



US00D942947S

(12) **United States Design Patent** (10) **Patent No.:** **US D942,947 S**
Asai et al. (45) **Date of Patent:** **** Feb. 8, 2022**

(54) **COIL COMPONENT**

(71) Applicant: **TDK CORPORATION**, Tokyo (JP)

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(73) Assignee: **TDK CORPORATION**, Tokyo (JP)

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

(21) Appl. No.: **29/702,696**

(22) Filed: **Aug. 21, 2019**

(30) **Foreign Application Priority Data**

Feb. 21, 2019 (JP) 2019-003478

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

(52) **U.S. Cl.**
USPC **D13/117**

(58) **Field of Classification Search**
USPC D13/101, 110, 117, 118, 119, 120, 121,
D13/122, 129, 133, 153, 179, 182, 183,
D13/199

(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

D565,507 S * 4/2008 Ogawa D13/117
D721,651 S * 1/2015 Iwakura D13/117

(Continued)

FOREIGN PATENT DOCUMENTS

JP 1527694 S 6/2015

OTHER PUBLICATIONS

“Würth Elektronik Wire-wound SMD Inductor with a Ferrite Core”.
Found online Oct. 29, 2020 at mt.rsdelivers.com. Reference dated

Aug. 29, 2014. Retrieved from https://tineye.com/search/fffae30b18dad1c7478def8e56942ca4e3dcd30f?sort=crawl_date&order=asc&page=1 (Year: 2014).*

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Primary Examiner — Kendra Leslie Hamilton

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(57) **CLAIM**

The ornamental design for a coil component, as shown and described.

DESCRIPTION

FIG. 1 is a front elevation view of a first embodiment of a coil component, showing our new design.

FIG. 2 is a back elevation view thereof.

FIG. 3 is a left side elevation view thereof.

FIG. 4 is a right side elevation view thereof.

FIG. 5 is a top plan view thereof.

FIG. 6 is a bottom plan view thereof.

FIG. 7 is a cross-sectional left side elevation view of the coil component of FIG. 1, taken along line 7-7 of FIG. 1.

FIG. 8 is a bottom plan view of FIG. 1, shown with the plate core removed for clarity of disclosure.

FIG. 9 is a front elevation view of the coil component of FIG. 1, shown exploded for clarity of disclosure.

FIG. 10 is a top, front, left side perspective view thereof.

FIG. 11 is a front elevation view of a second embodiment of a coil component.

FIG. 12 is a back elevation view thereof.

FIG. 13 is a left side elevation view thereof.

FIG. 14 is a right side elevation view thereof.

FIG. 15 is a top plan view thereof.

FIG. 16 is a bottom plan view thereof.

FIG. 17 is a bottom plan view of FIG. 11, shown with the plate core removed for clarity of disclosure.

FIG. 18 is a front elevation view of the coil component of FIG. 11, shown exploded for clarity of disclosure.

FIG. 19 is a front elevation view of a third embodiment of a coil component.

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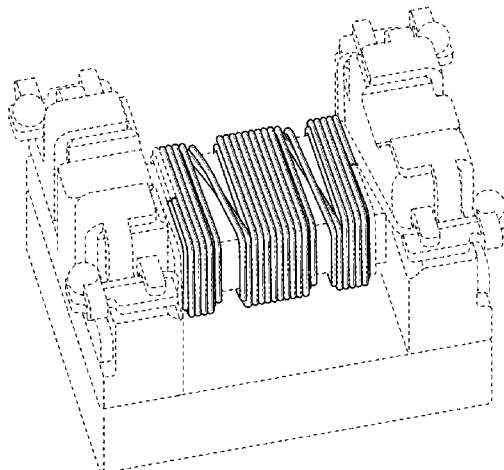


FIG. 20 is a back elevation view thereof.
 FIG. 21 is a left side elevation view thereof.
 FIG. 22 is a right side elevation view thereof.
 FIG. 23 is a top plan view thereof.
 FIG. 24 is a bottom plan view thereof.
 FIG. 25 is a bottom plan view of FIG. 19, shown with the plate core removed for clarity of disclosure.
 FIG. 26 is a front elevation view of the coil component of FIG. 19, shown exploded for clarity of disclosure.
 FIG. 27 is a front elevation view of a fourth embodiment of a coil component.
 FIG. 28 is a back elevation view thereof.
 FIG. 29 is a left side elevation view thereof.
 FIG. 30 is a right side elevation view thereof.
 FIG. 31 is a top plan view thereof.
 FIG. 32 is a bottom plan view thereof.
 FIG. 33 is a cross-sectional left side elevation view of the coil component of FIG. 27, taken along line 33-33 of FIG. 27.
 FIG. 34 is a bottom plan view of FIG. 27, shown with the plate core removed for clarity of disclosure.
 FIG. 35 is a front elevation view of the coil component of FIG. 27, shown exploded for clarity of disclosure.
 FIG. 36 is a front elevation view of a fifth embodiment of a coil component.
 FIG. 37 is a back elevation view thereof.
 FIG. 38 is a left side elevation view thereof.
 FIG. 39 is a right side elevation view thereof.
 FIG. 40 is a top plan view thereof.
 FIG. 41 is a bottom plan view thereof.
 FIG. 42 is a bottom plan view of FIG. 36, shown with the plate core removed for clarity of disclosure.
 FIG. 43 is a front elevation view of the coil component of FIG. 36, shown exploded for clarity of disclosure.
 FIG. 44 is a front elevation view of a sixth embodiment of a coil component.
 FIG. 45 is a back elevation view thereof.
 FIG. 46 is a left side elevation view thereof.
 FIG. 47 is a right side elevation view thereof.
 FIG. 48 is a top plan view thereof.
 FIG. 49 is a bottom plan view thereof.
 FIG. 50 is a bottom plan view of FIG. 44, shown with the plate core removed for clarity of disclosure; and,
 FIG. 51 is a front elevation view of the coil component of FIG. 44, shown exploded for clarity of disclosure.

The broken lines depict parts of the coil component that form no part of the claimed design.

1 Claim, 51 Drawing Sheets

(58) Field of Classification Search

CPC H01F 27/00; H01F 27/2866; H01F 41/06
 See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

D762,576	S	8/2016	Komaya et al.	
D816,033	S	4/2018	Komaya et al.	
D831,570	S *	10/2018	Takagi	D13/117
10,186,774	B2 *	1/2019	Tanaka	H01Q 7/08
D842,248	S	3/2019	Komaya et al.	
D842,249	S	3/2019	Komaya et al.	
D842,250	S	3/2019	Komaya et al.	
D850,379	S	6/2019	Komaya et al.	
D871,338	S	12/2019	Komaya et al.	
2002/0101319	A1 *	8/2002	Komiyai	H01F 27/346 336/174
2005/0237141	A1 *	10/2005	Hirai	H01F 41/10 336/83
2010/0109827	A1 *	5/2010	Asou	H01F 41/076 336/192
2012/0074899	A1 *	3/2012	Tsai	H02J 7/025 320/108
2014/0292463	A1 *	10/2014	Lai	H01F 27/29 336/192
2015/0042434	A1 *	2/2015	Bando	B65H 75/06 336/192
2017/0345560	A1 *	11/2017	Tomonari	H01F 27/2823
2018/0096782	A1 *	4/2018	Miyamoto	H01F 27/24
2019/0228901	A1 *	7/2019	Asai	H01F 27/06

OTHER PUBLICATIONS

“HDMI Coil Filter”. Found online Oct. 23, 2020 at zedlabz.com. Reference dated Nov. 19, 2014. Retrieved from https://tineye.com/search/009d1b35c650573366928f01ce478f5695e5fd69?sort=crawl_date&order=asc&page=1. (Year: 2014).*

“ALT Series Pulse Transformer”. Found online Nov. 2, 2020 at doeeet.com. Reference dated Feb. 14, 2018. Retrieved from <https://tineye.com/search/a764798c3679fa6ee6b3946dfac54b5b5d0db3ff?sort=score&order=desc&page=1>. (Year: 2018).*

* cited by examiner

FIG. 1

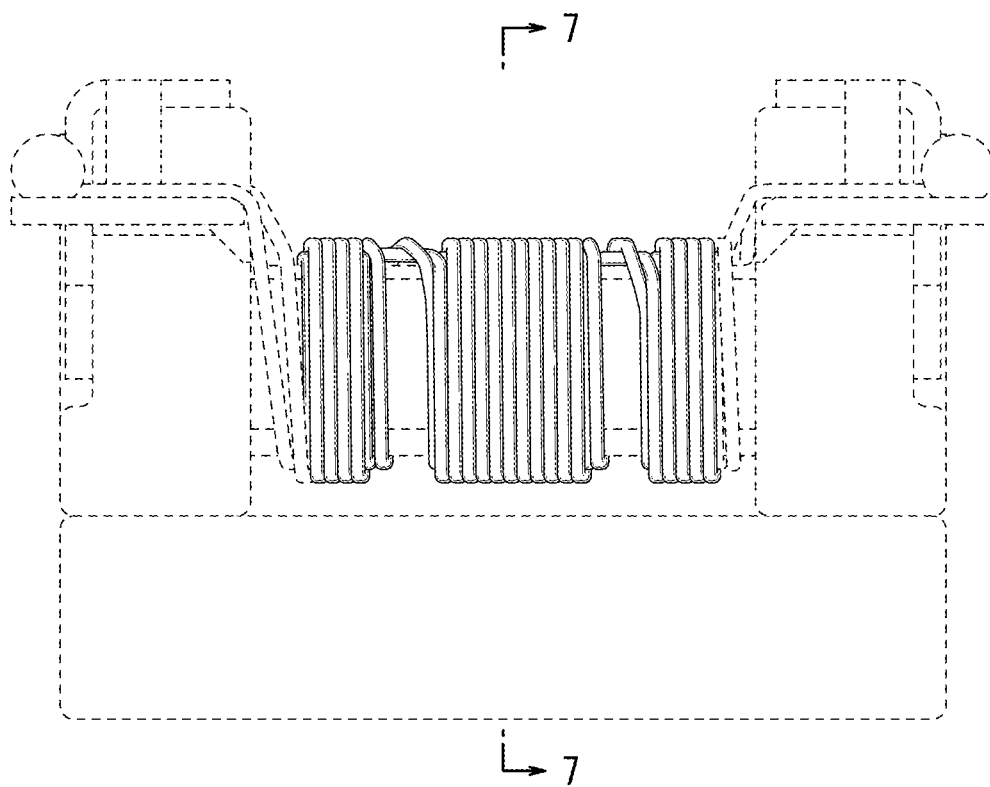


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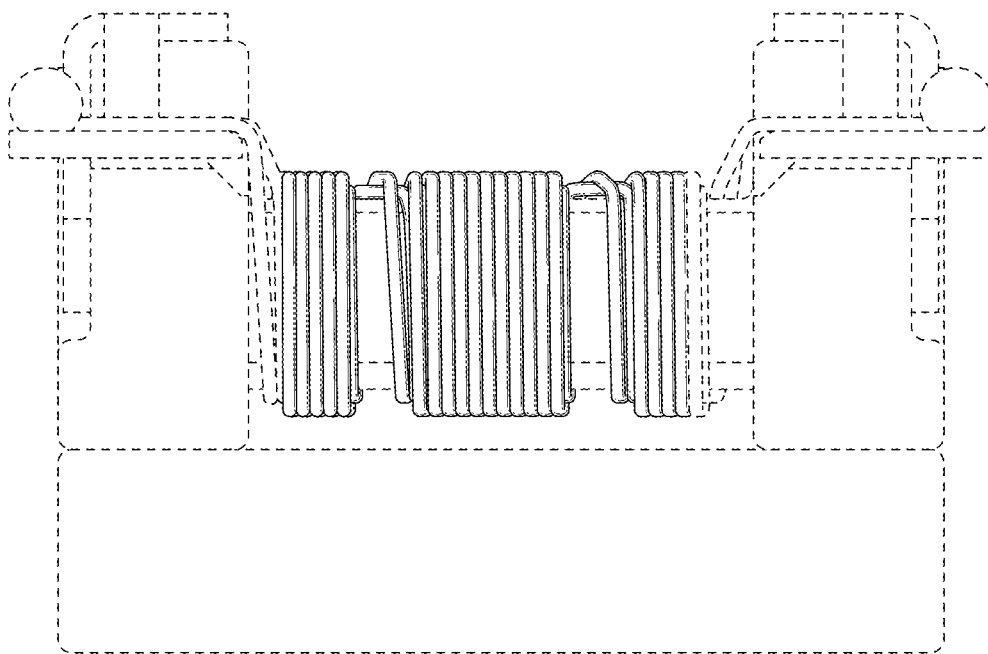


FIG. 3

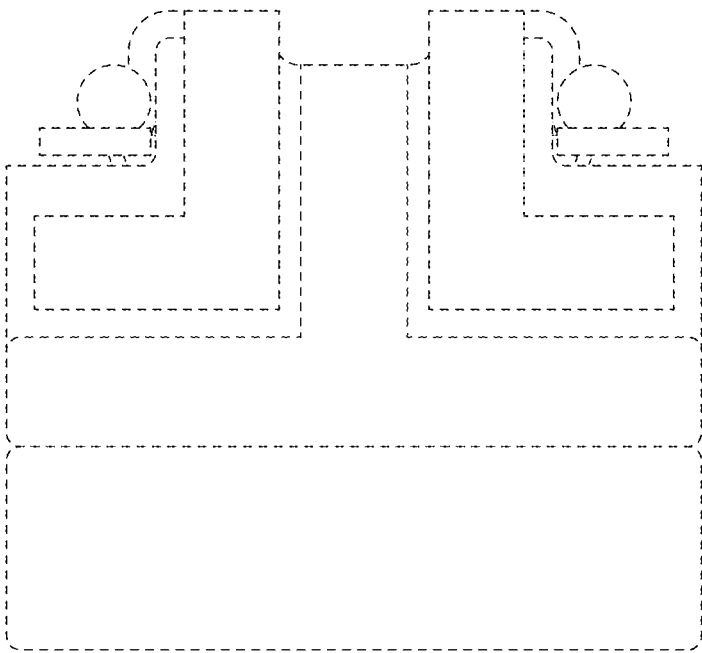


FIG. 4

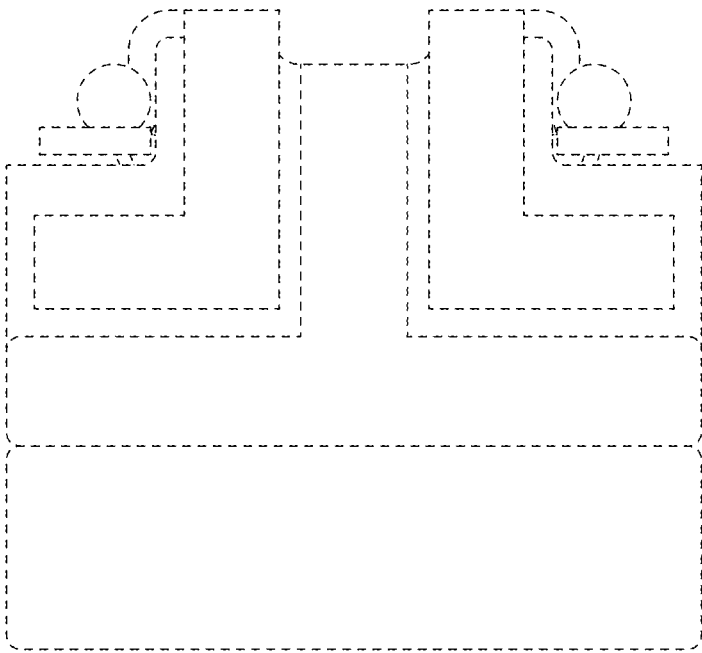


FIG. 5

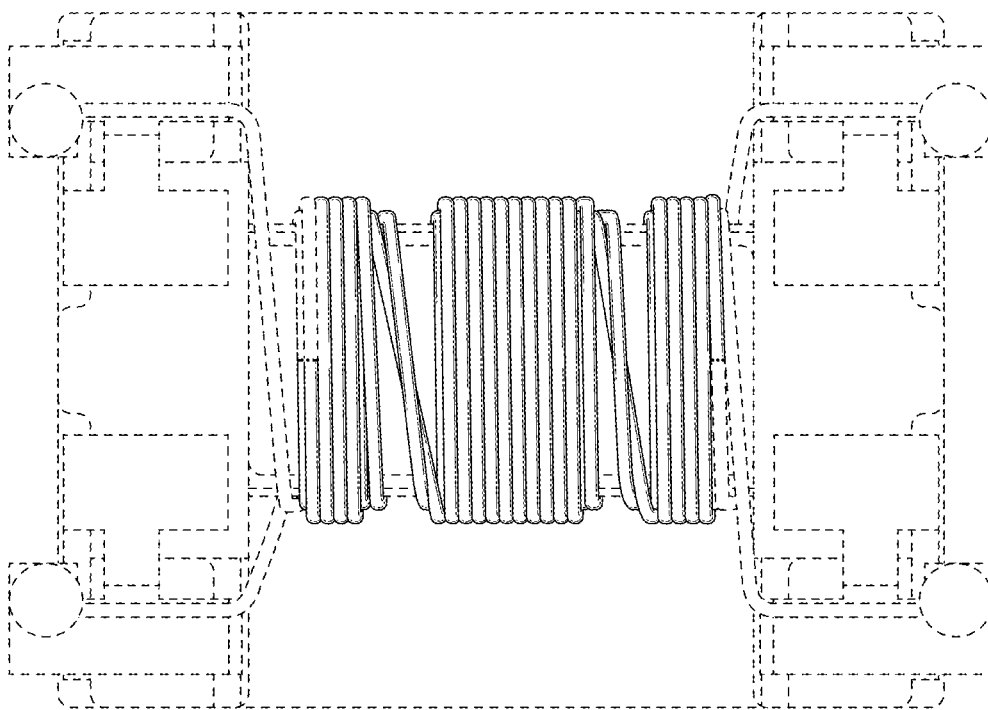


FIG. 6



FIG. 7

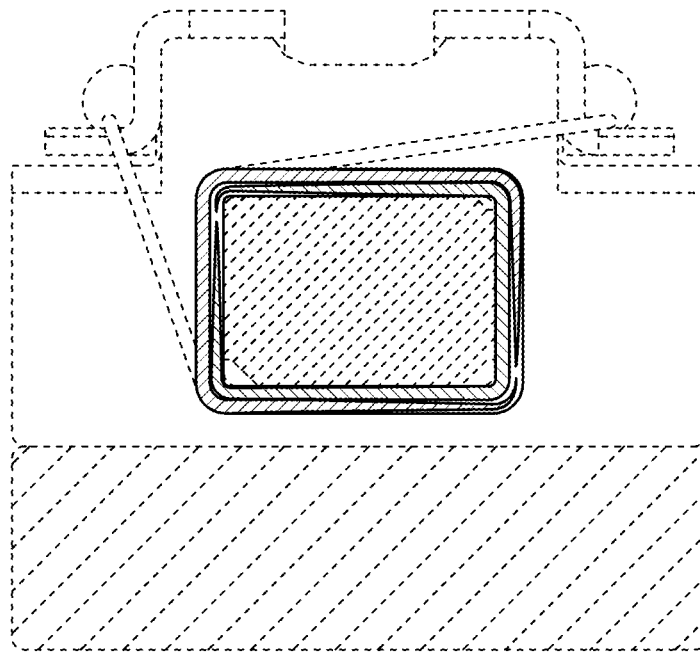


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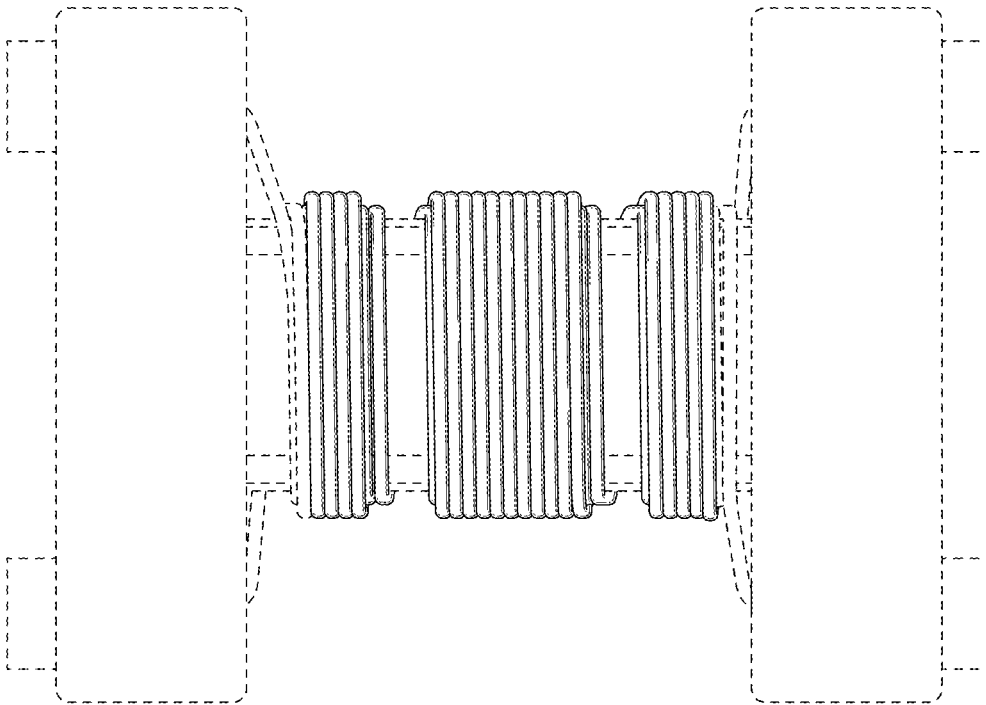


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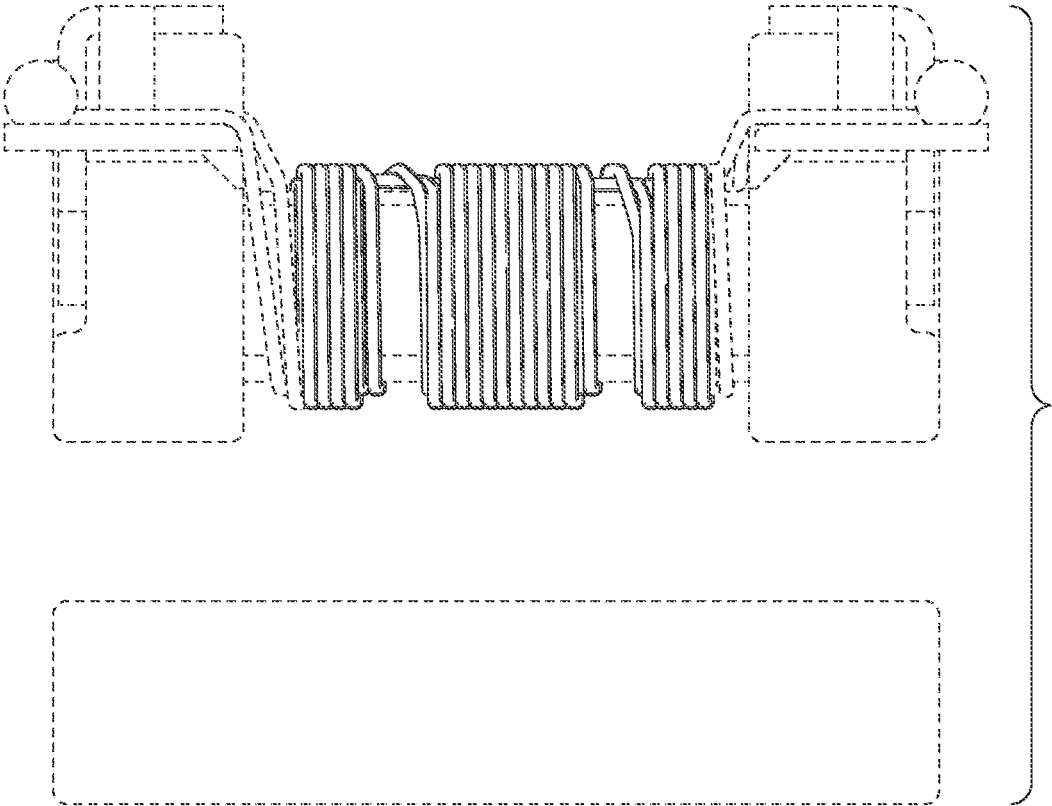


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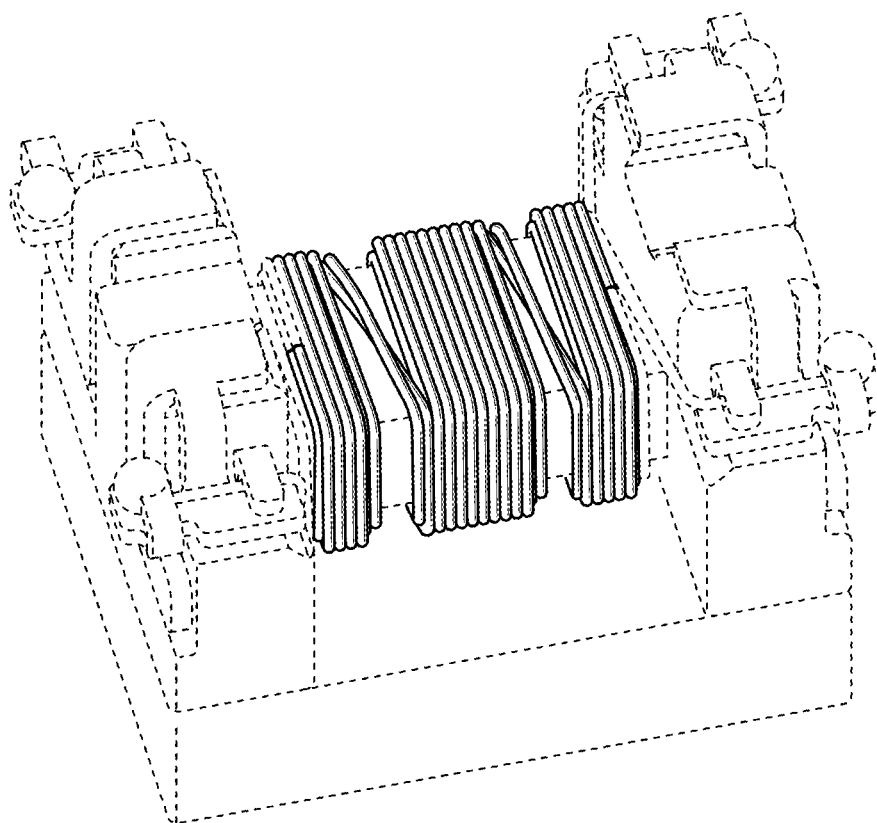


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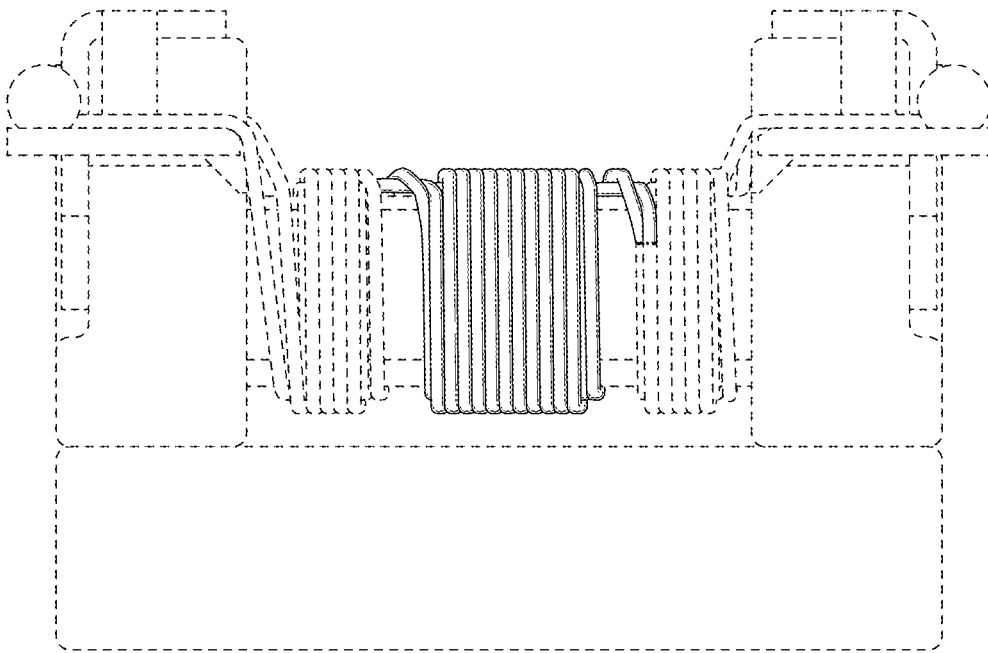


FIG. 12

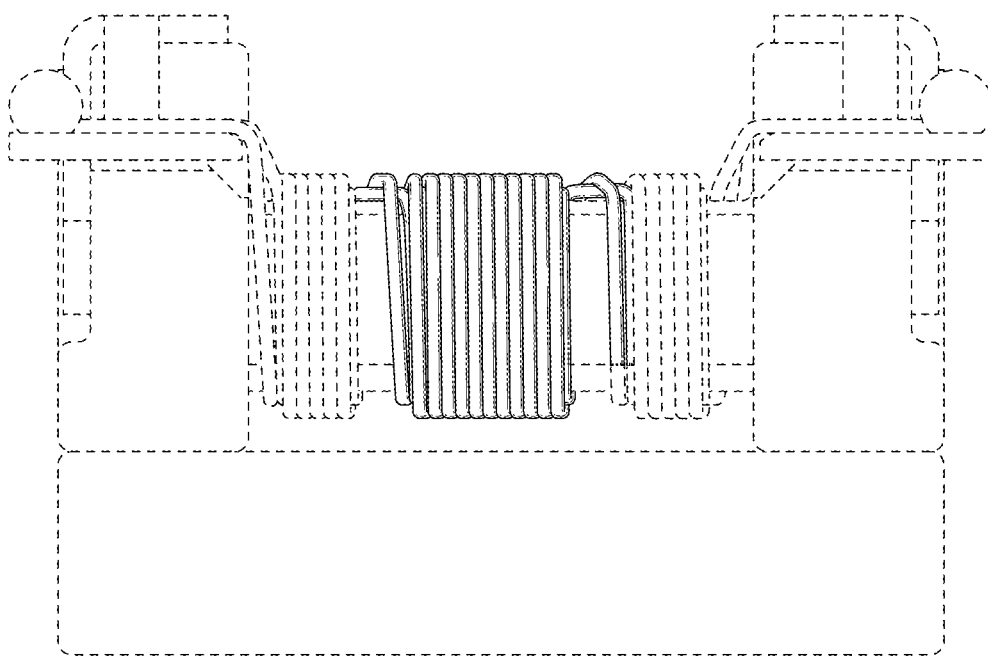


FIG. 13

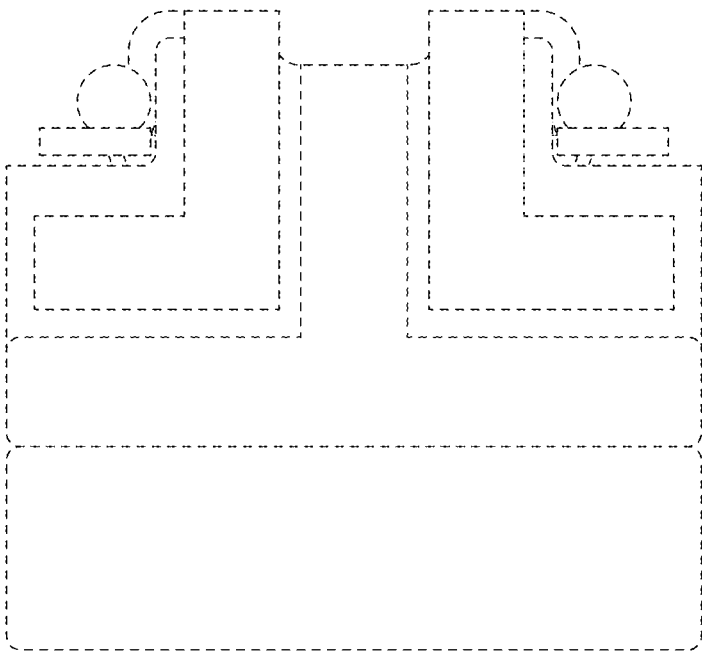


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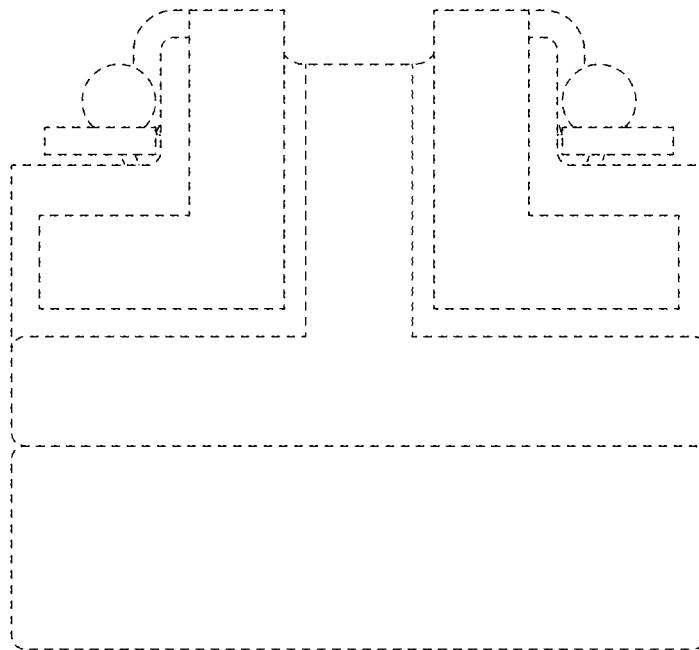


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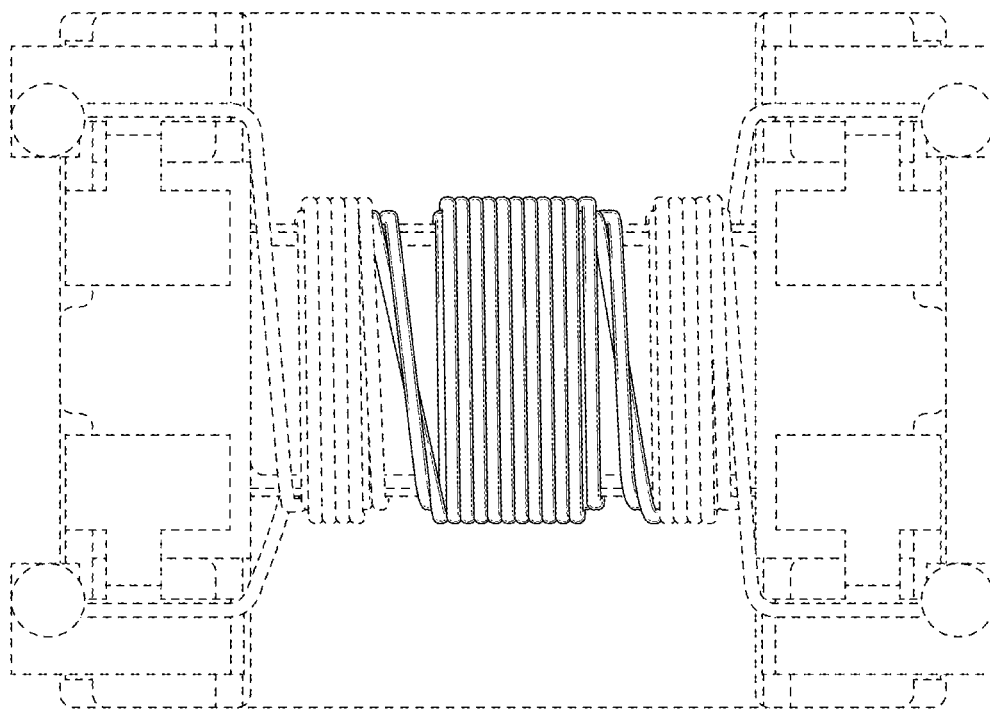


FIG. 16



FIG. 17

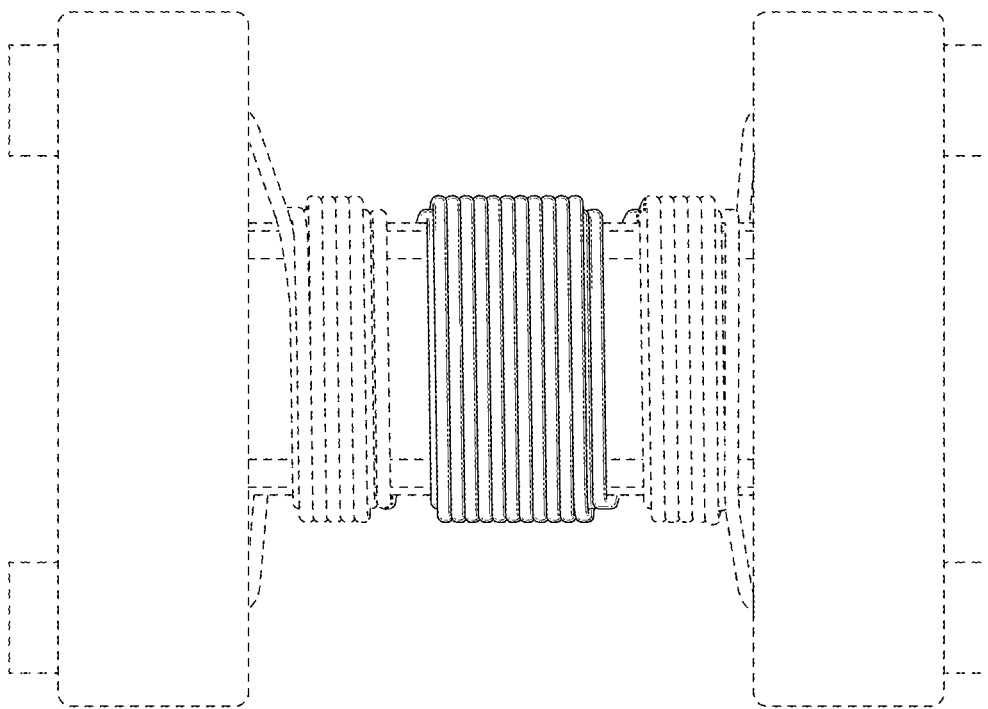


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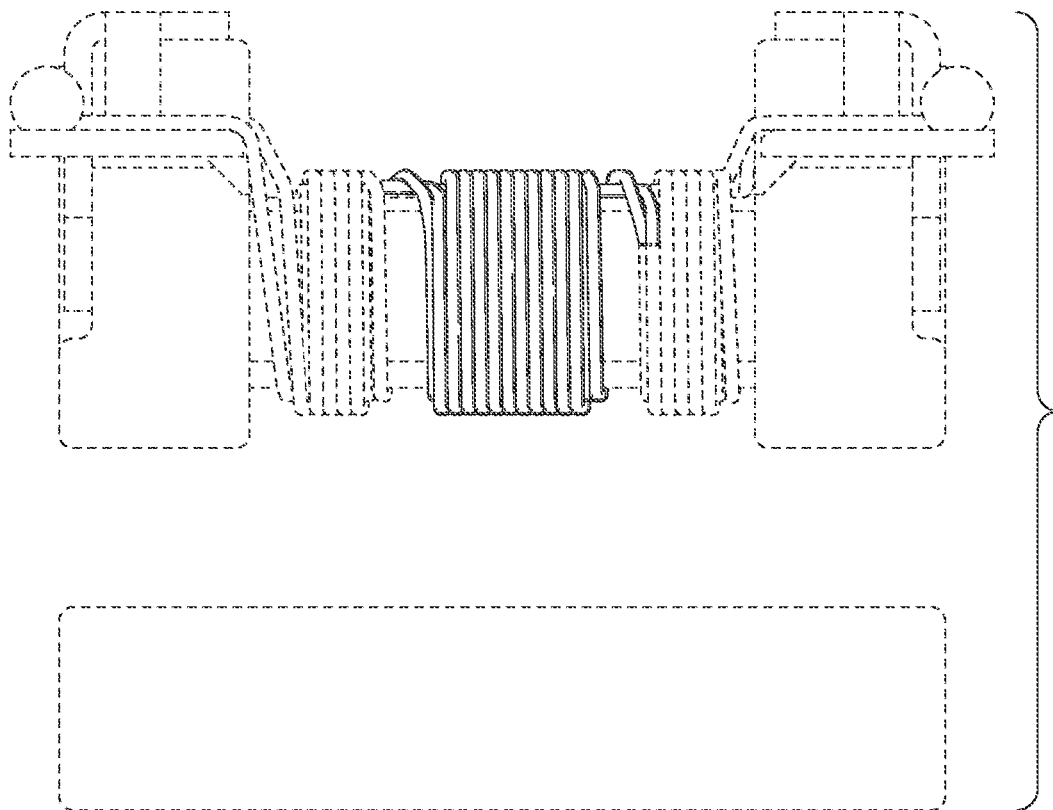


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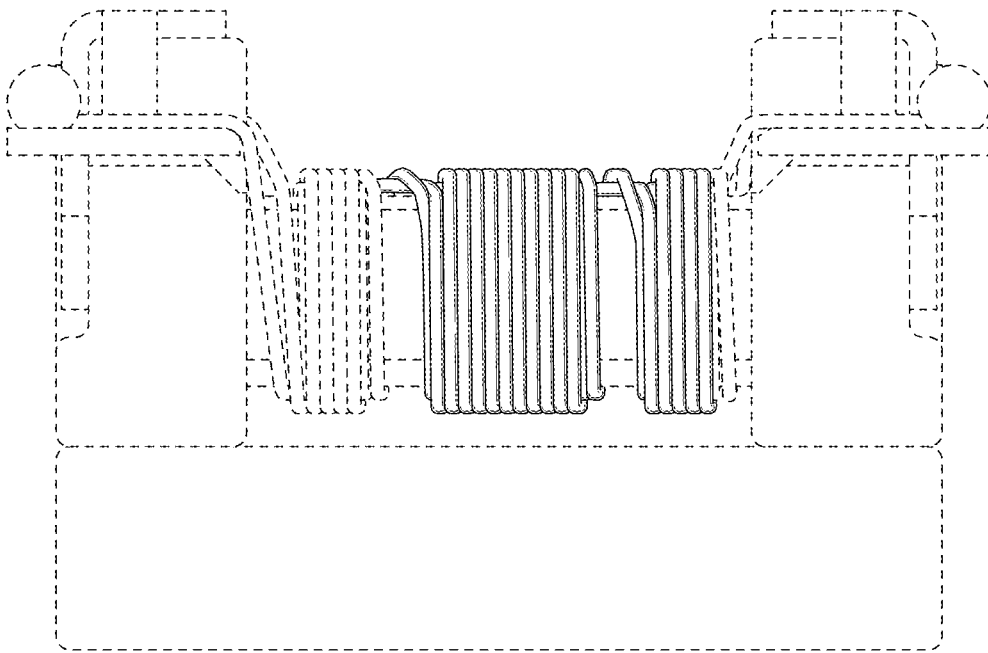


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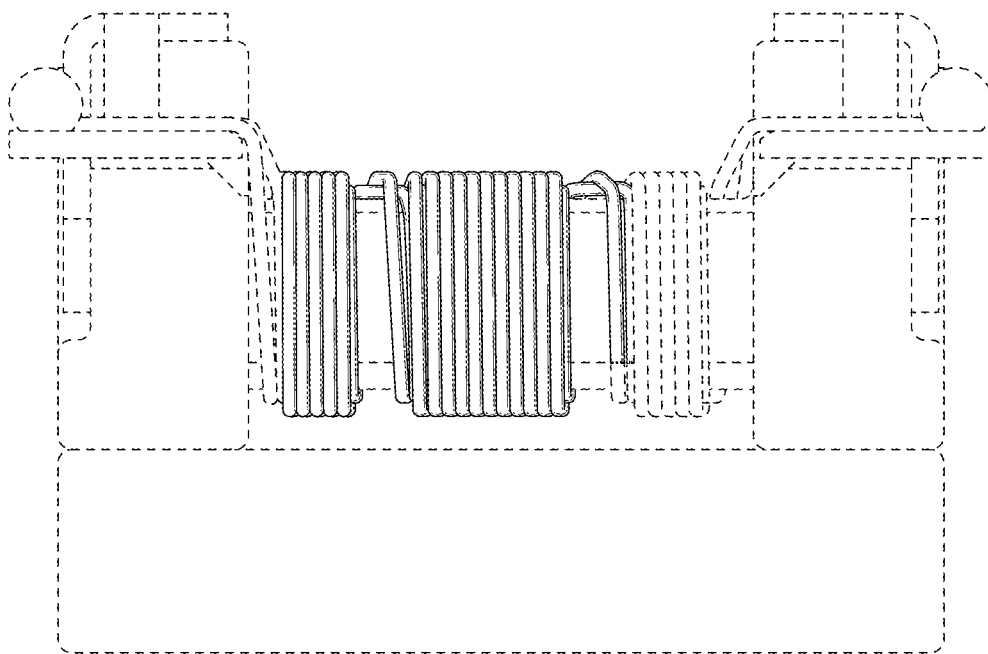


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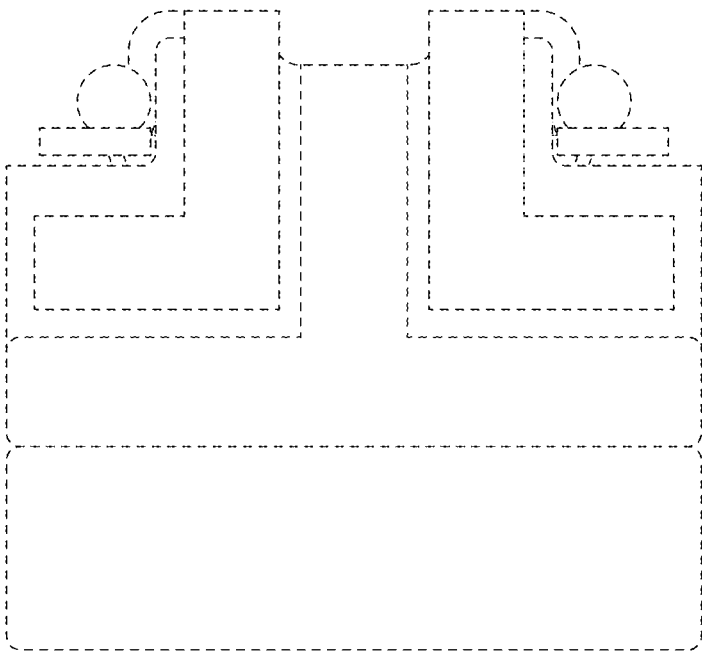


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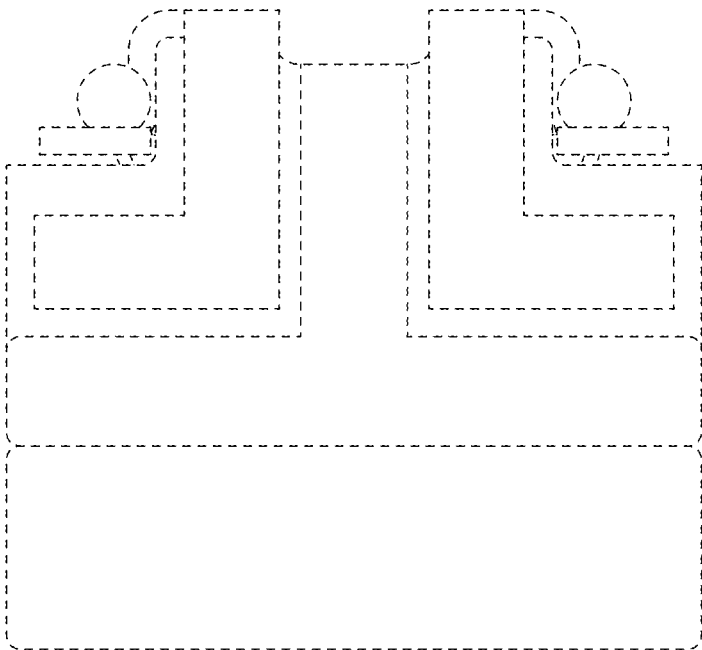


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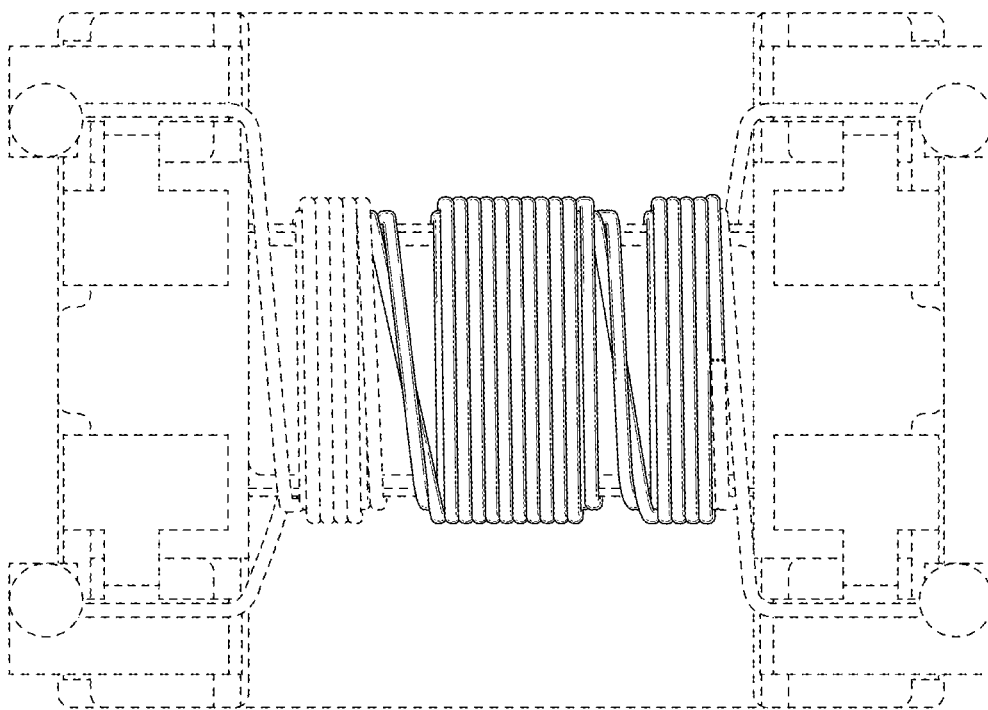


FIG. 24



FIG. 25

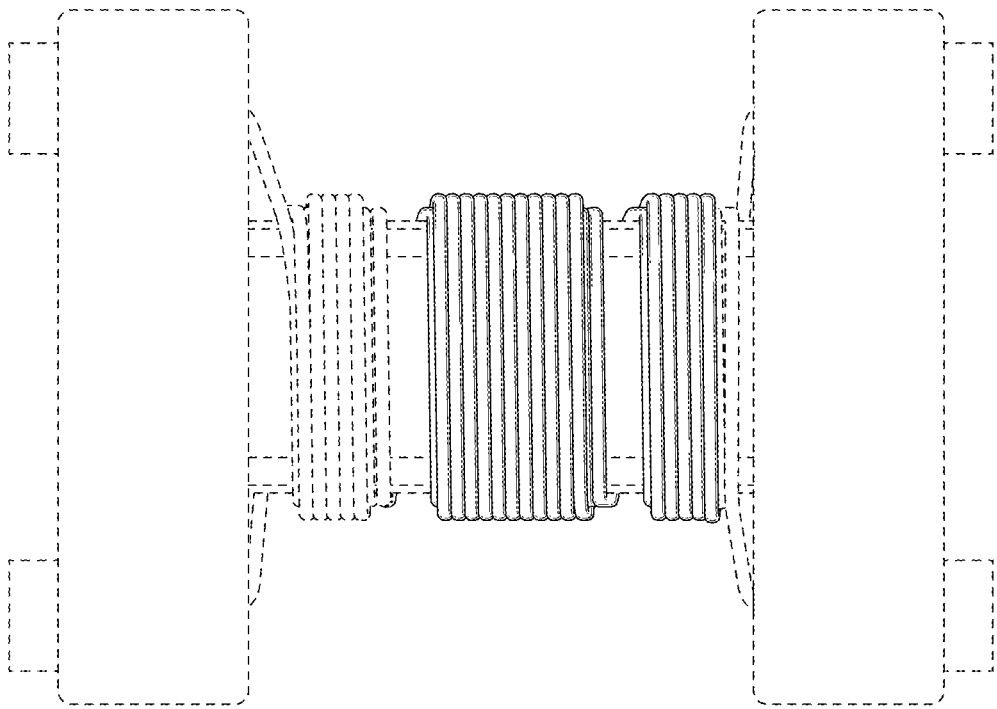


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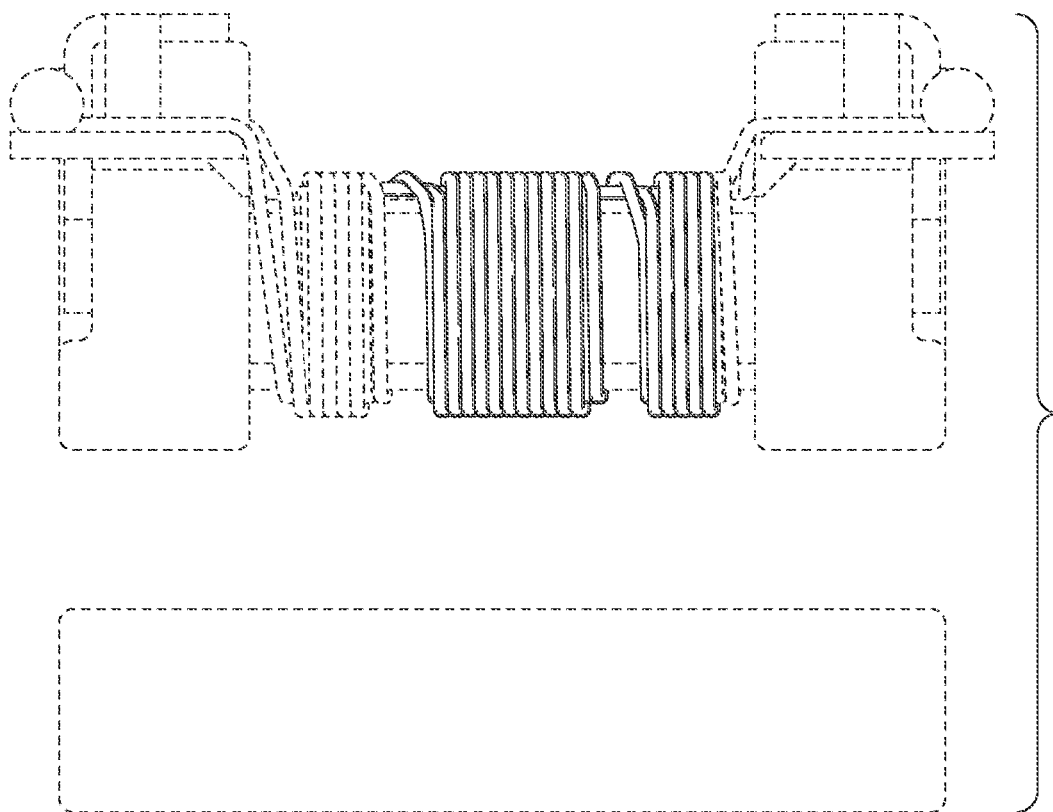


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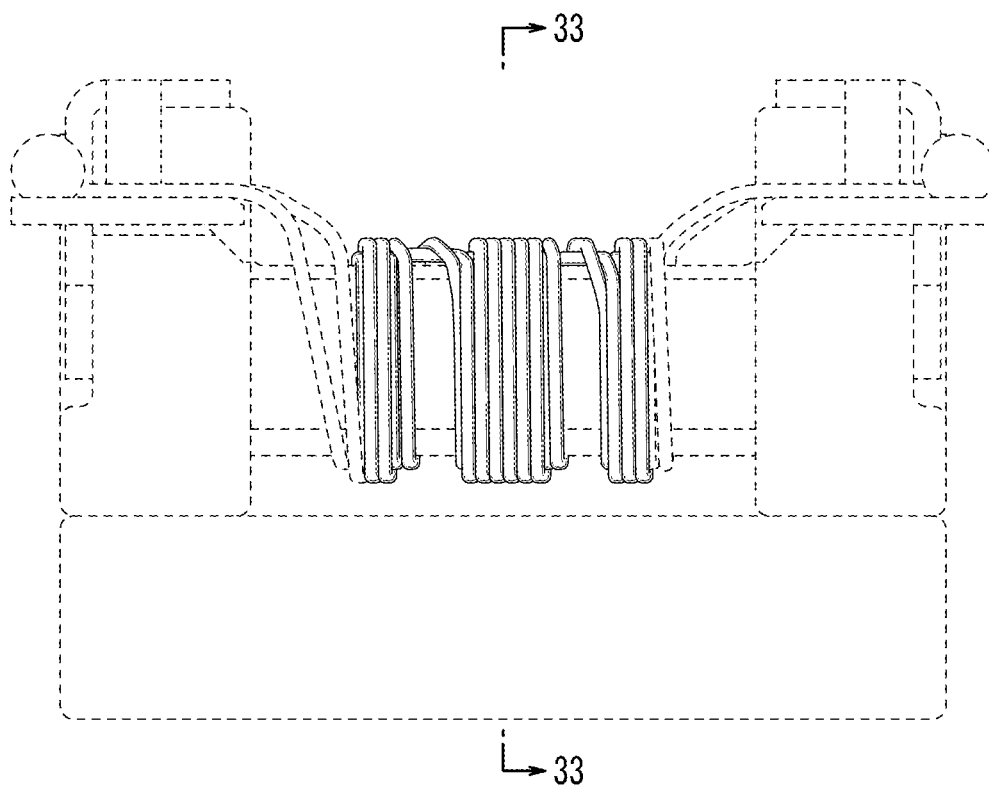


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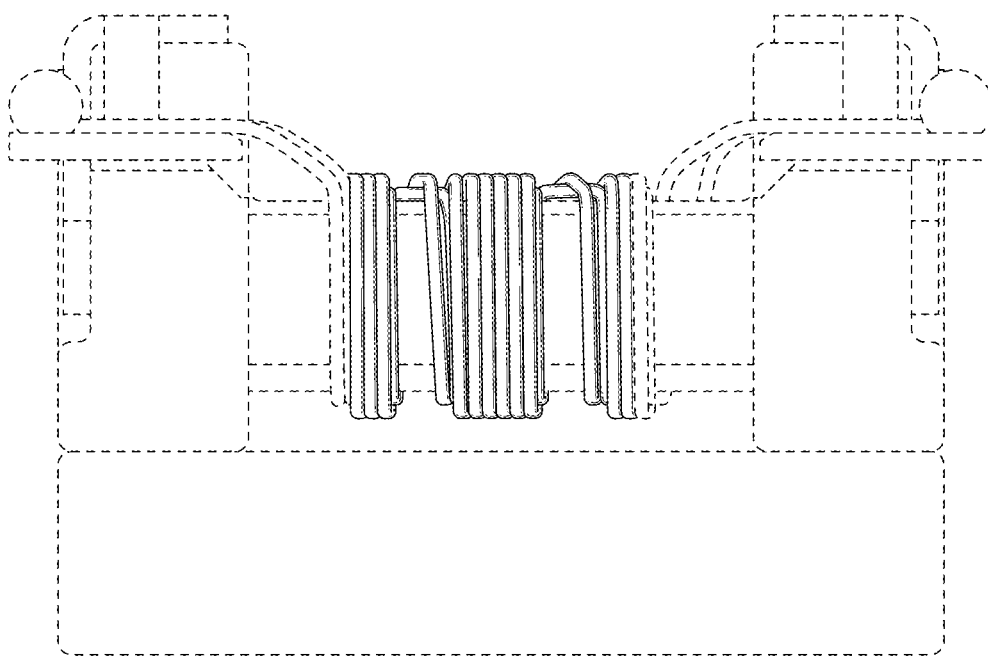


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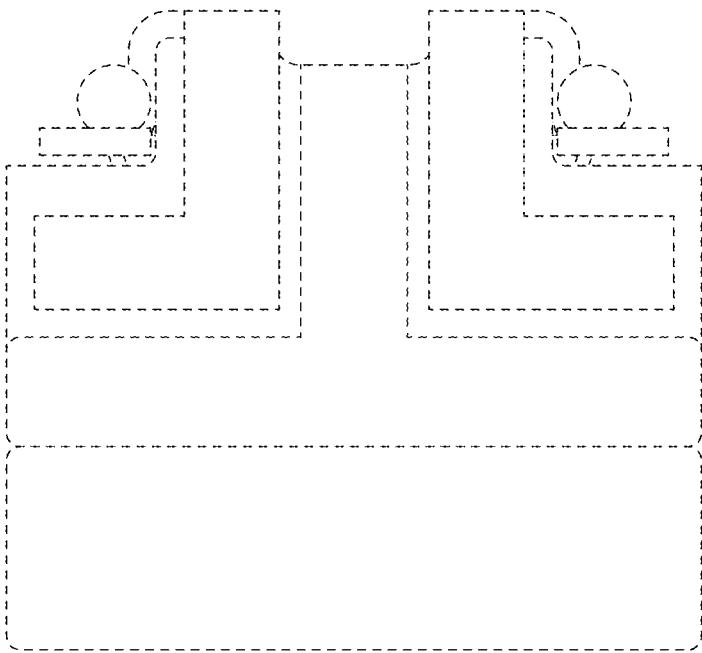


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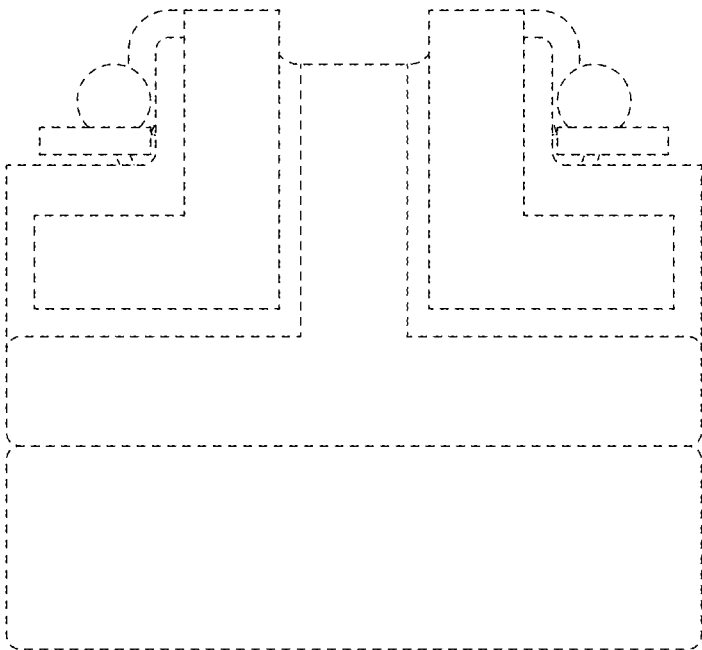


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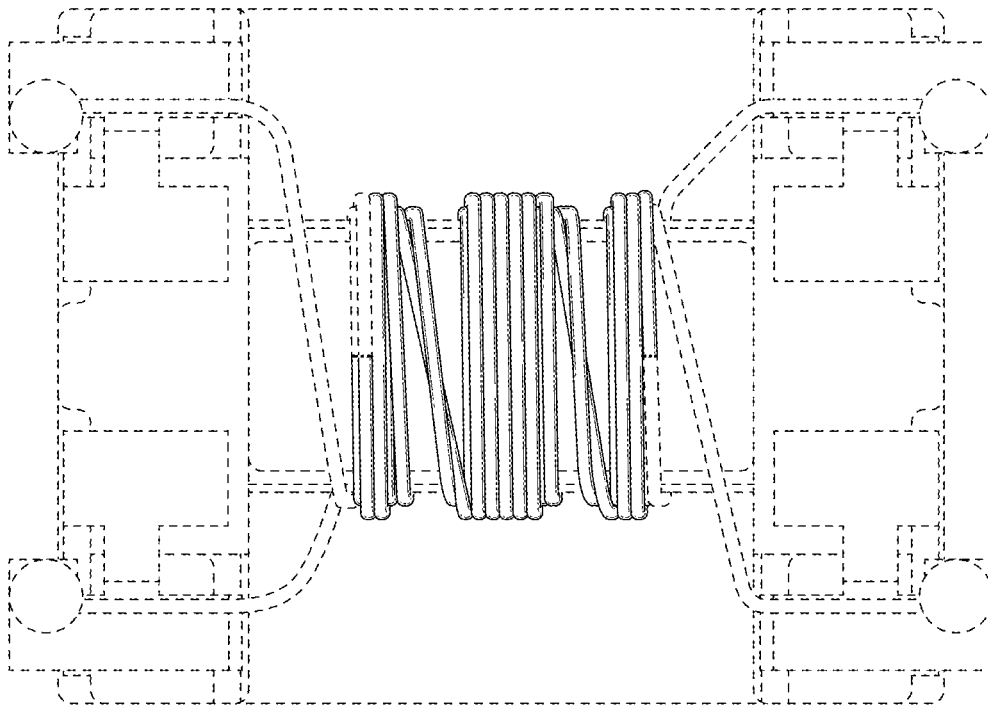


FIG. 32



FIG. 33

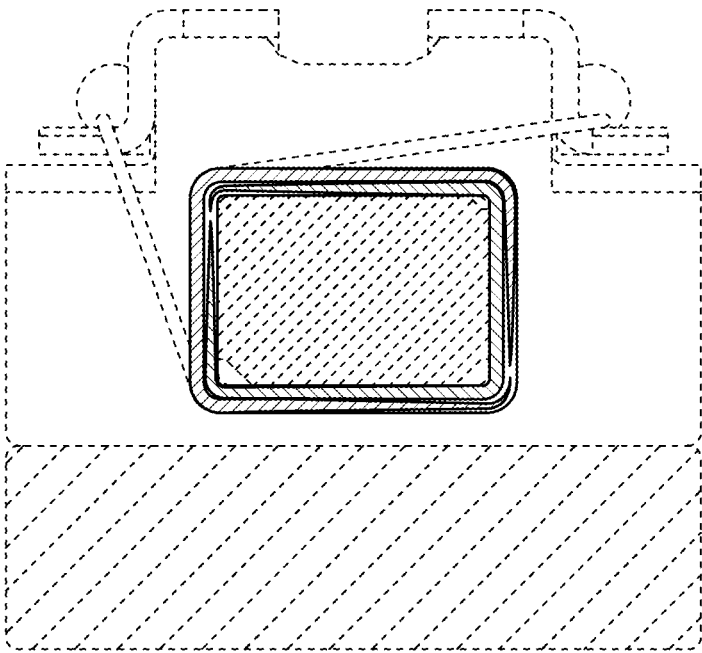


FIG. 34

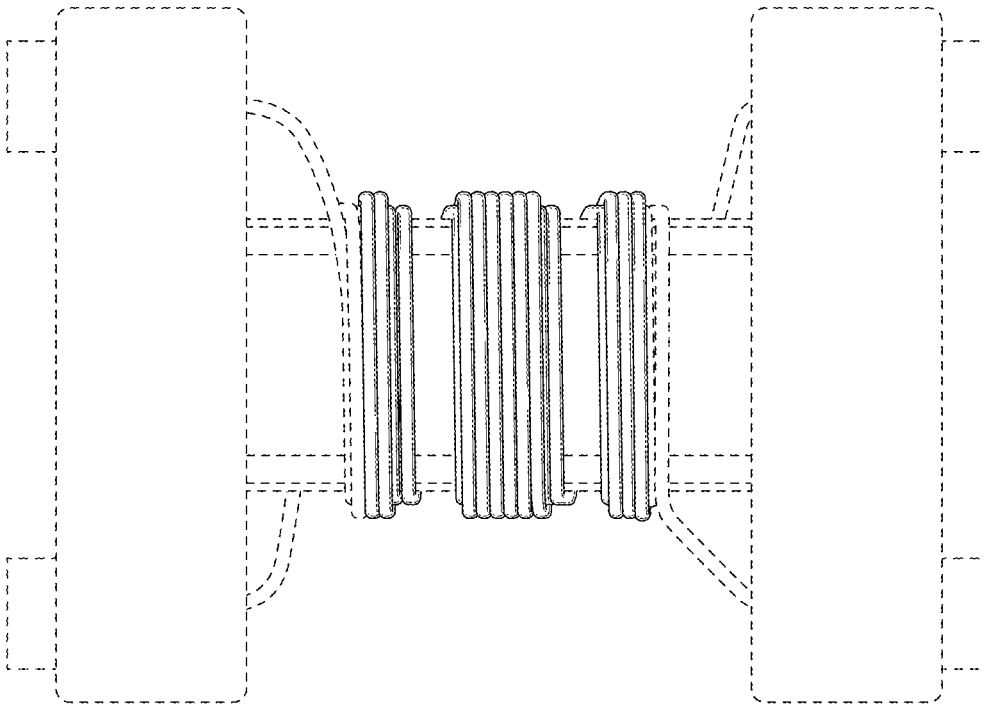


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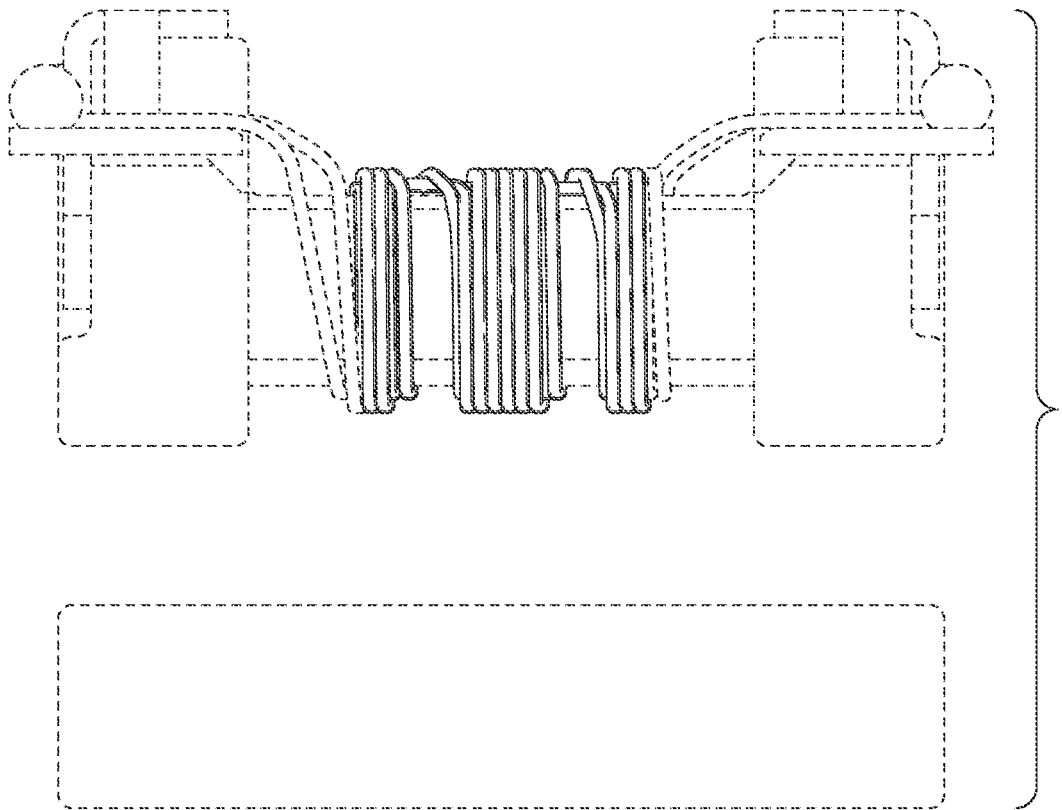


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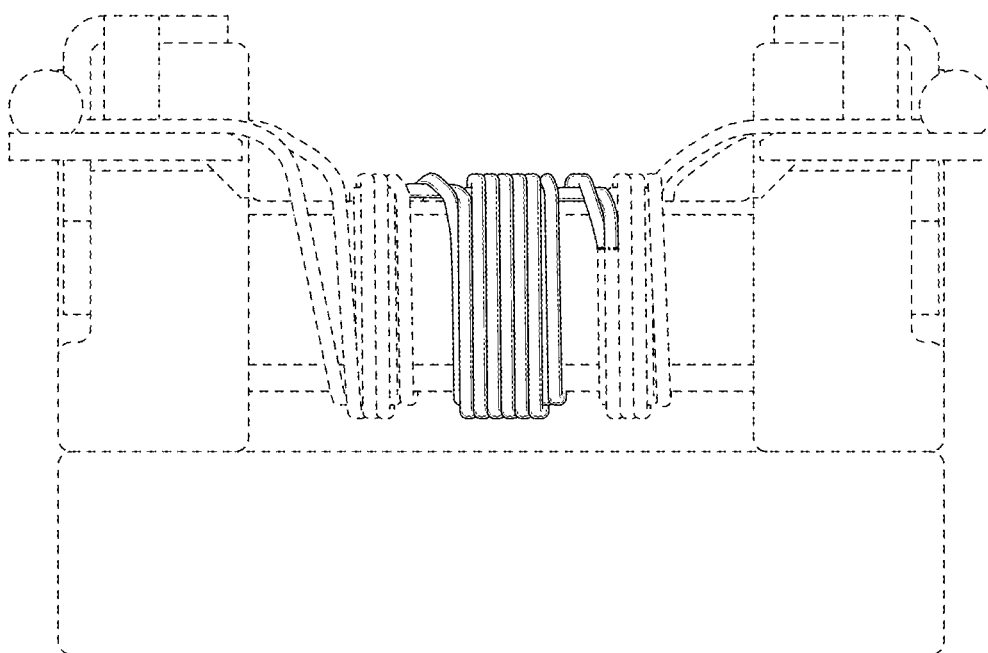


FIG. 37

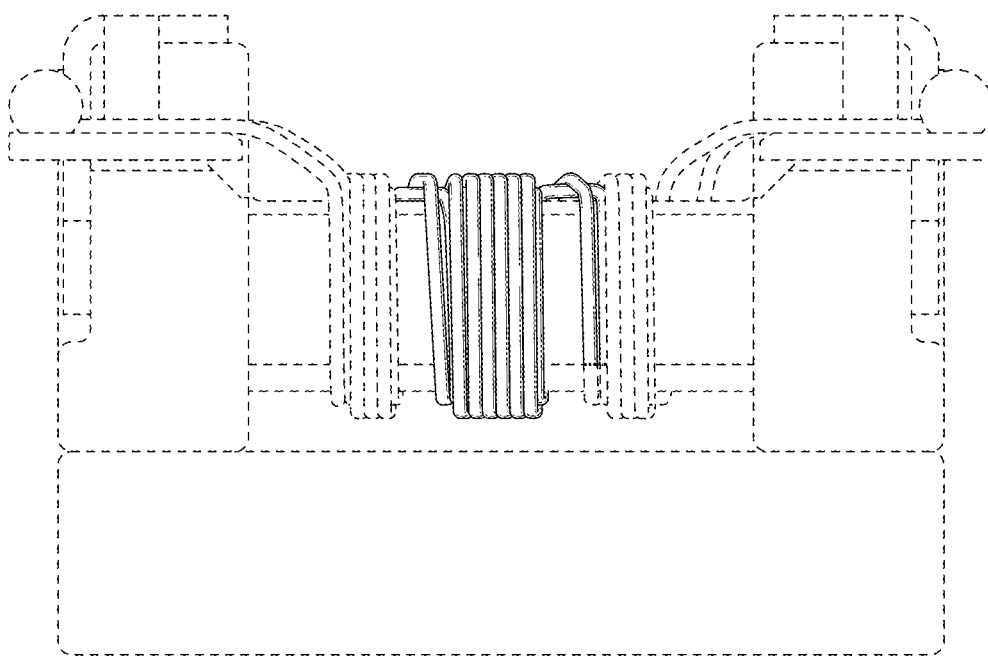


FIG. 38

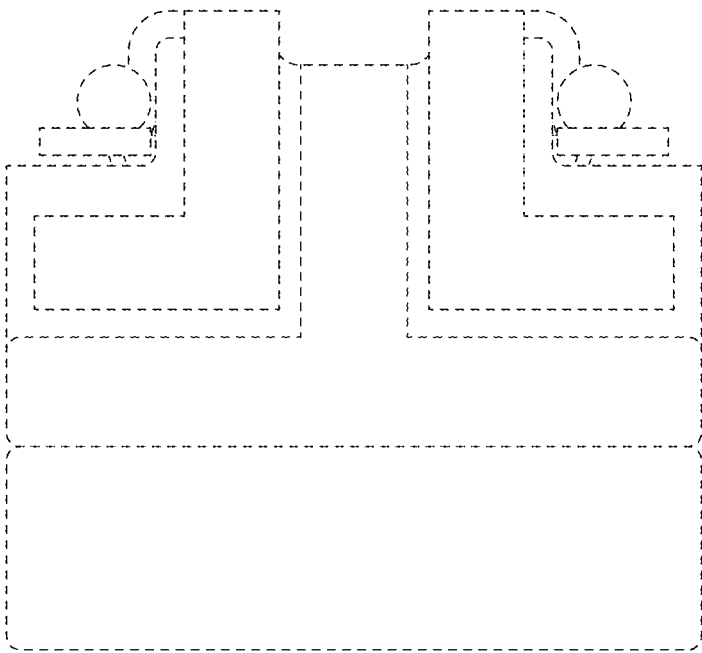


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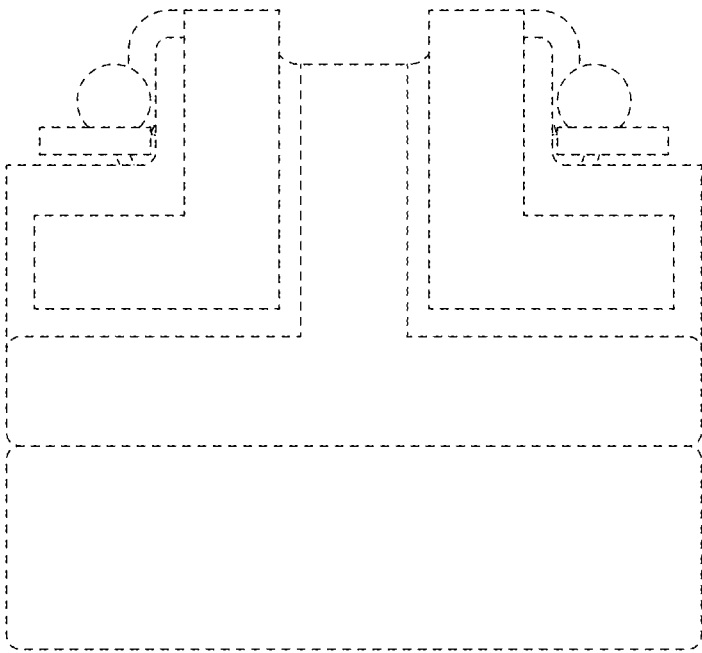


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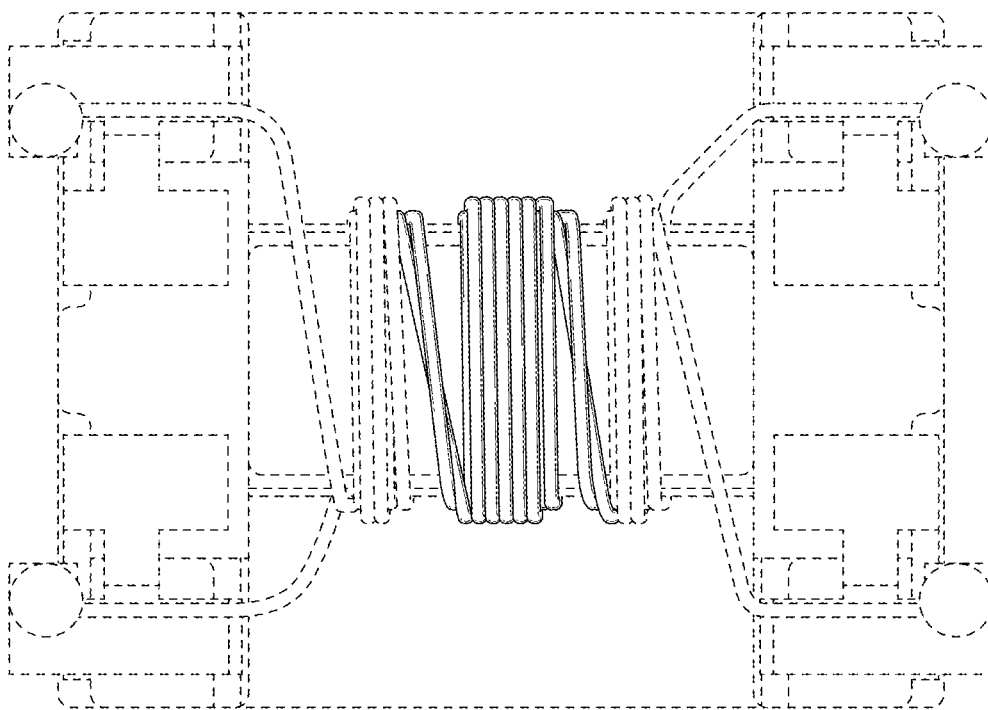


FIG. 41



FIG. 42

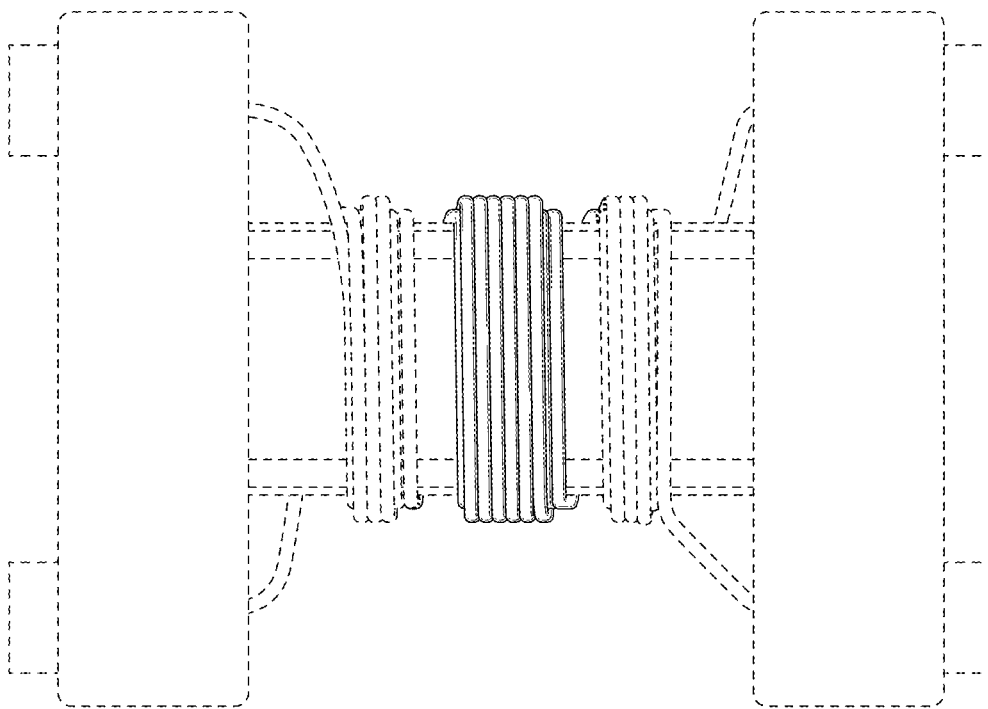


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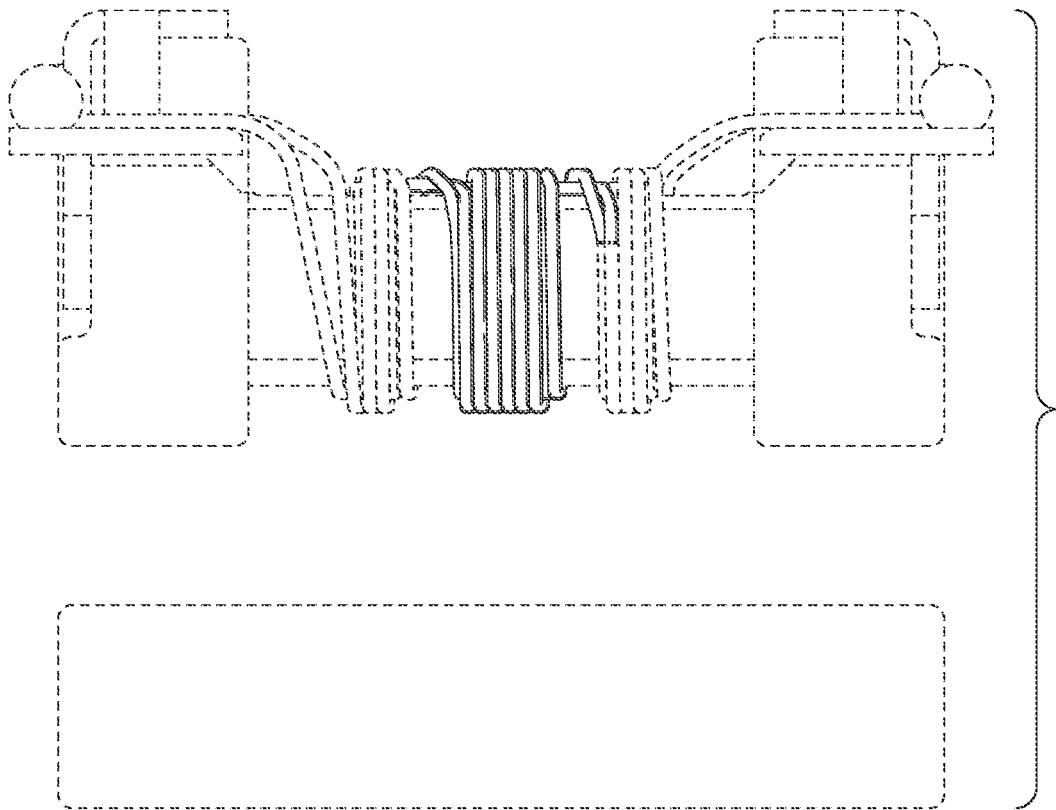


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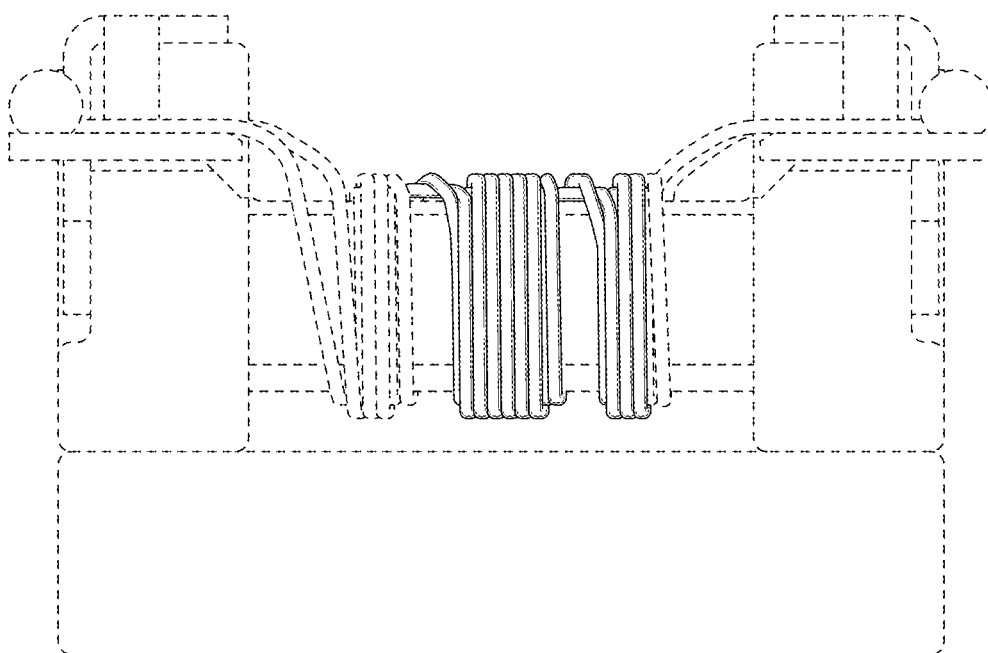


FIG. 45

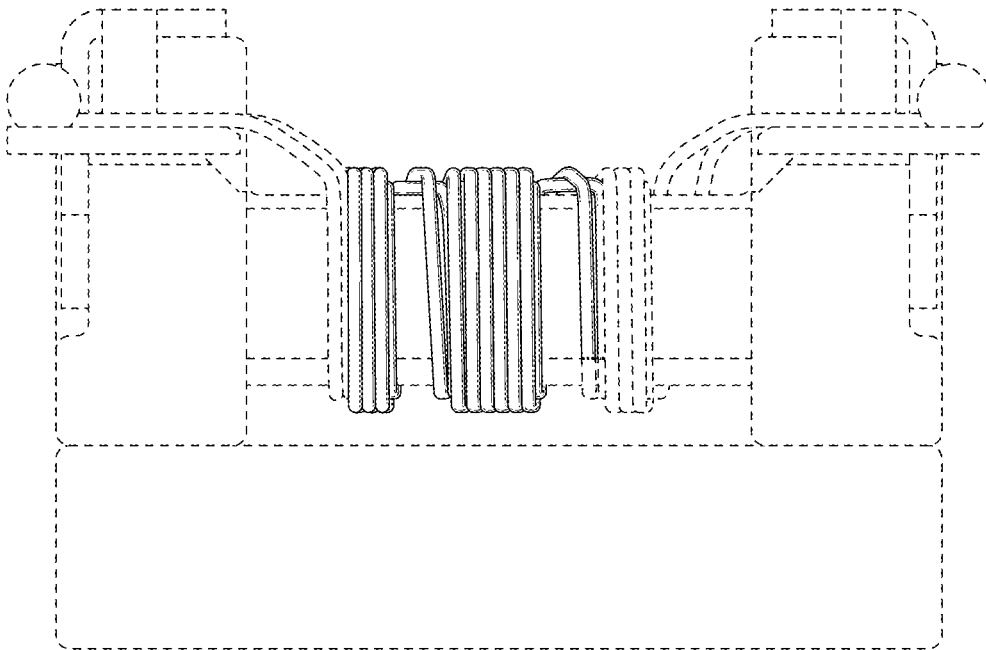


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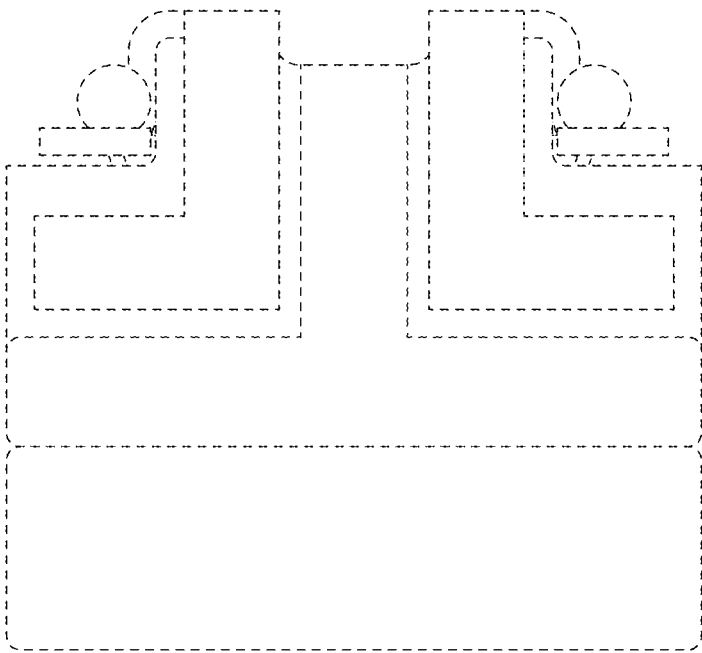


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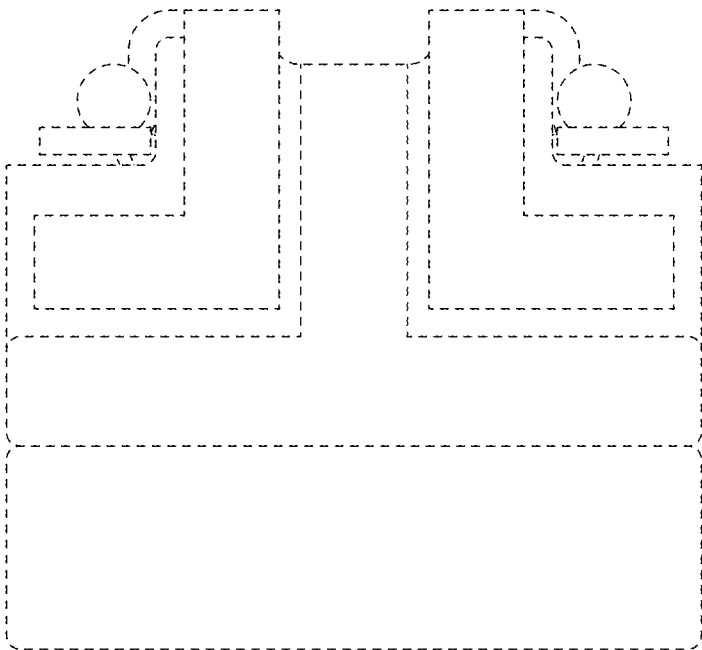


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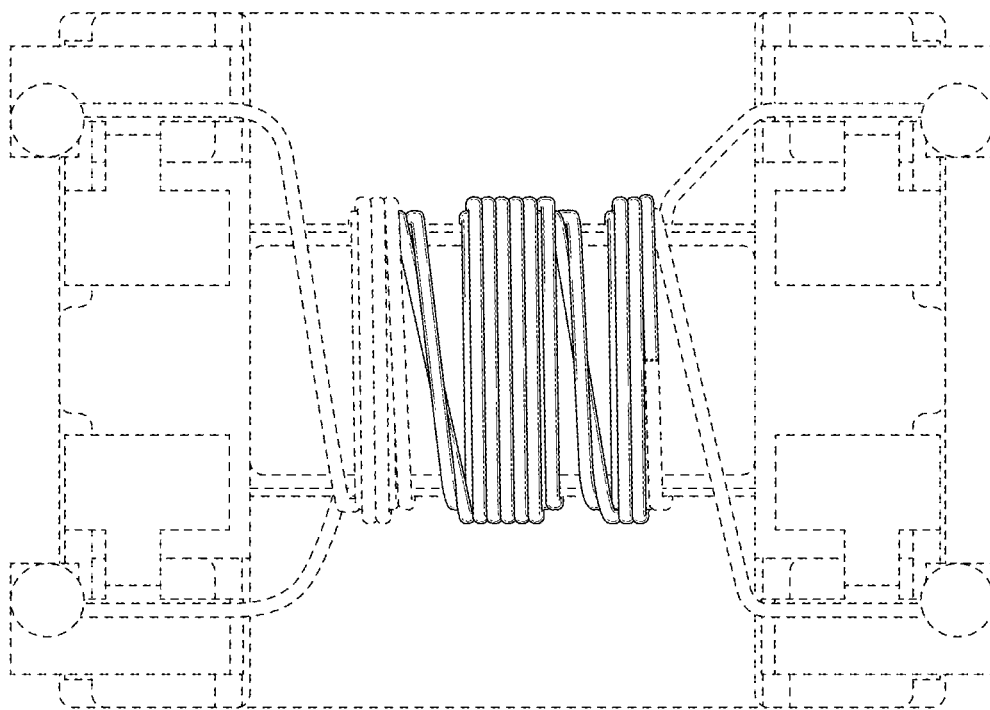


FIG. 49



FIG. 50

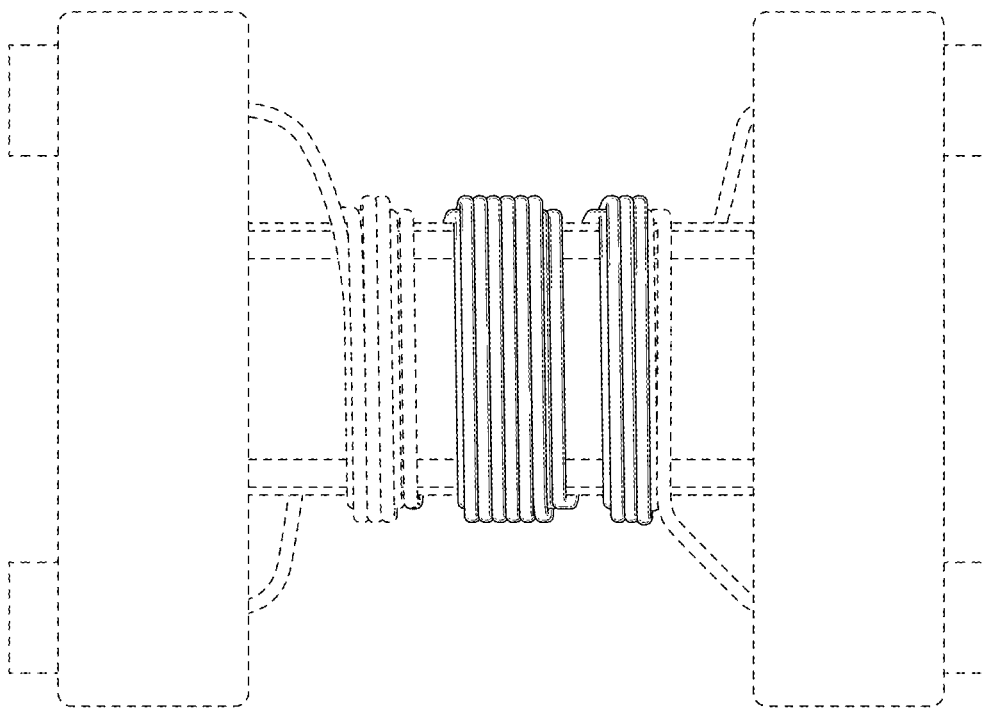


FIG. 51

