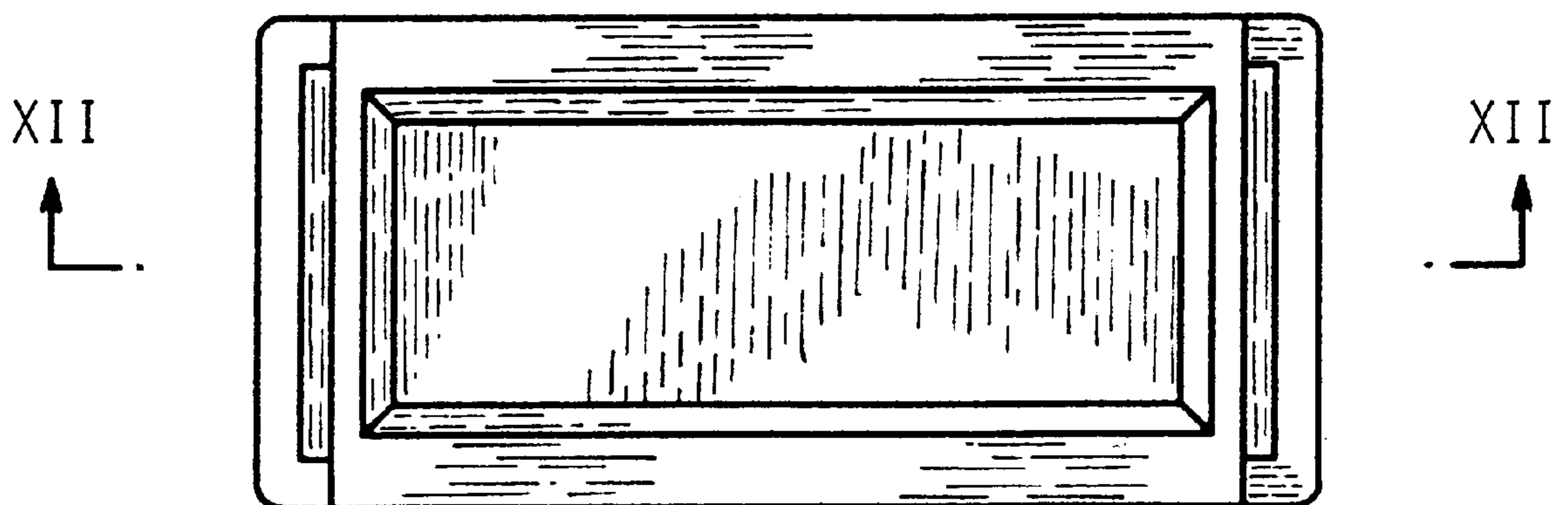


FIG. 10

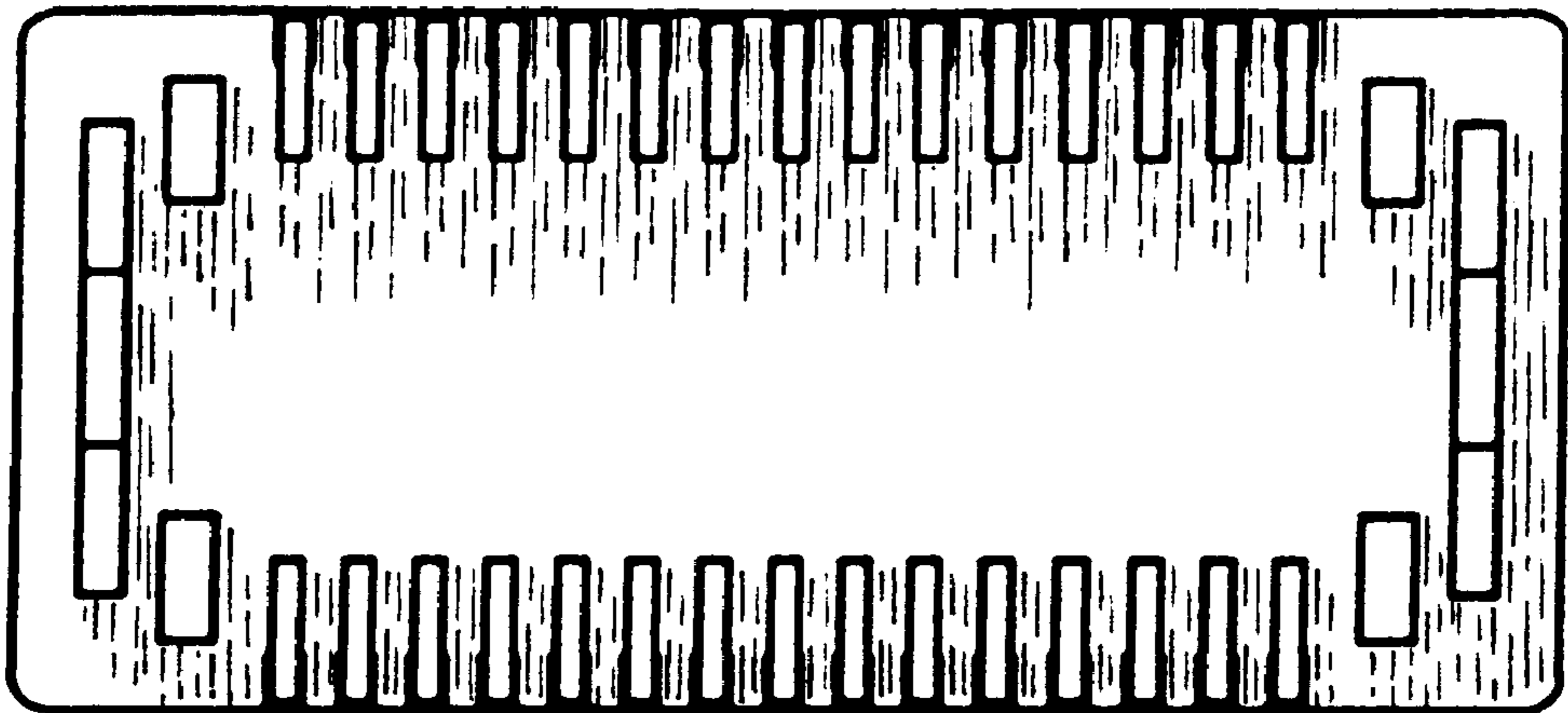


FIG. 11

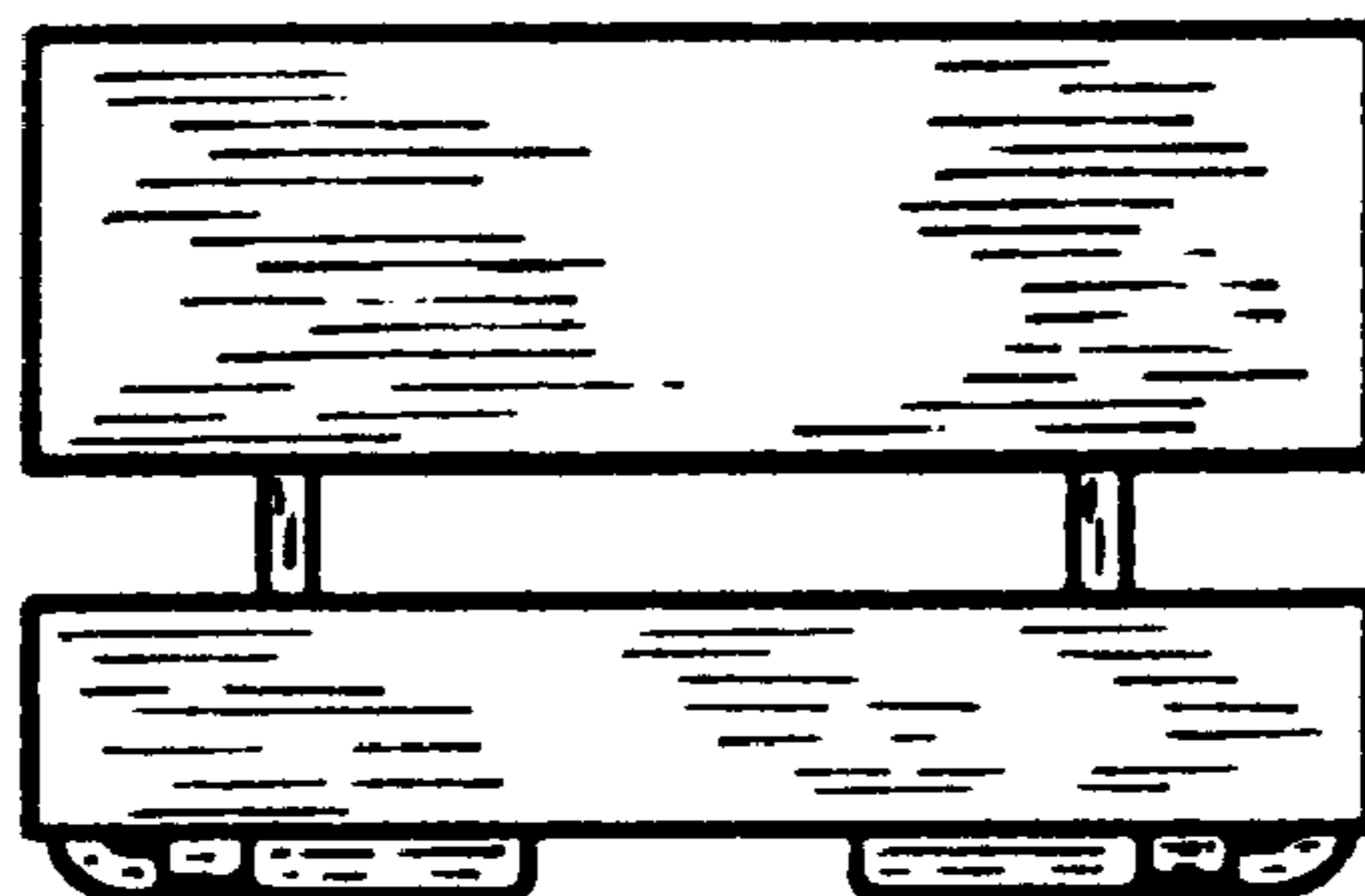




FIG. 12

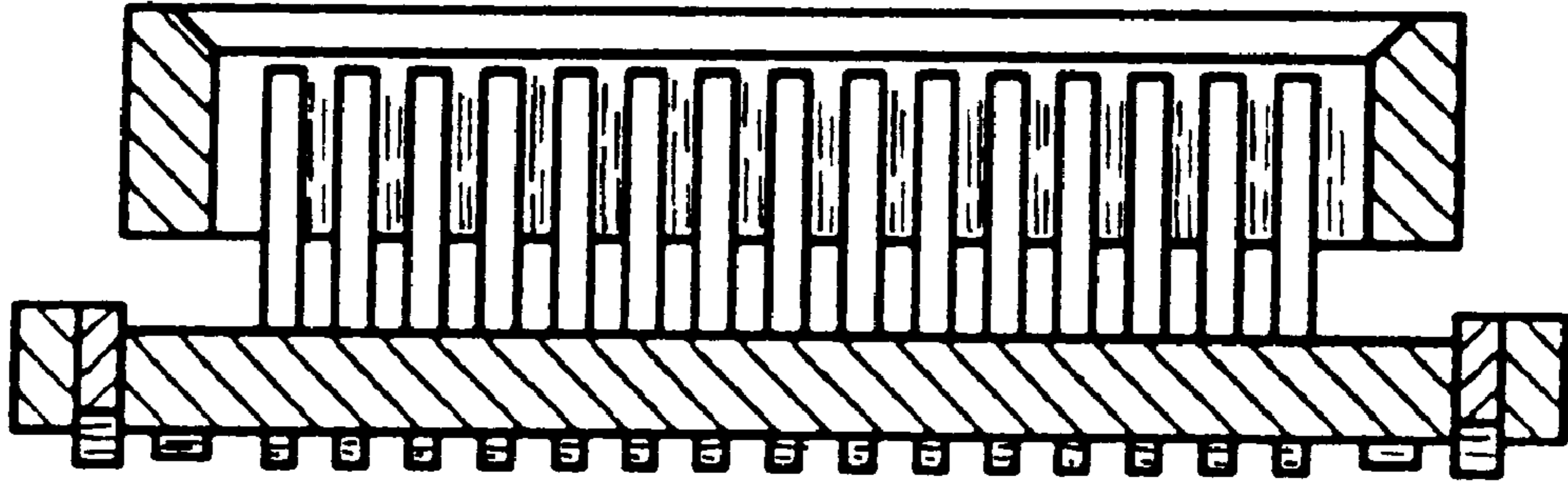


FIG. 13

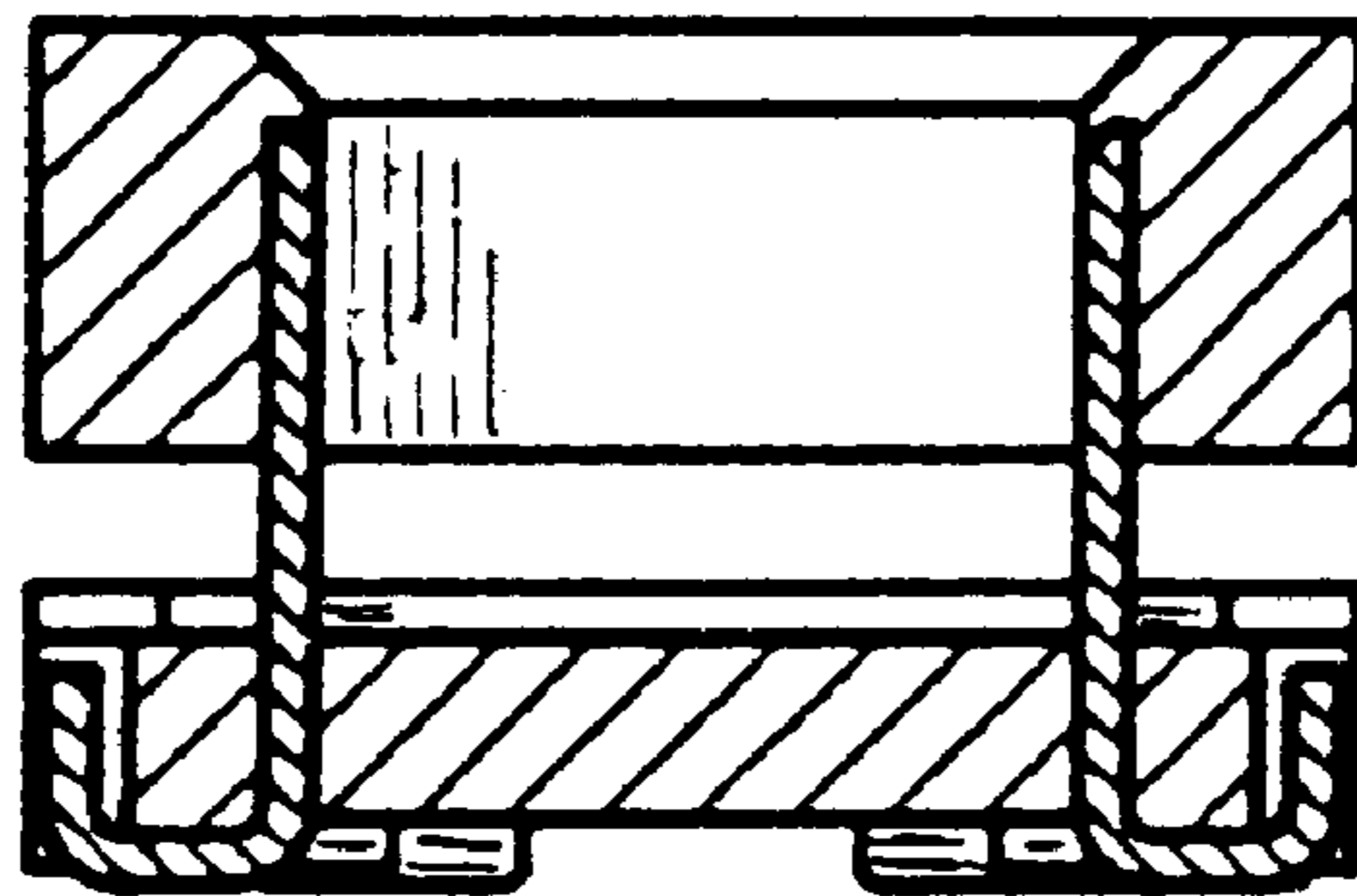
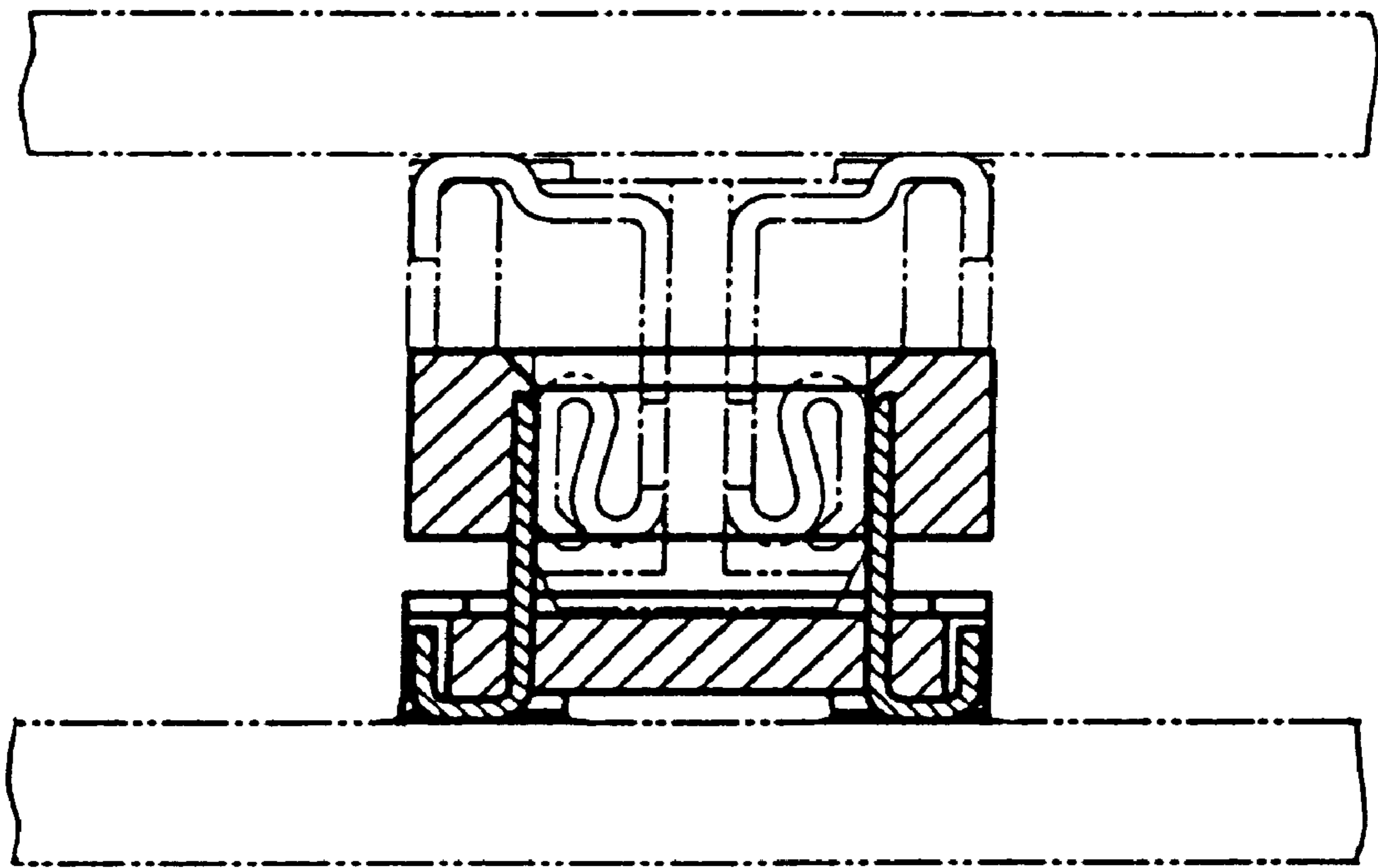


FIG. 14



UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : Des. 411,512  
DATED : June 29, 1999  
INVENTOR(S) : Yasuhiro Kataoka, et. al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Title page, item [73] the second Assignee should read – Japan Solderless Terminal Mfg. Co., Ltd.

Signed and Sealed this  
Fourteenth Day of March, 2000

*Attest:*



Q. TODD DICKINSON

*Attesting Officer*

*Commissioner of Patents and Trademarks*