



US00D538313S

(12) **United States Design Patent** (10) **Patent No.:** **US D538,313 S**
Braunschweig et al. (45) **Date of Patent:** **** Mar. 13, 2007**

(54) **ABRASIVE ARTICLE WITH HOLES**

(75) Inventors: **Ehrich J. Braunschweig**, Woodbury, MN (US); **Edward J. Woo**, Woodbury, MN (US); **Charles J. Studiner, IV**, Cottage Grove, MN (US)

(73) Assignee: **3M Innovative Properties Company**, St. Paul, MN (US)

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

(21) Appl. No.: **29/238,542**

(22) Filed: **Sep. 16, 2005**

(51) **LOC (8) Cl.** **15-09**

(52) **U.S. Cl.** **D15/126**

(58) **Field of Classification Search** D15/124, D15/126, 138, 139; 451/47, 56, 324, 443, 451/541, 544, 547, 548-551

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,307,312	A	*	1/1943	Whiting	451/548
2,358,861	A		9/1944	Koether		
2,564,217	A		8/1951	Taylor		
2,749,681	A		6/1956	Reidenbach		
2,749,683	A		6/1956	Soderman		
2,838,890	A		6/1958	McIntyre		
3,021,649	A		2/1962	Robbins		
3,353,308	A		11/1967	Zane		

(Continued)

FOREIGN PATENT DOCUMENTS

EP	0 285 042	A1	10/1988
EP	1 488 888	A1	12/2004
EP	1 524 077	A1	4/2005
FR	2 659 892		9/1991
GB	2 017 485	A	10/1979
GB	2 057 483	A	4/1981
GB	2 162 213	A	1/1986
WO	03/020474	A1	3/2003

OTHER PUBLICATIONS

- U.S. Appl. No. 11/299,281, Woo et al., Filed Sep. 16, 2005.
- U.S. Appl. No. 11/228,896, Rambosek et al., Filed Sep. 16, 2005.
- U.S. Appl. No. 29/238,541, Braunschweig et al., Filed Sep. 16, 2005.
- U.S. Appl. No. 29/238,556, Braunschweig et al., Filed Sep. 16, 2005.
- U.S. Appl. No. 29/246,256, Shimizu et al., Filed Mar. 28, 2006.
- U.S. Appl. No. 29/246,257, Shimizu et al., Filed Mar. 28, 2006.
- U.S. Appl. No. 29/246,258, Shimizu et al., Filed Mar. 28, 2006.
- U.S. Appl. No. 29/246,259, Shimizu et al., Filed Mar. 28, 2006.
- U.S. Appl. No. 29/246,260, Shimizu et al., Filed Mar. 28, 2006.
- U.S. Appl. No. 29/246,261, Shimizu et al., Filed Mar. 28, 2006.
- U.S. Appl. No. 29/253,148, Braunschweig, Filed Feb. 1, 2006.
- U.S. Appl. No. 29/253,110, Braunschweig, Filed Feb. 1, 2006.
- U.S. Appl. No. 29/253,085, Braunschweig, Filed Feb. 1, 2006.
- U.S. Appl. No. 29/253,084, Braunschweig, Filed Feb. 1, 2006.

Primary Examiner—Antoine D. Davis
Assistant Examiner—Patricia Palasik

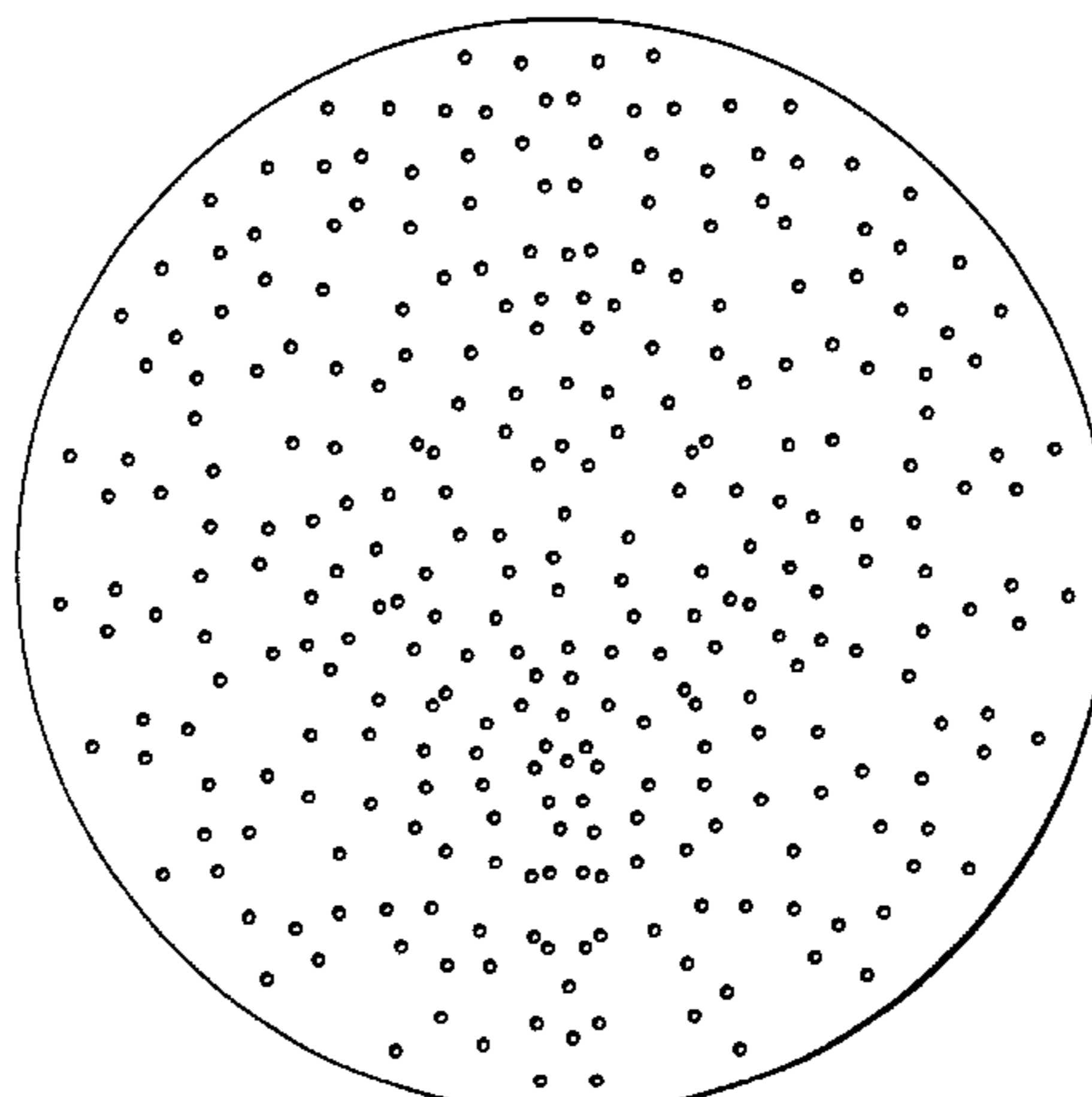
(57) **CLAIM**

The ornamental design for an abrasive article with holes, as shown and described.

DESCRIPTION

FIG. 1 is a top perspective view of an abrasive article with holes, as shown;
FIG. 2 is a top view thereof;
FIG. 3 is a bottom view thereof; and,
FIG. 4 is a front side view thereof; the left, right, and back side views being identical thereto.

1 Claim, 2 Drawing Sheets



US D538,313 S

Page 2

U.S. PATENT DOCUMENTS					
3,386,214	A	6/1968 Shoemaker	6,059,644	A	5/2000 Manor et al.
3,426,486	A	2/1969 Kubsh	D426,560	S *	6/2000 Texler et al. D15/139
3,932,966	A	1/1976 Stern	6,077,156	A	6/2000 Amin et al.
4,062,152	A	12/1977 Mehrer	6,190,246	B1	2/2001 Parrott et al.
4,158,935	A	6/1979 Robert	6,312,325	B1	11/2001 Van Osenbruggen
4,287,685	A	9/1981 Marton	6,368,199	B1	4/2002 Van Osenbruggen
D277,486	S *	2/1985 Yanagiura D15/126	6,371,842	B1 *	4/2002 Romero 451/548
4,631,220	A	12/1986 Clifton	D460,767	S	7/2002 Kim et al.
4,964,243	A	10/1990 Reiter	6,419,574	B1 *	7/2002 Takahashi et al. 451/548
4,964,245	A	10/1990 Braasch	6,575,821	B2	6/2003 Jöst
5,007,206	A	4/1991 Paterson	2003/0003856	A1	1/2003 Swei
5,022,191	A	6/1991 Broido	2003/0054746	A1	3/2003 Nussbaumer et al.
5,667,433	A	9/1997 Mallon	2003/0159363	A1	8/2003 Chesley et al.
5,674,122	A	10/1997 Krech	2004/0072510	A1	4/2004 Kinoshita et al.
5,807,161	A	9/1998 Manor et al.	2006/0019579	A1	1/2006 Braunschweig
5,810,650	A	9/1998 Jöst	2006/0160477	A1 *	7/2006 Kinoshita et al. 451/56
5,989,112	A	11/1999 Long et al.	2006/0160481	A1	7/2006 Miyanaga
D421,029	S	2/2000 Cha			

* cited by examiner

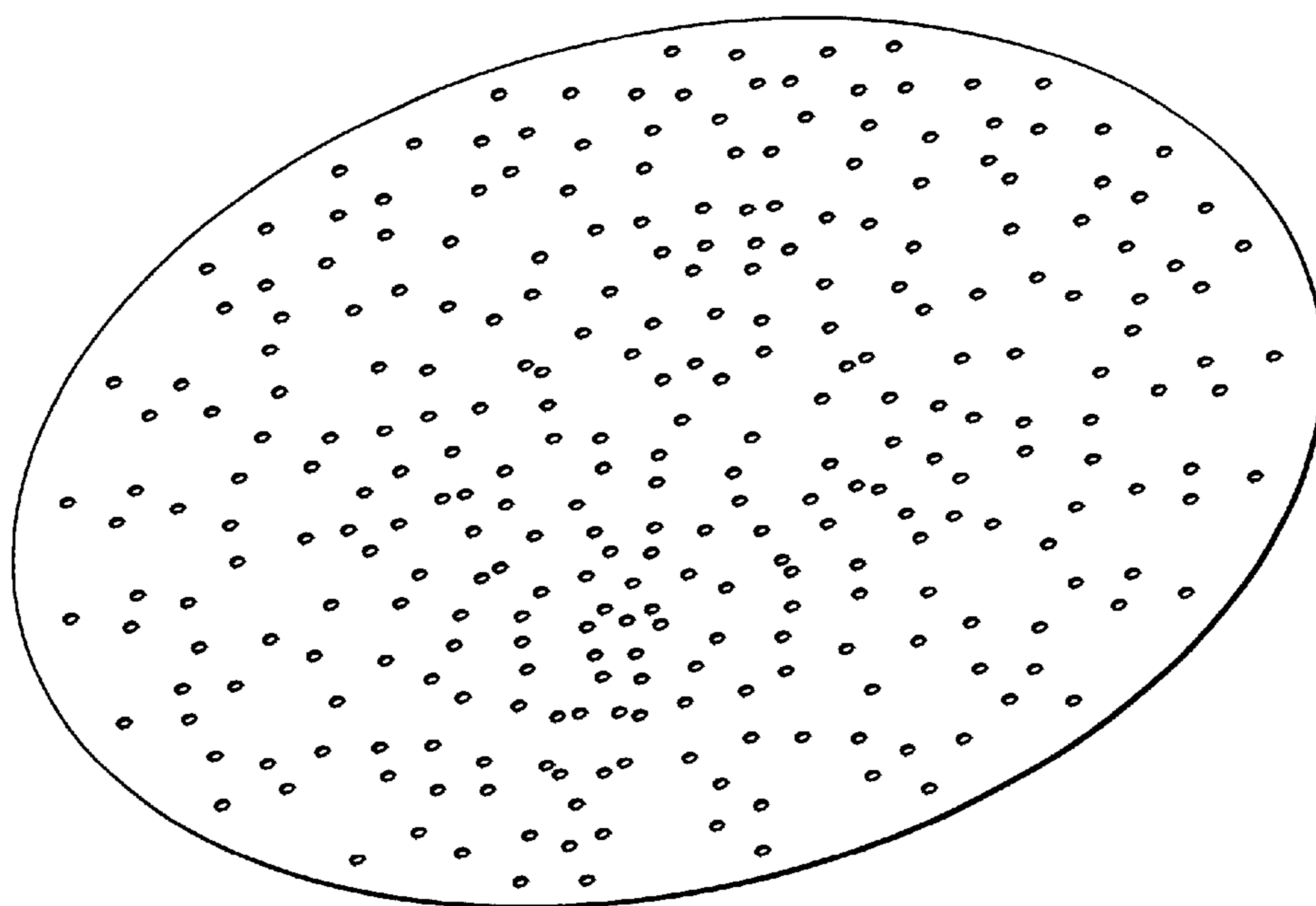


Fig. 1

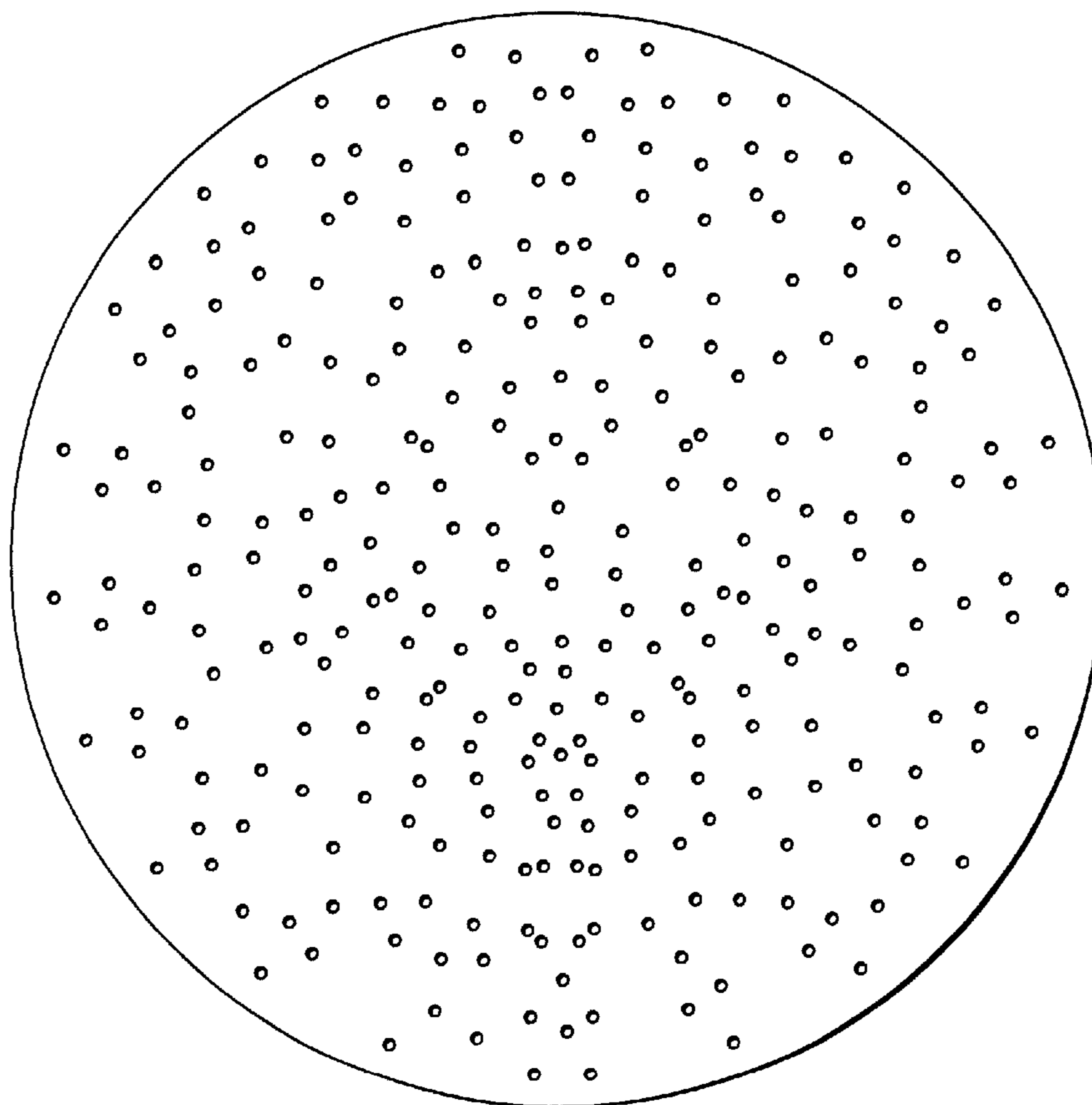


Fig. 2

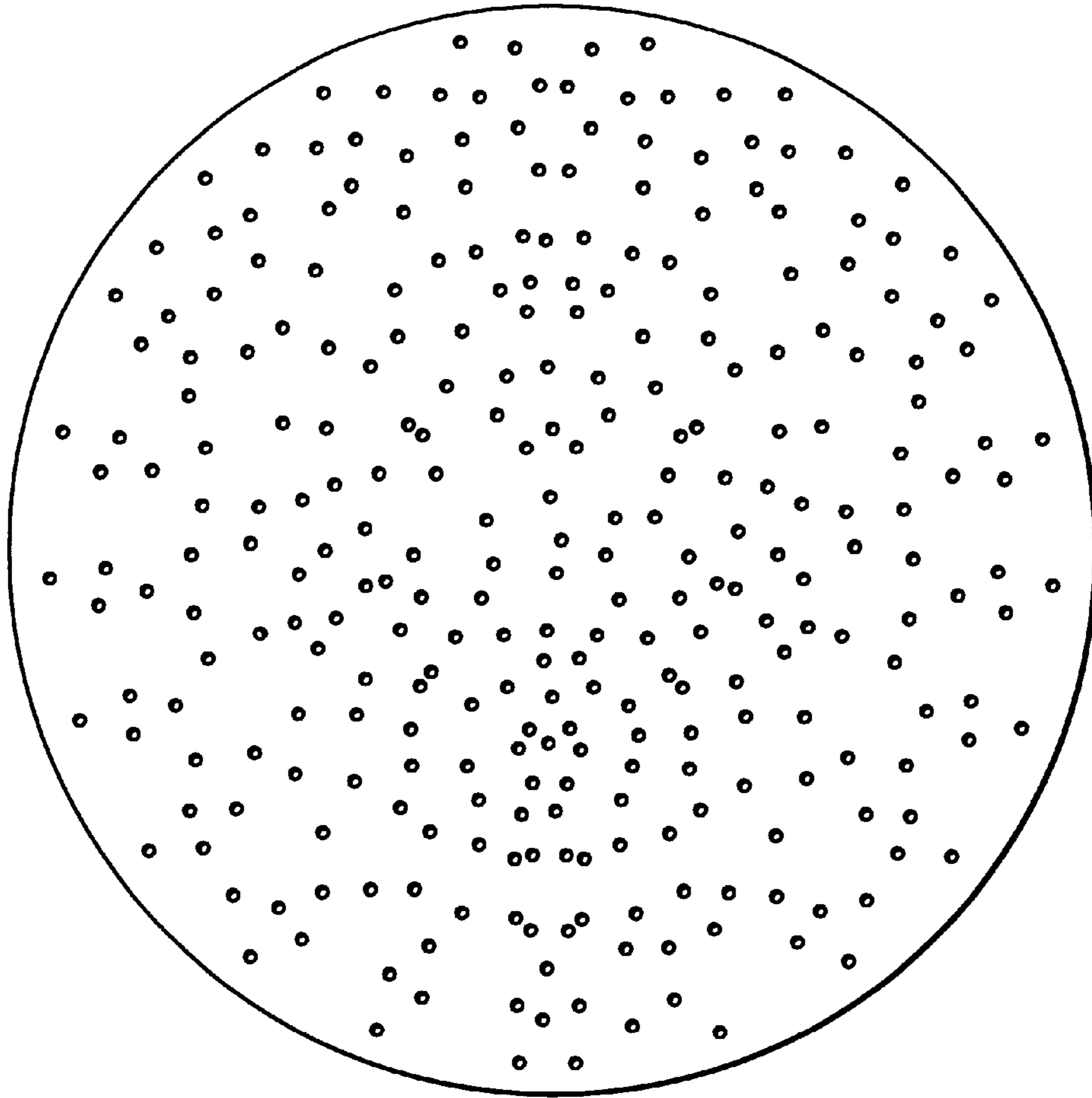


Fig. 3



Fig. 4