

US00D764035S

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

(10) **Patent No.:** **US D764,035 S**  
(45) **Date of Patent:** **\*\* Aug. 16, 2016**

(54) **HEAT EXCHANGER**

(71) Applicants: **DOMETIC SWEDEN AB**, Solna (SE);  
**Beckett Gas, Inc.**, North Ridgeville, OH  
(US)

(72) Inventors: **Gale A. Schmidt**, West Jordan, UT (US);  
**Christopher C. Schmidt**, West Valley,  
UT (US); **Steve R. Matson**, West Jordan,  
UT (US); **Richard Maricic**, Parma, OH  
(US)

(73) Assignees: **Dometic Sweden AB**, Solna (SE);  
**Beckett Gas, Inc.**, North Ridgeville, OH  
(US)

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

(21) Appl. No.: **29/553,107**

(22) Filed: **Jan. 28, 2016**

**Related U.S. Application Data**

(62) Division of application No. 29/496,587, filed on Jul.  
15, 2014.

(51) **LOC (10) Cl.** ..... **23-03**

(52) **U.S. Cl.**  
USPC ..... **D23/323**

(58) **Field of Classification Search**  
USPC ..... D23/314, 323, 330, 386, 499; 165/181,  
165/121, 166, 167, 170, 150, 151, 182, 172,  
165/48.1, 177, 184, 41; 126/21 A, 91 A,  
126/11 R; 123/109  
CPC ..... F28F 1/10; F24C 15/322; F24H 3/087;  
F24H 3/08; F28D 1/0477; F24D 17/001

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,657,020 A 10/1953 Hofmeister  
3,285,334 A 11/1966 Pastemak

(Continued)

FOREIGN PATENT DOCUMENTS

AU D360022 1/2015  
AU D360131 1/2015

(Continued)

OTHER PUBLICATIONS

Canadian Intellectual Property Office; Examiners Report for appli-  
cation No. 160490 dated Oct. 8, 2015; pp. 1-2; Gatineau, Quebec,  
Canada Oct. 28, 2015.

(Continued)

*Primary Examiner* — T. Chase Nelson

*Assistant Examiner* — Ania Aman

(74) *Attorney, Agent, or Firm* — Middleton Reutlinger

(57) **CLAIM**

The ornamental design for a heat exchanger, as shown and  
described.

**DESCRIPTION**

FIG. 1 is a perspective view of a heat exchanger showing our  
new design;

FIG. 2 is a top plan view of the design of FIG. 1;

FIG. 3 is a bottom plan view of the design of FIG. 1;

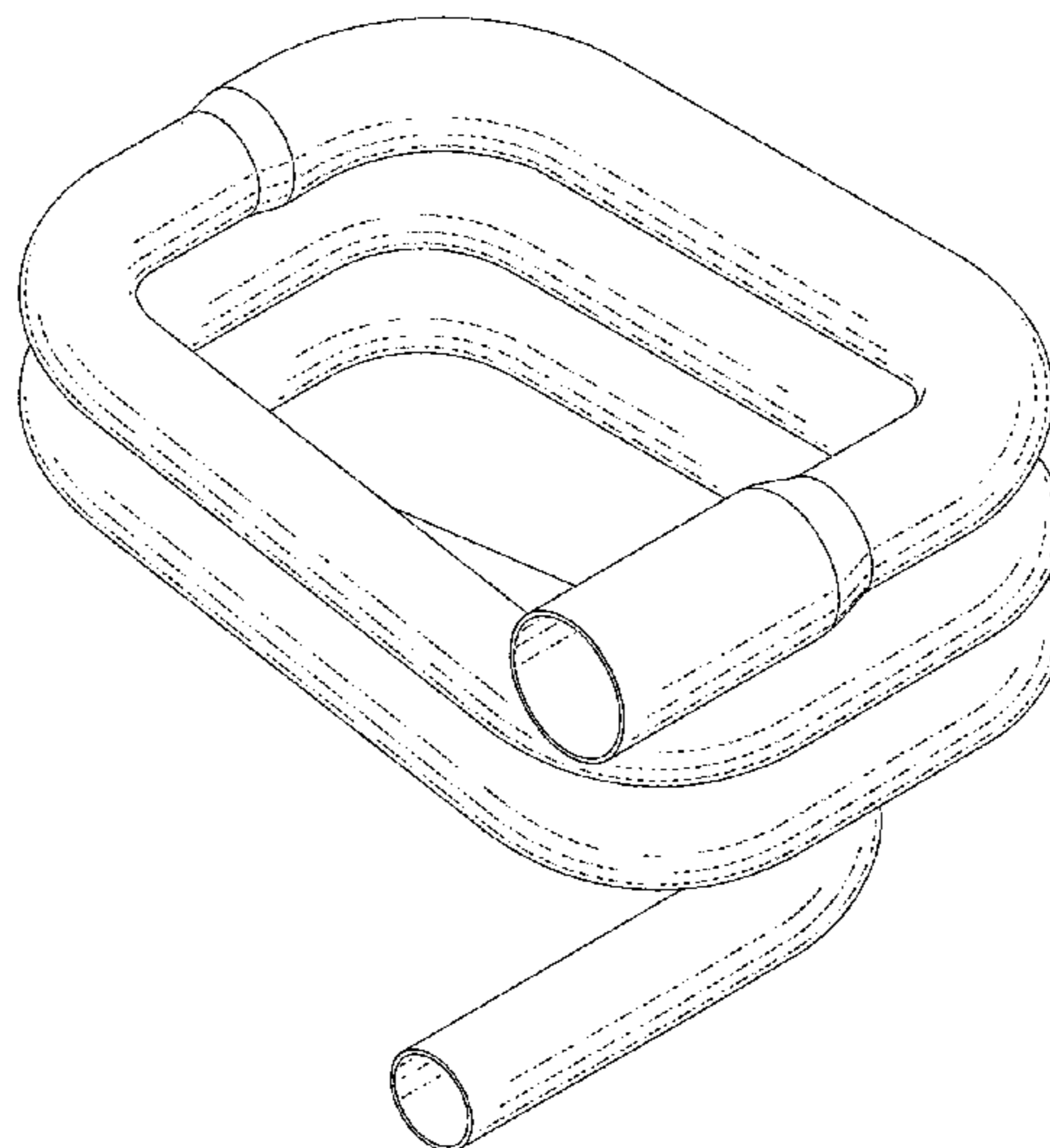
FIG. 4 is a rear elevation view of the design of FIG. 1;

FIG. 5 is a front elevation view of the design of FIG. 1;

FIG. 6 is a first side elevation view of the design of FIG. 1;  
and,

FIG. 7 is a second side elevation view of the design of FIG. 1.

**1 Claim, 5 Drawing Sheets**



(56)

**References Cited**

U.S. PATENT DOCUMENTS

1,828,319	A	10/1981	Cutler, Jr.	
4,493,308	A	1/1985	Hurley et al.	
4,599,773	A	7/1986	Sievers	
4,956,534	A	9/1990	Martin	
5,094,224	A	3/1992	Diesch	
5,179,259	A	1/1993	Martin	
5,265,444	A *	11/1993	Martin	H05B 6/804 165/201
5,803,163	A *	9/1998	Goulet	B67D 1/0864 165/163
5,915,372	A *	6/1999	Wiedemann	F24C 15/322 126/21 A
5,967,228	A	10/1999	Bergman et al.	
6,311,685	B1 *	11/2001	Bassoli	F24C 15/322 126/21 A
7,325,480	B2 *	2/2008	Gruhbaum	F24C 15/322 99/330
2007/0199688	A1 *	8/2007	Okonski	F22B 9/12 165/163
2007/0204980	A1 *	9/2007	Kim	F28D 7/0066 165/172
2009/0020265	A1	1/2009	Feinauer et al.	
2013/0306287	A1 *	11/2013	Ryoo	F28D 1/047 165/181
2014/0020669	A1 *	1/2014	Sherrow	F24H 9/0068 126/110 C

2014/0150769	A1 *	6/2014	Raghavan	F24C 15/322 126/21 A
2014/0202443	A1	7/2014	Sherrow et al.	
2014/0262185	A1	9/2014	Raina	
2016/0018132	A1 *	1/2016	Schmidt	F28D 1/0477 126/109

FOREIGN PATENT DOCUMENTS

AU	D360132	1/2015
JP	2013011404	1/2013
KR	1020120038621	4/2012
KR	1020130011213	1/2013
KR	1020120108177	10/2015
NZ	D419738	4/2015
NZ	D419740	4/2015
NZ	D419741	4/2015

OTHER PUBLICATIONS

Chinese Patent Office, Application 100035 as filed dated Jan. 14, 2015, pp. 1-37 (English and Chinese).

Office for Harmonization in the Internal Market, Preliminary Examination Report for design registration No. 002613315 dated Jan. 19, 2015, pp. 1-3; Alicante, Spain.

Korean Intellectual Property Office; International Search Report and Written Opinion for PCT/US2015/040442 Oct. 21, 2015.

\* cited by examiner

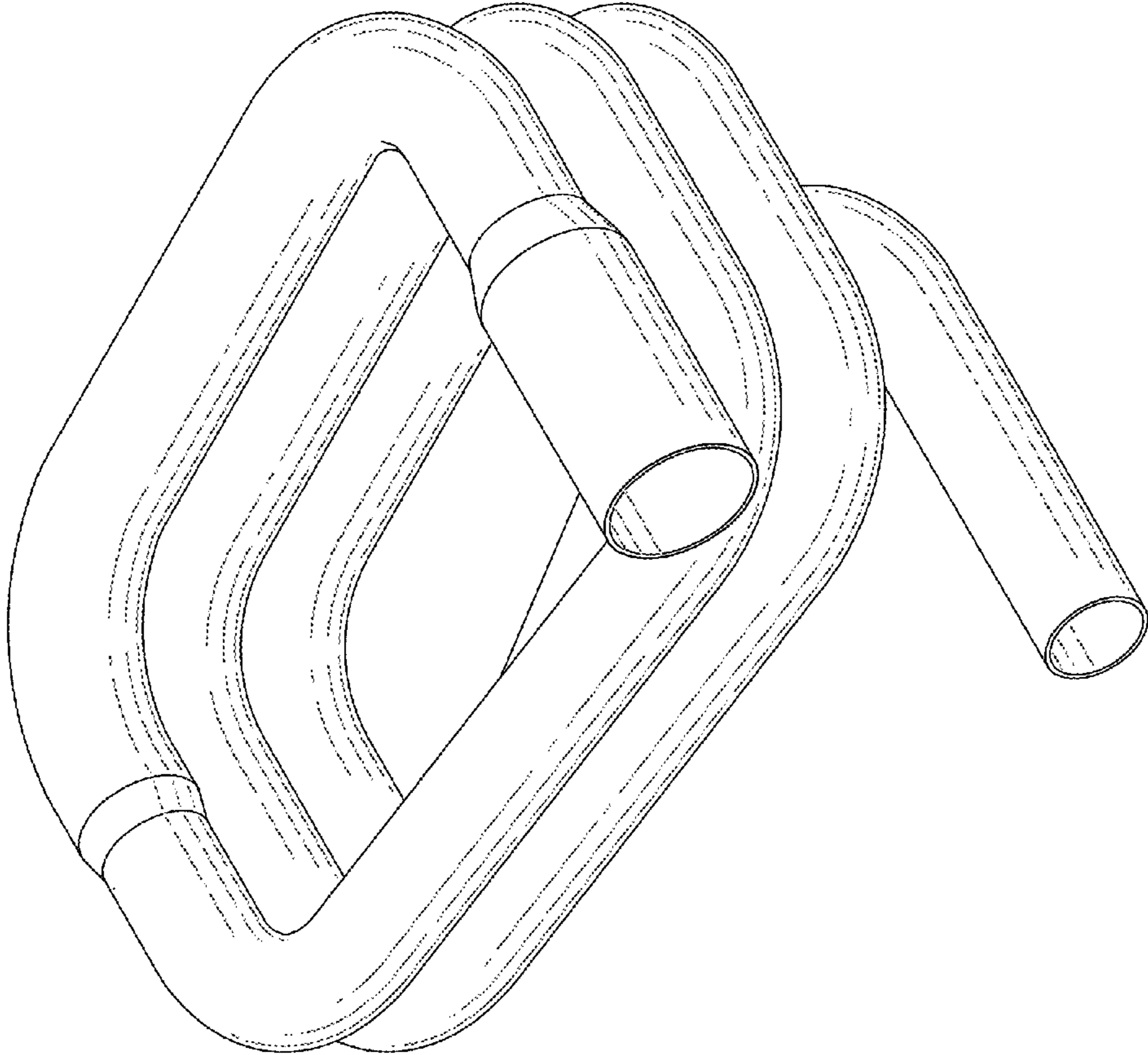


Fig. 1

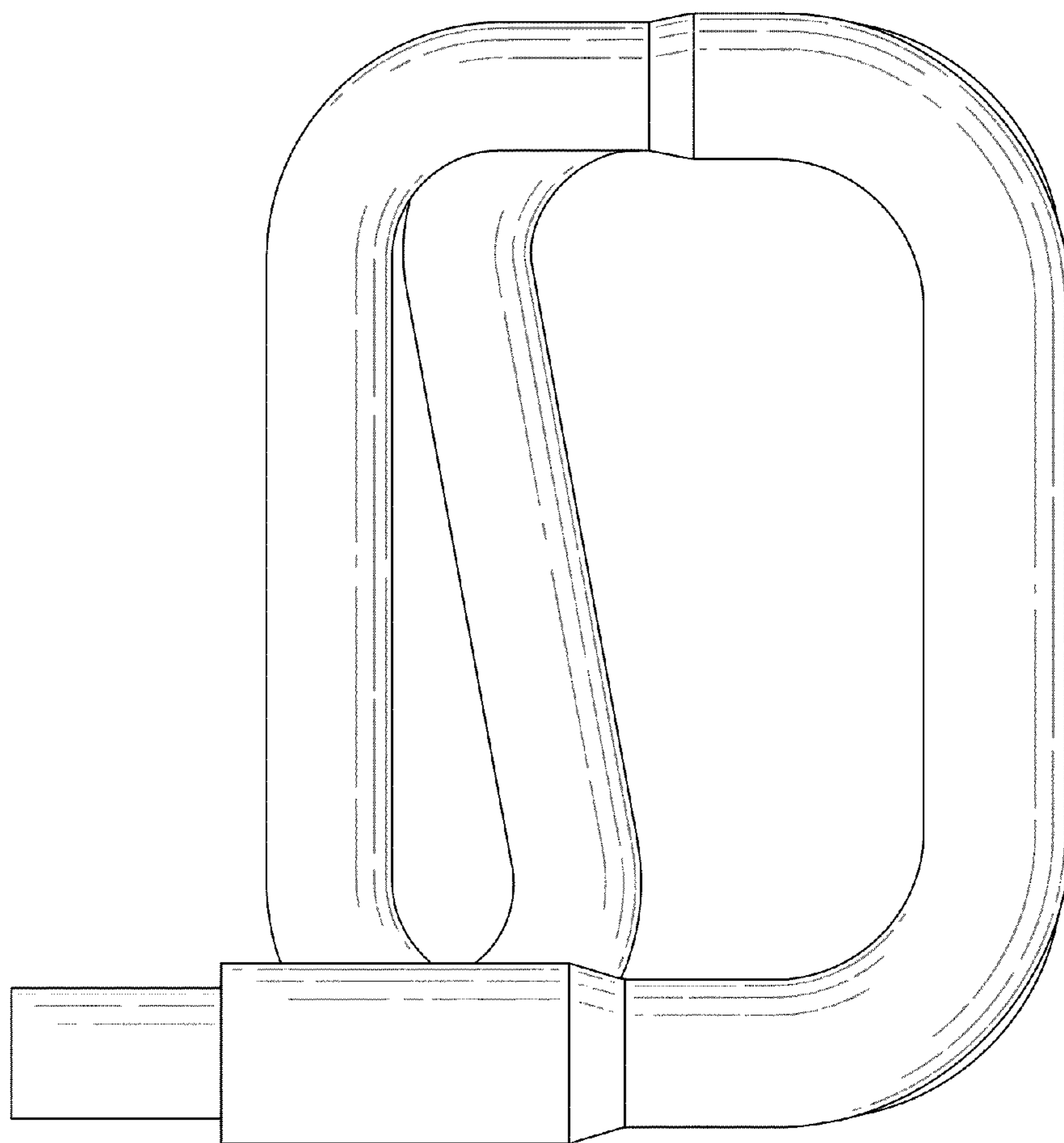


Fig. 2

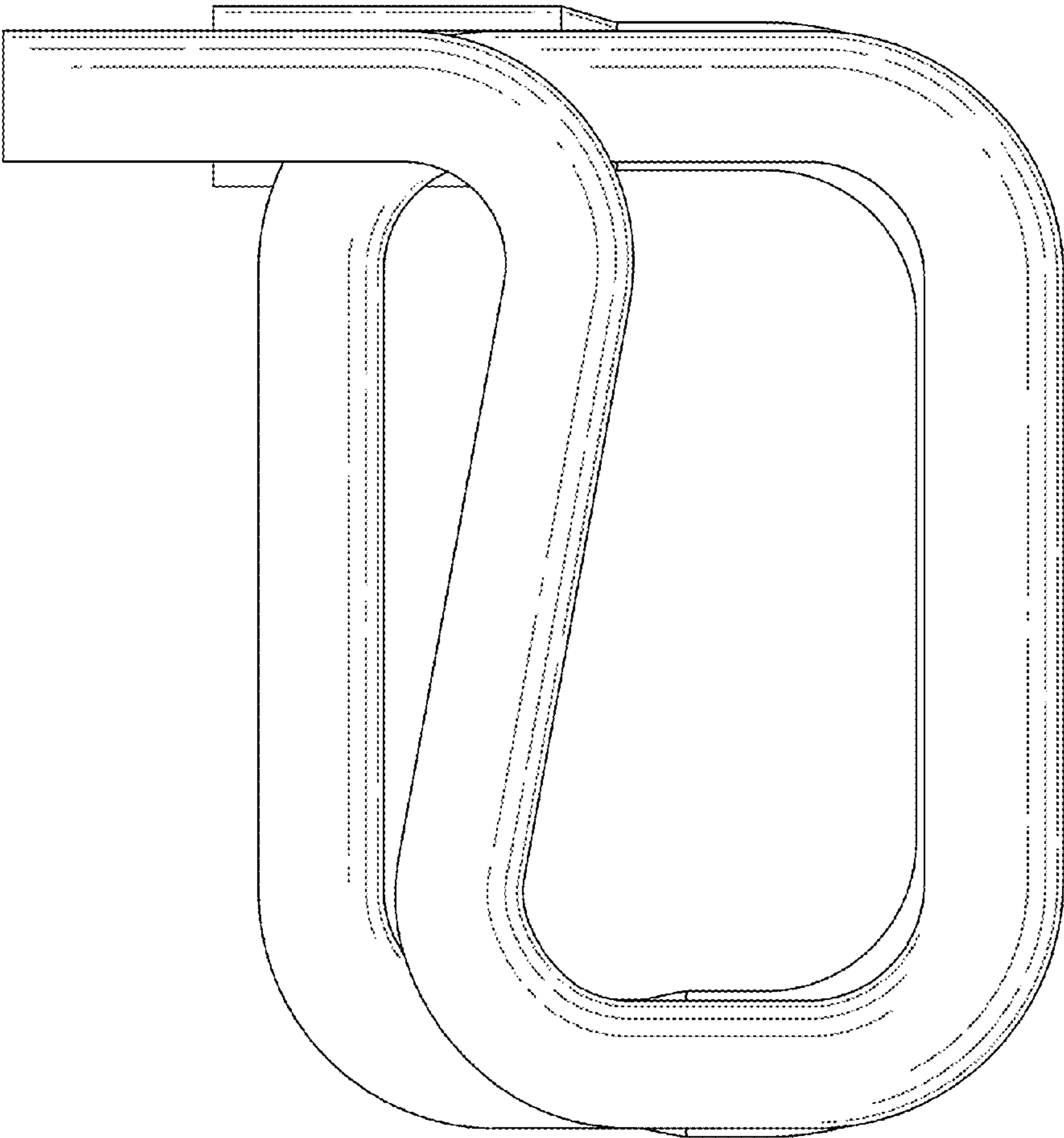


Fig. 3

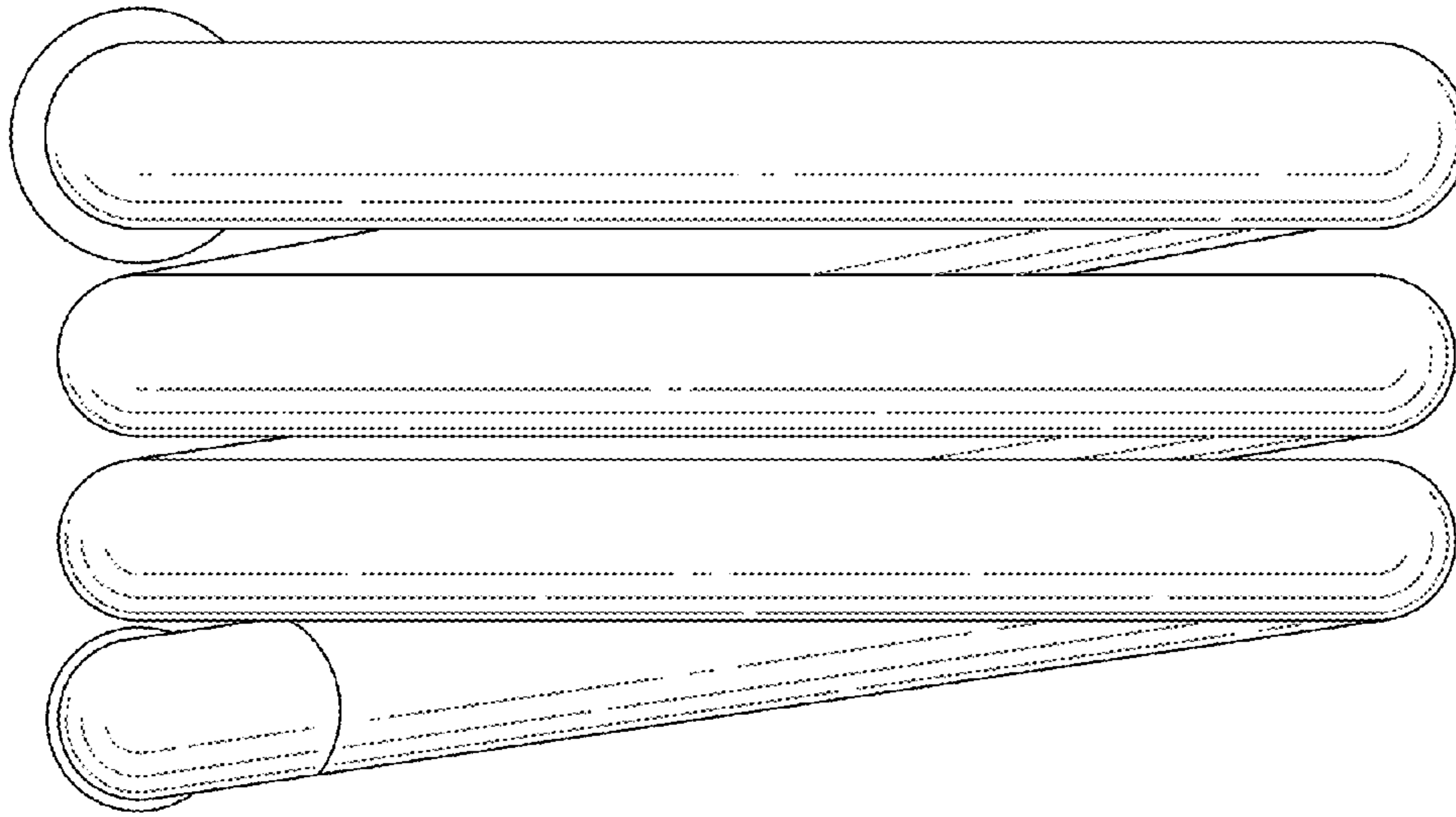


Fig. 4

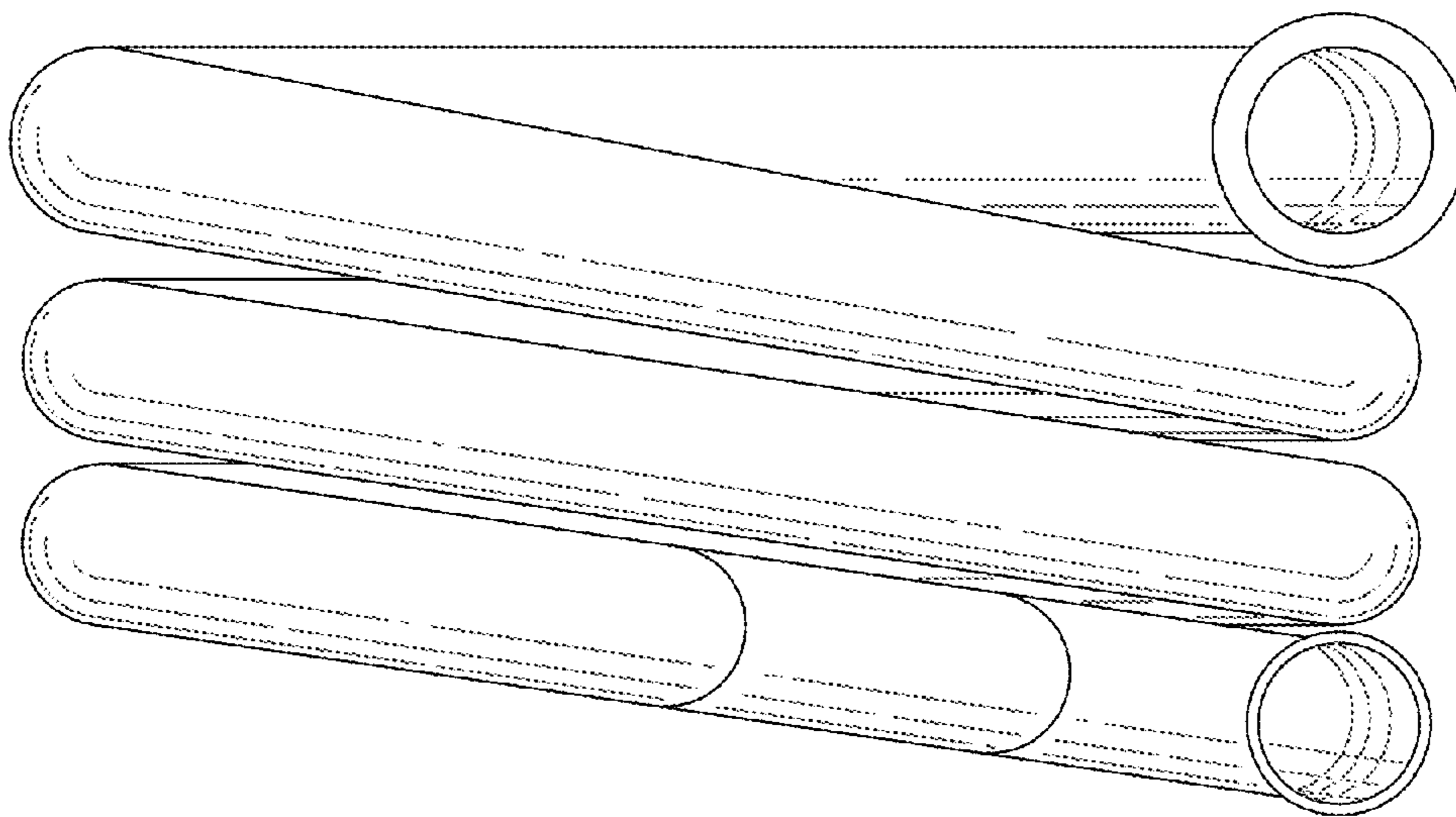


Fig. 5

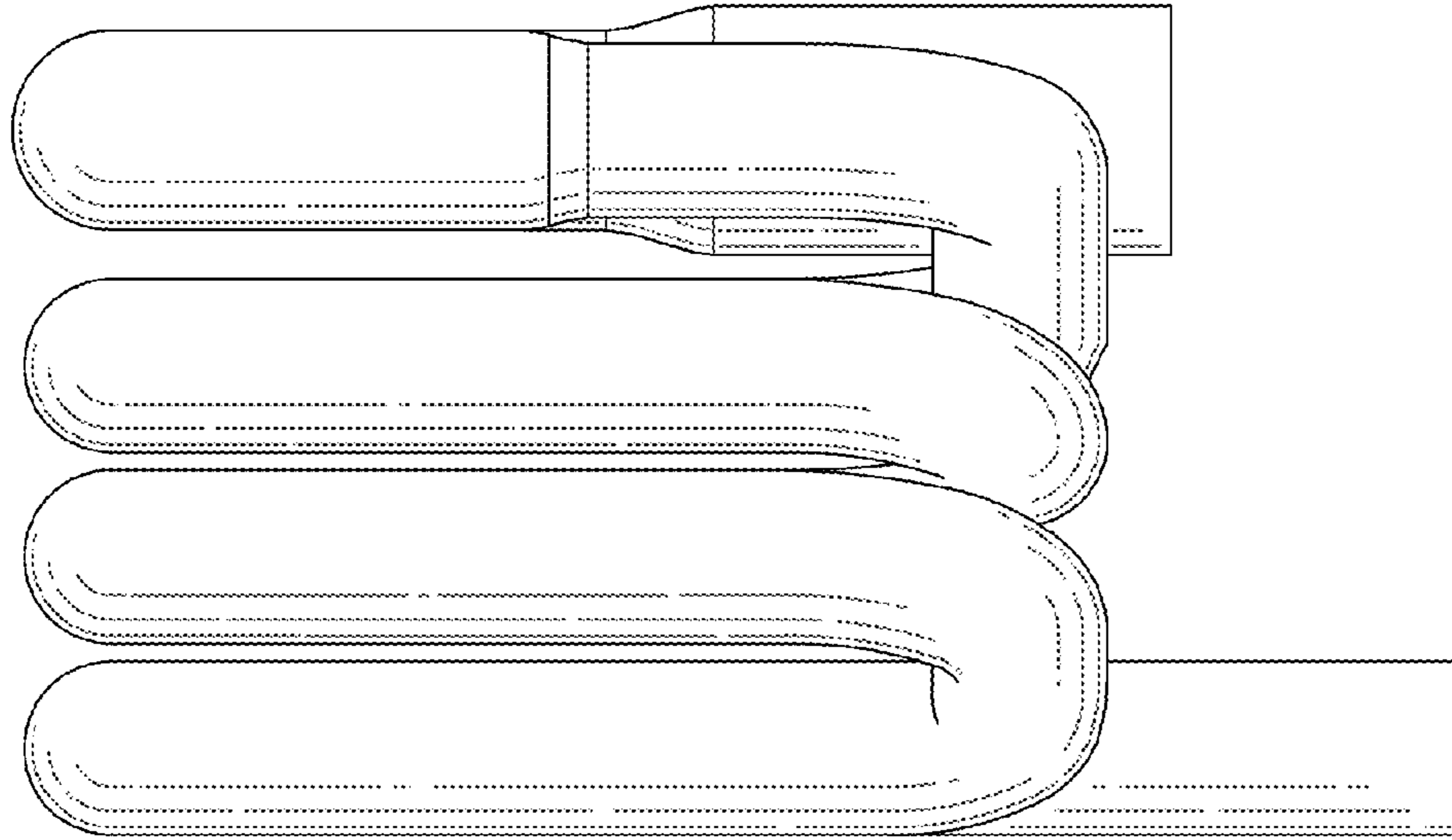


Fig. 6

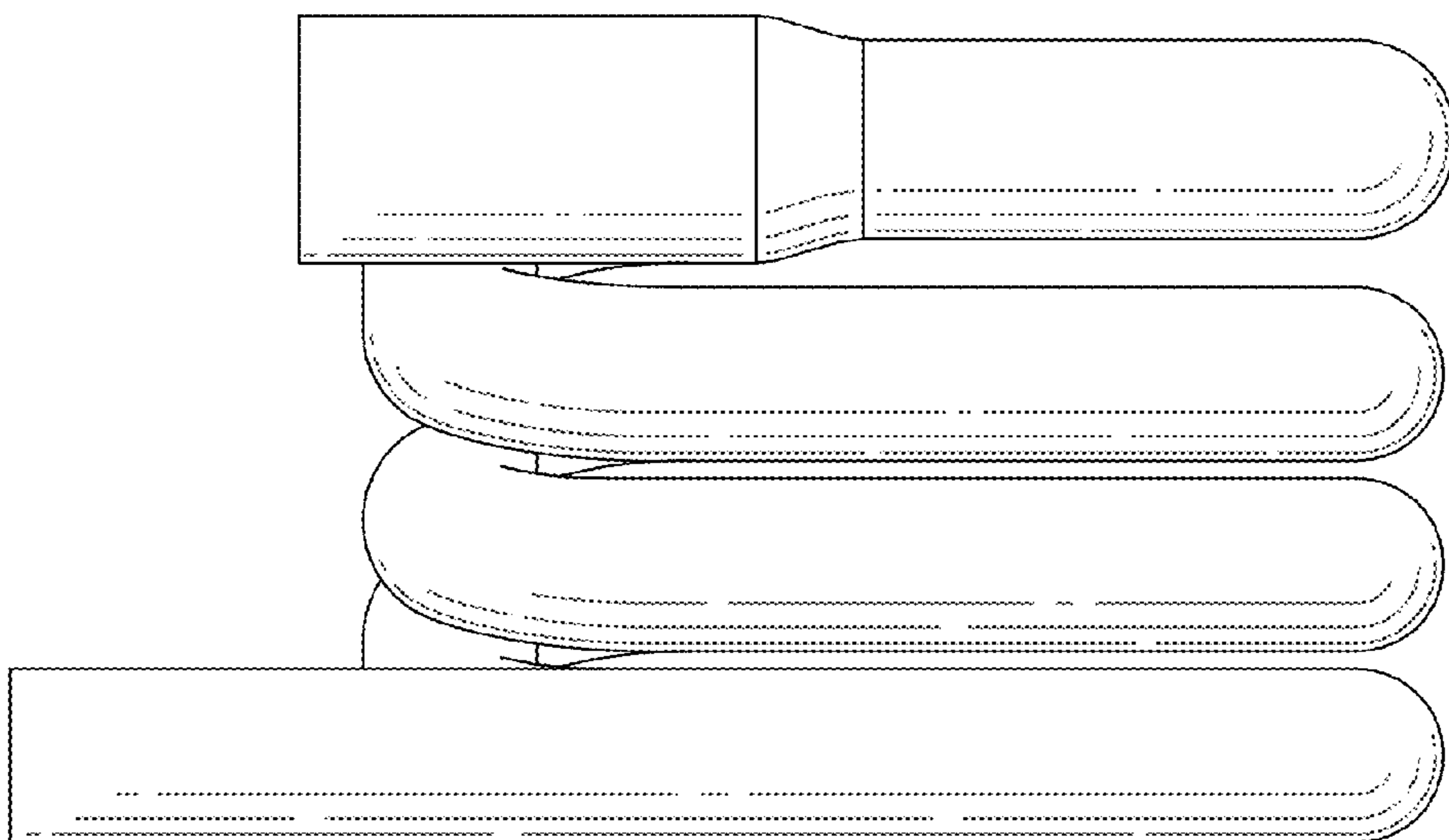


Fig. 7