



US00D641829S

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

(10) **Patent No.:** **US D641,829 S**

(45) **Date of Patent:** **** *Jul. 19, 2011**

(54) **PLASMA REACTOR SHOWERHEAD FACE
PLATE HAVING CONCENTRIC RIDGE
PATTERN**

(75) Inventors: **Ivelin A. Angelov**, Sunnyvale, CA (US);
James E. Caron, Tracy, CA (US); **Iliia
Kalinovshi**, Berkeley, CA (US)

(73) Assignee: **Novellus Systems, Inc.**, San Jose, CA
(US)

(*) Notice: This patent is subject to a terminal dis-
claimer.

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

(21) Appl. No.: **29/378,161**

(22) Filed: **Oct. 29, 2010**

(51) **LOC (9) Cl.** **23-01**

(52) **U.S. Cl.** **D23/213**

(58) **Field of Classification Search** D23/213,
D23/229, 230; 239/282, 283; 438/712
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D459,434 S * 6/2002 Fauquet D23/213
D459,435 S * 6/2002 Fauquet D23/213

D466,183 S * 11/2002 Tse D23/213
D495,776 S * 9/2004 Blomstrom D23/213
6,983,898 B2 * 1/2006 Clark 239/548
D593,640 S * 6/2009 Schoenherr et al. D23/213
D599,881 S * 9/2009 Wang et al. D23/213
D619,202 S * 7/2010 Zhang D23/213
D623,721 S * 9/2010 Reynoso D23/213
D624,155 S * 9/2010 Yokoyama et al. D23/213

* cited by examiner

Primary Examiner — Robin Webster

(74) *Attorney, Agent, or Firm* — Weaver Austin Villeneuve
& Sampson LLP

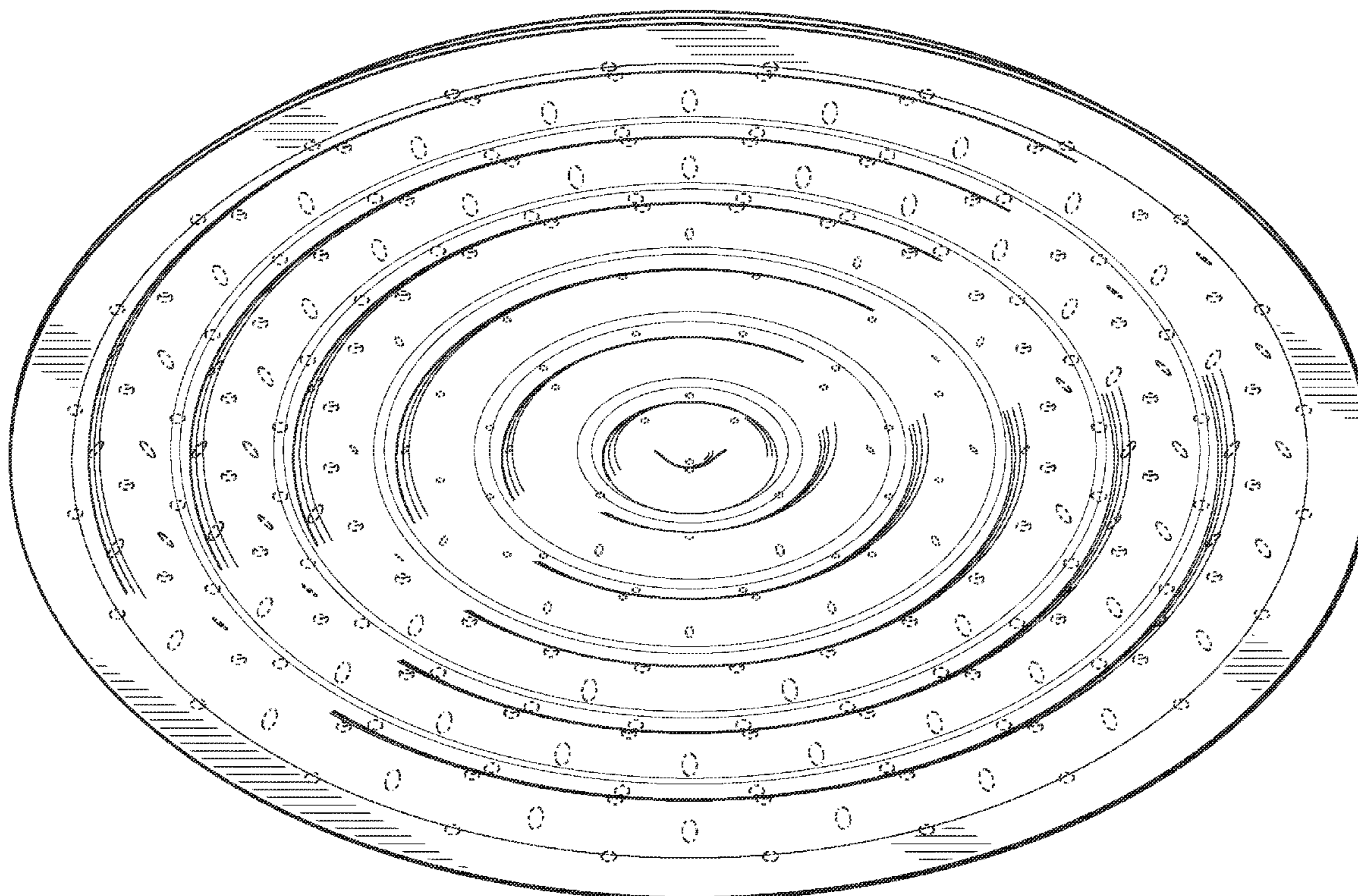
(57) **CLAIM**

We claim the ornamental design for a plasma reactor show-
erhead face plate having concentric ridge pattern, as shown
and described.

DESCRIPTION

FIG. 1 is a lower front perspective view of a plasma reactor
showerhead face plate having concentric ridge pattern show-
ing our new design, wherein dashed lines represent holes and
are unclaimed as part of this invention;
FIG. 2 is a top plan view thereof;
FIG. 3 is a bottom plan view thereof;
FIG. 4 is a side elevational view thereof, all sides being
identical thereto; and,
FIG. 5 is a cross-sectional view thereof, taken generally along
line 5—5 in FIG. 3, showing succinctly the surface contours
seen in FIGS. 1 and 3.

1 Claim, 4 Drawing Sheets



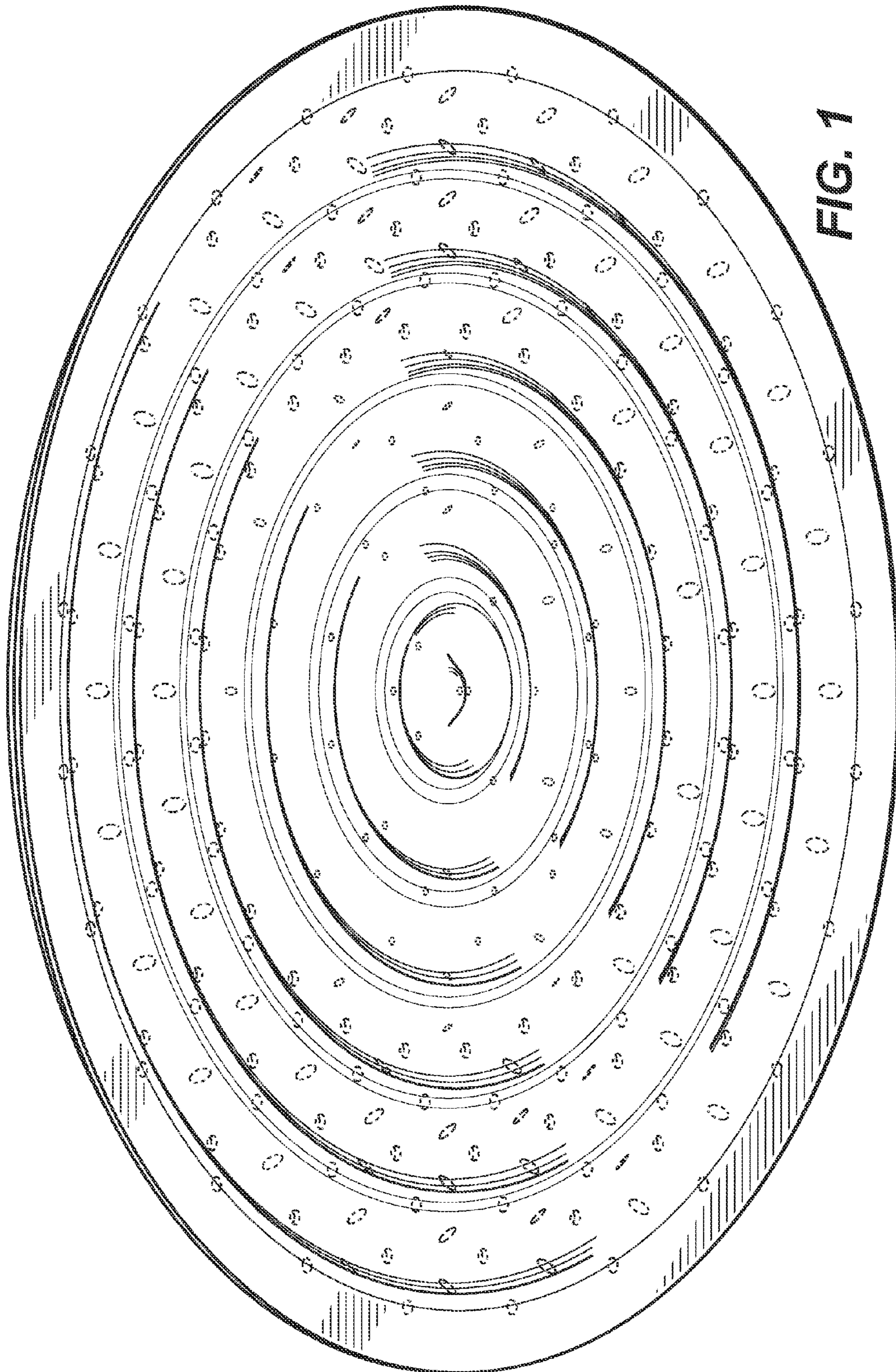


FIG. 1

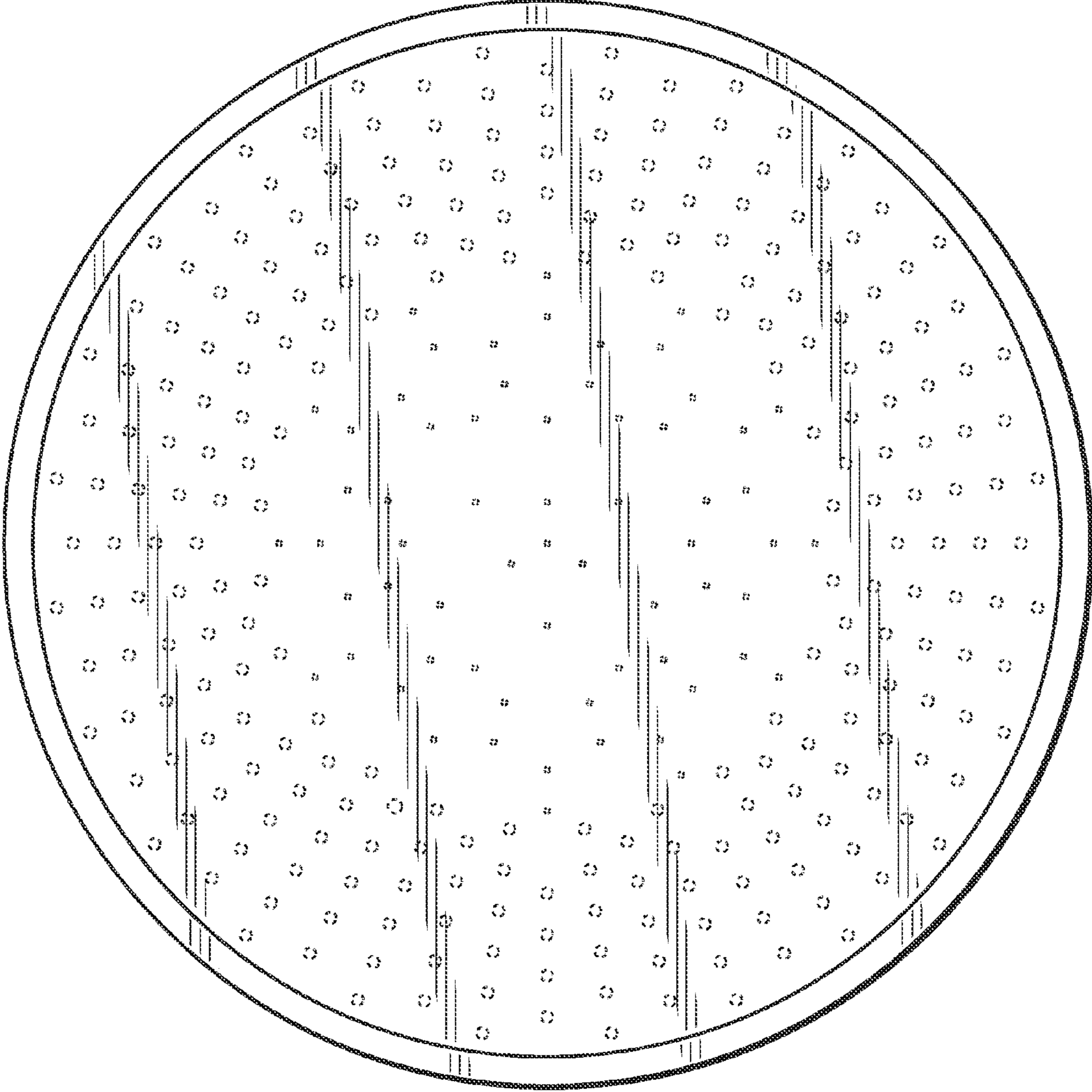


FIG. 2

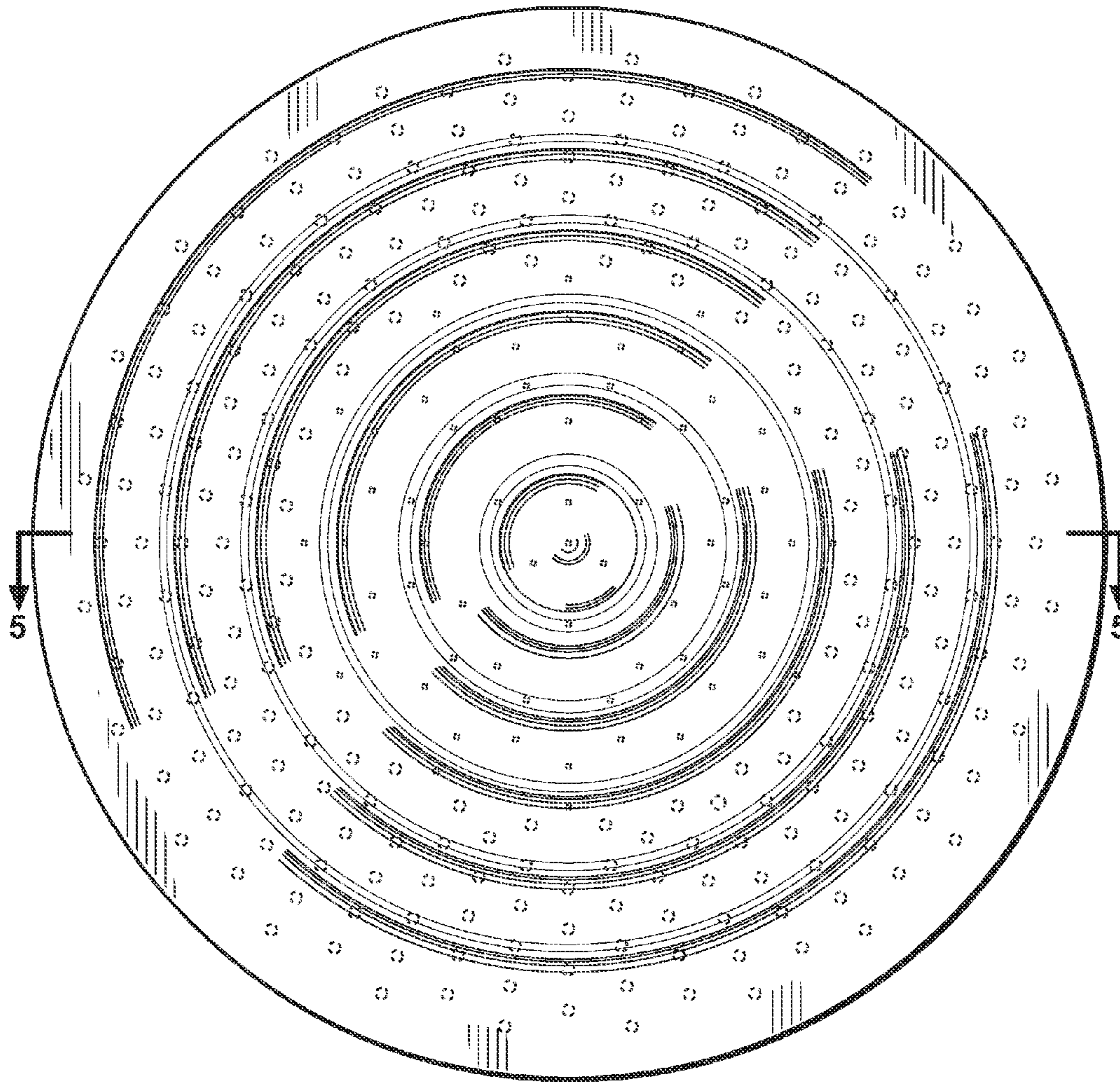


FIG. 3



FIG. 4



FIG. 5

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : D641,829 S
APPLICATION NO. : 29/378161
DATED : July 19, 2011
INVENTOR(S) : Angelov et al.

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

TITLE PAGE, ITEM (75) INVENTORS:

Please correct inventor's name:

--Kalinovski; Ilia--

Signed and Sealed this
Tenth Day of January, 2012



David J. Kappos
Director of the United States Patent and Trademark Office