US00D369447S

United States Patent [19]

Mann et al.

[11] **Patent Number: Des. 369,447**

[45] **Date of Patent: **Apr. 30, 1996**

[54] **ROTARY BRUSH**

[75] Inventors: **Lawrence J. Mann**, Lake Elmo; **Michael J. Kubes**, Maplewood, both of Minn.

[73] Assignee: **Minnesota Mining and Manufacturing Company**, St. Paul, Minn.

[**] Term: **14 Years**

[21] Appl. No.: **20,103**

[22] Filed: **Mar. 18, 1994**

[52] **U.S. Cl.** **D32/25**; D4/102; D32/19

[58] **Field of Search** D4/100, 102, 119–120, D4/127, 130; 15/159.1, 160, 179–180, 186–187, 230, 49.1, 50.1, 50.3, 87; D32/19–20, 25

[56] **References Cited**

U.S. PATENT DOCUMENTS

2,153,207	4/1939	Petty	15/180
2,196,079	4/1940	Pyle	15/180 X
2,334,642	11/1943	Moore	15/230 X
2,480,739	8/1949	Johnson	15/93
2,677,142	5/1954	Mundo	15/230
3,181,193	5/1965	Nobles et al.	15/230
3,233,272	2/1966	Pambello	15/182
3,243,832	4/1966	Allen et al.	15/180
3,290,713	12/1966	Barry	15/180
3,381,326	5/1968	Dolan et al.	15/180
3,398,422	8/1968	Barry et al.	15/180
3,526,919	9/1970	Byers	15/180
3,527,001	9/1970	Kleemeier et al.	51/358
3,529,945	9/1970	Charvat	51/295
3,943,594	3/1976	Alvin	15/180
4,114,225	9/1978	Malish et al.	15/230
4,236,269	12/1980	Block	15/180
5,016,311	5/1991	Young et al.	15/88.3
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5,083,840	1/1992	Young et al.	300/2
5,233,719	8/1993	Young et al.	15/179
5,233,794	8/1993	Kikutani et al.	21/206 NF
5,289,605	3/1994	Armbruster	15/97.1

FOREIGN PATENT DOCUMENTS

601672	3/1927	France .	
2365935	4/1978	France	A46B 15/00
4269175	9/1992	Japan .	
12747	of 1905	United Kingdom .	
2165742	4/1986	United Kingdom	A46B 3/00

OTHER PUBLICATIONS

Brochure entitled "Brushlon™ Material Product Line" by 3M Company, St. Paul, Minnesota 1992.

Photographs of prior art Brushlon™ disk by 3M Company, St. Paul, Minnesota 1994.

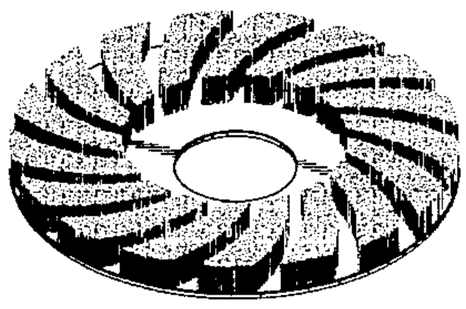
Primary Examiner—James M. Gandy
Assistant Examiner—Lavone Tabor
Attorney, Agent, or Firm—Gary L. Griswold; Walter N. Kirn; Leland D. Schultz

[57] **CLAIM**

The ornamental design for a rotary brush, as shown and described.

DESCRIPTION

FIG. **1** is an isometric view of a first embodiment of the rotary brush of the present invention;
FIG. **2** is a top view of the rotary brush of FIG. **1**;
FIG. **3** is a side view of the rotary brush of FIG. **1**;
FIG. **4** is a back view of the rotary brush of FIG. **1**;
FIG. **5** is an isometric view of a second embodiment of the rotary brush of the present invention;
FIG. **6** is a top view of the rotary brush of FIG. **5**;
FIG. **7** is a side view of the rotary brush of FIG. **5**;
FIG. **8** is a back view of the rotary brush of FIG. **5**;
FIG. **9** is an isometric view of a third embodiment of the rotary brush of the present invention;
FIG. **10** is a top view of the rotary brush of FIG. **9**;
FIG. **11** is a side view of the rotary brush of FIG. **9**;
FIG. **12** is a back view of the rotary brush of FIG. **9**;
FIG. **13** is an isometric view of a fourth embodiement of the rotary brush of the present invention;
FIG. **14** is a top view of the rotary brush of FIG. **13**;
FIG. **15** is a side view of the rotary brush of FIG. **13**;
FIG. **16** is a back view of the rotary brush of FIG. **13**;
FIG. **17** is an isometric view of a fifth embodiment of the rotary brush of the present invention;
FIG. **18** is a top view of the rotary brush of FIG. **17**;
FIG. **19** is a side view of the rotary brush of FIG. **17**;
FIG. **20** is a back view of the rotary brush of FIG. **17**;



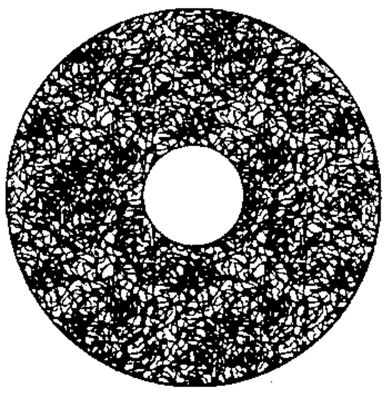


FIG. **21** is an isometric view of a sixth embodiment of the rotary brush of the present invention;
FIG. **22** is a top view of the rotary brush of FIG. **21;**
FIG. **23** is a side view of the rotary brush of FIG. **21;**
FIG. **24** is a back view of the rotary brush of FIG. **21;**
FIG. **25** is an isometric view of a seventh embodiment of the rotary brush of the present invention;
FIG. **26** is a top view of the rotary brush of FIG. **25;**
FIG. **27** is a side view of the rotary brush of FIG. **25;**
FIG. **28** is a back view of the rotary brush of FIG. **25;**
FIG. **29** is an isometric view of an eighth embodiment of the rotary brush of the present invention;
FIG. **30** is a top view of the rotary brush of FIG. **29;**
FIG. **31** is a side view of the rotary brush of FIG. **29;**
FIG. **32** is a back view of the rotary brush of FIG. **29;**
FIG. **33** is an isometric view of a ninth embodiment of the rotary brush of the present invention;
FIG. **34** is a top view of the rotary brush of FIG. **33;**
FIG. **35** is a side view of the rotary brush of FIG. **33;** and,
FIG. **36** is a back view of the rotary brush of FIG. **33.**
The undisclosed sides of embodiments **1, 2, 3, 4, 5, 6, 7, 8,** and **9** are respectively the same in appearance as the sides shown in FIGS. **3, 7, 11, 15, 19, 23, 27, 31,** and **35.**

1 Claim, 9 Drawing Sheets

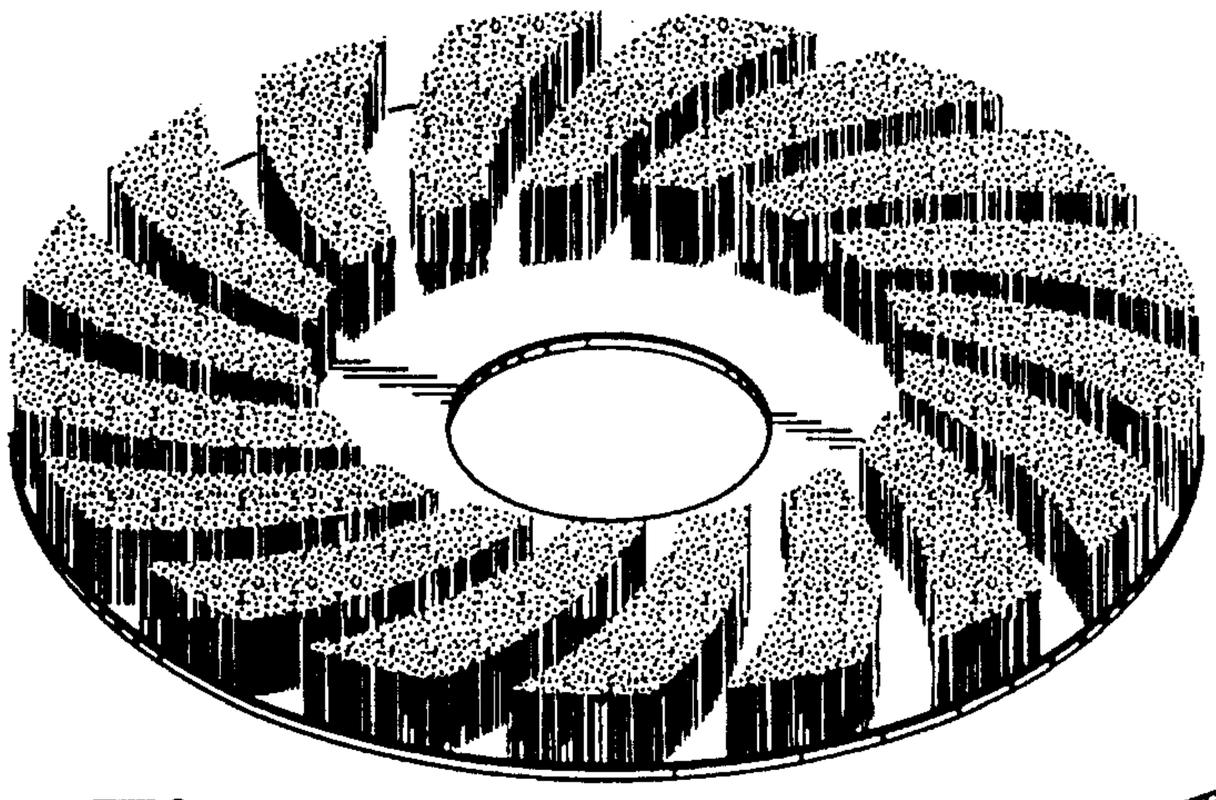


Fig. 1

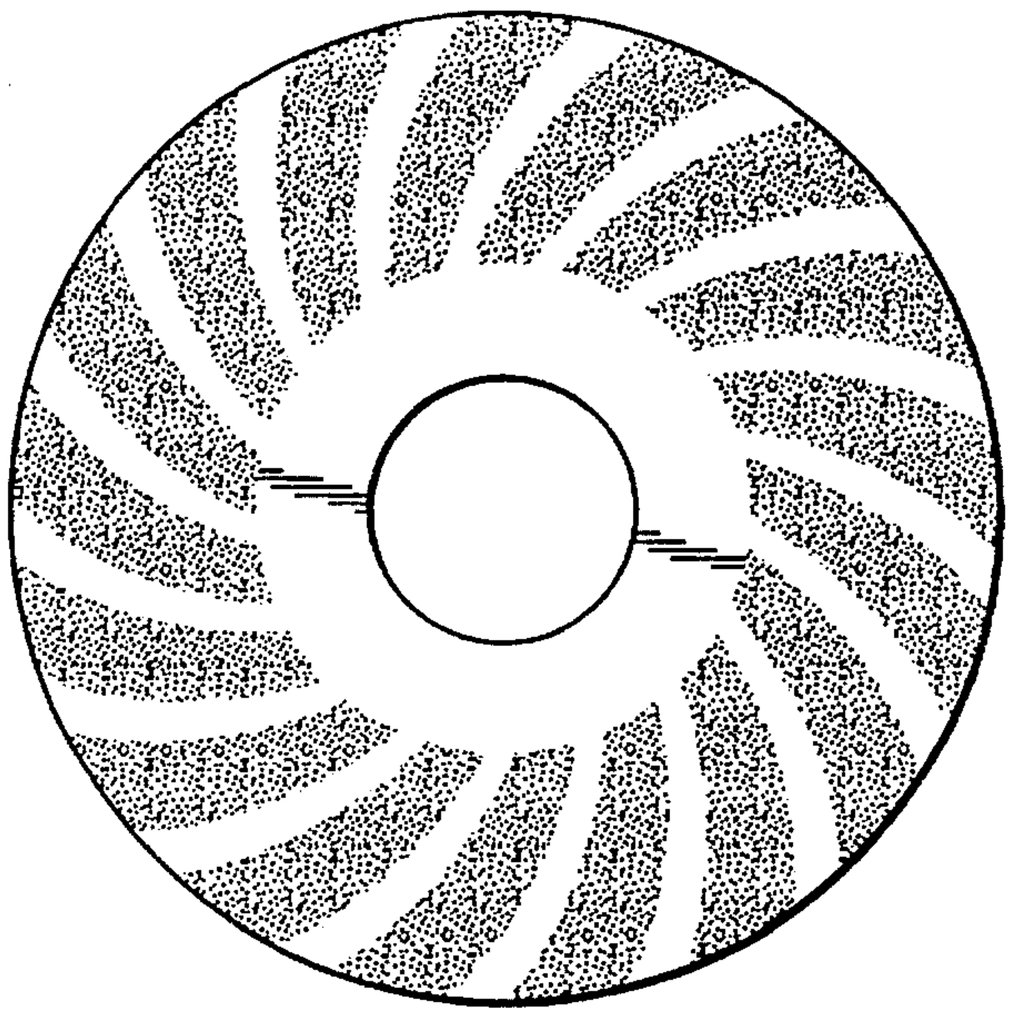


Fig. 2

Fig. 3

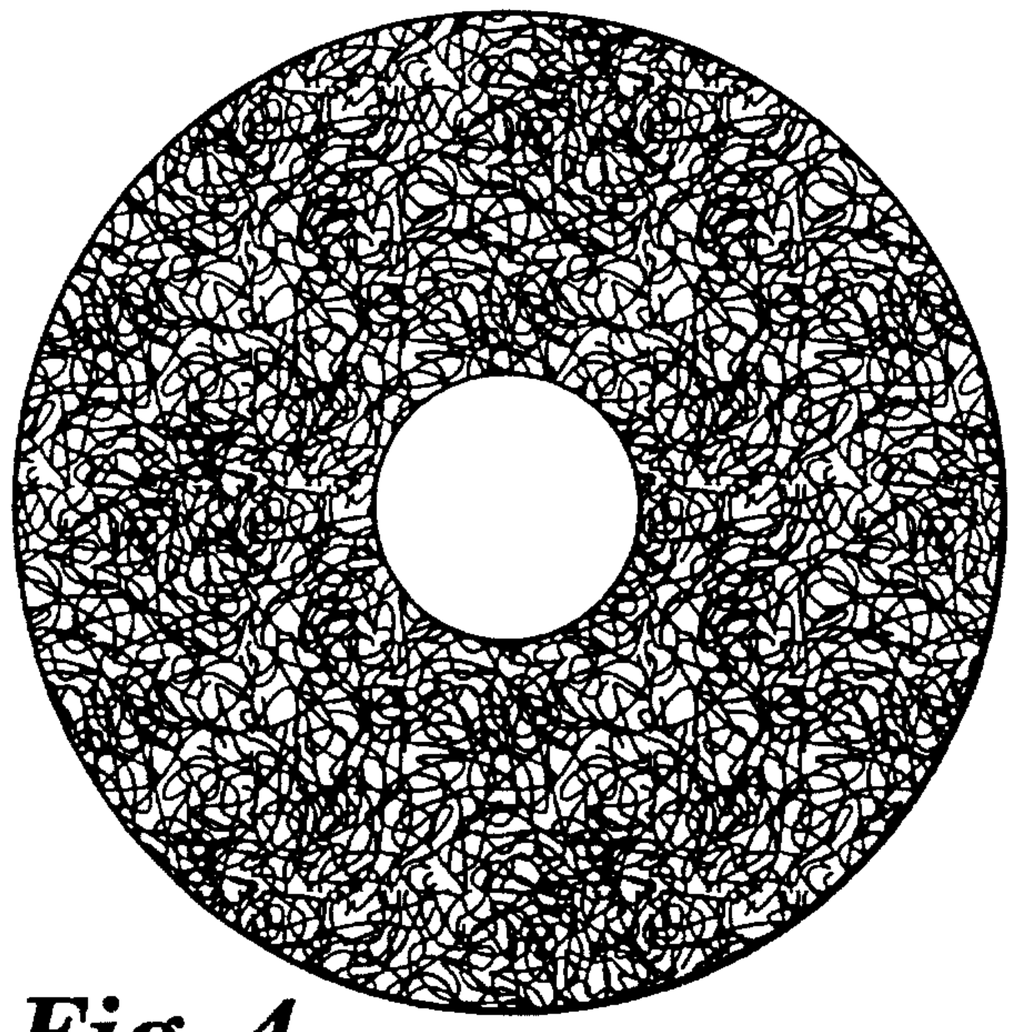


Fig. 4

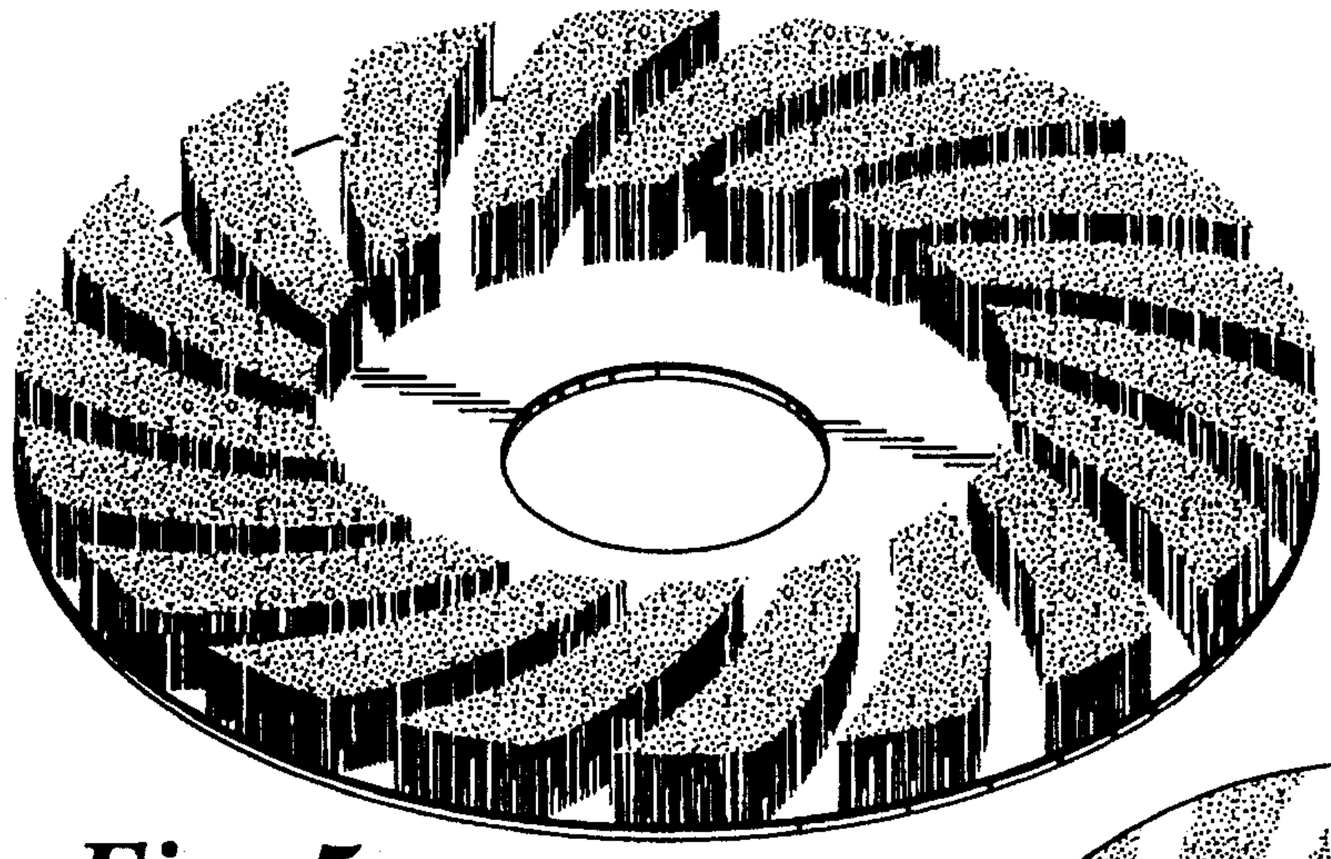


Fig. 5

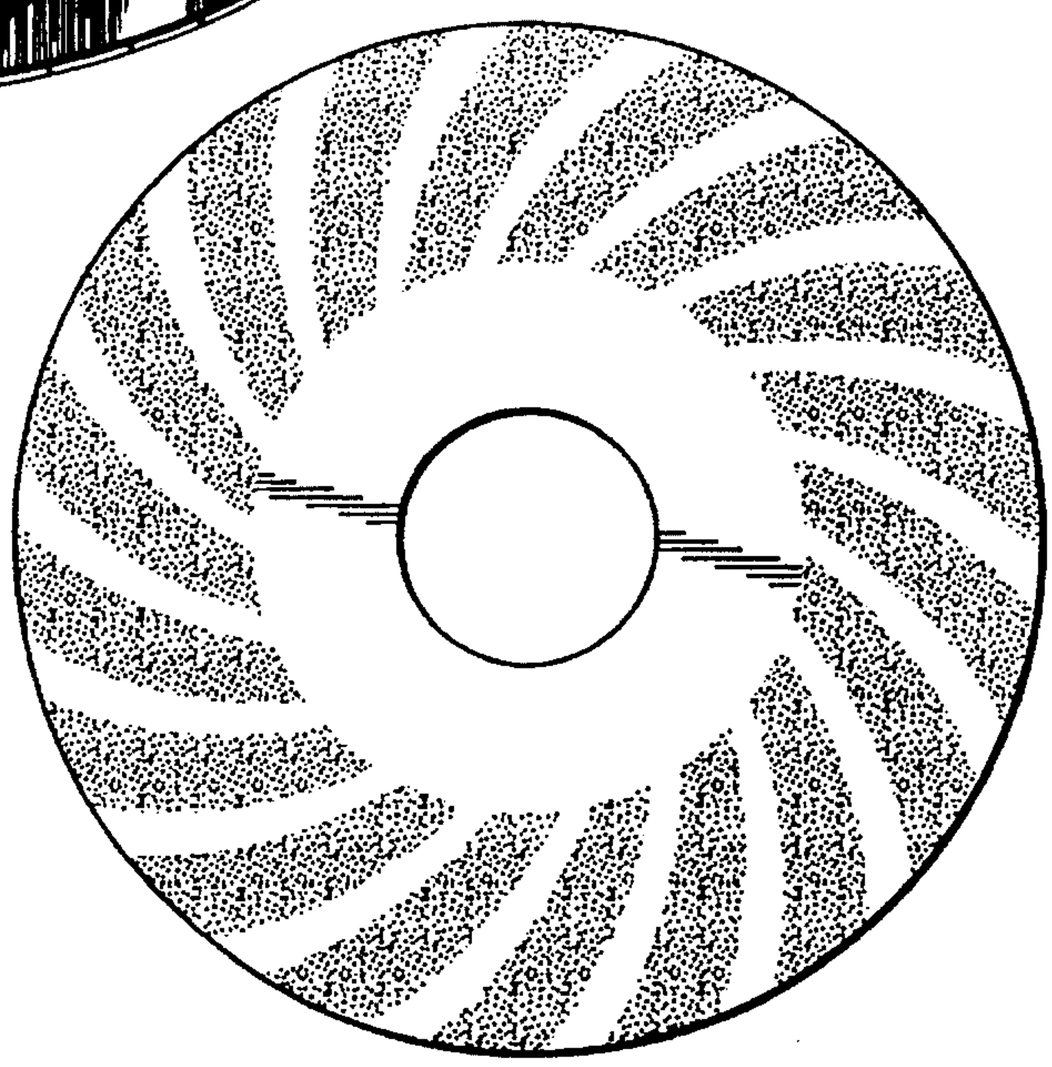


Fig. 6

Fig. 7

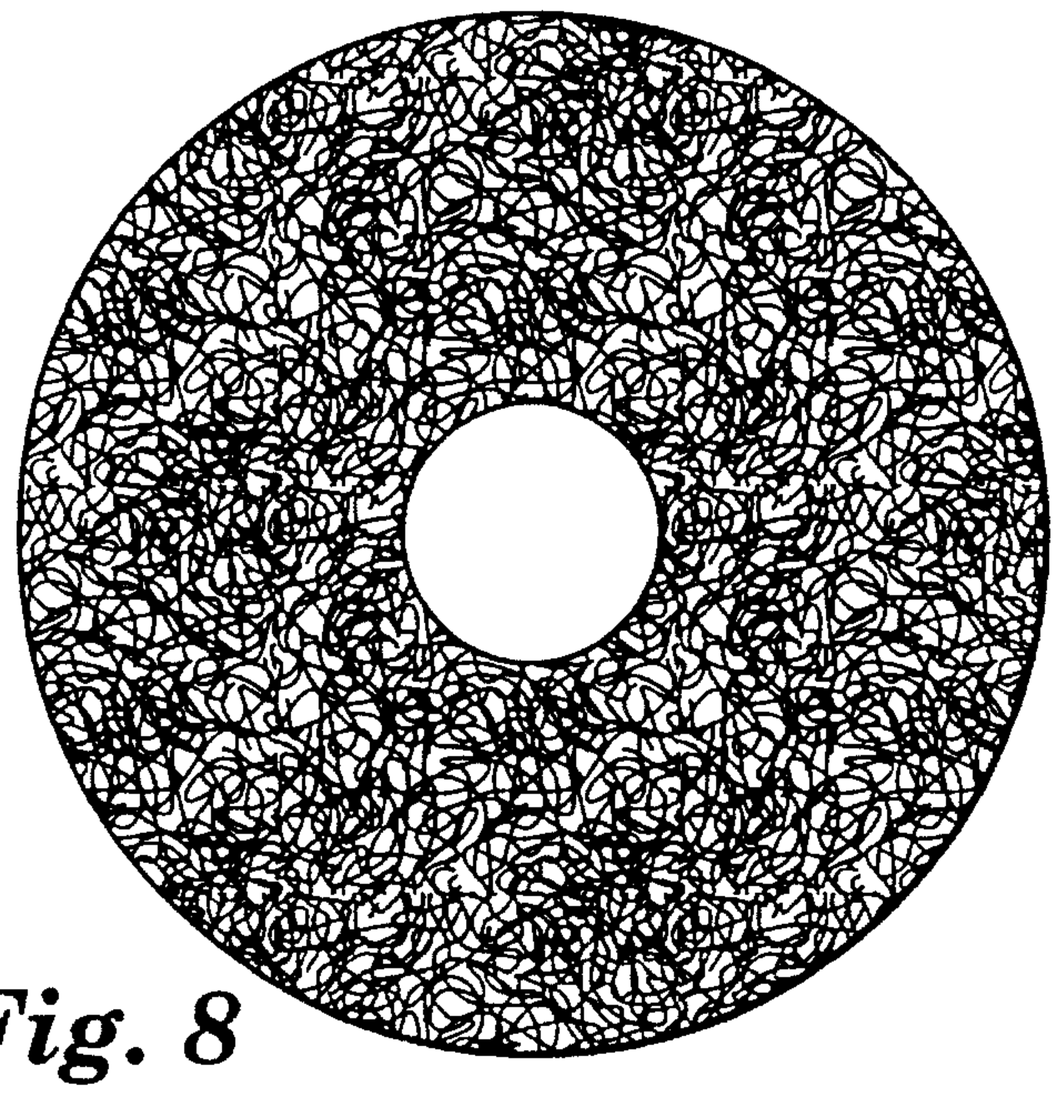


Fig. 8

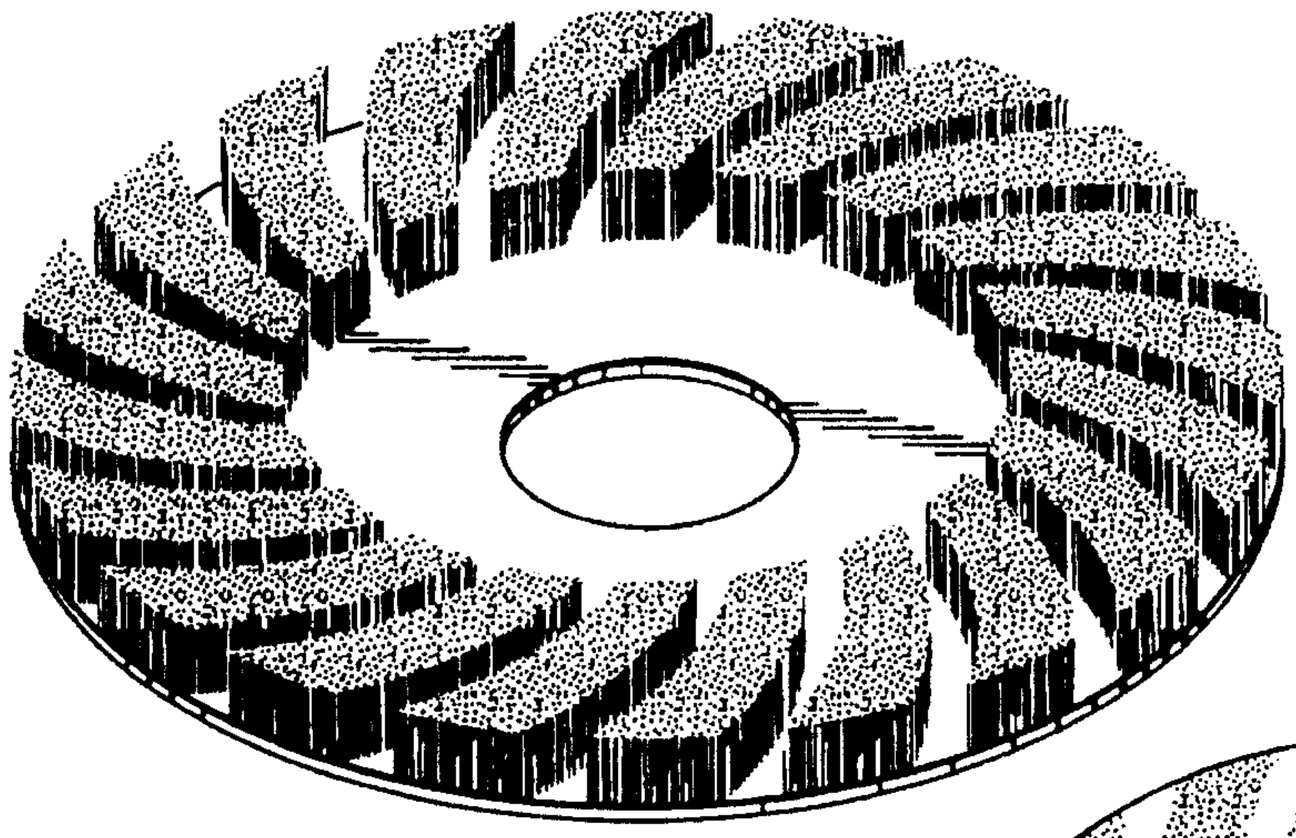


Fig. 9

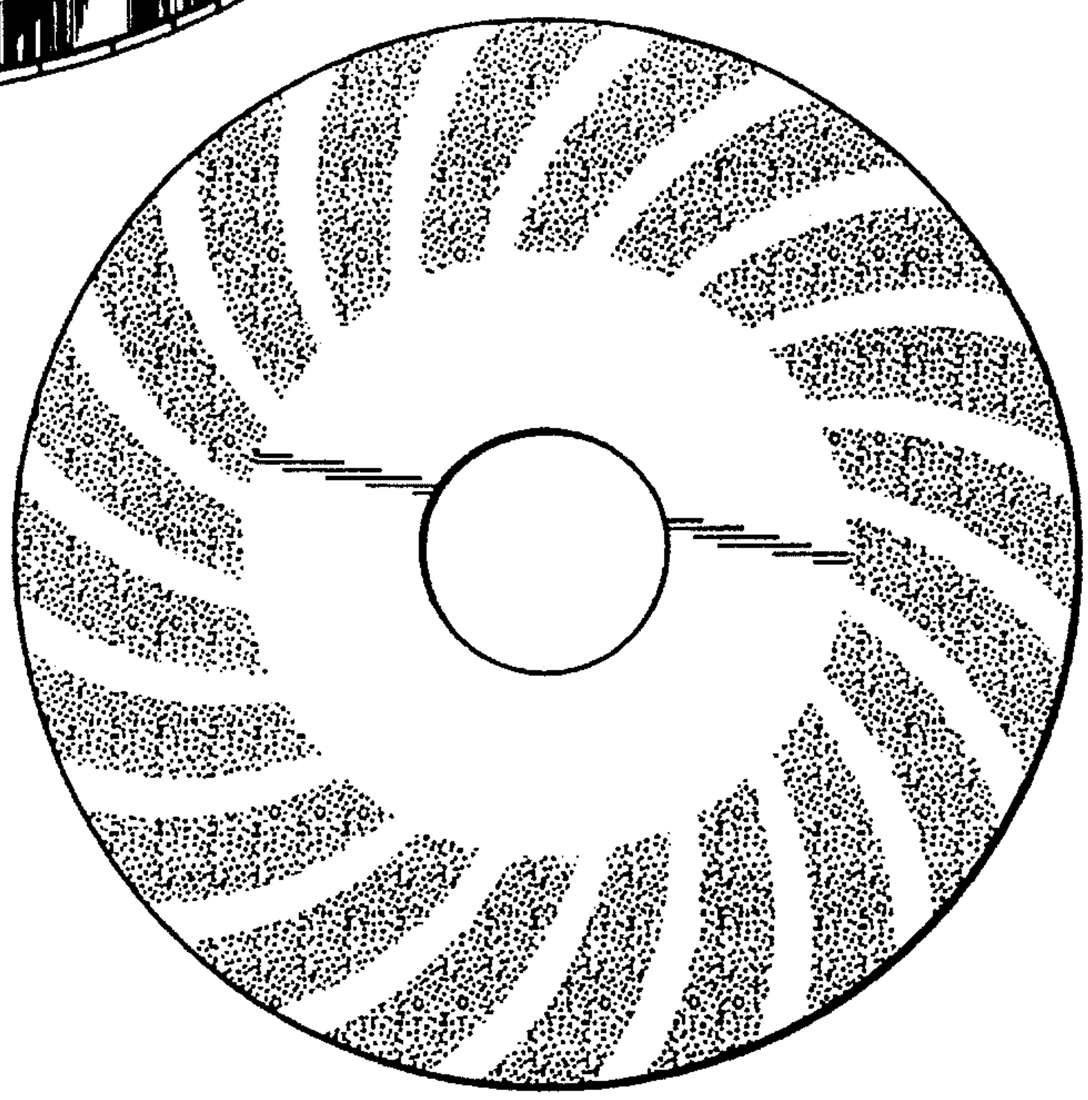


Fig. 10

Fig. 11

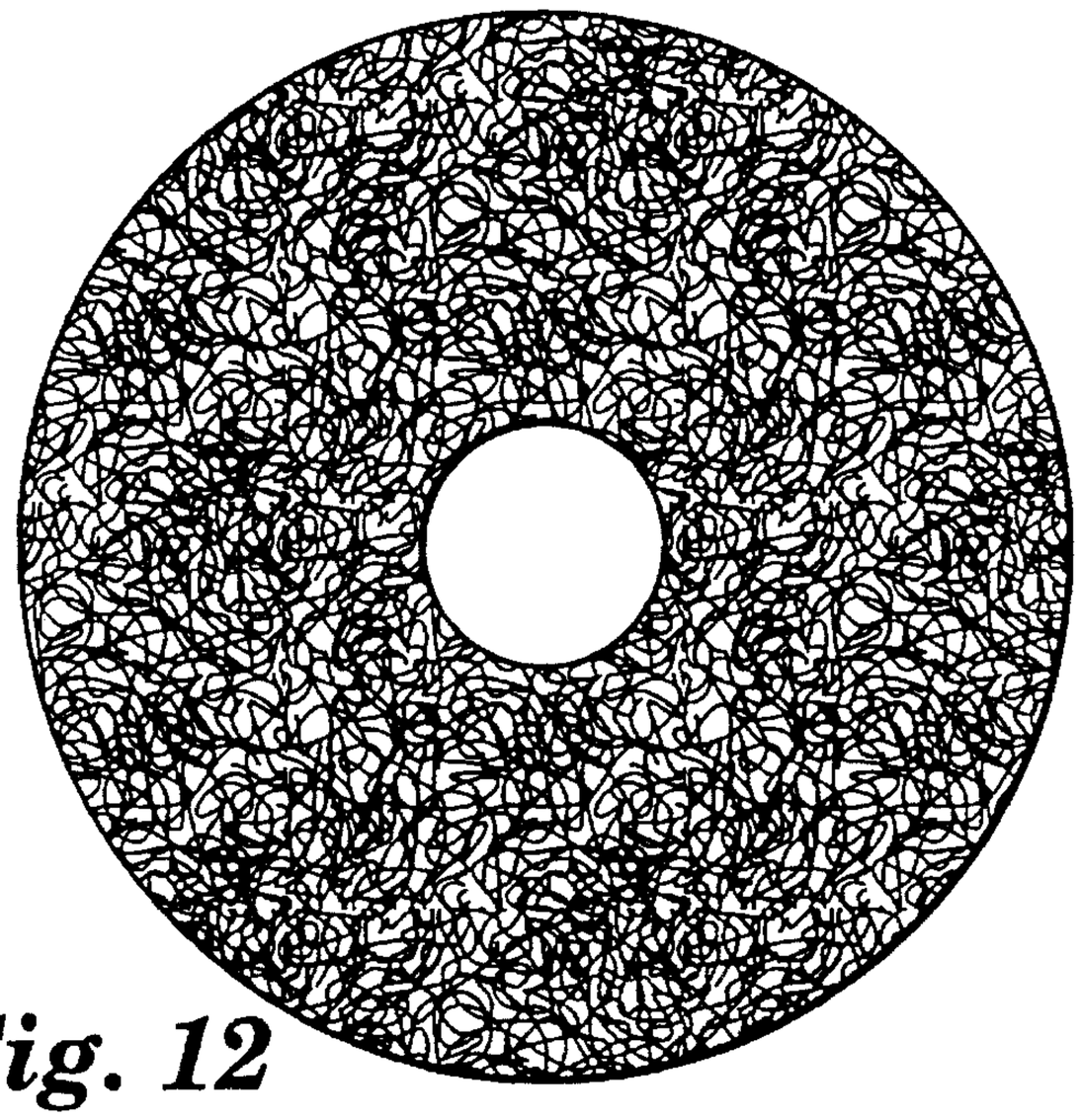


Fig. 12

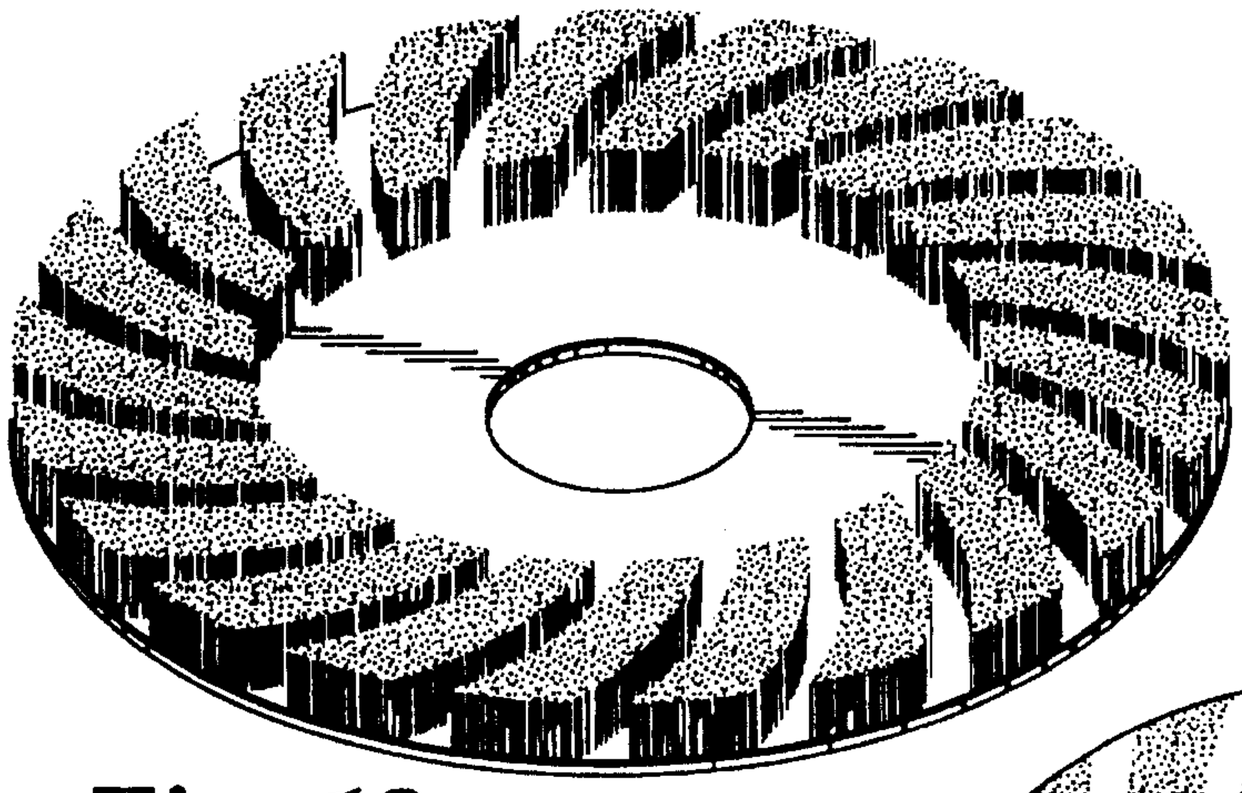


Fig. 13

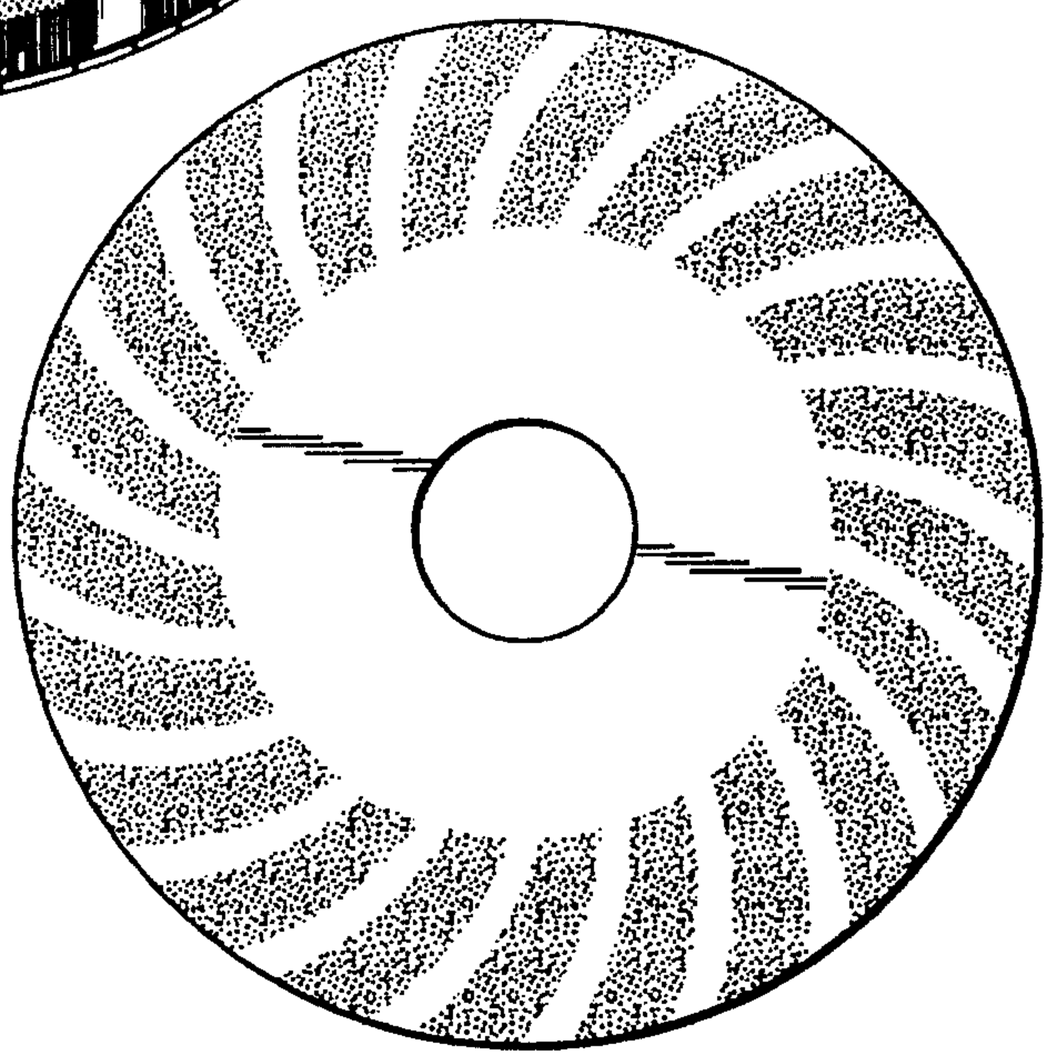


Fig. 14

Fig. 15

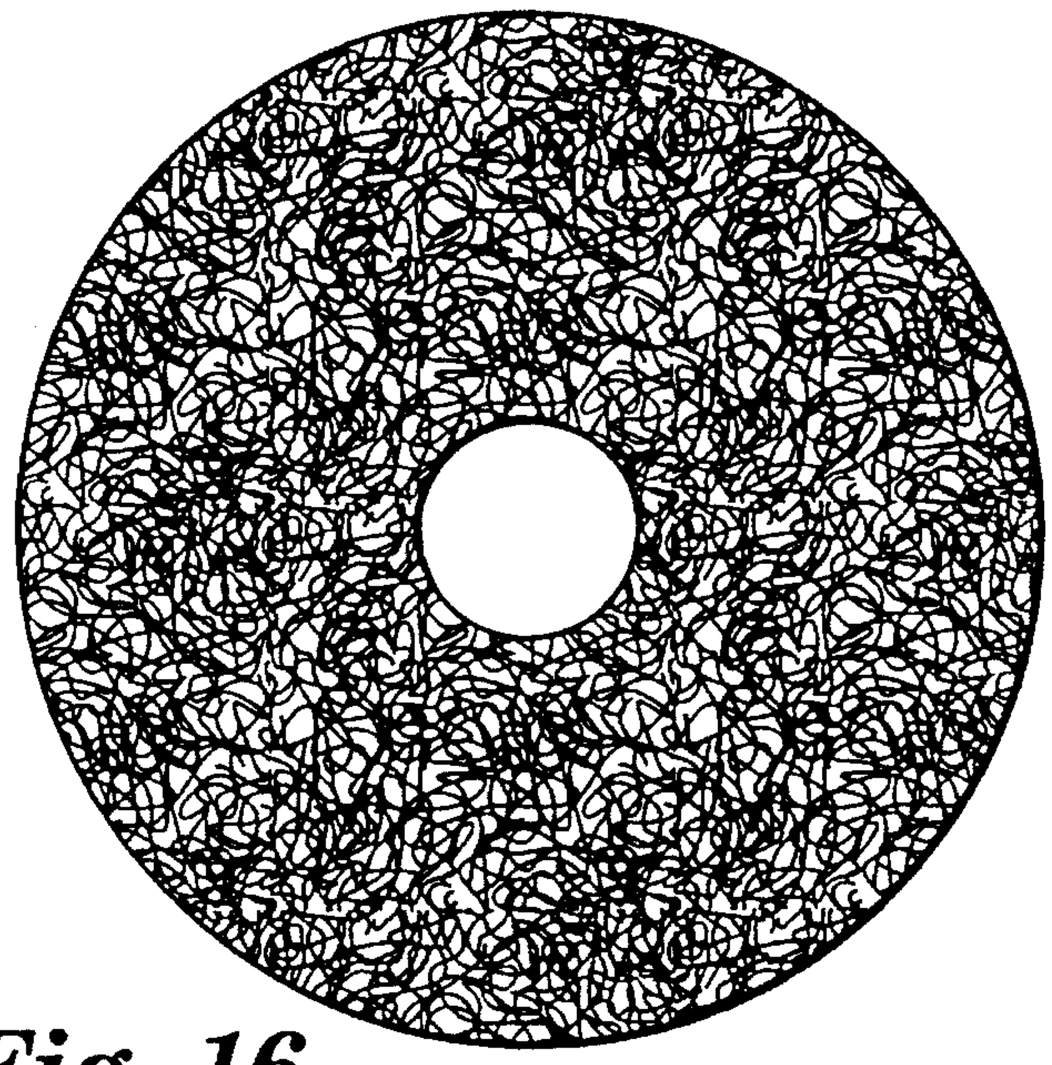


Fig. 16

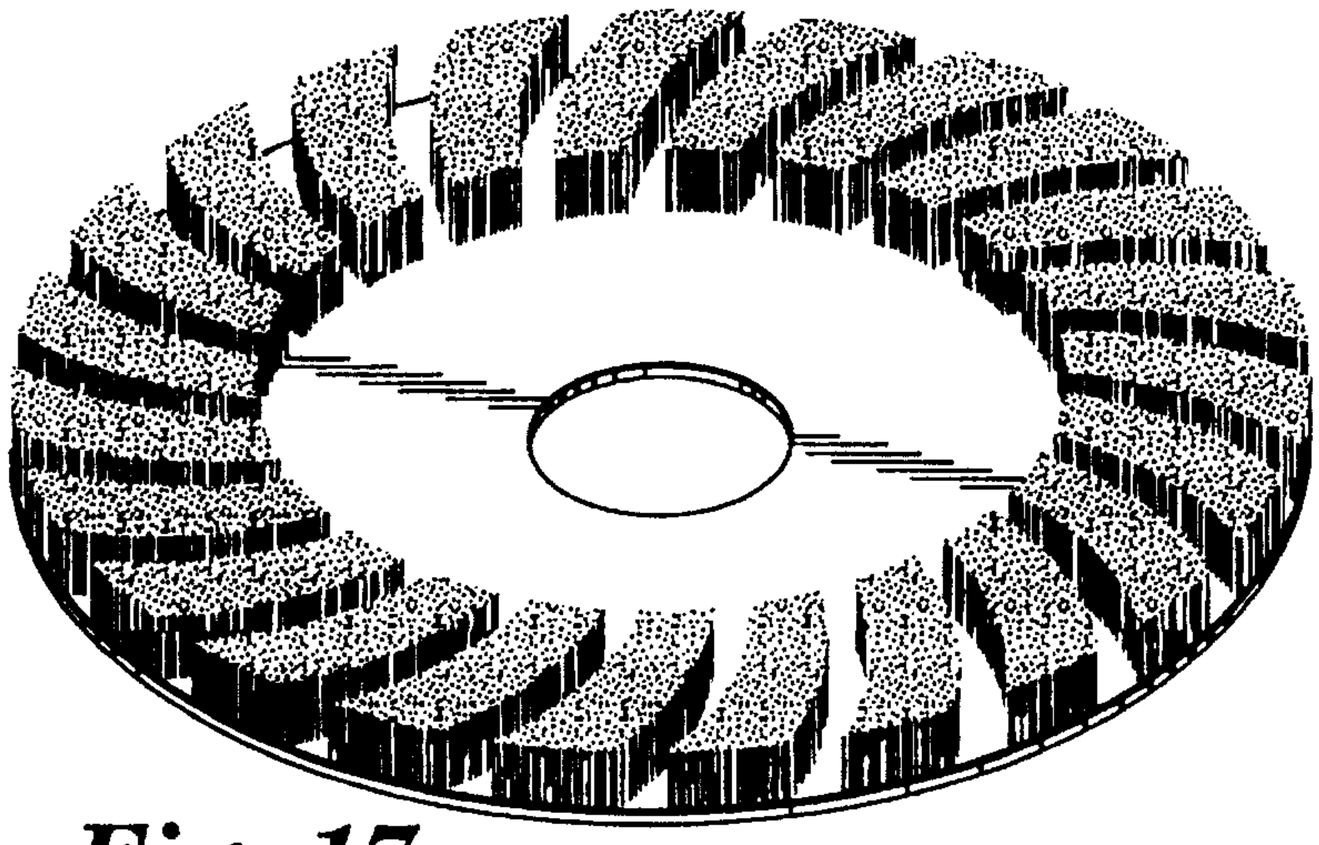


Fig. 17

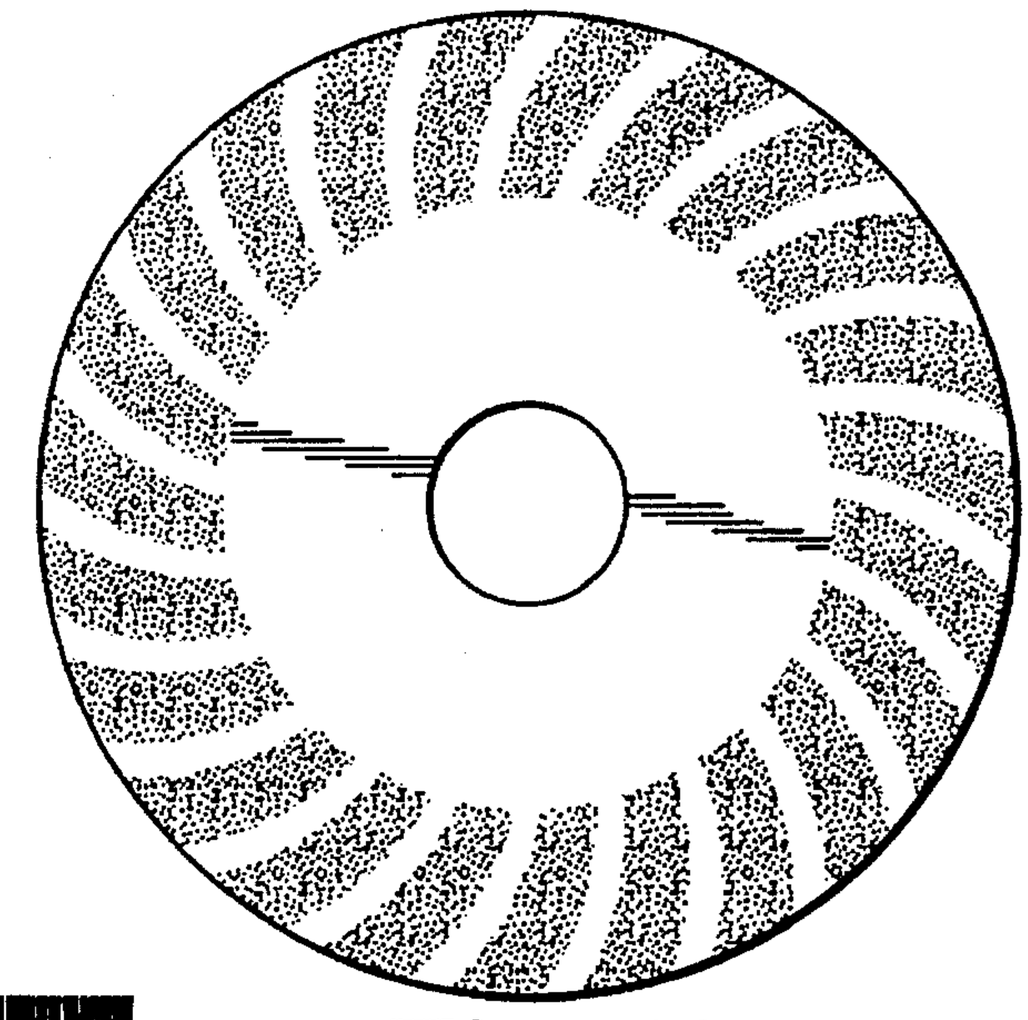


Fig. 18

Fig. 19

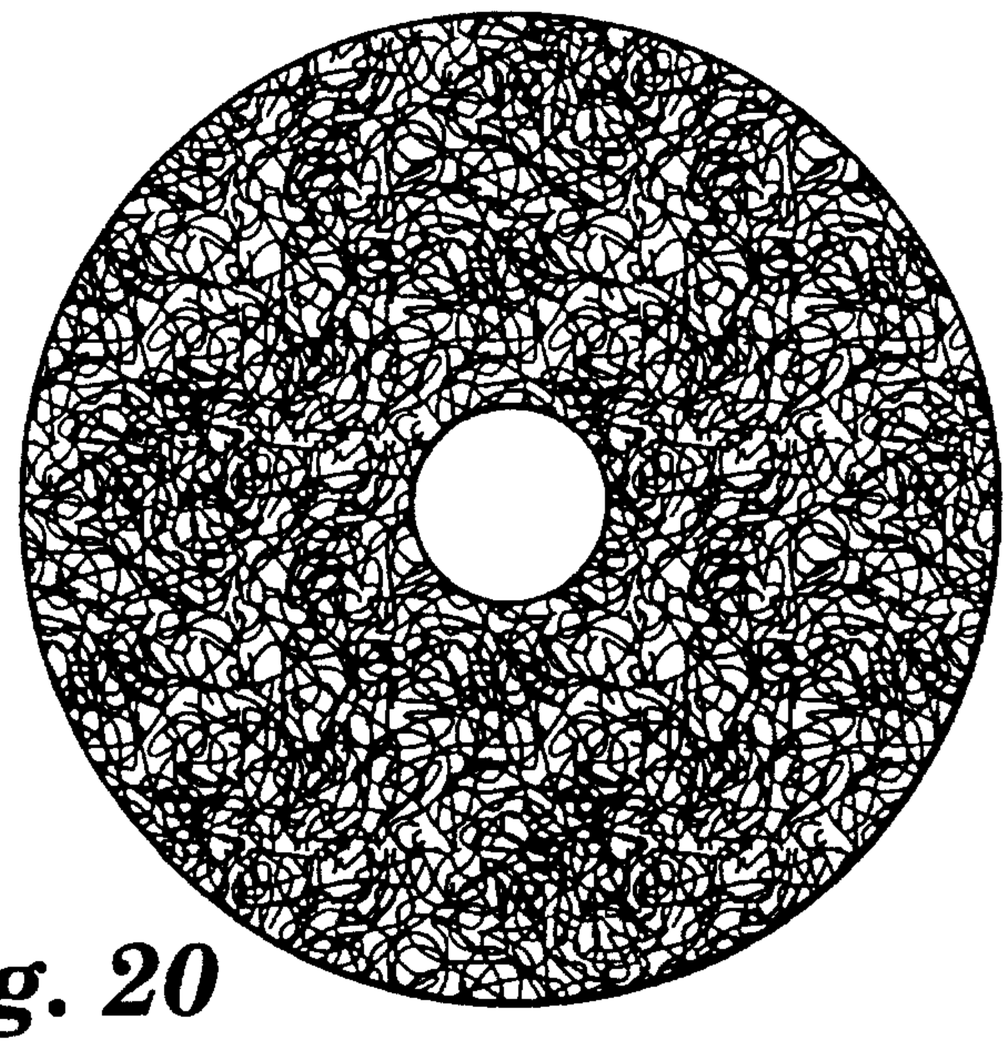


Fig. 20

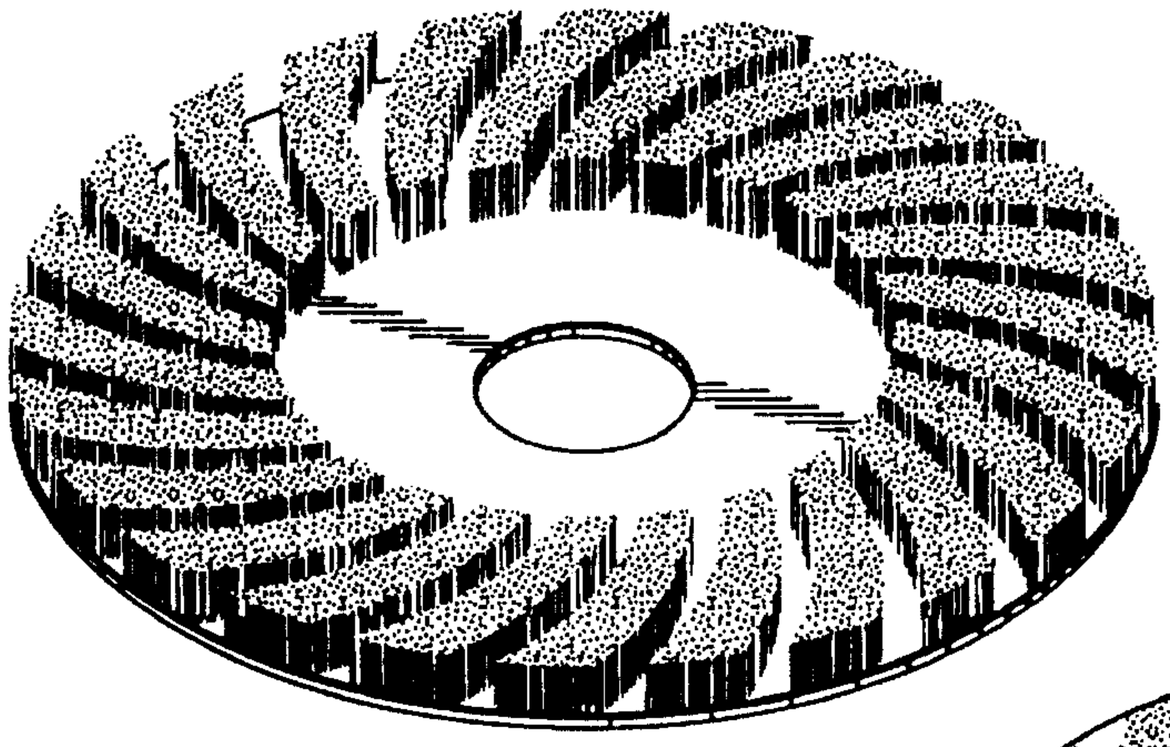


Fig. 21

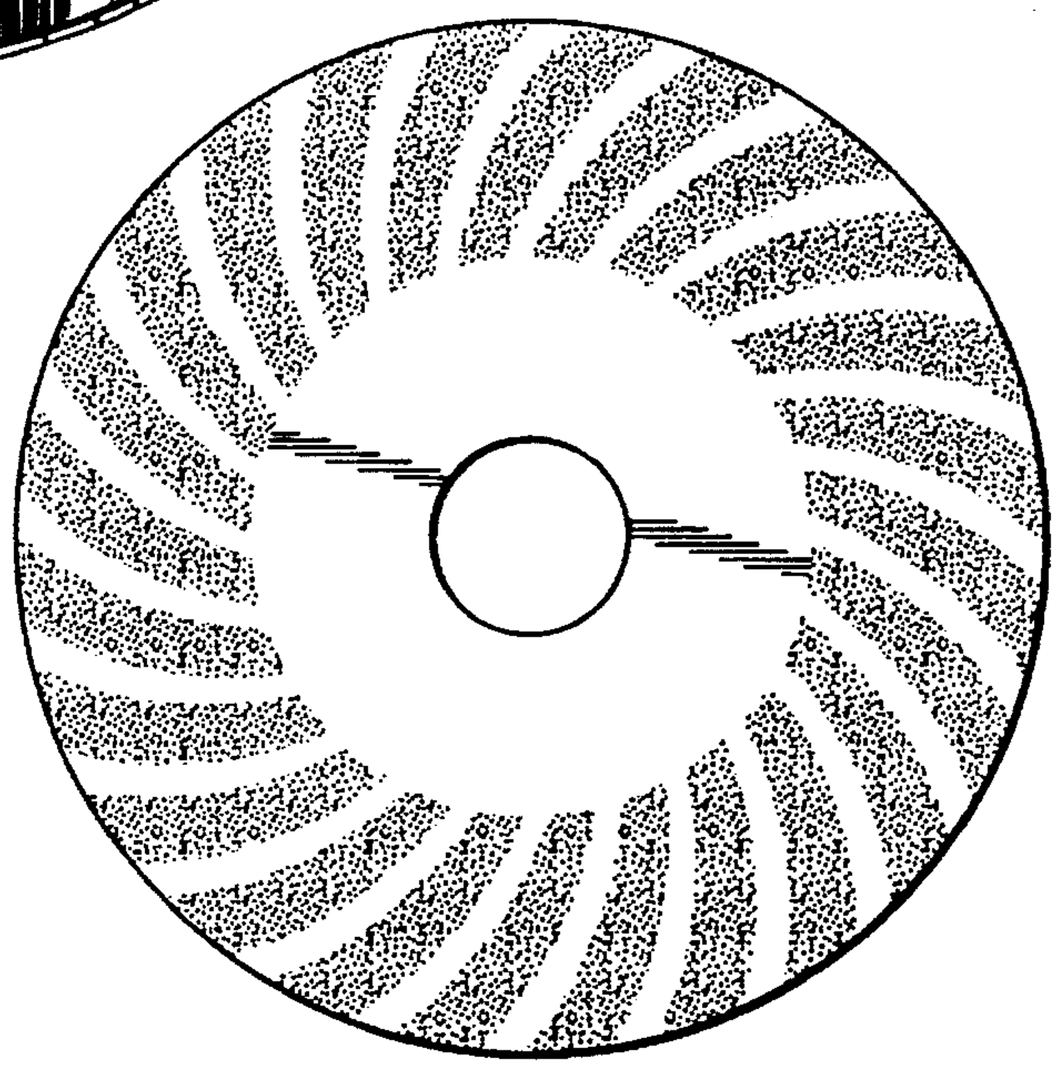


Fig. 22

Fig. 23

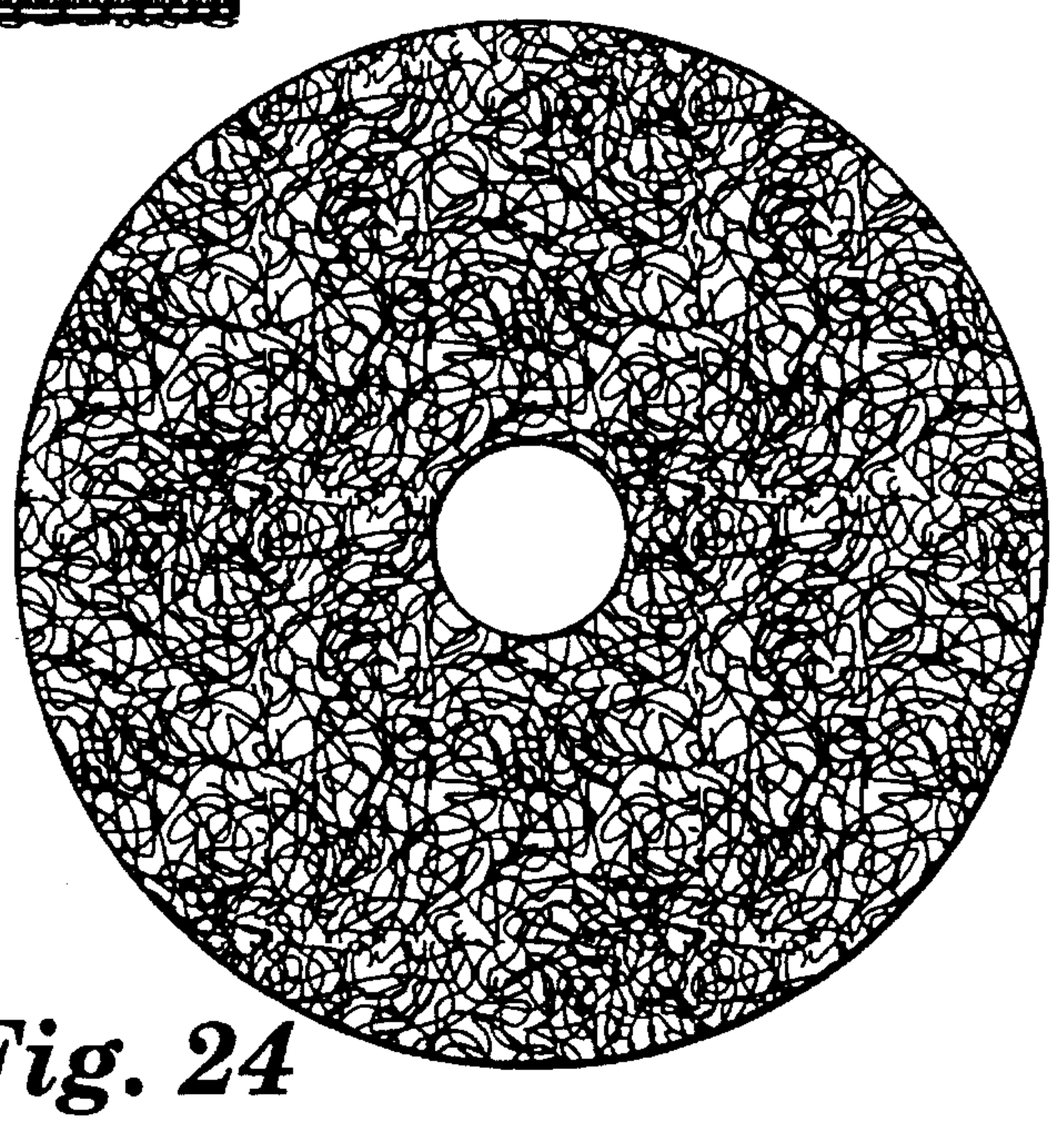


Fig. 24

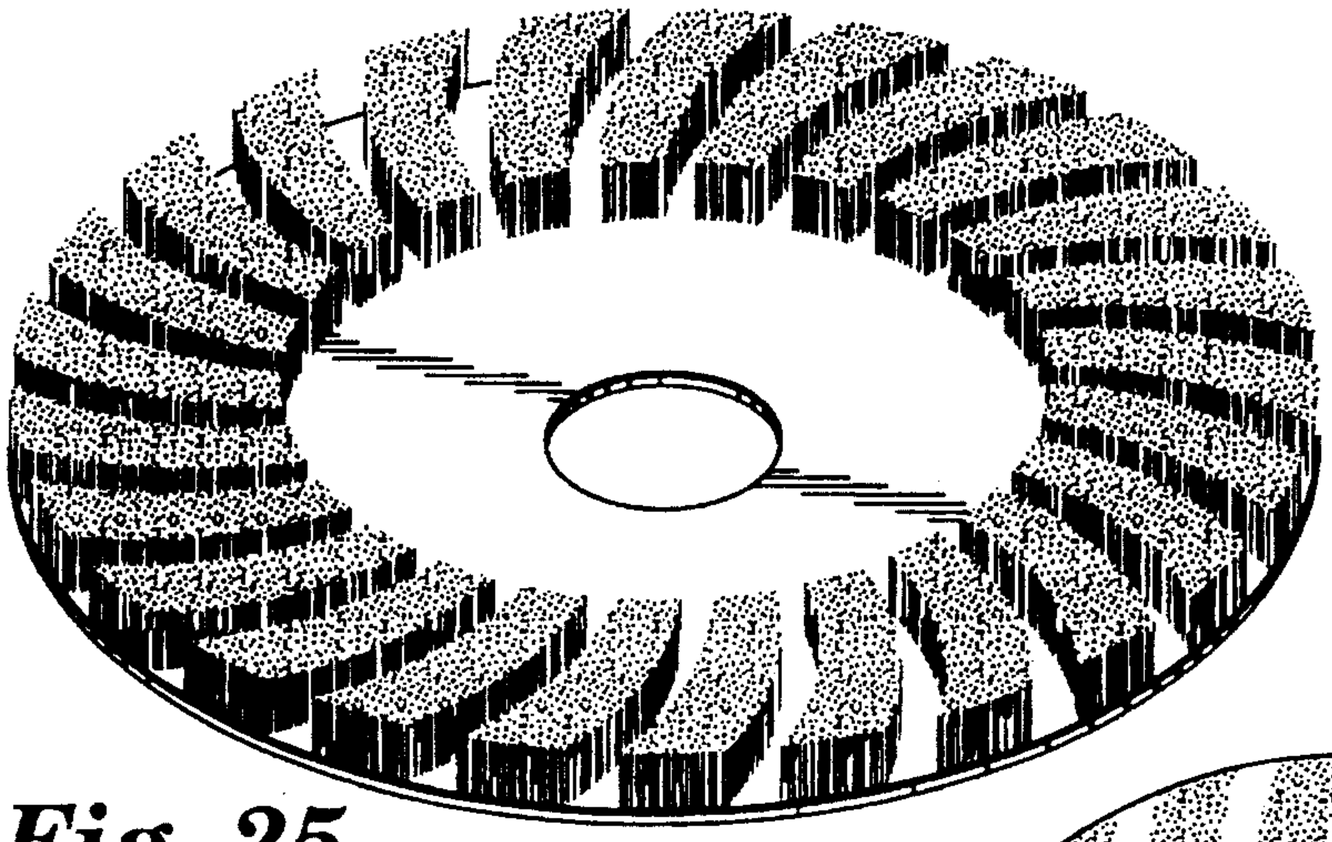


Fig. 25

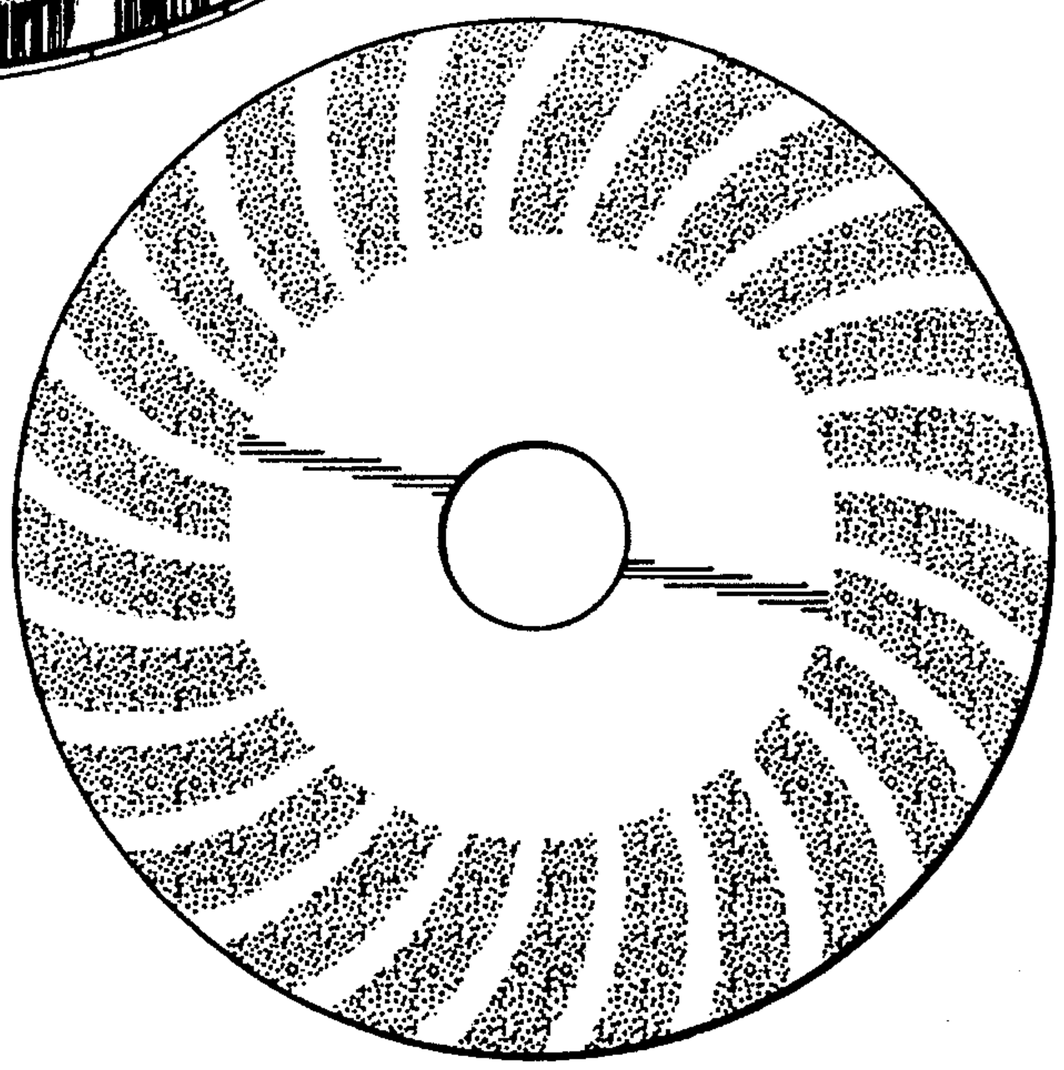


Fig. 26

Fig. 27

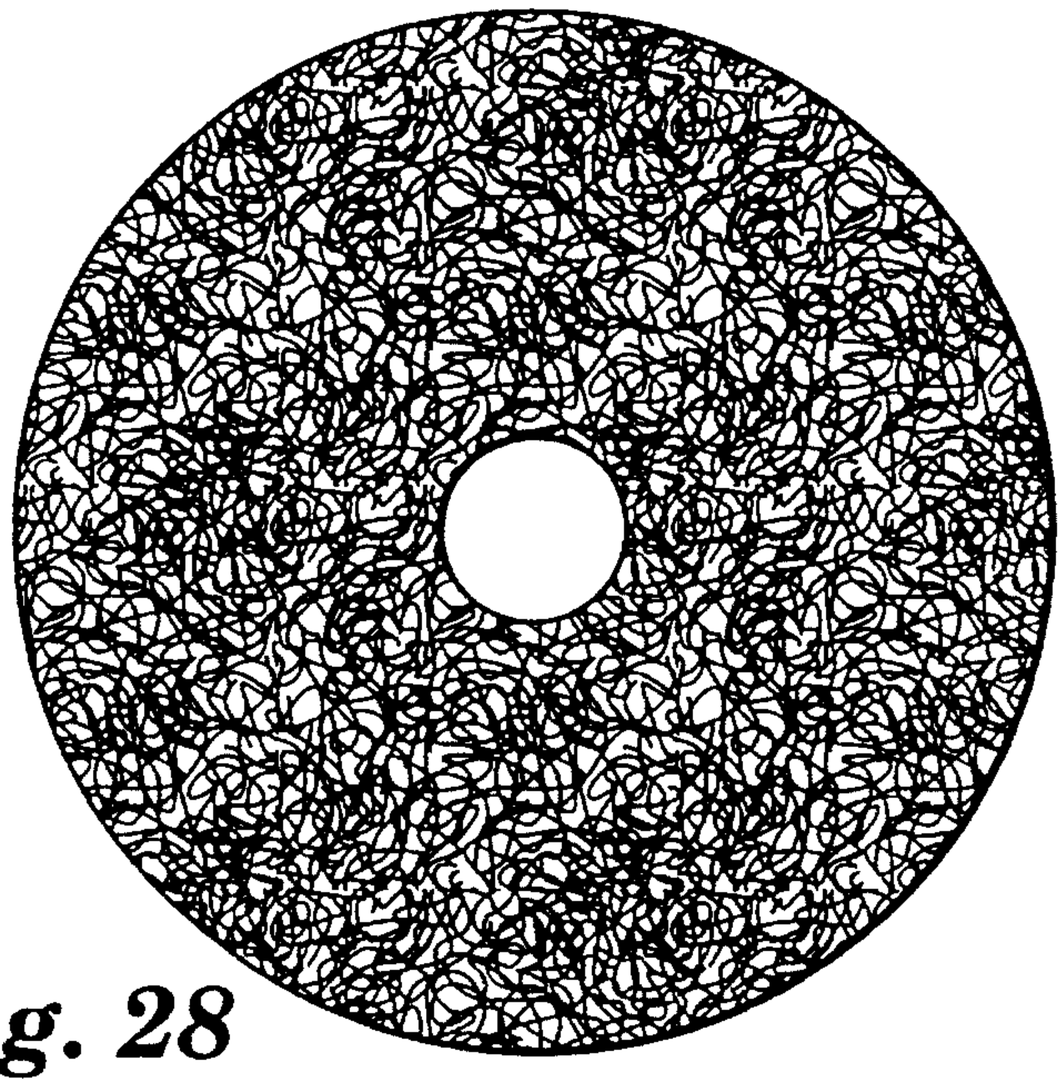


Fig. 28

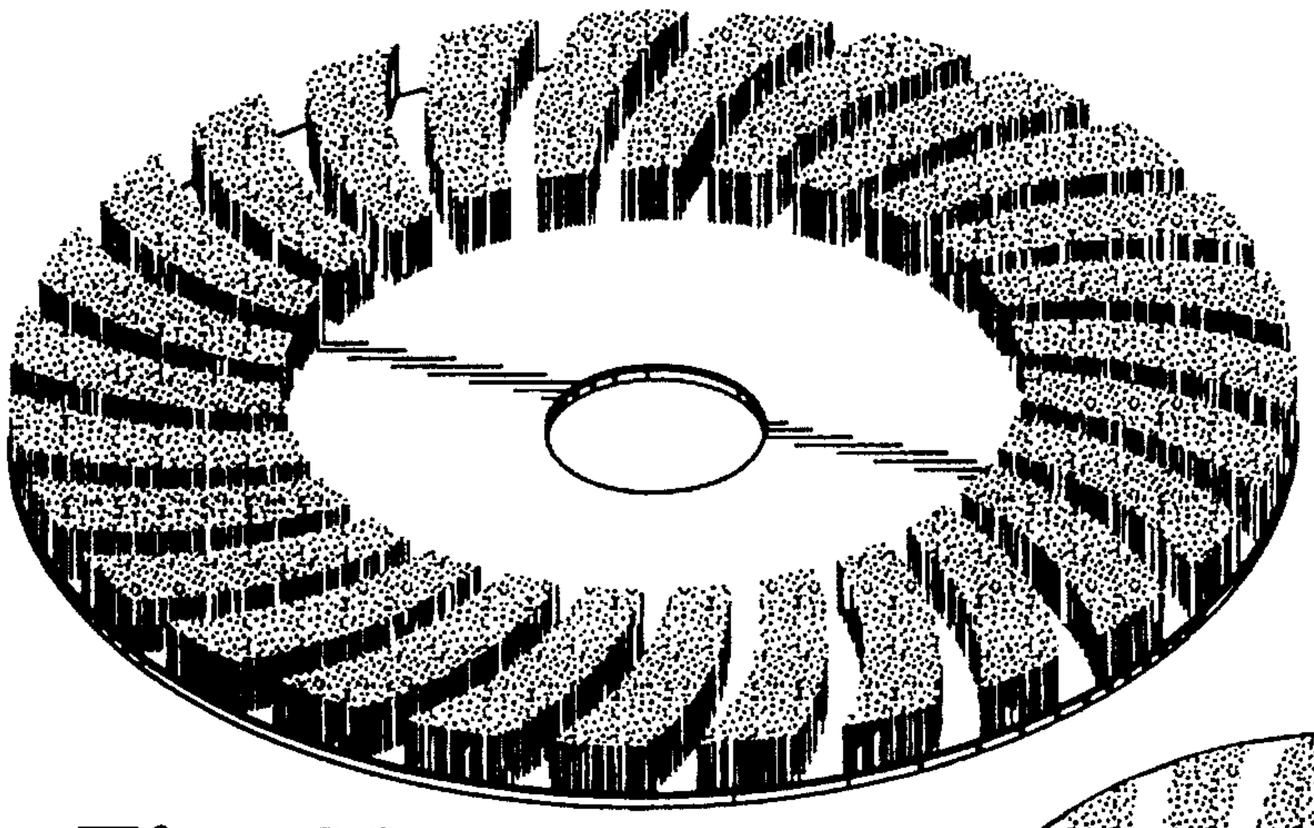


Fig. 29

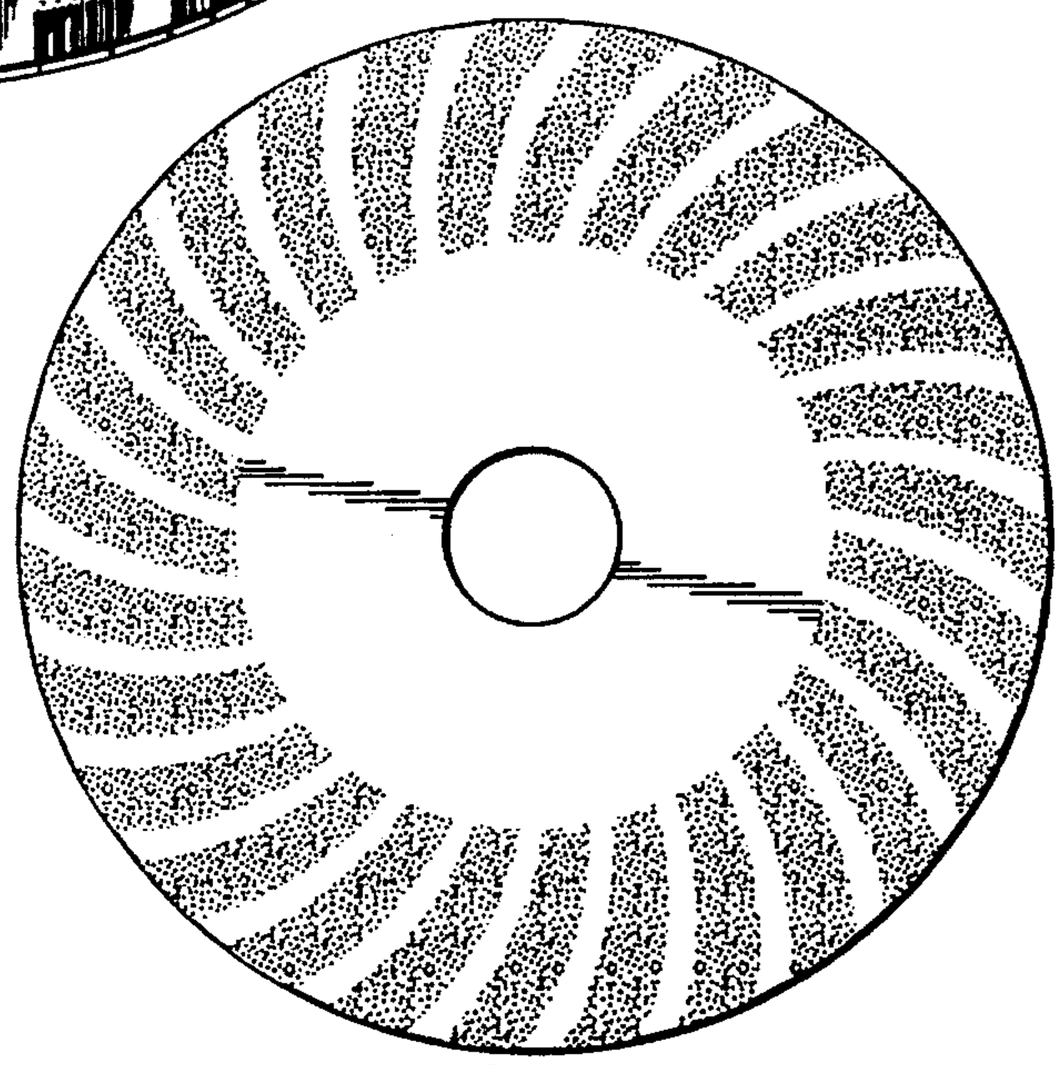


Fig. 30

Fig. 31

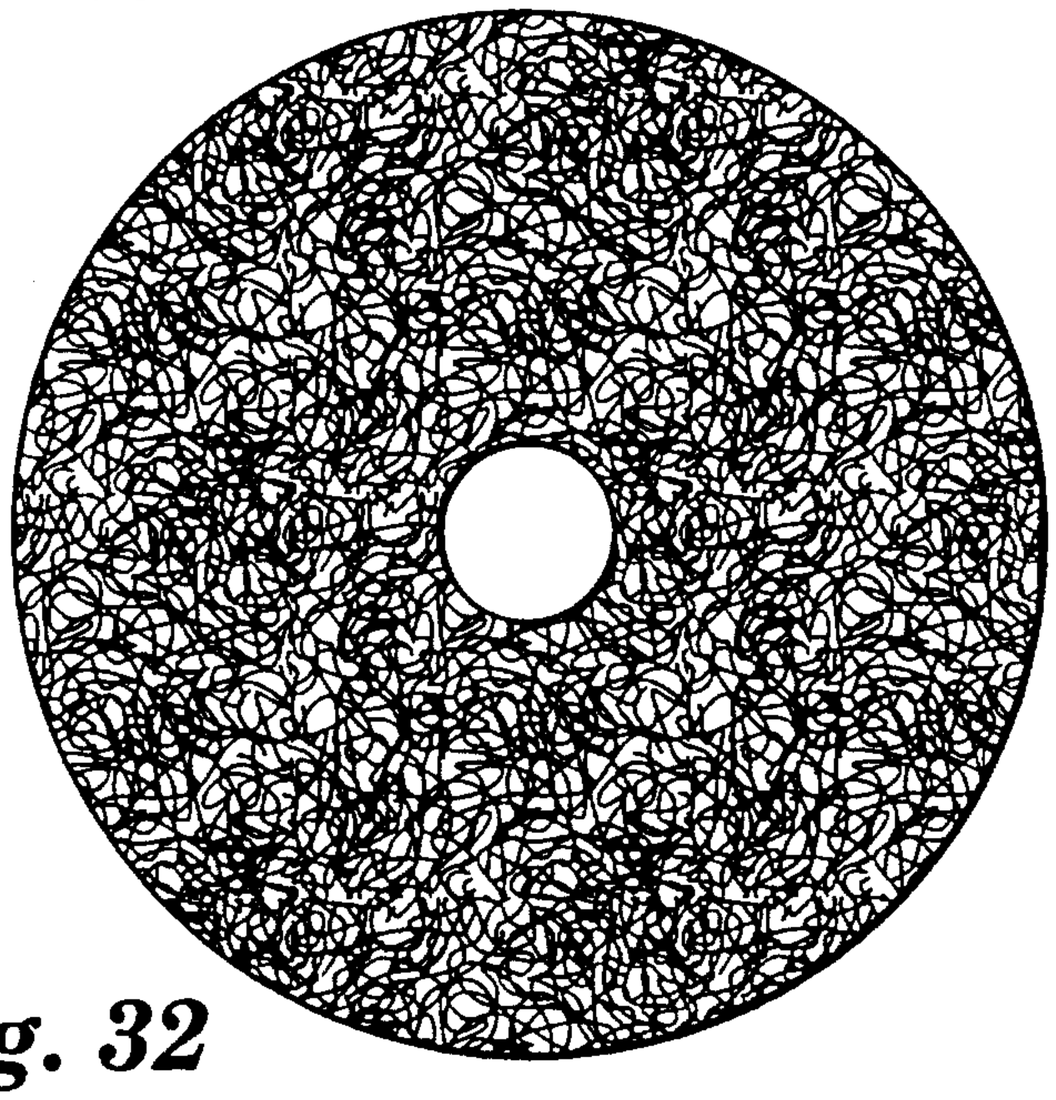


Fig. 32

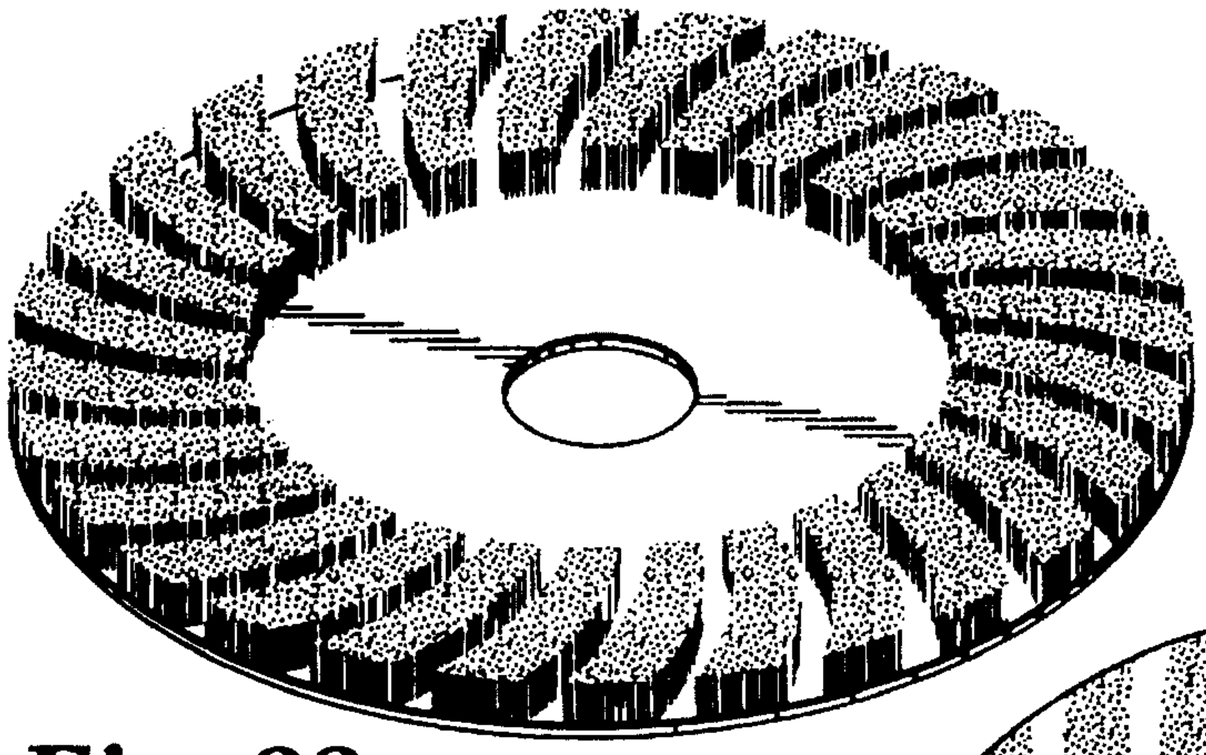


Fig. 33

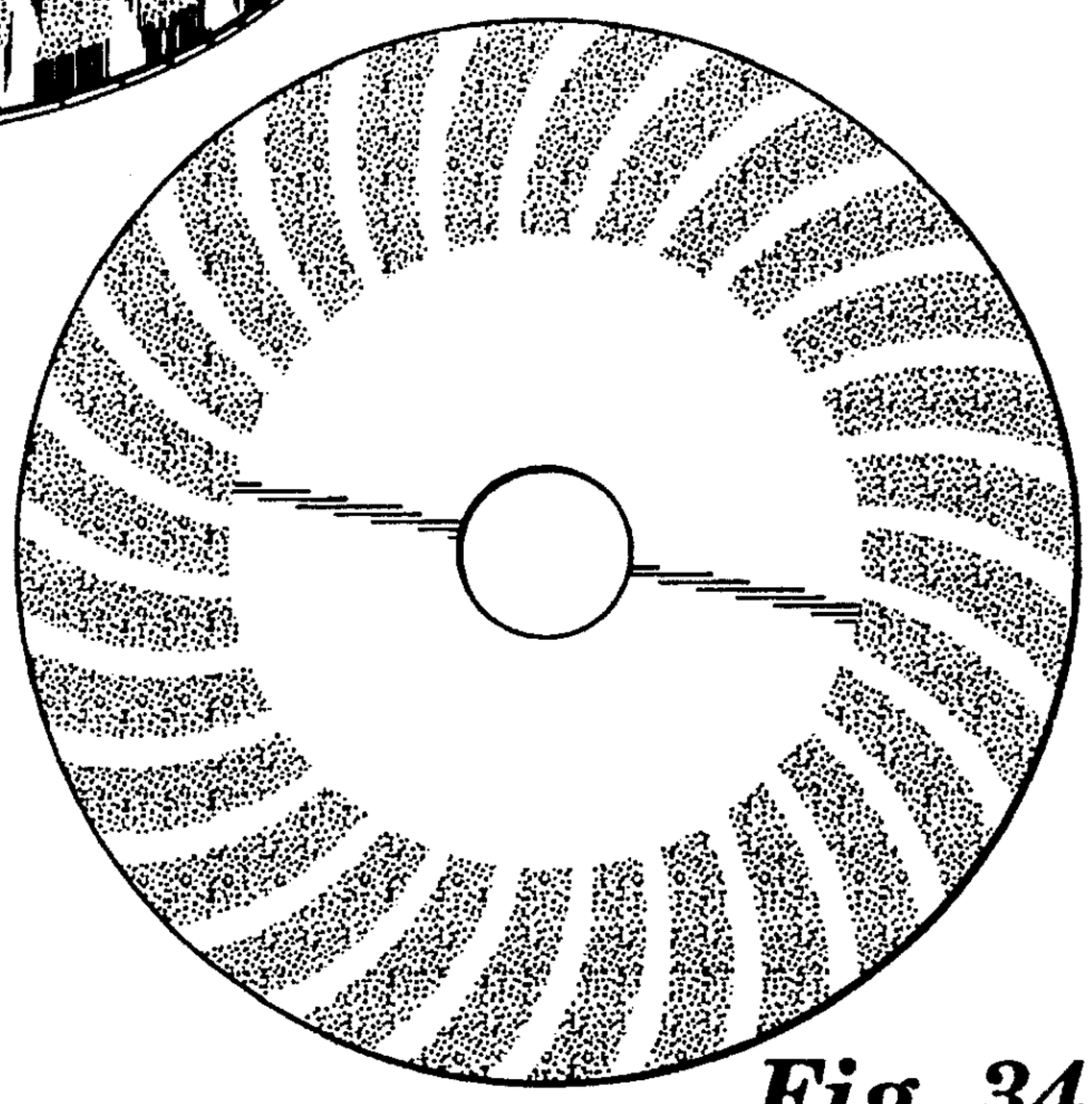


Fig. 34

Fig. 35

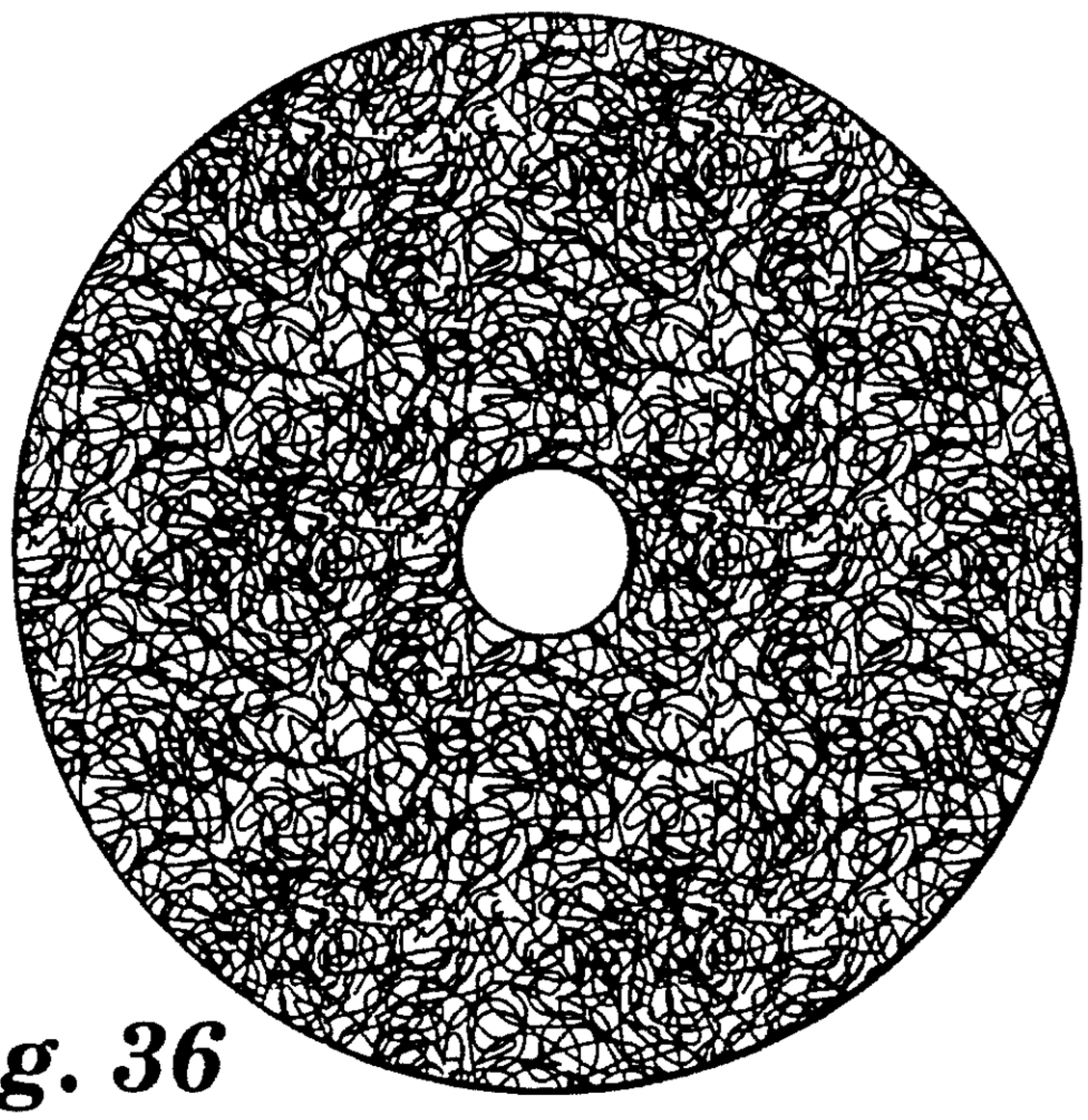


Fig. 36

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : Des. 369,447

DATED : Apr. 30, 1996

INVENTOR(S) : Lawrence J. Mann, et al

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

The title page, should be deleted to be replaced with the attached title page.
The drawing sheets, consisting of Figs. 1-36, should be deleted to be replaced with the drawing sheets, consisting of Figs. 1-36, as shown on the attached pages.

Signed and Sealed this

Fifteenth Day of October, 1996

Attest:

BRUCE LEHMAN

Attesting Officer

Commissioner of Patents and Trademarks

United States Patent [19]

Mann et al.

[11] **Patent Number: Des. 369,447**

[45] **Date of Patent: **Apr. 30, 1996**

[54] **ROTARY BRUSH**

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[**] Term: **14 Years**

[21] Appl. No.: **20,103**

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[58] **Field of Search** D4/100, 102, 119–120, D4/127, 130; 15/159.1, 160, 179–180, 186–187, 230, 49.1, 50.1, 50.3, 87; D32/19–20, 25

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U.S. PATENT DOCUMENTS

2,153,207	4/1939	Petty	15/180
2,196,079	4/1940	Pyle	15/180 X
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601672	3/1927	France .	
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Photographs of prior art Brushlon™ disk by 3M Company, St. Paul, Minnesota 1994.

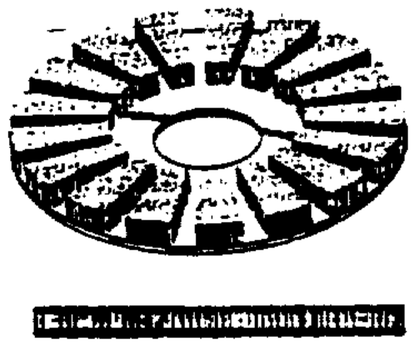
Primary Examiner—James M. Gandy
Assistant Examiner—Lavone Tabor
Attorney, Agent, or Firm—Gary L. Griswold; Walter N. Kirn; Leland D. Schultz

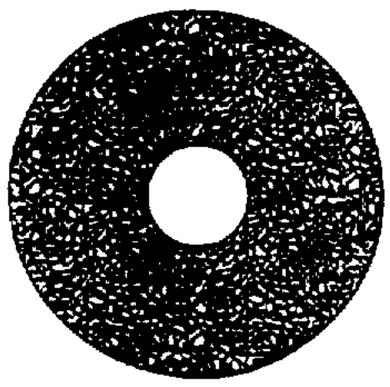
[57] **CLAIM**

The ornamental design for a rotary brush, as shown and described.

DESCRIPTION

FIG. **1** is an isometric view of a first embodiment of the rotary brush of the present invention;
FIG. **2** is a top view of the rotary brush of FIG. **1**;
FIG. **3** is a side view of the rotary brush of FIG. **1**;
FIG. **4** is a back view of the rotary brush of FIG. **1**;
FIG. **5** is an isometric view of a second embodiment of the rotary brush of the present invention;
FIG. **6** is a top view of the rotary brush of FIG. **5**;
FIG. **7** is a side view of the rotary brush of FIG. **5**;
FIG. **8** is a back view of the rotary brush of FIG. **5**;
FIG. **9** is an isometric view of a third embodiment of the rotary brush of the present invention;
FIG. **10** is a top view of the rotary brush of FIG. **9**;
FIG. **11** is a side view of the rotary brush of FIG. **9**;
FIG. **12** is a back view of the rotary brush of FIG. **9**;
FIG. **13** is an isometric view of a fourth embodiment of the rotary brush of the present invention;
FIG. **14** is a top view of the rotary brush of FIG. **13**;
FIG. **15** is a side view of the rotary brush of FIG. **13**;
FIG. **16** is a back view of the rotary brush of FIG. **13**;
FIG. **17** is an isometric view of a fifth embodiment of the rotary brush of the present invention;
FIG. **18** is a top view of the rotary brush of FIG. **17**;
FIG. **19** is a side view of the rotary brush of FIG. **17**;
FIG. **20** is a back view of the rotary brush of FIG. **17**;





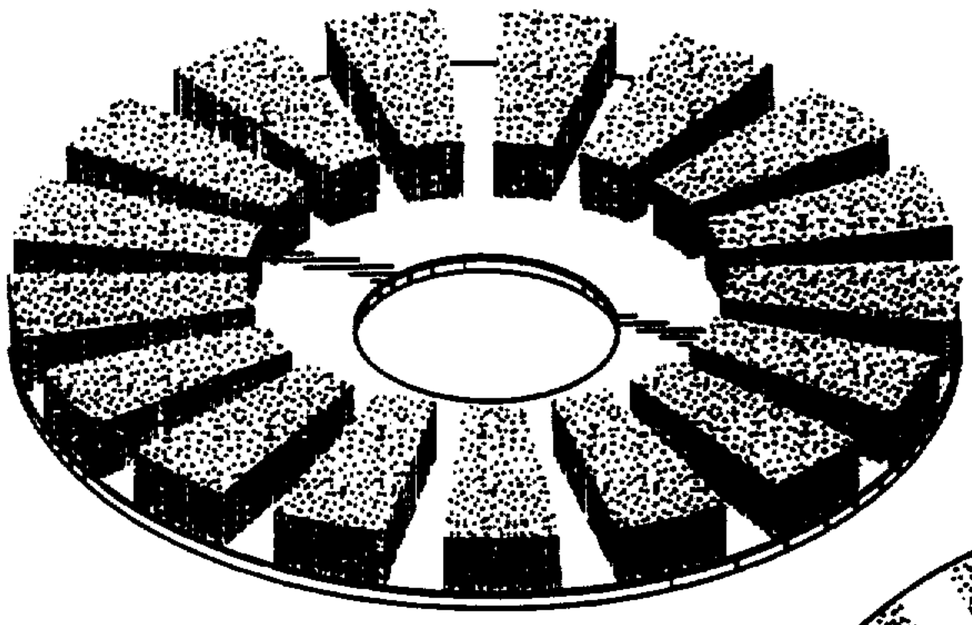


FIG. 1

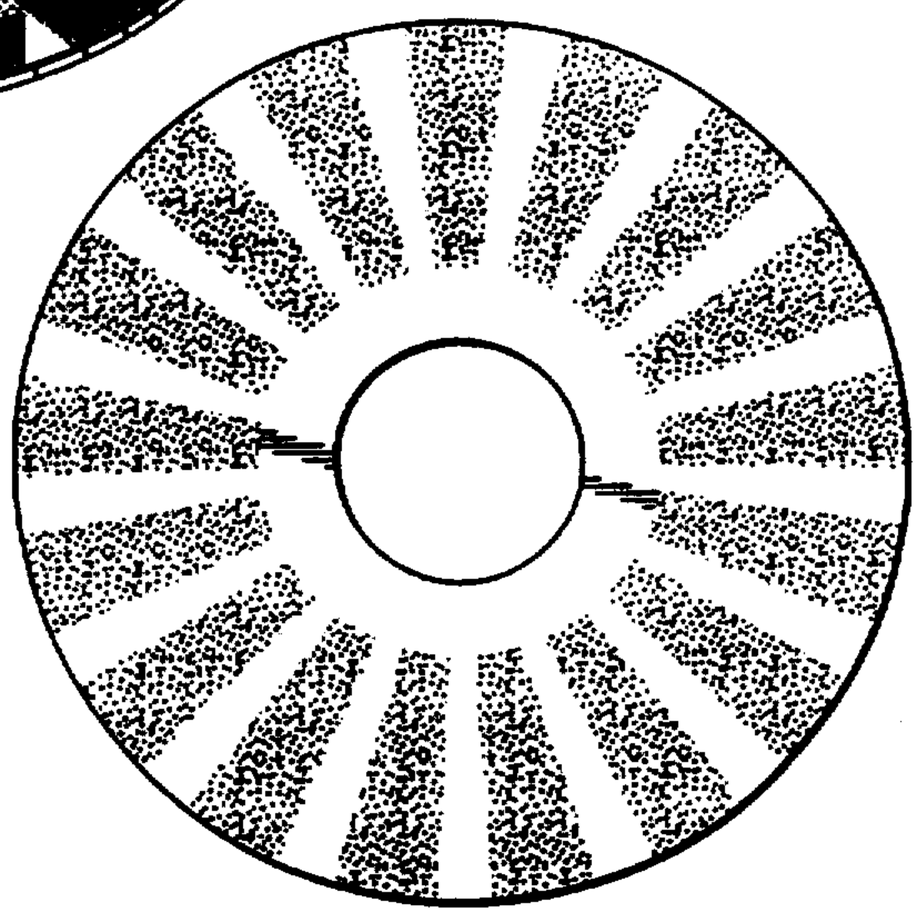


FIG. 2

FIG. 3

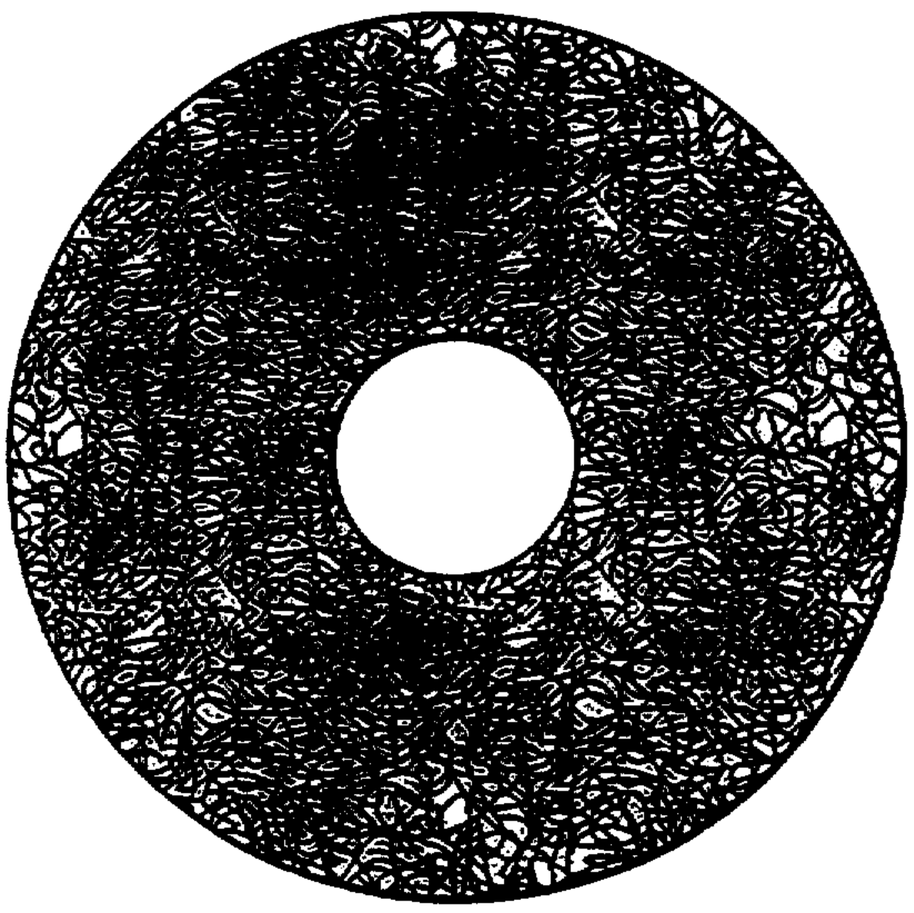


FIG. 4

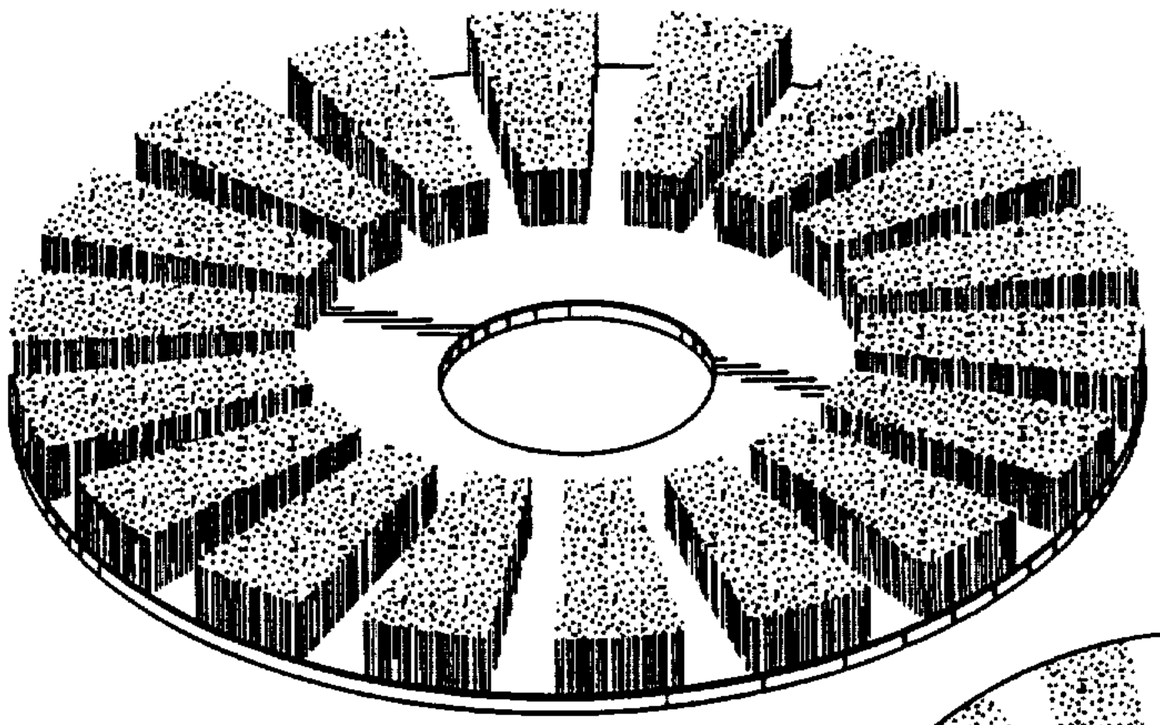


FIG. 5

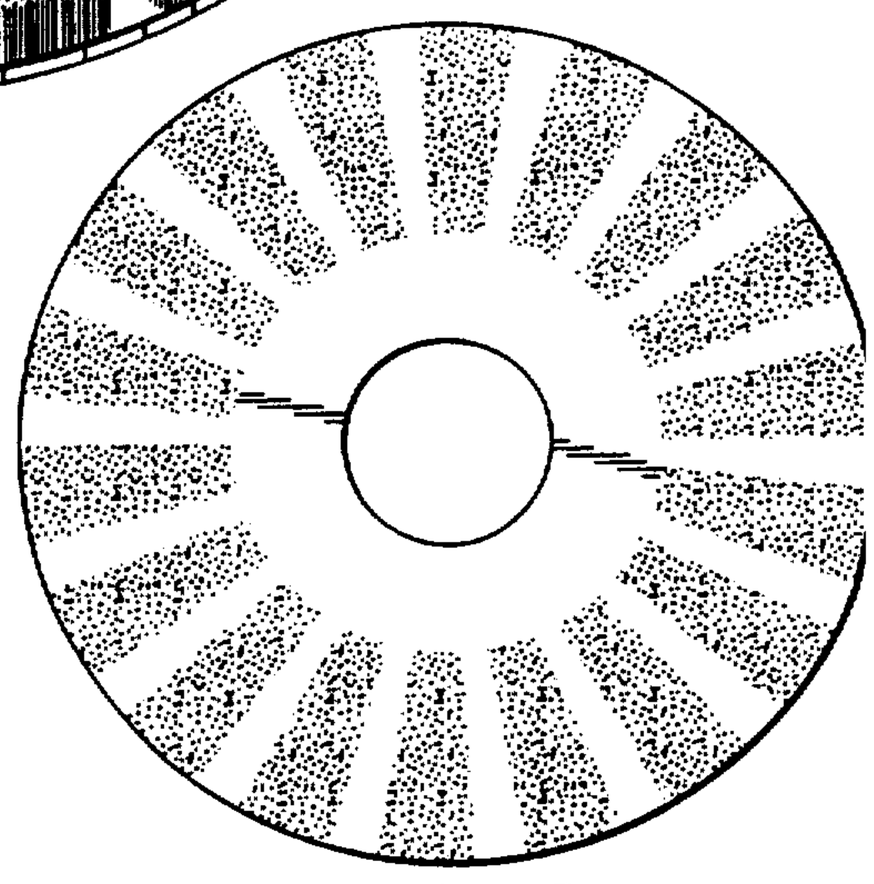


FIG. 6

FIG. 7

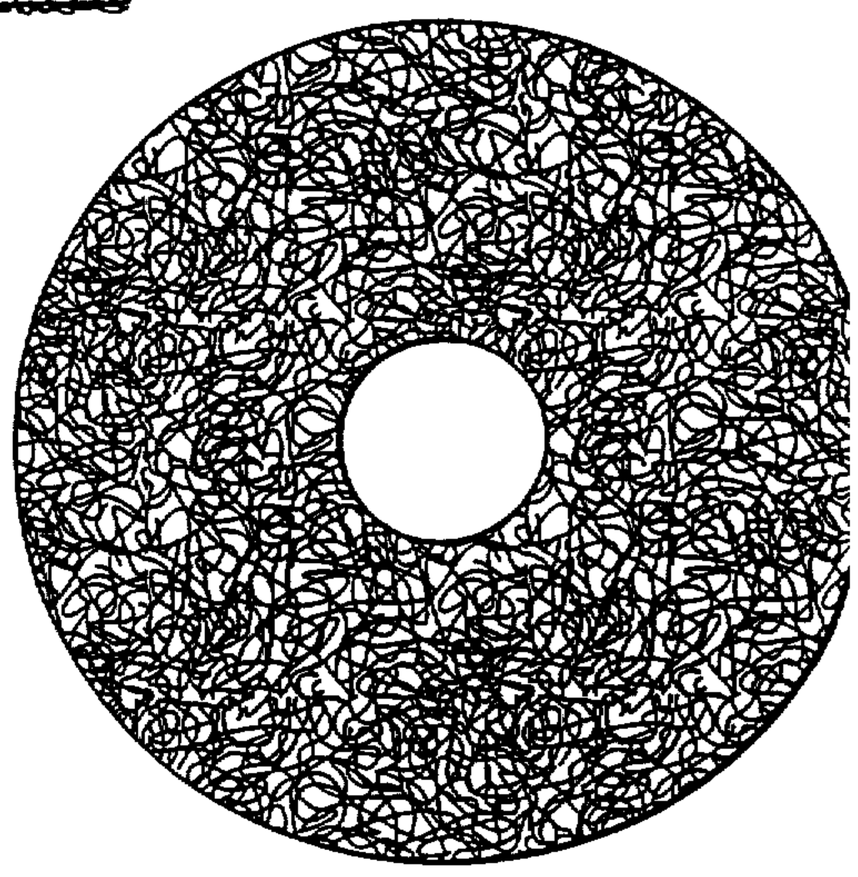


FIG. 8

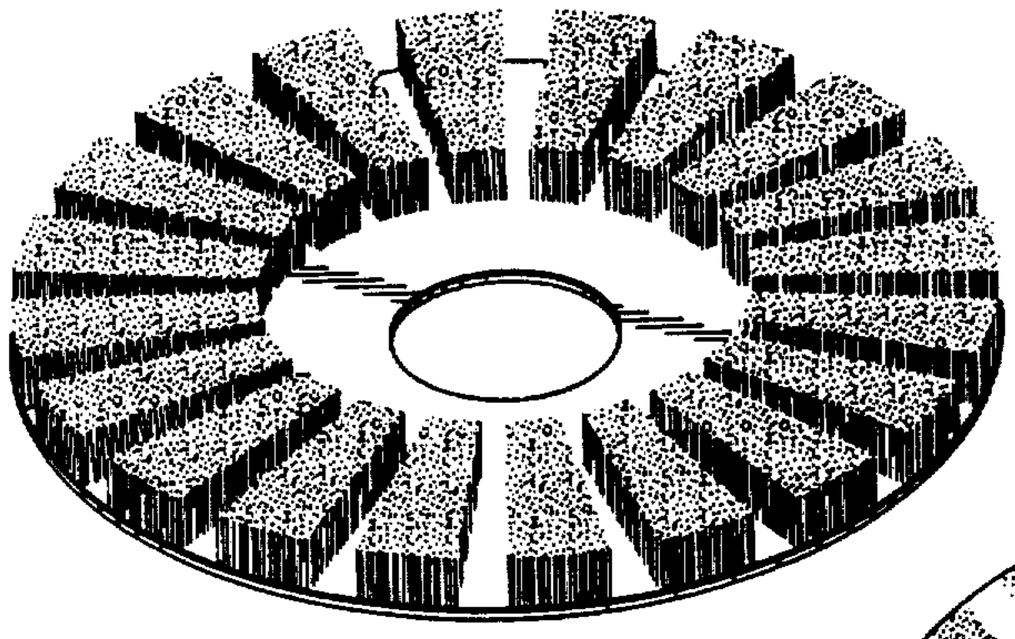


FIG. 9

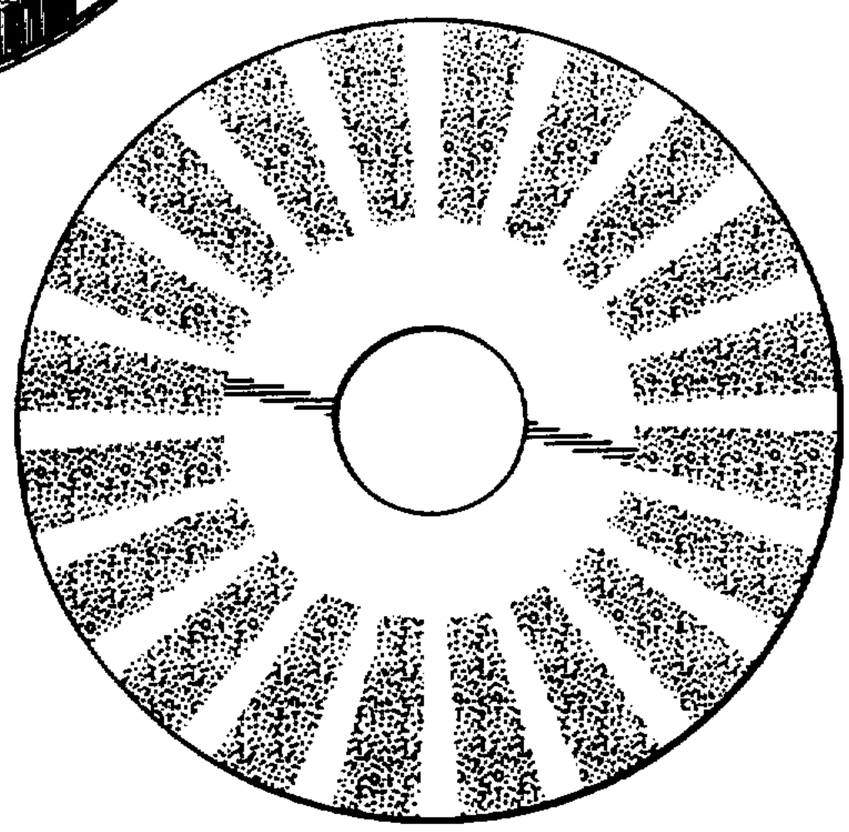


FIG. 10

FIG. 11

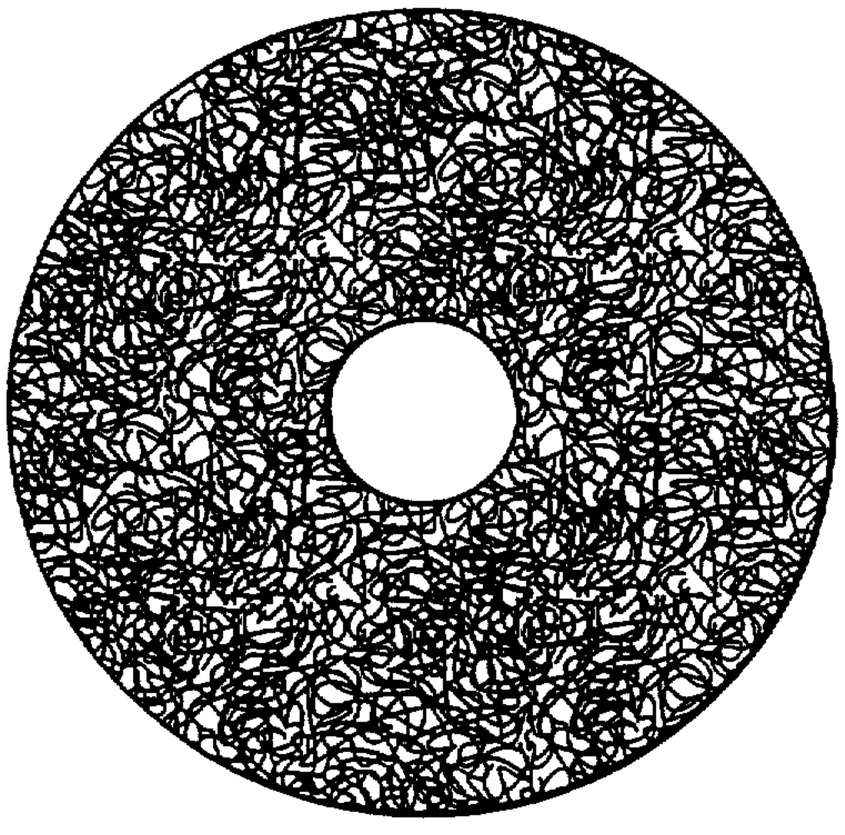


FIG. 12

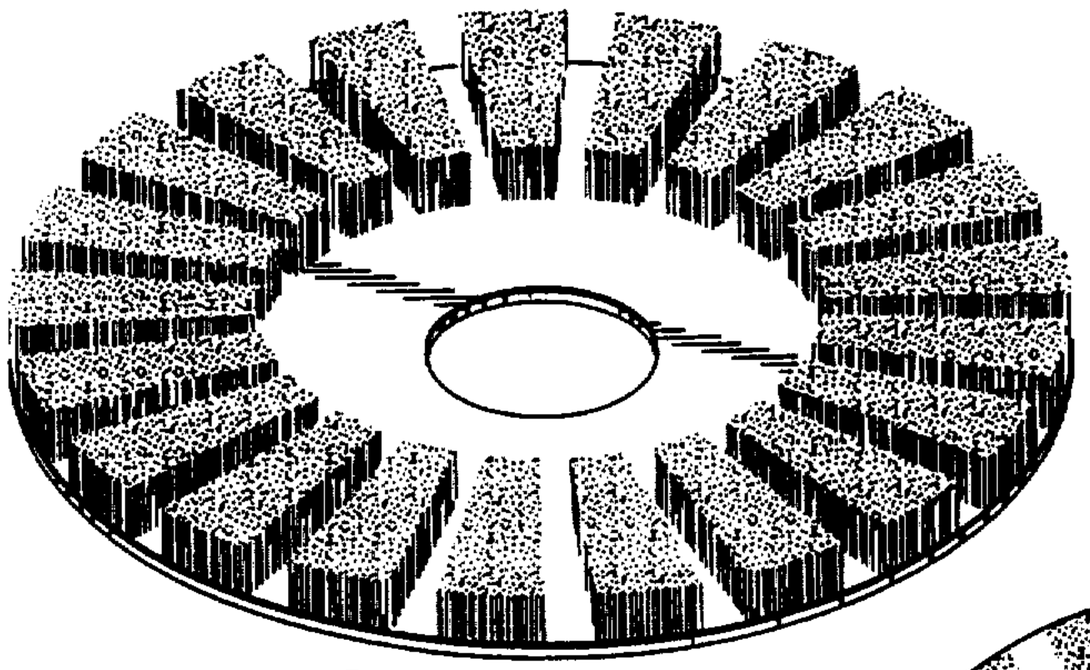


FIG. 13

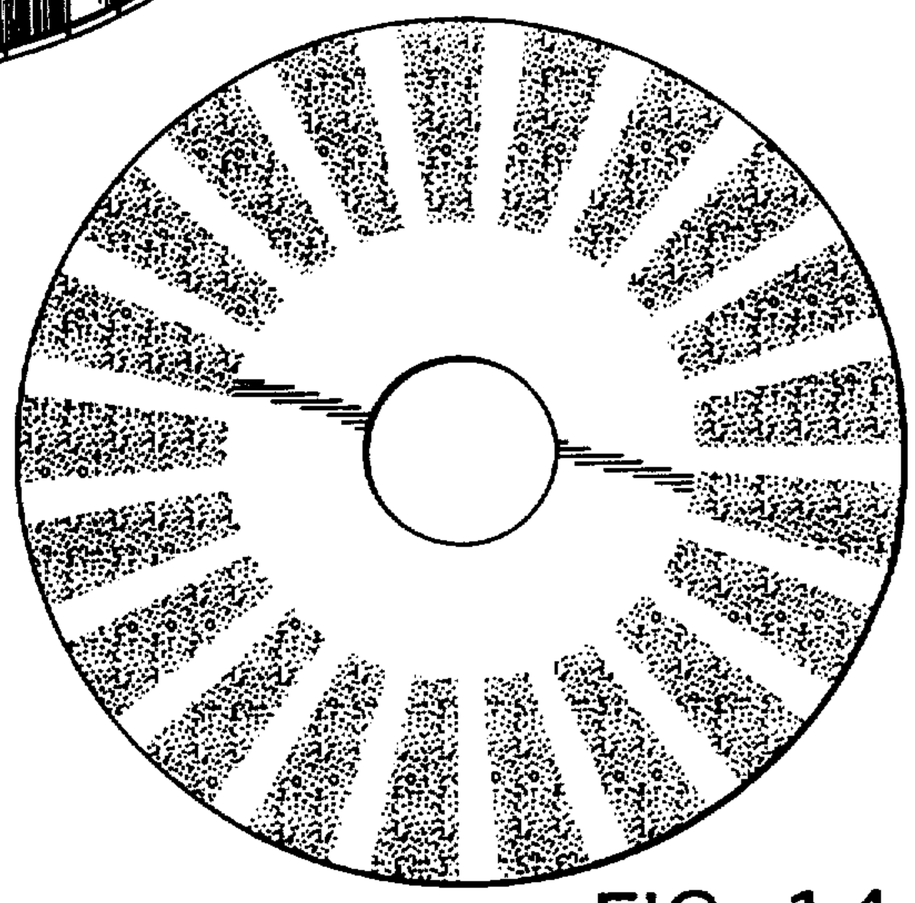


FIG. 14

FIG. 15

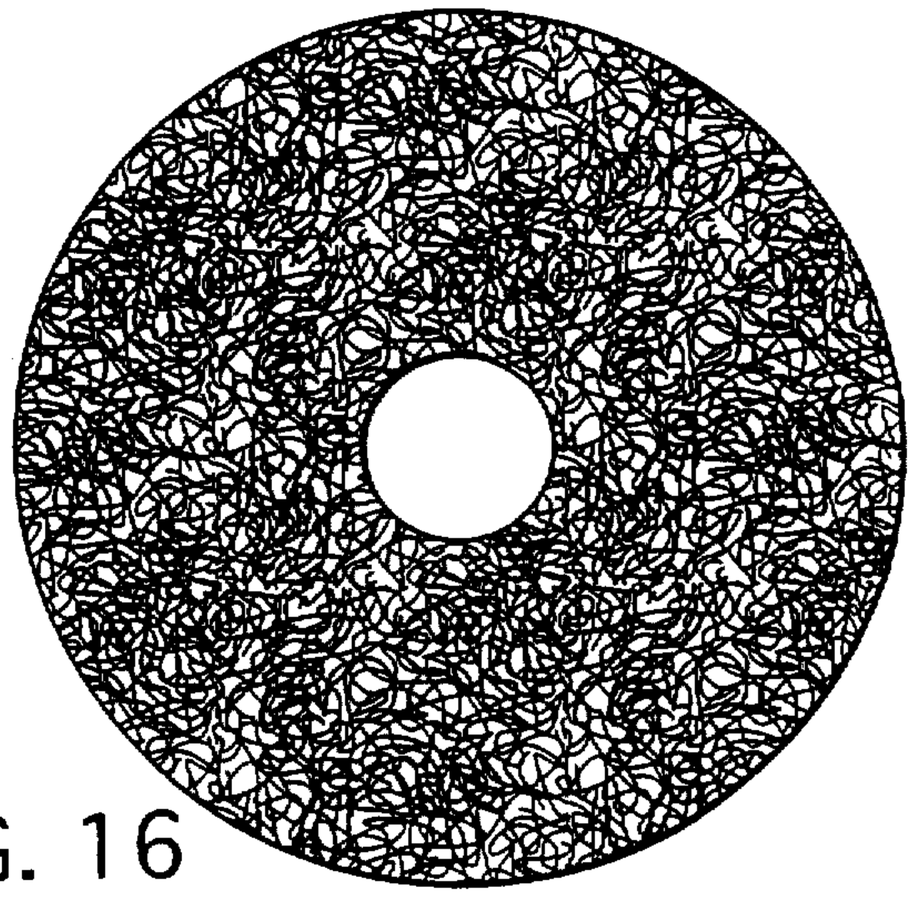


FIG. 16

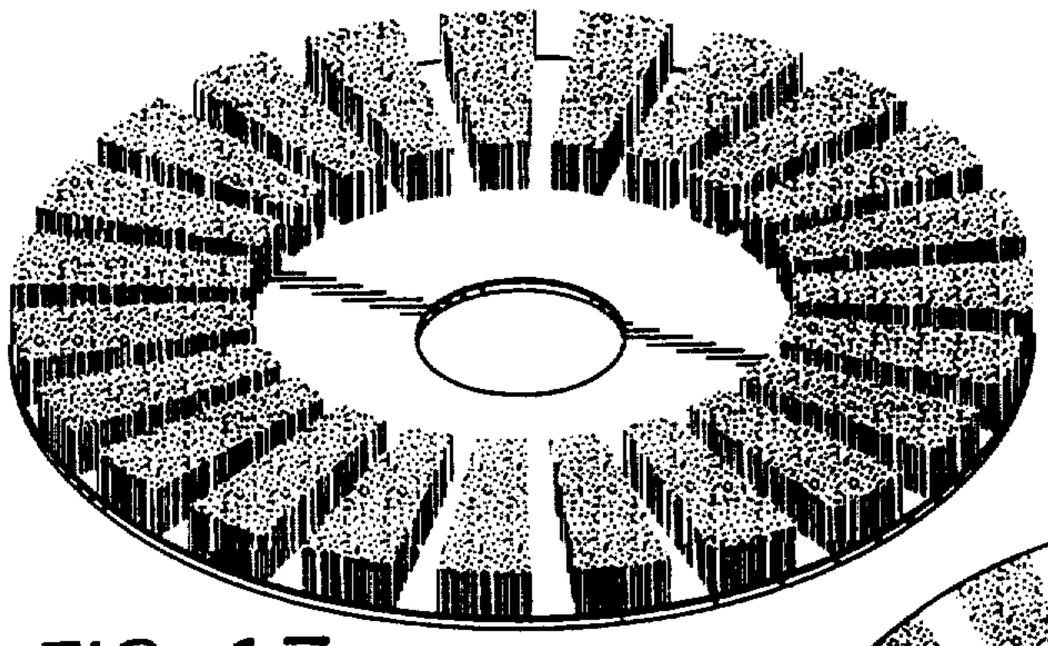


FIG. 17

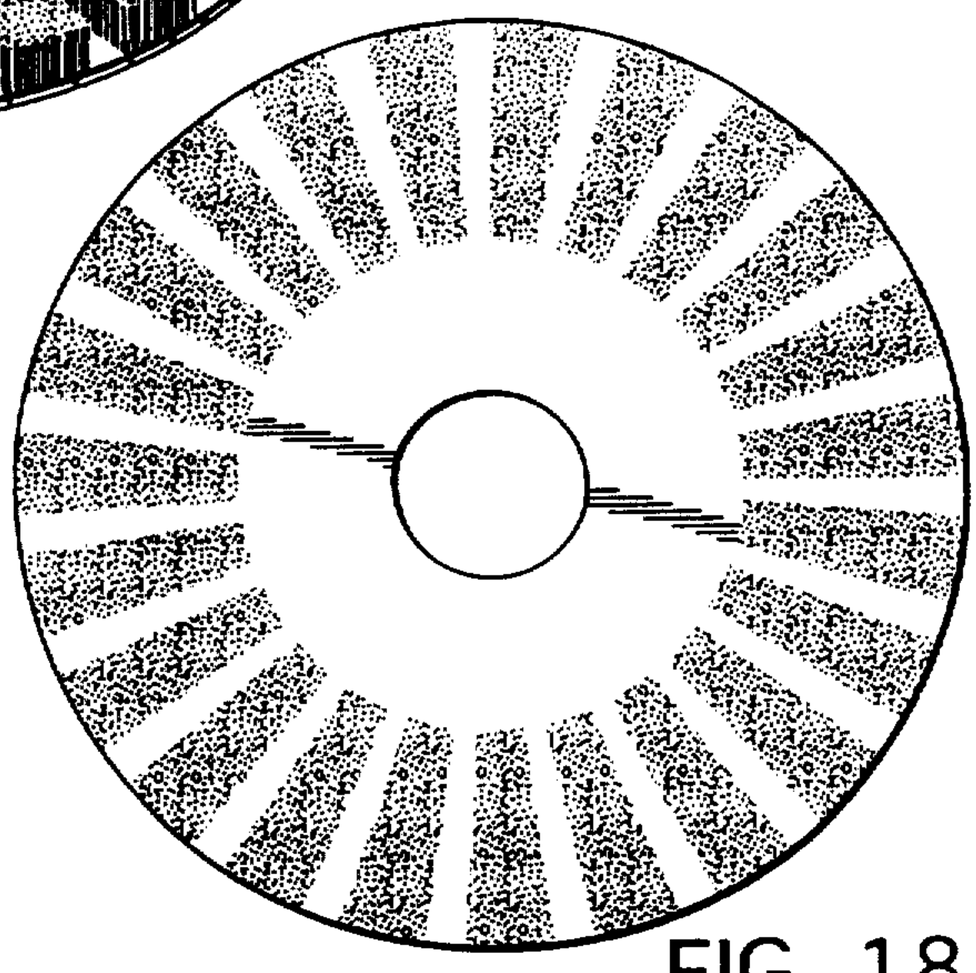


FIG. 18

FIG. 19

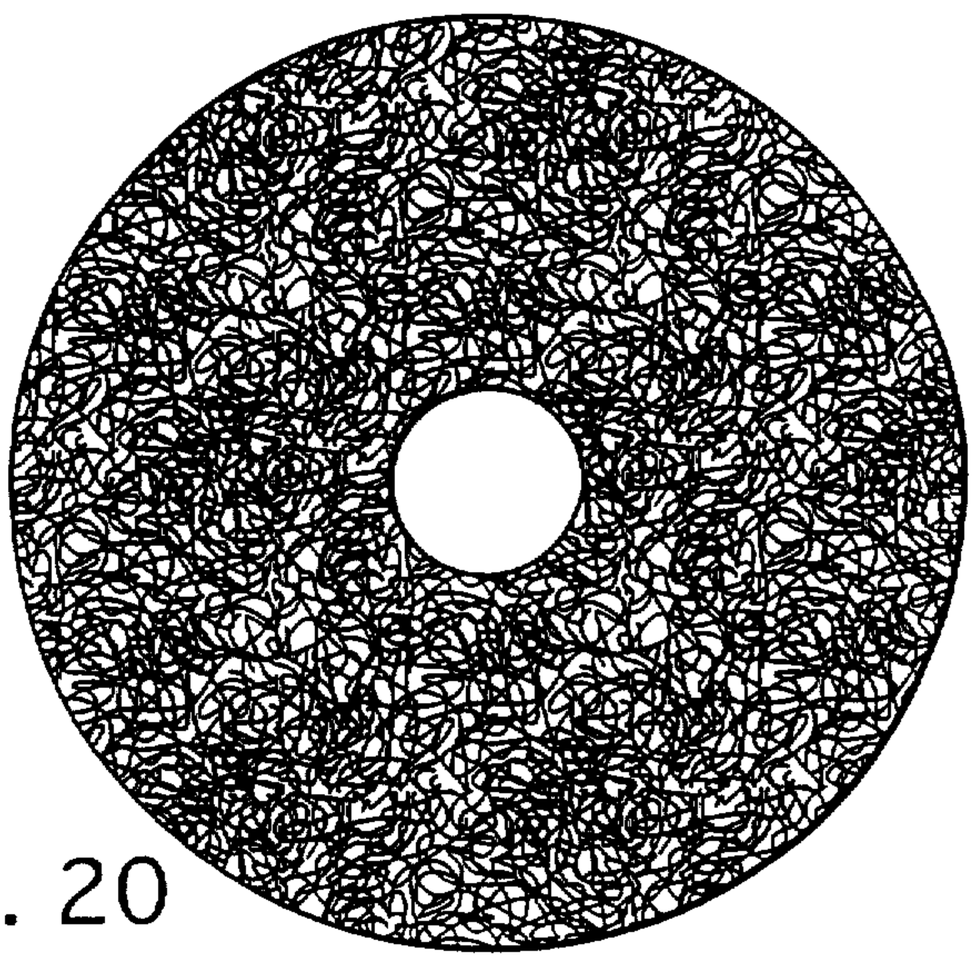


FIG. 20

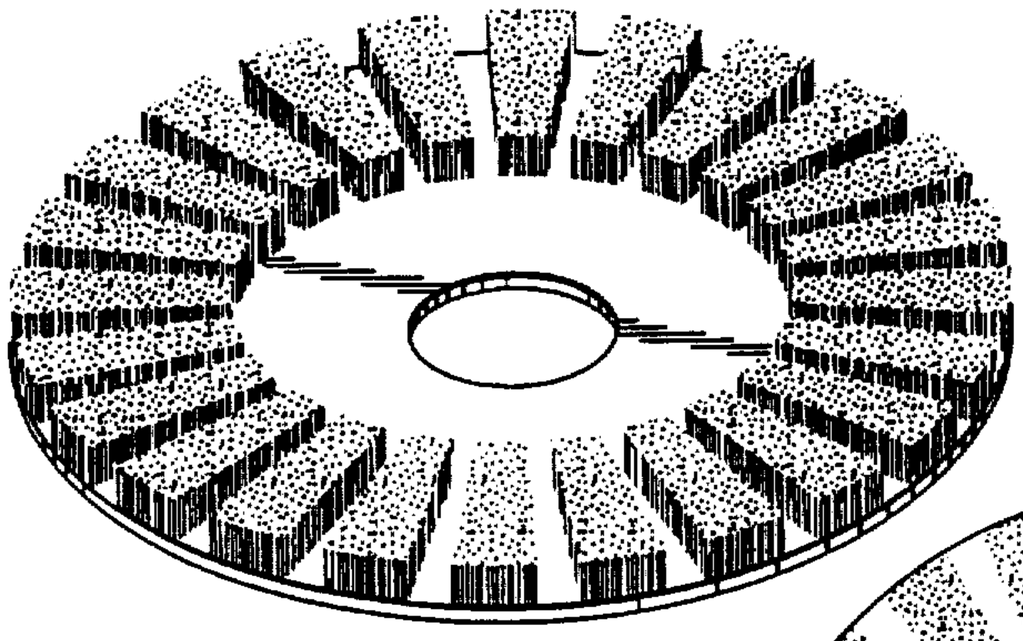


FIG. 21

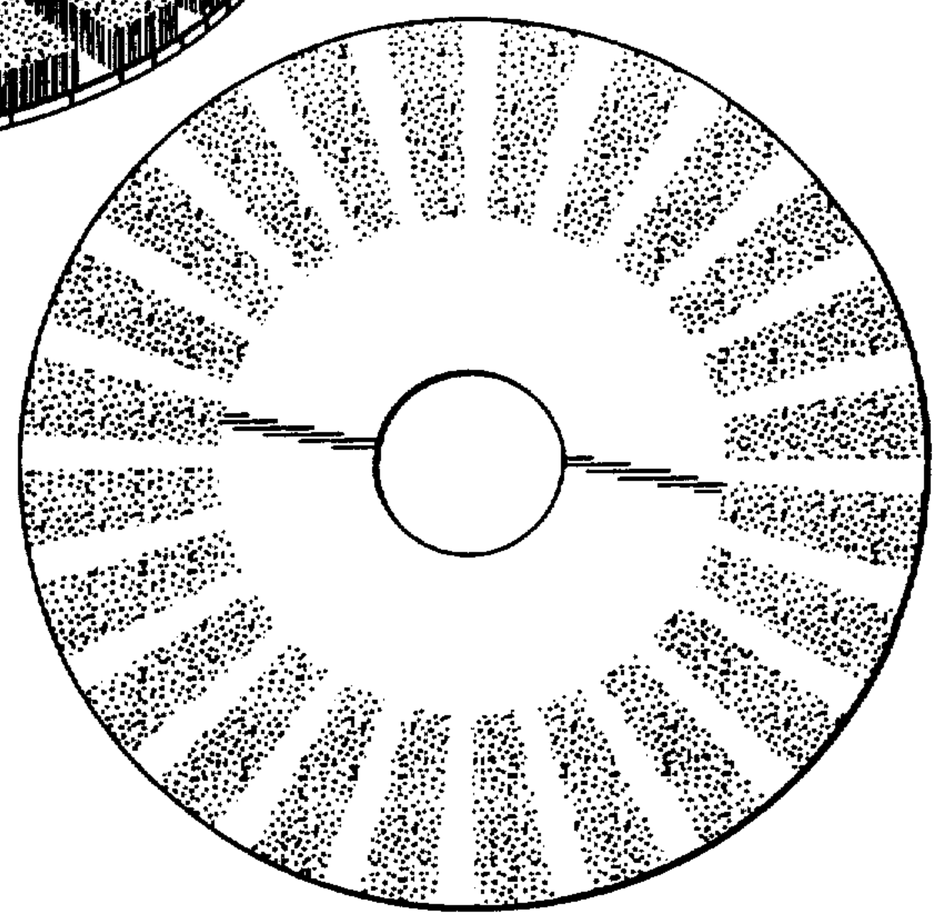


FIG. 22

FIG. 23

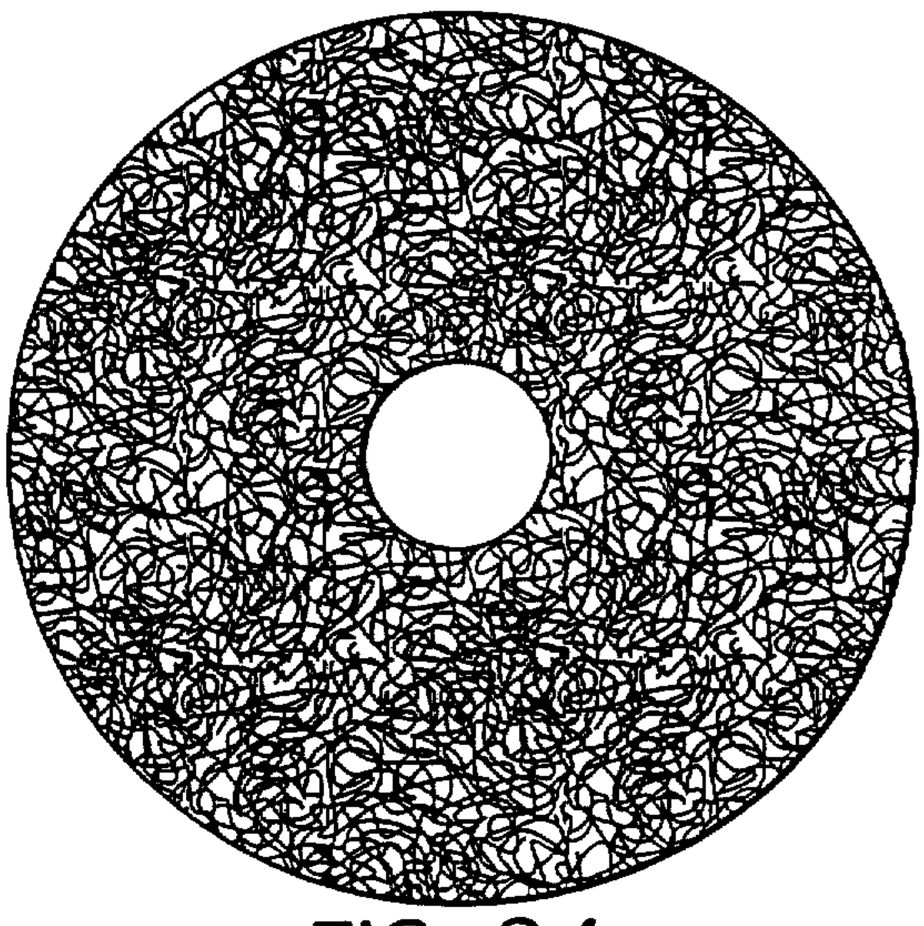


FIG. 24

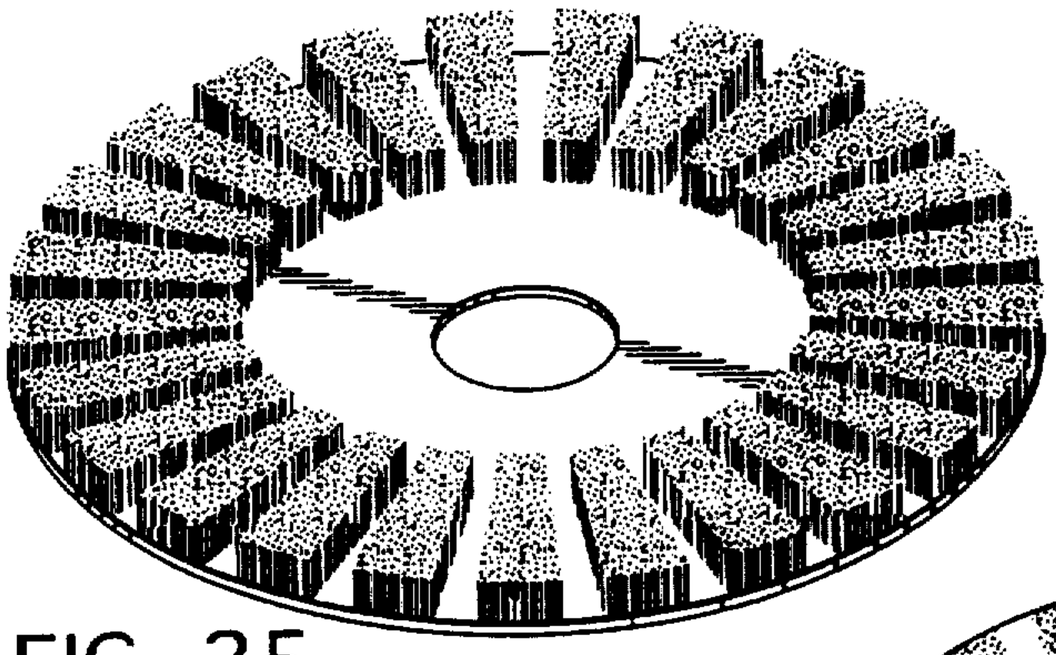


FIG. 25

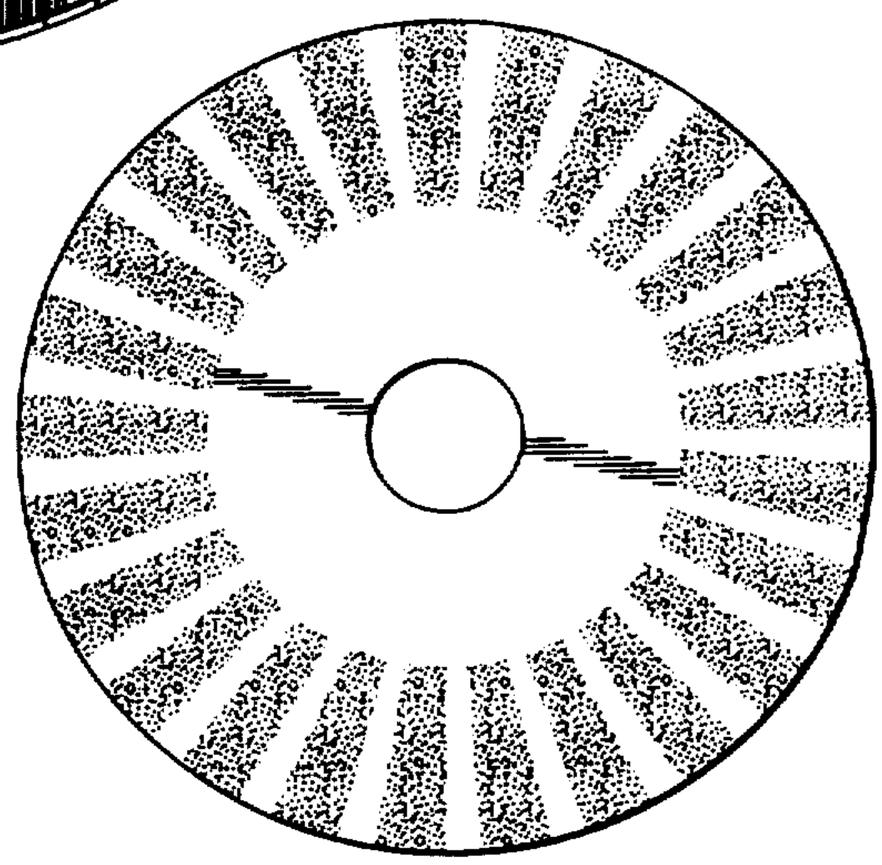


FIG. 26

FIG. 27

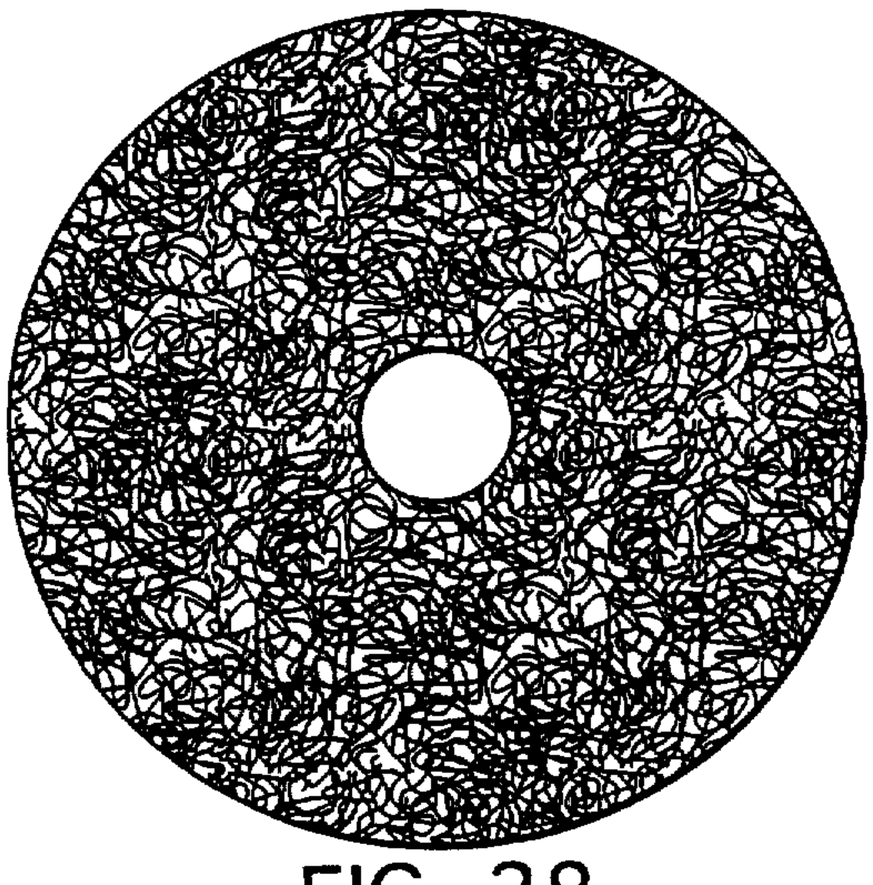


FIG. 28

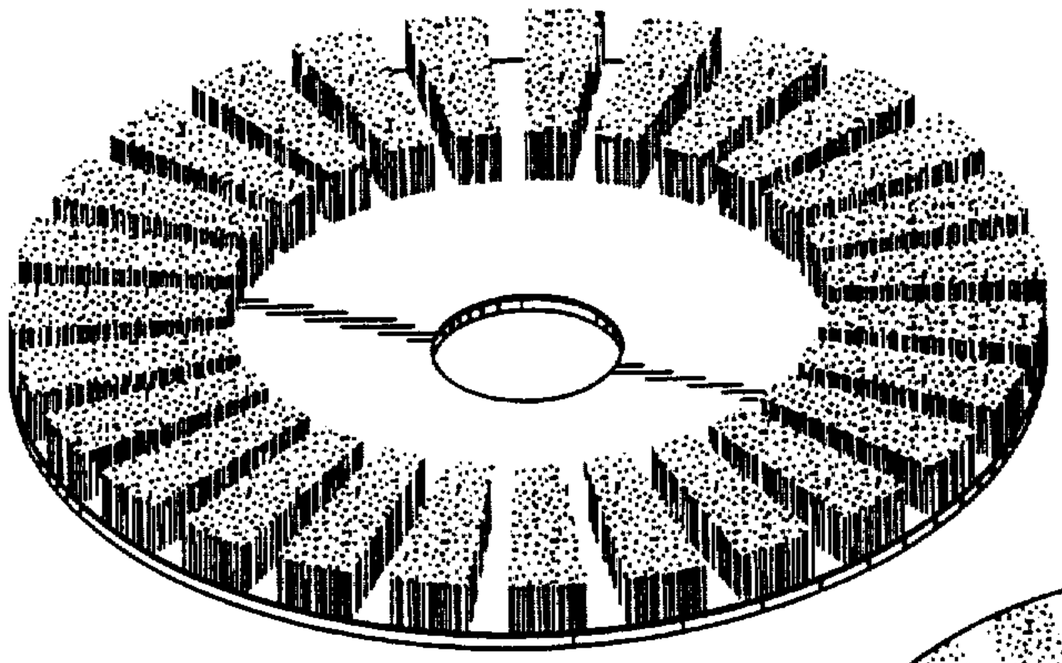


FIG. 29

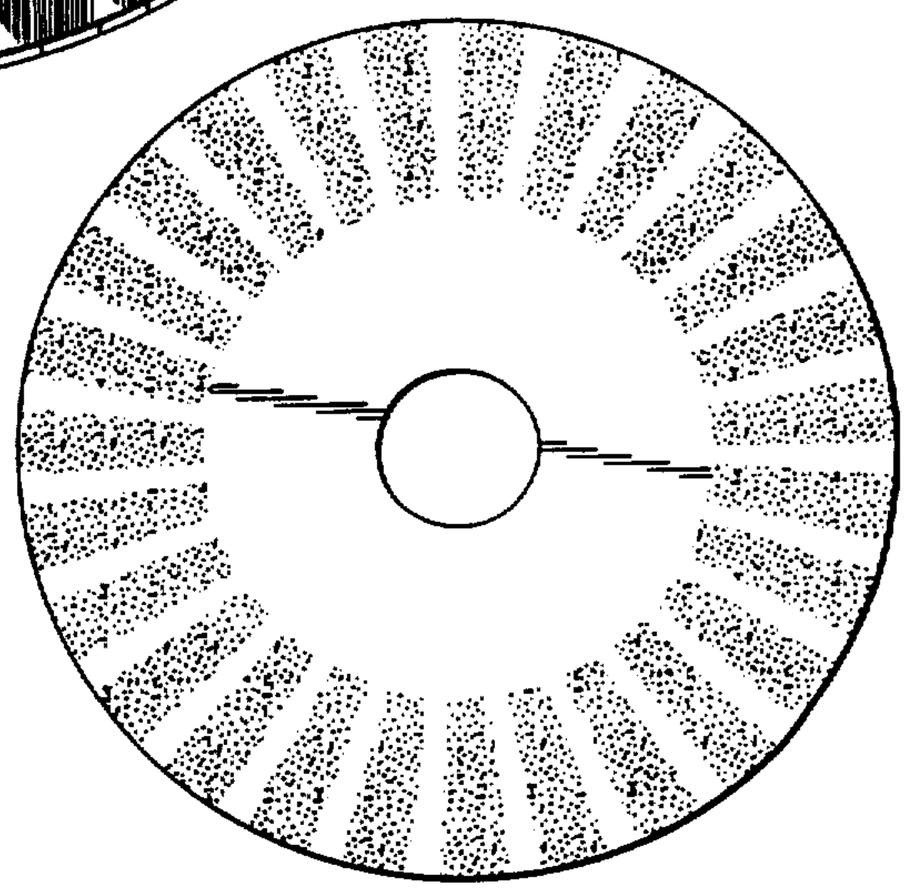


FIG. 30

FIG. 31

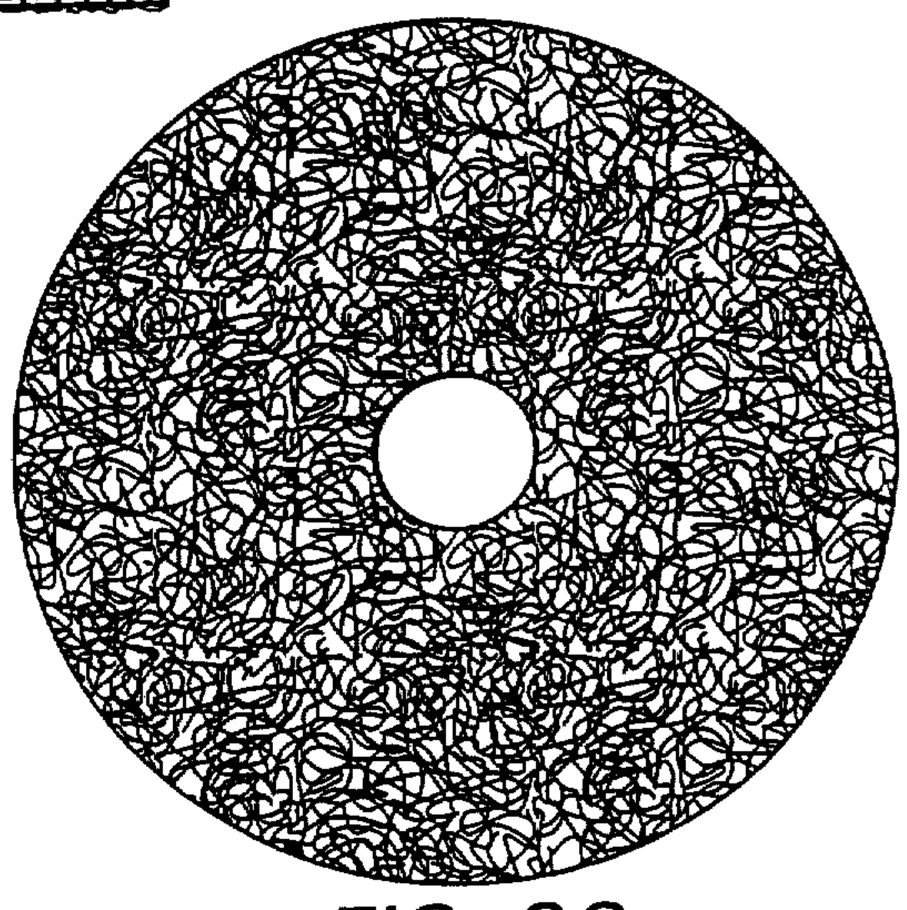


FIG. 32

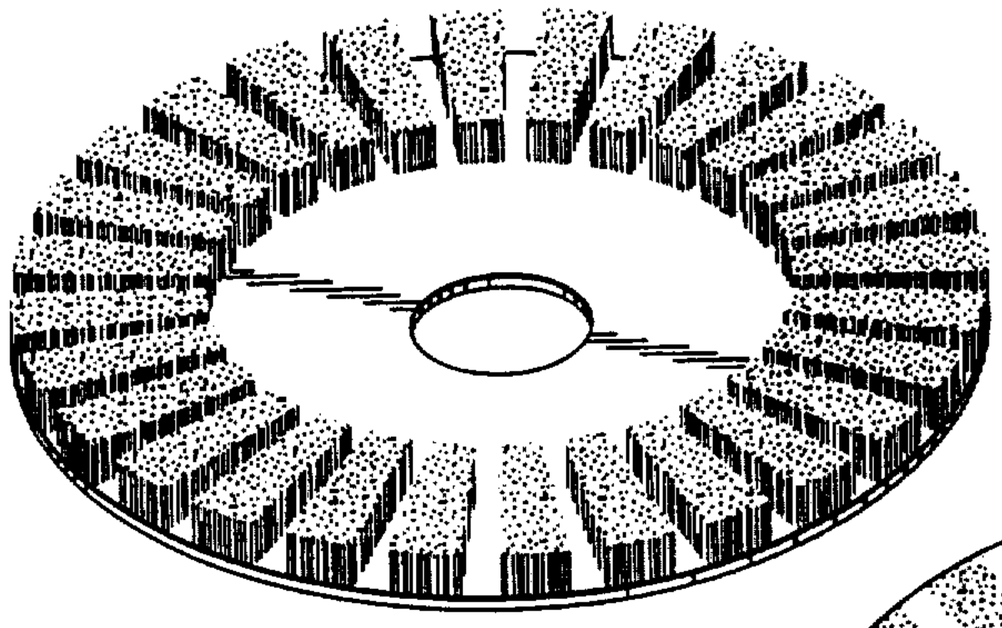


FIG. 33

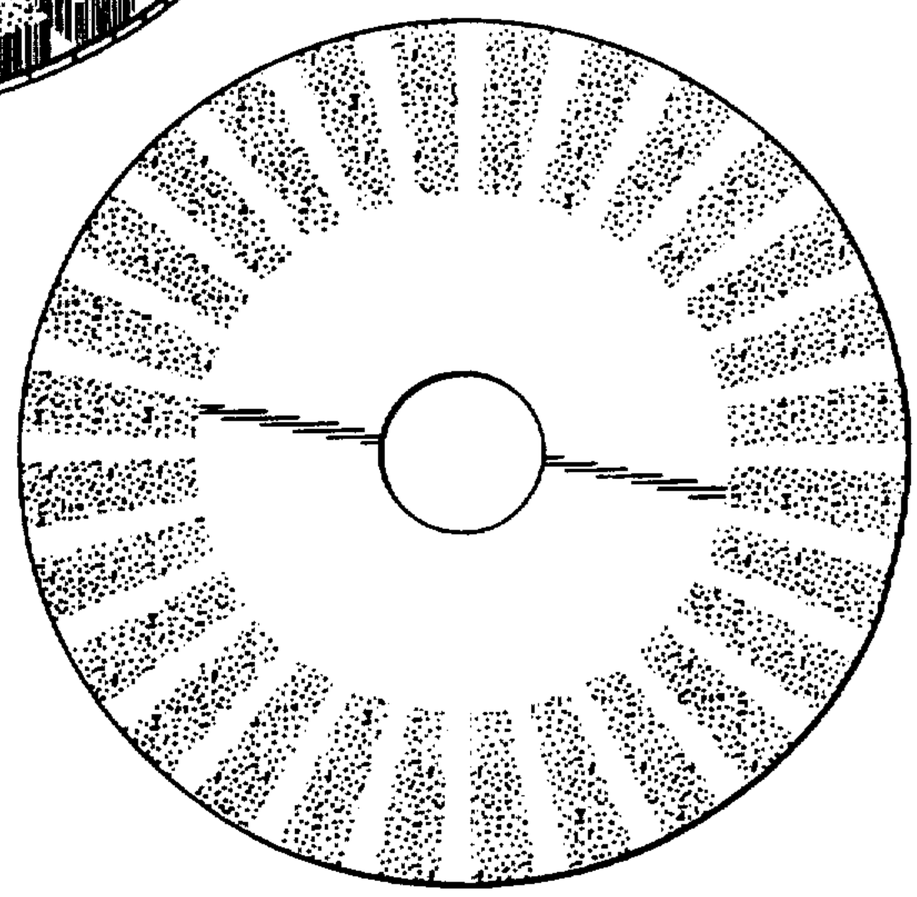


FIG. 34

FIG. 35

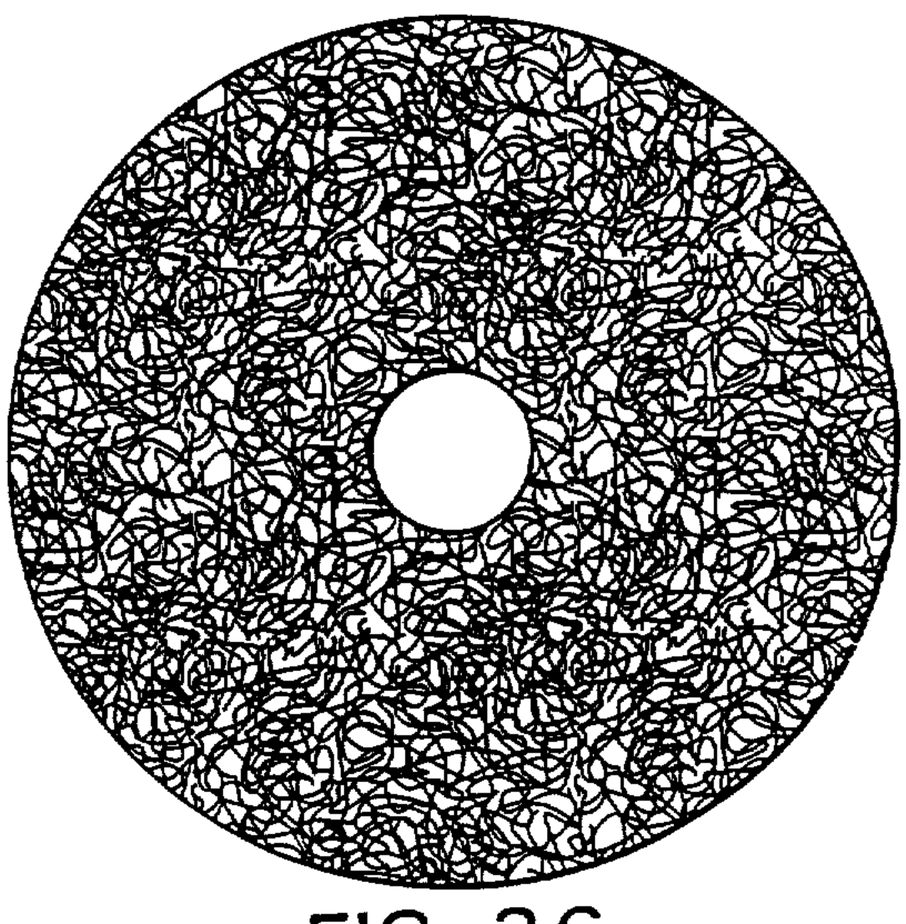


FIG. 36