



US00D818414S

(12) **United States Design Patent** (10) **Patent No.:** **US D818,414 S**
Bills et al. (45) **Date of Patent:** **** May 22, 2018**

(54) **VORTEX PROPELLER**
(71) Applicants: **Chris Bills**, Provo, UT (US); **Donald E. Moriarty**, Provo, UT (US)
(72) Inventors: **Chris Bills**, Provo, UT (US); **Donald E. Moriarty**, Provo, UT (US)
(**) Term: **15 Years**
(21) Appl. No.: **29/585,961**
(22) Filed: **Nov. 30, 2016**
(51) **LOC (11) Cl.** **12-16**
(52) **U.S. Cl.**
USPC **D12/214**
(58) **Field of Classification Search**
USPC D12/214, 300, 305, 317, 319, 344, 16.1, D12/328, 330, 345; D15/4, 5; D13/115; D21/441; D23/379, 411, 413
CPC B64C 11/00; B64C 11/16; B64C 27/08; B64C 39/024; B64C 2201/108; B63H 5/07
See application file for complete search history.

D708,136 S * 7/2014 Eguizabal Garcia D13/115
8,905,706 B2 12/2014 Bills et al.
D722,965 S 2/2015 Perless et al.
9,004,851 B1 4/2015 Garza
2007/0018464 A1 1/2007 Becker
2007/0029807 A1 2/2007 Kass
2008/0095631 A1 4/2008 Bertony
2009/0257880 A1 10/2009 Clark
2010/0003130 A1 1/2010 Gual
2010/0196144 A1 8/2010 Morris
2010/0278650 A1* 11/2010 Parker F03D 1/0633
416/176
2011/0006542 A1* 1/2011 Burrell, IV F03D 3/049
290/55
2011/0081243 A1* 4/2011 Sullivan F03D 3/002
416/120
2011/0081244 A1 4/2011 Ro
2011/0164977 A1 7/2011 Vallejo
2011/0206526 A1 8/2011 Roberts
2011/0255975 A1 10/2011 Perless et al.
2012/0076656 A1 3/2012 Abass

(Continued)

Primary Examiner — George D. Kirschbaum
Assistant Examiner — Clese Moore, Jr.
(74) *Attorney, Agent, or Firm* — Thorpe North & Western LLP

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,218,175 A 8/1980 Carpenter
4,500,259 A 2/1985 Schumacher
5,078,632 A * 1/1992 Ogawa B63H 20/245
416/201 R
D324,364 S * 3/1992 Hannon D12/214
D326,080 S * 5/1992 Vartiala D12/214
D341,608 S * 11/1993 Fries D15/147
5,997,242 A 12/1999 Hecker et al.
D442,906 S * 5/2001 Prokop D12/214
D457,850 S * 5/2002 Rietsch D12/214
D459,285 S * 6/2002 Rietsch D12/214
D560,154 S * 1/2008 Aplin, Jr. D12/214
D576,539 S * 9/2008 Tymark D12/214
D578,460 S * 10/2008 Tymark D12/214
D658,563 S * 5/2012 Hwang D12/214

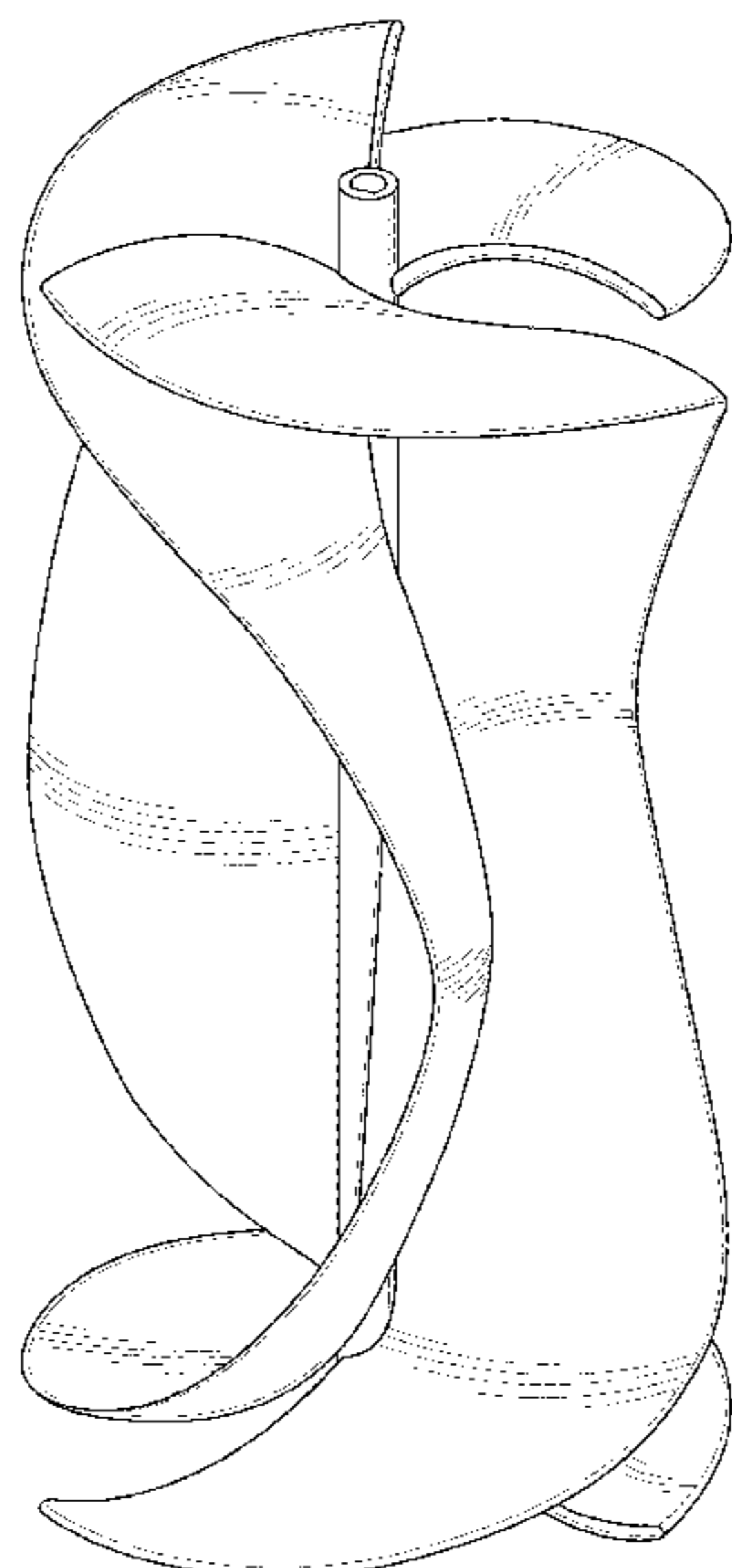
(57) **CLAIM**

The ornamental design for a vortex propeller, as shown and described herein.

DESCRIPTION

FIG. 1 is an elevated, perspective view of the vortex propeller in accordance with our invention;
FIG. 2 is a front view thereof;
FIG. 3 is back view of FIG. 1;
FIG. 4 is a side view of FIG. 1;
FIG. 5 is an opposite view of FIG. 4;
FIG. 6 is a top view of FIG. 1; and,
FIG. 7 is a bottom view of FIG. 1.

1 Claim, 6 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

2012/0128500 A1 5/2012 Perless et al.
2012/0242088 A1* 9/2012 Raz F03B 17/061
290/55
2013/0343891 A1 12/2013 Rajakaruna et al.
2013/0343897 A1 12/2013 Collins
2015/0300177 A1 10/2015 Mieremet et al.
2017/0022970 A1 1/2017 Bills et al.

* cited by examiner

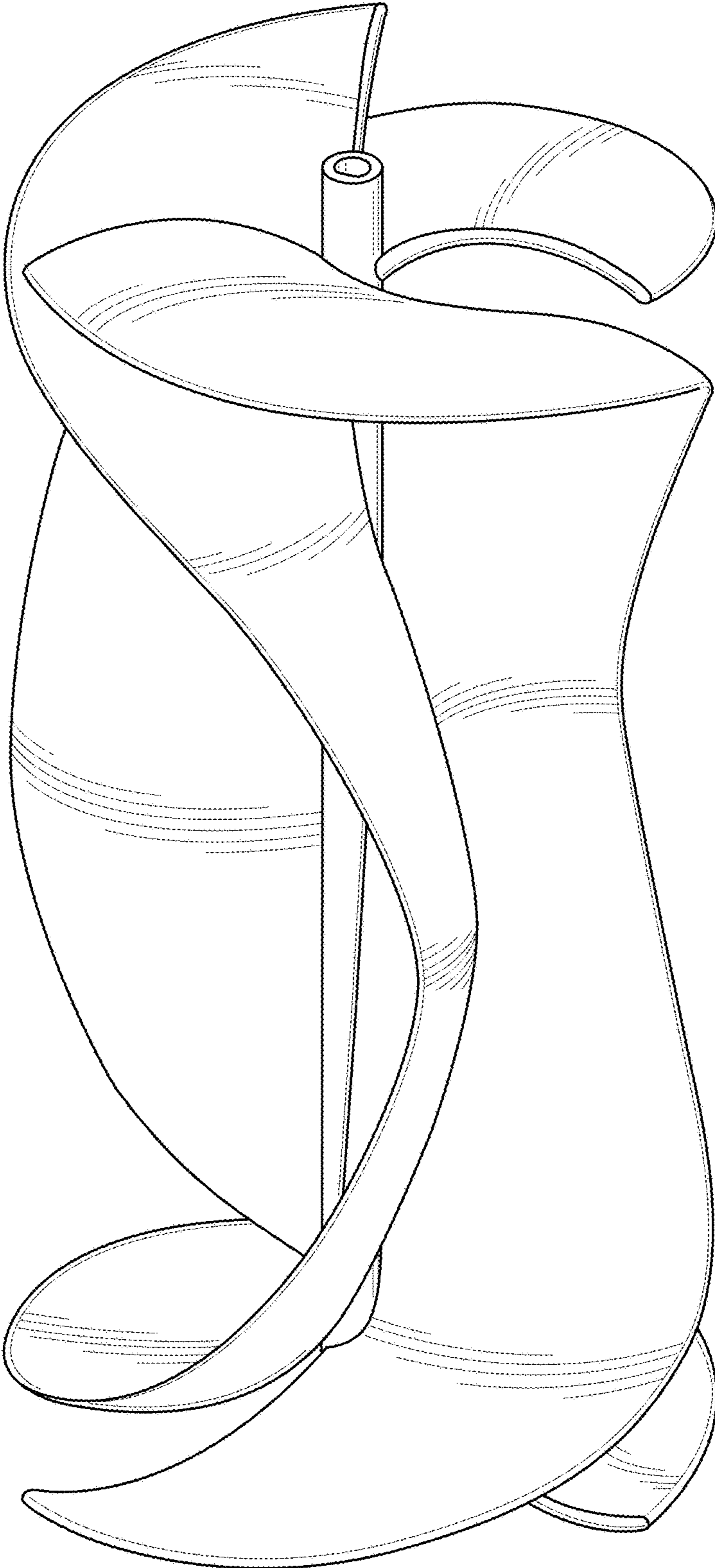


FIG. 1

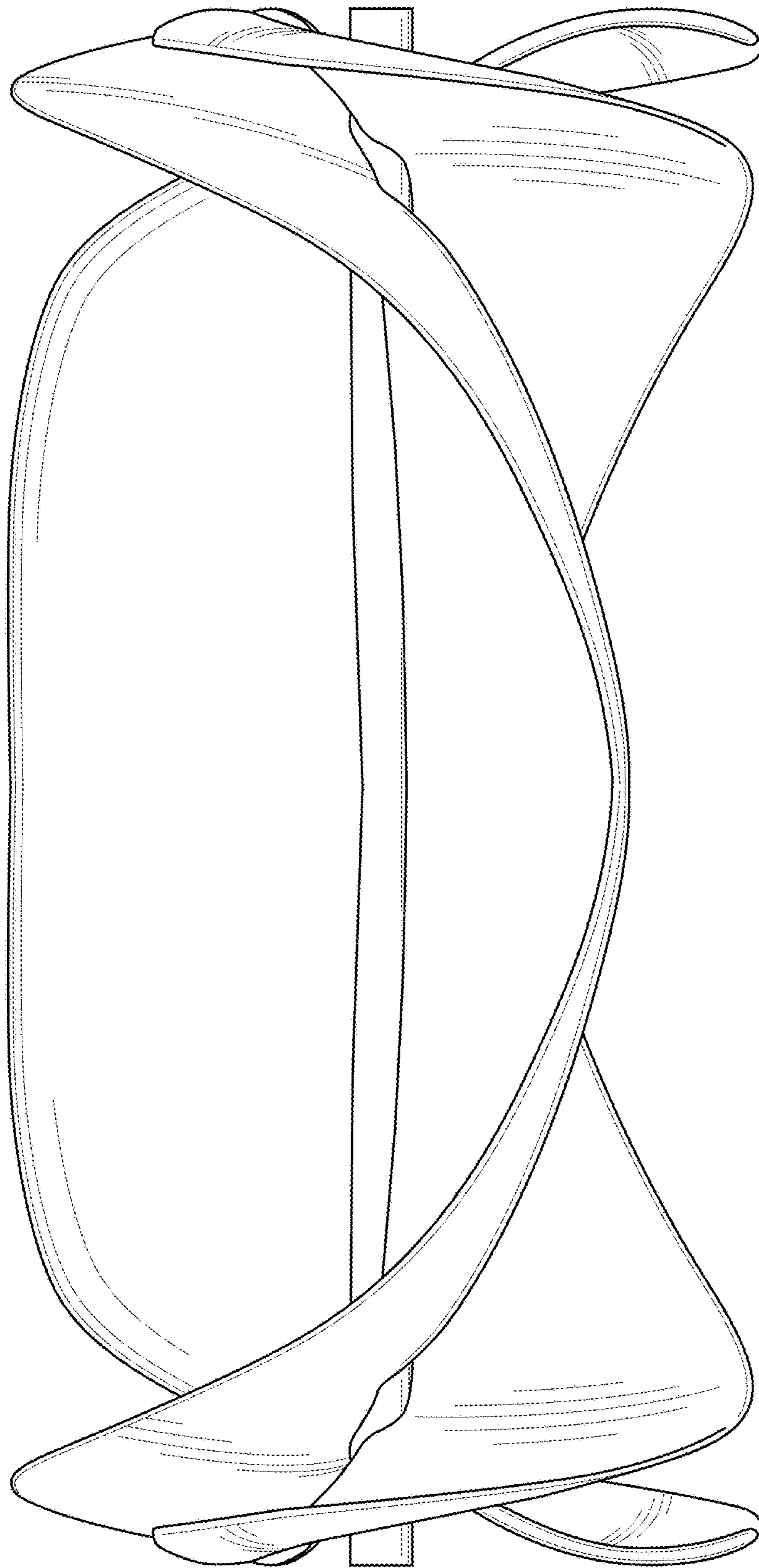


FIG. 2



FIG. 3



FIG. 4



FIG. 5

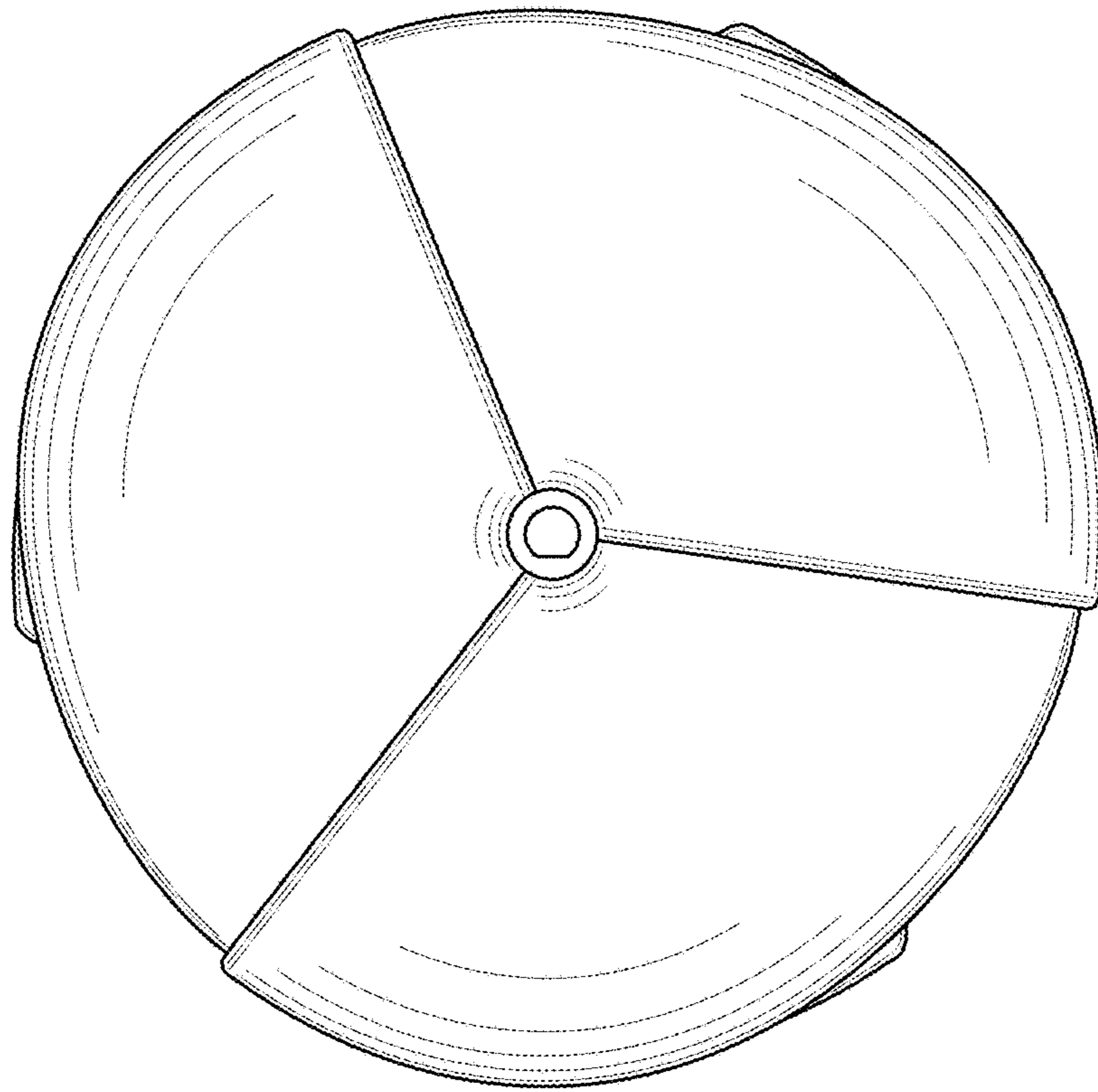


FIG. 6

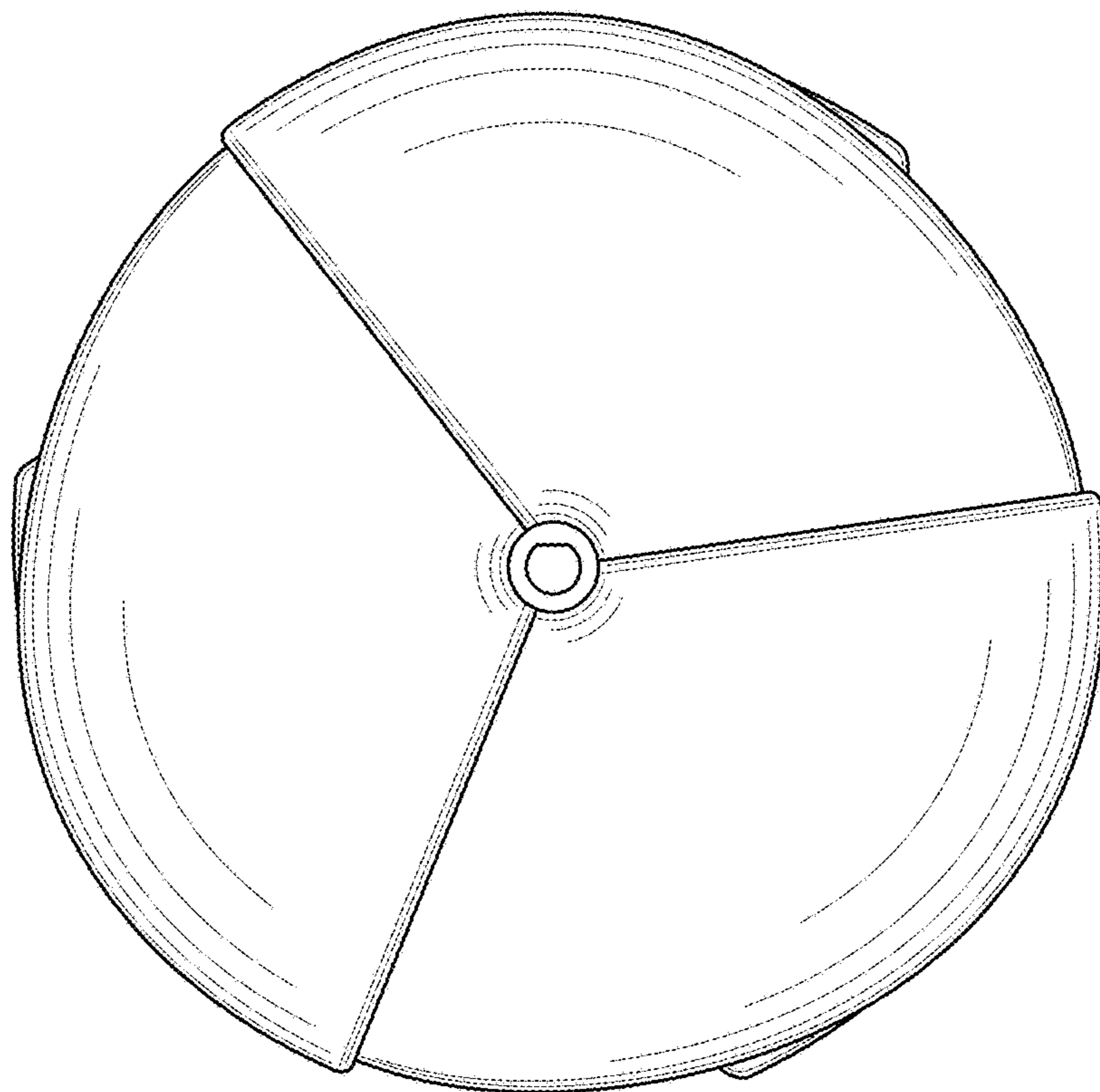


FIG. 7