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

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(54) **AC-DC CONVERTER**

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(73) Assignee: **Hosiden Corporation**, Osaka (JP)

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

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Related U.S. Application Data

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(51) **LOC (9) Cl.** **13-02**

(52) **U.S. Cl.** **D13/110**

(58) **Field of Classification Search** D13/110,
D13/101, 107, 123, 133, 138.1, 199; 307/150,
307/151; 320/111, 114; 361/601, 625; 363/15,
363/34, 146; 439/5, 131, 172, 173, 668,
439/669

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 4,625,259 A * 11/1986 Krechmer et al. 361/610
- D308,962 S 7/1990 Duk
- D350,113 S 8/1994 Nagele
- D367,257 S * 2/1996 Buelow et al. D13/110
- 5,744,934 A 4/1998 Wu
- D407,066 S 3/1999 Renk

- D408,786 S * 4/1999 Goto D13/138.1
- D409,138 S 5/1999 Gammenthaler
- 6,042,400 A 3/2000 Queffelec et al.
- 6,086,395 A 7/2000 Lloyd et al.
- D454,537 S 3/2002 O'Connor et al.
- D478,546 S 8/2003 Andre et al.
- D483,721 S 12/2003 Kim et al.
- D491,142 S 6/2004 Stekelenburg
- 6,793,509 B2 9/2004 Chen
- D548,187 S 8/2007 Holland
- D567,174 S * 4/2008 Jidaisho D13/110

* cited by examiner

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(57) **CLAIM**

The ornamental design for an AC-DC converter, as shown and described.

DESCRIPTION

FIG. 1 is a front, left side and top perspective view of an AC-DC converter showing our new design;

FIG. 2 is a front, left side and bottom perspective view thereof;

FIG. 3 is a front elevation view thereof, the rear elevation view being a mirror image;

FIG. 4 is a left side view thereof;

FIG. 5 is a right side view thereof;

FIG. 6 is a top plan view thereof; and,

FIG. 7 is a bottom plan view thereof.

1 Claim, 3 Drawing Sheets

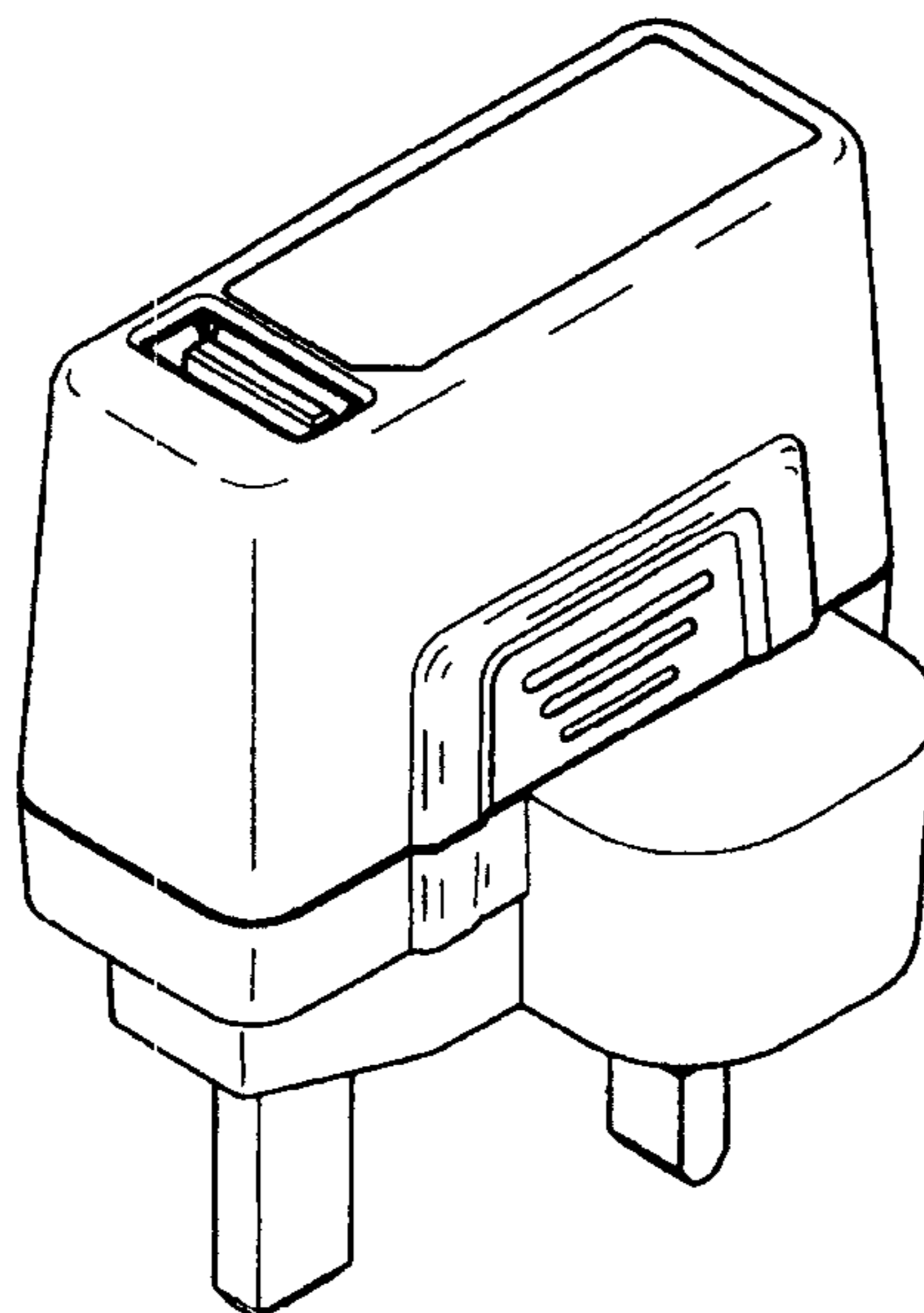


FIG. 1

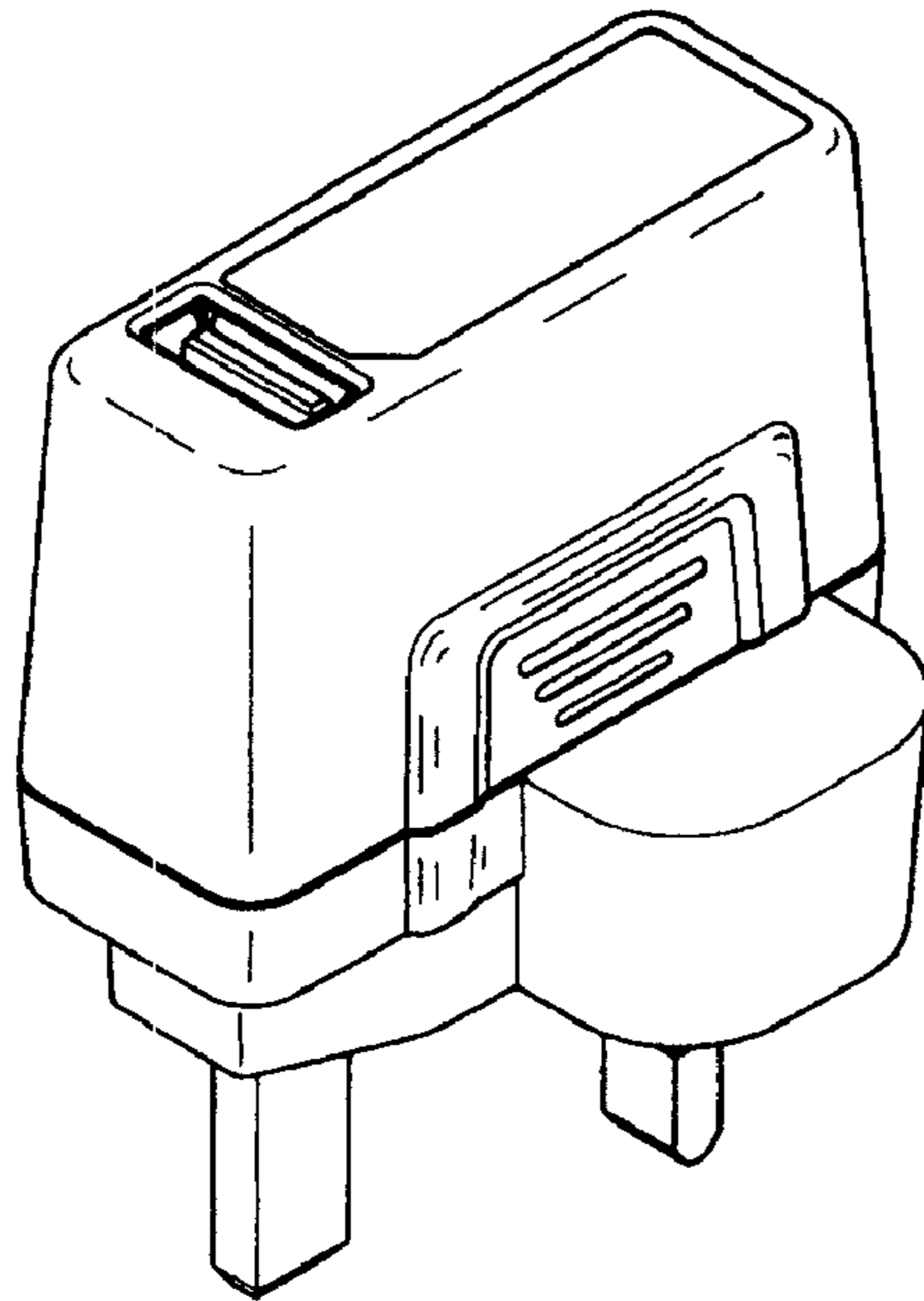


FIG. 2

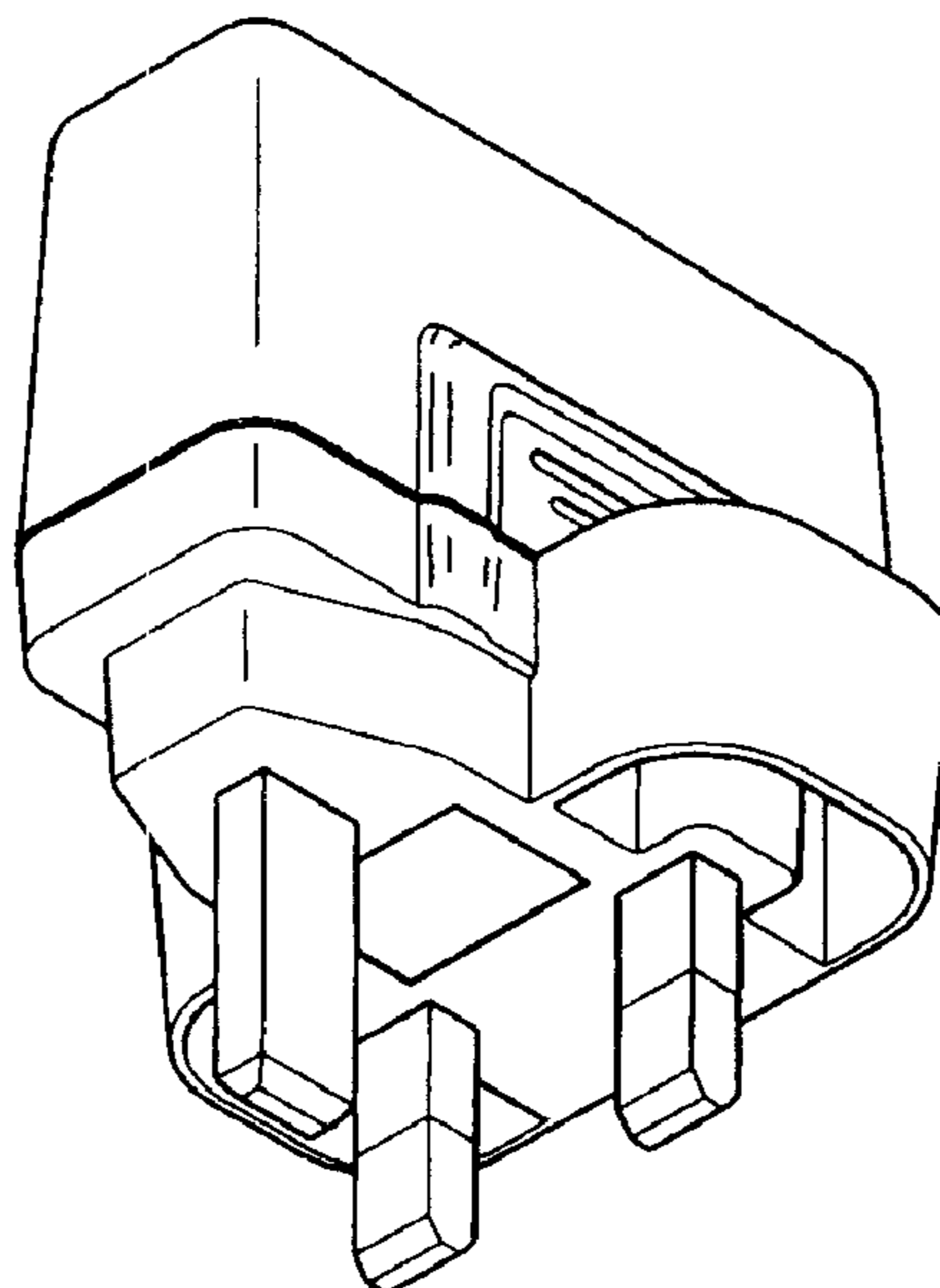


FIG. 3

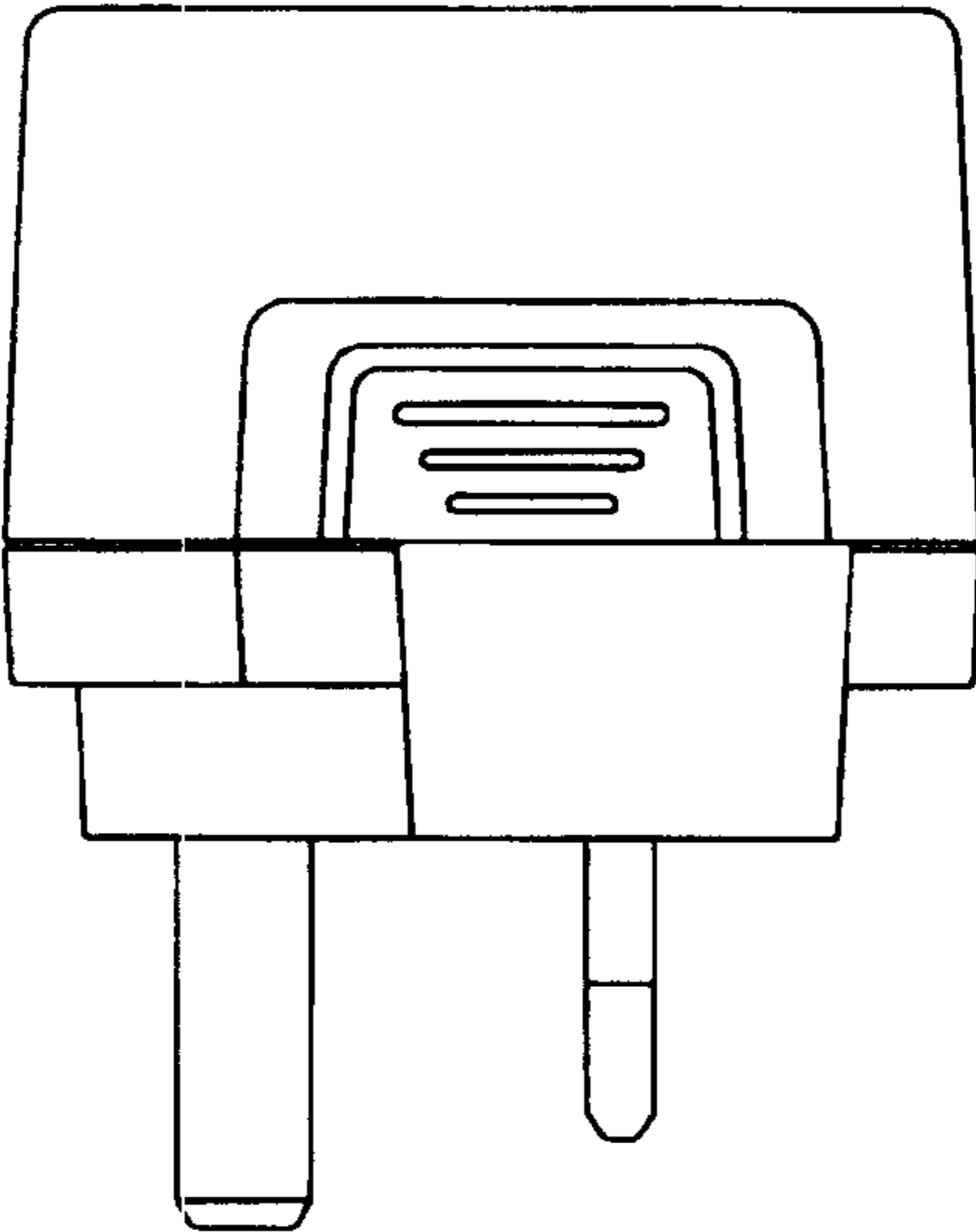


FIG. 4

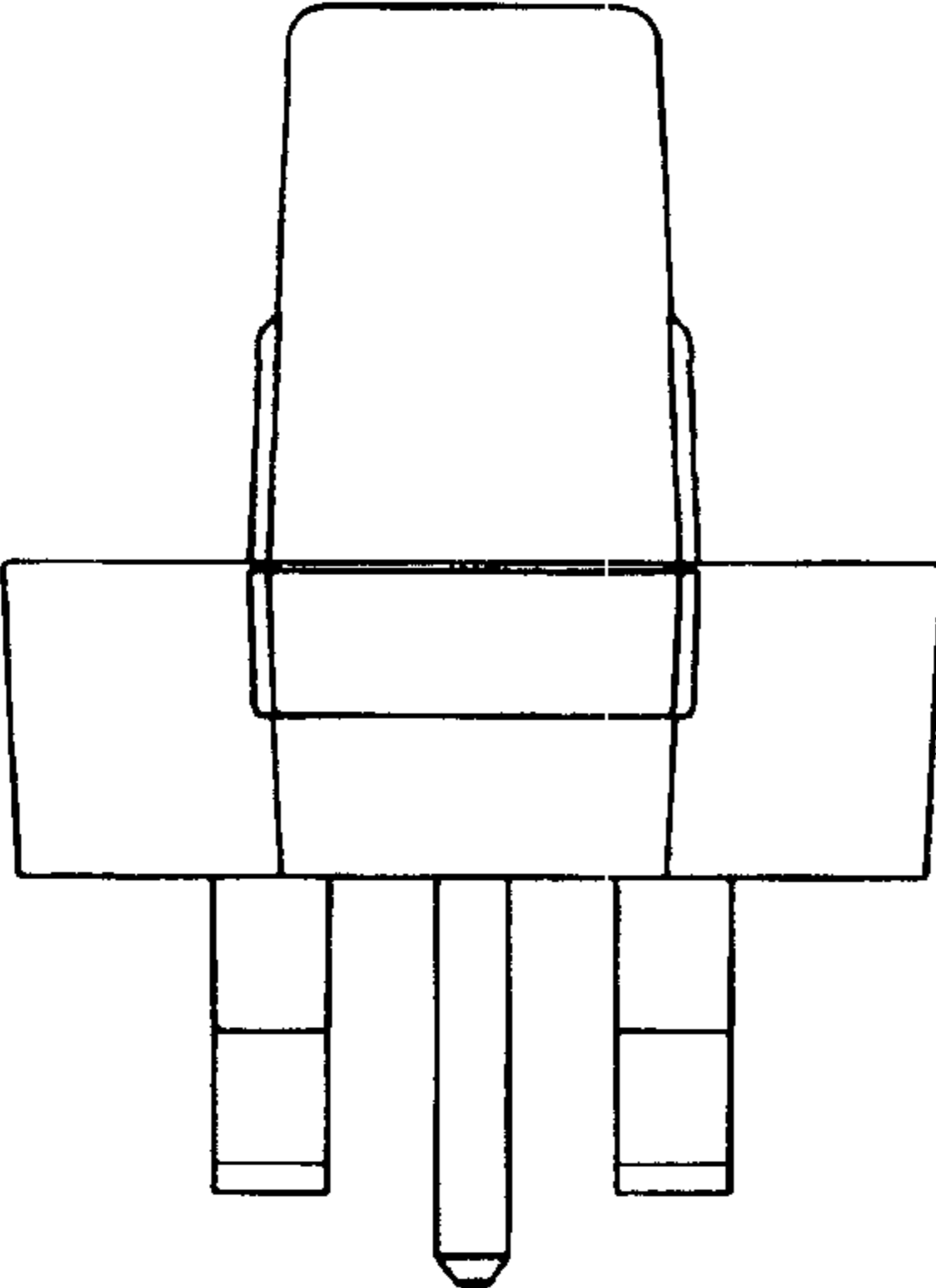


FIG. 5

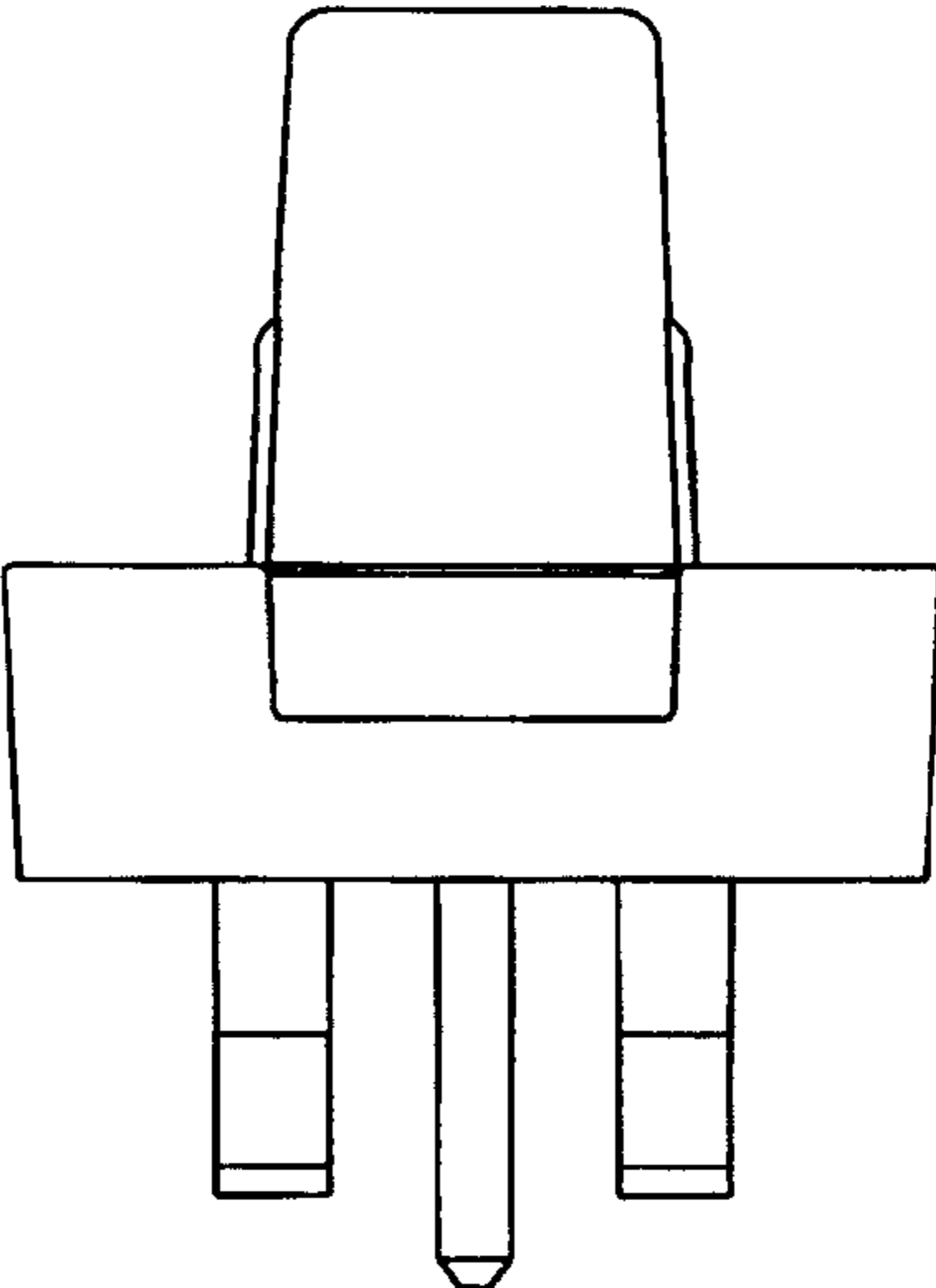


FIG. 6

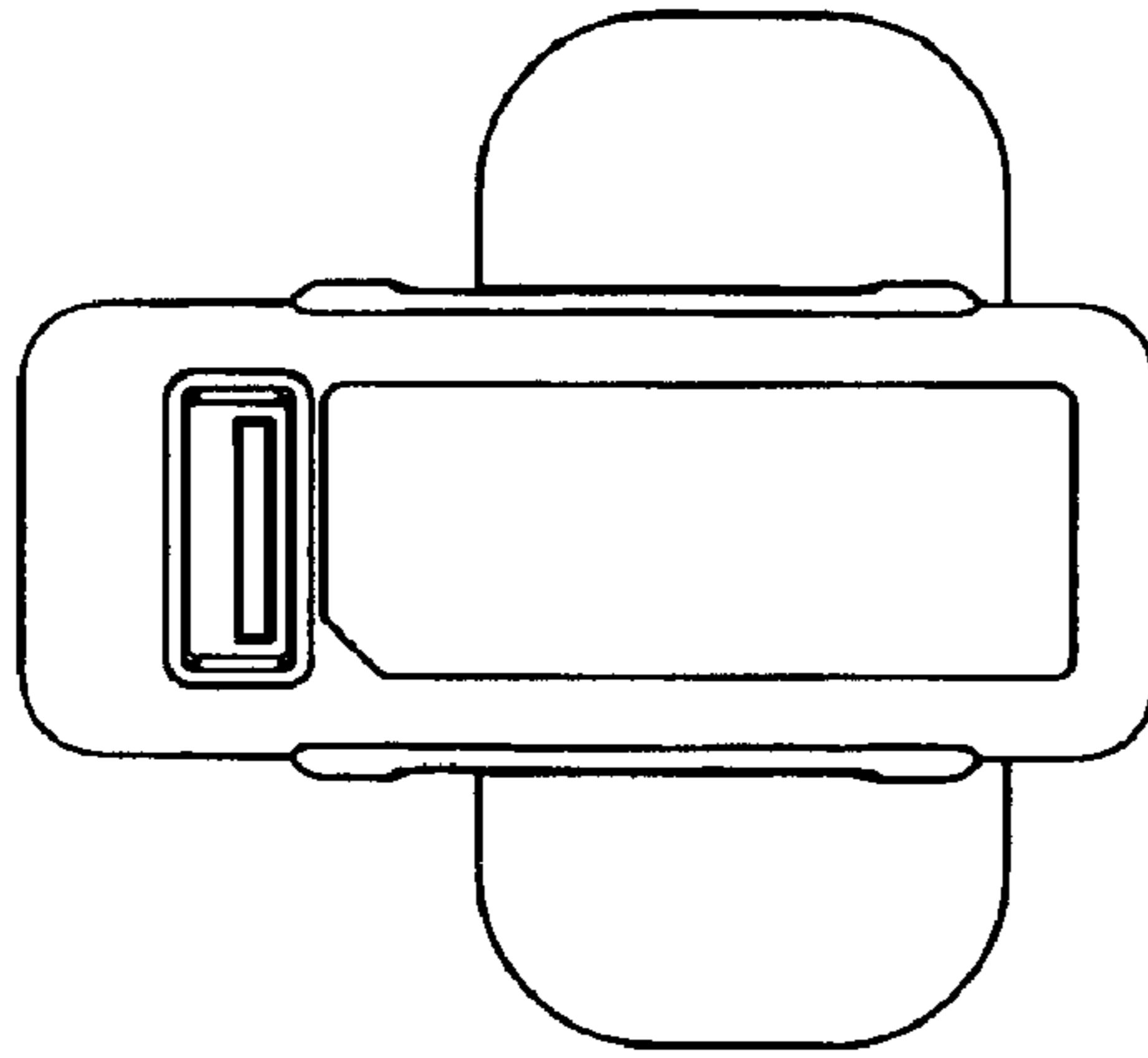


FIG. 7

