



US00D959514S

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

(10) **Patent No.:** **US D959,514 S**
(45) **Date of Patent:** **** Aug. 2, 2022**

(54) **STATIC MIXER**

(71) Applicant: **Commonwealth Scientific and Industrial Research Organisation, Acton (AU)**

(72) Inventors: **Yutong Zhu, Acton (AU); Dayalan Gunasegaram, Acton (AU); Saber Mostafavian, Acton (AU)**

(73) Assignee: **Commonwealth Scientific and Industrial Research Organisation, Australian Capital Territory (AU)**

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

(21) Appl. No.: **29/766,260**

(22) Filed: **Jan. 14, 2021**

(30) **Foreign Application Priority Data**

Jul. 17, 2020 (AU) 202013911

(51) **LOC (13) Cl.** **15-09**

(52) **U.S. Cl.**
USPC **D15/135; D15/138**

(58) **Field of Classification Search**
USPC D8/70, 71; D15/122, 135, 136, 138;
D23/207, 259, 261, 267, 268
CPC B01F 25/4314; B01F 25/43231; B01F
35/10; B29B 7/88; B29B 7/325; B29C
45/30; B29C 45/581; B29K 2067/00;
F15D 1/02
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,027,857 A * 6/1977 Cunningham B01F 25/43231
366/340
4,093,188 A * 6/1978 Horner B01F 25/43161
366/337
5,053,202 A * 10/1991 Dwyer B01F 25/4312
422/135

D466,595 S * 12/2002 Glanville D23/259
D485,886 S * 1/2004 Glanville D23/207
D607,476 S * 1/2010 Saul D15/138
D638,920 S * 5/2011 Ealer, Sr. D23/267
D831,170 S * 10/2018 Schluter D23/261
D904,562 S * 12/2020 Stewart D23/213
D939,660 S * 12/2021 Zhu D23/209
2002/0063344 A1 * 5/2002 Pagade B01F 25/4323
261/DIG. 72

(Continued)

FOREIGN PATENT DOCUMENTS

WO WO-9913972 A1 * 3/1999 B01F 3/04021
WO WO-2004052519 A1 * 6/2004 B01F 5/0617

(Continued)

OTHER PUBLICATIONS

<http://samhwamix.com/wp/high-shear-mixershsm/> (Year: 2019).*

Primary Examiner — Patricia A Palasik

(74) *Attorney, Agent, or Firm* — Merchant & Gould P.C.

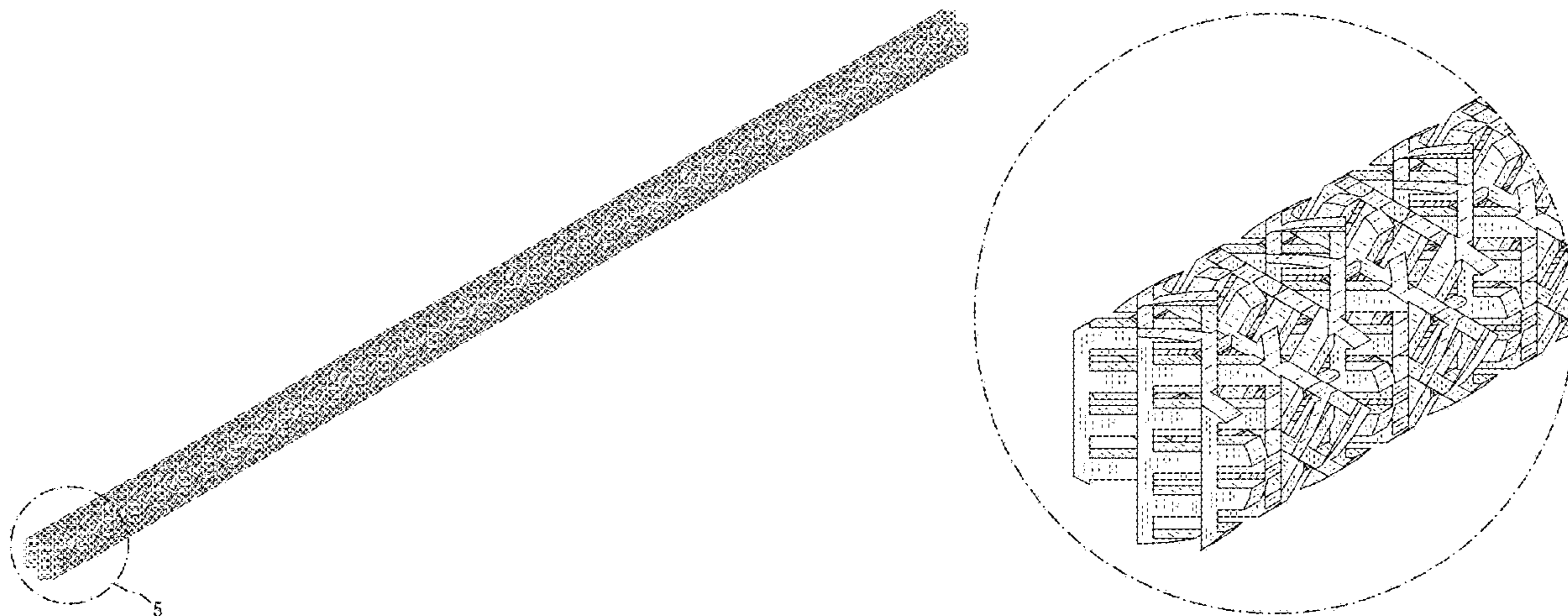
(57) **CLAIM**

The ornamental design for a static mixer, as shown and described.

DESCRIPTION

FIG. 1 is a first perspective view of the static mixer;
FIG. 2 is a second perspective view of the static mixer of FIG. 1;
FIG. 3 is a side view of the static mixer of FIG. 1;
FIG. 4 is an end view of the static mixer of FIG. 1;
FIG. 5 is a first enlarged partial perspective view of encircled area 5 of the of the static mixer of FIG. 1;
FIG. 6 is a second enlarged partial perspective view of encircled area 6 of the static mixer of FIG. 2; and,
FIG. 7 is an enlarged partial side view of encircled area 7 of the static mixer of FIG. 3.

1 Claim, 7 Drawing Sheets



(56)

References Cited

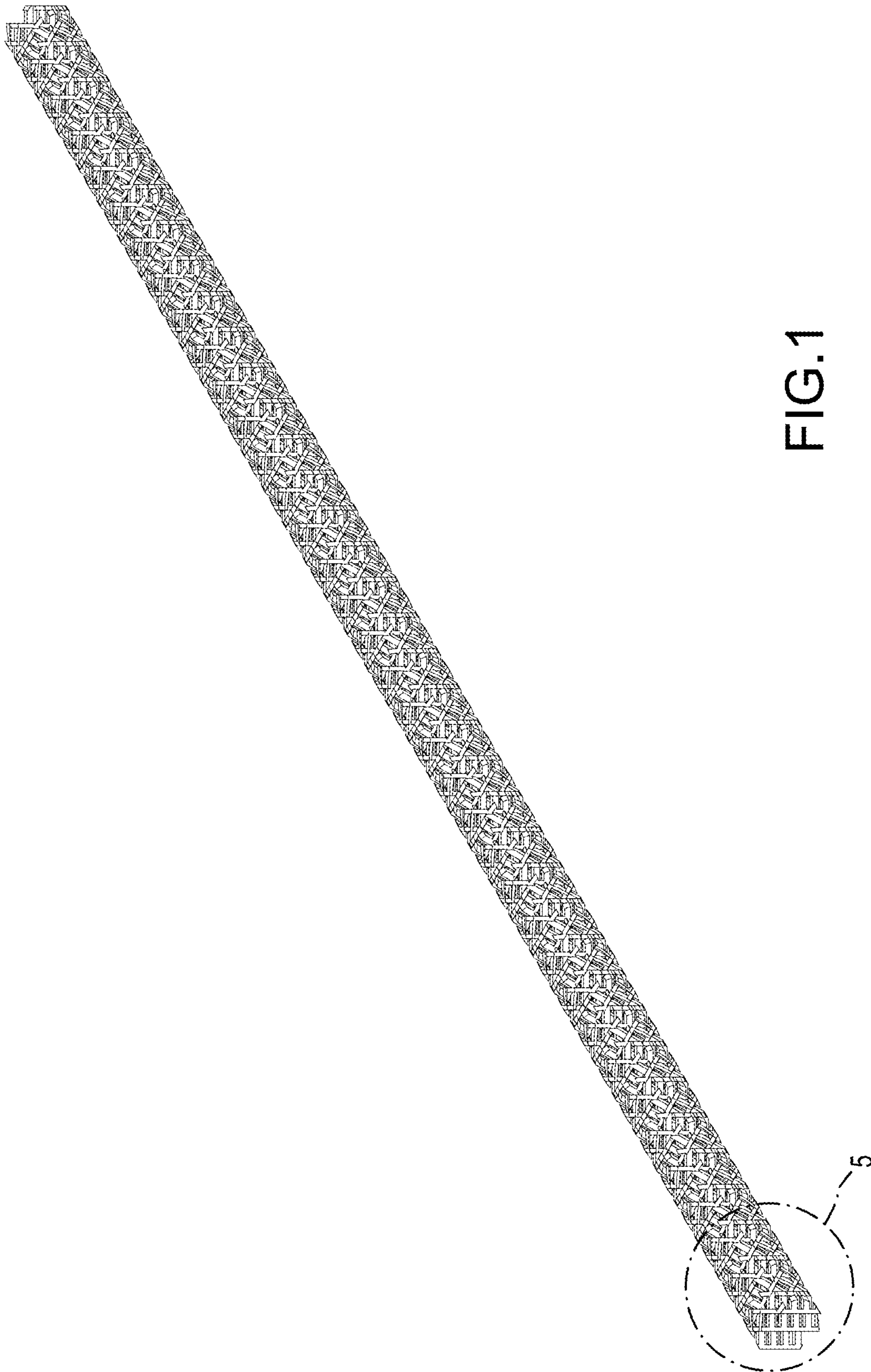
U.S. PATENT DOCUMENTS

2004/0218469 A1 * 11/2004 Unterlander B29B 7/325
366/336
2022/0062835 A1 * 3/2022 Zenke B01F 25/43161

FOREIGN PATENT DOCUMENTS

WO WO-2009049790 A1 * 4/2009 B01D 53/9431
WO WO-2010060225 A1 * 6/2010 B01F 13/002
WO WO-2010066457 A1 * 6/2010 B01F 3/0861
WO WO-2019245538 A1 * 12/2019 B01D 17/047
WO WO-2020021444 A1 * 1/2020 B01F 3/04049
WO WO-2021081122 A1 * 4/2021

* cited by examiner



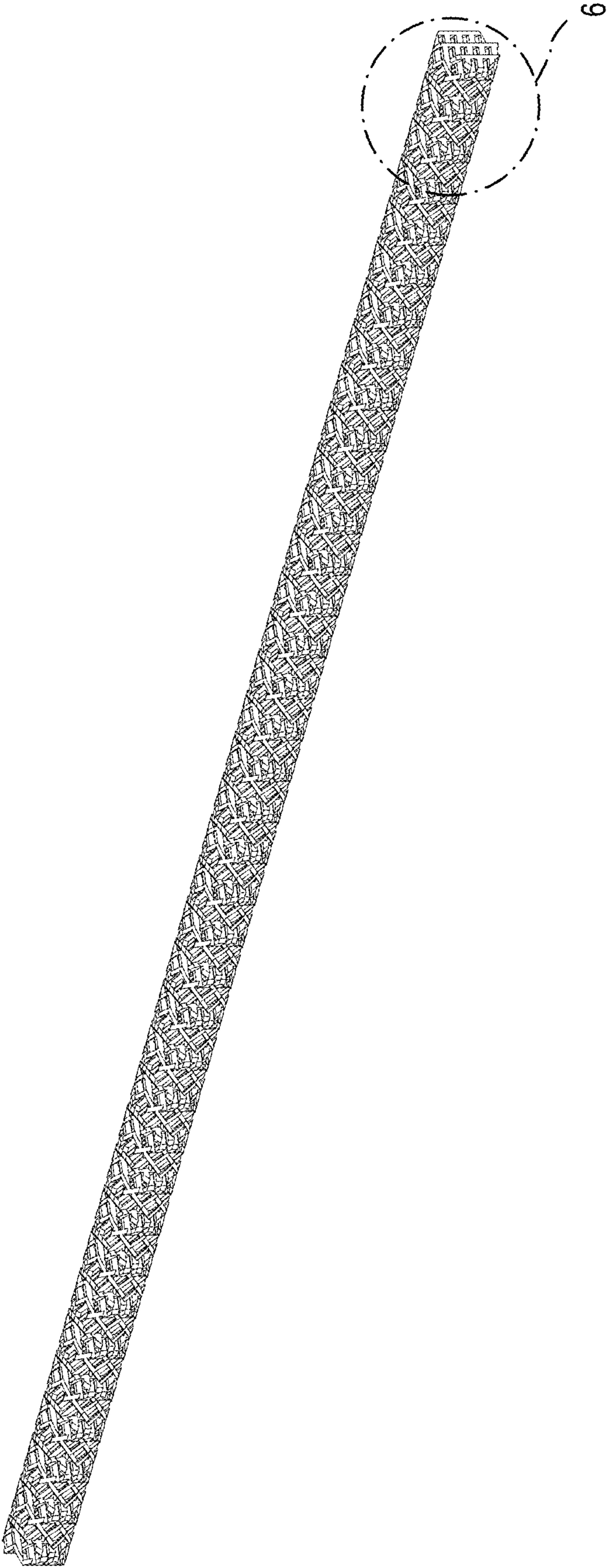


FIG.2

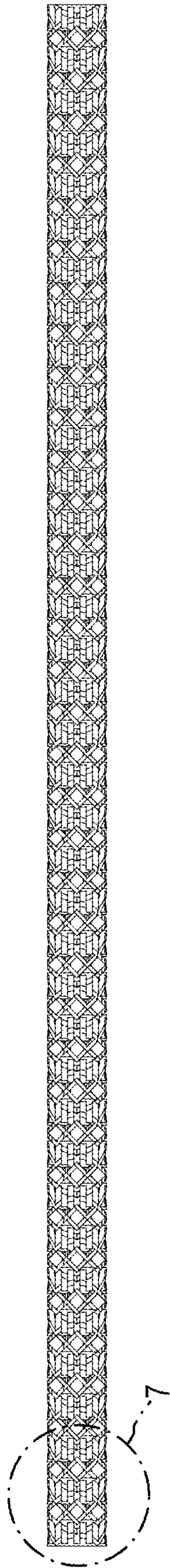


FIG.3

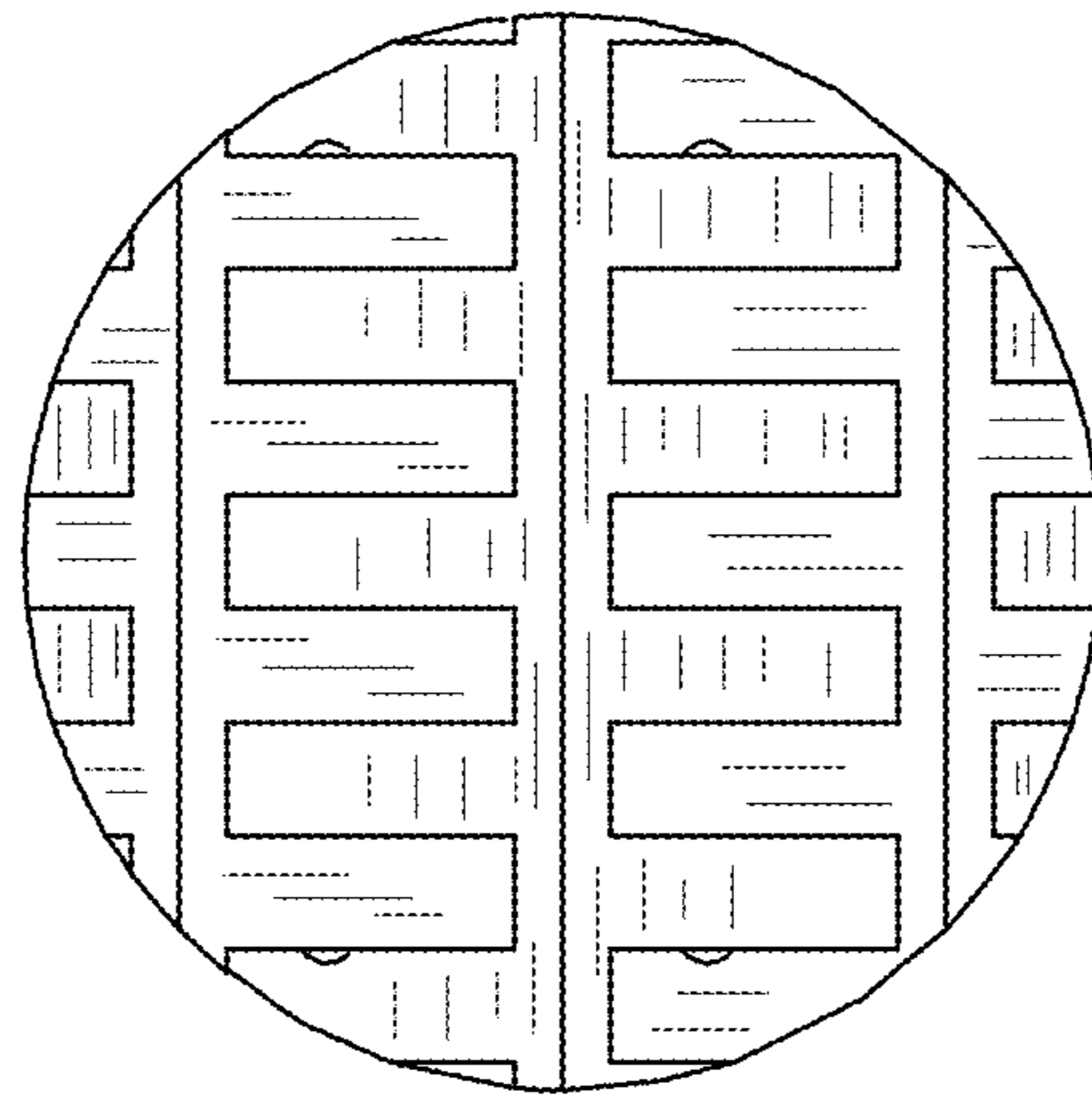


FIG.4

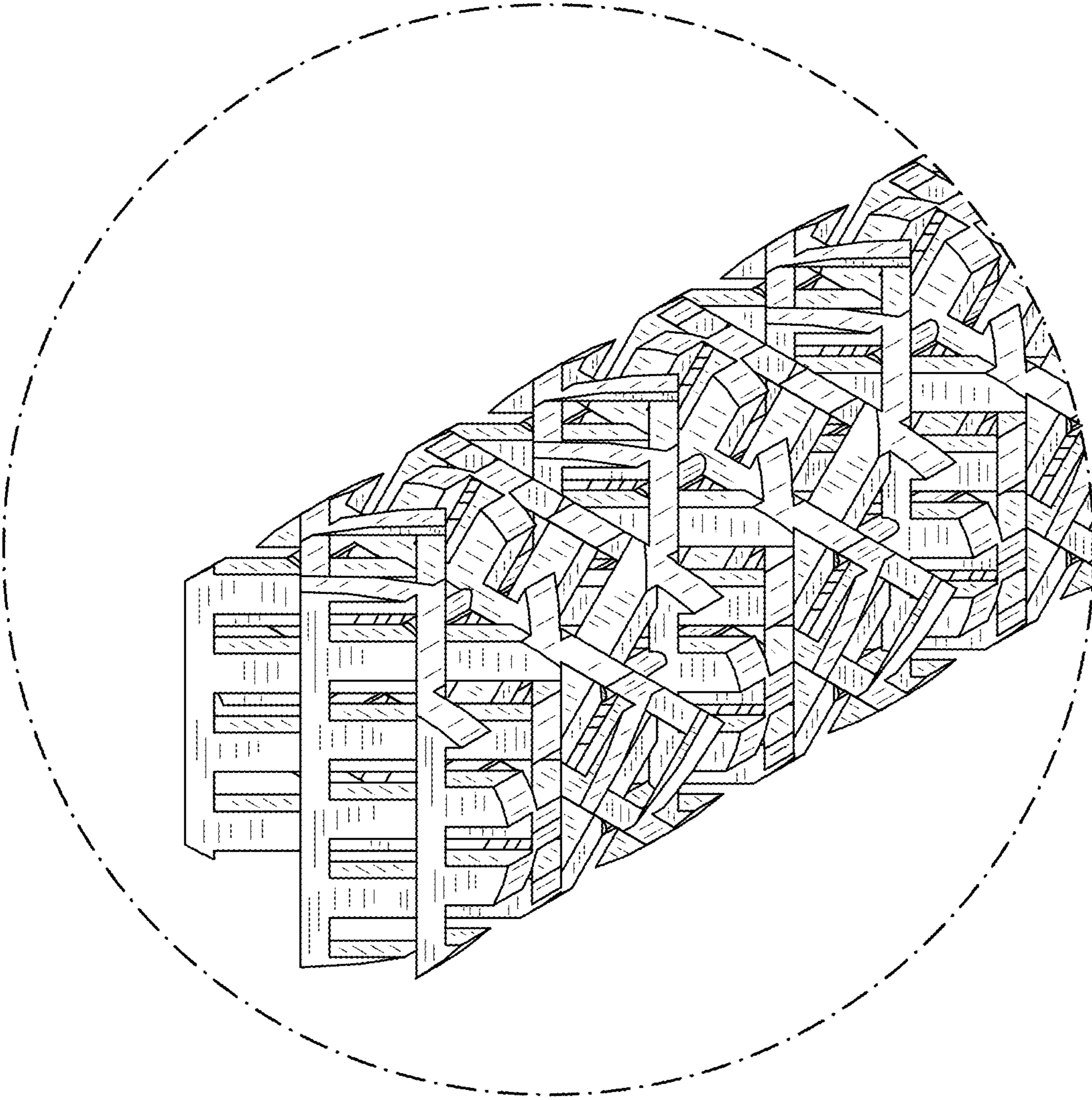


FIG.5

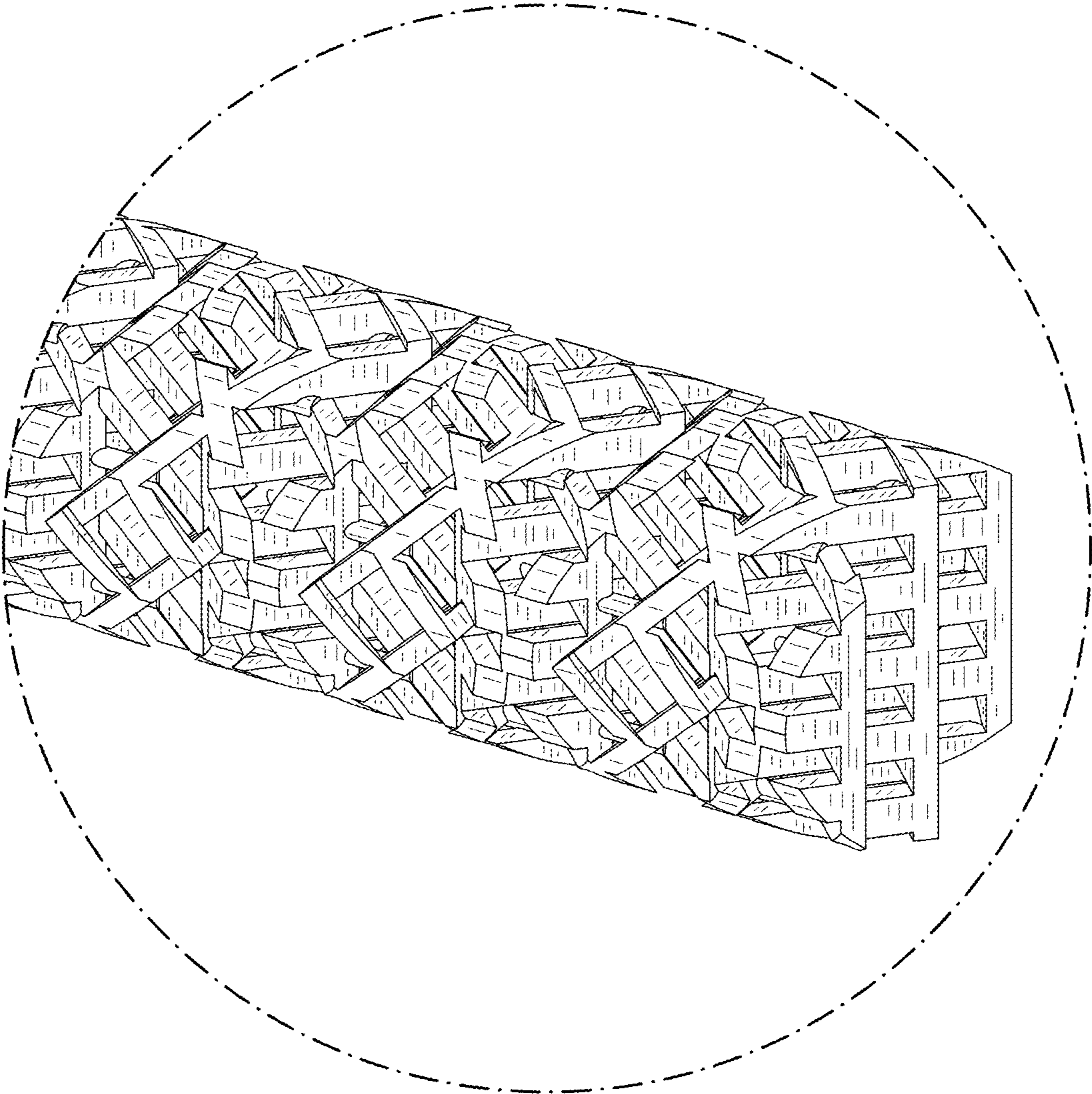


FIG.6

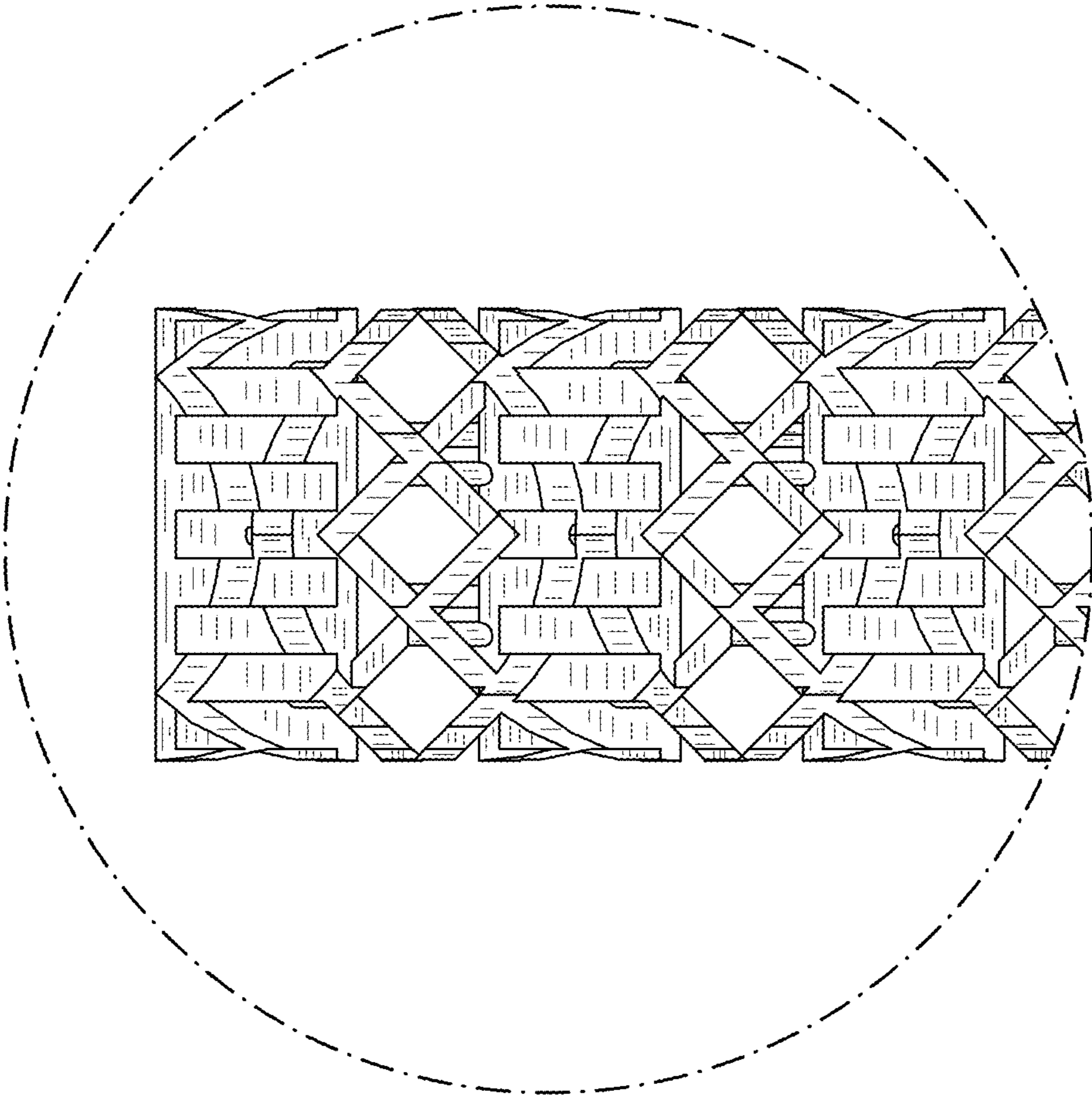


FIG.7