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

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(45) **Date of Patent:** **** Nov. 17, 2015**

(54) **CENTRALIZER**

7,182,131 B2 2/2007 Gremillion
7,377,325 B2 5/2008 Trinder et al.
7,849,918 B2 12/2010 Ehlinger et al.

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(Continued)

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OTHER PUBLICATIONS

Author Unknown, Frank's International Direct, vol. 1, Issue 2, 2001, pp. 9-10.

(Continued)

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(**) Term: **14 Years**

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(21) Appl. No.: **29/503,945**

(57) **CLAIM**

The ornamental design for a centralizer, as shown.

(22) Filed: **Sep. 30, 2014**

(51) **LOC (10) Cl.** **15-09**

(52) **U.S. Cl.**
USPC **D15/21**

(58) **Field of Classification Search**
USPC D15/138-144.2, 21, 123; 299/104-111;
241/207; 219/137.31, 137.42-137.44,
219/137.61-137.63, 74, 75;
166/241.6-241.7; D8/70; D23/213,
D23/223; 239/419, 424.5, 549

See application file for complete search history.

DESCRIPTION

FIG. 1 is a perspective view of a centralizer connected to the tabs. The tabs extend inwards, toward one another, and the engaging rings are disposed axially-intermediate of the tabs. FIG. 2 is an end view of the centralizer.

FIG. 3 is side view of the centralizer.

FIG. 4 is a perspective view of the centralizer disposed on an oilfield tubular (e.g., casing or drill pipe). A stop collar is disposed axially-intermediate of the engaging rings.

FIG. 5 is a side view of the centralizer, showing axially-extending seams thereof positioned circumferentially between the tabs.

FIG. 6 is an end view of the centralizer of FIG. 5, showing the radial-extension of the seams.

FIG. 7 is a side view of the centralizer, showing two of the axially-extending seams extending across the tabs.

FIG. 8 is an end view of the centralizer of FIG. 7, showing the radial-extension of the seam; and,

FIG. 9 is a side view of the centralizer, showing offset, axially-extending seams thereof. The end view of the centralizer of FIG. 9 is shown in FIG. 6.

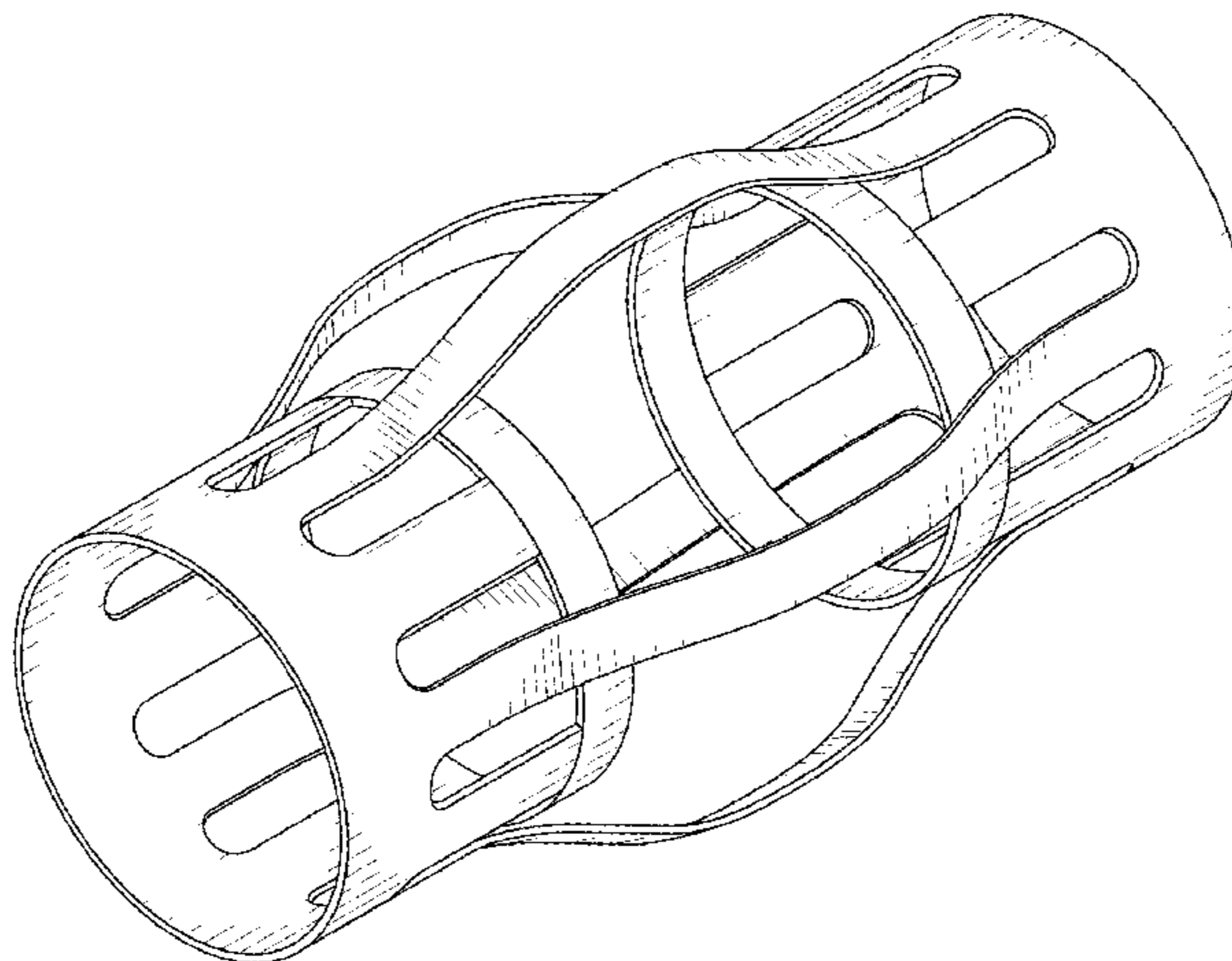
The broken lines in the drawings depict unclaimed environmental subject matter.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,209,836	A *	10/1965	Hall, Sr.	166/241.7
3,312,285	A	4/1967	Solum	
4,088,186	A	5/1978	Callihan et al.	
D252,398	S *	7/1979	Grimsley	D15/140
5,238,062	A *	8/1993	Reinholdt	166/241.7
5,566,754	A	10/1996	Stokka	
5,575,333	A	11/1996	Lirette et al.	
6,209,638	B1	4/2001	Mikolajczyk	
6,453,999	B1 *	9/2002	Reinholdt	166/241.6
6,533,034	B1	3/2003	Barger	
6,637,511	B2	10/2003	Linaker	
6,997,254	B2	2/2006	Jenner	
7,082,997	B2	8/2006	Slack	

1 Claim, 6 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

7,878,241 B2 2/2011 Buytaert
8,196,670 B2 6/2012 Jenner
D662,952 S 7/2012 Kirk et al.
D671,960 S 12/2012 Kirk et al.
8,555,964 B2 10/2013 MacLeod
D696,093 S * 12/2013 Mackay-Sim D8/70
D717,836 S * 11/2014 Buytaert et al. D15/21
D717,837 S * 11/2014 Buytaert et al. D15/21
D718,342 S * 11/2014 Buytaert et al. D15/21
D731,277 S * 6/2015 Manwaring et al. D8/70
2003/0000607 A1 1/2003 Jenner

2003/0230411 A1 12/2003 Richard
2009/0025929 A1 1/2009 Buytaert et al.
2012/0186828 A1 7/2012 Lively et al.
2013/0248207 A1 9/2013 Kirk et al.

OTHER PUBLICATIONS

Jean Buytaert et al., "One-Piece Centralizer with an Axial Seam and End-Collar Tabs", U.S. Appl. No. 29/486,157, filed Mar. 26, 2014.
Jean Buytaert et al., "One-Piece Centralizer with an Axial Seam", U.S. Appl. No. 29/486,160, filed Mar. 26, 2014.
Jean Buytaert et al., "One-Piece Centralizer with an Axial Seam and Windows", U.S. Appl. No. 29/486,162, filed Mar. 26, 2014.

* cited by examiner

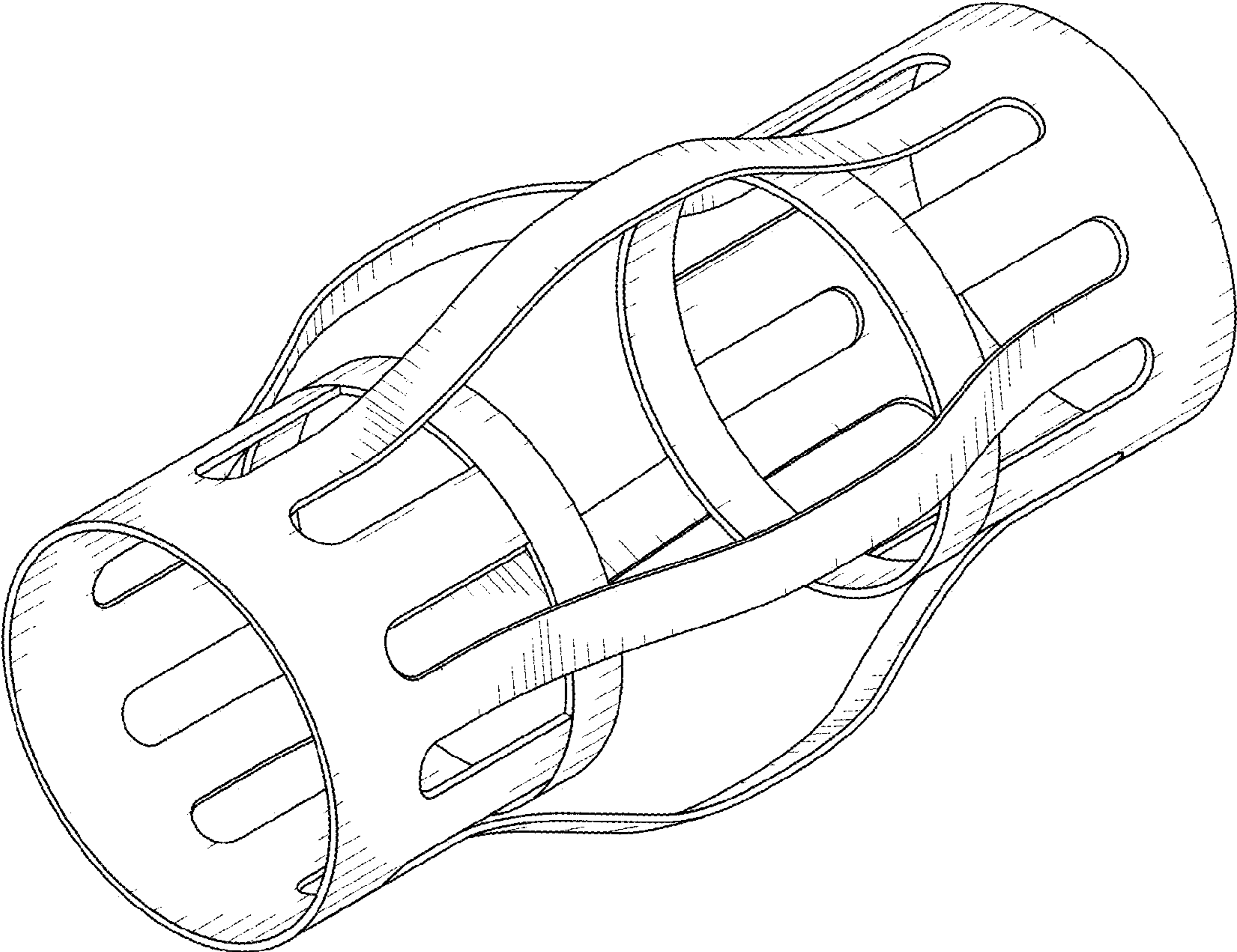


FIG. 1

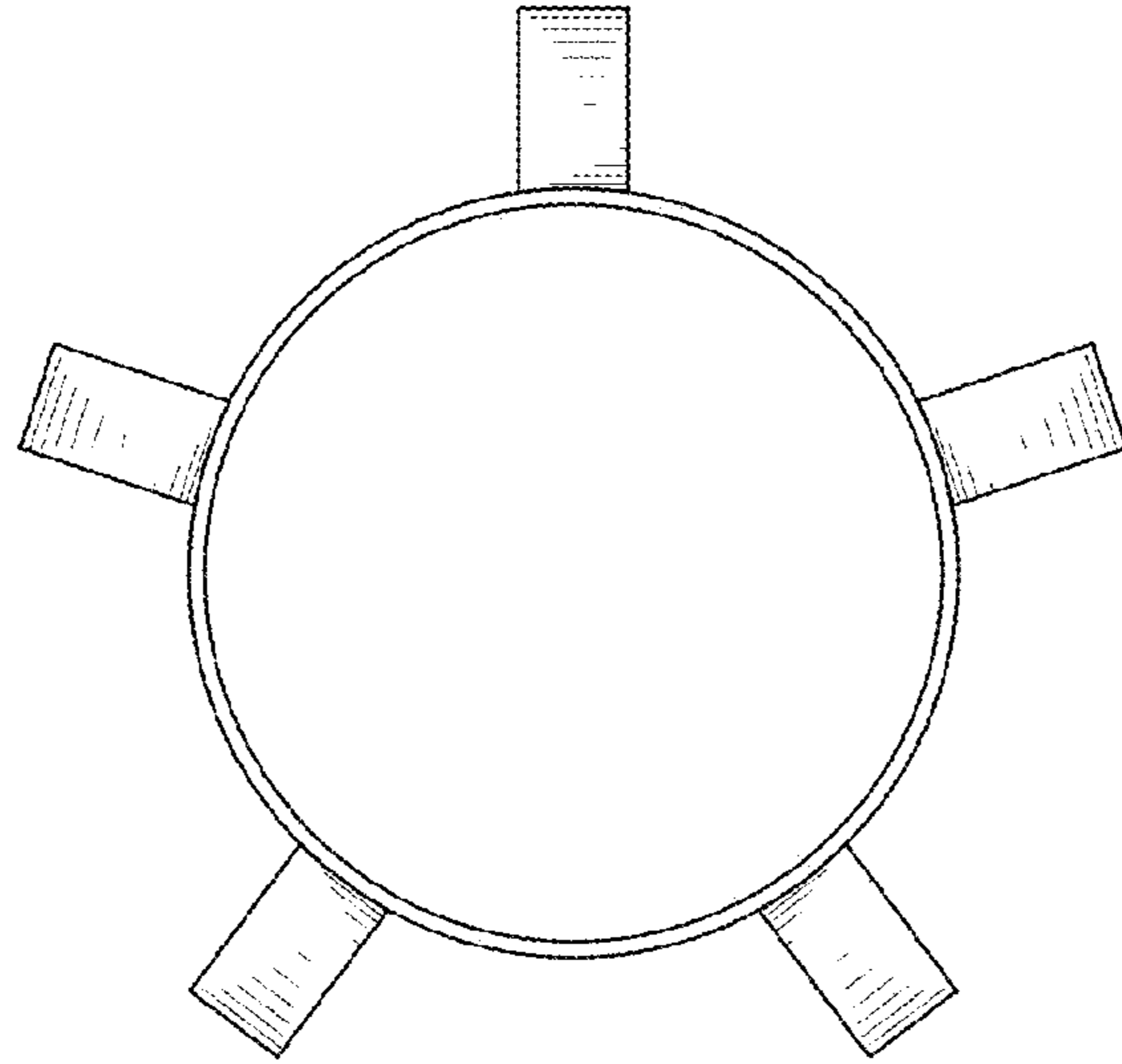


FIG. 2

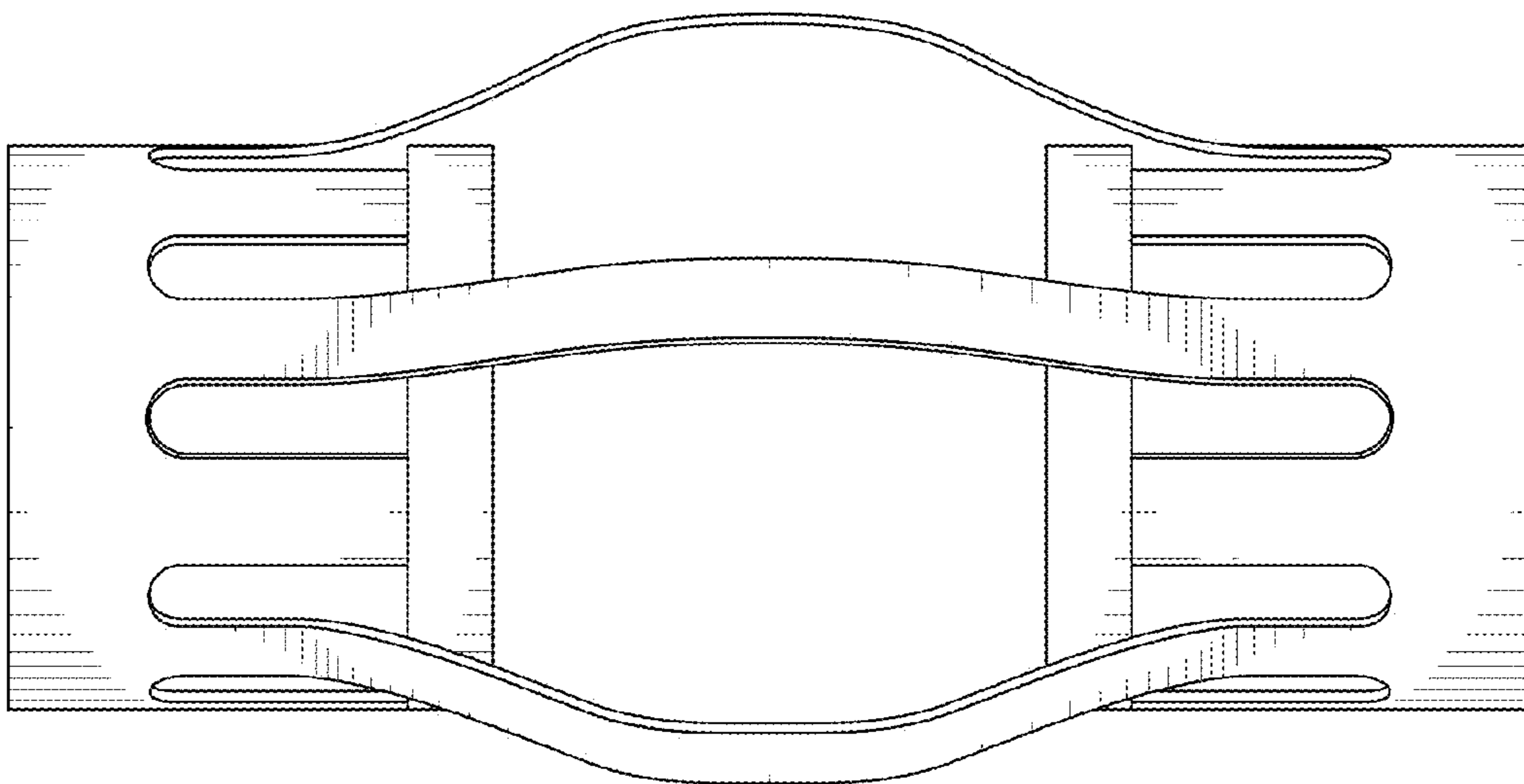


FIG. 3

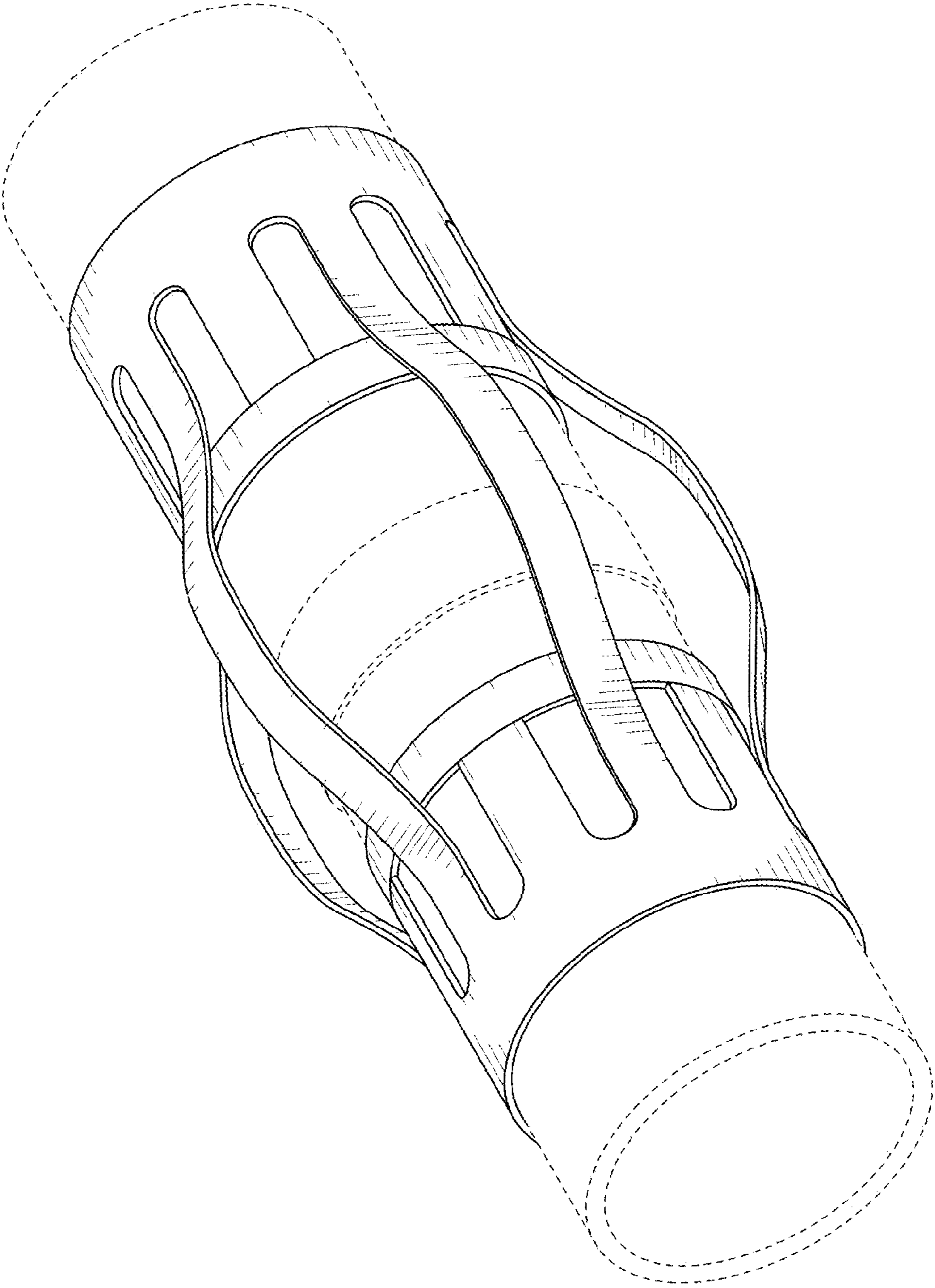


FIG. 4

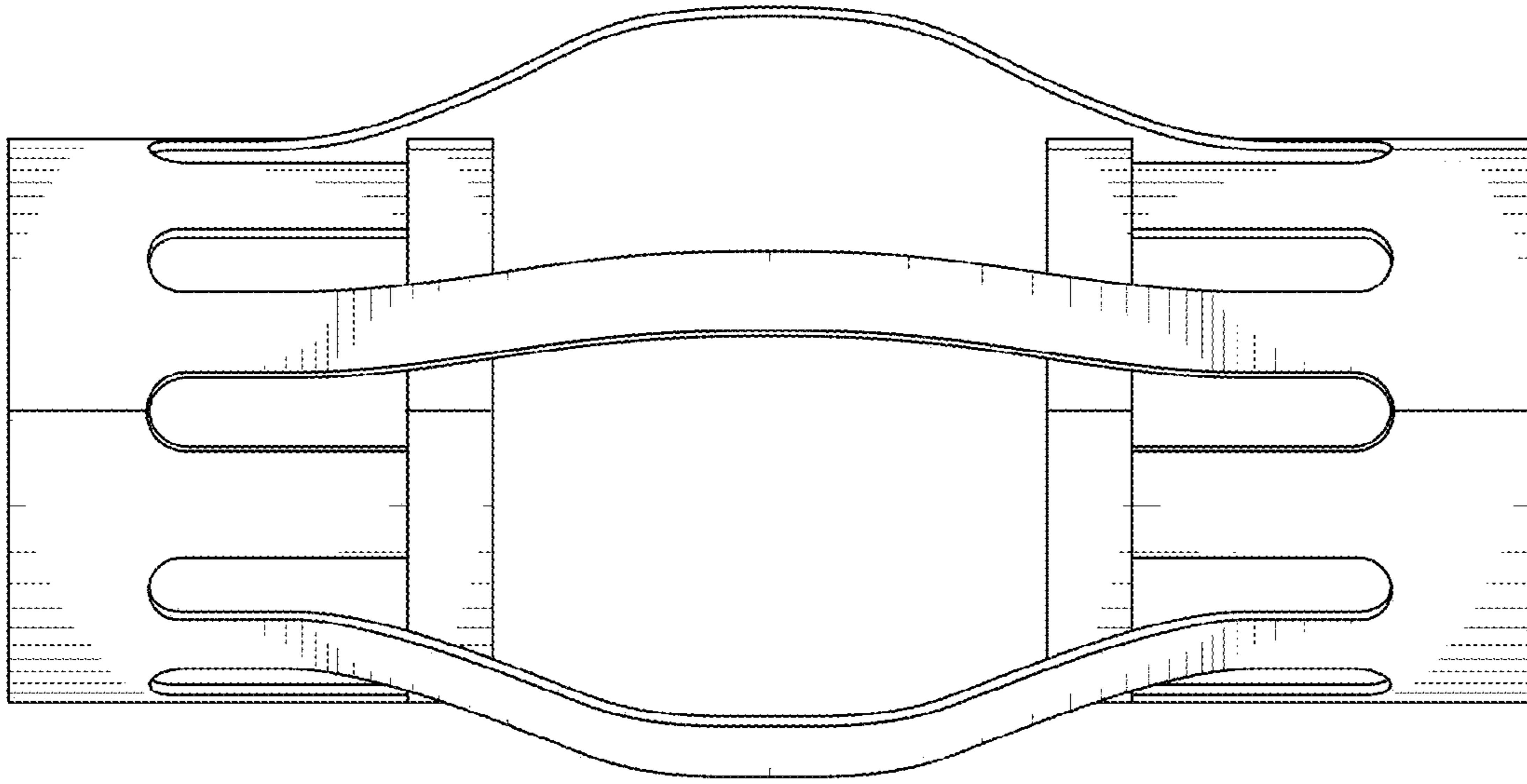


FIG. 5

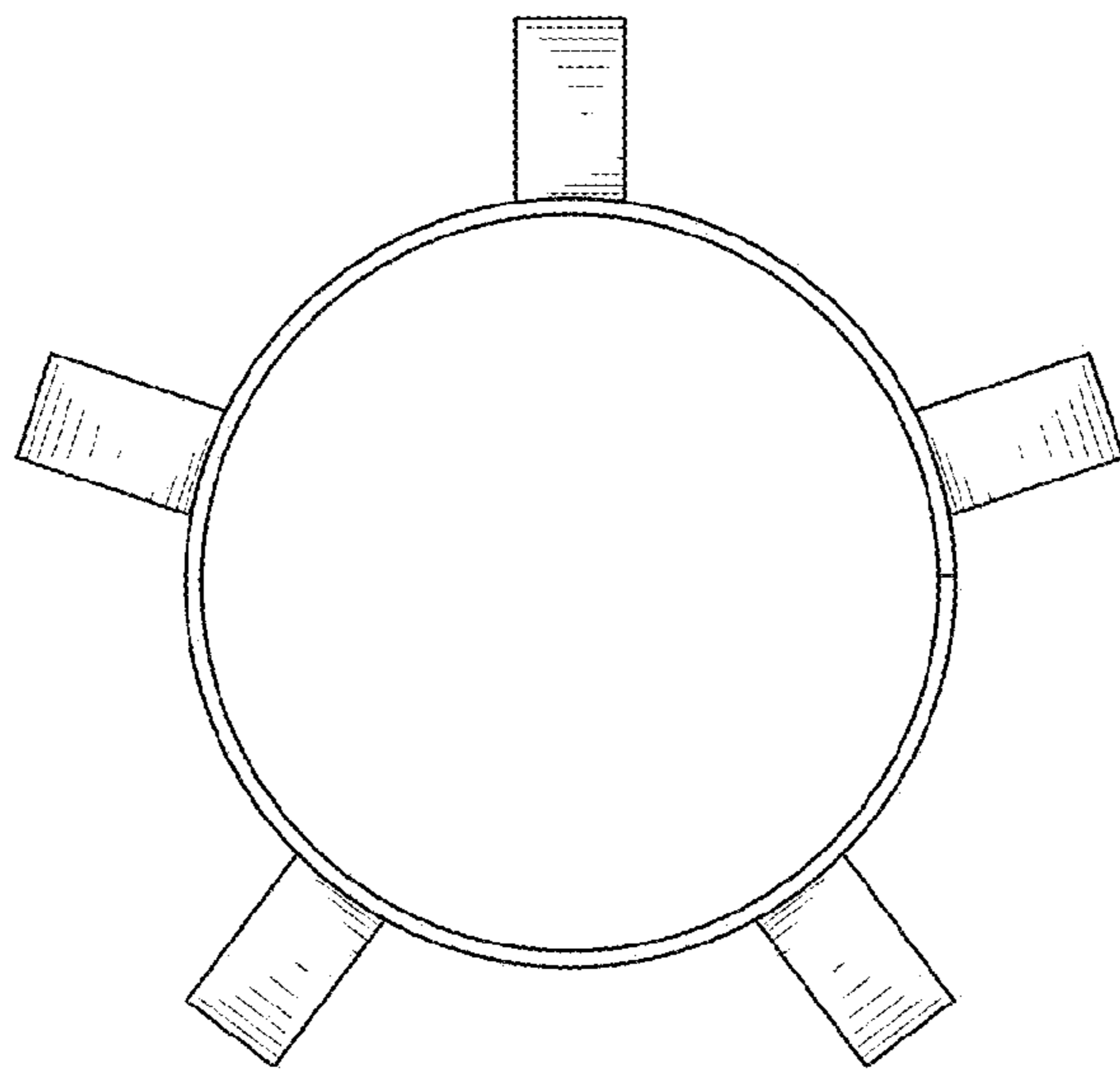


FIG. 6

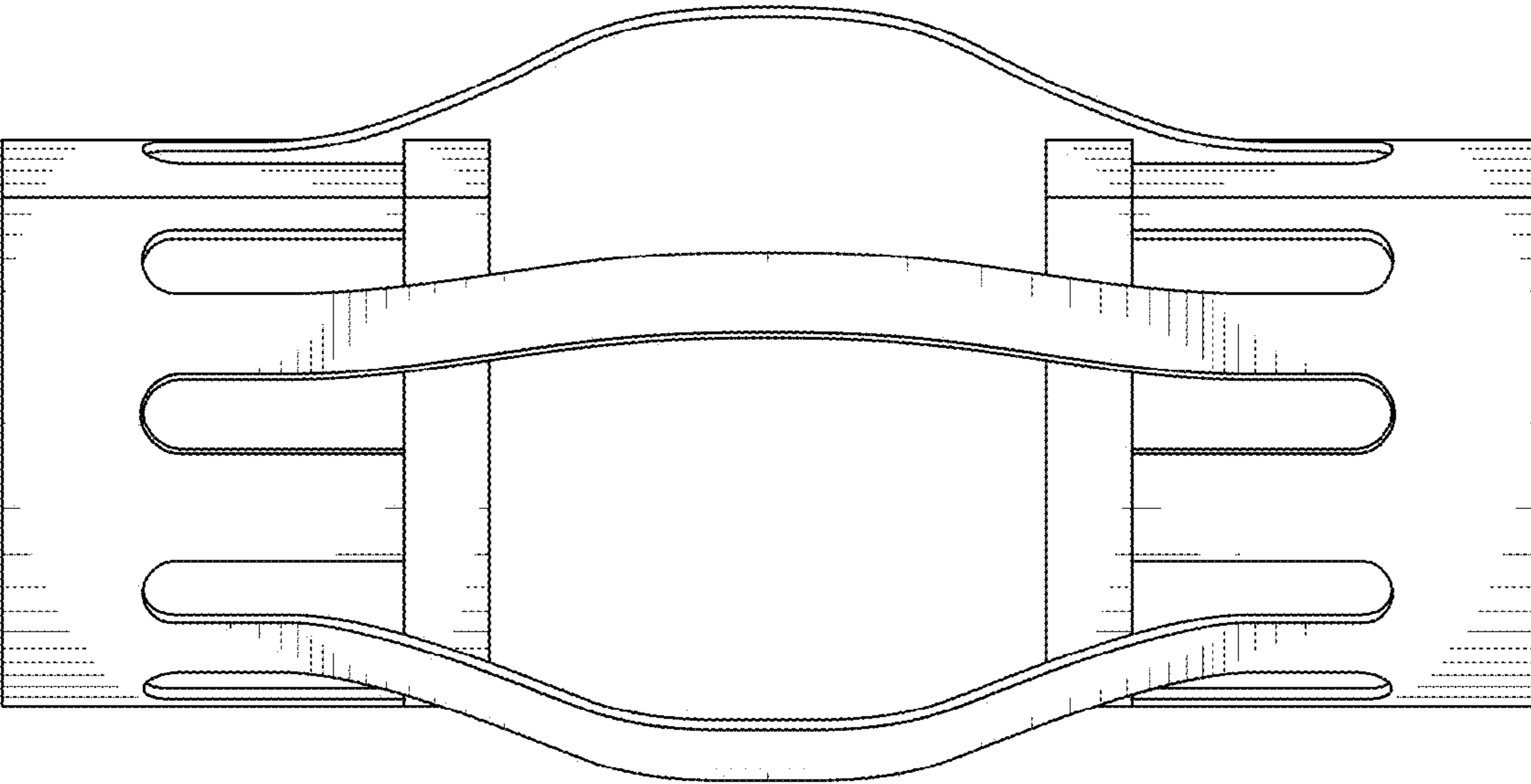


FIG. 7

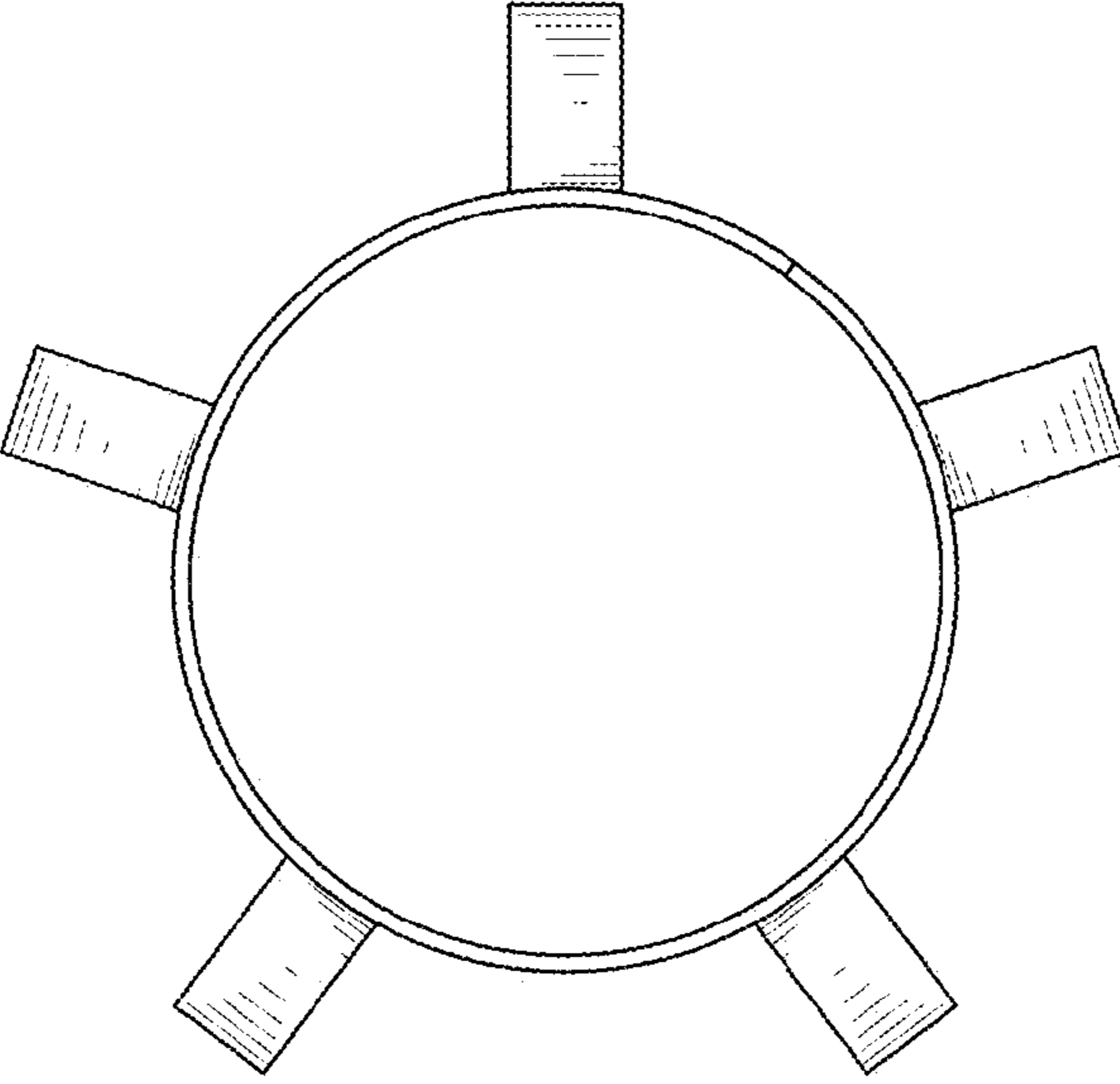


FIG. 8

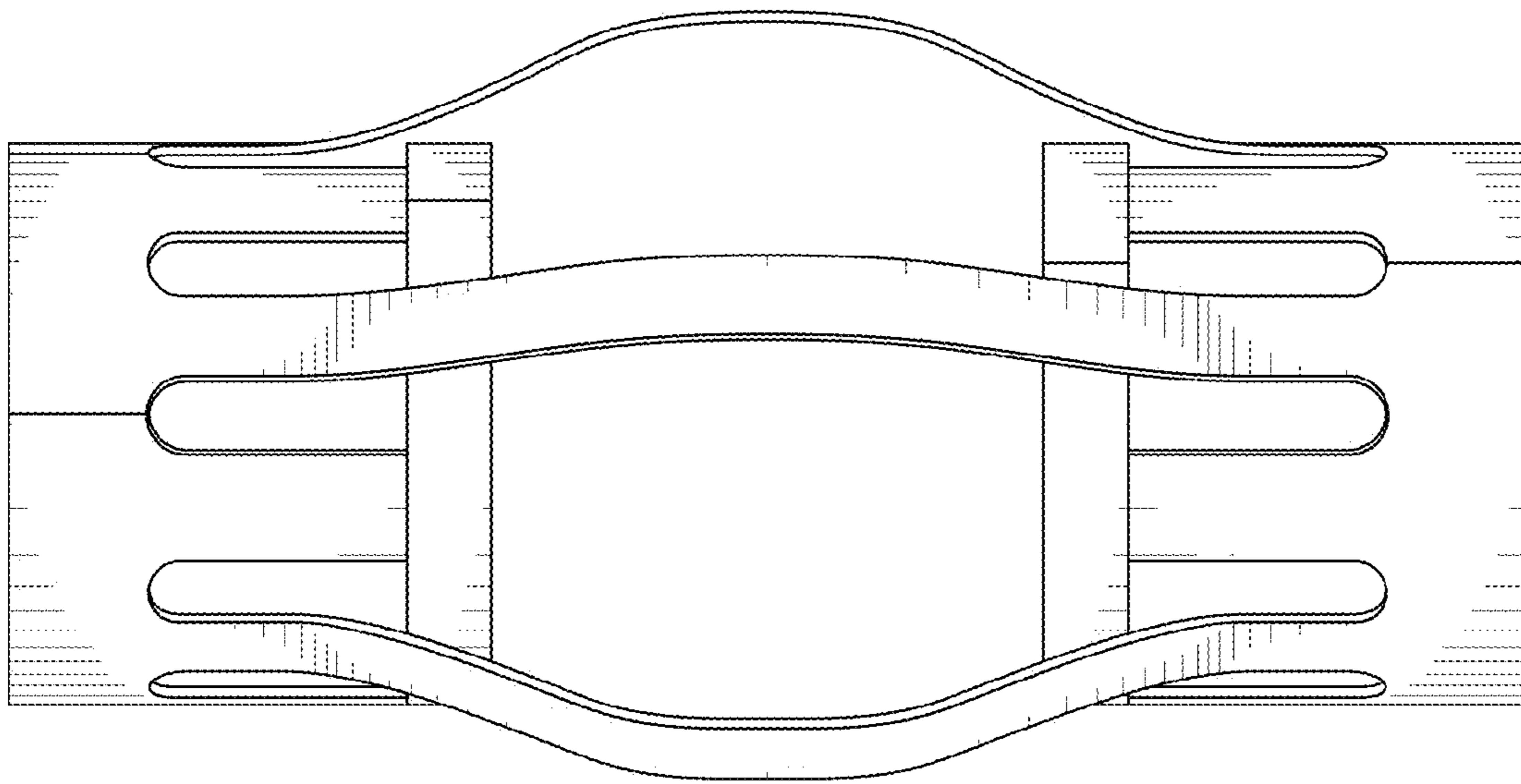


FIG. 9