



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

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(54) **VALVE SEAT**
(71) Applicant: **S.P.M. Flow Control, Inc.**, Fort Worth, TX (US)

1,914,737 A 6/1933 Elms
1,948,628 A 2/1934 Penick et al.
2,421,276 A 5/1947 Lotz
(Continued)

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FOREIGN PATENT DOCUMENTS

AU 9517960 A 11/1995
CA 2116461 A1 11/1994
(Continued)

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

OTHER PUBLICATIONS

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(Continued)

Related U.S. Application Data

(63) 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.

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(51) **LOC (10) Cl.** **23-01**

(57) **CLAIM**

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

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

DESCRIPTION

(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.

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.

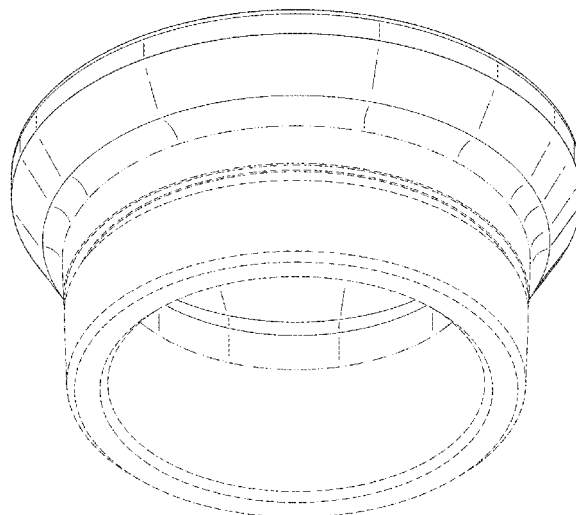
(56) **References Cited**

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 Kibebe
1,726,187 A 8/1929 Mahan
1,908,899 A 5/1933 Kayel

The even broken lines in the drawings illustrate portions of the valve seat that forms no part of the claimed design. The dot-dot-dash broken lines illustrate a boundary and forms 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
 2,573,567 A 10/1951 Hancock
 2,602,434 A 7/1952 Barnaby
 2,623,276 A 12/1952 Anderson
 2,898,082 A 8/1959 Almen et al.
 2,903,235 A 9/1959 Rodgers et al.
 2,969,951 A 1/1961 Walton
 2,982,515 A 5/1961 Rule
 2,983,281 A 5/1961 Bynum
 3,029,501 A 4/1962 Leathers
 3,063,467 A 11/1962 Roberts, Jr. et al.
 D196,724 S 10/1963 Davis et al.
 3,114,644 A 12/1963 Peterson
 3,191,905 A 6/1965 Brown
 3,387,353 A 6/1968 Romero
 3,474,808 A 10/1969 Elliott
 3,489,170 A 1/1970 Leman
 D227,558 S 7/1973 Matthews et al.
 3,801,234 A 4/1974 Love et al.
 3,808,666 A 5/1974 Bales
 3,830,255 A 8/1974 Freiheit
 3,952,393 A 4/1976 Van Ravenzwaay et al.
 3,990,139 A 11/1976 Touchet
 D244,533 S * 5/1977 Eidelberg 277/626
 4,076,212 A 2/1978 Leman
 4,077,102 A 3/1978 Smith
 4,103,663 A 8/1978 Elsbett et al.
 4,192,520 A 3/1980 Hasegawa
 4,203,180 A * 5/1980 Striplin B65D 67/00
 206/526
 4,257,163 A 3/1981 Bauer
 4,285,126 A 8/1981 Irwin
 4,432,386 A 2/1984 Pacht
 4,518,329 A 5/1985 Weaver
 4,547,005 A 10/1985 Soederhuyzen
 D292,308 S * 10/1987 Beltran D23/269
 4,770,206 A 9/1988 Sjoberg
 4,860,995 A 8/1989 Rogers
 D303,710 S 9/1989 Neill
 4,878,815 A 11/1989 Stachowiak
 4,922,957 A 5/1990 Johnson
 4,928,726 A 5/1990 Johnson et al.
 4,951,707 A 8/1990 Johnson
 5,052,435 A 10/1991 Crudup et al.
 5,088,521 A 2/1992 Johnson
 5,117,546 A 6/1992 Lawrence et al.
 D330,073 S * 10/1992 Valls D23/269
 5,193,577 A 3/1993 De Koning
 5,211,198 A 5/1993 Tinholt
 5,234,322 A 8/1993 Daniels et al.
 5,249,600 A 10/1993 Blume
 5,345,965 A 9/1994 Blume
 D355,708 S * 2/1995 Caine D23/260
 5,431,186 A 7/1995 Blume
 5,505,530 A 4/1996 Kramer et al.
 5,533,245 A 7/1996 Stanton
 D374,710 S * 10/1996 Gustafsson D23/269
 5,695,224 A 12/1997 Grenier
 5,816,497 A 10/1998 Leon et al.
 5,876,189 A 3/1999 Lukas et al.
 6,073,886 A 6/2000 Jakubowski, Jr. et al.
 6,195,863 B1 3/2001 Blake
 6,227,225 B1 5/2001 Domingue
 6,382,940 B1 5/2002 Blume
 6,435,475 B1 8/2002 Blume
 D466,652 S 12/2002 Thurman
 6,623,259 B1 9/2003 Blume
 6,641,112 B2 11/2003 Antoff et al.
 6,641,115 B1 11/2003 Bainter
 6,679,477 B1 1/2004 Blume
 6,695,007 B2 2/2004 Vicars
 6,701,955 B2 3/2004 McIntire et al.
 D488,859 S 4/2004 Stout, Jr.
 6,910,871 B1 6/2005 Blume
 6,955,181 B1 10/2005 Blume

6,955,339 B1 10/2005 Blume
 D513,072 S * 12/2005 Berg D23/386
 D514,671 S * 2/2006 Jones D23/269
 7,000,632 B2 2/2006 McIntire et al.
 7,011,111 B2 3/2006 Spiegl et al.
 D524,427 S 7/2006 Wilk et al.
 D534,253 S 12/2006 Sandman et al.
 7,168,440 B1 1/2007 Blume
 7,172,175 B2 2/2007 Vicars
 7,222,837 B1 5/2007 Blume
 D554,974 S * 11/2007 Huang D8/352
 7,296,591 B2 11/2007 Moe et al.
 D556,866 S * 12/2007 Darce D23/269
 D557,771 S * 12/2007 Darce D23/269
 7,335,002 B2 * 2/2008 Vicars F04B 53/007
 137/512
 D564,656 S * 3/2008 Matsutori D24/109
 7,341,435 B2 3/2008 Vicars
 D574,934 S * 8/2008 Darce D23/269
 7,513,483 B1 4/2009 Blume
 D614,271 S 4/2010 Weston
 D616,966 S * 6/2010 Angell D23/262
 7,748,095 B1 7/2010 Phane
 7,832,071 B2 11/2010 Klann
 D631,142 S * 1/2011 Angell D23/262
 8,191,575 B2 6/2012 Krug, Jr. et al.
 D682,989 S 5/2013 Eagle
 D682,994 S * 5/2013 Schulz D23/259
 D687,145 S 7/2013 Gronberg
 8,496,224 B1 7/2013 Gilstad et al.
 D695,066 S * 12/2013 Nakajima D23/261
 D700,682 S * 3/2014 Bayyouk D23/233
 D715,145 S * 10/2014 Yamagishi D23/259
 D717,405 S * 11/2014 Coronado D23/259
 D720,838 S * 1/2015 Yamagishi D23/261
 2003/0084556 A1 5/2003 Dunlop
 2004/0170507 A1 9/2004 Vicars
 2004/0234404 A1 11/2004 Vicars
 2004/0239115 A1 12/2004 Wilk et al.
 2005/0081830 A1 4/2005 Yu et al.
 2005/0247353 A1 11/2005 Kao
 2006/0049627 A1 3/2006 Happel
 2006/0124176 A1 6/2006 McIntire et al.
 2006/0131533 A1 6/2006 Oh et al.
 2006/0273277 A1 12/2006 Heller et al.
 2008/0048446 A1 2/2008 Houghton
 2008/0279706 A1 11/2008 Gambier et al.
 2008/0284166 A1 * 11/2008 Darce F16L 21/03
 285/337
 2009/0012543 A1 1/2009 Kansoul
 2009/0314979 A1 12/2009 McIntire
 2010/0275445 A1 11/2010 Weide
 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 Bayyouk 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 201747329 2/2011
 CN 201769174 3/2011
 CN 201786639 U 4/2011

(56)

References Cited

FOREIGN PATENT DOCUMENTS

CN	202001288	U	10/2011
CN	202220728	U	5/2012
CN	202326186	U	7/2012
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	9217677	A	8/1997
JP	2008546951	A	12/2008
JP	2011017332	A	1/2011
KR	181711	B1	5/1999
KR	100383826	B1	5/2003
KR	100402825	B1	10/2003
NL	1020775	C2	12/2003
RU	2073808	C1	2/1997
SU	1576717	A1	7/1990
SU	1751570	A1	7/1992
WO	WO-2011017689	A2	2/2011
WO	WO-2011044332	A2	4/2011
WO	WO-2011060422	A2	5/2011
WO	WO-2012142276	A1	10/2012
WO	WO-2013116488		8/2013
WO	WO-2013116634		8/2013

OTHER PUBLICATIONS

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

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

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

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

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

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

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

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

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

“Office Action mailed Apr. 29, 2013, by the USPTO, re U.S. Appl. No. 12/852,376”.

“Office Action mailed Mar. 25, 2013, by the USPTO, re U.S. Appl. No. 13/445,513”.

“Office Action mailed Mar. 26, 2013, by the USPTO, re U.S. Appl. No. 12/947,498”.

“Office Action mailed May 8, 2012, by the USPTO, re U.S. Appl. No. 12/900,146”.

“Restriction Requirement mailed 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 mailed Jul. 14, 2014, by the USPTO, re U.S. Appl. No. 13/756,715”.

“Office Action mailed Jul. 16, 2014, by the USPTO, re U.S. Appl. No. 13/755,217”.

* cited by examiner

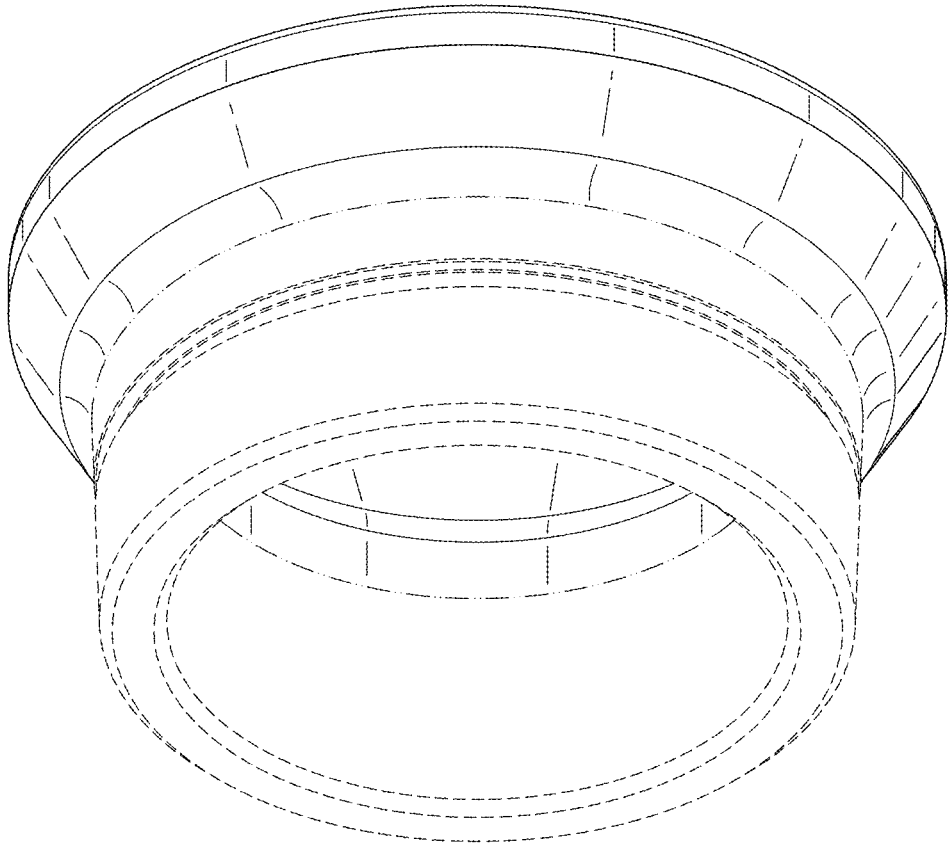


Fig. 1

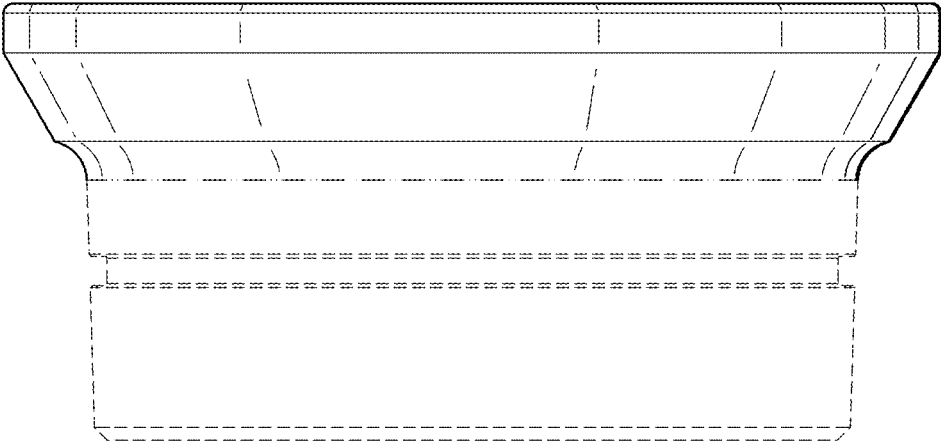


Fig. 2

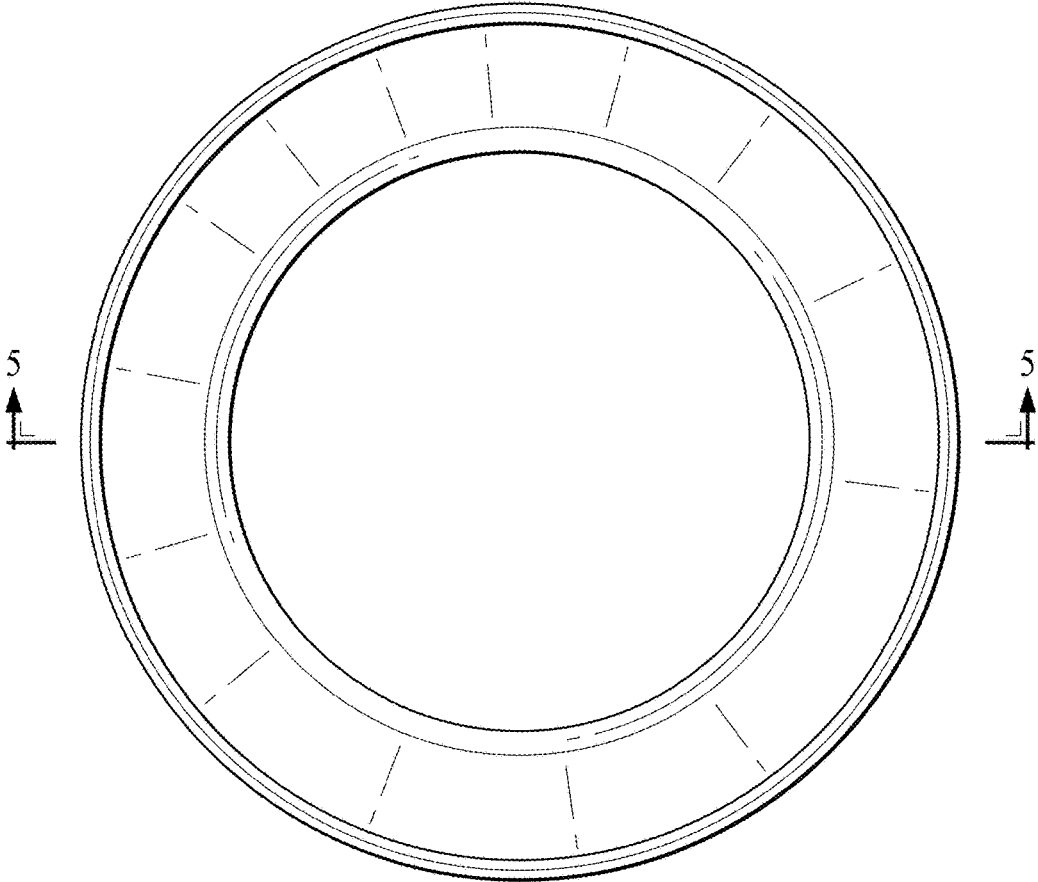


Fig. 3

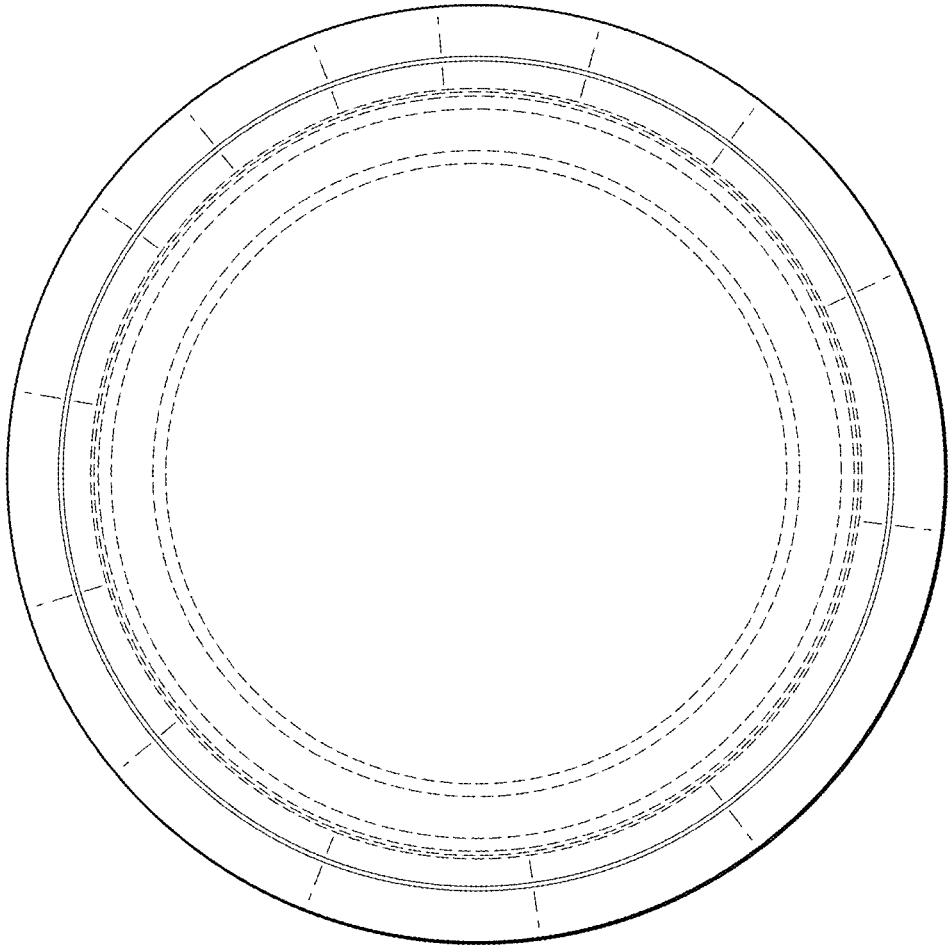


Fig. 4

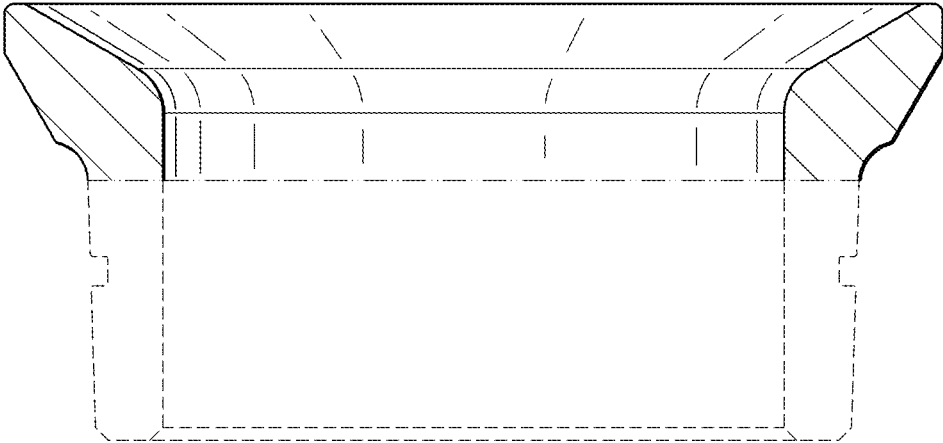


Fig. 5