

US00D869532S

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

(10) **Patent No.:** **US D869,532 S**

(45) **Date of Patent:** **** Dec. 10, 2019**

(54) **GRIPPER FOR INDUSTRIAL ROBOT**

(71) Applicant: **Nitta Corporation**, Osaka-Shi (JP)

(72) Inventors: **Itaru Hatano**, Yamatokoriyama (JP);
Hirokazu Nitta, Yamatokoriyama (JP)

(73) Assignee: **Nitta Corporation**, Osaka-Shi (JP)

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

(21) Appl. No.: **29/627,914**

(22) Filed: **Nov. 30, 2017**

(30) **Foreign Application Priority Data**

Jul. 14, 2017 (JP) 2017-015325

Jul. 14, 2017 (JP) 2017-015326

Jul. 14, 2017 (JP) 2017-015327

(51) **LOC (12) Cl.** **15-99**

(52) **U.S. Cl.**
USPC **D15/199**

(58) **Field of Classification Search**
USPC D15/199, 138; D21/578-583, 621, 622;
D24/150; D34/35
CPC B25J 11/0045; B25J 15/08; B25J 15/024;
B25J 15/026; B25J 15/0475; B25J
15/0042; B65G 47/90; H05K 13/02;
Y10S 294/902; Y10S 294/907
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,172,693 A * 3/1965 Hansen B66F 9/187
294/90
3,322,455 A * 5/1967 Gressbach B66C 1/422
294/104
3,851,769 A * 12/1974 Noguchi B25J 9/00
414/730

4,461,608 A * 7/1984 Boda B65F 3/041
294/106
4,699,414 A * 10/1987 Jones B25J 15/026
294/119.1
4,725,087 A * 2/1988 Kato B25J 15/00
294/86.4
4,819,184 A * 4/1989 Jonsson G05B 19/373
700/250
4,888,708 A * 12/1989 Brantmark G05B 19/427
700/264
5,026,104 A * 6/1991 Pickrell B65F 3/046
294/106
5,398,983 A * 3/1995 Ahrens B65F 3/02
294/106
5,562,386 A * 10/1996 Browning B65F 3/04
414/406
5,582,397 A * 12/1996 Lanvin B23Q 3/103
269/152
D459,806 S * 7/2002 Webb D24/133
D617,619 S * 6/2010 Bensussan D8/51

(Continued)

Primary Examiner — Patricia A Palasik

(74) *Attorney, Agent, or Firm* — Burr & Brown, PLLC

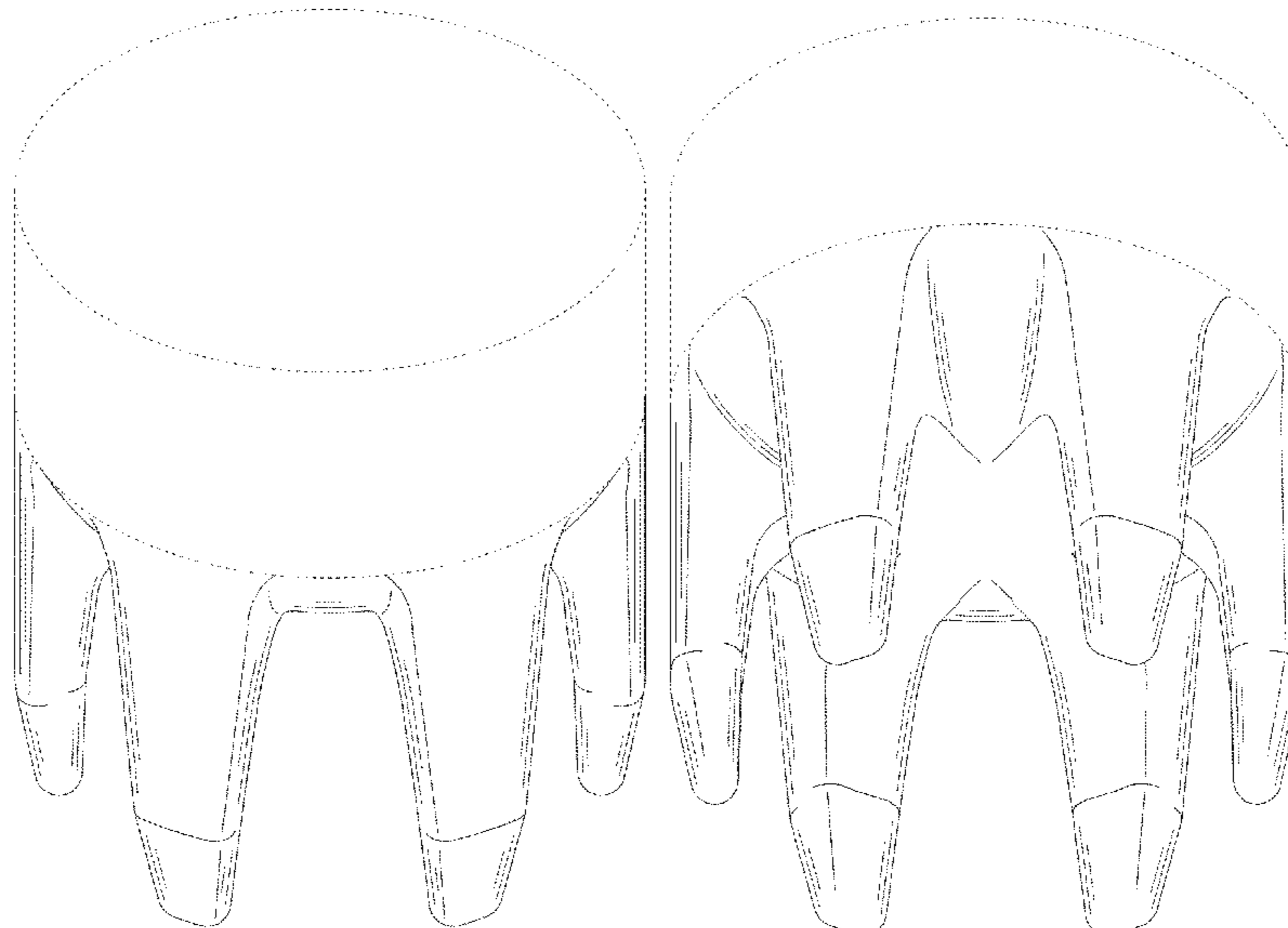
(57) **CLAIM**

The ornamental design for a gripper for industrial robot, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a gripper for industrial robot illustrating our new design;
FIG. 2 is a bottom perspective view thereof;
FIG. 3 is a front view thereof;
FIG. 4 is a rear view thereof;
FIG. 5 is a right view thereof;
FIG. 6 is a left view thereof;
FIG. 7 is a top view thereof; and,
FIG. 8 is a bottom view thereof.
The broken lines in the drawings depict portions of the gripper for industrial robot which form no part of the claimed design.

1 Claim, 8 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

8,328,258 B2 * 12/2012 Kjol B66C 1/58
294/106
8,474,893 B2 * 7/2013 Kawanami B25J 15/0213
294/106
9,912,130 B1 * 3/2018 Burns B25B 9/04
9,956,691 B1 * 5/2018 Pentzer B25J 15/12
D841,277 S * 2/2019 Chintalapalli Patta D34/35
2004/0070225 A1 * 4/2004 Meinicke B25J 15/00
294/86.4
2008/0275593 A1 * 11/2008 Johansson B29C 45/7626
700/245
2012/0146353 A1 * 6/2012 Lunde E21B 19/14
294/198
2015/0028609 A1 * 1/2015 Hansen B66C 1/108
294/81.55
2018/0318984 A1 * 11/2018 Tarbell B25B 9/04
2018/0345483 A1 * 12/2018 Sirkett B25J 9/1697
2018/0354130 A1 * 12/2018 Preisinger B25J 9/1664

* cited by examiner

FIG. 1

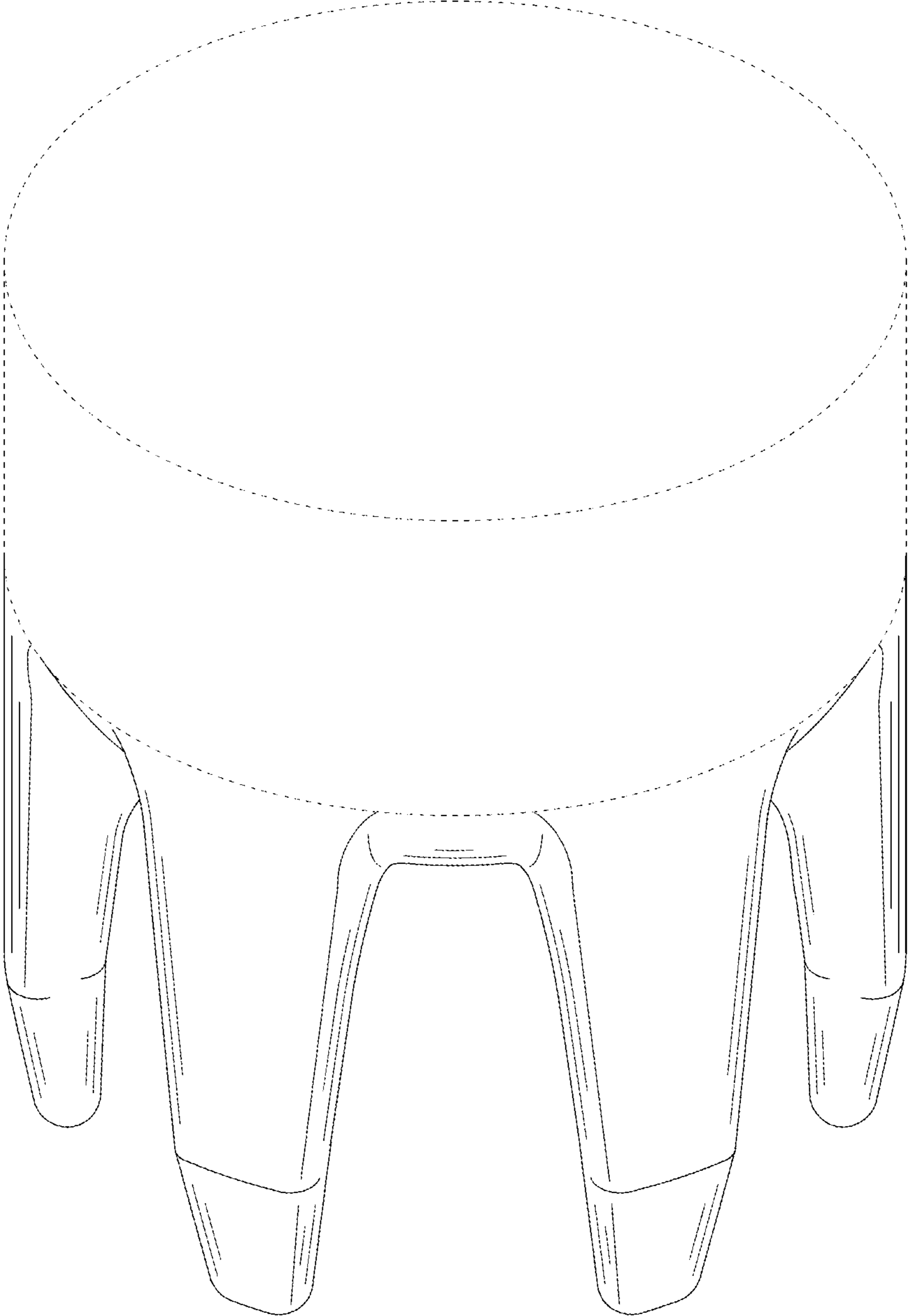


FIG. 2

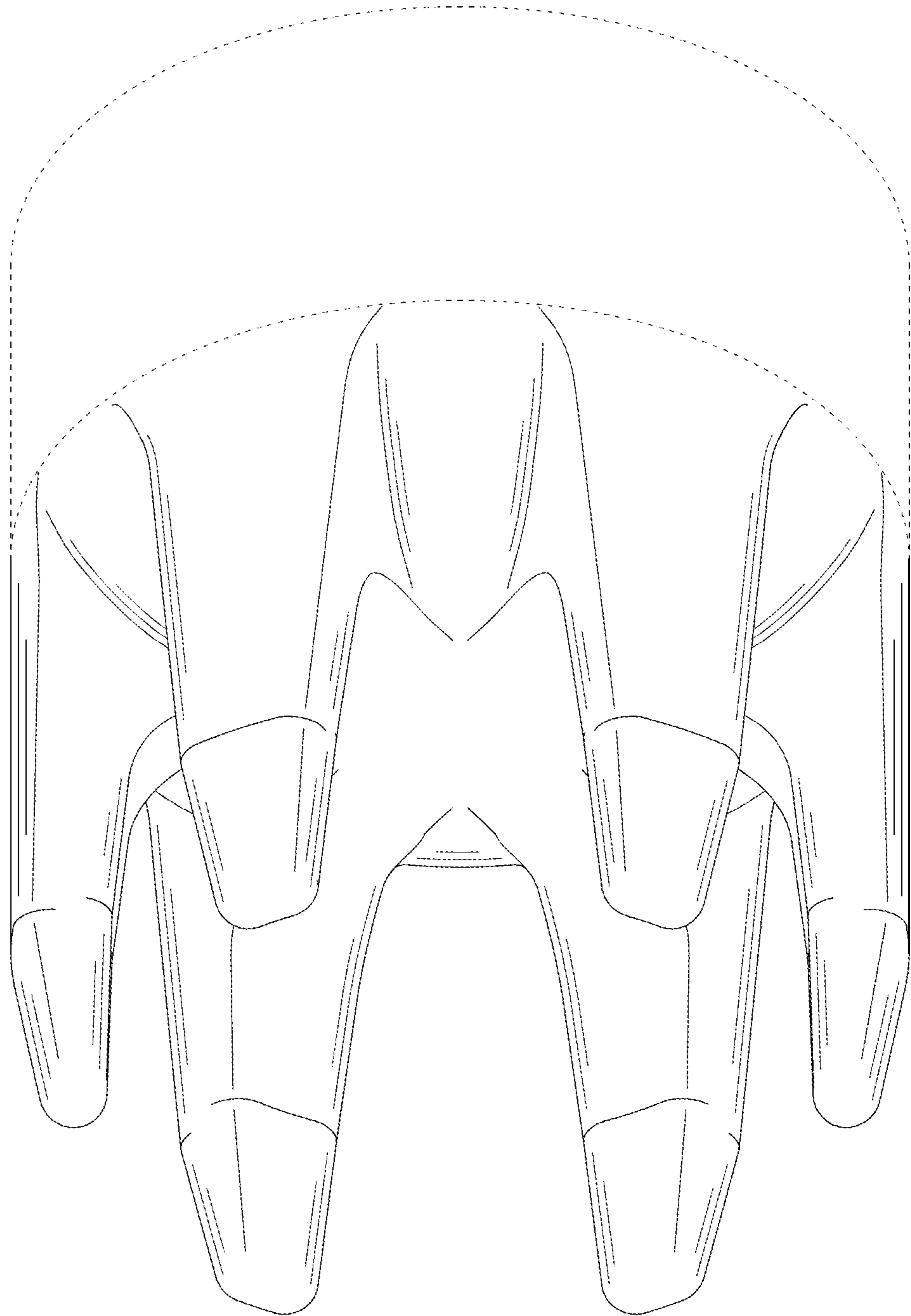


FIG. 3

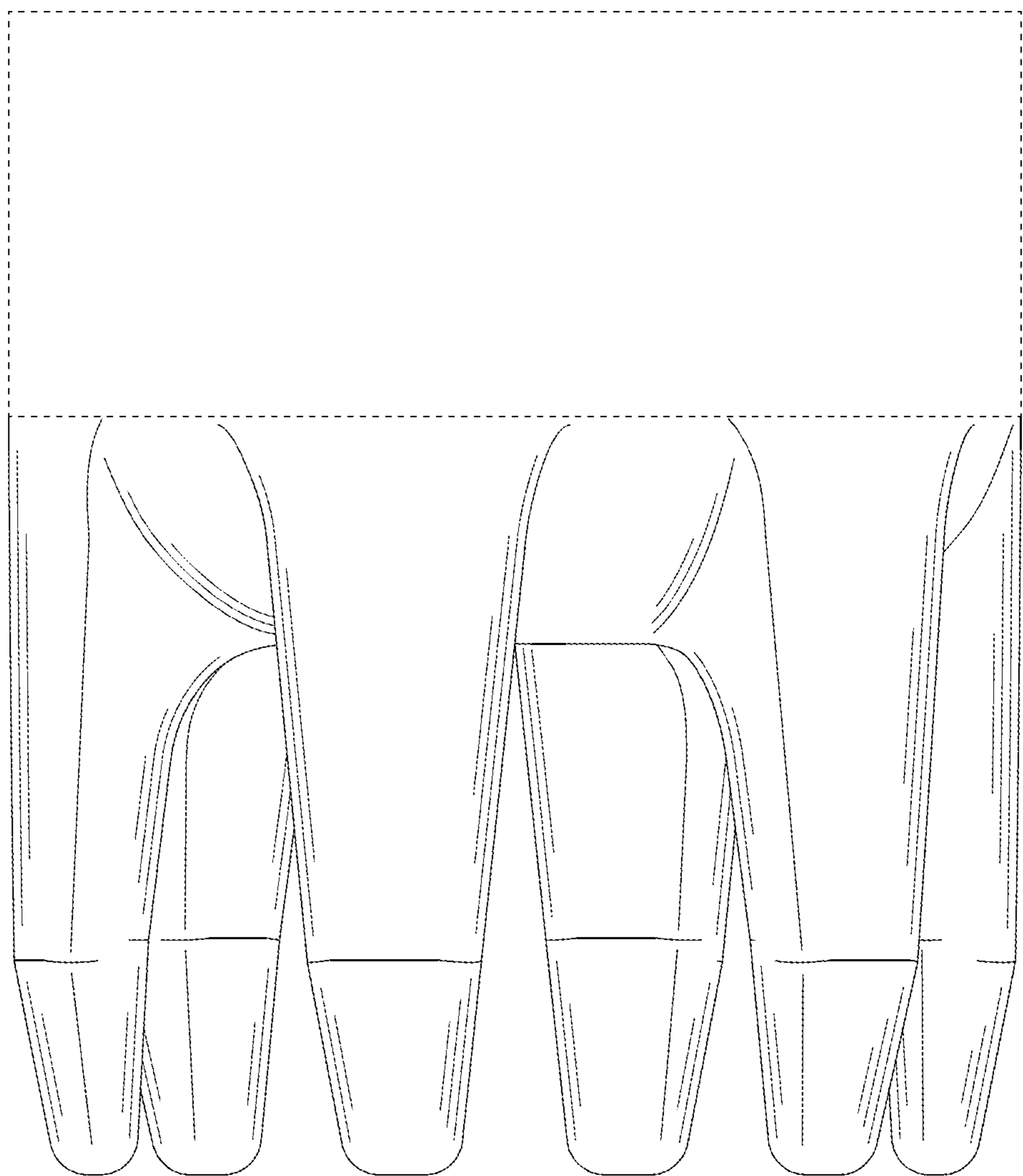


FIG. 4

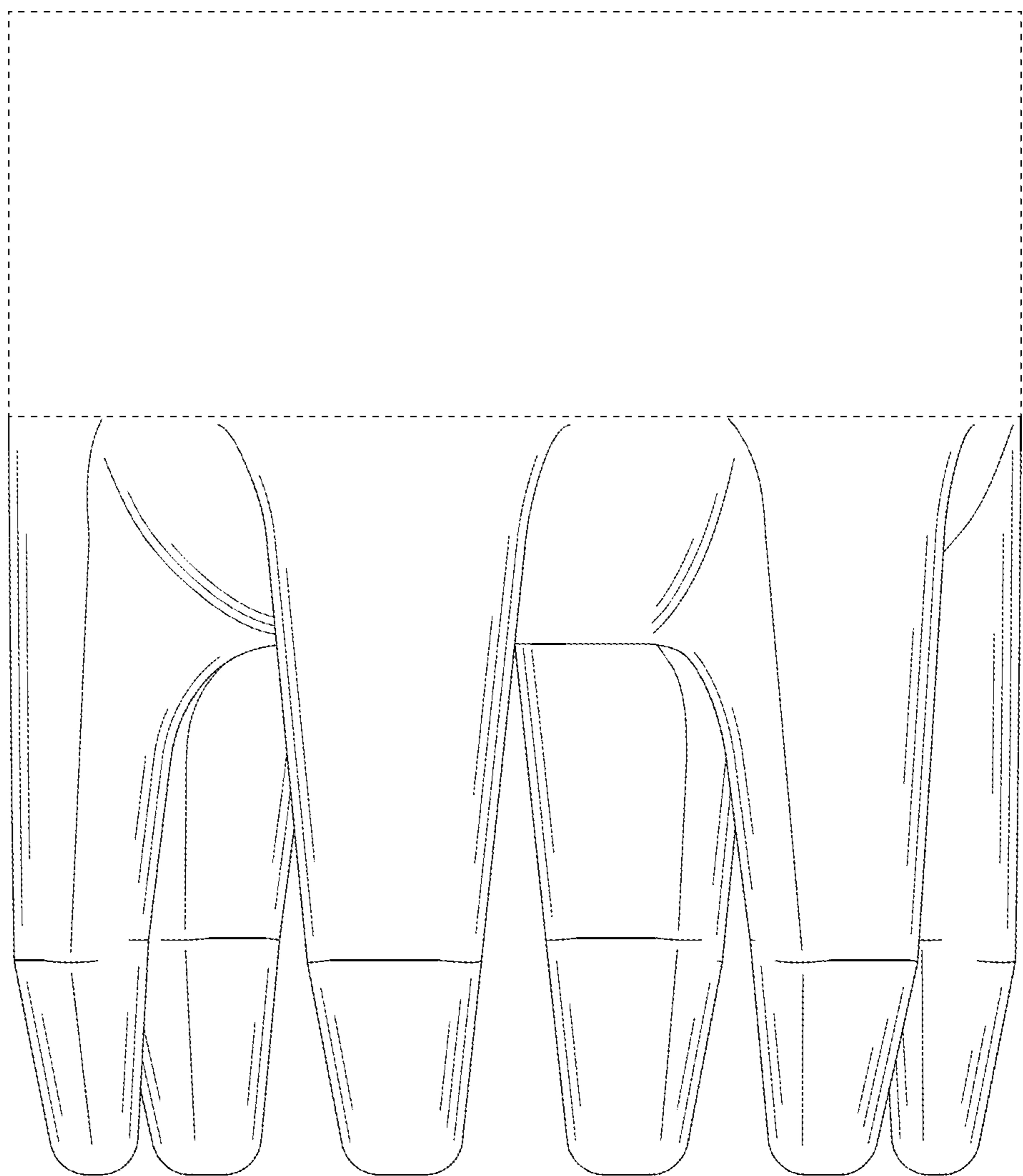


FIG. 5

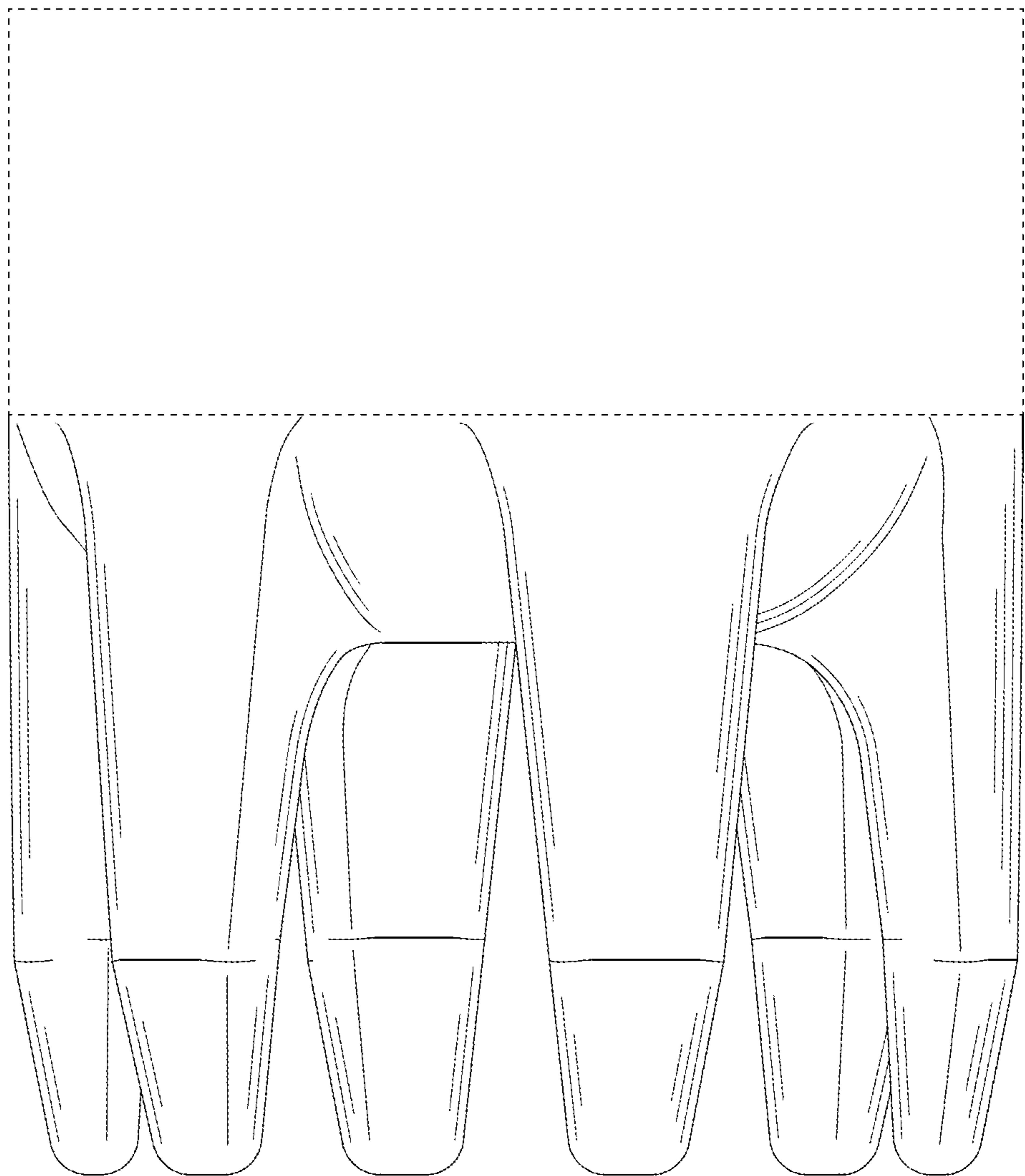


FIG. 6

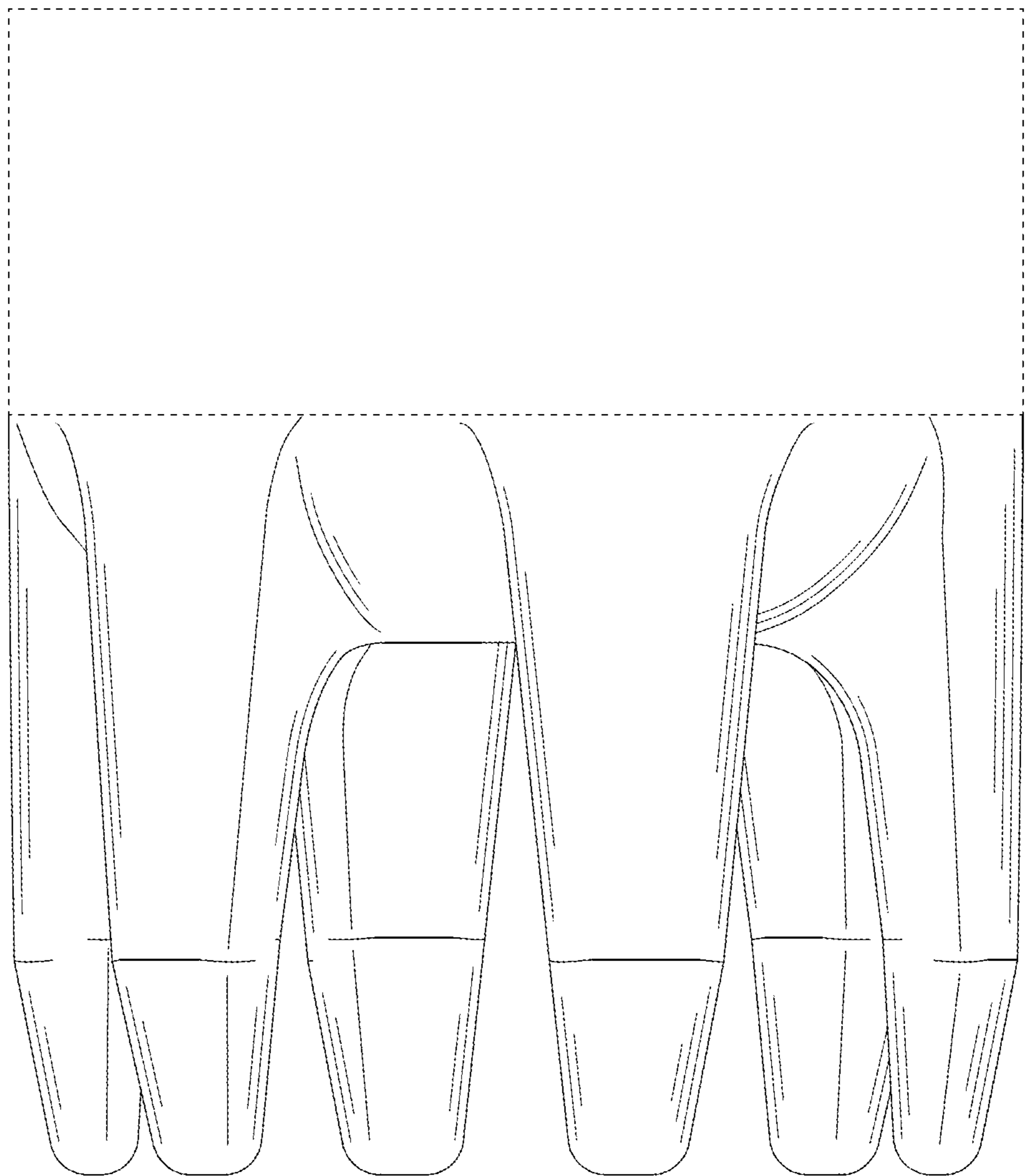


FIG. 7

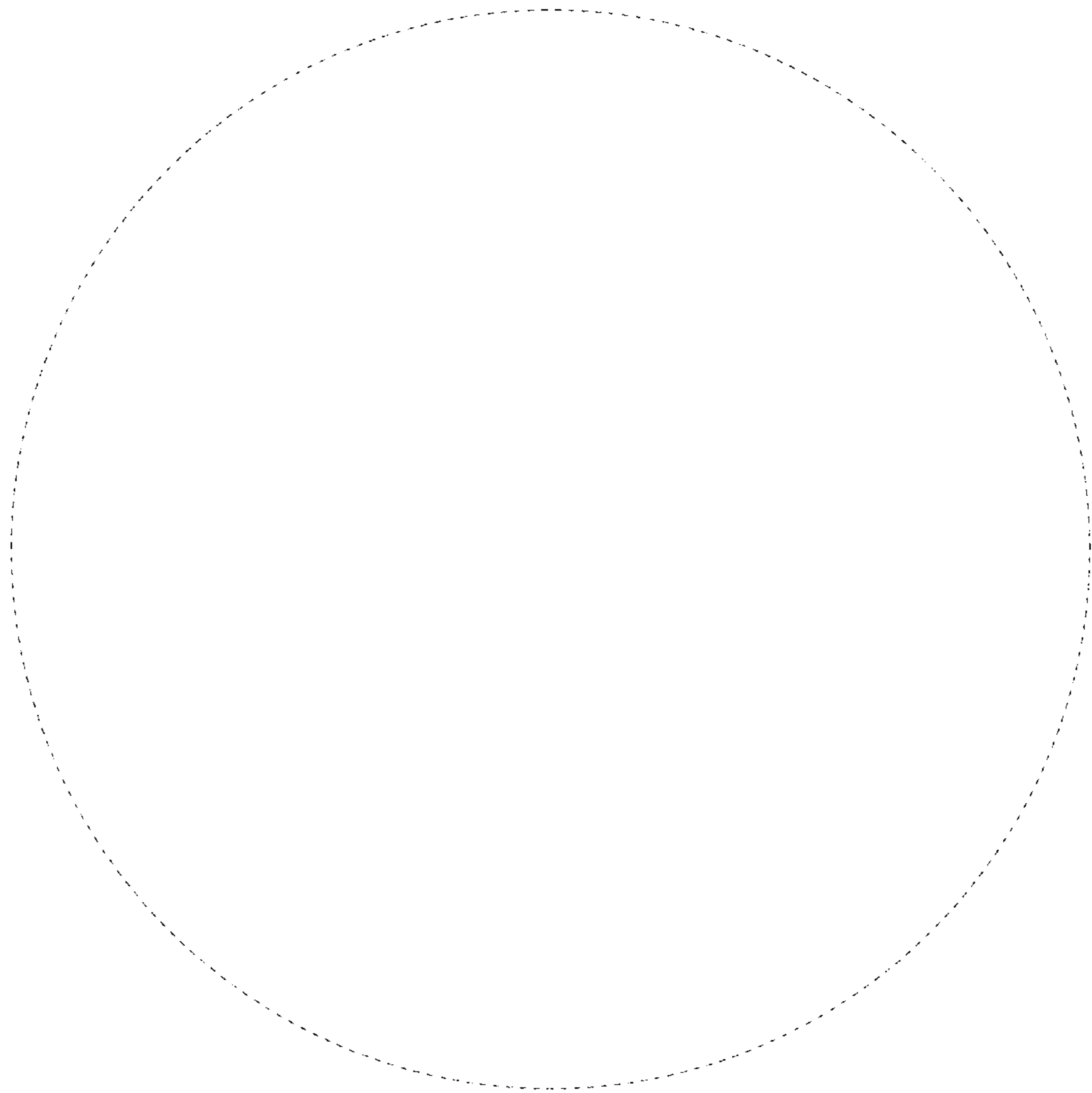


FIG. 8

