



US00D743447S

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

(10) **Patent No.:** **US D743,447 S**

(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.

(Continued)

(71) Applicant: **ANTELOPE OIL TOOL & MFG. CO., LLC**, Mineral Wells, TX (US)

OTHER PUBLICATIONS

(72) Inventors: **Jesse L. Neel**, Willow Park, TX (US);
Christopher M. Penry, Weatherford, TX (US); **Eugene Miller**, Weatherford, TX (US)

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

(Continued)

(73) Assignee: **ANTELOPE TOOL & MFG. CO.**, Mineral Wells, TX (US)

Primary Examiner — Susan Bennett Hattan

Assistant Examiner — Brett Miller

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

(74) *Attorney, Agent, or Firm* — MH2 Technology Law Group, LLP

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

(57) **CLAIM**

The ornamental design for a centralizer, as shown.

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

DESCRIPTION

(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.

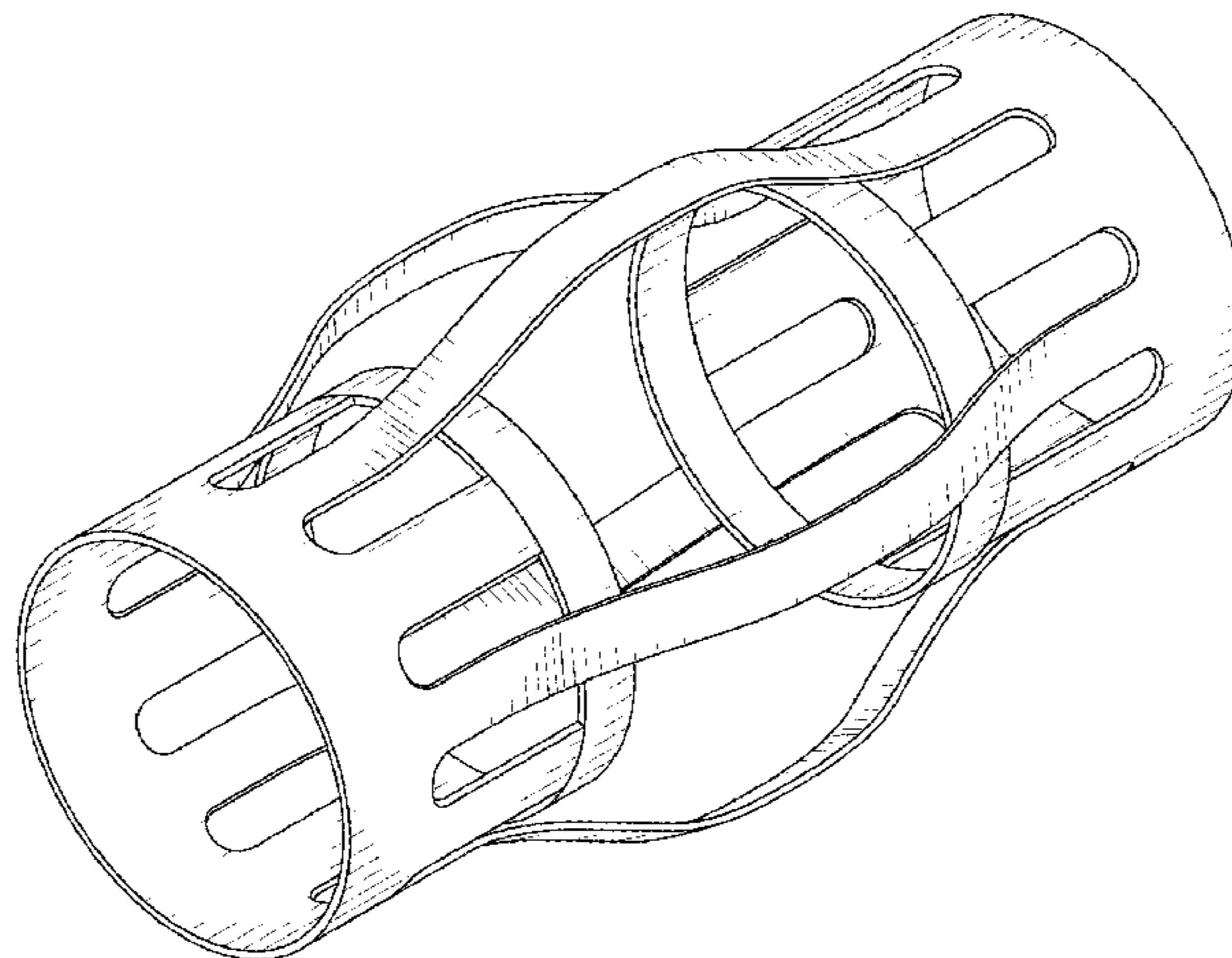
FIG. 1 is a perspective view of a centralizer connected to the tabs. The tabs extend inwards, toward one another, and the engaging rings are disposed axially-intermediate of the tabs. FIG. 2 is an end view of the centralizer. FIG. 3 is side view of the centralizer. FIG. 4 is a perspective view of the 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

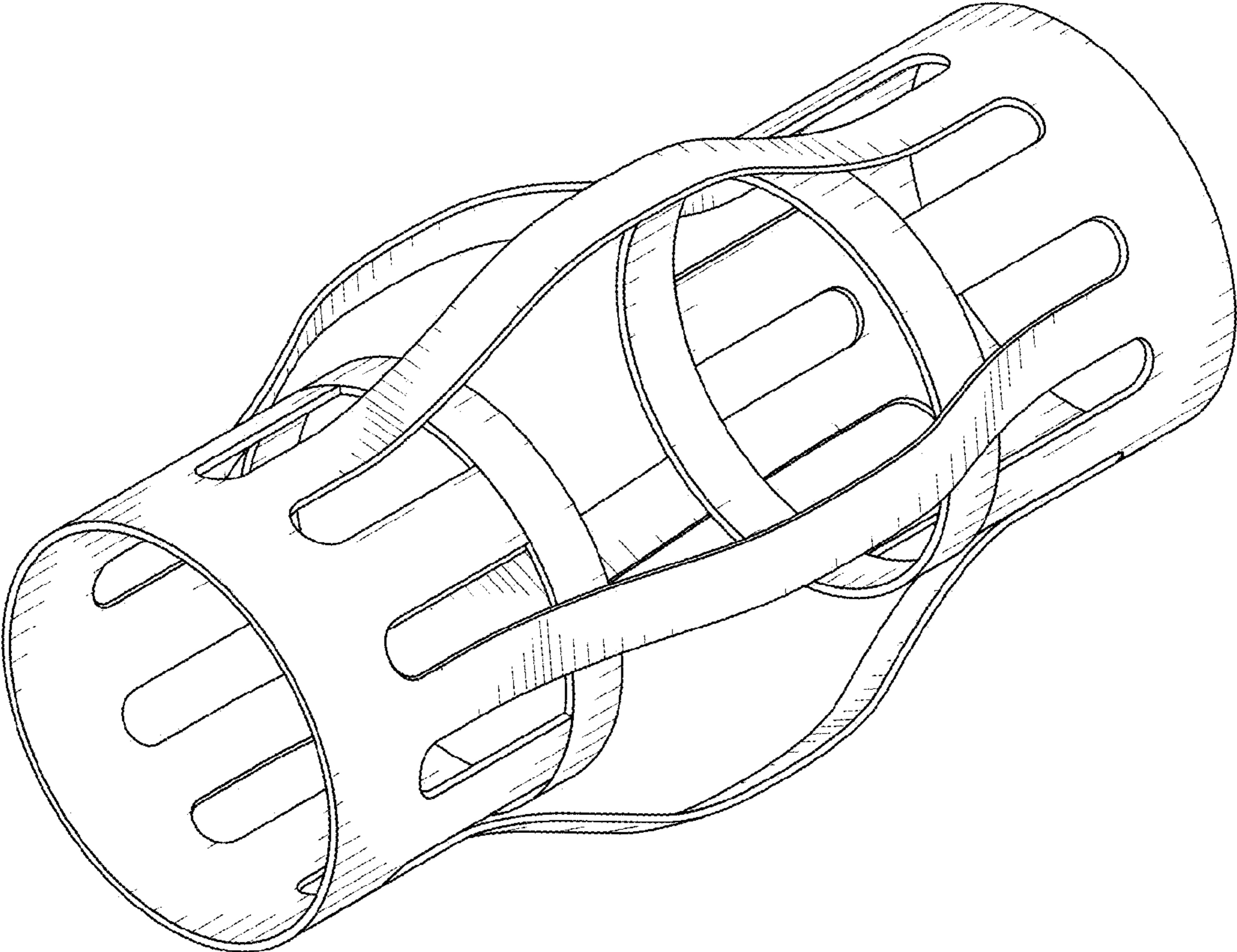


FIG. 1

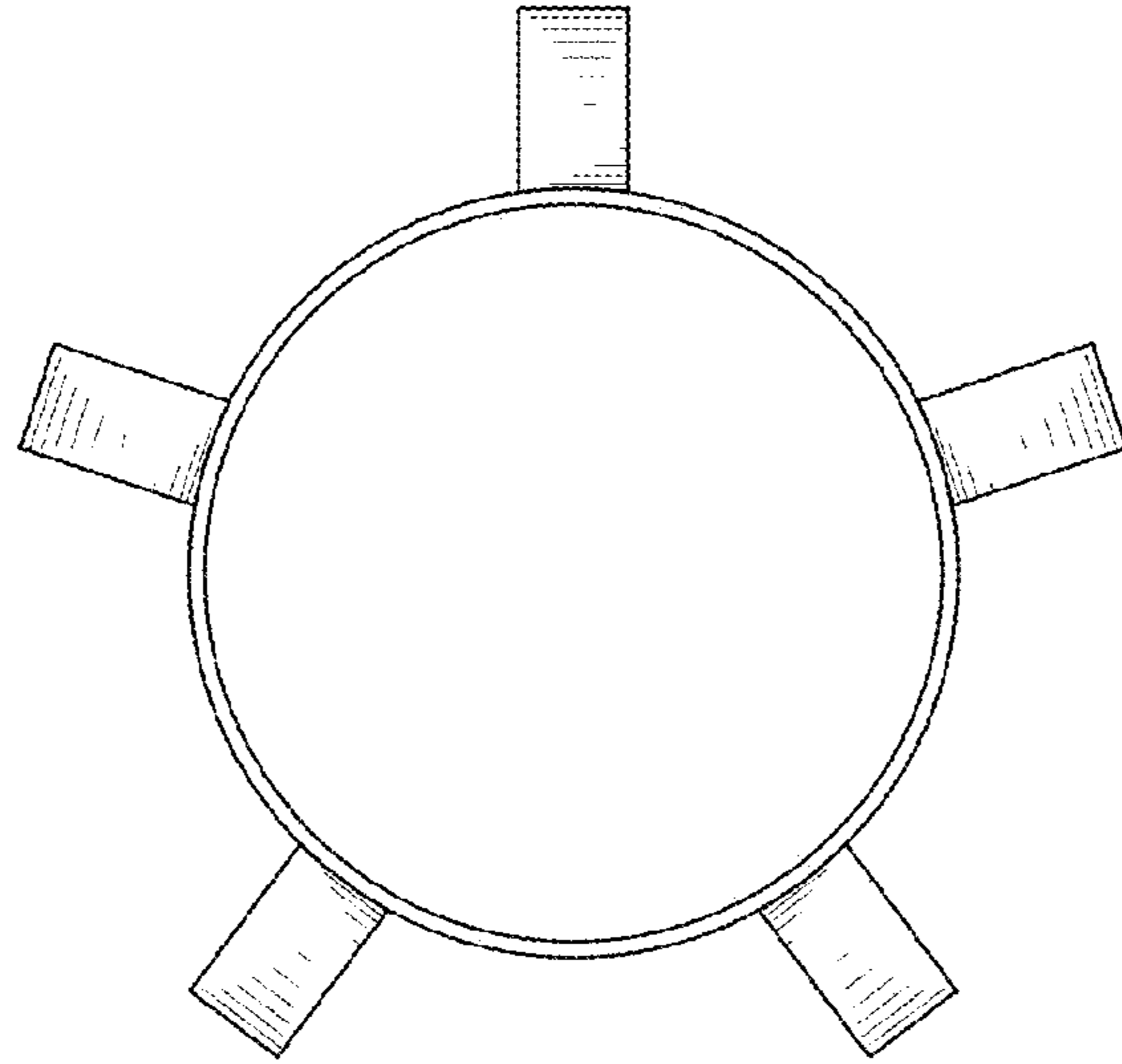


FIG. 2

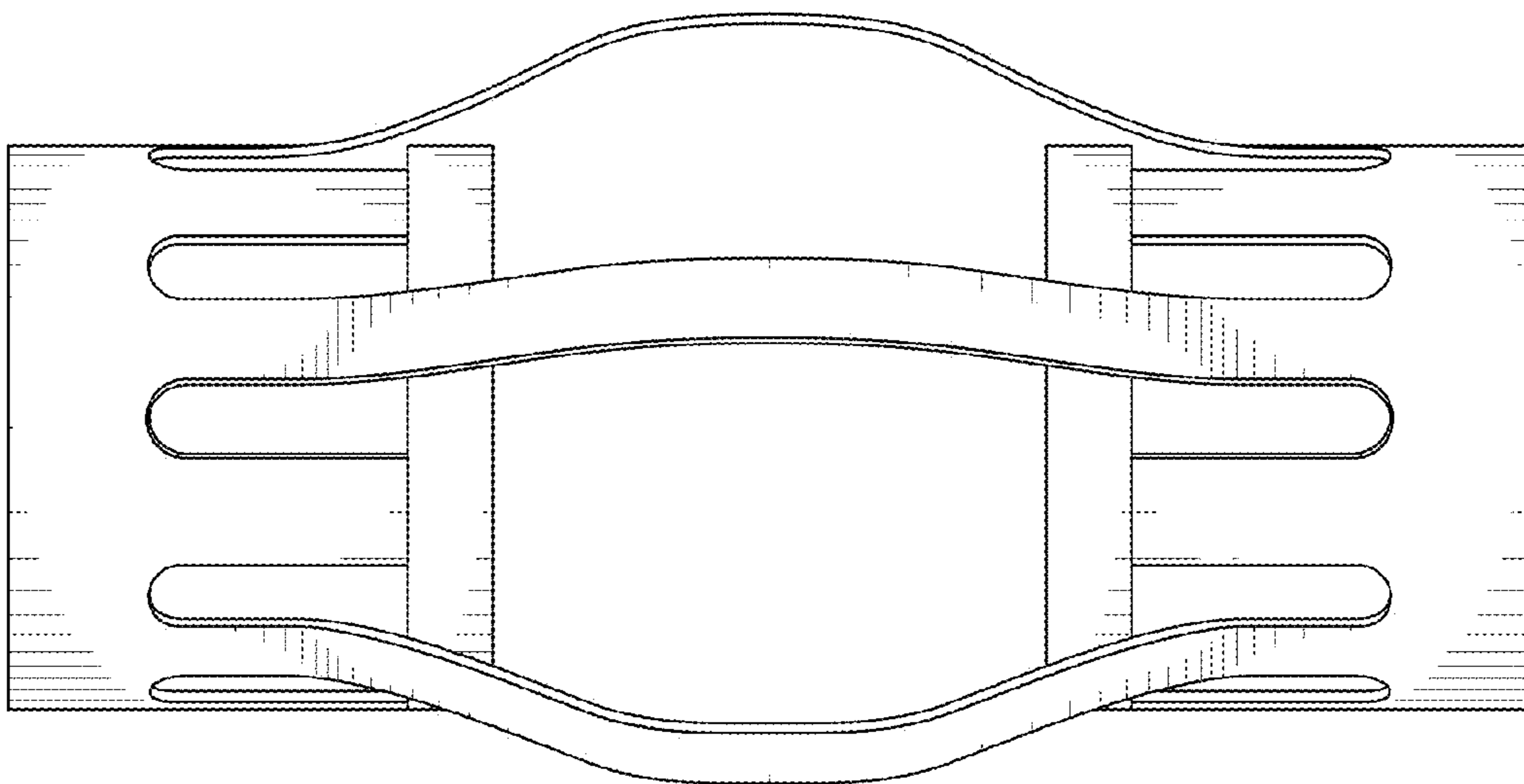


FIG. 3

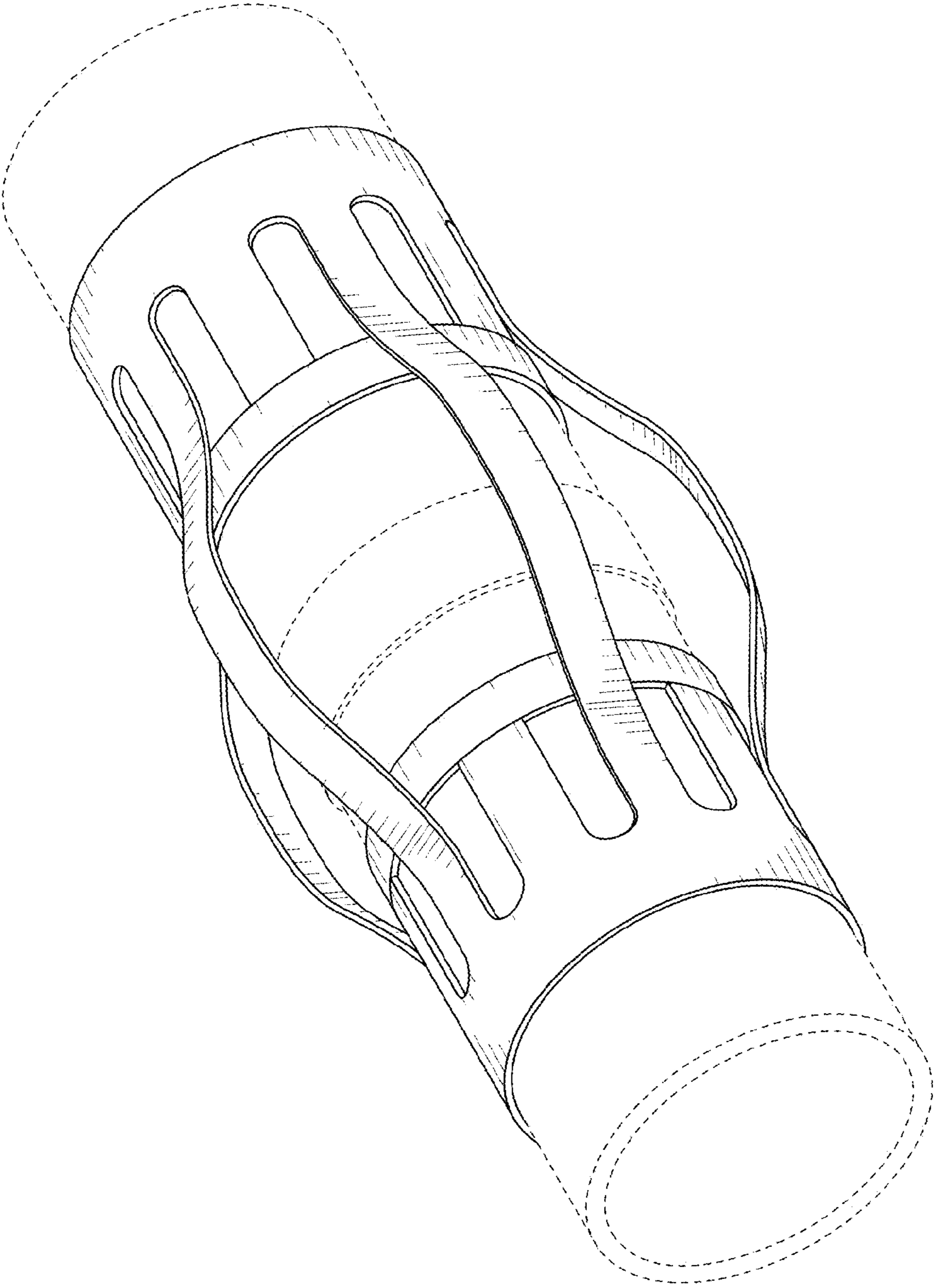


FIG. 4

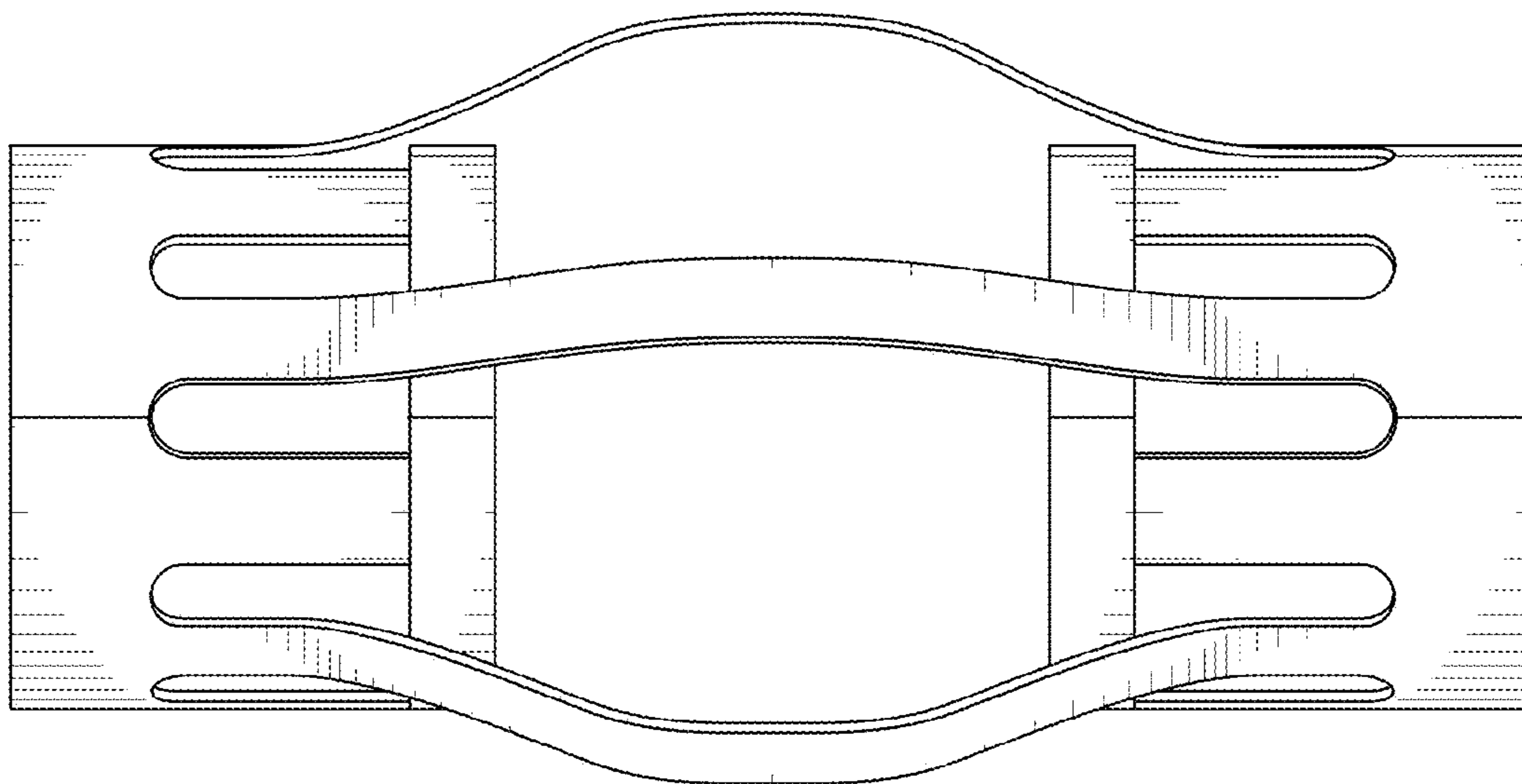


FIG. 5

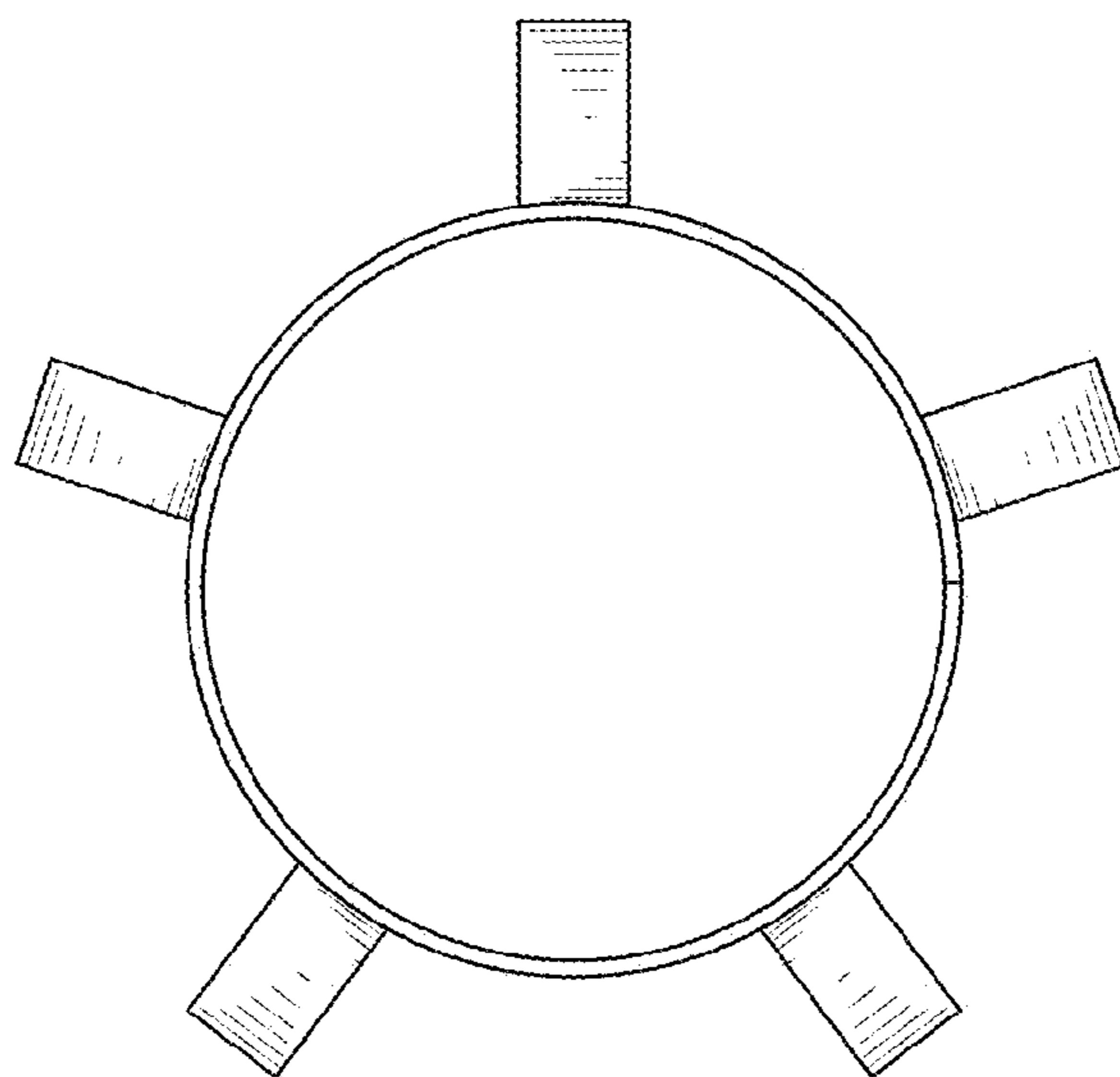


FIG. 6

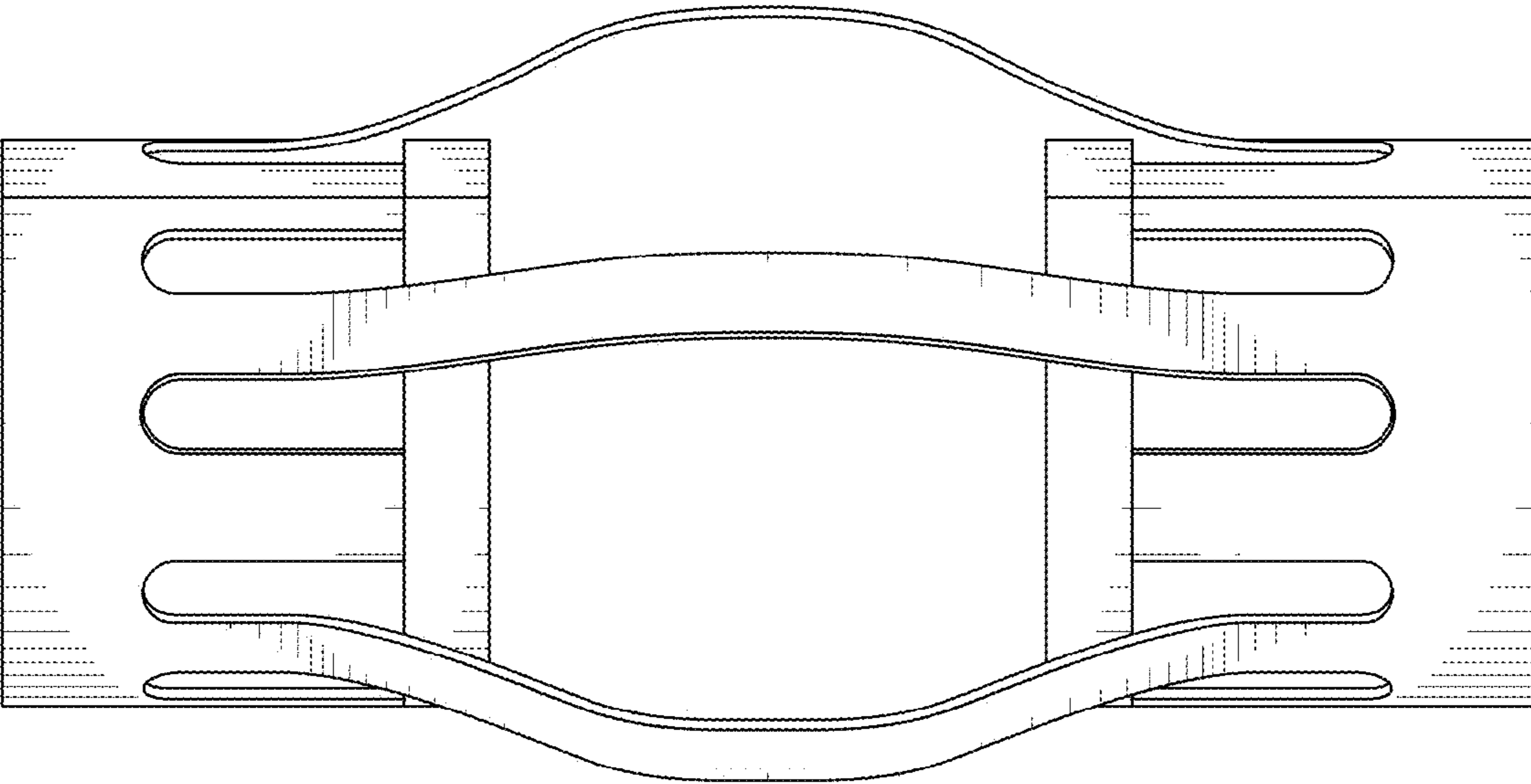


FIG. 7

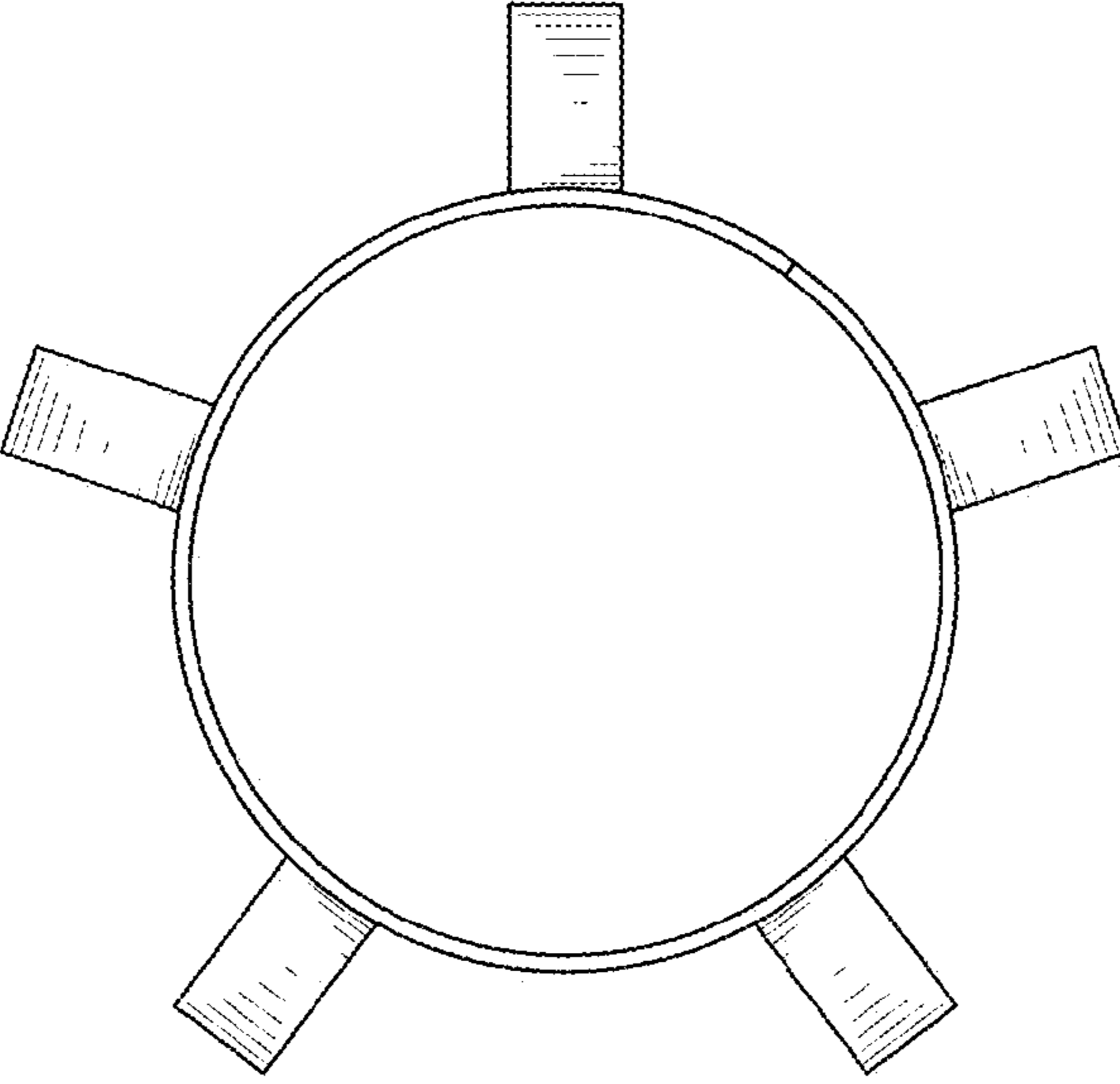


FIG. 8

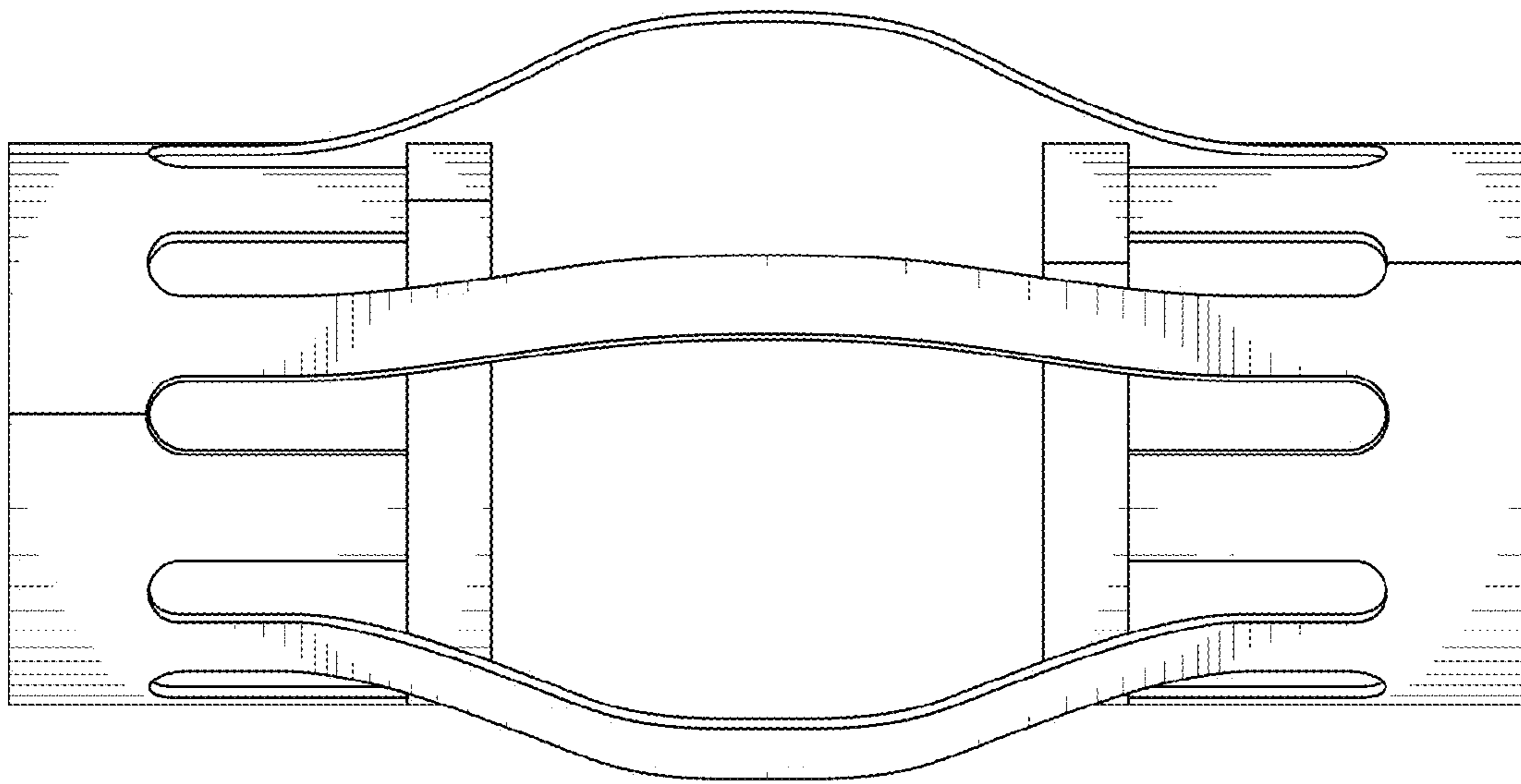


FIG. 9