

US00D901401S

(12) **United States Design Patent** (10) **Patent No.:** **US D901,401 S**
Mueller et al. (45) **Date of Patent:** **** Nov. 10, 2020**

(54) **ELECTRICAL CONNECTOR**

(56) **References Cited**

(71) Applicant: **Phoenix Contact GmbH & Co. KG**,
Blomberg (DE)

U.S. PATENT DOCUMENTS

D616,834 S * 6/2010 Heggemann D13/164
D626,516 S * 11/2010 Hakemeyer D13/158

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(Continued)

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(73) Assignee: **PHOENIX CONTACT GMBH & CO. KG**, Blomberg (DE)

(57) **CLAIM**

The ornamental design for an electrical connector, as shown and described.

(**) Term: **15 Years**

DESCRIPTION

(21) Appl. No.: **29/723,638**

The patent or application file contains at least one drawing executed in color. Copies of this patent or patent application publication with color drawing(s) will be provided by the Office upon request and payment of the necessary fee.

(22) Filed: **Feb. 10, 2020**

FIG. 1 is a top left front perspective view of a first embodiment of the electrical connector showing our new design;

Related U.S. Application Data

(62) Division of application No. 29/616,375, filed on Sep. 6, 2017.

FIG. 2 is a top plan view thereof;
FIG. 3 is a left side elevational view thereof;
FIG. 4 is a front elevational view thereof;
FIG. 5 is a rear elevational view thereof;
FIG. 6 is a bottom plan view thereof;
FIG. 7 is a right side elevational view thereof; and
FIG. 8 is a top left front perspective view of a second embodiment of the electrical connector showing our new design;

(30) **Foreign Application Priority Data**

Mar. 7, 2017 (DE) 40 2017 100 283

FIG. 9 is a top plan view thereof;
FIG. 10 is a left side elevational view thereof;
FIG. 11 is a front elevational view thereof;
FIG. 12 is a rear elevational view thereof;
FIG. 13 is a bottom plan view thereof;
FIG. 14 is a right side elevational view thereof; and
FIG. 15 is a top left front perspective view of a third embodiment of the electrical connector showing our new design;

(51) **LOC (12) Cl.** **13-03**

(52) **U.S. Cl.**
USPC **D13/159**

(58) **Field of Classification Search**
USPC D13/110, 112, 118, 123, 133, 154,
D13/158-162.1, 169-171, 173, 175, 178,
D13/184, 199

FIG. 16 is a top plan view thereof
FIG. 17 is a left side elevational view thereof;

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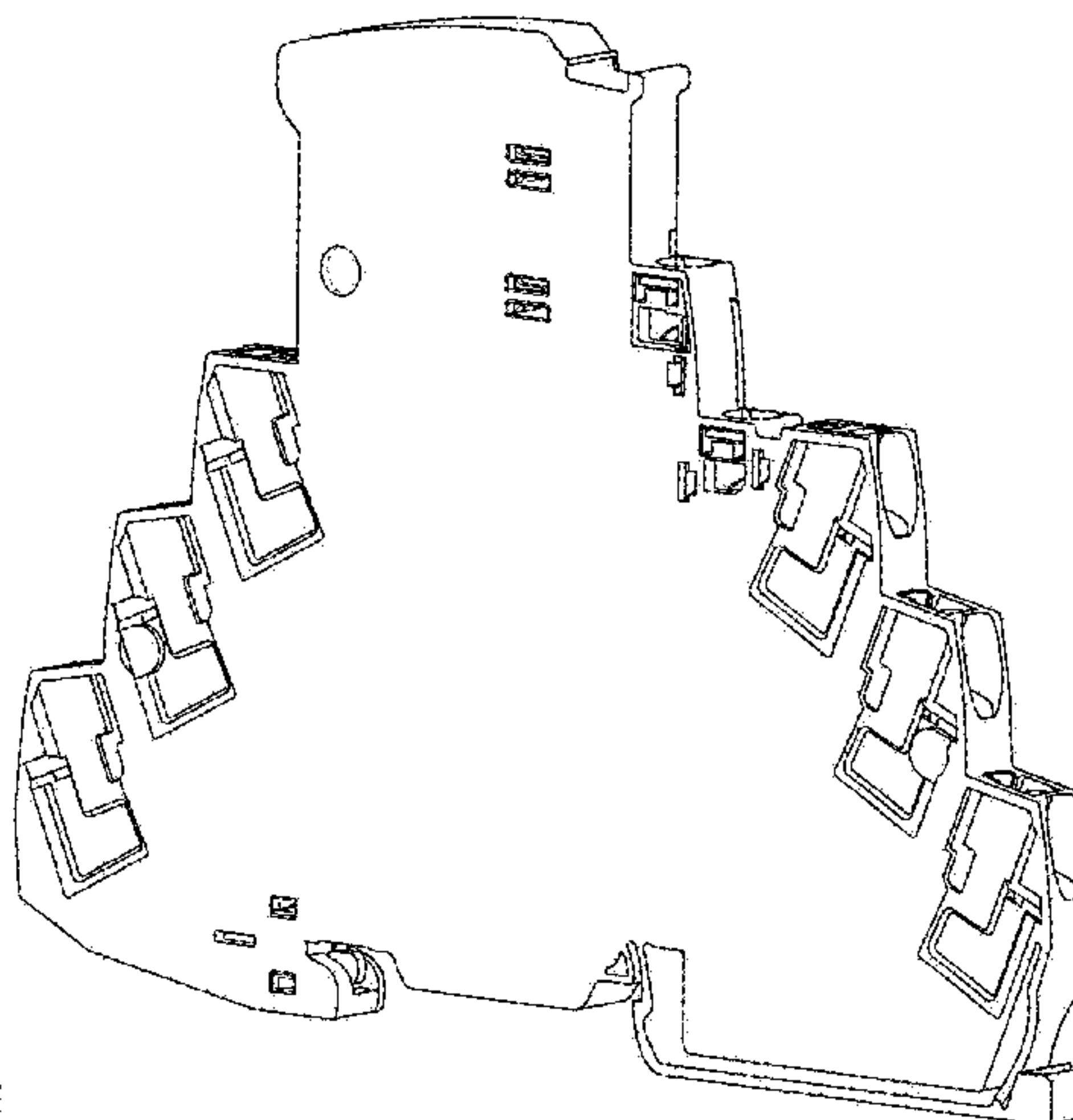
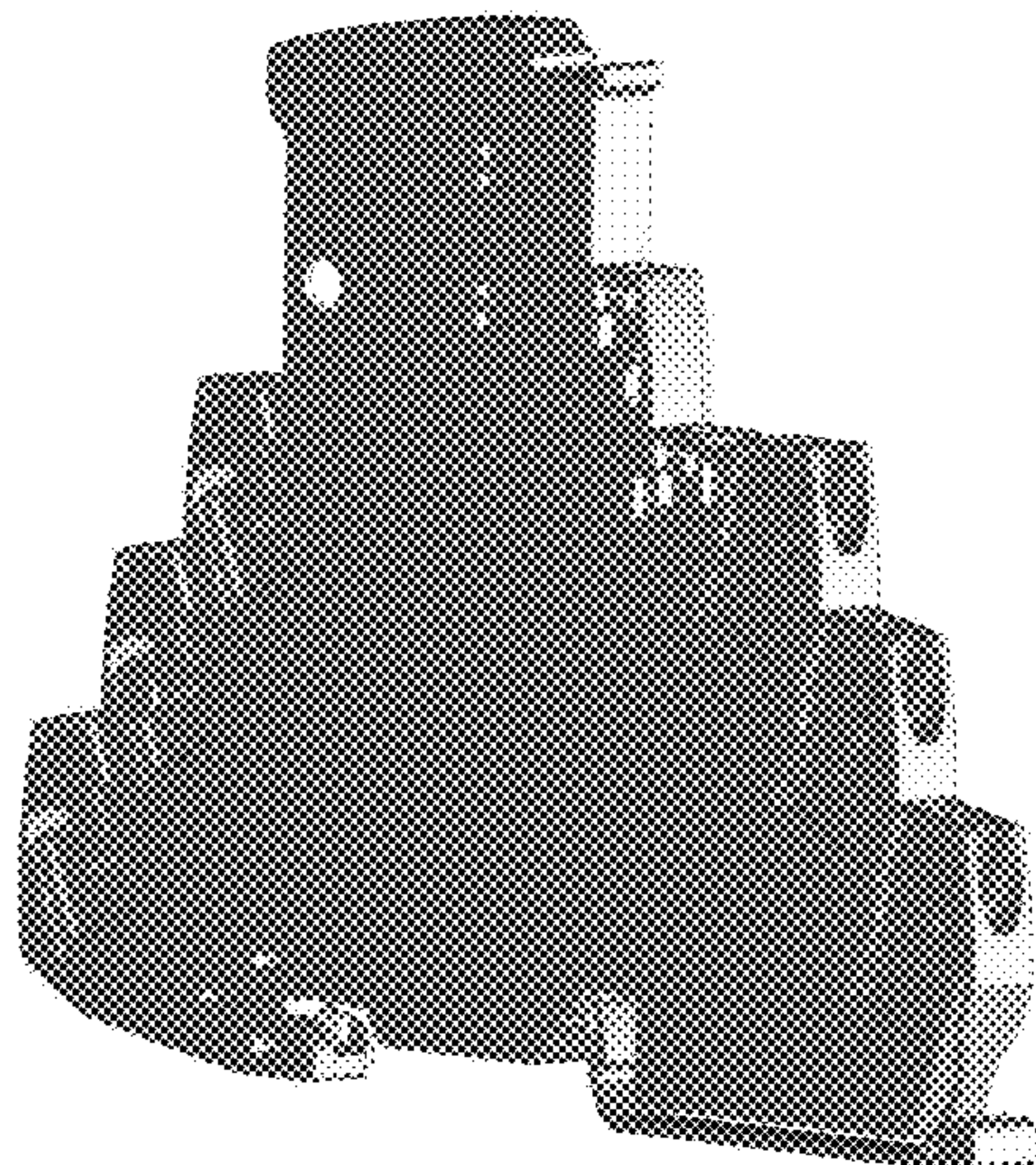


FIG. 18 is a front elevational view thereof;
 FIG. 19 is a rear elevational view thereof;
 FIG. 20 is a bottom plan view thereof; and,
 FIG. 21 is a right side elevational view thereof.
 The broken lines in the drawings illustrate portions of the electrical connector that form no part of the claimed design.

**1 Claim, 21 Drawing Sheets
 (14 of 21 Drawing Sheet(s) Filed in Color)**

(58) **Field of Classification Search**

CPC .. H01H 9/00; H01H 9/02; H01H 9/20; H01H 9/26; H01H 33/06; H01H 33/66; H01H 33/662; H01H 33/666; H01H 35/36; H01H 71/10; H02B 11/133; H05K 7/14; G06F 13/00; H01R 4/24; H01R 4/28; H01R 4/48; H01R 9/22; H01R 9/24; H01R 9/26; H01R 12/00; H01R 13/20

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D638,804 S * 5/2011 Giordanino D13/159
 8,647,157 B2 * 2/2014 Gan H01H 50/048
 439/507

D700,897 S * 3/2014 Min D13/159
 D732,483 S * 6/2015 Min D13/159
 D792,352 S * 7/2017 Masaki D13/159
 D811,349 S * 2/2018 Huettemeier D13/158
 2005/0079753 A1 * 4/2005 Wilinski H01R 4/2433
 439/391
 2007/0049129 A1 * 3/2007 Pollmann H01R 9/2675
 439/716
 2009/0157937 A1 * 6/2009 Kuschke H01R 9/2675
 710/305
 2010/0146167 A1 * 6/2010 Rasche G05B 19/054
 710/100
 2011/0059658 A1 * 3/2011 Eisert H01R 9/2625
 439/716
 2011/0062011 A1 * 3/2011 Pollmann H01H 1/365
 200/554
 2012/0252262 A1 * 10/2012 Reibke H01R 31/085
 439/507
 2013/0052884 A1 * 2/2013 Hanses H01R 9/2683
 439/816
 2015/0228435 A1 * 8/2015 Hudetz H01H 85/32
 340/638
 2017/0162955 A1 * 6/2017 Berg H01R 9/2675
 2019/0288411 A1 * 9/2019 Masaki H01R 13/113
 2019/0288412 A1 * 9/2019 Masaki H01R 9/2416
 2019/0288414 A1 * 9/2019 Masaki H01R 9/2608

* cited by examiner

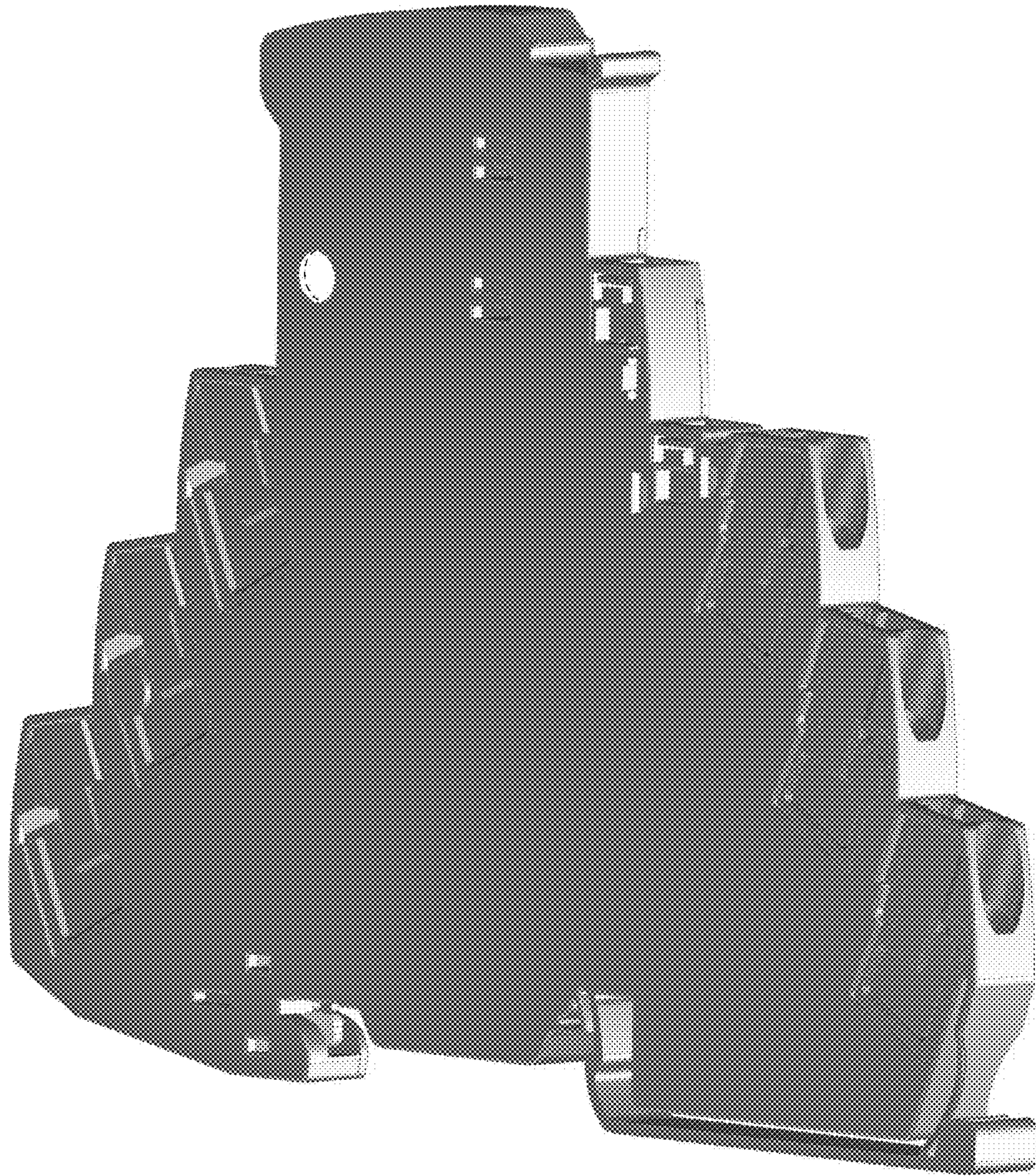


Fig. 1

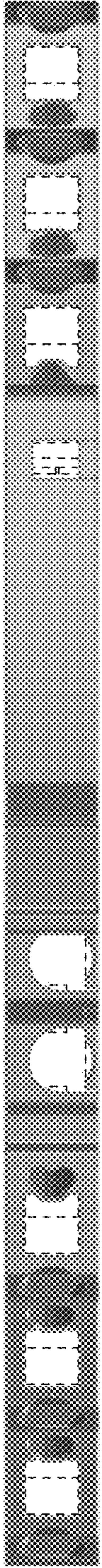


Fig. 2

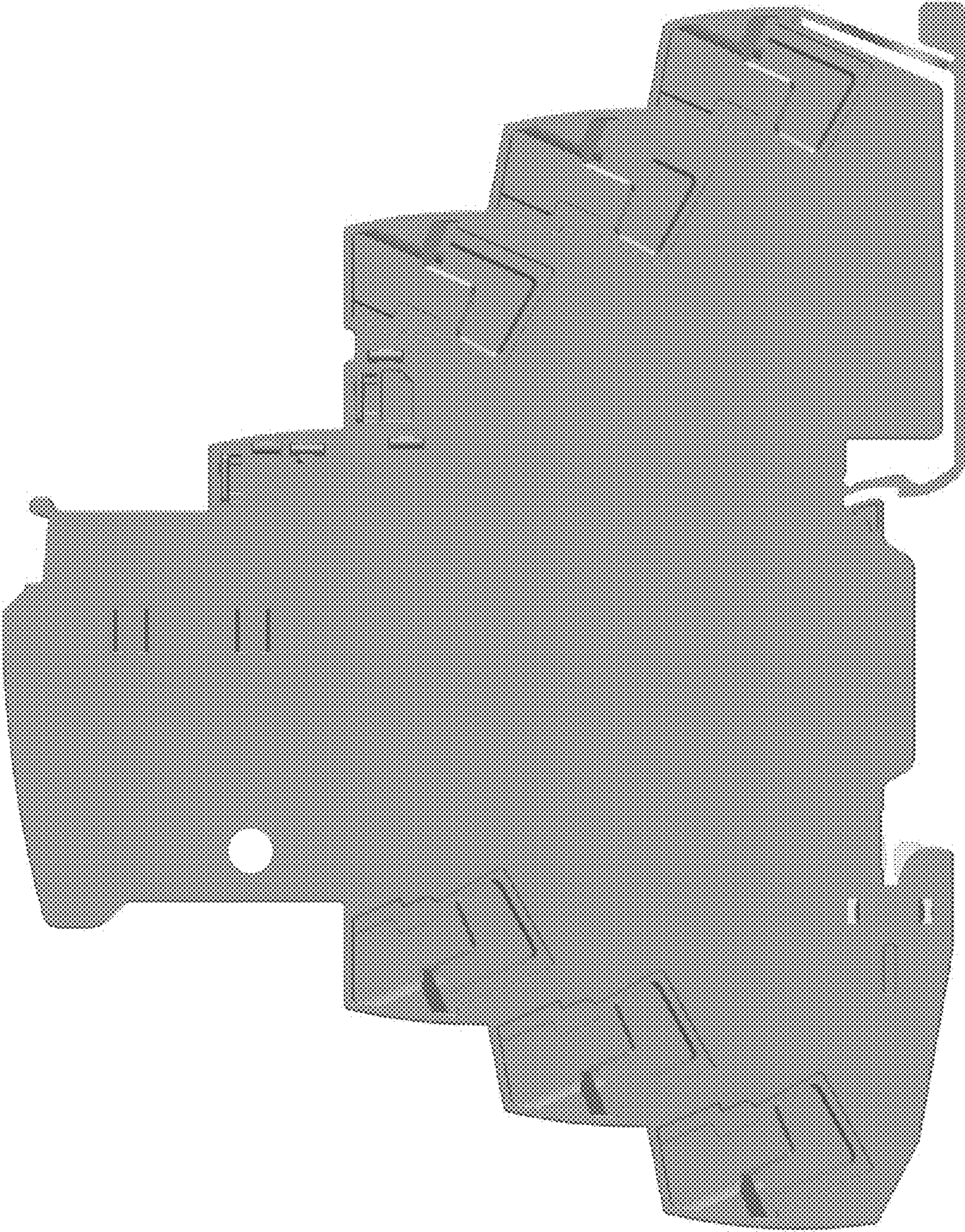


Fig. 3



Fig. 4



Fig. 5

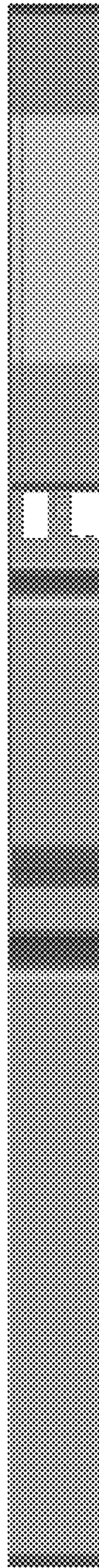


Fig. 6

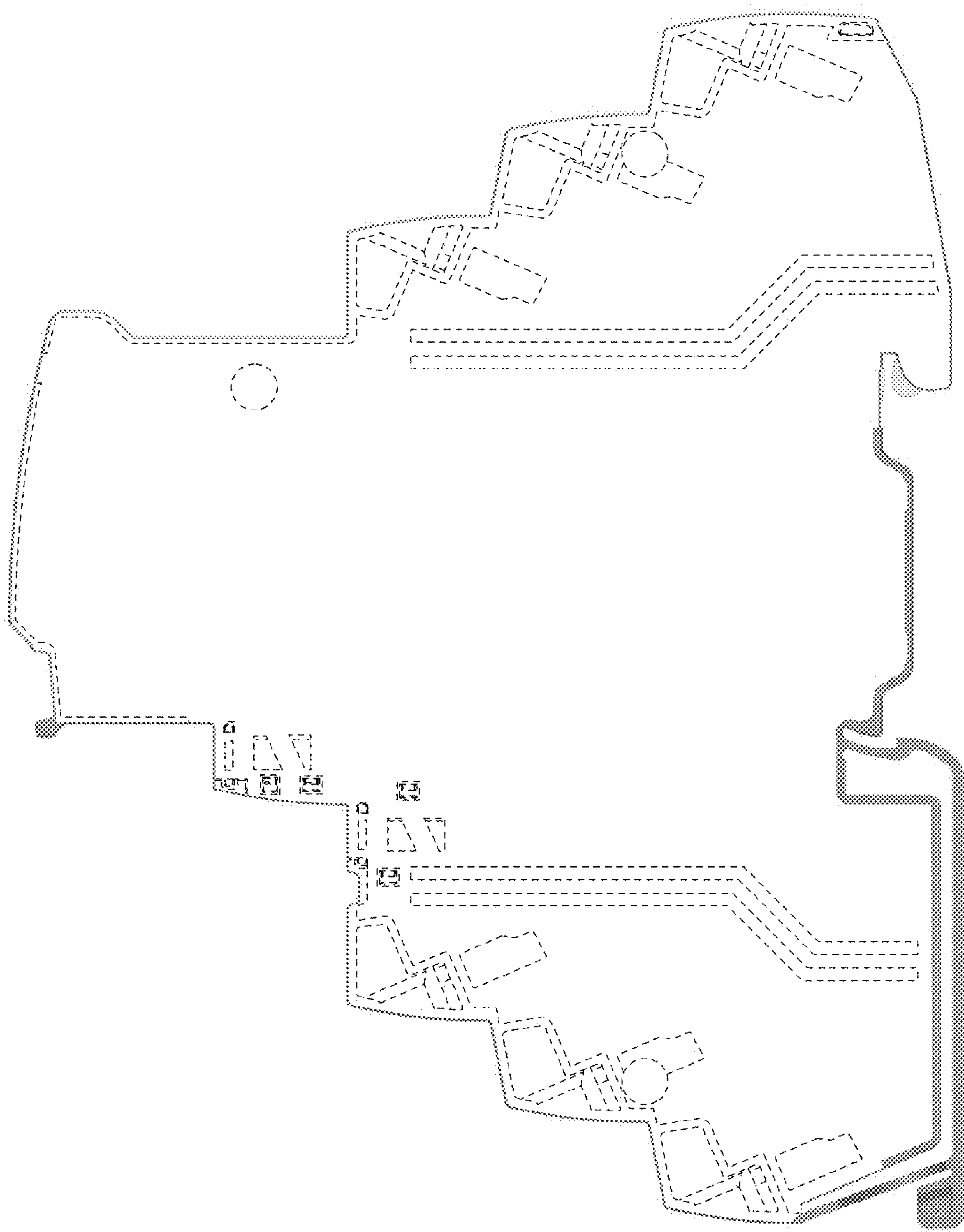


Fig. 7

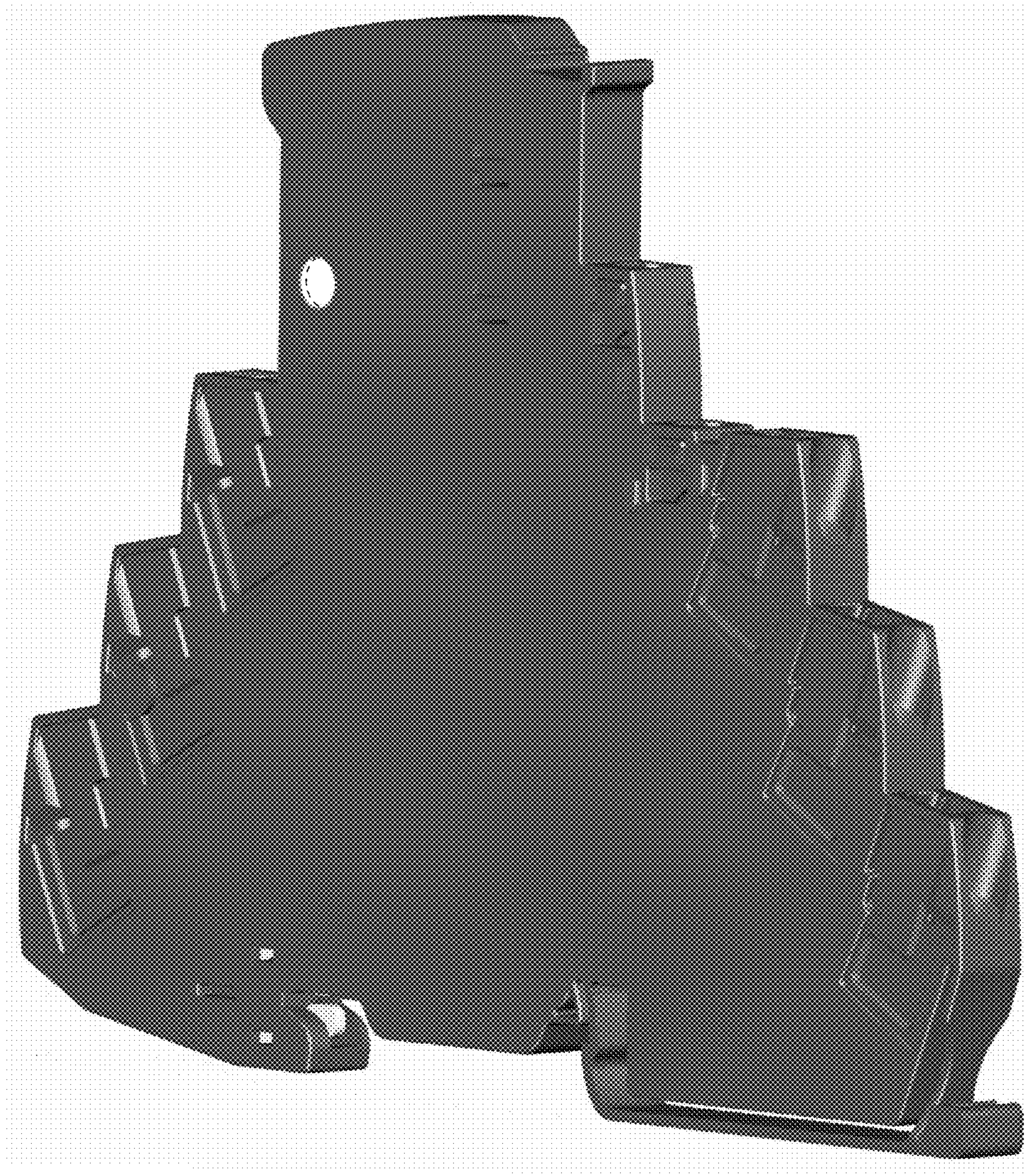


Fig. 8

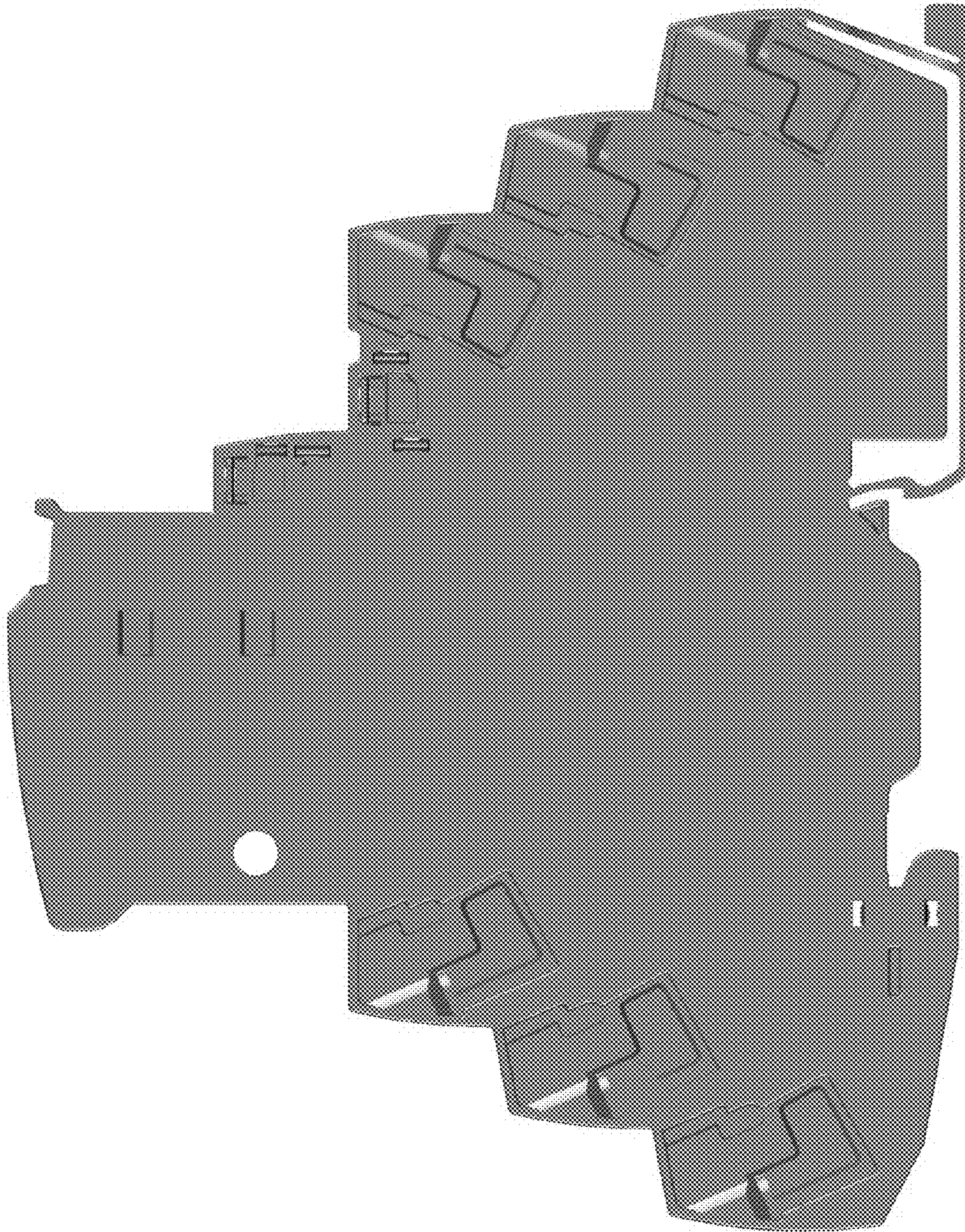


Fig. 10



Fig. 11



Fig. 12

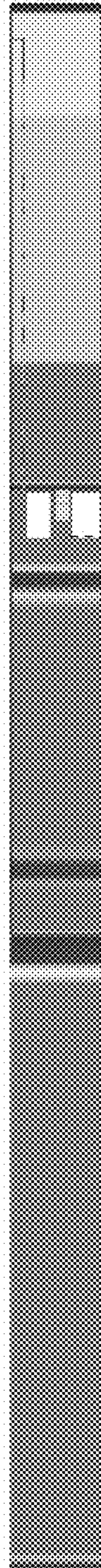


Fig. 13

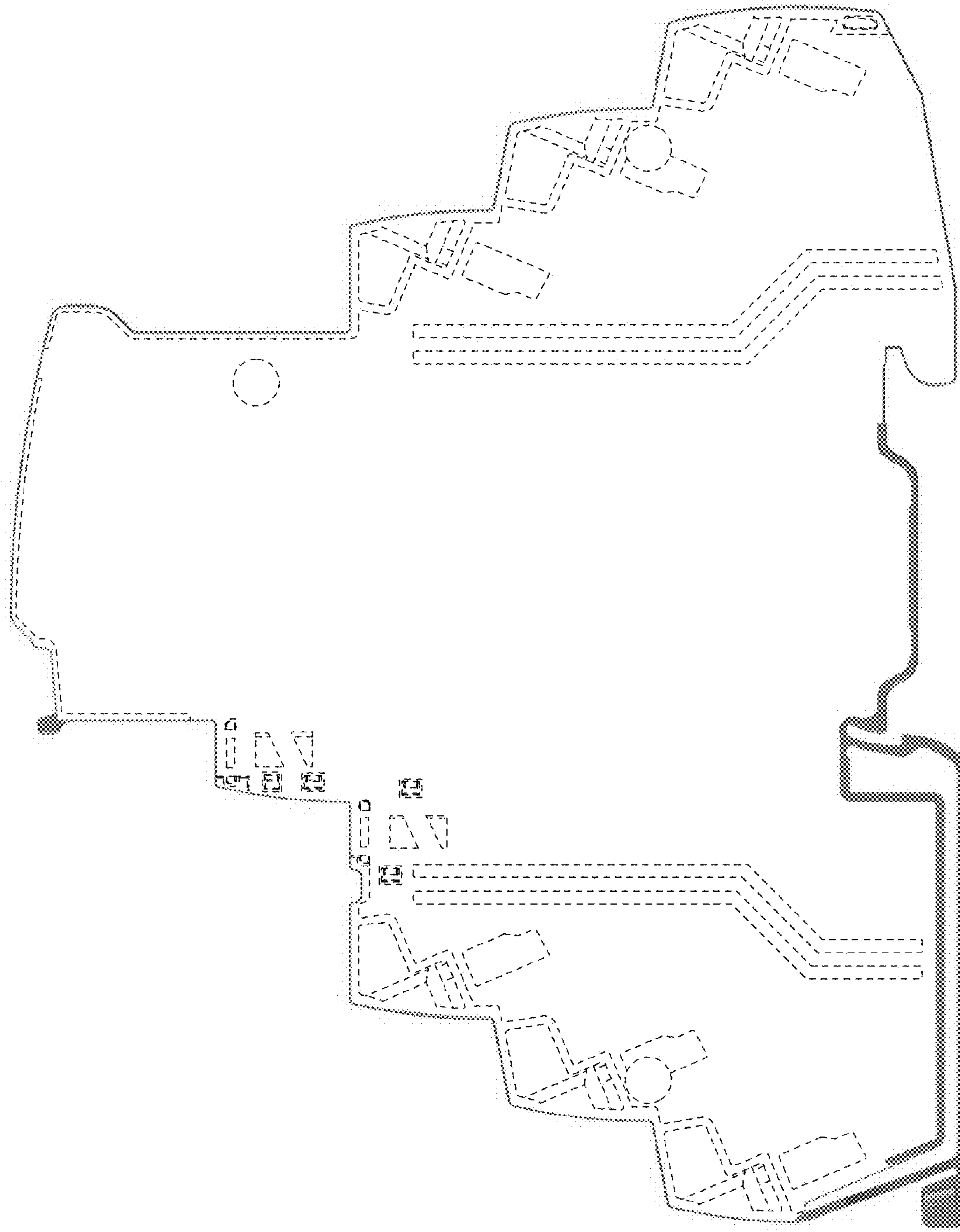


Fig. 14

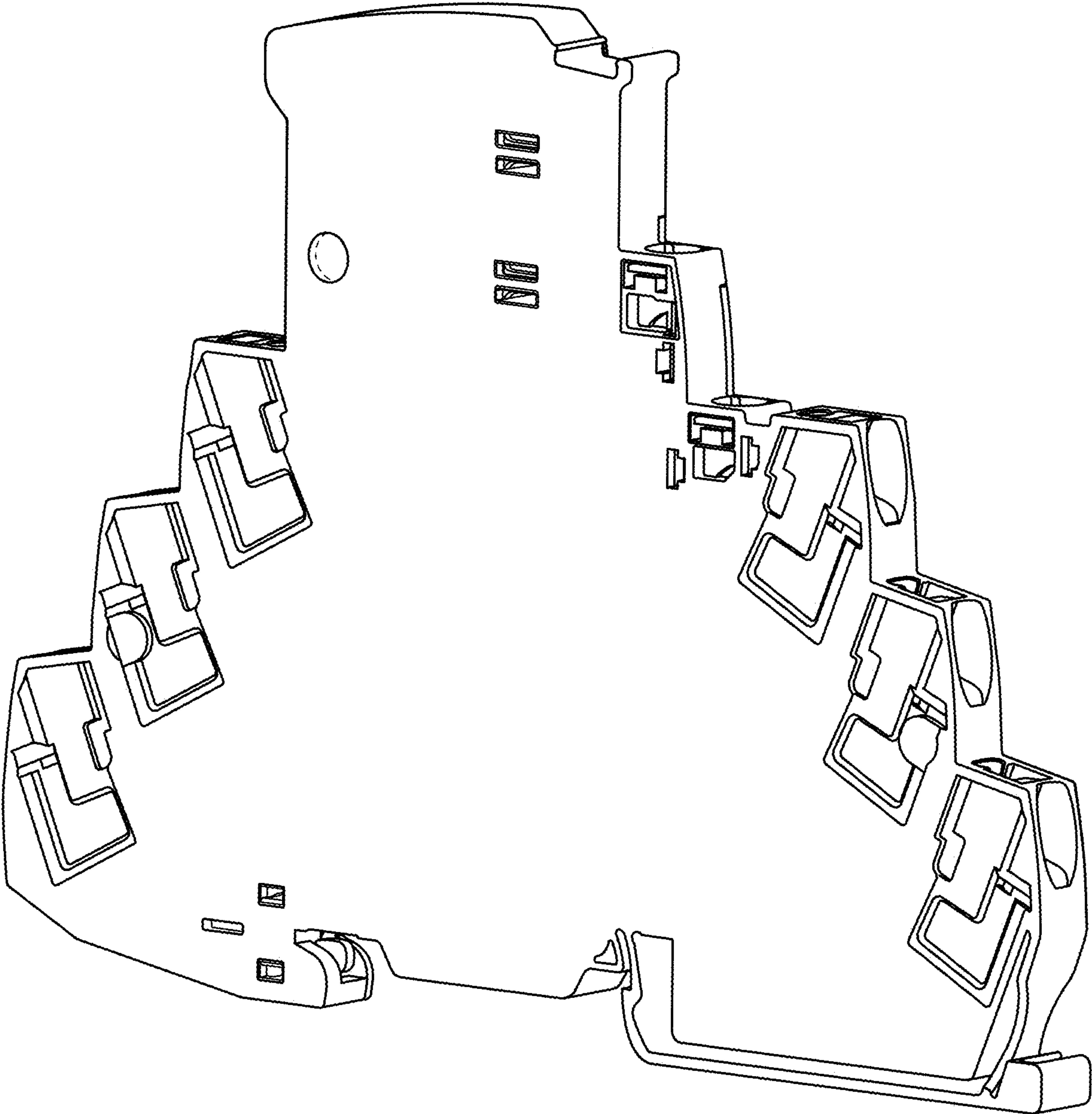


Fig. 15

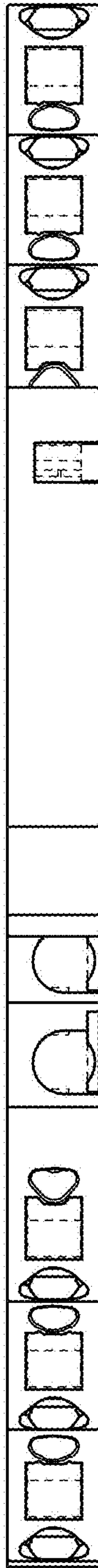


Fig. 16

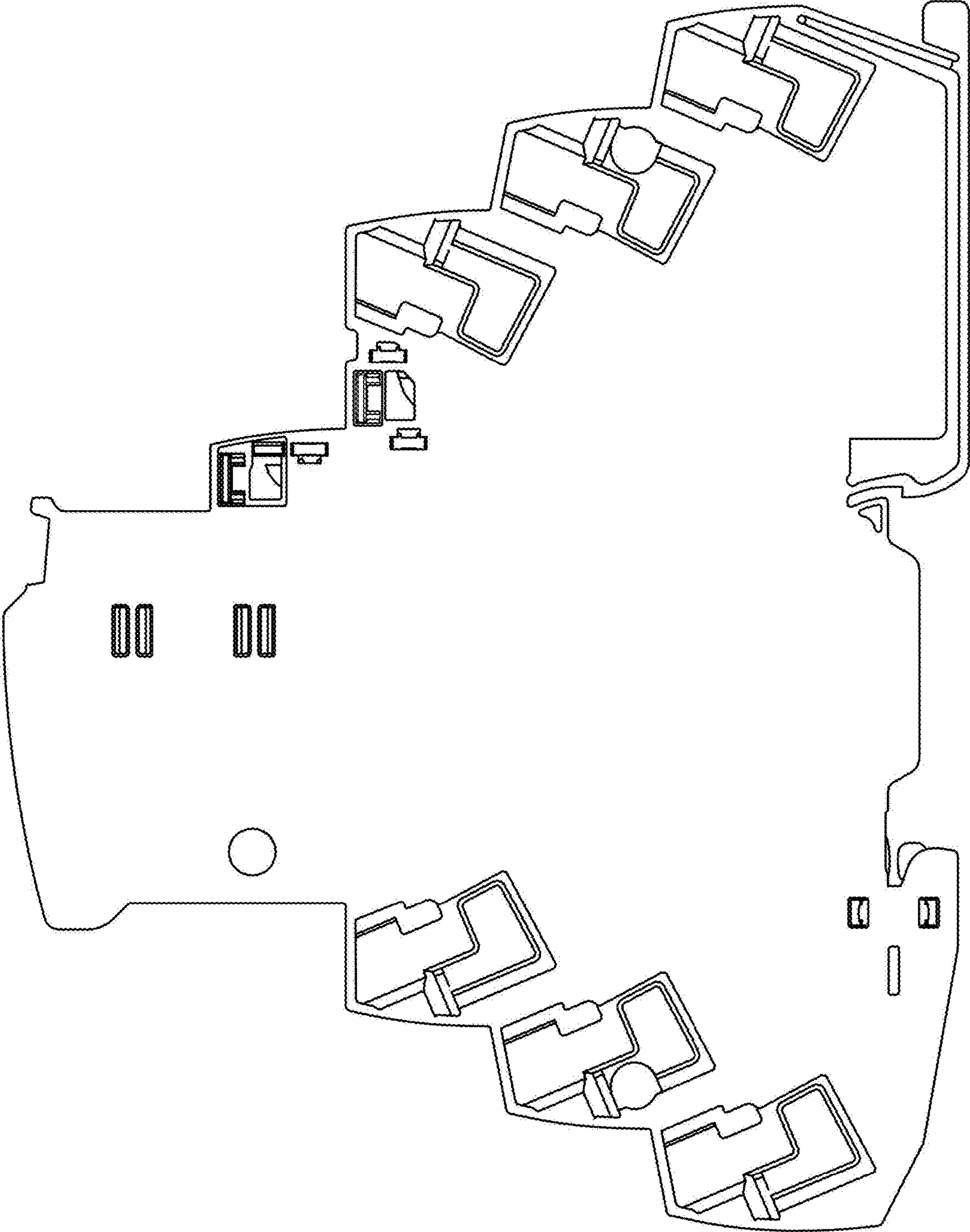


Fig. 17

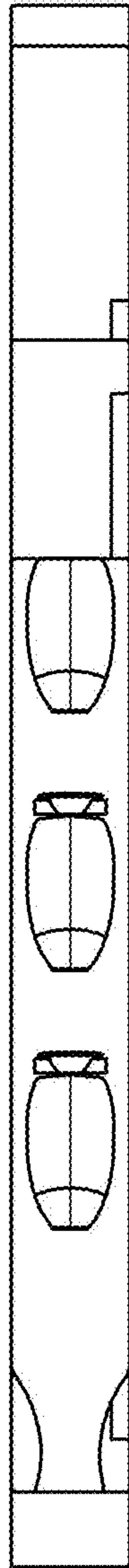


Fig. 18

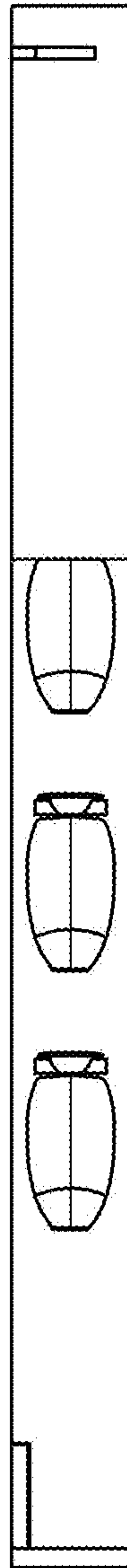


Fig. 19

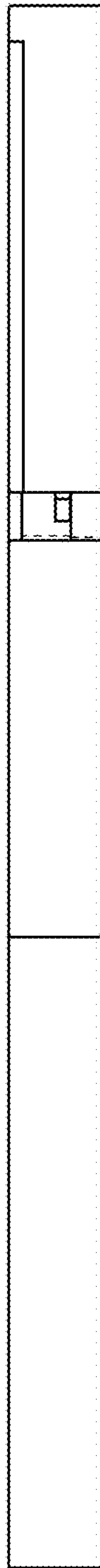


Fig. 20

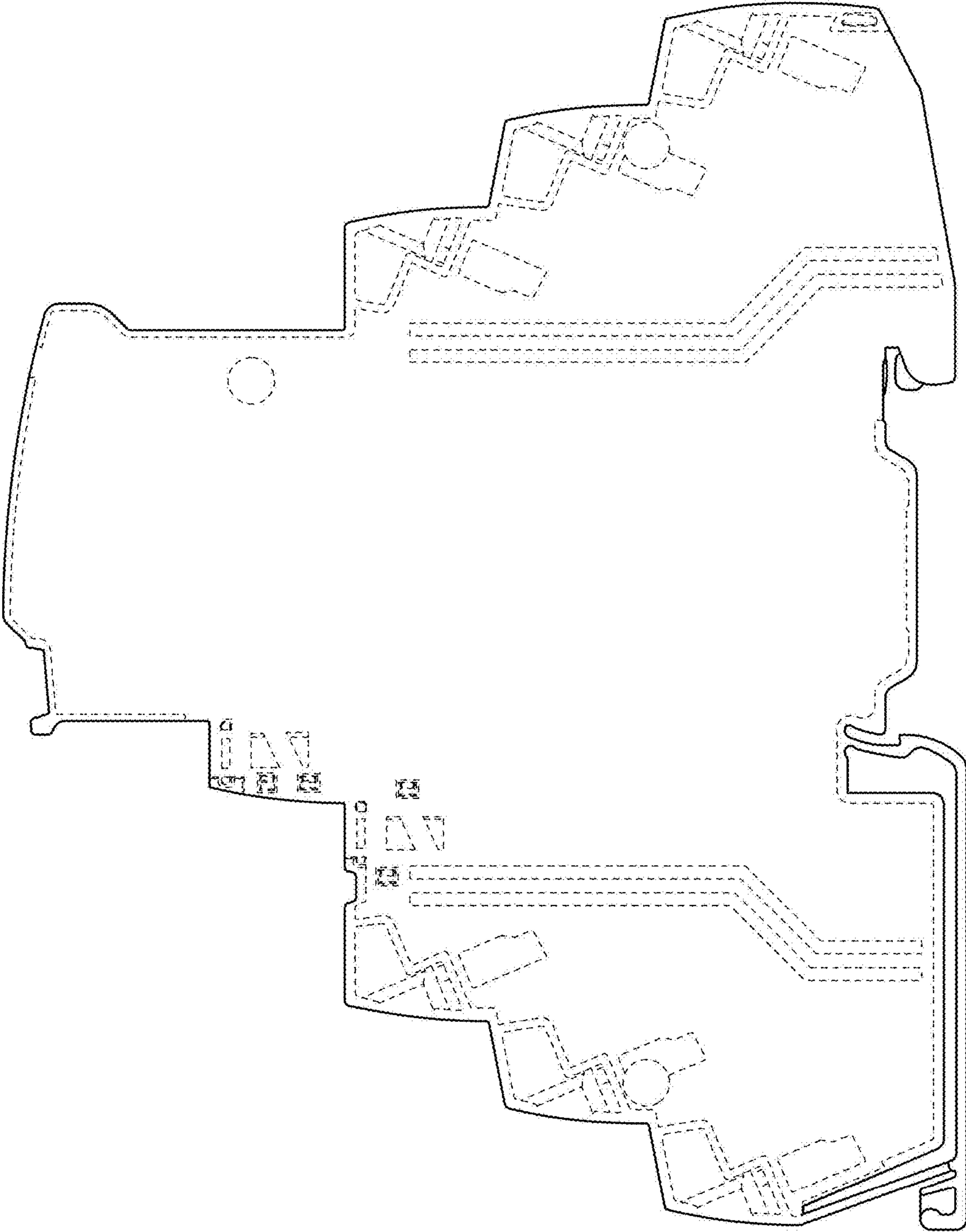


Fig. 21