



US00D588617S

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

(10) **Patent No.:** **US D588,617 S**

(45) **Date of Patent:** **** Mar. 17, 2009**

(54) **NOZZLE ASSEMBLY**

3,613,170 A 10/1971 Soda et al.
3,650,866 A 3/1972 Prentice
3,704,198 A 11/1972 Prentice
3,730,662 A 5/1973 Nunning
3,755,527 A 8/1973 Keller et al.

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(73) Assignee: **Nordson Corporation**, Westlake, OH
(US)

(Continued)

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

FOREIGN PATENT DOCUMENTS

DE 3543469 A1 12/1985

(21) Appl. No.: **29/306,666**

(Continued)

(22) Filed: **Apr. 14, 2008**

OTHER PUBLICATIONS

(51) **LOC (9) Cl.** **15-09**

Nordson Corporation, Today's Idea, Nordson Unveils Diaper Elastic System, Oct. 1988, 1 pg.

(52) **U.S. Cl.** **D15/144**

(58) **Field of Classification Search** D15/144,

D15/144.1, 14.2; D23/229; 222/52, 54-55,
222/146.5, 239, 320, 325, 389, 566, 567;
239/1, 11, 29, 71, 135, 296, 423, 536, 539

See application file for complete search history.

(Continued)

Primary Examiner—Sandra Snapp
Assistant Examiner—Patricia Palasik

(74) *Attorney, Agent, or Firm*—Wood, Herron & Evans,
L.L.P.

(56) **References Cited**

(57) **CLAIM**

U.S. PATENT DOCUMENTS

The ornamental design for a nozzle assembly, as shown and described.

- 2,031,387 A 2/1936 Schwarz
- 2,212,448 A 8/1940 Modigliani
- 2,297,726 A 10/1942 Stephanoff
- 2,628,386 A 2/1953 Tomberg
- 3,032,008 A 5/1962 Land et al.
- 3,038,202 A 6/1962 Harkenrider
- 3,176,345 A 4/1965 Powell
- 3,178,770 A 4/1965 Willis
- 3,181,738 A 5/1965 Hartvig-Johanson
- 3,192,562 A 7/1965 Powell
- 3,192,563 A 7/1965 Crompton
- 3,204,290 A 9/1965 Crompton
- 3,213,170 A 10/1965 Erdmenger et al.
- 3,253,301 A 5/1966 McGlaughlin
- 3,334,792 A 8/1967 Vries et al.
- 3,379,811 A 4/1968 Hartmann et al.
- 3,380,128 A 4/1968 Cremer et al.
- 3,488,806 A 1/1970 De Cecco et al.
- 3,492,692 A 2/1970 Soda et al.
- 3,501,805 A 3/1970 Douglas, Jr. et al.

DESCRIPTION

FIG. 1 is a front perspective view of the nozzle assembly.

FIG. 2 is a front view of the nozzle assembly.

FIG. 3 is a rear view of the nozzle assembly.

FIG. 4 is a left side view of the nozzle assembly.

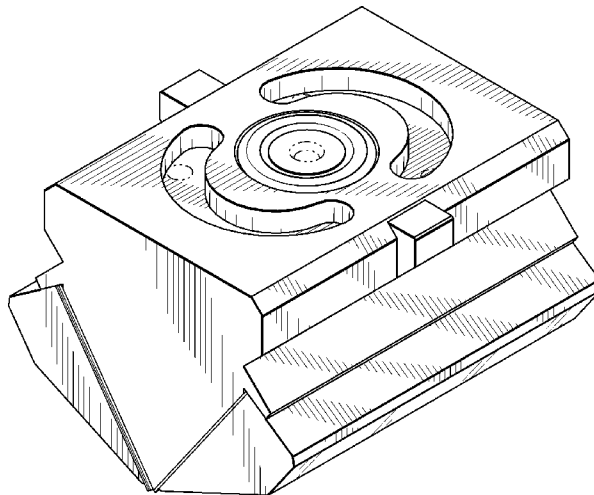
FIG. 5 is a right side view of the nozzle assembly.

FIG. 6 is a top view of the nozzle assembly; and,

FIG. 7 is a bottom view of the nozzle assembly.

Portions of the nozzle assembly shown in broken lines in the figures are for illustrative purposes only and form no part of the claimed design.

1 Claim, 4 Drawing Sheets



US D588,617 S

U.S. PATENT DOCUMENTS					
			4,983,109	A	1/1991 Miller et al.
			5,013,232	A	5/1991 Way
			5,017,116	A	5/1991 Carter et al.
			5,035,361	A	7/1991 Stouffer
			5,066,435	A	11/1991 Lorenz et al.
			5,067,885	A	11/1991 Stevenson et al.
			5,069,853	A	12/1991 Miller
			5,094,792	A	3/1992 Baran
			5,098,636	A	3/1992 Balk
			5,114,752	A	5/1992 Hall
			5,124,111	A	6/1992 Keller et al.
			5,129,585	A	7/1992 Bauer
			5,145,689	A	9/1992 Allen et al.
			5,147,197	A	9/1992 Hodan et al.
			5,160,746	A	11/1992 Dodge, II et al.
			5,165,940	A	11/1992 Windley
			5,169,071	A	12/1992 Boger et al.
			5,209,410	A	5/1993 Wichmann et al.
			5,234,650	A	8/1993 Hagen et al.
			5,242,644	A	9/1993 Thompson et al.
			5,260,003	A	11/1993 Nyssen et al.
			5,269,670	A	12/1993 Allen et al.
			5,275,676	A	1/1994 Rooyakkers et al.
			5,312,500	A	5/1994 Kurihara et al.
			5,342,647	A	8/1994 Heindel et al.
			5,354,378	A	10/1994 Hauser et al.
			5,393,219	A	2/1995 Hagen et al.
			5,397,227	A	3/1995 Hodan et al.
			5,407,619	A	4/1995 Maeda et al.
			5,409,733	A	4/1995 Boger et al.
			5,418,009	A	5/1995 Raterman et al.
			5,421,921	A	6/1995 Gill et al.
			5,421,941	A	6/1995 Allen et al.
			5,423,935	A	6/1995 Benecke et al.
			5,429,840	A	7/1995 Raterman et al.
			5,445,509	A	8/1995 Allen et al.
			5,458,291	A	10/1995 Brusko et al.
			5,458,721	A	10/1995 Raterman
			5,476,616	A	12/1995 Schwarz
			5,478,224	A	12/1995 McGuffey
			D367,865	S *	3/1996 Bajadali D15/123
			5,503,784	A	4/1996 Balk
			5,512,793	A	4/1996 Takeuchi et al.
			5,524,828	A	6/1996 Raterman et al.
			5,533,675	A	7/1996 Benecke et al.
			5,540,804	A	7/1996 Raterman
			5,551,588	A	9/1996 Hills
			5,605,706	A	2/1997 Allen et al.
			5,618,347	A	4/1997 Clare et al.
			5,618,566	A	4/1997 Allen et al.
			5,620,139	A	4/1997 Ziecker
			5,620,664	A	4/1997 Palmer
			5,645,790	A	7/1997 Schwarz et al.
			5,667,750	A	9/1997 Nohr et al.
			5,679,379	A	10/1997 Fabbicante et al.
			5,902,540	A	5/1999 Kwok
			5,904,298	A	5/1999 Kwok et al.
			5,927,560	A	7/1999 Lewis et al.
			5,964,973	A	10/1999 Heath et al.
			5,992,688	A	11/1999 Lewis et al.
			D420,099	S	2/2000 Lewis et al.
			6,074,597	A	6/2000 Kwok et al.
			D429,263	S	8/2000 Auber et al.
			6,235,137	B1	5/2001 Van Eperen et al.
			6,264,113	B1 *	7/2001 Dingler 239/8
			D456,427	S	4/2002 Gressett, Jr. et al.
			D457,538	S	5/2002 Gressett, Jr. et al.
			D460,092	S	7/2002 Gressett, Jr. et al.
			D461,483	S	8/2002 Gressett, Jr. et al.
			6,540,152	B2 *	4/2003 Holm et al. 239/1
			6,578,773	B2 *	6/2003 Holm et al. 239/1
			6,676,038	B2	1/2004 Gressett, Jr. et al.
			6,680,021	B1	1/2004 Kwok et al.

6,890,167 B1 5/2005 Kwok et al.
 6,938,795 B2 9/2005 Barton, Jr. et al.
 D519,536 S 4/2006 de Leeuw et al.
 D520,538 S 5/2006 de Leeuw et al.
 D521,035 S 5/2006 de Leeuw et al.
 D524,833 S 7/2006 Folk et al.
 D529,321 S 10/2006 Gould et al.
 D536,354 S 2/2007 Kufner et al.
 D550,261 S 9/2007 Bondeson et al.
 2005/0205689 A1* 9/2005 Crane et al. 239/290
 2008/0145530 A1 6/2008 Bondeson et al.

FOREIGN PATENT DOCUMENTS

DE 19715740 A1 4/1997
 EP 0893517 A2 1/1999
 EP 0979885 A2 2/2000
 EP 1155745 A2 11/2001
 EP 0835952 B1 2/2003
 EP 0872580 B1 6/2005
 GB 756907 9/1956
 GB 1392667 4/1975

WO 9207122 A1 4/1992
 WO 9315895 A1 8/1993
 WO 9904950 A1 2/1999

OTHER PUBLICATIONS

Nordson Corporation, Adhesive and Power Application Systems for the Nonwoven Industry, 1992, 7 pgs.
 Edward K. McNalley et al., J&M Laboratories, Durafiber/Durastitch Adhesives Applications Methods Featuring Solid State Application Technology disclosed Sep. 8, 1997 at Inda-Tec 97 Meeting, Cambridge MA, pp. 26.1-26.8.
 Rajiv S. Rao et al., Vibration and Stability in the Melt Blowing Process, Ind. Eng. Chem. Res., 1993, 32, 3100-3111.
 Gregory F. Ward, Micro-Denier Nonwoven Process and Fabrics, on or about Oct. 17, 1997, pp. 1-9.
 Scott R. Miller, Beyond Meltblowing: Process Refinement in Microfibre Hot Melt Adhesive Technology, Edana 1998 International Nonwovens Symposium, 11 pgs.
 European Patent Office, European Search Report in EP Application No. 07122920, Aug. 27, 2008.

* cited by examiner

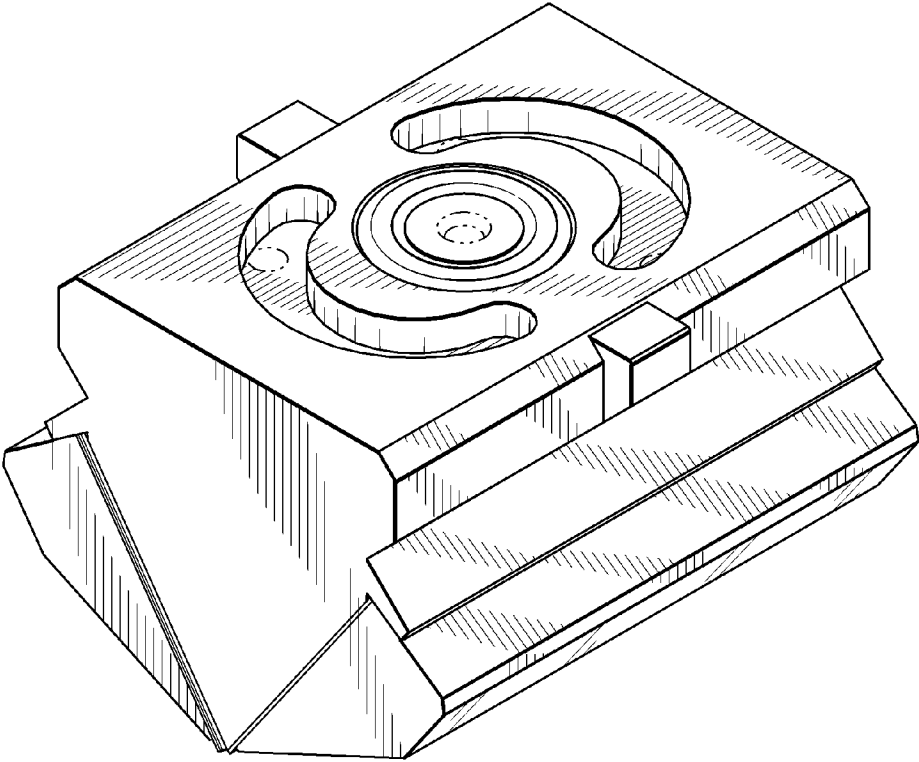


FIG. 1

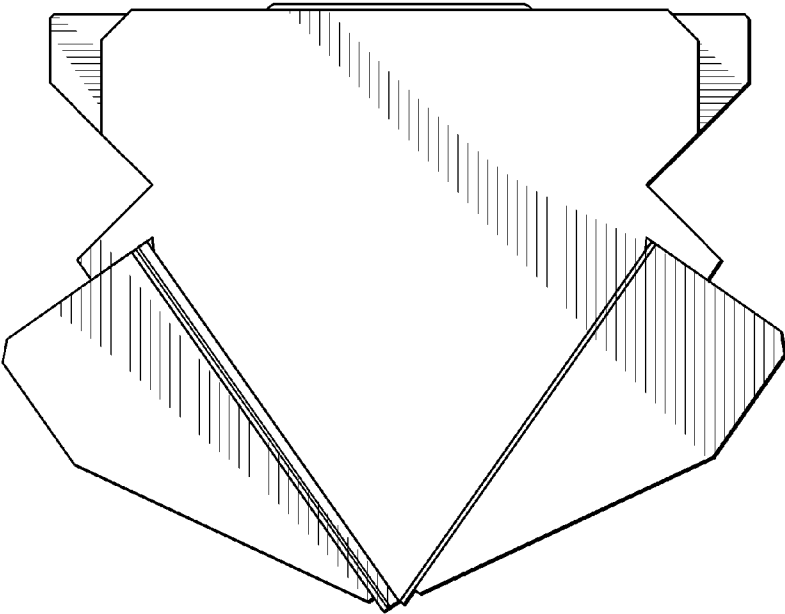


FIG. 2

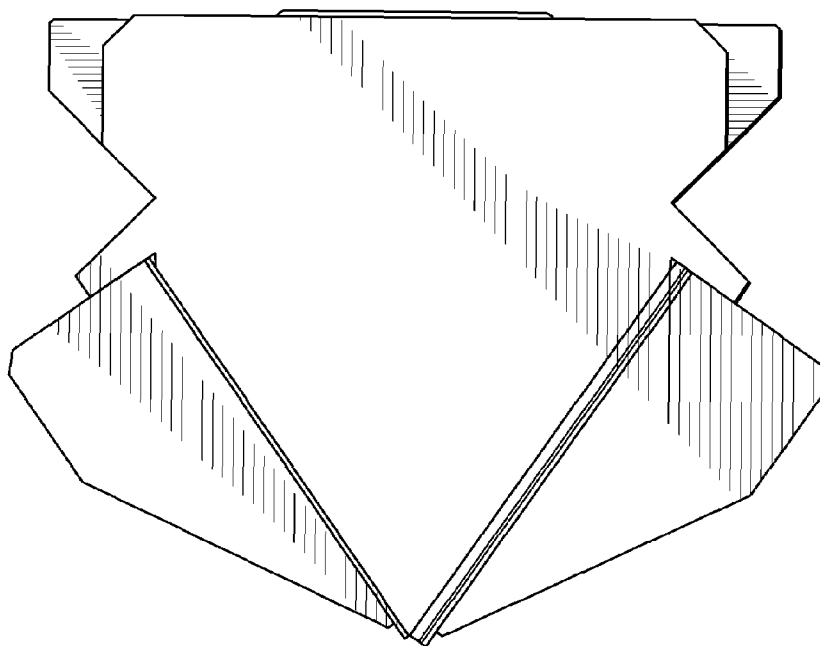


FIG. 3

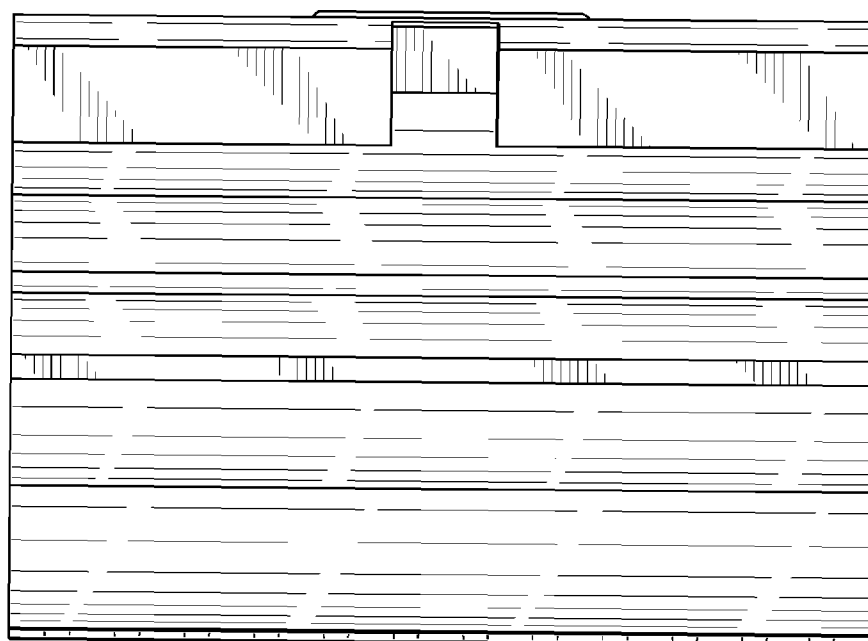


FIG. 4

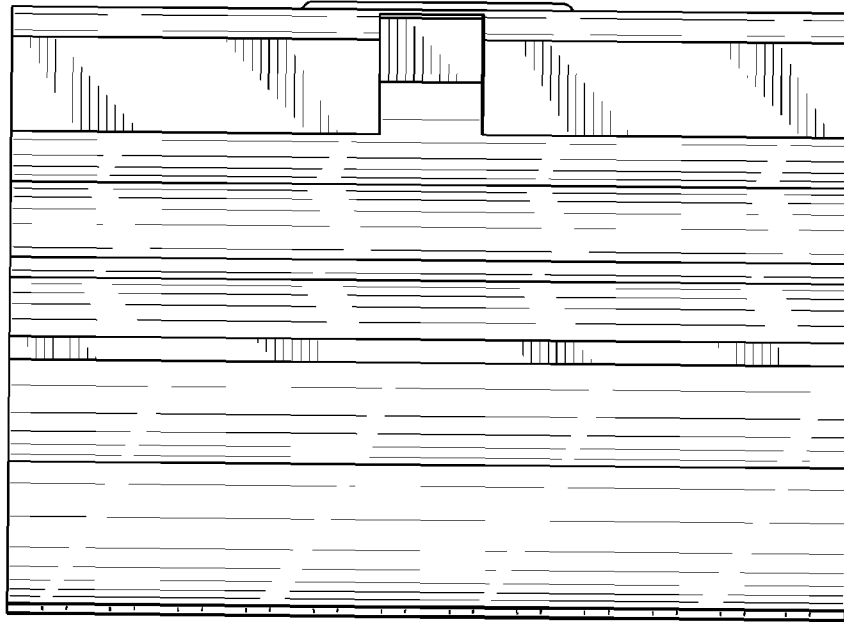


FIG. 5

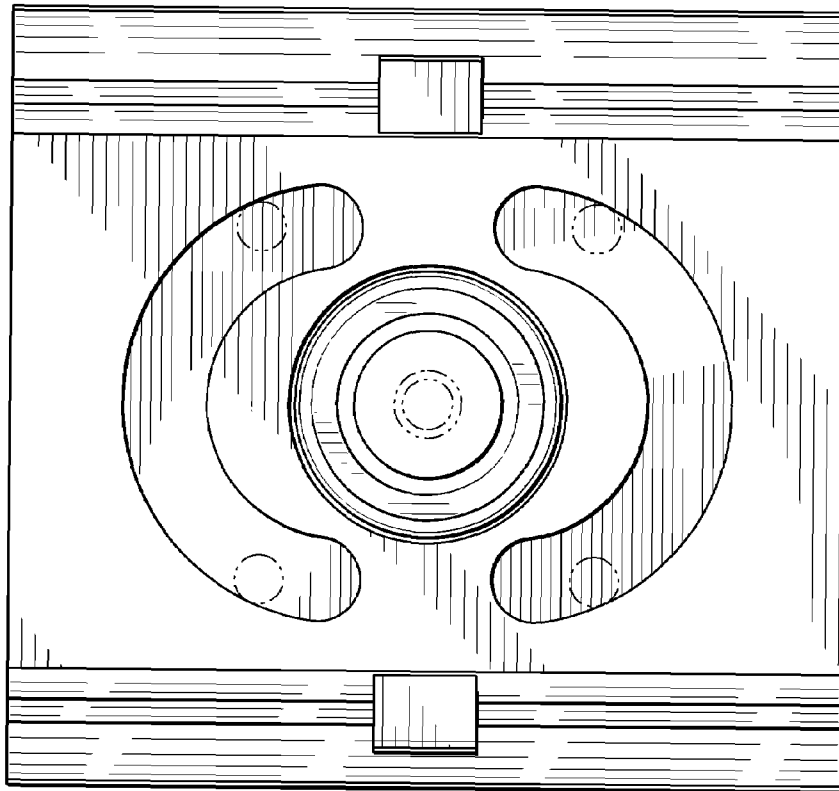


FIG. 6

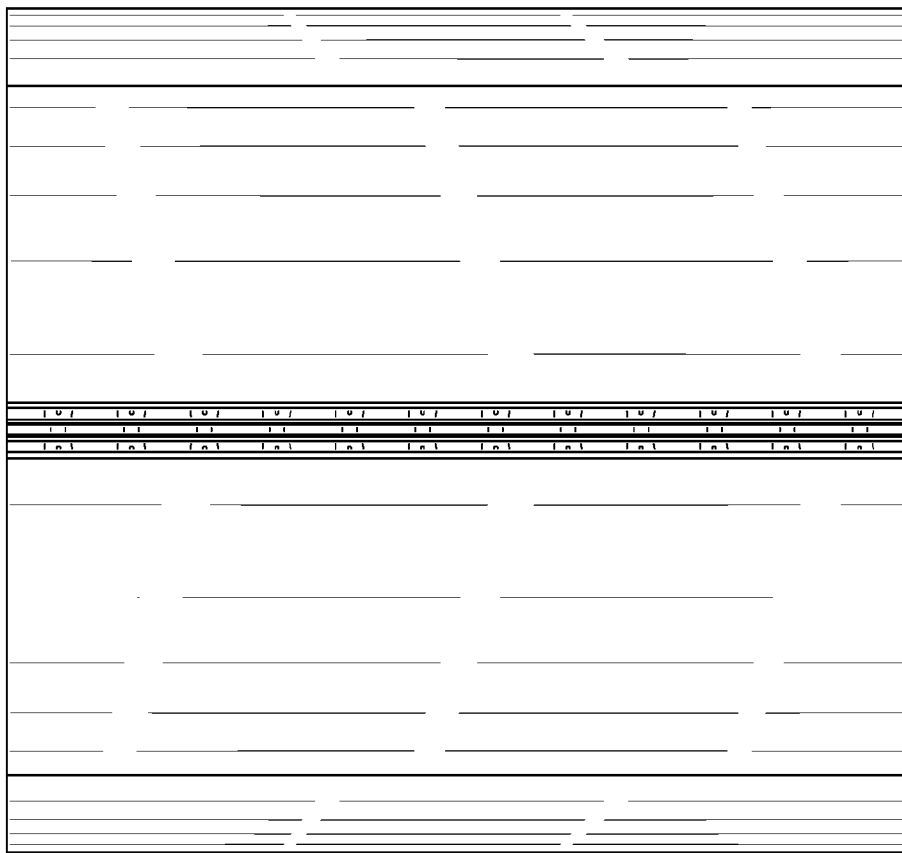


FIG. 7

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : Des. 588,617 S
APPLICATION NO. : 29/306666
DATED : March 17, 2009
INVENTOR(S) : Thomas Burmester et al.

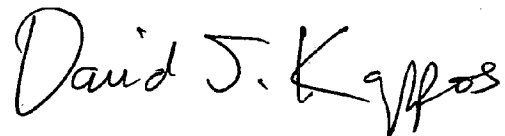
Page 1 of 2

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

Drawings

Substitute Fig. 5 as attached for Fig. 5 as shown in the above-identified patent.

Signed and Sealed this
Fifteenth Day of December, 2009

A handwritten signature in black ink that reads "David J. Kappos". The signature is written in a cursive, flowing style.

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

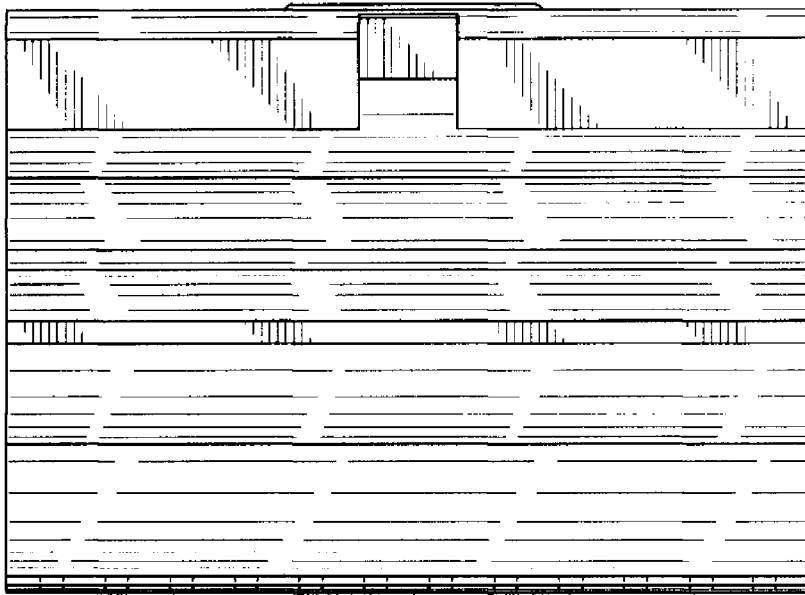


FIG. 5

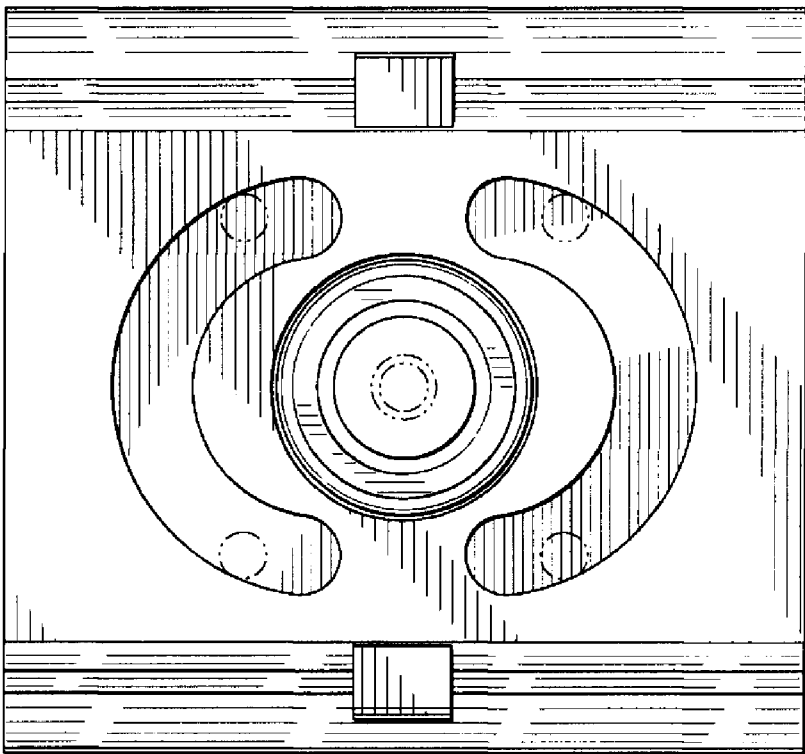


FIG. 6