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(12) **United States Design Patent** (10) **Patent No.:** **US D883,939 S**  
**Besana et al.** (45) **Date of Patent:** **\*\* May 12, 2020**

(54) **CIRCUIT BREAKERS**

FOREIGN PATENT DOCUMENTS

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WO WO--DM/055273 4/2001

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OTHER PUBLICATIONS

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ABB SACE L.V. SACE Emax. A System that's open to any solution, 604060/011 en, Jul. 1999.

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

(Continued)

(21) Appl. No.: **29/690,781**

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(22) Filed: **May 10, 2019**

*Assistant Examiner* — Shawn T Gingrich

(74) *Attorney, Agent, or Firm* — Polsinelli PC

**Related U.S. Application Data**

(62) Division of application No. 29/622,886, filed on Oct. 20, 2017, now Pat. No. Des. 853,337, which is a (Continued)

(57) **CLAIM**

The ornamental design for circuit breakers, as shown and described.

(30) **Foreign Application Priority Data**

**DESCRIPTION**

Feb. 6, 2009 (EP) ..... 001083992

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

(52) **U.S. Cl.**  
USPC ..... **D13/160**

(58) **Field of Classification Search**  
USPC ..... D13/110, 112, 123, 133, 158–162, 173,  
D13/184, 199

CPC .. H01H 3/22; H01H 9/02; H01H 9/54; H01H 11/00; H01H 21/04; H01H 27/10; H01H 33/38; H01H 71/00; H01H 71/02; H01H 71/04; H01H 71/08; H01H 71/12; H01H 71/24; H01F 17/04; H01R 25/00; H01R 4/36

See application file for complete search history.

FIG. 1 is a perspective view of a first embodiment of the new design;  
FIG. 2 is a front view thereof;  
FIG. 3 is a rear view thereof;  
FIG. 4 is a top view thereof;  
FIG. 5 is a bottom view thereof;  
FIG. 6 is a left view thereof;  
FIG. 7 is a right view thereof;  
FIG. 8 is a perspective view of a second embodiment of the new design;  
FIG. 9 is a front view thereof;  
FIG. 10 is a rear view thereof;  
FIG. 11 is a top view thereof;  
FIG. 12 is a bottom view thereof;  
FIG. 13 is a left view thereof; and,  
FIG. 14 is a right view thereof.

The broken line portions of the figure drawings are included to show portions of the article that form no part of the claimed design.

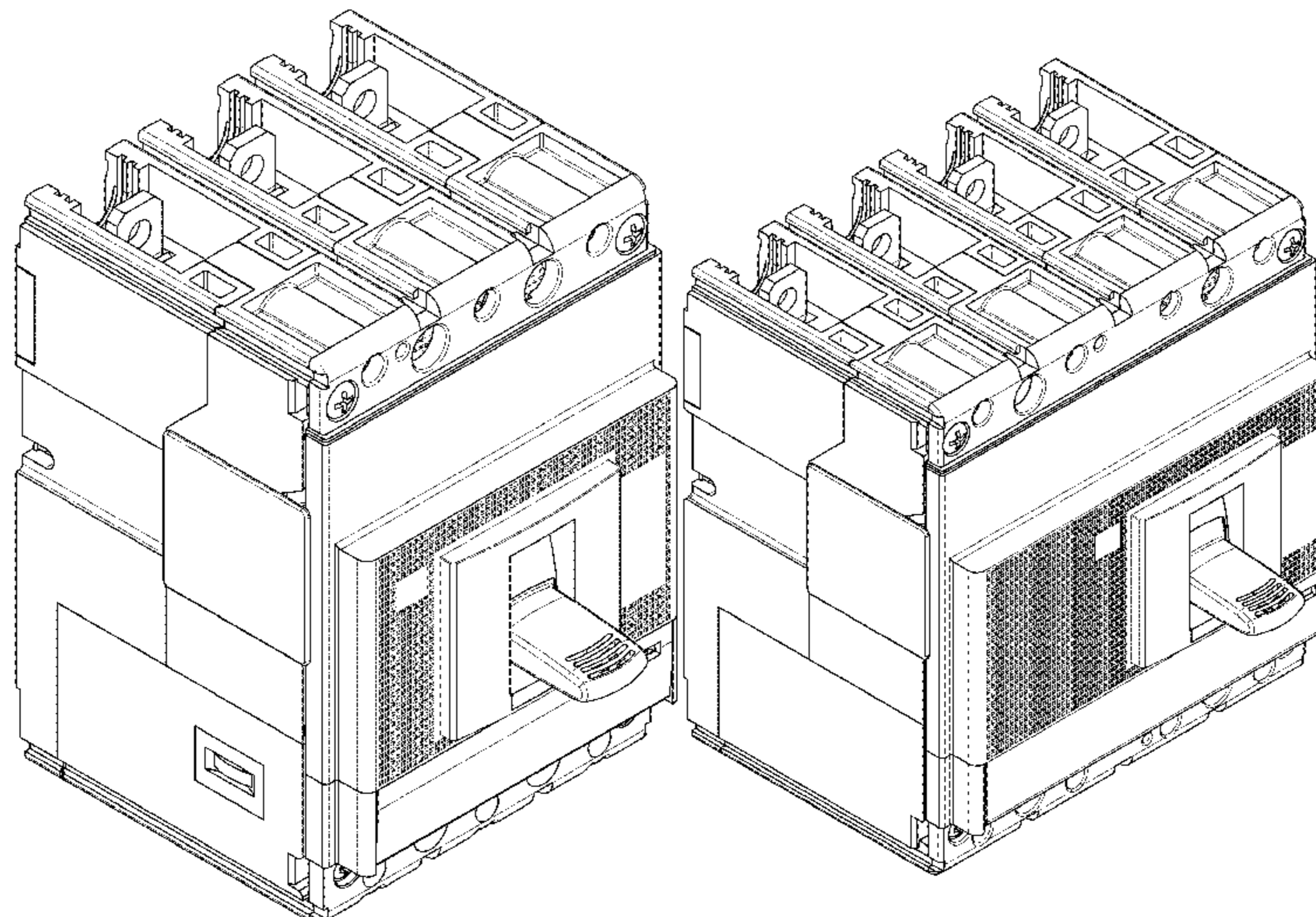
(56) **References Cited**

**U.S. PATENT DOCUMENTS**

4,728,757 A 3/1988 Buxton et al.  
4,890,184 A 12/1989 Russell

(Continued)

**1 Claim, 14 Drawing Sheets**



**Related U.S. Application Data**

division of application No. 29/561,373, filed on Apr. 15, 2016, now Pat. No. Des. 804,430, which is a division of application No. 29/489,919, filed on May 5, 2014, now Pat. No. Des. 757,659, which is a division of application No. 29/459,135, filed on Jun. 26, 2013, now Pat. No. Des. 707,636, which is a division of application No. 29/383,747, filed on Jan. 21, 2011, now Pat. No. Des. 687,387, which is a division of application No. 29/341,449, filed on Aug. 5, 2009, now Pat. No. Des. 633,446.

(56)

**References Cited**

U.S. PATENT DOCUMENTS

D310,822 S	9/1990	Danek
D315,333 S	3/1991	Barbier et al.
D318,460 S	7/1991	Heath et al.
D318,461 S	7/1991	Hasegawa et al.
D319,627 S	9/1991	Smith et al.
D320,386 S	10/1991	Saunders et al.
5,060,107 A	10/1991	Castonguay
D325,727 S	4/1992	Murata et al.
5,150,091 A	9/1992	Hart et al.
D334,174 S	3/1993	Hosogai et al.
5,204,798 A	4/1993	Scott
5,296,664 A	3/1994	Crookston et al.
5,302,786 A	4/1994	Rosen et al.
5,362,933 A	11/1994	Kutsche et al.
D359,948 S	7/1995	Merlin
D367,265 S	2/1996	Yamagata et al.
5,587,570 A	12/1996	Kelaita, Jr. et al.
5,610,375 A	3/1997	Sinthomez
D378,914 S	4/1997	Smith et al.
5,717,178 A	2/1998	Turner et al.
D402,267 S	12/1998	M'Sadoques
5,902,973 A	5/1999	Ramey et al.
6,008,459 A	12/1999	Faber et al.
6,078,017 A	6/2000	Blessitt et al.
6,177,641 B1	1/2001	Morel et al.
D442,146 S	5/2001	Greenberg et al.
6,361,848 B1	3/2002	Katsube et al.
6,388,867 B1	5/2002	Rakus et al.
6,445,559 B1	9/2002	Phillips et al.
6,489,577 B2	12/2002	Kurata
6,512,433 B1	1/2003	Bouchard et al.
6,590,482 B2	7/2003	Castonguay et al.
D498,212 S	11/2004	Kim
D498,464 S	11/2004	Kim
D499,700 S	12/2004	Raabe et al.
D499,701 S	12/2004	Kim
D506,185 S	6/2005	Kim
D511,502 S	11/2005	Kim
7,064,283 B2	6/2006	Deylitz et al.

D535,626 S	1/2007	Azzola et al.
D547,729 S	7/2007	Azzola et al.
D547,730 S	7/2007	Azzola et al.
D551,629 S	9/2007	Azzola et al.
D562,777 S	2/2008	Azzola et al.
D576,111 S	9/2008	Azzola et al.
D585,839 S	2/2009	Azzola et al.
D587,658 S	3/2009	Azzola et al.
D593,506 S	6/2009	Azzola et al.
D599,301 S	9/2009	Azzola et al.
D611,002 S	3/2010	Azzola et al.
D616,832 S	6/2010	Corteel
D633,446 S	3/2011	Besana et al.
D641,710 S	7/2011	Azzola et al.
D660,805 S	5/2012	Azzola et al.
D687,387 S	8/2013	Besana et al.
D703,621 S	4/2014	Azzola et al.
D707,636 S	6/2014	Besana et al.
D735,143 S	7/2015	Huhne et al.
D757,659 S	5/2016	Besana et al.
9,343,245 B2	5/2016	Oh
D761,737 S	7/2016	Huhne et al.
D761,738 S	7/2016	Huhne et al.
D761,739 S	7/2016	Huhne et al.
D853,337 S *	7/2019	Besana ..... D13/160
D858,460 S *	9/2019	Azzola ..... D13/160
D862,396 S *	10/2019	Tomczak ..... D13/160
10,483,065 B2 *	11/2019	Oh ..... H01H 9/40
2001/0022713 A1	9/2001	Gimenez et al.
2001/0025773 A1	10/2001	Rane et al.
2004/0045796 A1	3/2004	Azzola et al.
2005/0109597 A1	5/2005	Etscheidt et al.
2005/0219021 A1	10/2005	Fleege et al.
2006/0071750 A1	4/2006	Marks et al.
2006/0118397 A1	6/2006	Dahl et al.
2008/0246566 A1	10/2008	Oh
2009/0002106 A1	1/2009	Harmon et al.
2009/0239399 A1	9/2009	Azzola et al.
2012/0024680 A1	2/2012	Grunwald
2013/0203302 A1	8/2013	Grunwald
2013/0220784 A1	8/2013	Castaneda Arriaga et al.
2013/0284702 A1	10/2013	Hamada et al.
2014/0151201 A1	6/2014	Sisley et al.
2015/0109091 A1	4/2015	Oh
2015/0129400 A1	5/2015	Oh
2015/0262778 A1	9/2015	Sohn
2016/0260569 A1	9/2016	Mishra et al.
2019/0140429 A1 *	5/2019	Mascarenhas ..... H02B 1/052
2019/0164713 A1 *	5/2019	Devine ..... H01H 71/123
2019/0198276 A1 *	6/2019	Abdala ..... H01H 71/56

OTHER PUBLICATIONS

Terasaki Electric, Revolutino in circuit breaker technology, 35 pp. (date unknown).

\* cited by examiner

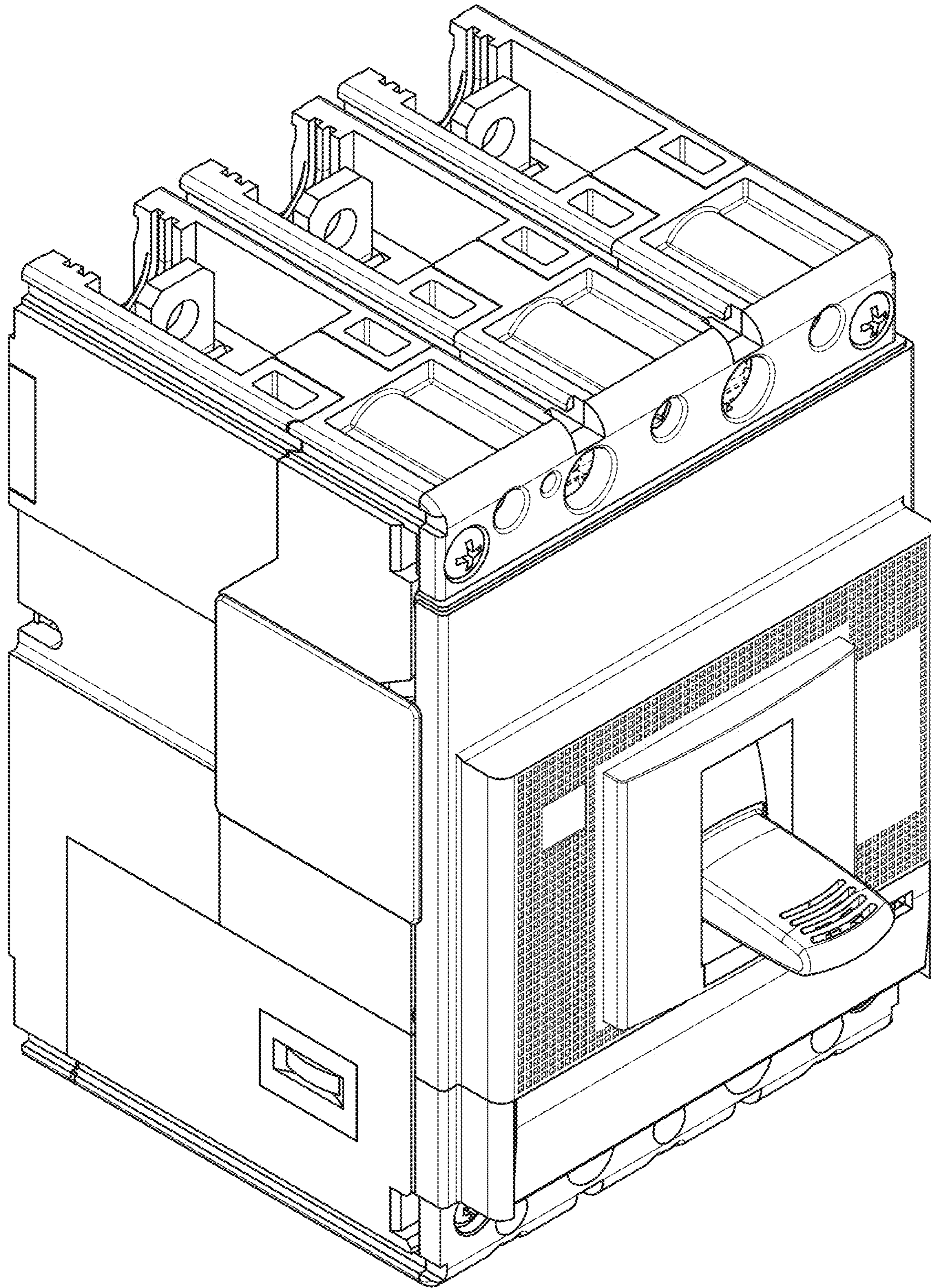


Fig. 1

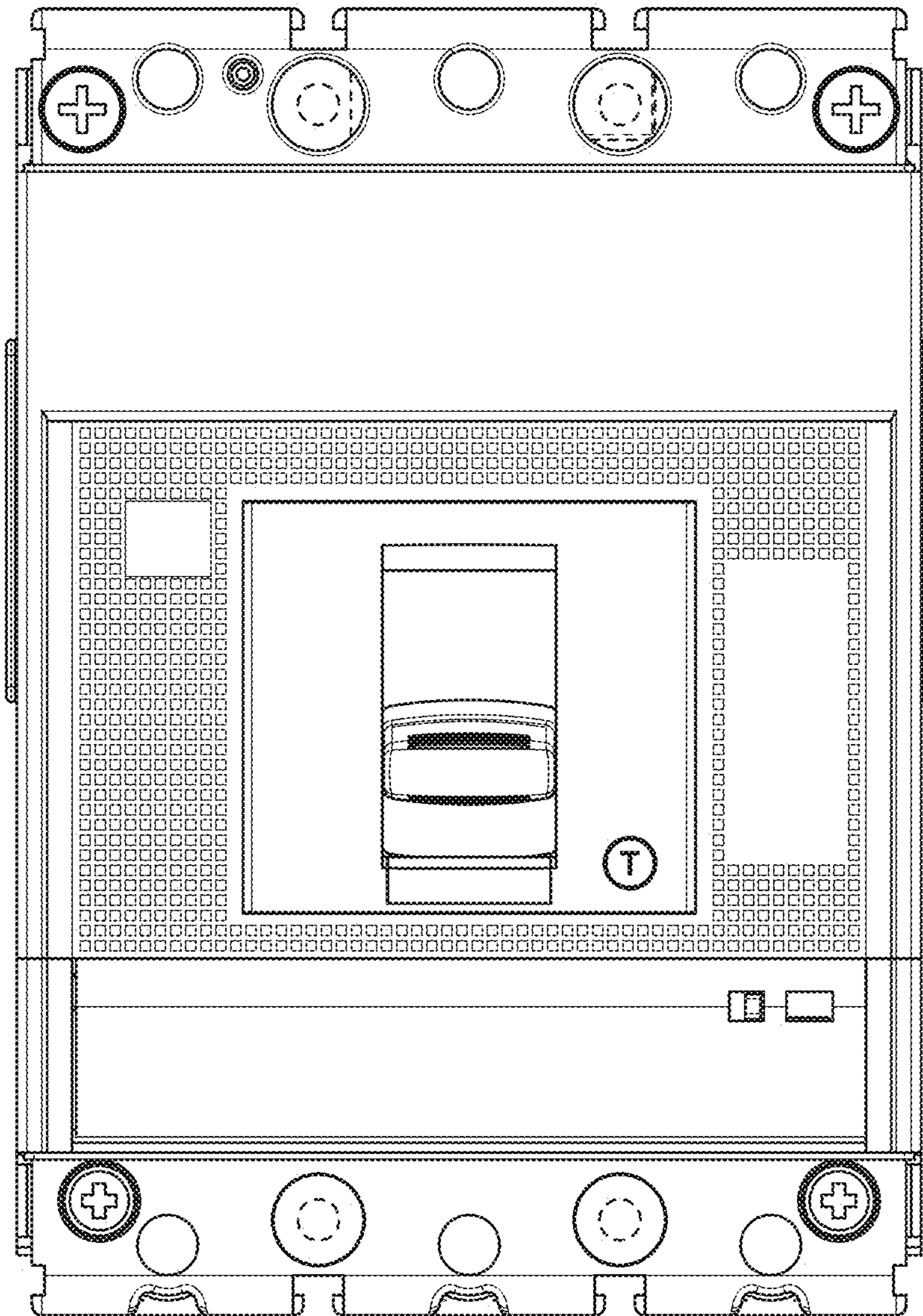


Fig. 2

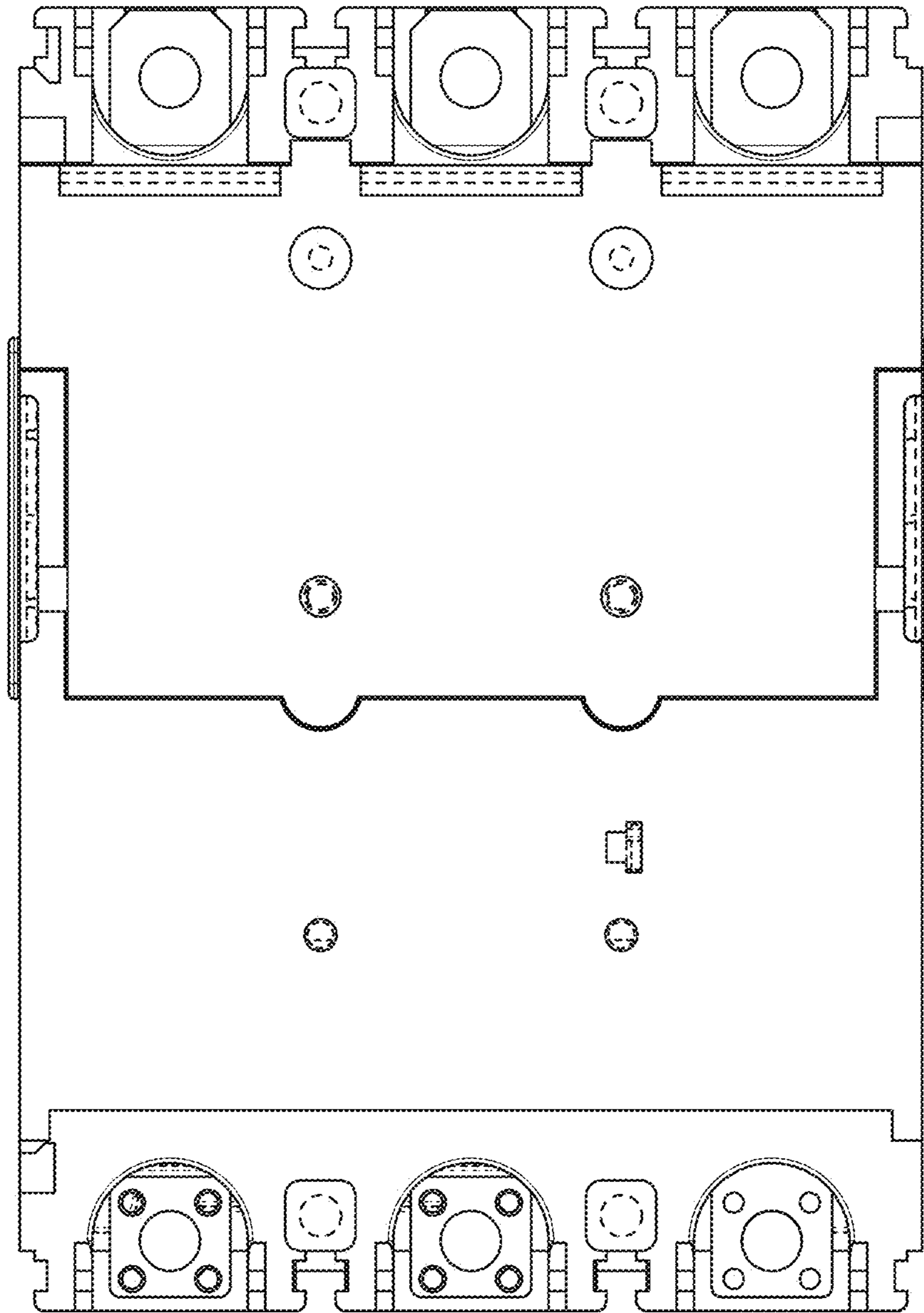


Fig. 3

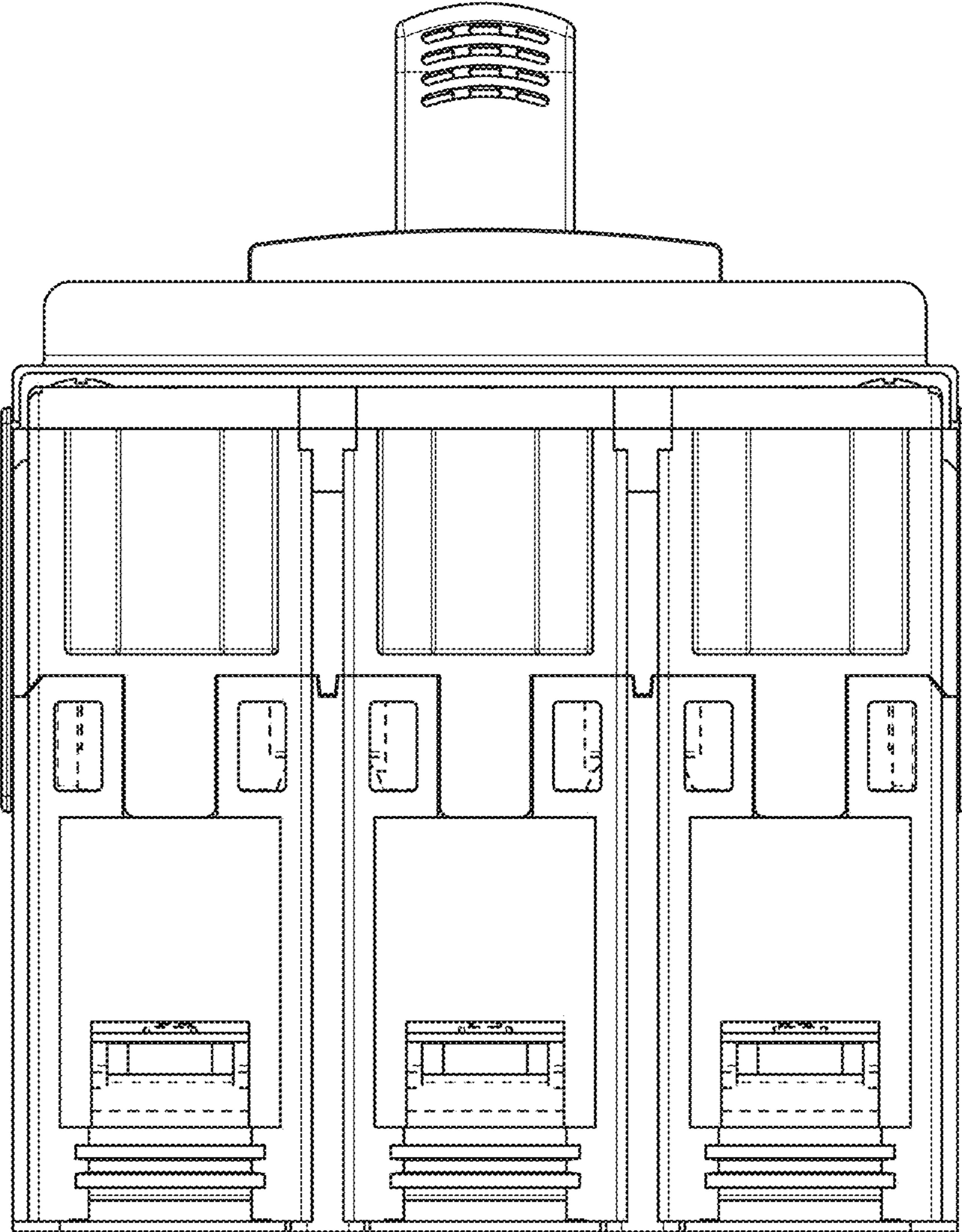


Fig. 4

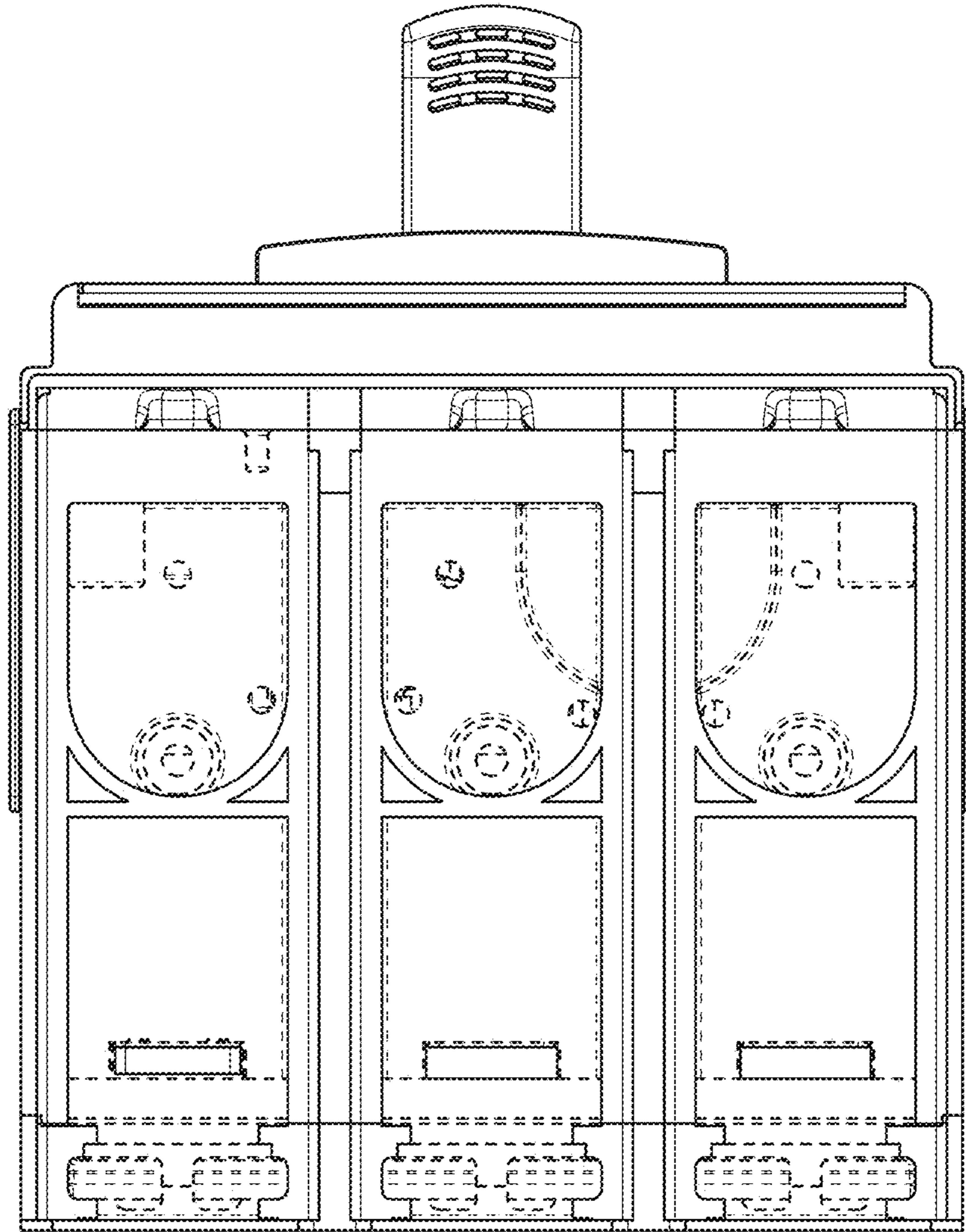


Fig. 5

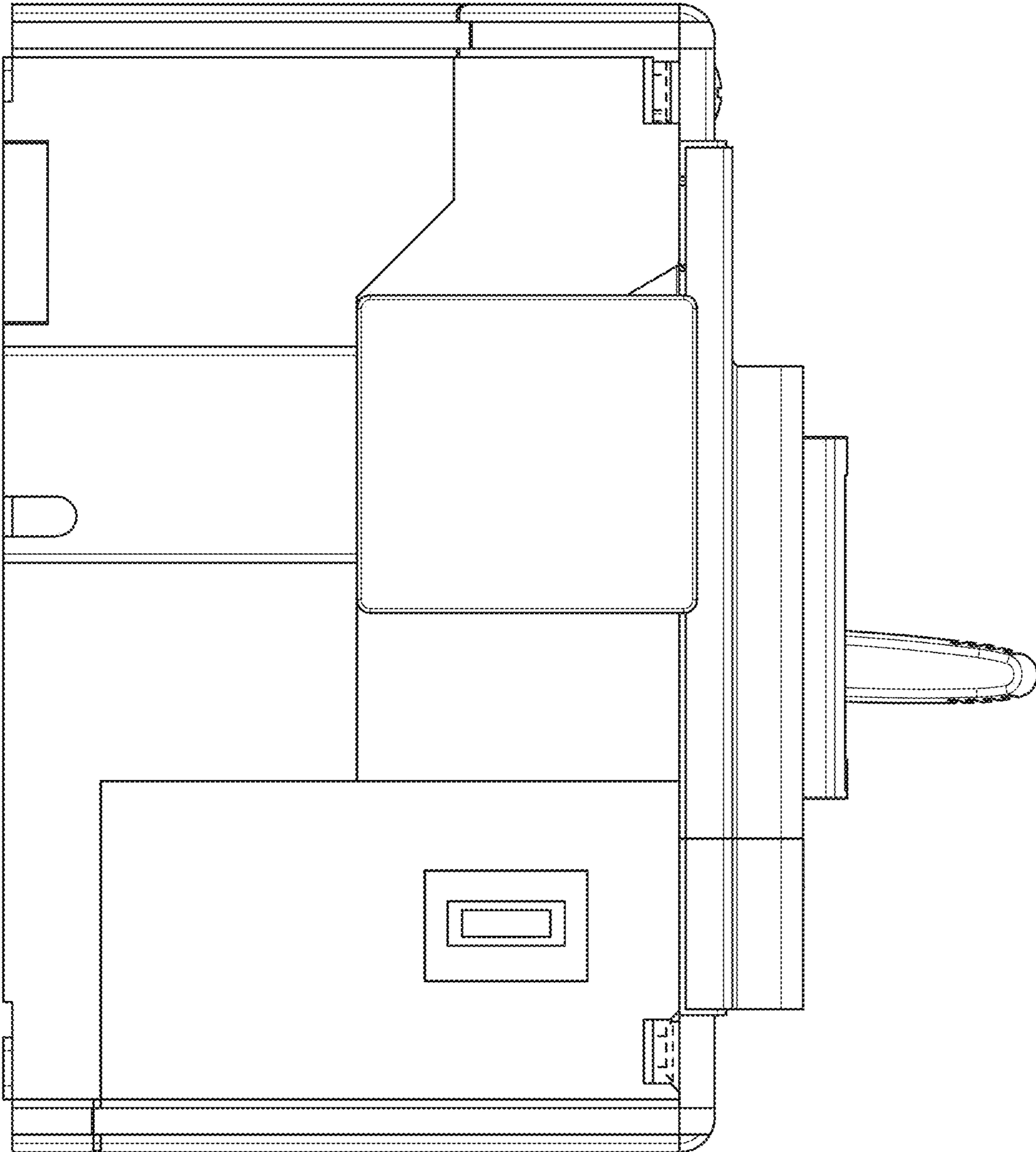


Fig. 6



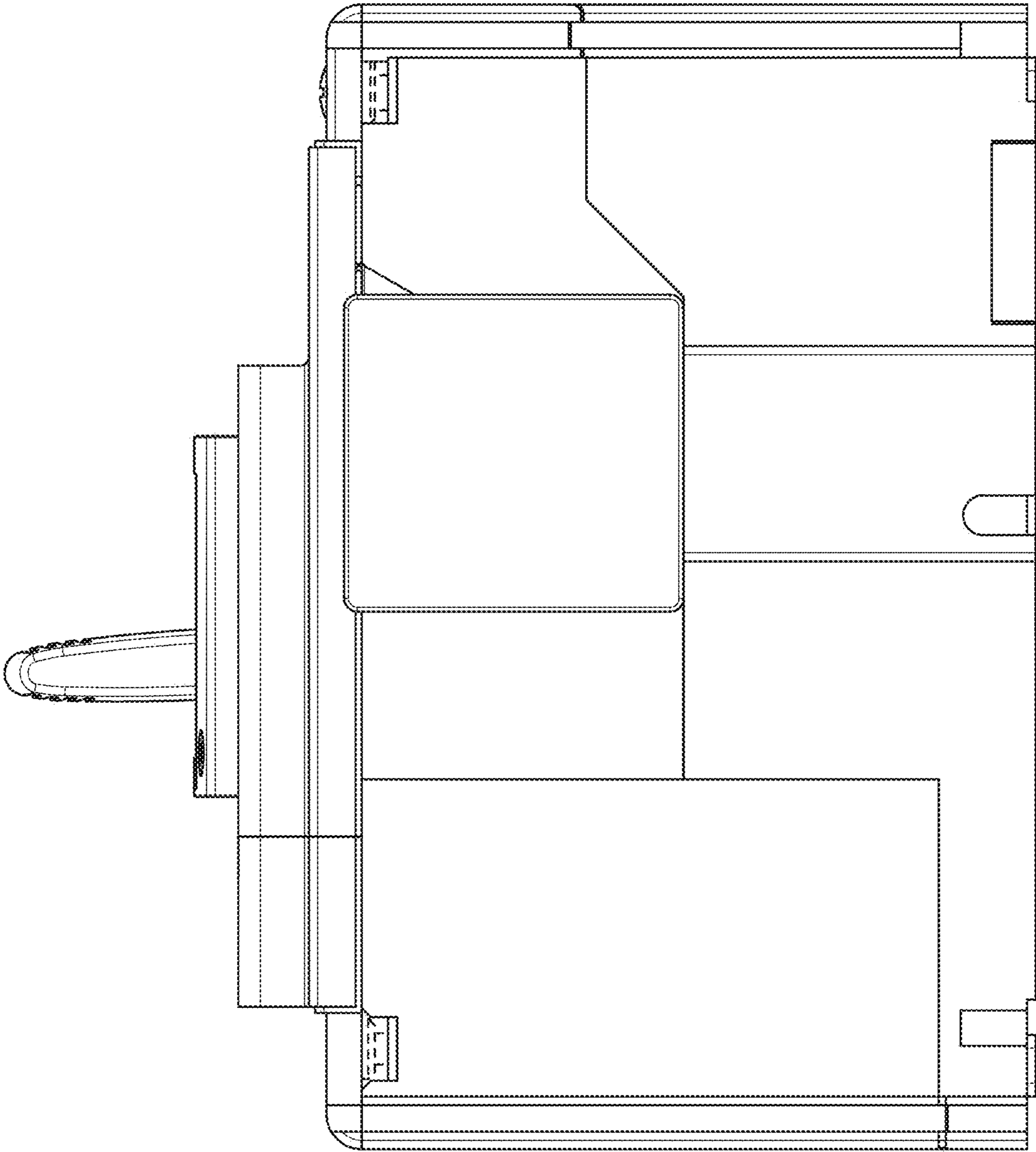


Fig. 7

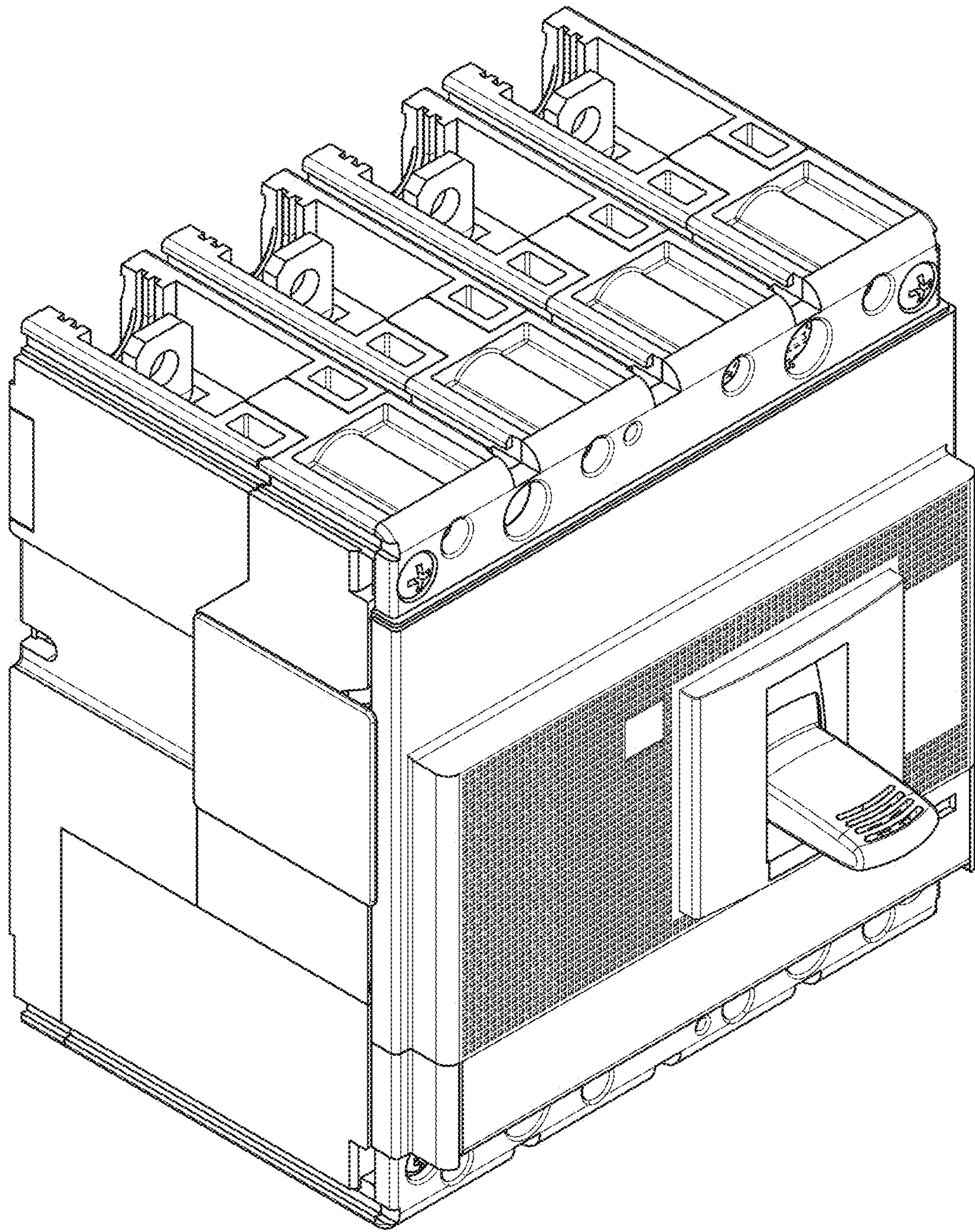


Fig. 8

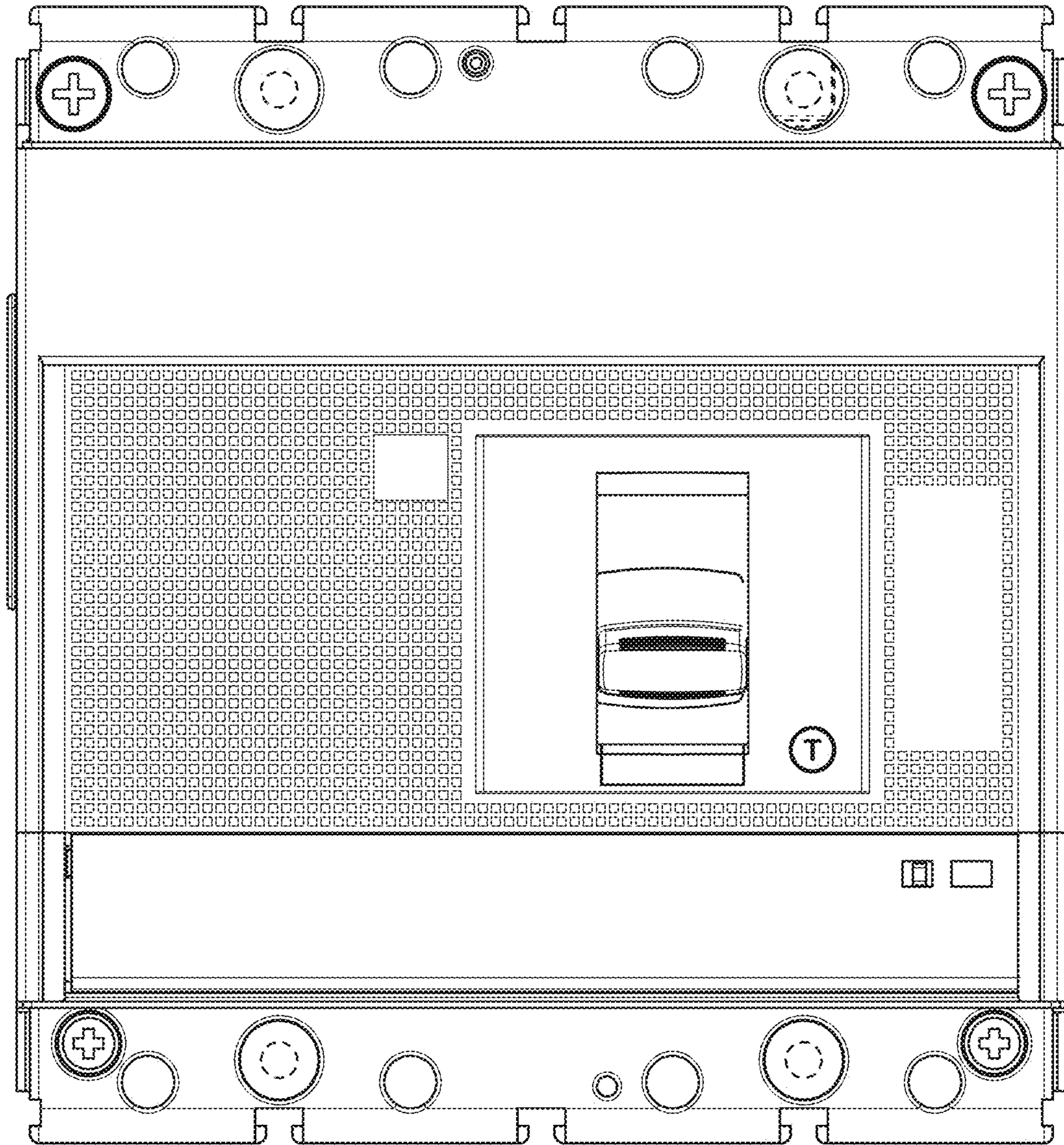


Fig. 9

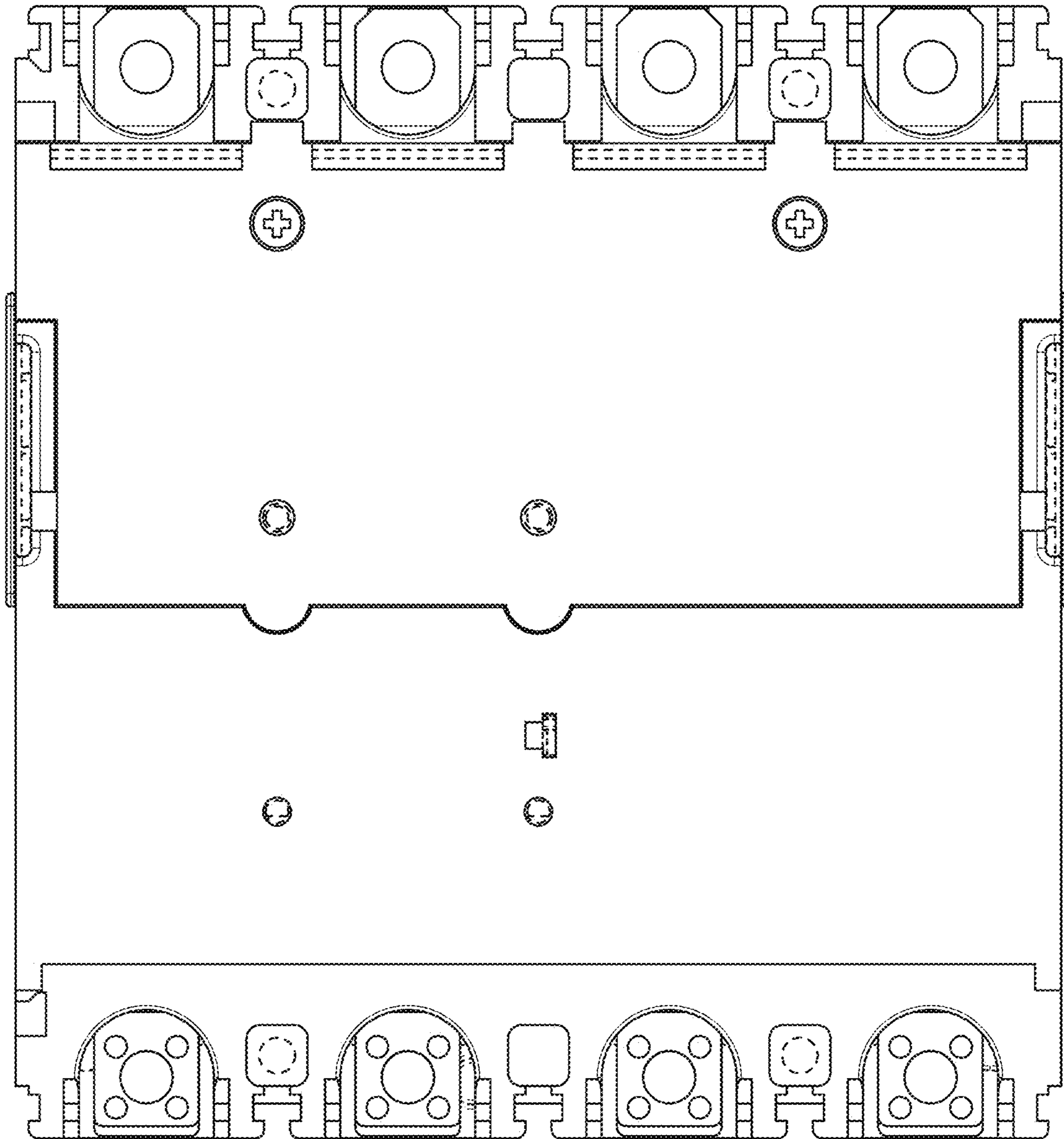


Fig. 10

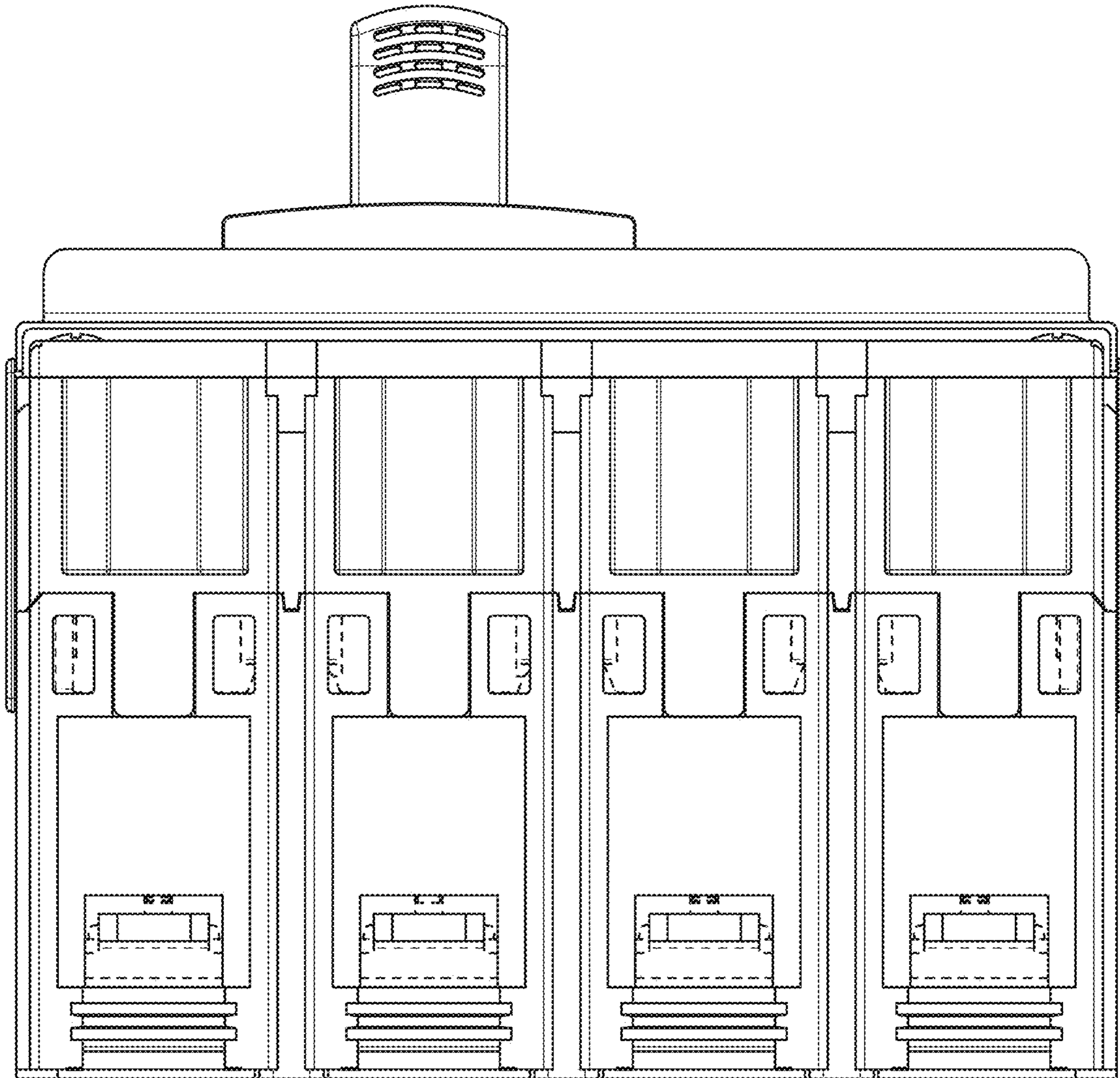


Fig. 11

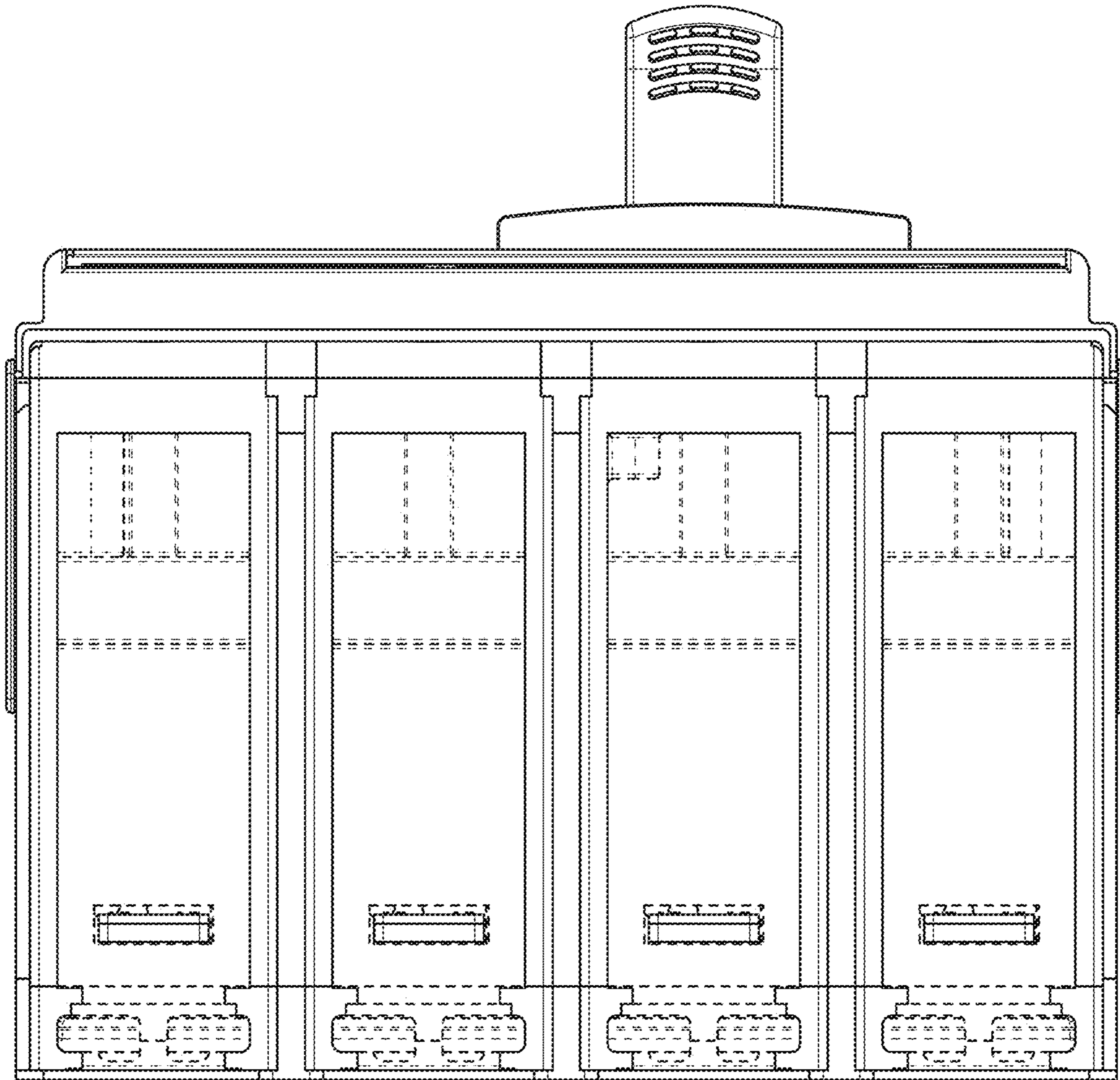


Fig. 12

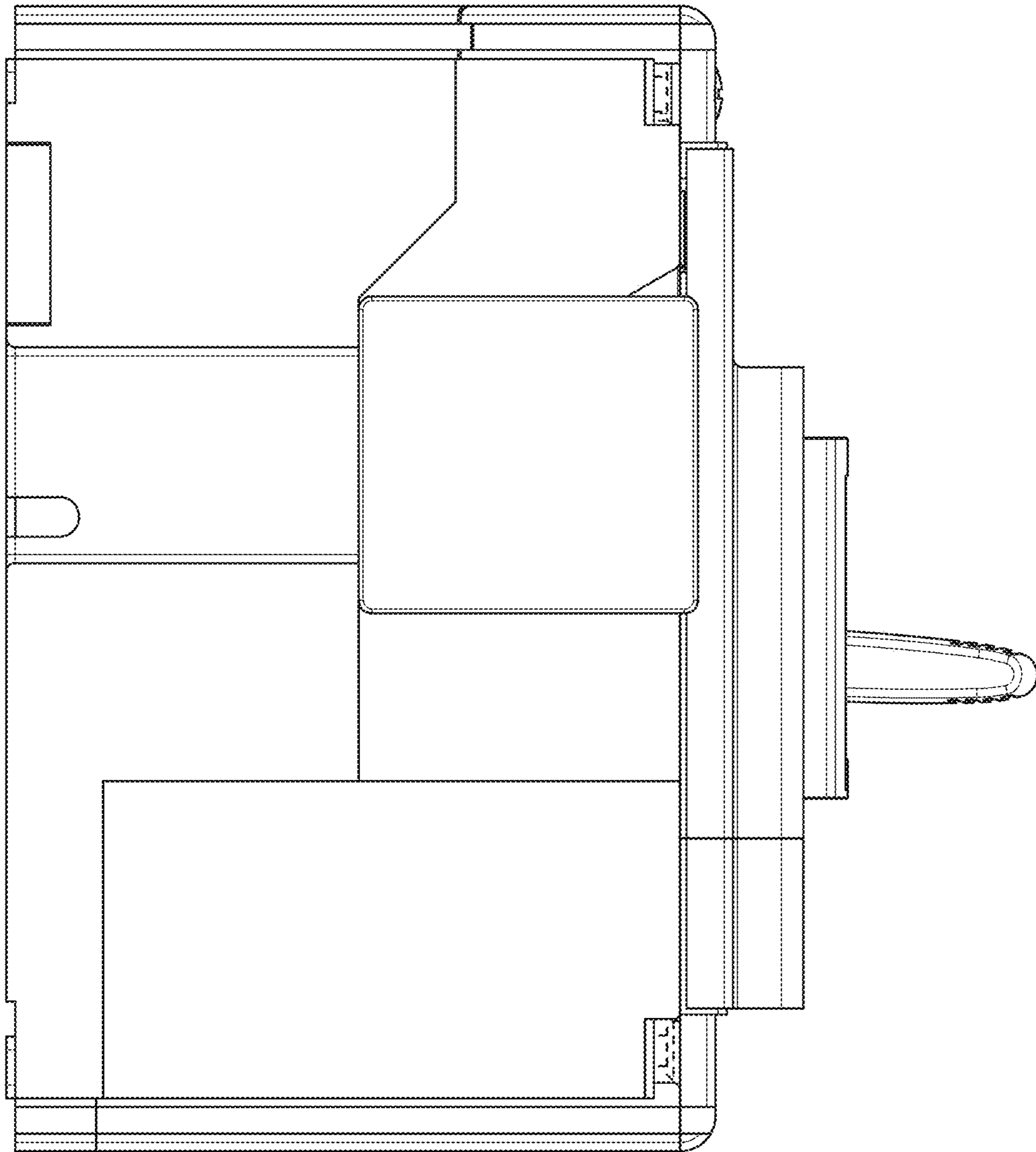


Fig. 13

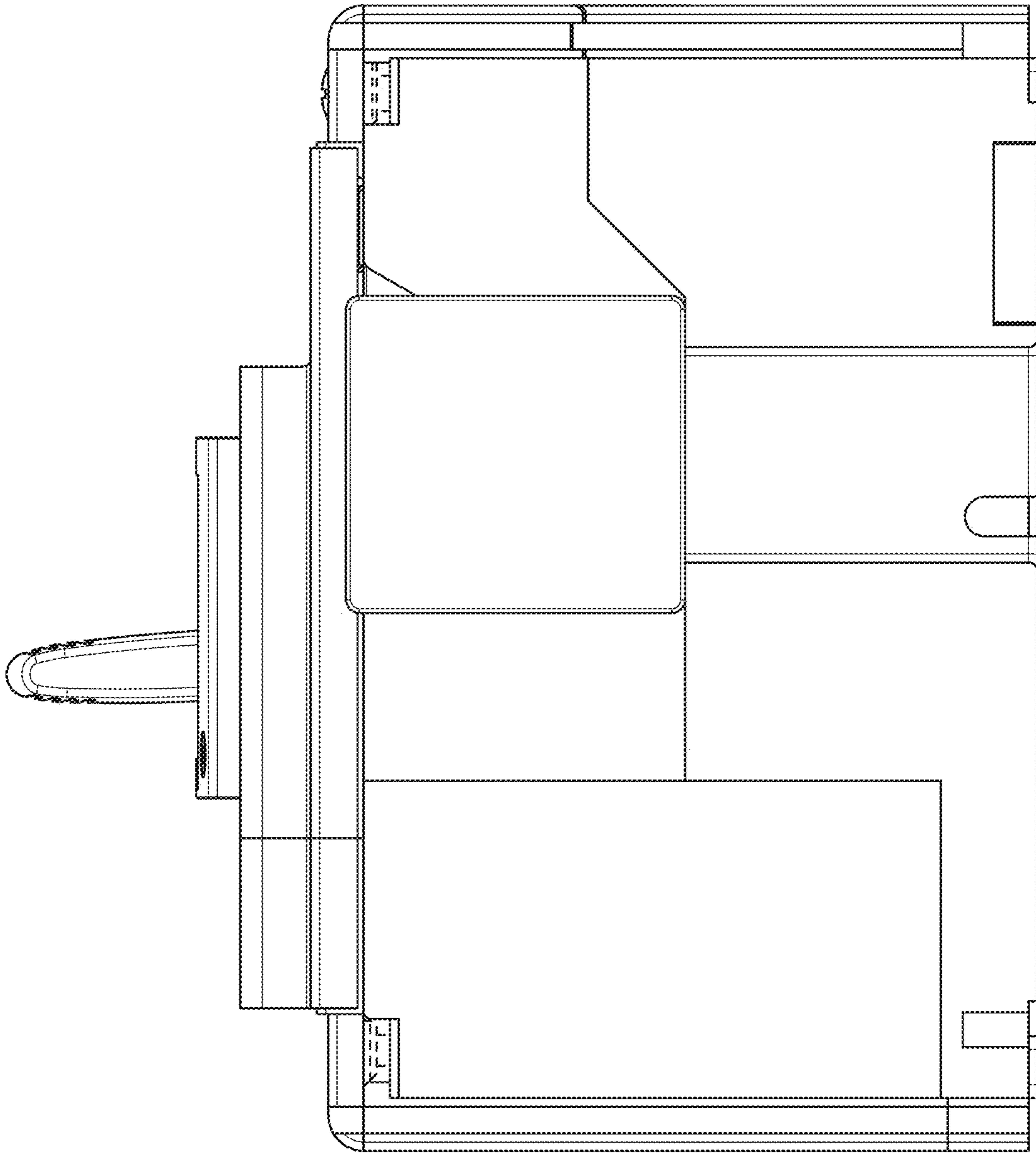


Fig. 14