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(12) United States Design Patent

Tanaka et al.

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(54) **ELECTROMAGNETIC RELAY**

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

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(30) **Foreign Application Priority Data**

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

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

(58) **Field of Classification Search**
USPC D13/103, 107, 110, 112, 118–123, 154, D13/156, 158–161, 173, 177, 178, 182, D13/184, 199
CPC H01H 9/02; H01H 9/30; H01H 45/00; H01H 45/08; H01H 50/08; H01H 50/64; H01H 50/56; H01H 51/22; H01H 1/06; H01H 1/20; H01H 3/32; H01H 9/28; H01H 21/04; H01H 21/22; H01H 33/02; H01H 33/08; H01H 33/10; H01H 33/18; H01H 36/00; H01H 47/00; H01H 50/14; H01H 50/16; H02J 7/00; H01R 4/26; H01R 4/48; H01R 25/00
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D286,053	S *	10/1986	McDaniel	D14/438
D316,078	S *	4/1991	Moriai	D13/133
D404,006	S *	1/1999	Clowers	D13/107
6,171,126	B1 *	1/2001	Wu	H01R 11/282 439/224
6,280,255	B1 *	8/2001	Wu	H01R 12/724 439/660
D450,301	S *	11/2001	Shimizu	D13/147
D473,192	S *	4/2003	Ouchi	D13/147

(Continued)

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(57) **CLAIM**

The ornamental design for an electromagnetic relay, as shown and described.

DESCRIPTION

FIG. **1** is a front view of a design for an electromagnetic relay according to the present disclosure.
FIG. **2** is a rear view of the electromagnetic relay of FIG. **1**.
FIG. **3** is a left side view of the electromagnetic relay of FIG. **1**.
FIG. **4** is a right side view of the electromagnetic relay of FIG. **1**.
FIG. **5** is a top plan view of the electromagnetic relay of FIG. **1**.
FIG. **6** is a bottom plan view of the electromagnetic relay of FIG. **1**; and,
FIG. **7** is a reference perspective view of the electromagnetic relay of FIG. **1**.
The Dash-Dash broken line portion of the figure drawings is included to show portions of the article that form no part of the claimed design. The Dash-Dot broken line portion of the

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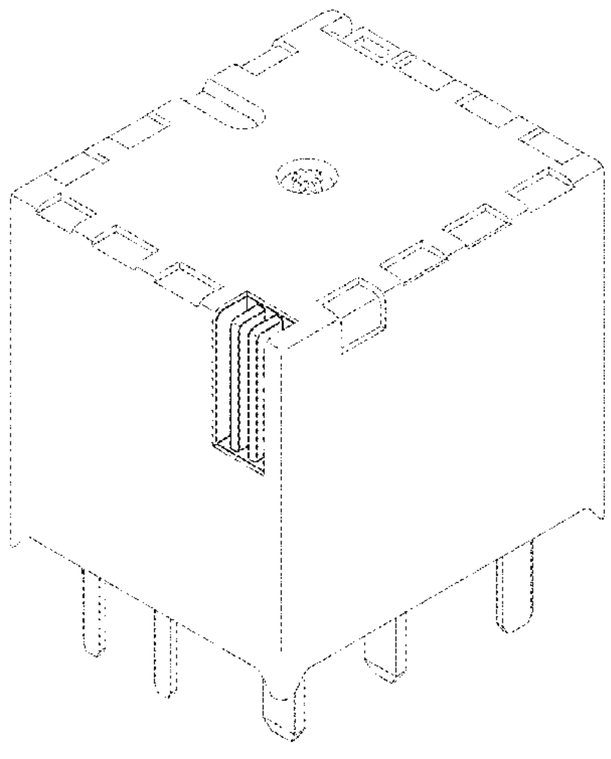

figure drawings is included to show claim boundaries that form no part of the claimed design.

1 Claim, 4 Drawing Sheets

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,551,143	B2 *	4/2003	Tanaka	H01R 12/7088 439/224
7,422,451	B2 *	9/2008	Chen	H01R 13/652 439/101
8,563,167	B2 *	10/2013	Takeshita	H01M 2/1055 429/100
D724,538	S *	3/2015	Baumgartner	D13/119
D741,796	S *	10/2015	Robinson	D13/103
D787,460	S *	5/2017	Finona	D13/184
D842,256	S *	3/2019	Tanaka	D13/159
D844,558	S *	4/2019	Taniguchi	D13/103
D847,765	S *	5/2019	Tanaka	D13/159
D849,681	S *	5/2019	Howell	D13/103
2001/0021609	A1 *	9/2001	Chiang	H01R 13/113 439/682
2001/0034163	A1 *	10/2001	Chiang	H01R 13/26 439/660
2008/0050648	A1 *	2/2008	Hara	H01M 2/1033 429/160
2014/0225689	A1 *	8/2014	Masui	H01H 50/642 335/194
2017/0244195	A1 *	8/2017	Giefers	H01R 13/621
2018/0261413	A1 *	9/2018	Tanaka	H01H 51/282

* cited by examiner

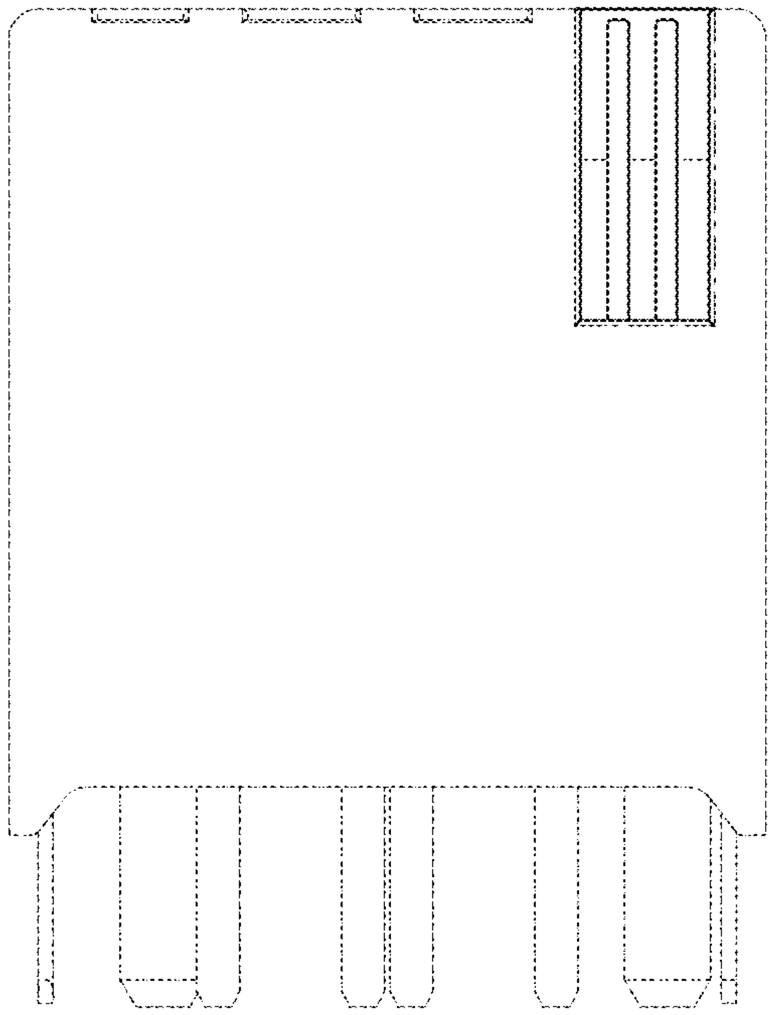

Fig. 1

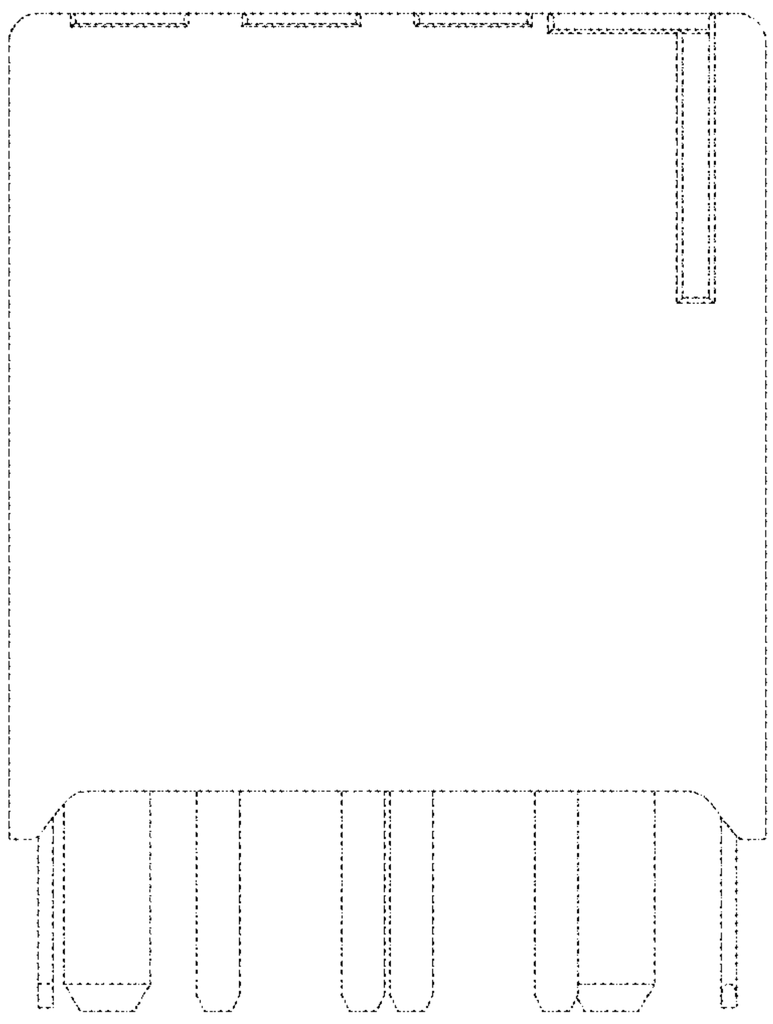

Fig. 2

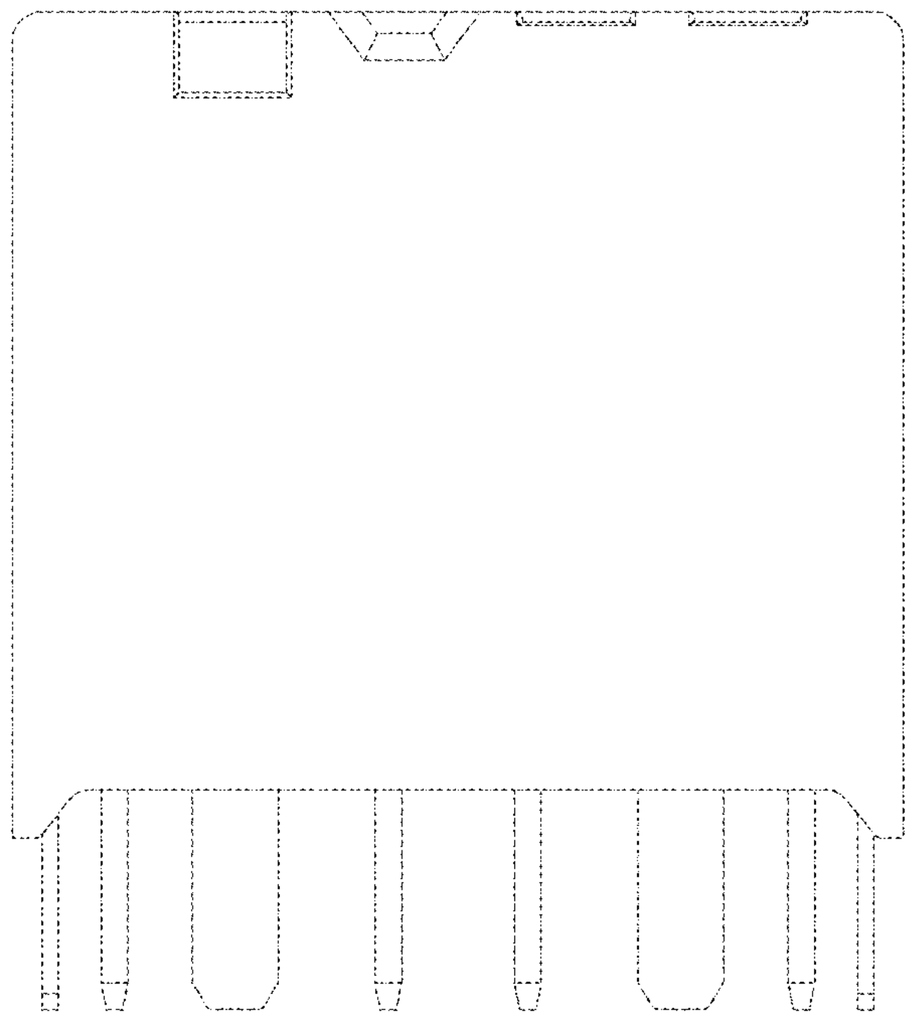

Fig. 3

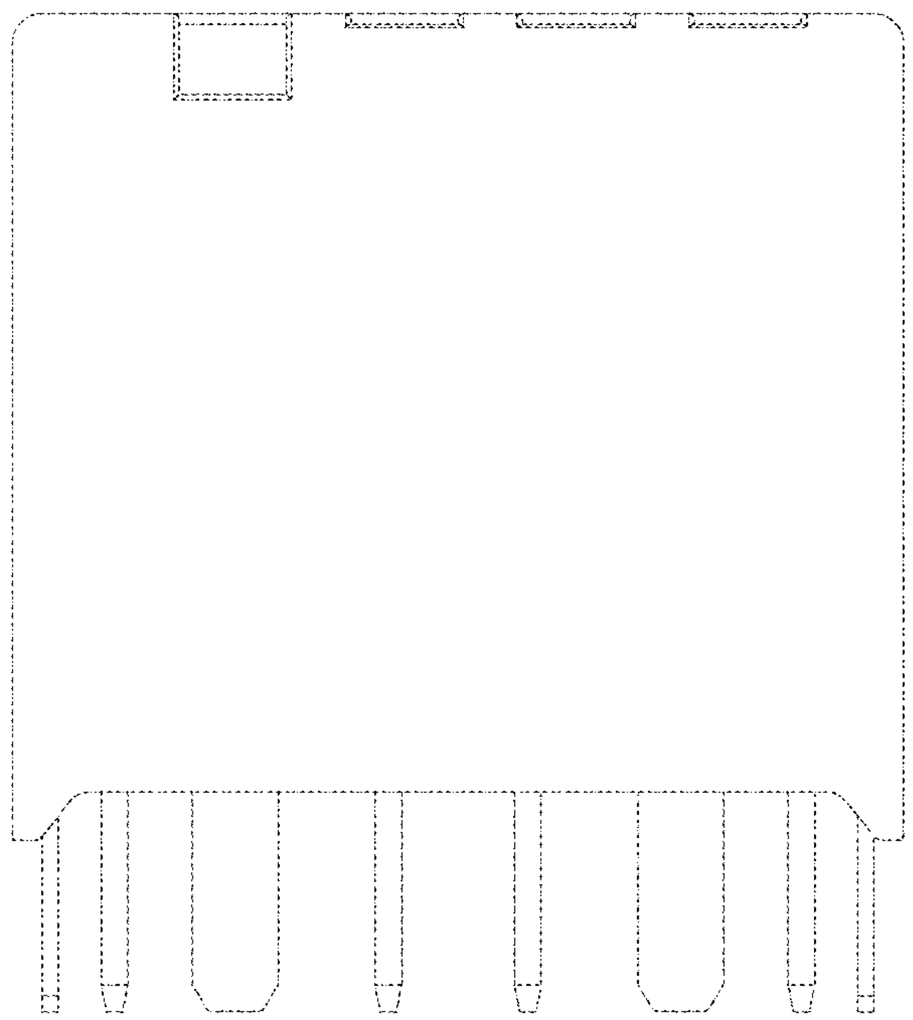

Fig. 4

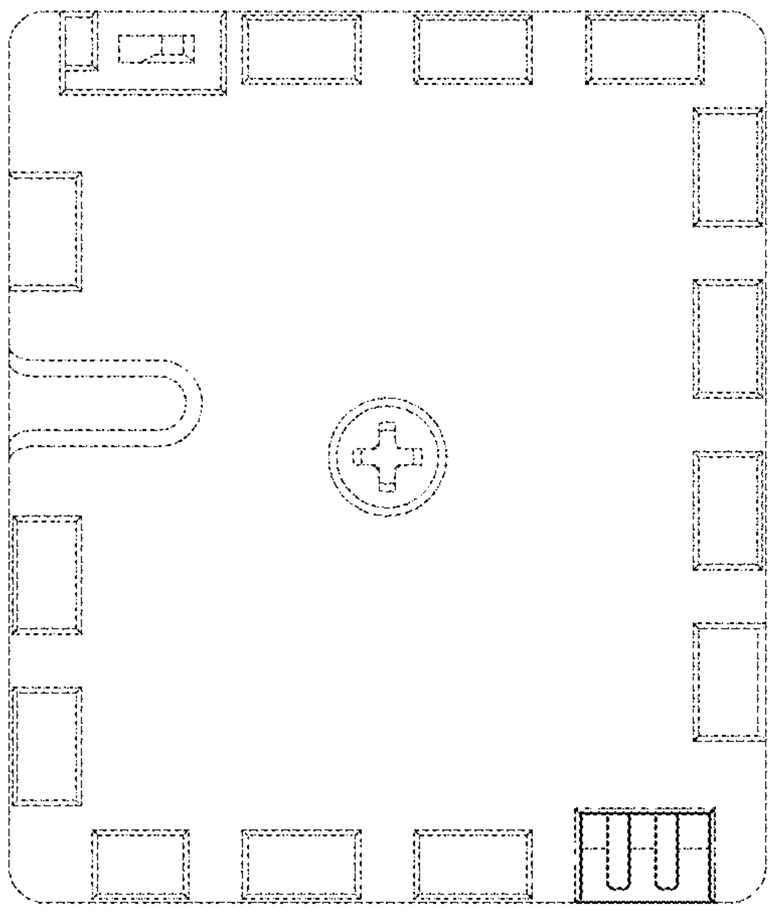

Fig. 5

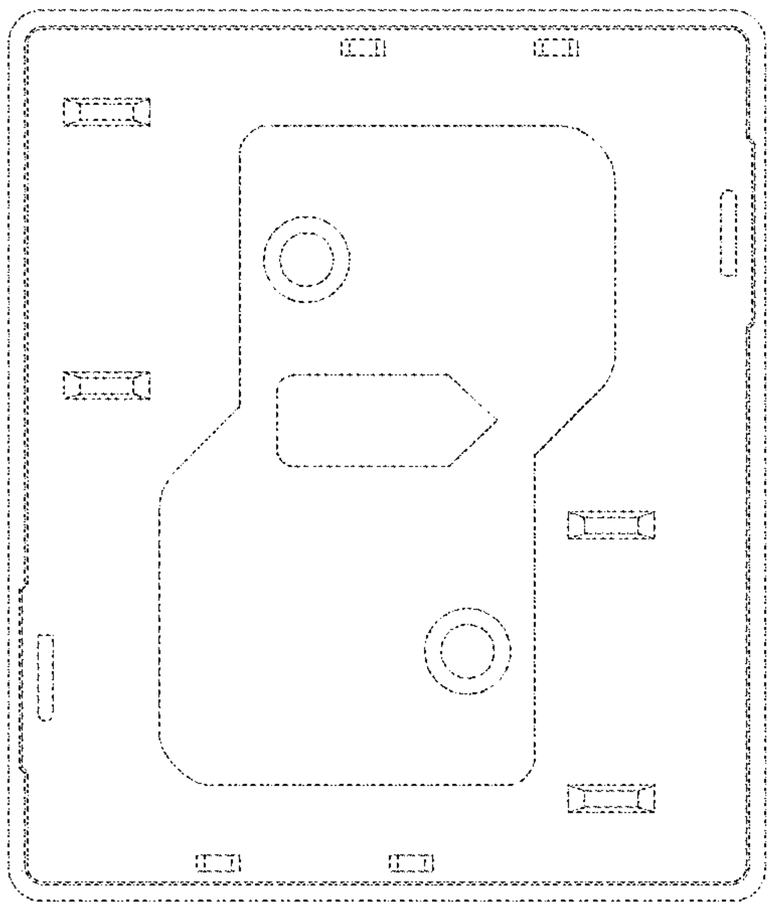

Fig. 6

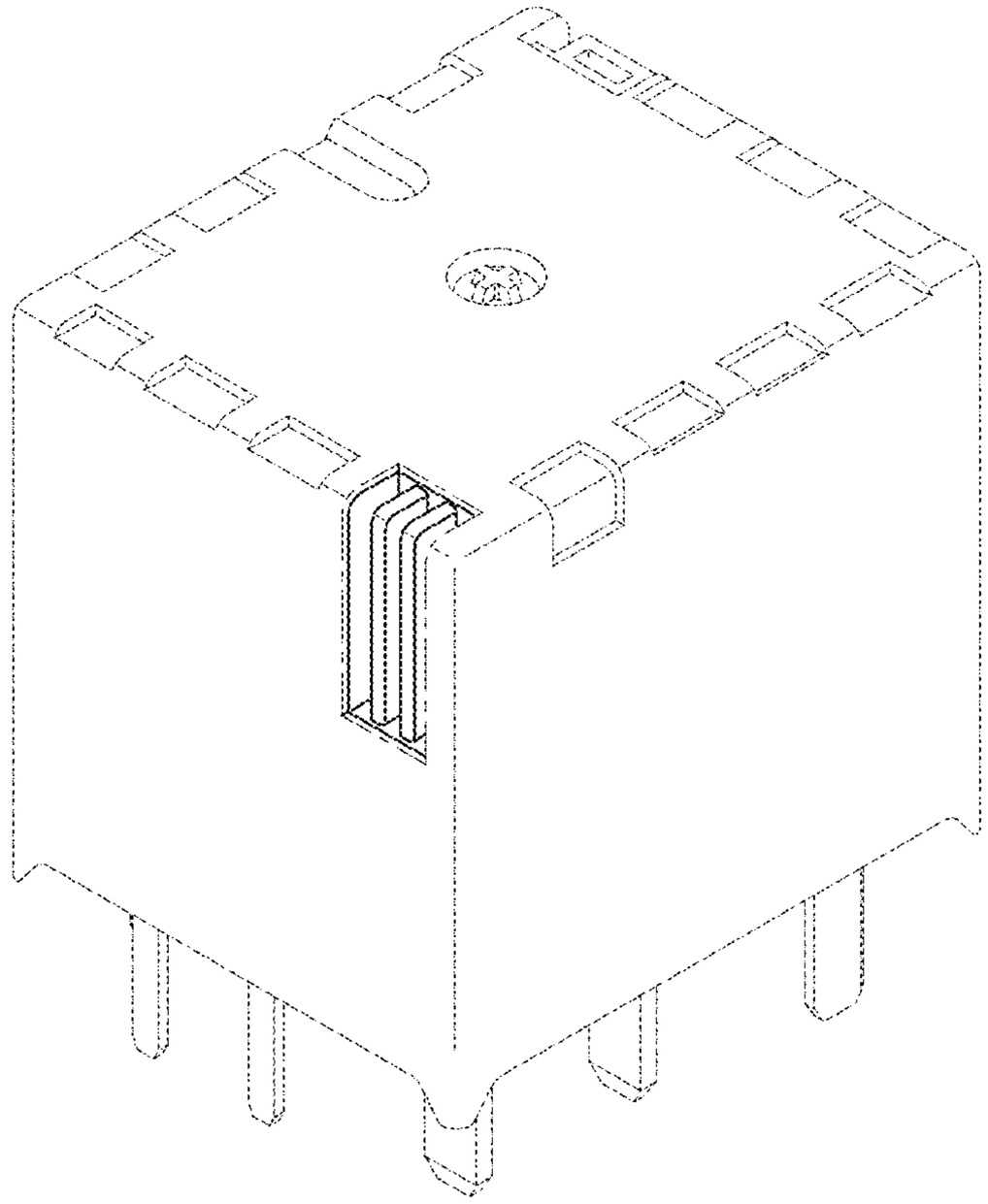

Fig. 7