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

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(45) **Date of Patent:** **** Aug. 13, 2019**

(54) **VALVE SEAT**

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(73) Assignee: **S.P.M. Flow Control, Inc.**, Fort Worth, TX (US)

(**) Term: **15 Years**

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Related U.S. Application Data

(63) Continuation of application No. 29/546,567, filed on Nov. 24, 2015, now Pat. No. Des. 787,029, which is a continuation of application No. 29/446,059, filed on Feb. 20, 2013, now Pat. No. Des. 748,228, which is a continuation of application No. 13/755,217, filed on Jan. 31, 2013, now abandoned.

(51) **LOC (12) Cl.** **23-01**

(52) **U.S. Cl.**
USPC **D23/269**

(58) **Field of Classification Search**
USPC D23/249, 259, 260, 262, 266, 269
CPC . F16L 41/08; F16L 41/12; F16L 45/00; F16L 57/00; F16L 57/06; E03F 5/04; E03F 5/06; B65D 88/26; B65D 88/54
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,517,883 A	12/1924	Alleman
1,553,171 A	9/1925	Jones
1,652,857 A	12/1927	Greve
1,705,789 A	3/1929	Steirly
1,707,017 A	3/1929	Kibele

1,726,187 A	8/1929	Mahan
1,908,899 A	5/1933	Kayel
1,914,737 A	6/1933	Elms
1,948,628 A	2/1934	Penick et al.
2,421,276 A	5/1947	Lotz

(Continued)

FOREIGN PATENT DOCUMENTS

AU	9517960 A	11/1995
CA	2116461 A1	11/1994

(Continued)

OTHER PUBLICATIONS

"Advisory Action dated Oct. 10, 2013, by the USPTO, re U.S. Appl. No. 13/445,513".

(Continued)

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(57) **CLAIM**

The ornamental design for a valve seat, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a valve seat showing our new design;

FIG. 2 is a front elevational view thereof, the right side elevational, the left side elevational, and the rear elevational views thereof being the same as the front elevational view thereof;

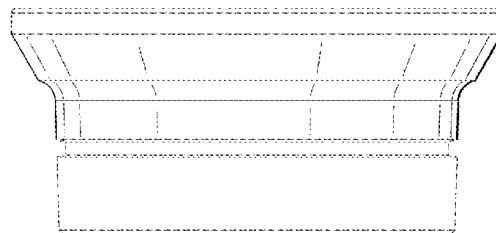
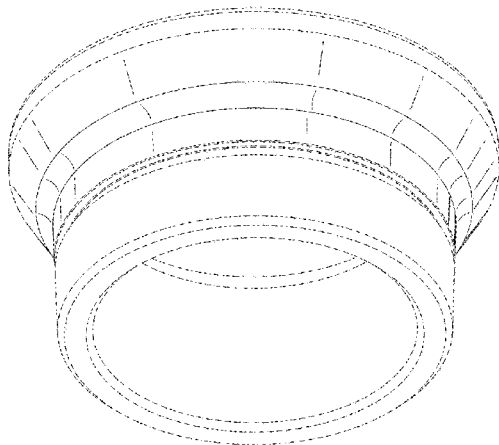
FIG. 3 is a top plan view thereof;

FIG. 4 is a bottom plan view thereof; and,

FIG. 5 is a sectional view thereof taken along line 5-5 of FIG. 3.

The broken lines in the drawings illustrate portions of the valve seat that form no part of the claimed design.

1 Claim, 5 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

2,475,040	A	7/1949	Mandl	6,695,007	B2	2/2004	Vicars	
2,573,567	A	10/1951	Hancock	6,701,955	B2	3/2004	McIntire et al.	
2,602,434	A	7/1952	Barnaby	D488,859	S	4/2004	Stout, Jr.	
2,623,276	A	12/1952	Anderson	6,910,871	B1	6/2005	Blume	
2,898,082	A	8/1959	Almen et al.	6,955,181	B1	10/2005	Blume	
2,903,235	A	9/1959	Rodgers et al.	6,955,339	B1	10/2005	Blume	
2,969,951	A	1/1961	Walton	D513,072	S	12/2005	Berg	
2,982,515	A	5/1961	Rule	D514,671	S	2/2006	Jones	
2,983,281	A	5/1961	Bynum	7,000,632	B2	2/2006	McIntire et al.	
3,029,501	A	4/1962	Leathers	7,011,111	B2	3/2006	Spiegl et al.	
3,063,467	A	11/1962	Roberts, Jr. et al.	D524,427	S *	7/2006	Wilk, Jr.	D23/262
D196,724	S	10/1963	Davis et al.	D534,253	S	12/2006	Sandman et al.	
3,114,644	A	12/1963	Peterson	7,168,440	B1	1/2007	Blume	
3,191,905	A	6/1965	Brown	7,172,175	B2	2/2007	Vicars	
3,387,353	A	6/1968	Romero	7,222,837	B1	5/2007	Blume	
3,474,808	A	10/1969	Robert	D554,974	S	11/2007	Huang	
3,489,170	A	1/1970	Arthur	7,296,591	B2	11/2007	Moe et al.	
D227,558	S	7/1973	Matthews et al.	D556,866	S	12/2007	Darce	
3,801,234	A	4/1974	Love et al.	D557,771	S	12/2007	Darce	
3,808,666	A	5/1974	Bales	D561,877	S *	2/2008	Hopkins	D23/263
3,830,255	A	8/1974	Freiheit	7,335,002	B2	2/2008	Vicars	
3,952,393	A	4/1976	Van Ravenzwaay et al.	D564,656	S	3/2008	Matsutori	
3,990,139	A	11/1976	Touchet	7,341,435	B2	3/2008	Vicars	
D244,533	S	5/1977	Eidelberg et al.	D570,457	S *	6/2008	Brown	D23/262
4,076,212	A	2/1978	Leman	D574,934	S	8/2008	Darce	
4,077,102	A	3/1978	Smith	7,513,483	B1	4/2009	Blume	
4,103,663	A	8/1978	Elsbett et al.	D612,912	S *	3/2010	Delaney	D23/259
4,192,520	A	3/1980	Hasegawa	D614,271	S	4/2010	Weston	
4,203,180	A	5/1980	Striplin	D616,966	S *	6/2010	Angell	D23/262
4,257,163	A	3/1981	Bauer	7,748,095	B1	7/2010	Phane	
4,285,126	A	8/1981	Irwin	7,832,071	B2	11/2010	Klann	
4,432,386	A	2/1984	Pacht	D631,142	S *	1/2011	Angell	D23/262
4,518,329	A	5/1985	Weaver	8,191,575	B2	6/2012	Krug, Jr. et al.	
4,547,005	A	10/1985	Soederhuyzen	D670,794	S *	11/2012	Antoniello	D23/262
D281,525	S *	11/1985	Gilbert	D681,176	S *	4/2013	Chacko	D23/269
D291,649	S *	9/1987	Rembold	D682,989	S	5/2013	Eagle	
D292,308	S *	10/1987	Beltran	D682,994	S	5/2013	Schulz	
4,770,206	A	9/1988	Sjoberg	D687,145	S	7/2013	Gronberg	
4,860,995	A	8/1989	Rogers	8,496,224	B1	7/2013	Gilstad et al.	
D303,710	S	9/1989	Neill	D695,066	S	12/2013	Nakajima	
4,878,815	A	11/1989	Stachowiak	D700,682	S *	3/2014	Bayyok	D23/233
4,922,957	A	5/1990	Johnson	D712,209	S *	9/2014	Hager	D7/700
4,928,726	A	5/1990	Johnson et al.	D715,145	S	10/2014	Yamagishi et al.	
4,951,707	A	8/1990	Johnson	D717,405	S	11/2014	Coronado	
5,052,435	A	10/1991	Crudup et al.	D720,838	S	1/2015	Yamagishi	
5,088,521	A	2/1992	Johnson	D731,035	S *	6/2015	Lo Cicero	D23/269
5,117,546	A	6/1992	Lawrence et al.	D748,228	S *	1/2016	Bayyok	D23/269
D330,073	S	10/1992	Valls	D751,677	S *	3/2016	Drury	D23/262
5,193,577	A	3/1993	De Koning	D776,791	S *	1/2017	Itou	D23/237
5,211,198	A	5/1993	Tinholt	D787,029	S *	5/2017	Bayyok	D23/269
5,234,322	A	8/1993	Daniels et al.	D805,164	S *	12/2017	Norman	D23/259
5,249,600	A	10/1993	Blume	D806,486	S *	1/2018	Lopez	D7/700
D347,271	S *	5/1994	Inda	D814,612	S *	4/2018	Vishwakarma	D23/263
5,345,965	A	9/1994	Blume	D817,463	S *	5/2018	Curley	D23/260
D355,708	S	2/1995	Caine	D832,409	S *	10/2018	Sugatani	D23/263
5,431,186	A	7/1995	Blume	D832,664	S *	11/2018	Degerland	D7/700
5,505,530	A	4/1996	Kramer et al.	D835,245	S *	12/2018	Salehi-Bakhtiari	D23/263
5,533,245	A	7/1996	Stanton	D836,756	S *	12/2018	Myers, II	E03C 1/26
D374,710	S	10/1996	Gustafsson					D23/261
D385,956	S *	11/1997	Doughty	D837,950	S *	1/2019	Santos	D23/261
5,695,224	A	12/1997	Grenier	D839,728	S *	2/2019	Rees	D9/439
5,816,497	A	10/1998	Leon et al.	D841,133	S *	2/2019	Karnegie	D23/261
5,876,189	A	3/1999	Lukas et al.	D842,439	S *	3/2019	Kelly	D23/263
D424,168	S *	5/2000	Higgins	2003/0084556	A1	5/2003	Dunlop	
6,073,886	A	6/2000	Jakubowski, Jr. et al.	2004/0170507	A1	9/2004	Vicars	
6,195,863	B1	3/2001	Blake	2004/0234404	A1	11/2004	Vicars	
D441,848	S *	5/2001	Huang	2004/0239115	A1	12/2004	Wilk et al.	
6,227,225	B1	5/2001	Domingue	2005/0081830	A1	4/2005	Yu et al.	
6,382,940	B1	5/2002	Blume	2005/0247353	A1	11/2005	Kao	
6,435,475	B1	8/2002	Blume	2006/0049627	A1	3/2006	Happel	
D466,652	S	12/2002	Thurman	2006/0124176	A1	6/2006	McIntire et al.	
6,623,259	B1	9/2003	Blume	2006/0131533	A1	6/2006	Oh et al.	
6,641,112	B2	11/2003	Antoff et al.	2006/0273277	A1	12/2006	Heller et al.	
6,641,115	B1	11/2003	Bainter	2008/0048446	A1	2/2008	Houghton	
6,679,477	B1	1/2004	Blume	2008/0279706	A1	11/2008	Gambier et al.	
				2008/0284166	A1	11/2008	Darce	
				2009/0012543	A1	1/2009	Kansoul	
				2009/0314979	A1	12/2009	McIntire	
				2010/0275445	A1	11/2010	Weide	

(56)

References Cited**U.S. PATENT DOCUMENTS**

2010/0325888	A1	12/2010	Hawes
2011/0030213	A1	2/2011	Hawes et al.
2011/0079302	A1	4/2011	Hawes
2011/0126804	A1	6/2011	Lucas et al.
2011/0173814	A1	7/2011	Patel
2011/0181040	A1	7/2011	Thompson et al.
2012/0141308	A1	6/2012	Saini et al.
2012/0292550	A1	11/2012	Meek
2013/0020521	A1	1/2013	Byrne
2013/0168586	A1	7/2013	Cordova et al.
2013/0168591	A1	7/2013	Webster
2013/0202457	A1	8/2013	Bayyounk et al.
2013/0202458	A1	8/2013	Byrne et al.

FOREIGN PATENT DOCUMENTS

CA	152227	6/2014
CA	152313	6/2014
CN	2690624	Y 4/2005
CN	2861553	Y 1/2007
CN	2898364	Y 5/2007
CN	200984728	Y 12/2007
CN	201225272	Y 4/2009
CN	201284735	Y 8/2009
CN	201425921	Y 3/2010
CN	201621057	U 11/2010
CN	201730815	Y 2/2011
CN	201747329	2/2011
CN	201769174	3/2011
CN	201786639	U 4/2011
CN	202001288	U 10/2011
CN	202220728	U 5/2012
CN	202326186	U 7/2012
CN	103370543	A 10/2013
CN	103597262	A 2/2014
CN	ZL201330349899	2/2014
CN	ZL2013303742673	3/2014
DE	69603178	T2 3/2000
EP	0237112	A1 9/1987
EP	0512594	A1 11/1992
GB	855956	A 12/1960
JP	7113426	B 12/1995
JP	9217677	A 8/1997
JP	2002161982	A 6/2002
JP	2003065439	A 3/2003
JP	2008539364	11/2008
JP	2008546951	A 12/2008
JP	2011017332	A 1/2011
KR	181711	B1 5/1999
KR	101999007954	11/1999
KR	100383826	B1 5/2003
KR	100402825	B1 10/2003
KR	798807	B1 1/2008
NL	1020775	C2 12/2003
RU	2073808	C1 2/1997
SU	1576717	A1 7/1990
SU	1751570	A1 7/1992
WO	WO-1999050578	10/1999
WO	WO-2008137515	A1 11/2008
WO	WO-2011002902	A2 1/2011

WO	WO-2011008763	A2	1/2011
WO	WO-2011017689	A2	2/2011
WO	WO-2011044332	A2	4/2011
WO	WO-2011060422	A2	5/2011
WO	WO-2012083179	A2	6/2012
WO	WO-2012142276	A1	10/2012
WO	WO-2013116488		8/2013
WO	WO-2013116634		8/2013

OTHER PUBLICATIONS

"Final Office Action dated Jul. 5, 2013, by the USPTO, re U.S. Appl. No. 13/445,513".

"International Preliminary Report on Patentability Ch II, dated Apr. 15, 2013, by the IPEA/US, re PCT/US2012/033307".

"International Search Report and Written Opinion by the ISA/US, dated Apr. 9, 2013, re PCT/US2013/024096".

"International Search Report and Written Opinion by the ISA/US, dated Apr. 9, 2013, re PCT/US2013/024325".

International Search Report and Written Opinion for Application No. PCT/US2010/044828 dated Mar. 29, 2011, 6 pages.

International Search Report and Written Opinion for Application No. PCT/US2010/051777 dated Jun. 21, 2011, 11 pages.

International Search Report and Written Opinion for Application No. PCT/US2010/056846 dated Jun. 23, 2011, 6 pages.

International Search Report and Written Opinion for Application No. PCT/US2012/033307 dated Jul. 5, 2012, 10 pages.

"Notice of Allowance dated Dec. 5, 2013, by the USPTO, re U.S. Appl. No. 29/444,103".

"Office Action dated Apr. 29, 2013, by the USPTO, re U.S. Appl. No. 12/852,376".

"Office Action dated Mar. 25, 2013, by the USPTO, re U.S. Appl. No. 13/445,513".

"Office Action dated Mar. 26, 2013, by the USPTO, re U.S. Appl. No. 12/947,498".

"Office Action dated May 8, 2012, by the USPTO, re U.S. Appl. No. 12/900,146".

"Restriction Requirement dated Jan. 8, 2013, by the USPTO, re U.S. Appl. No. 12/947,498".

SPM Drawing #3L108223, Seat Puller Assy Listing TWS400-QWS, mailed on Aug. 2, 2002.

SPM Drawing #P108217, Seat Puller Head Assembly 1.25, mailed on Sep. 22, 2008.

SPM Drawing #P23579, Seat Puller/Head Assy. 4.50"-5.00" TWS900, QWS mailed on Aug. 4, 2008.

SPM Engineering Bulletin 1010, Valve Seat Puller Jaws All Sizes of Valve Seats 2S-7S—Original Style—New Style Featuring Initial Standoff—mailed on Jan. 1997.

"Office Action dated Jul. 14, 2014, by the USPTO, re U.S. Appl. No. 13/756,715".

"Office Action dated Jul. 16, 2014, by the USPTO, re U.S. Appl. No. 13/755,217".

Notice of Allowance dated Feb. 27, 2015, by the USPTO, re U.S. Appl. No. 29/446,059.

Notice of Allowance dated Aug. 26, 2015, by the USPTO, re U.S. Appl. No. 29/446,059.

Notice of Allowance dated Jan. 9, 2017, by the USPTO, re U.S. Appl. No. 29/546,567.

* cited by examiner

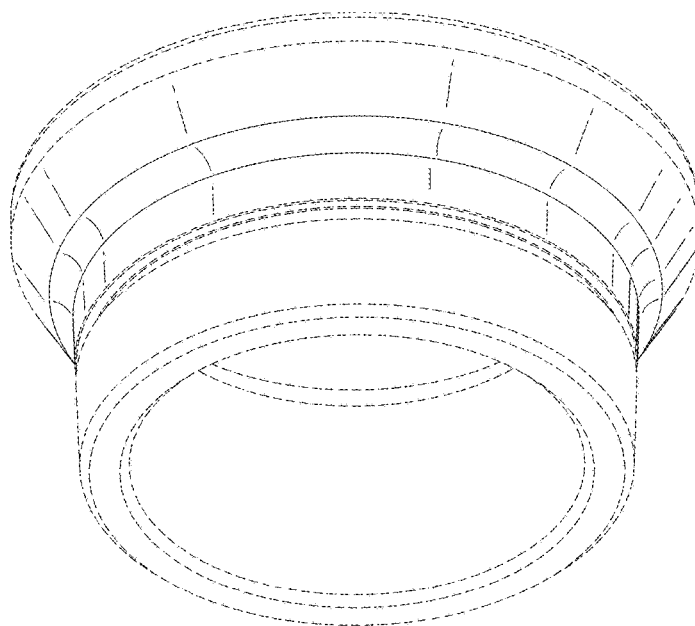


Fig. 1

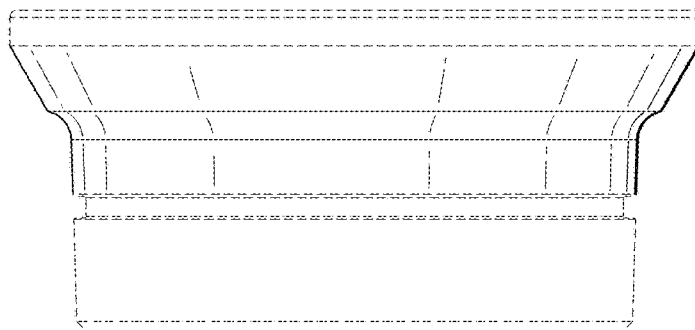


Fig. 2

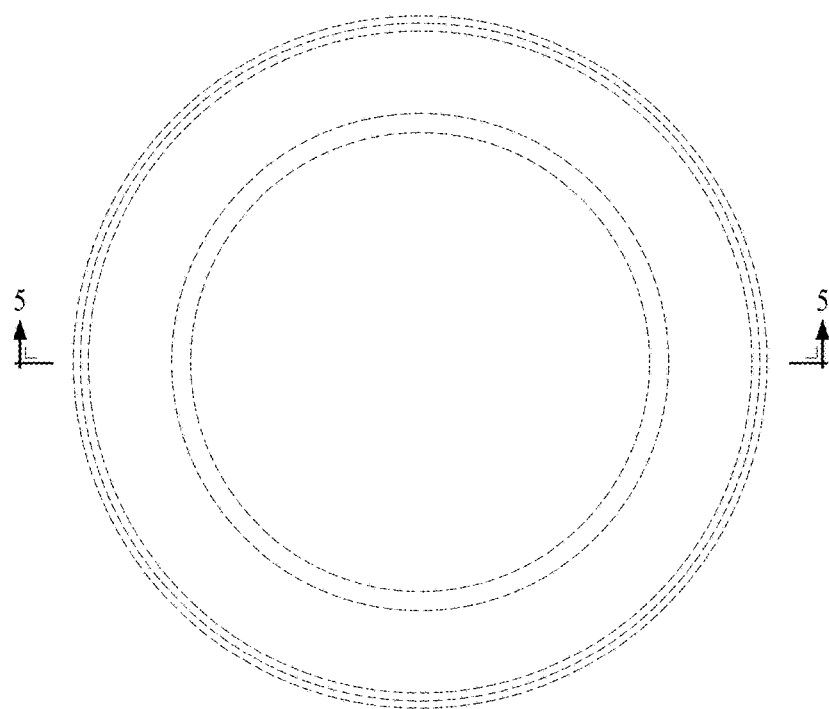


Fig. 3

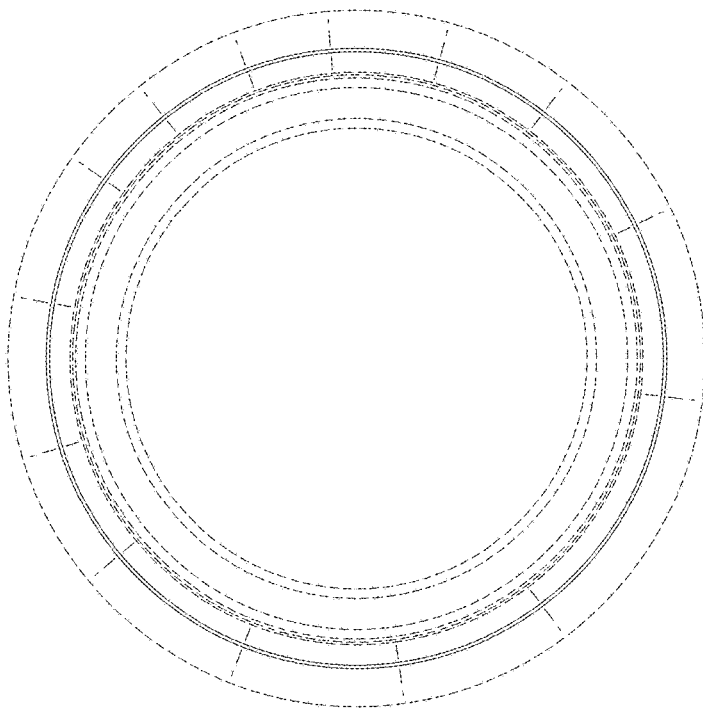


Fig. 4

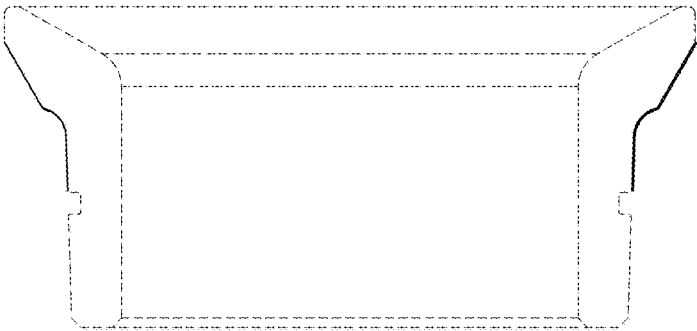


Fig. 5