



US00D746974S

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

(10) **Patent No.:** **US D746,974 S**
(45) **Date of Patent:** **** Jan. 5, 2016**

- (54) **EXHALATION VALVE FLAP**
- (71) Applicant: **3M INNOVATIVE PROPERTIES COMPANY**, St. Paul, MN (US)
- (72) Inventors: **Caroline M. Ylitalo**, Stillwater, MN (US); **Philip G. Martin**, Forest Lake, MN (US)
- (73) Assignee: **3M Innovative Properties Company**, St. Paul, MN (US)

4,971,052 A	11/1990	Edwards
4,974,586 A	12/1990	Wandel
4,981,134 A	1/1991	Courtney
5,035,239 A	7/1991	Edwards
5,062,421 A	11/1991	Burns
5,103,337 A	4/1992	Schrenk
5,217,794 A	6/1993	Schrenk
5,325,892 A	7/1994	Japuntich
5,360,659 A	11/1994	Arends
5,394,568 A	3/1995	Brostrom
5,464,010 A	11/1995	Byram
5,486,949 A	1/1996	Schrenk

(Continued)

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

FOREIGN PATENT DOCUMENTS

(21) Appl. No.: **29/460,794**

EM	001909623-0001	8/2011
JP	8332239	12/1996

(Continued)

(22) Filed: **Jul. 15, 2013**

(51) **LOC (10) Cl.** **29-02**

(52) **U.S. Cl.**
USPC **D24/110.6**

(58) **Field of Classification Search**
USPC D24/110, 110.1-110.6, 129
CPC ... A61M 16/208; A61M 16/06; A61M 16/20;
A61M 2202/0208; A62B 18/00; A62B 18/02;
A62B 18/025; A62B 18/10; A62B 18/08;
A62B 23/02

See application file for complete search history.

Primary Examiner — Deanna L Pratt
Assistant Examiner — Lilyana Bekic
(74) *Attorney, Agent, or Firm* — Melanie G. Gover

(57) **CLAIM**
The ornamental design for an exhalation valve flap, as shown and described.

DESCRIPTION

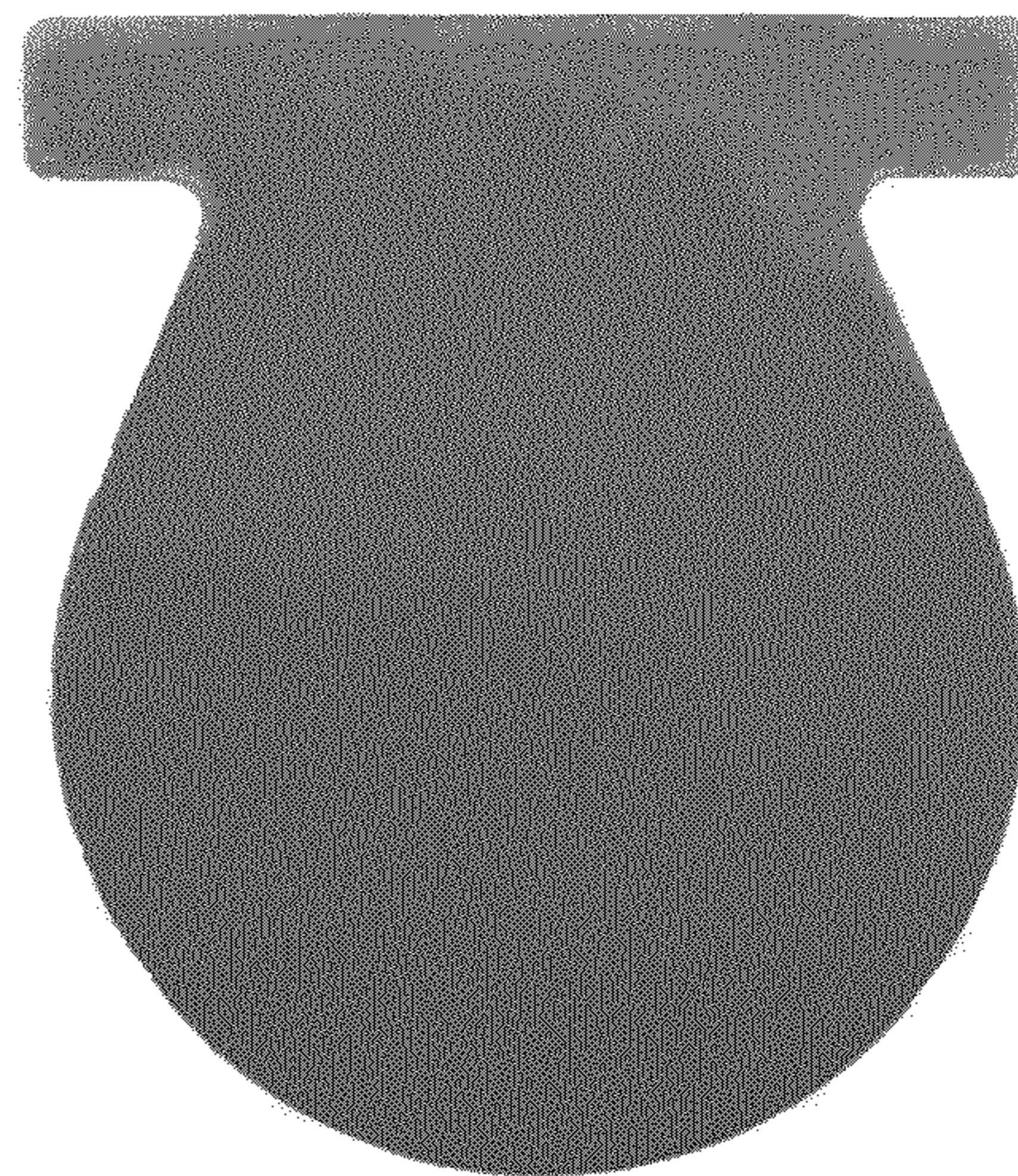
The patent or application file contains at least one drawing executed in color. Copies of this patent or patent application publication with color drawings will be provided by the Office upon request and payment of the necessary fee.
FIG. 1 is a perspective view, showing the new design for an exhalation valve flap viewed from a first angle;
FIG. 2 is a front view thereof;
FIG. 3 is a right side view thereof, the left side view being a mirror image of the right side;
FIG. 4 is a top edge view thereof; and,
FIG. 5 is a bottom edge view thereof.

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,867,478 A *	7/1932	Stelzner	137/512.15
2,072,516 A	3/1937	Ferenci	
2,230,770 A	2/1941	Van Almelo	
2,895,472 A	7/1959	Matheson	
3,059,637 A *	10/1962	Senne	2/9
D249,279 S *	9/1978	Backlund	D24/164
4,630,604 A	12/1986	Montesi	
4,790,306 A	12/1988	Braun	
4,807,619 A	2/1989	Dyrud	
4,827,924 A	5/1989	Japuntich	
4,873,972 A	10/1989	Magidson	
4,934,362 A	6/1990	Braun	

1 Claim, 2 Drawing Sheets
(1 of 2 Drawing Sheet(s) Filed in Color)



(56)

References Cited

U.S. PATENT DOCUMENTS

5,505,197 A 4/1996 Scholey
 5,509,436 A 4/1996 Japuntich
 5,617,849 A 4/1997 Springett
 5,687,767 A 11/1997 Bowers
 D389,239 S 1/1998 Scholey
 5,819,731 A 10/1998 Dyrud
 5,825,543 A 10/1998 Ouderkirk
 5,882,774 A 3/1999 Jonza
 5,924,420 A 7/1999 Reischel
 D413,166 S * 8/1999 Snow et al. D24/110.6
 6,045,894 A 4/2000 Jonza
 6,047,698 A * 4/2000 Magidson et al. 128/207.12
 D424,688 S 5/2000 Bryant
 6,062,221 A 5/2000 Brostrom
 6,095,143 A 8/2000 Dyrud
 6,119,692 A 9/2000 Byram
 6,123,077 A 9/2000 Bostock
 D431,647 S 10/2000 Henderson
 6,125,849 A * 10/2000 Williams et al. 128/206.12
 6,157,490 A 12/2000 Wheatley
 6,179,948 B1 1/2001 Merrill
 6,186,140 B1 2/2001 Hoague
 6,207,260 B1 3/2001 Wheatley
 D443,927 S 6/2001 Chen
 6,277,178 B1 8/2001 Holmquist-Brown
 D448,472 S 9/2001 Chen
 6,332,465 B1 12/2001 Xue
 6,352,761 B1 3/2002 Hebrink
 D464,725 S 10/2002 Petherbridge
 6,457,473 B1 10/2002 Brostrom
 6,460,539 B1 10/2002 Japuntich
 6,484,722 B2 11/2002 Bostock
 RE37,974 E 2/2003 Bowers
 6,531,230 B1 3/2003 Weber
 6,783,349 B2 8/2004 Neavin
 6,843,248 B2 1/2005 Japuntich
 6,854,463 B2 2/2005 Japuntich
 6,939,499 B2 9/2005 Merrill
 7,013,895 B2 3/2006 Martin
 7,019,905 B2 3/2006 Weber
 7,028,689 B2 4/2006 Martin

7,069,931 B2 7/2006 Curran
 7,117,868 B1 10/2006 Japuntich
 7,188,622 B2 3/2007 Martin
 7,195,015 B2 3/2007 Kuriyama
 7,256,936 B2 8/2007 Hebrink
 7,302,951 B2 12/2007 Mittelstadt
 7,311,104 B2 12/2007 Japuntich
 7,316,558 B2 1/2008 Merrill
 7,428,903 B1 9/2008 Japuntich
 7,493,900 B1 2/2009 Japuntich
 7,503,326 B2 3/2009 Martin
 RE43,289 E * 4/2012 Bowers 137/855
 D657,052 S * 4/2012 Amin D24/110.1
 D657,053 S * 4/2012 Amin D24/110.1
 D676,527 S 2/2013 Xue
 8,365,771 B2 2/2013 Xue
 2002/0195109 A1 12/2002 Mittelstadt
 2004/0261795 A1 12/2004 Brunell
 2008/0178884 A1 7/2008 Gerson
 2009/0078264 A1 3/2009 Martin
 2009/0133700 A1 5/2009 Martin
 2009/0235934 A1 9/2009 Martin
 2010/0065058 A1 3/2010 Ungar
 2010/0083967 A1 4/2010 Kuriyama
 2011/0249332 A1 10/2011 Merrill
 2011/0255163 A1 10/2011 Merrill
 2011/0255167 A1 10/2011 Merrill
 2011/0286095 A1 11/2011 Merrill
 2012/0167890 A1 7/2012 Insley
 2013/0094084 A1 4/2013 Merrill
 2013/0094085 A1 4/2013 Merrill
 2013/0094088 A1 4/2013 Merrill
 2013/0095434 A1 4/2013 Dunn
 2013/0095435 A1 4/2013 Dunn

FOREIGN PATENT DOCUMENTS

WO WO 2010/075340 7/2010
 WO WO 2010/075357 7/2010
 WO WO 2010/075363 7/2010
 WO WO 2010/075373 7/2010
 WO WO 2010/075383 7/2010

* cited by examiner



Fig. 1

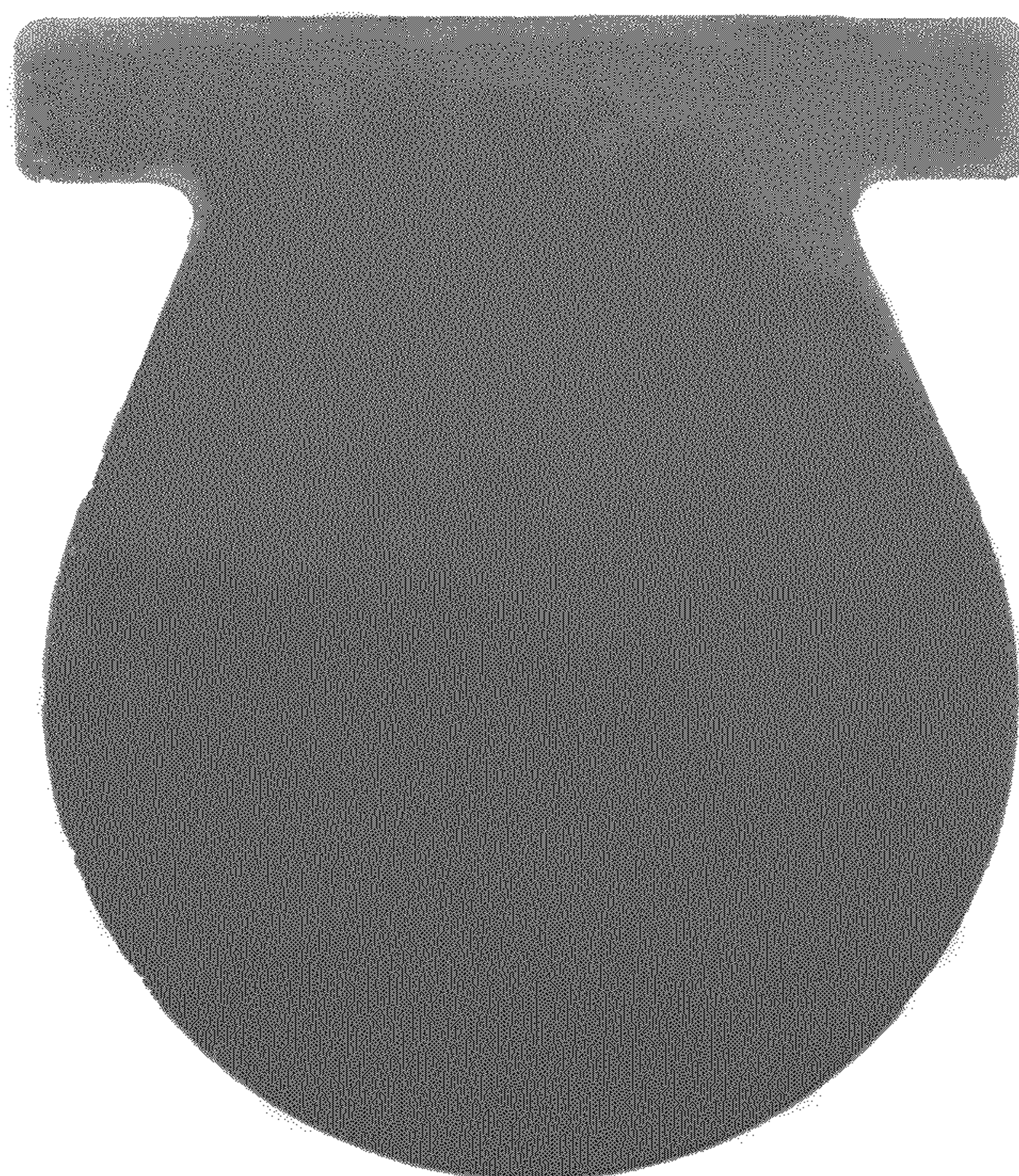


Fig. 2



Fig. 3



Fig. 4



Fig. 5