



US00D821982S

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

(10) **Patent No.:** **US D821,982 S**  
(45) **Date of Patent:** **\*\* Jul. 3, 2018**

(54) **ACTUATOR**

- (71) Applicant: **SMK Corporation**, Tokyo (JP)
- (72) Inventors: **Katsuhito Fujii**, Tokyo (JP); **Takeshi Matsuda**, Tokyo (JP); **Yoshinori Watanabe**, Tokyo (JP); **Yuki Akita**, Tokyo (JP)
- (73) Assignee: **SMK Corporation**, Tokyo (JP)
- (\*\*) Term: **15 Years**
- (21) Appl. No.: **29/598,493**
- (22) Filed: **Mar. 27, 2017**

**Related U.S. Application Data**

- (62) Division of application No. 29/502,429, filed on Sep. 16, 2014, now Pat. No. Des. 784,306.

(30) **Foreign Application Priority Data**

- Mar. 17, 2014 (JP) ..... 2014-5620
  - Mar. 17, 2014 (JP) ..... 2014-5621
- (Continued)

- (51) **LOC (11) Cl.** ..... **13-03**

- (52) **U.S. Cl.**  
USPC ..... **D13/158; D14/240**

- (58) **Field of Classification Search**  
USPC ..... D13/118, 158, 162, 170, 171, 172, 173,  
D13/174, 184; D14/240; D15/5, 7, 9,  
D15/143, 148, 199
- (Continued)

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

- D276,428 S \* 11/1984 Burbank ..... D13/184
- 5,689,994 A \* 11/1997 Nagai ..... B23Q 1/25  
310/80

(Continued)

**OTHER PUBLICATIONS**

“Development of the “FBS Series” Quick Active Actuator which Provides an Excellent Clicking Sensation,” FBS Series Quick Active Actuator pictured therein, as posted at SMK.co.jp [online], date released Mar. 26, 2014, [site visited Feb. 14, 2018]. Available from the Internet, <URL: <https://www.smk.co.jp/page.jsp?id=6608&version=en>>.\*

*Primary Examiner* — Jeffrey D Asch

*Assistant Examiner* — Rebekah A Caruso

(74) *Attorney, Agent, or Firm* — Locke Lord LLP

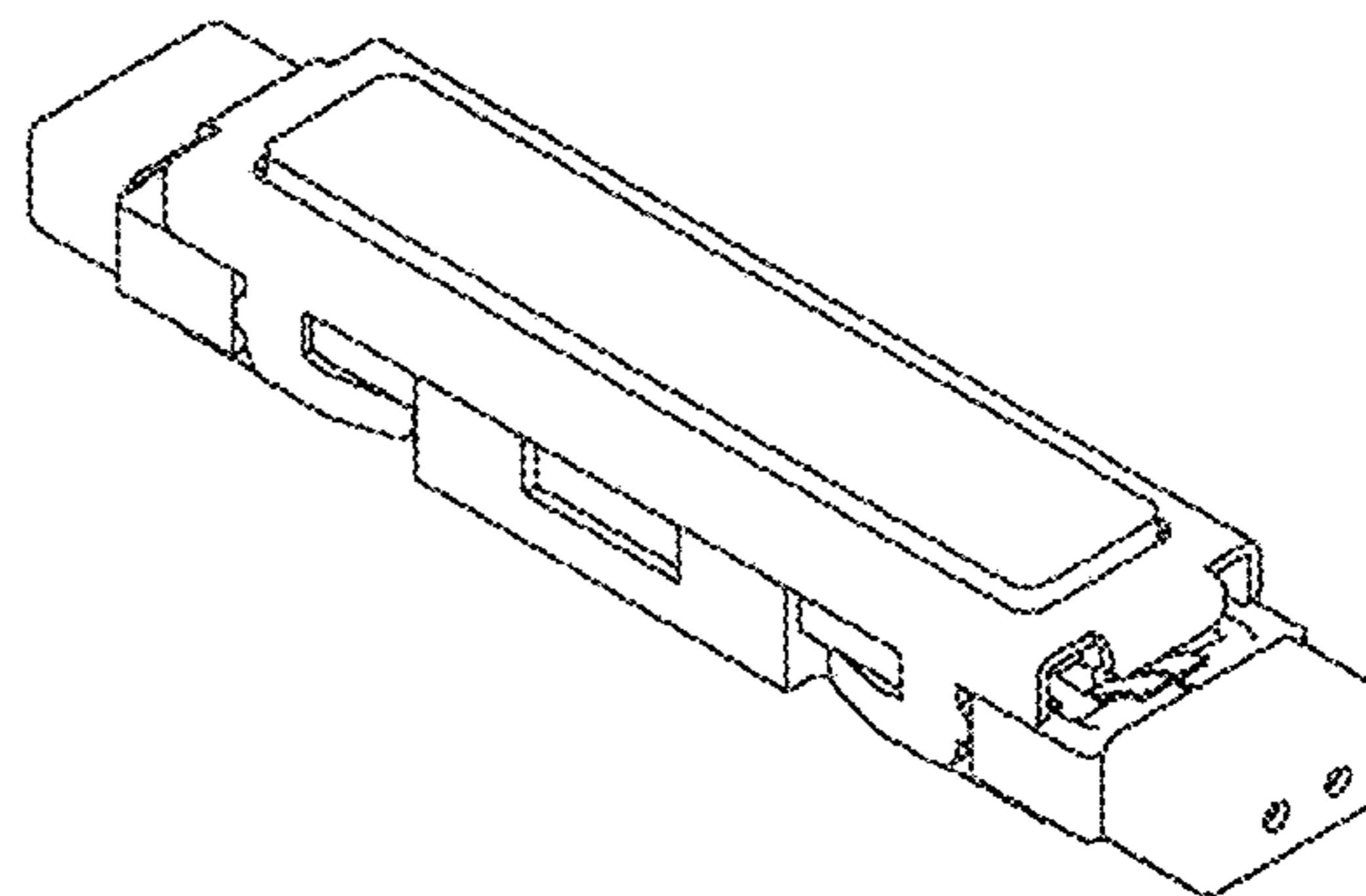
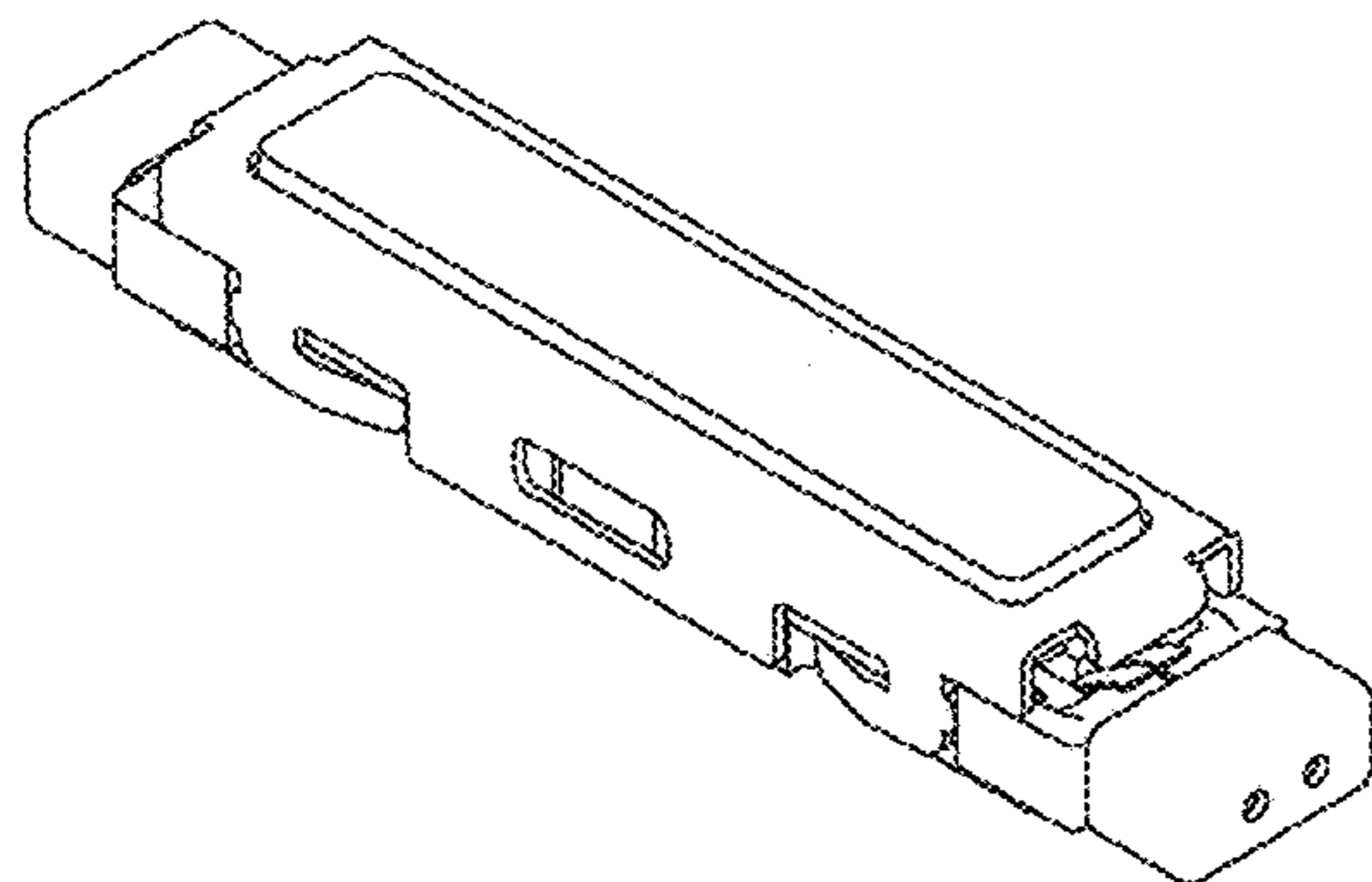
(57) **CLAIM**

The ornamental design for an actuator, as shown and described.

**DESCRIPTION**

FIG. 1 is a front perspective view of an actuator according to a first embodiment of our new ornamental design;  
 FIG. 2 is a rear perspective view thereof;  
 FIG. 3 is a front view thereof;  
 FIG. 4 is a rear view thereof;  
 FIG. 5 is a top plan view thereof;  
 FIG. 6 is a bottom plan view thereof;  
 FIG. 7 is a right-side view thereof;  
 FIG. 8 is a cross-sectional view taken along the line A-A in FIG. 3;  
 FIG. 9 is a front perspective view of an actuator according to a second embodiment of our new ornamental design;  
 FIG. 10 is a rear perspective view thereof;  
 FIG. 11 is a front view thereof;  
 FIG. 12 is a rear view thereof;  
 FIG. 13 is a top plan view thereof;  
 FIG. 14 is a bottom plan view thereof;  
 FIG. 15 is a right-side view thereof; and,  
 FIG. 16 is a cross-sectional view taken along the line A-A in FIG. 11.

**1 Claim, 8 Drawing Sheets**



(30) **Foreign Application Priority Data**

Mar. 17, 2014 (JP) ..... 2014-5622  
 Aug. 26, 2014 (JP) ..... 2014-18572  
 Aug. 26, 2014 (JP) ..... 2014-18573

(58) **Field of Classification Search**

CPC .. F16H 25/20; F16H 25/2041; F16H 25/2065;  
 F16H 25/2081; F16H 25/2087

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D409,625 S \* 5/1999 Yonezawa ..... D15/143  
 D430,179 S \* 8/2000 Asai ..... D15/143  
 D478,071 S 8/2003 Teymouri  
 D487,902 S \* 3/2004 Nielsen ..... D15/143  
 7,126,259 B2 10/2006 Moler et al.  
 D554,164 S \* 10/2007 Naruse ..... D15/143  
 D614,144 S 4/2010 Arosio  
 7,775,832 B2 \* 8/2010 Watanabe ..... H01R 12/716  
 439/603  
 D624,572 S 9/2010 Fukano et al.

D626,921 S \* 11/2010 Pang ..... D13/158  
 D656,169 S 3/2012 Fukano et al.  
 D677,624 S 3/2013 Goodman  
 8,402,853 B2 \* 3/2013 Pfister ..... F16C 29/0604  
 384/45  
 D685,373 S \* 7/2013 Santos ..... D14/432  
 D689,445 S \* 9/2013 Chu ..... D13/158  
 D696,651 S 12/2013 Ohashi et al.  
 D696,652 S 12/2013 Ohashi et al.  
 D696,653 S 12/2013 Ohashi et al.  
 D708,239 S 7/2014 Lin et al.  
 D732,047 S 6/2015 Brouillette et al.  
 D763,934 S \* 8/2016 Landerholm ..... D15/143  
 D783,543 S \* 4/2017 Sims ..... D13/158  
 D784,306 S \* 4/2017 Fujii ..... D14/240  
 D791,105 S \* 7/2017 Weber ..... D14/218  
 2006/0050059 A1 3/2006 Satoh et al.  
 2011/0163634 A1 7/2011 Kim et al.  
 2011/0260995 A1 10/2011 Woo et al.  
 2012/0038471 A1 2/2012 Kim et al.  
 2013/0335354 A1 12/2013 Zellers et al.  
 2014/0085065 A1 3/2014 Biggs et al.  
 2014/0347283 A1 11/2014 Kim et al.  
 2015/0155470 A1 6/2015 Mori  
 2016/0018894 A1 1/2016 Yliaho et al.

\* cited by examiner

FIG. 1

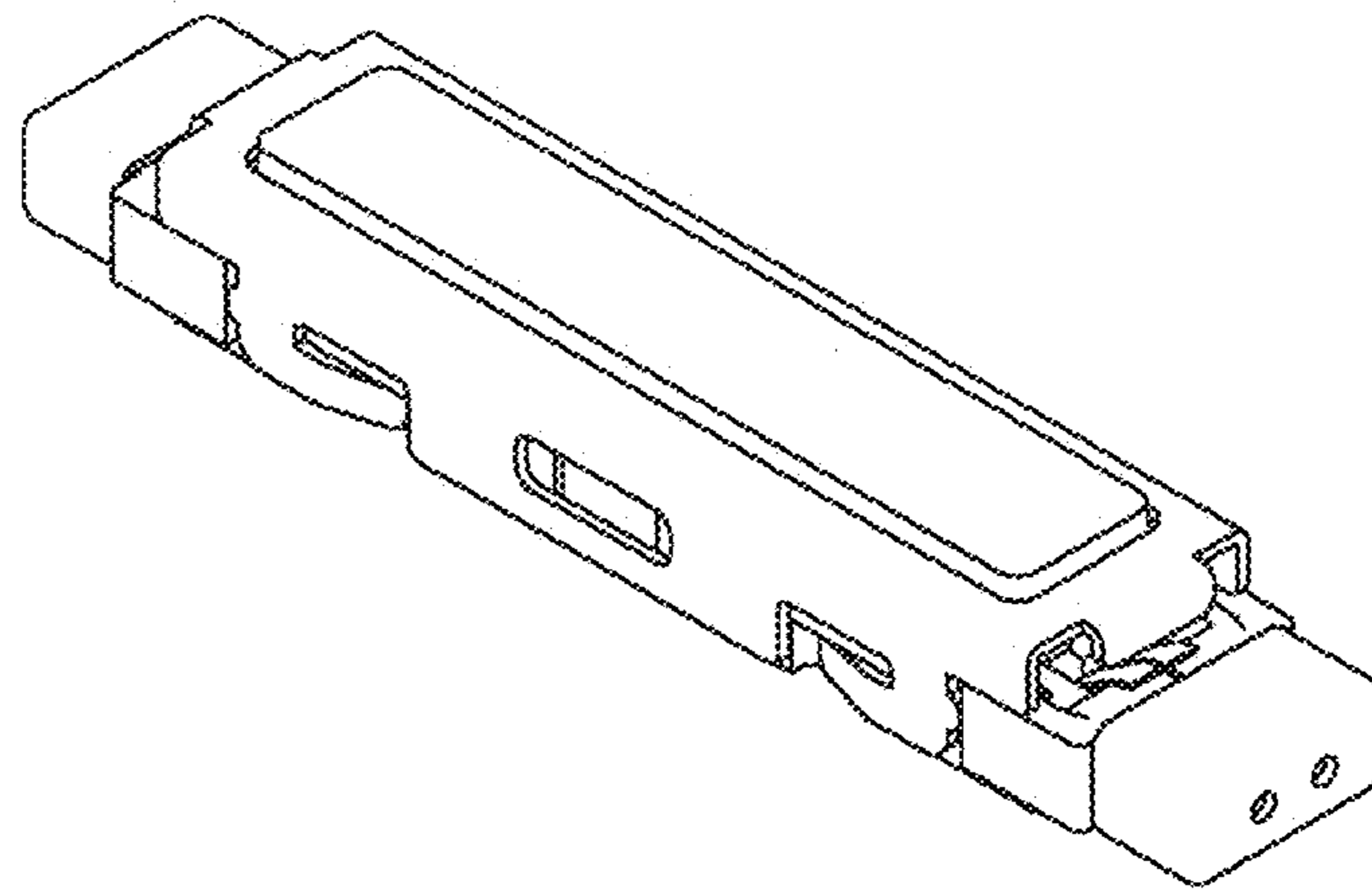


FIG. 2

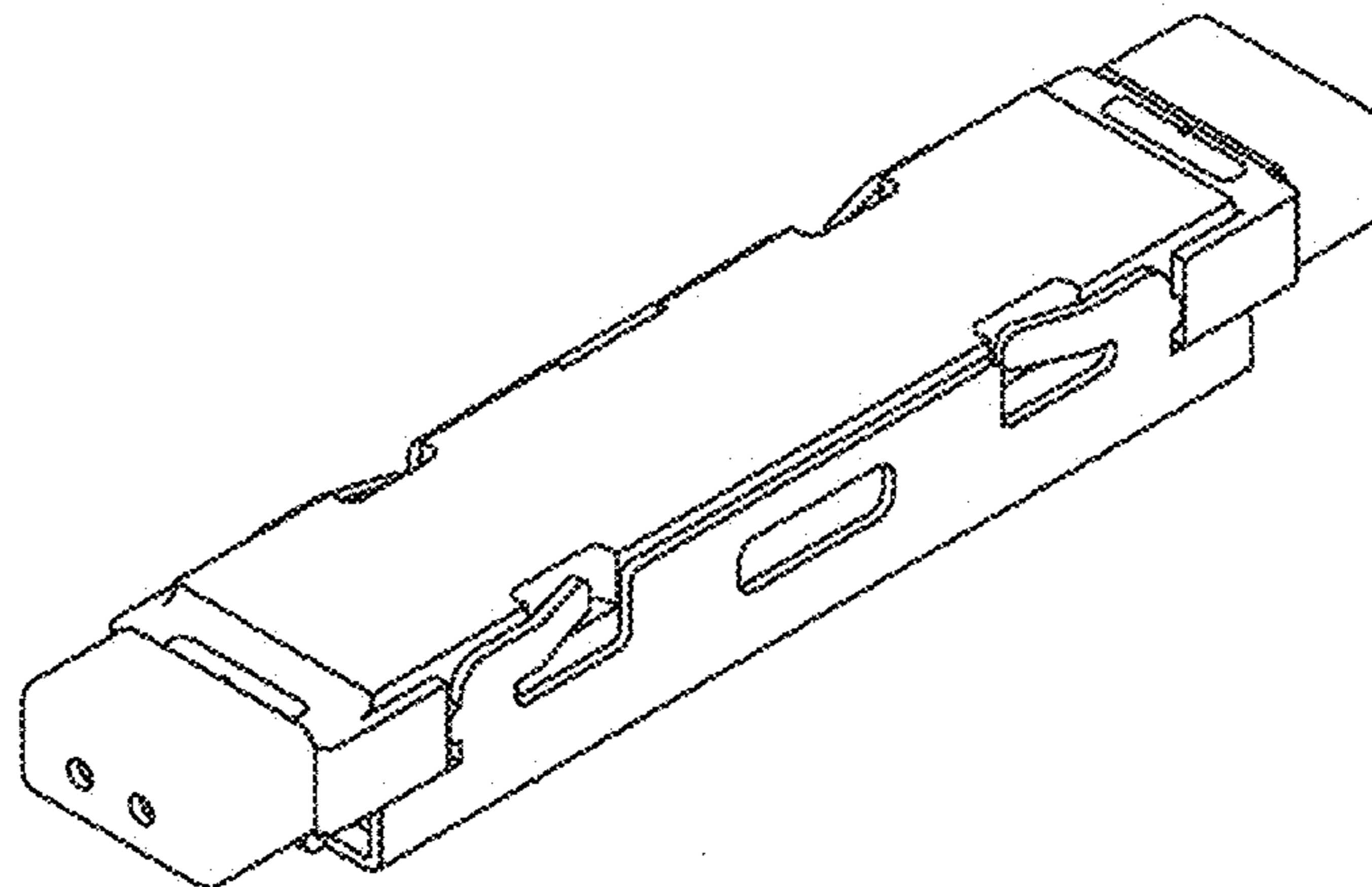


FIG. 3

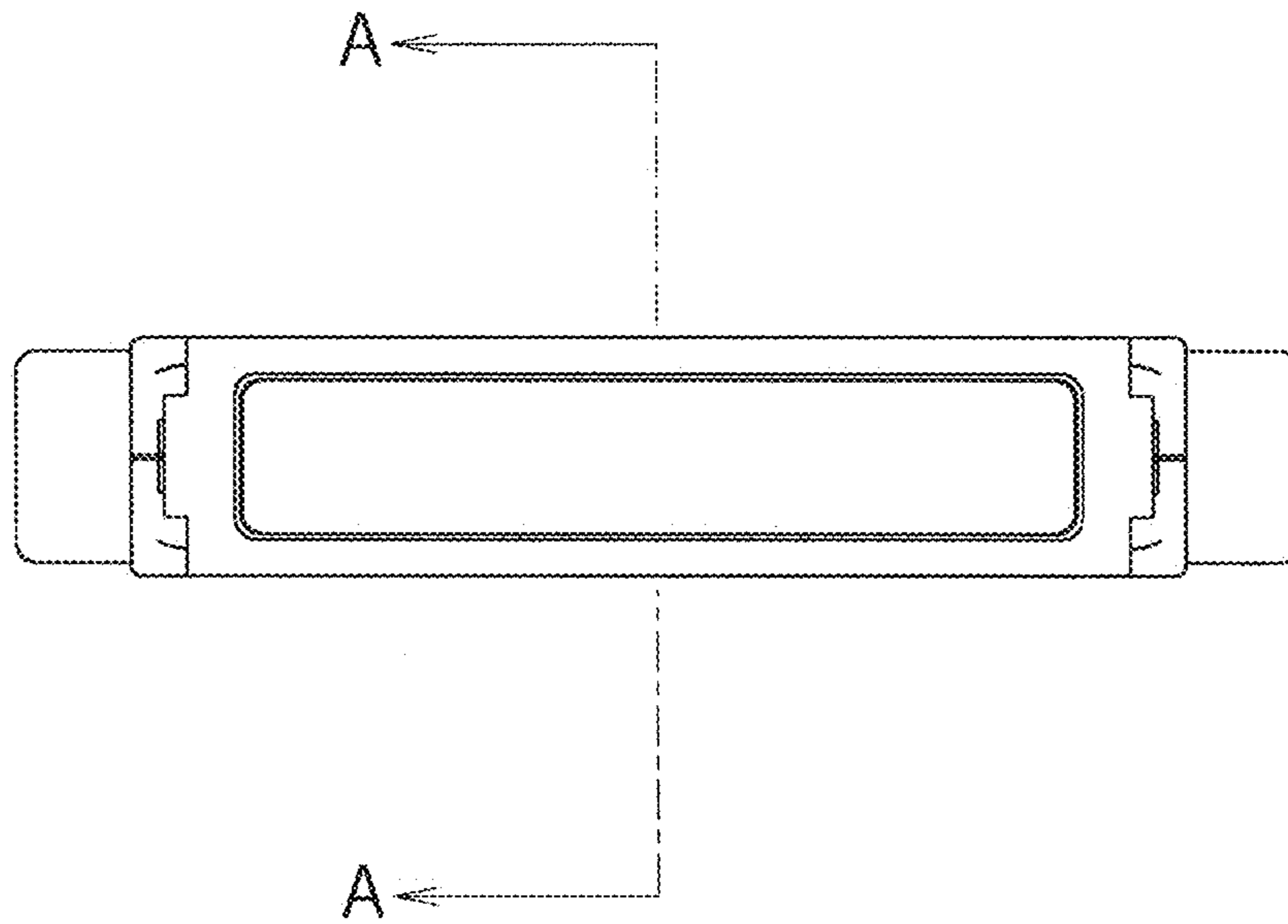


FIG. 4



FIG. 5

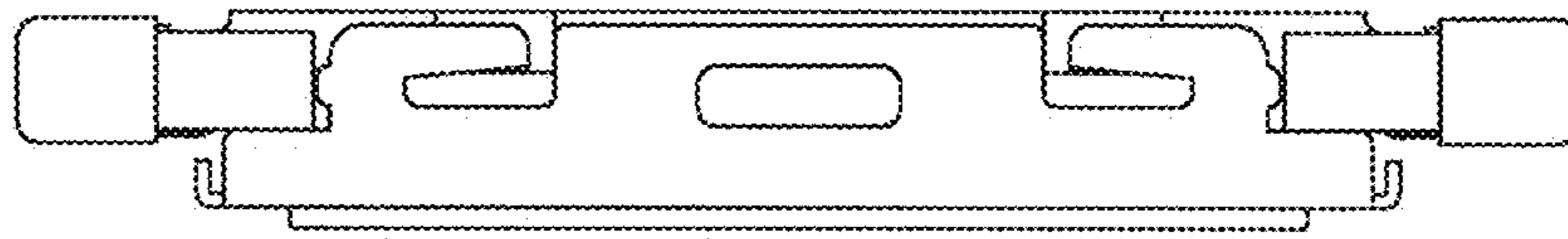


FIG. 6

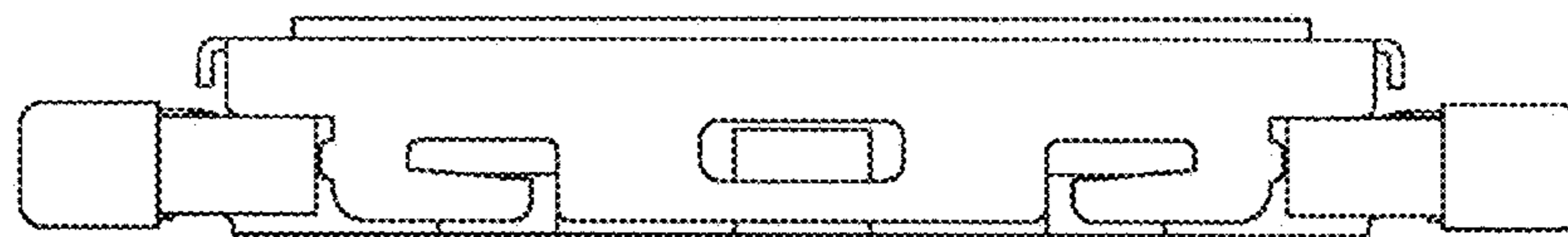


FIG. 7

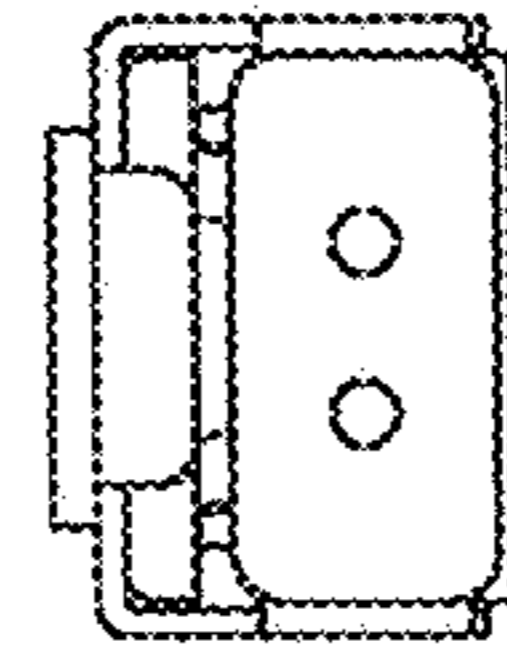


FIG. 8

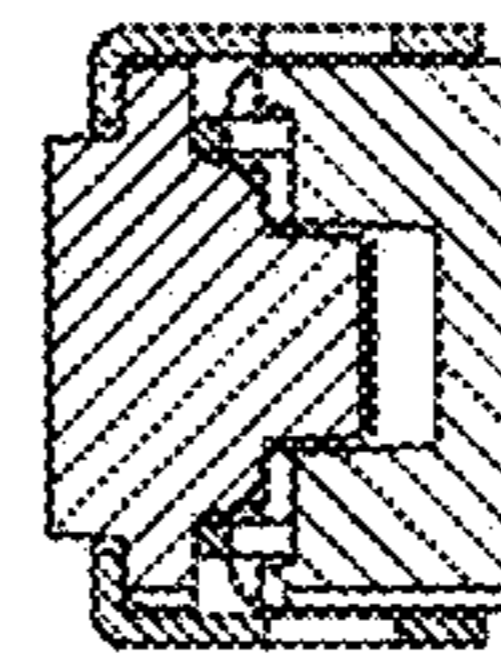


FIG. 9

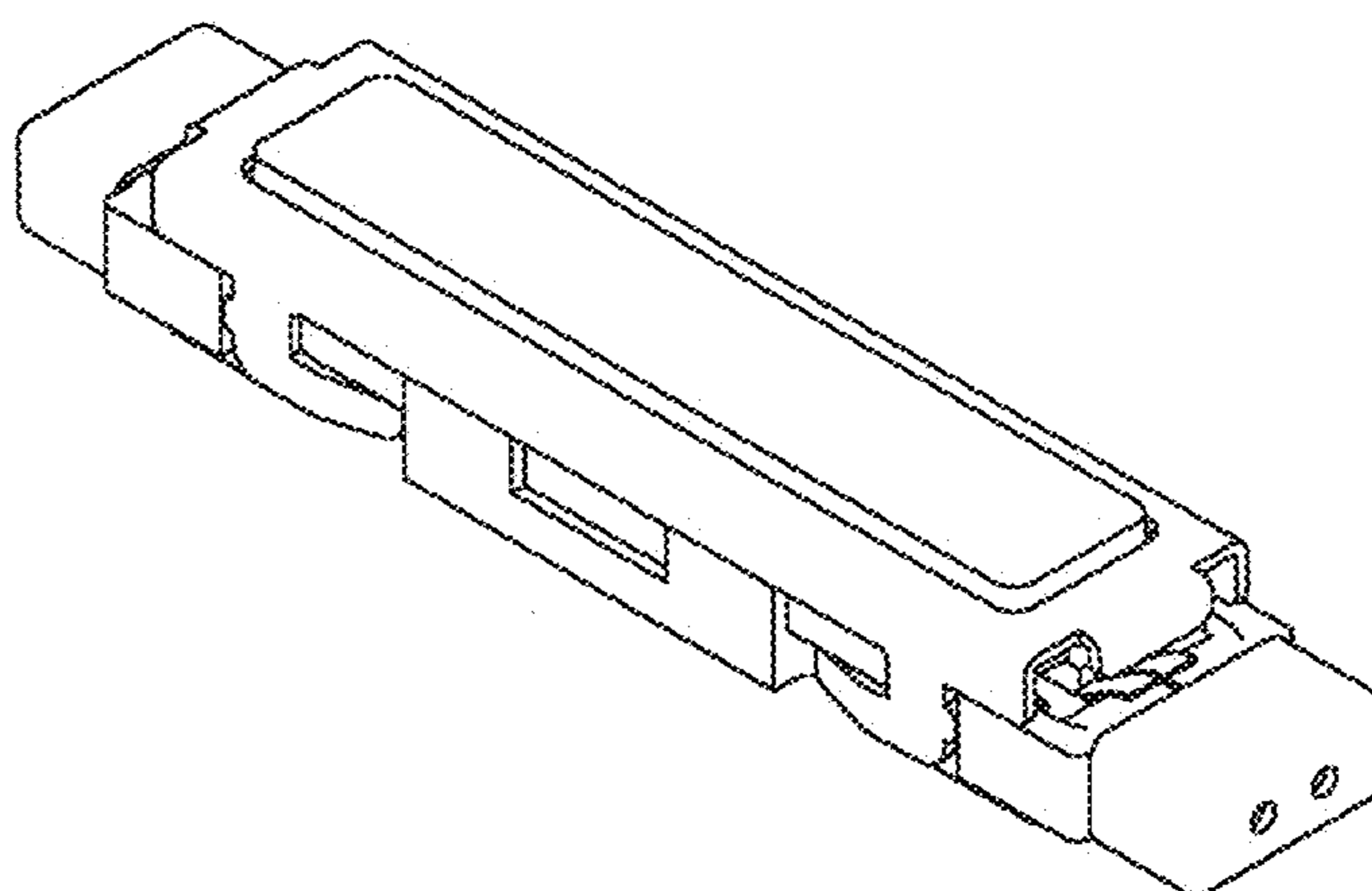


FIG. 10

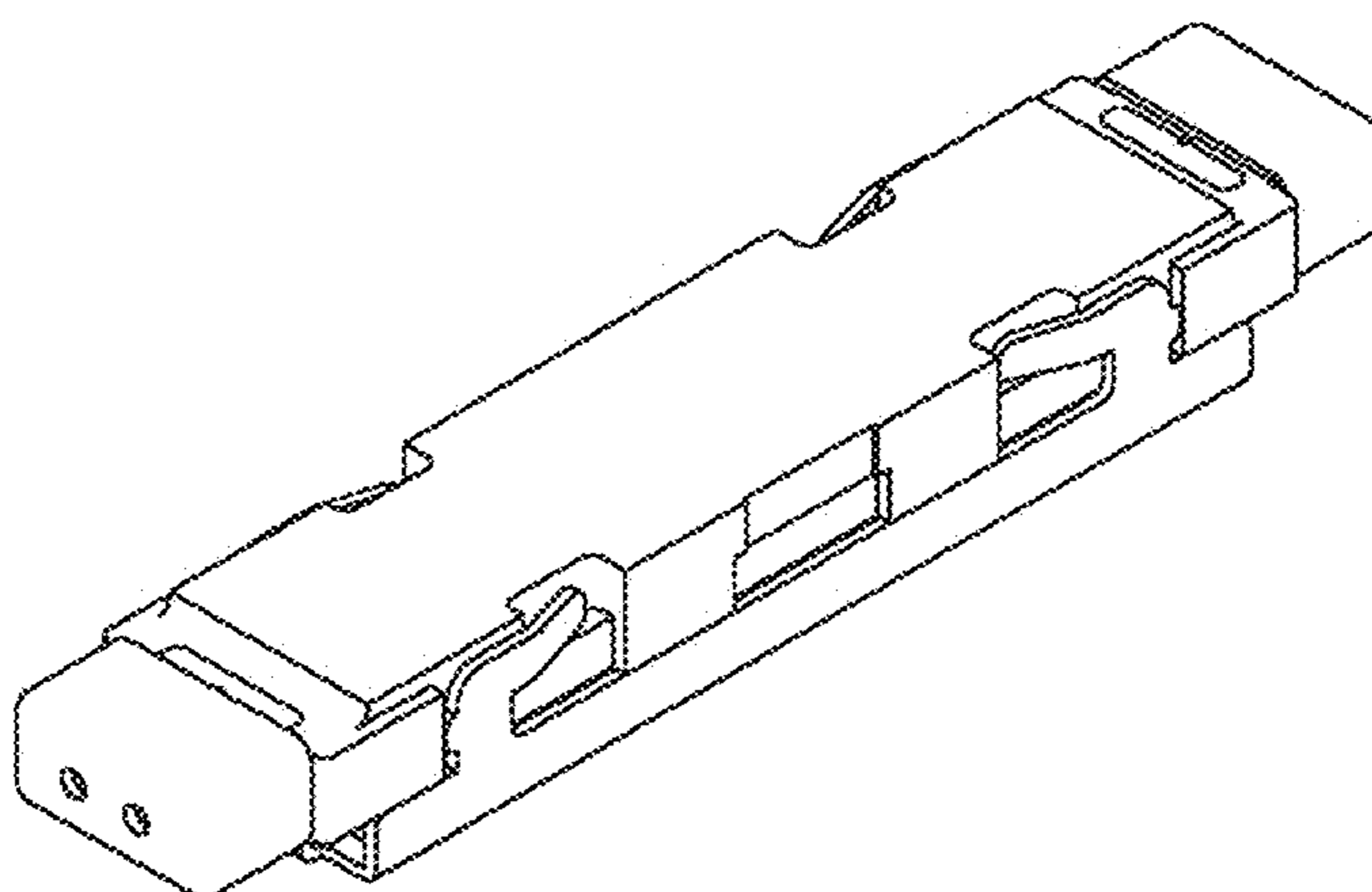


FIG. 11

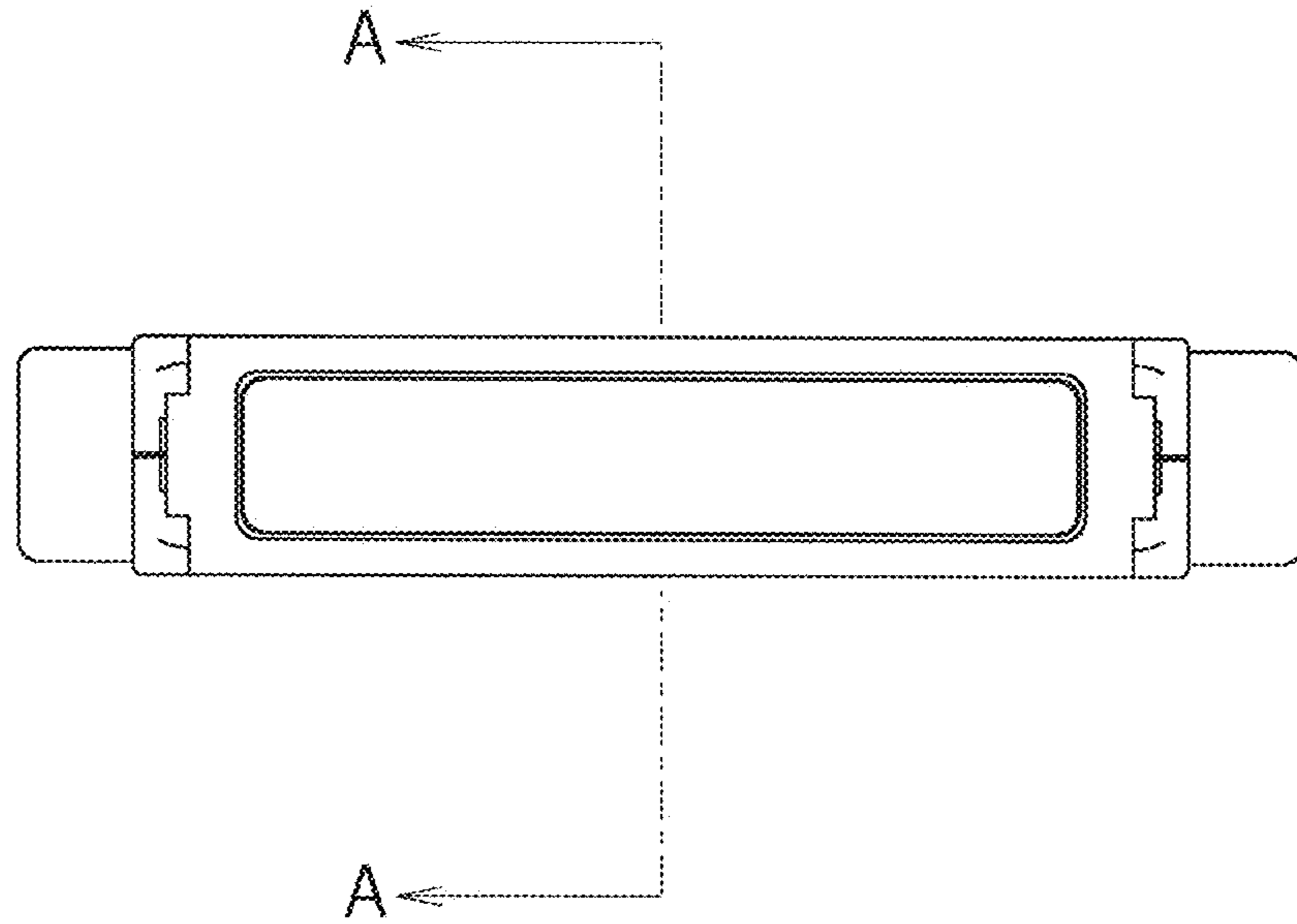


FIG. 12

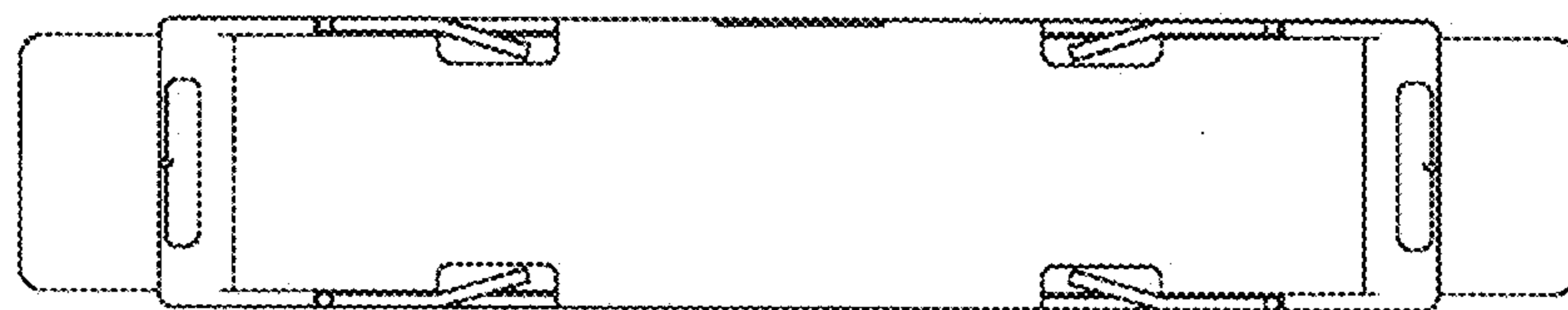




FIG. 13

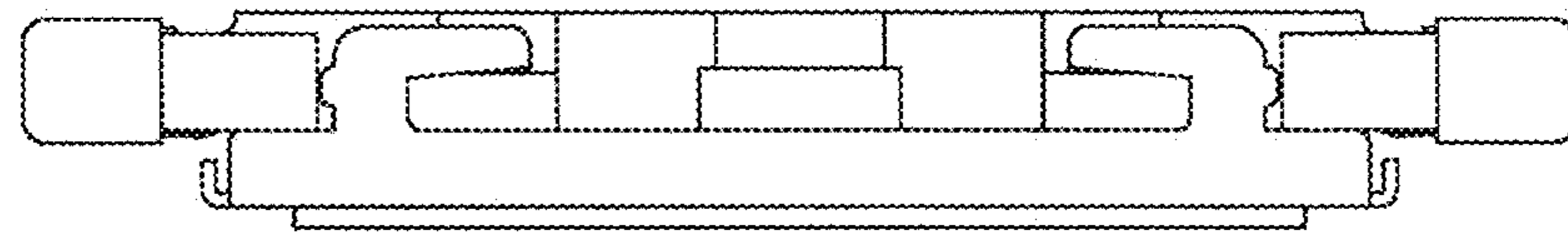


FIG. 14

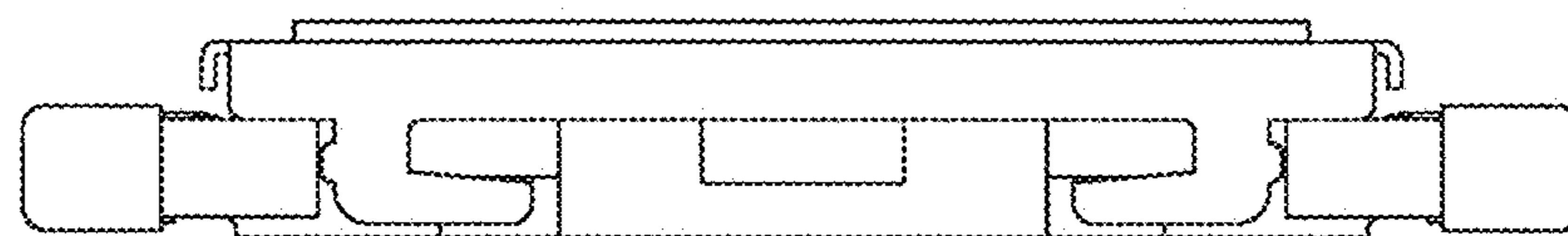


FIG. 15

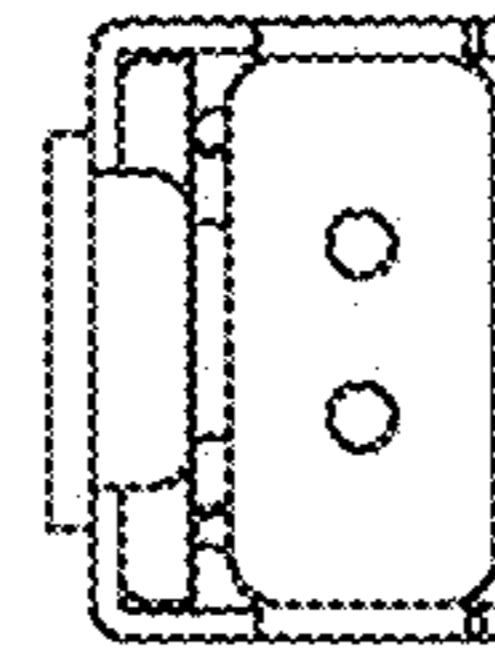


FIG. 16

