



US00D731035S

(12) **United States Design Patent**  
**Lo Cicero**

(10) **Patent No.:** **US D731,035 S**  
(45) **Date of Patent:** **\*\* Jun. 2, 2015**

(54) **DELTA RING SEAL FOR BALL VALVE SEAT**  
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(\*\*) Term: **14 Years**  
(21) Appl. No.: **29/484,351**  
(22) Filed: **Mar. 7, 2014**  
(51) **LOC (10) Cl.** ..... **23-01**  
(52) **U.S. Cl.**  
USPC ..... **D23/269**  
(58) **Field of Classification Search**  
USPC ..... D23/249, 259, 260, 262, 266, 269;  
285/15, 95, 133.21, 232, 351; 277/351,  
277/352, 353, 354, 372, 504, 626; D8/349,  
D8/356, 382; D12/197, 217; D21/671,  
D21/694; D24/201, 204; D27/102, 137,  
D27/191; D30/129; D34/35  
CPC ..... F16J 15/02; F16J 15/06; F16J 15/08;  
F16J 15/18; F16J 15/20; F02M 55/005;  
F02M 55/168; F16L 19/00; F16L 19/04  
See application file for complete search history.

4,319,756 A \* 3/1982 Brown ..... 277/507  
4,490,998 A \* 1/1985 Wellekens ..... 70/419  
D289,078 S \* 3/1987 Vassallo et al. .... D23/269  
D318,428 S \* 7/1991 Kowk ..... D9/455  
D330,073 S \* 10/1992 Valls ..... D23/269  
D351,459 S \* 10/1994 Andersson ..... D23/269  
D362,902 S \* 10/1995 Reiber ..... D23/269  
D374,710 S \* 10/1996 Gustafsson ..... D23/269  
5,941,535 A \* 8/1999 Richard ..... 277/606  
6,142,484 A \* 11/2000 Valls, Jr. .... 277/602  
D465,989 S \* 11/2002 Carsello et al. .... D8/352  
D514,671 S \* 2/2006 Jones ..... D23/269  
D554,974 S \* 11/2007 Huang et al. .... D8/352  
D556,866 S \* 12/2007 Darce ..... D23/269  
D557,386 S \* 12/2007 Darce ..... D23/269  
D557,771 S \* 12/2007 Darce ..... D23/269  
D559,363 S \* 1/2008 Darce ..... D23/269  
D564,656 S \* 3/2008 Matsutori et al. .... D24/109  
D574,934 S \* 8/2008 Darce et al. .... D23/269  
D720,838 S \* 1/2015 Yamagishi et al. .... D23/261  
2005/0040645 A1 \* 2/2005 Jones ..... 285/105  
2008/0284166 A1 \* 11/2008 Darce et al. .... 285/337

\* cited by examiner

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(56) **References Cited**

**U.S. PATENT DOCUMENTS**

D31,451 S \* 8/1899 Norris et al. .... D23/269  
1,673,677 A \* 6/1928 Holland ..... 429/175  
1,777,101 A \* 9/1930 McCormack ..... 277/653  
3,064,983 A \* 11/1962 Halterman ..... 277/604  
D196,724 S \* 10/1963 Davis et al. .... D24/129  
D227,888 S \* 7/1973 Felix et al. .... D23/262  
D227,890 S \* 7/1973 Felix et al. .... D23/262  
D244,533 S \* 5/1977 Eidelberg et al. .... D23/269  
4,203,180 A \* 5/1980 Striplin ..... 24/17 B  
4,253,630 A \* 3/1981 Rigg ..... 248/346.5

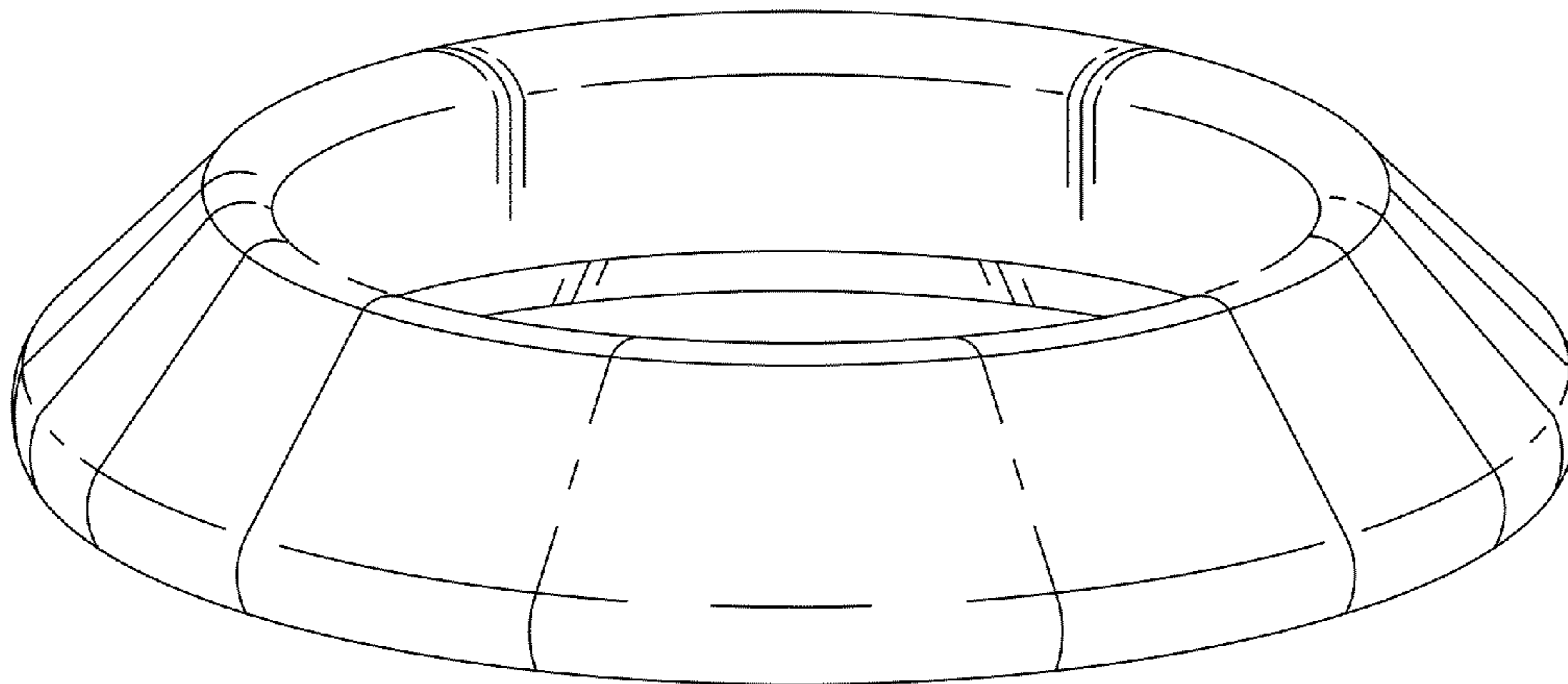
(57) **CLAIM**

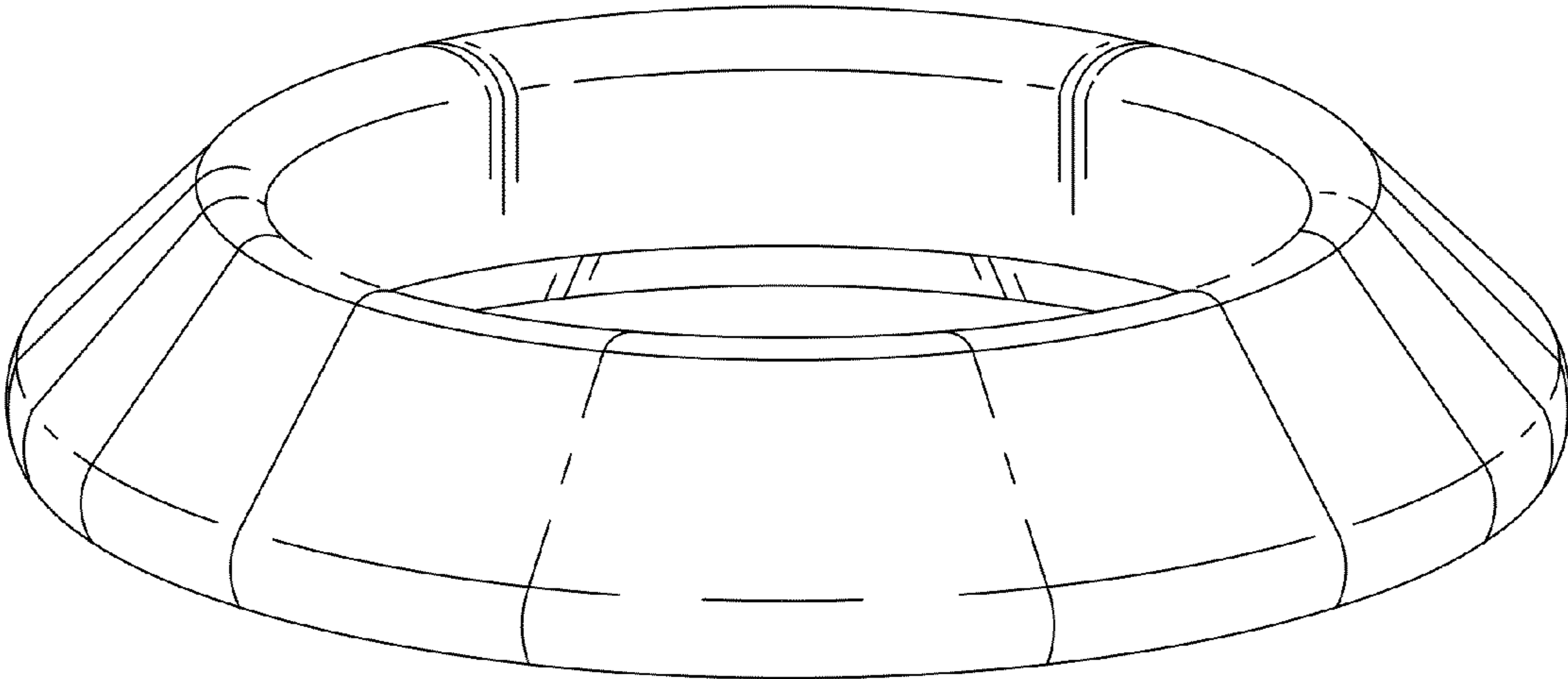
The ornamental design for a delta ring seal for ball valve seat, as shown and described.

**DESCRIPTION**

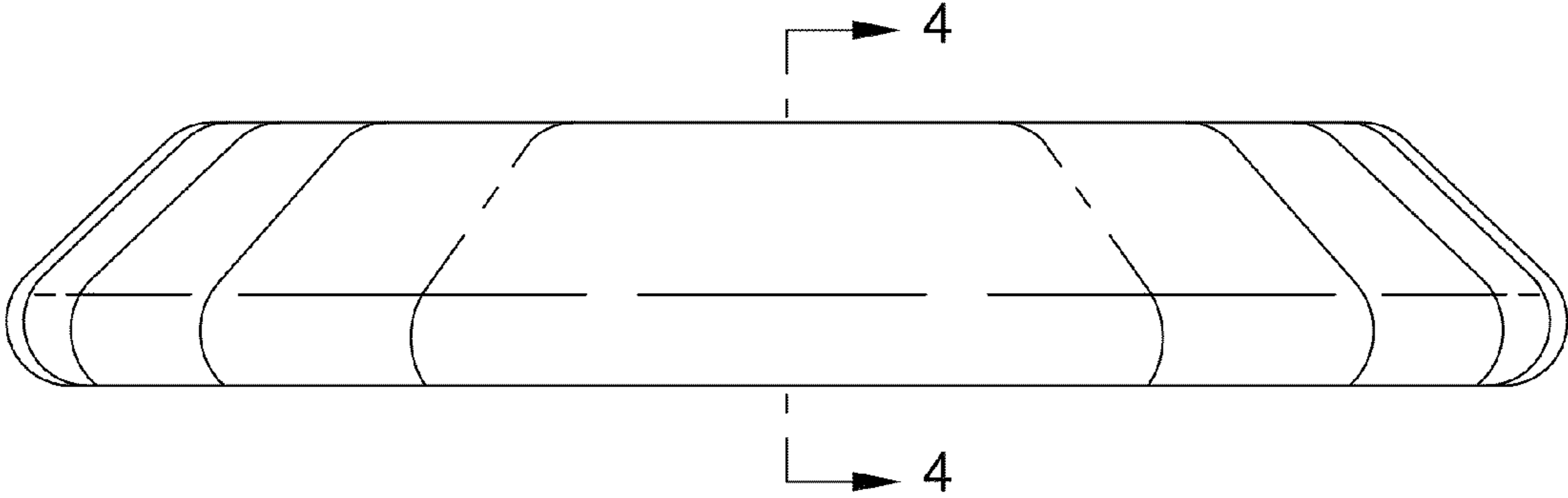
FIG. 1 is a top and side perspective view of a delta ring seal for ball valve seat;  
FIG. 2 is a side perspective view thereof;  
FIG. 3 is a bottom and side perspective view thereof; and,  
FIG. 4 is a cross sectional view through line 4-4 of FIG. 2.

**1 Claim, 2 Drawing Sheets**

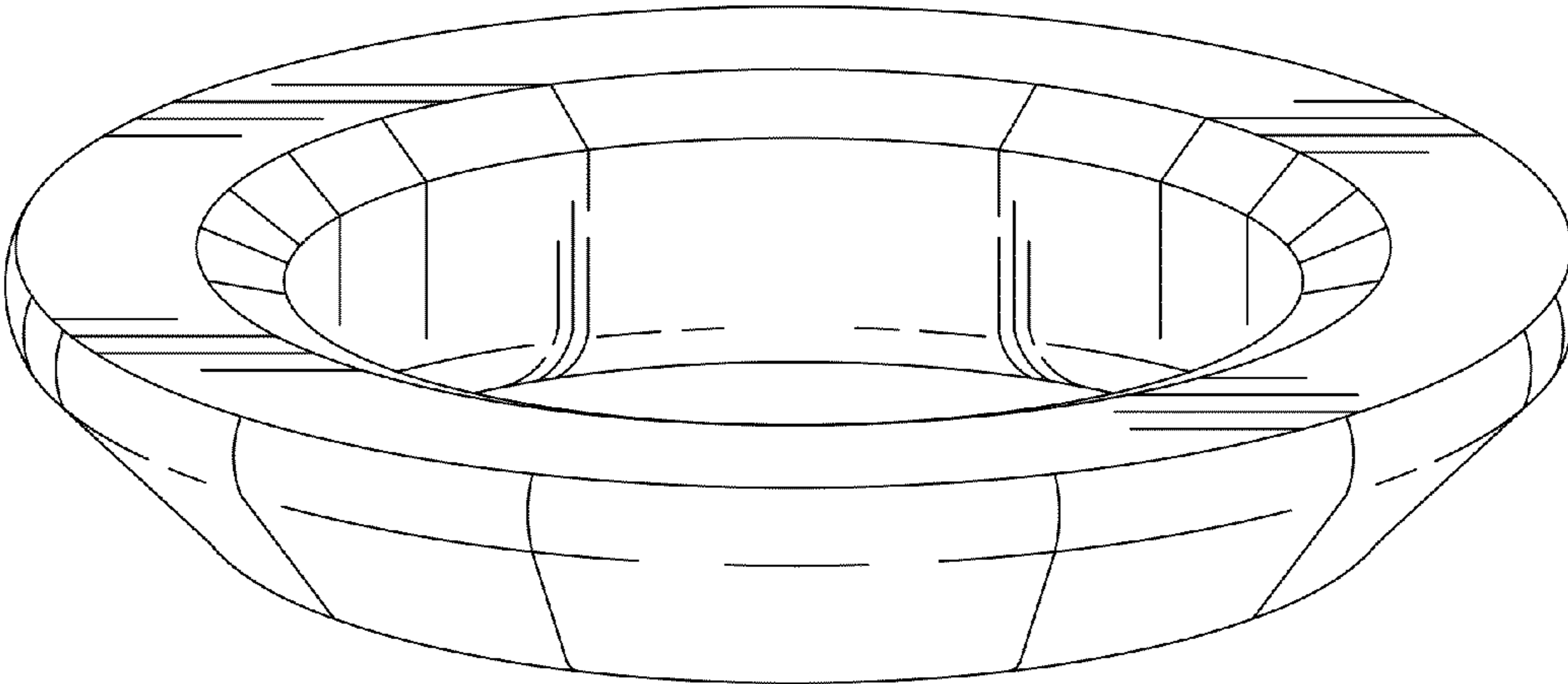




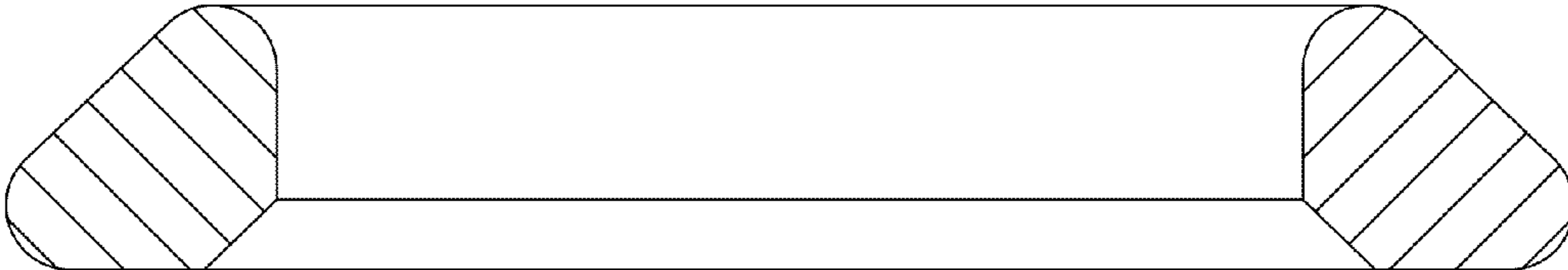
**FIG. 1**



**FIG. 2**



**FIG. 3**



**FIG. 4**