

Search query (9): fn=(57710117 or 53217903 or 21500829 or 33318336 or 33431294 or 41555071 or 44451989 or 46624610 or 1281411 or 1336121 or 7570994 or 8389869 or 3779356 or 4845478 or 3200975 or 5078815 or 5168267 or 3830605 or 11092407 or 11485291 or 13330502 or 14945943 or 14945943 or 16039107 or 32514407 or 33431294 or 33318336 or 43872384 or 43360154 or 42269480)

Results: 27

Search history

Search FT=((tank* OR cistern* OR reservoir* OR storage) near ((discharge OR outlet) W3 (valve OR mean))) and PD<20160429 (Results 7864)
1:

Search 1 AND (FT = (flush* W2 (valve OR ball))) (Results 417)

2:

Search 2 AND (FT = overflow) (Results 190)

3:

Search 3 AND (IC = E03D*) (Results 170)

4:

Search 4 AND (FT= assemb*) (Results 101)

5:

Search 5 AND (FT = hing* OR pivot*) (Results 57)

6:

Search fn=(42091366 or 42656333 or 48989184 or 43552229 or 33318336 or 41555071 or 41908784 or 42269480 or 42458759 or 43255122 or 46624610 or 51240142 or 55896770 or 57710117 or 11083227 or 11741982 or 14945943 or 22550322 or 30044843 or 28323790 or 28828053 or 33318336 or 42269480 or 42458759 or 11083227 or 11083227 or 41555071 or 42458759 or 20510684 or 22638120 or 7662794 or 3881083 or 4652238 or 11235047) (Results 27)

Search fn=(47883702 or 59158734 or 59158734 or 41908784 or 42269480 or 46624610 or 48235882 or 48235882 or 42269480 or 51279007 or 64042392 or 7662794 or 4652238 or 8513690 or 14945943 or 14945943 or 22550322) (Results 13)

Search fn=(57710117 or 53217903 or 21500829 or 33318336 or 33431294 or 41555071 or 44451989 or 46624610 or 1281411 or 1336121 or 7570994 or 8389869 or 3779356 or 4845478 or 3200975 or 5078815 or 5168267 or 3830605 or 11092407 or 11485291 or 13330502 or 14945943 or 14945943 or 16039107 or 32514407 or 33431294 or 33318336 or 43872384 or 43360154 or 42269480) (Results 27)

Title: Replacement flush valve

Abstract: Source: US5293650A An assembly is provided for replacing part or all of a toilet flush valve, which facilitates mounting in a variety of toilets and which enables saving of water. The assembly includes an adapter (30, Fig. 6) for mounting on older types of overflow tubes, which includes a ring member (70) having a gap (72) and a leaf spring (80) extending across the gap. After the adapter is moved down along the overflow tube and lies at its base, the spring is pushed in to cause a hook (84) at one end to ride along a ramp (90) from a second tooth (88) to a third tooth (92) and engage the third tooth, to tightly clamp the ring member in place to prevent turning. A closing delay cup (116, Fig. 9) that can be used on a valve member, includes a plurality of holes and at least one plug (126) that is molded to the cup and can be cut off and used to plug one of the holes (120) to adjust the amount of water saved in each flushing. A valve member includes a tank ball having an enlargement (160, Fig. 12) at its top which is received in a yoke, in a universal joint that allow for limited pivoting of the tank ball to seal against valve seats of varying height and tilt.

Classifications:

International (IPC 8-9): E03D1/14 E03D1/30 (Advanced/Invention);
E03D1/02 E03D1/30 (Core/Invention)

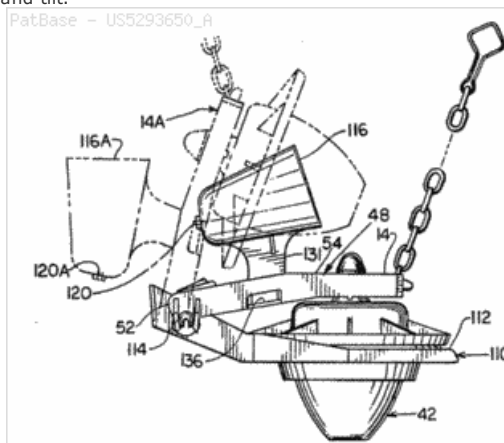
International (IPC 1-7): E03D1/34

CPC: E03D1/142 E03D1/306

European: E03D1/14D E03D1/30D2

US: 4/378 4/379

Locarno class: 43/78



Family:

Publication number	Publication date	Application number	Application date
US5293650 A	19940315	US19930019416	19930218

Priority:

US19920957272 19921006 US19930019416 19930218

Probable Assignee: SCHOEPE ADOLF

Assignee(s): (std): SCHOEPE ADOLF ; SIDDIQUI KABIR

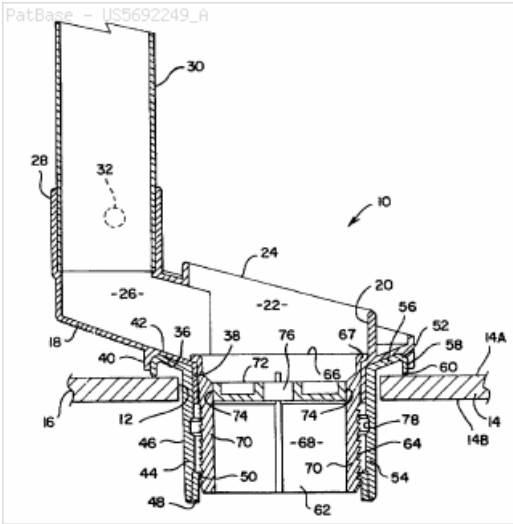
Inventor(s): (std): SCHOEPE ADOLF ; SIDDIQUI KABIR

Title: Top mounted flush valve

Abstract: Source: US5692249A A top mounted flush valve is installed from inside a flush tank and does not require access to the opposite tank wall. A valve body includes an annular chamber receiving a radially enlarged head portion of a flexible resilient seal member. A draw ring is fixed to the remote end of a barrel portion of the seal member. A draw collar has a flange bearing against the body and a cylindrical portion threaded to the draw ring. Rotation of the draw collar outwardly collapses the seal barrel portion, and a seal bead on the seal member head is forced against the inner tank surface. A wall of the body isolates the draw collar from the seal barrel, and the enlarged head portion is wedged into the annular chamber to prevent rotation of the seal member.

Classifications:

International (IPC 8-9): E03D1/30 (Advanced/Invention);
E03D1/30 (Core/Invention)
International (IPC 1-7): E03D1/34
CPC: E03D1/306
European: E03D1/30D2
US: 285/39 4/378
Locarno class: 43/78



Family:

Publication number	Publication date	Application number	Application date
US5692249 A	19971202	US19960664922	19960618

Priority:

US19960664922 19960618

Probable Assignee: JOHNSON FAMILY TRUST DATED JANUARY

Assignee(s): (std): JOHNSON DWIGHT N

Assignee(s): JOHNSON FAMILY TRUST DATED JANUARY ; LAVELLE IND ; FIRSTAR BANK NA ; HUNTER IND

Inventor(s): (std): JOHNSON DWIGHT N

Title: Flapper-type flush valve and mounting adapter

Abstract: Source: US6173457B A flapper-type toilet flush valve having multiple components. A float member component is assembled to a flapper body component. Both components are made of resilient plastic compounds that resist chlorine and chemical bleaches of the type commonly used in tank style toilets. A pair of arms extend from the flapper body component for pivotally mounting the flush valve to corresponding trunnions on an overflow pipe in the toilet tank. An annular recess in the lower surface of the flapper body component has lugs, and corresponding teeth are provided on a top edge of the float member component for mating with the locking lugs. An annular flange extends from the float member component near its top edge to form a first sealing surface. A portion of the lower surface of the flapper body component forms a second sealing surface. A replaceable seal ring is disposed between the first and second sealing surfaces. A mounting adapter, comprising a collar having trunnions is provided for overflow pipes lacking trunnions. The collar is slid down over the overflow pipe into a selected position, and secured in place by a C-shaped spring which fits snugly about an outer surface of the collar to secure the collar in place on the overflow pipe.

Classifications:

International (IPC 8-9): E03D1/30 (Advanced/Invention);

E03D1/30 (Core/Invention)

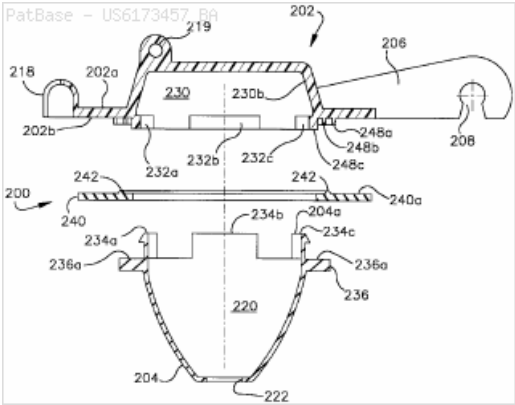
International (IPC 1-7): E03D1/35

CPC: E03D1/304

European: E03D1/30D

US: 4/393 4/404 4/415

Locarno class: 43/93 44/15 44/04



Family:

Publication number	Publication date	Application number	Application date
US6173457 BA	20010116	US19990336227	19990618

Priority:

US19990336227 19990618

Probable Assignee:

WDI INT

Assignee(s): (std):

HIGGINS GARY R

Assignee(s):

WDI INT

Inventor(s): (std):

HIGGINS GARY R

Abstract: Source: US6336229B A water saving apparatus for water tank includes a stop valve means located above a water outlet, a linkage bar means located above the stop valve means and two chains for connecting the stop valve means with the linkage bar means. The stop valve means has a valve cap engaged with a movable strut and a hollow ball for linking to a tank ball. The linkage bar means has a handle located outside the water tank. The handle engages with a shaft stem and a shaft sleeve for actuating two beams located inside the tank. The chains connect the beams respectively with the tank ball, hollow ball and movable strut. Moving the handle downward, one beam will be moved up to make the hollow ball become buoyant for opening the water outlet rapidly to release a large amount of water to flush feces. Moving the handle upward, another beam will be moved up to make the hollow ball become not buoyant for closing the water outlet sooner so that a small amount of water will be released for flushing urine for saving water.

International (IPC 8-9): E03D1/14 E03D1/30 (Advanced/Invention);
E03D1/02 E03D1/30 (Core/Invention)

International (IPC 1-7): E03D1/14

CPC: E03D1/142 E03D1/306

European: E03D1/14D E03D1/14D1

US: 4/325 4/394 4/404

Locarno class: 43/25

Publication number	Publication date	Application number	Application date
US6336229 BA	20020108	US20000706804	20001107

US20000706804 20001107

Probable Assignee:

Assignee(s): (std):

Inventor(s): (std):

_____ (S) - (S) -

GUO JENG YEOU

GUO JENG YEOU

GUO JENG YEOU

Title: TOILET TANK VALVE SEAT STRUCTURE

Abstract: Source: US2005283896A A toilet tank valve seat structure mainly includes a body and an overflow tube located on one side of the body. The overflow tube consists of an inner tube and an outer tube. The inner tube has a gear rack on one side to couple with a hook located on one end of the outer tube so that the outer tube may be moved up and down to adjust the length of the overflow tube. The body has a valve opening covered by a plug. The plug has an anchor notch bordering by two slots on two sides that provide elasticity to make coupling of the anchor notch easier. The structure provides the overflow tube with an adjustable length according to the water level and makes replacement of the plug easier.

Classifications:

International (IPC 8-9): E03D1/35 (Advanced/Invention);
E03D1/30 (Core/Invention)

International (IPC 1-7): E03D1/35

CPC: E03D1/35

European: E03D1/35

US: 4/393 4/404 43/93 44/4

Locarno class: 43/93

PatBase - US2005283896_RH

Patent Application Publication: Dec. 29, 2005 Sheet 1 of 6 US 2005/0283896 A1

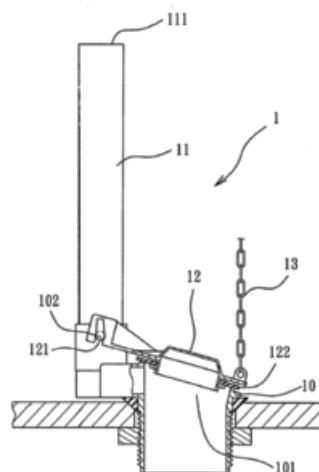


FIG. 1
PRIOR ART

Family:

Publication number	Publication date	Application number	Application date
US2005283896 AA	20051229	US20040873154	20040623
US7216373 BB	20070515	US20040873154	20040623

Priority:

US20040873154 20040623

Probable Assignee: HUANG SO MEL

Assignee(s): (std): HUANG SO MEL

Inventor(s): (std): HUANG SO MEL

Agent(s): BRUCE H TROXELL; TROXELL LAW OFFICE PLLC

Title: DRAIN VALVE

Abstract: Source: US2006195977A A drain valve, which is assembled on a rotating element of a water tank, is adapted to cooperate with a handle and a link element of the water tank for controlling opening or stopping a drain hole of the water tank. The drain valve includes a fixing base, a cover above the fixing base, a float below the fixing base, and a stop pad between the cover and the fixing base. The fixing base forms outer screw threads on an outer peripheral of a lower portion thereof. A plurality of vent holes being distributed at an outer peripheral of a bottom of the fixing base. The float defines inner screw threads on an inner peripheral of an upper portion thereof for engaging with the outer screw threads of the fixing base thereby adjusting width of the vent holes. The drain valve controls water draining time and stopping time and effectively saves water. In addition, the drain valve is adapted for all types of toilet water tank and is assembled easily.

Classifications:

International (IPC 8-9): E03D1/35 (Advanced/Invention);

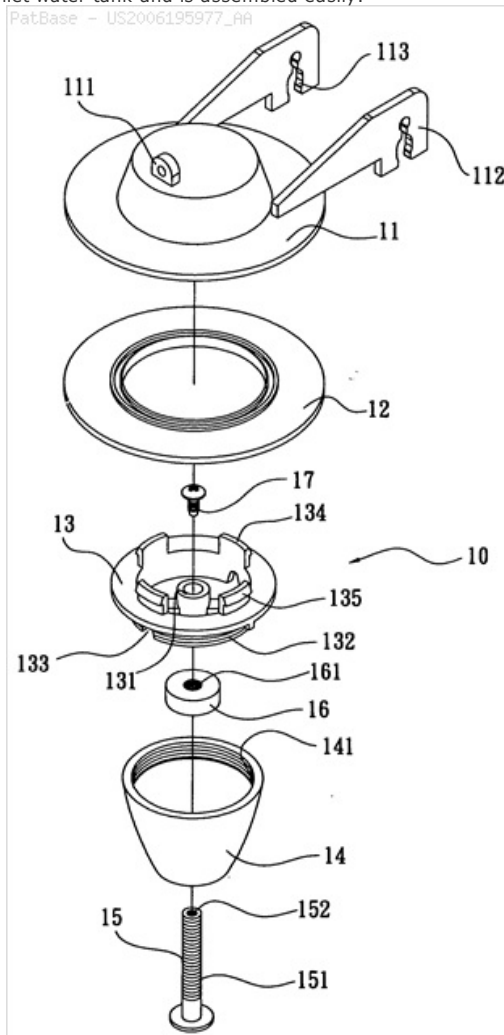
E03D1/30 (Core/Invention)

CPC: E03D1/306 E03D1/34

European: E03D1/30D2 E03D1/34

US: 4/393 4/403 44/3

Locarno class: 44/03

**Family:**

Publication number	Publication date	Application number	Application date
US2006195977 AA	20060907	US20050072471	20050307
US7281279 BB	20071016	US20050072471	20050307

Priority:

US20050072471 20050307

Probable Assignee:

GLOBE UNION INDUSTRIAL CORP

Assignee(s): (std):

GLOBE UNION IND CORP

Assignee(s):

GLOBE UNION INDUSTRIAL CORP

Inventor(s): (std):

SHIEH CHING CHEN

Agent(s):

TROXELL LAW OFFICE PLLC

Title: TANK BALL ASSEMBLY FOR TOILET

Abstract: Source: US2006218713A A tank ball assembly is disclosed to include a cover stopper mounted with a gasket for closing the drain port of the tank of a toilet, a tank ball coupled to an upright short tubular flange of the cover stopper and rotatable on the upright short tubular flange to adjust the angular position of the air outlet thereof and to further adjust the flushing amount of tank water, and an adjustment screw fastened to a post at the cover stopper and adjustable to approach to the water inlet of the tank ball and to further adjust the flowing rate of tank water into the tank ball.

Classifications:

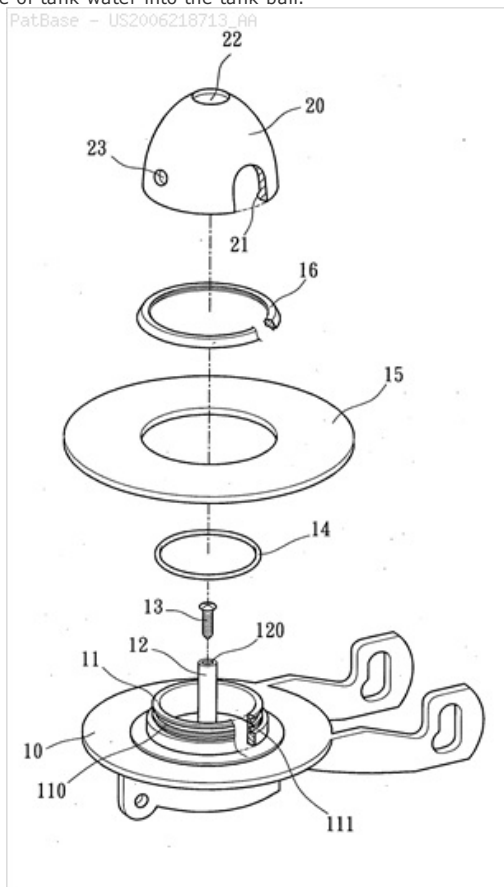
International (IPC 8-9): E03D1/35 (Advanced/Invention);
E03D1/30 (Core/Invention)

CPC: E03D1/142 E03D1/306

European: E03D1/14D E03D1/30D2

US: 4/393 4/404 44/4

Locarno class: 44/04



Family:

Publication number	Publication date	Application number	Application date
US2006218713 AA	20061005	US20050098750	20050405
US7222375 BB	20070529	US20050098750	20050405

Priority:

US20050098750 20050405

Probable Assignee:

CHEN GUAN CHUNG

Assignee(s): (std):

CHEN GUAN CHUNG ; CHEN PO HSIN

Inventor(s): (std):

CHEN GUAN CHUNG ; CHEN PO HSIN

Agent(s):

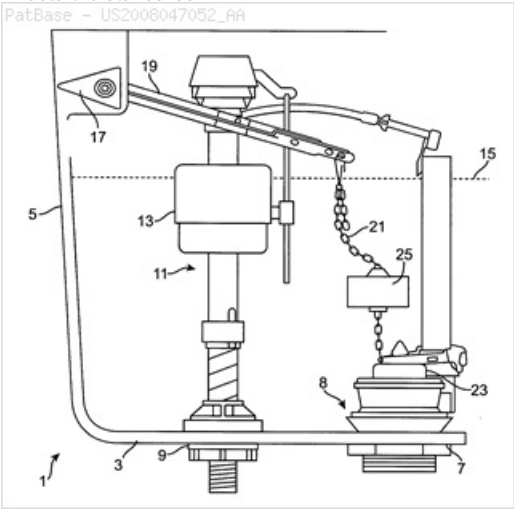
ROSENBERG KLEIN AND LEE

Title: FLUSH VALVE WITH FLOAT

Abstract: Source: US2008047052A A flush valve apparatus for a toilet tank includes a float that provides a buoyancy force to a flush valve flapper. The float may be coupled to a chain connecting a lever and the flapper, or directly to the flapper. The float may be selected from a set of floats having a variety of sizes and shapes. Once a selected float is installed, the position of the float is fixed relative to the valve flapper, thus preventing change in the amount of water consumption per flush, which depends upon the buoyancy force on the flapper. For different standards, floats of different shapes and/or sizes may be selected such that the amount of water consumption per flush meets the standards.

Classifications:

International (IPC 8-9): E03D1/02 E03D1/34 E03D1/35 E04H4/00 F16K33/00 (Advanced/Invention); E03D1/02 E03D1/30 E04H4/00 F16K33/00 (Core/Invention)
CPC: E03D1/14 E03D1/308 F16K21/16 F16K33/00
European: E03D1/14 E03D1/30F F16K21/16 F16K33/00
US: 4/324 43/24 441/133



Family:

Publication number	Publication date	Application number	Application date
US2008047052 AA	20080228	US20070894458	20070821
WO08027276 A2	20080306	WO2007US18640	20070822
WO08027276 A3	20080724	WO2007US18640	20070822

Priority:

US20060840186P 20060825 US20070894458 20070821

Probable Assignee: FLUIDMASTER

Assignee(s): (std): FLUIDMASTER ; HAN JOSEPH

Assignee(s): FLUIDMASTER INC

Inventor(s): (std): HAN JOSEPH

Agent(s): MYERS DAWES ANDRAS AND SHERMAN LLP; ANDRAS JOSEPH C ET AL

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Abstract: Source: US2008244818A A toilet flush flapper valve includes a flapper and a ballast with a vent hole for enabling air to escape from the ballast, the ballast is rotatably fixed to the flapper for enabling positioning of the vent hole for controlling buoyancy of the ballast in order to control closing time of said flapper.

International (IPC 8-9): E03D1/35 (Advanced/Invention); E03D1/30 (Core/Invention)

European: E03D1/30D2

US: 4/393 4/393P 4/404



Publication number	Publication date	Application number	Application date
US2008244818 AA	20081009	US20080060668	20080401
US8122526 BB	20120228	US20080060668	20080401

US20070921992P 20070405 US20080060668 20080401

Agent(s): WALTER

Agent(s): WALTER A HACKLER PHD PATENT LAW OFFICE; WALTER A

Title: TOILET FLAPPER FLUSH VALVE ASSEMBLY

Abstract: Source: US2009144888A A flapper flush valve assembly includes a pair of laterally movable mounting arms which may be adjusted to vary a width therebetween to accommodate overflow tubes of different sizes. The flapper valve assembly is coupled to pivot members connected to an overflow tube. Mounting ears on the pivot members may include projections to provide spacing between the rotating mounting arms and adjacent sidewall of a toilet tank, thereby preventing jams.

Classifications:

International (IPC 8-9): E03D1/30 E03D1/34

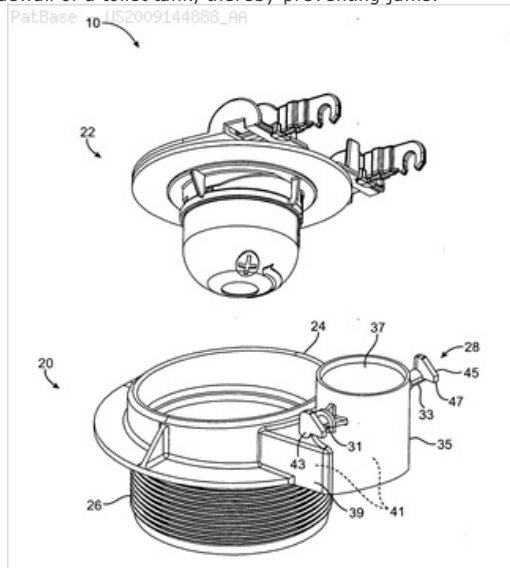
E03D1/35 (Advanced/Invention);

E03D1/30 (Core/Invention)

CPC: Y10T29/49826 E03D1/306

European: E03D1/30D2

US: 251/298 251/298S 29/428 29/428S 4/378 4/392 4/393 4/393P



Family:

Publication number	Publication date	Application number	Application date
CA2708217 AA	20090611	CA20082708217	20081126
CA2708217 C	20140513	CA20082708217	20081126
CN101889121 A	20101117	CN200880119551	20081126
US2009144888 AA	20090611	US20080315055	20081126
US08104103 BB	20120131	US20080315055	20081126
WO09073143 A1	20090611	WO2008US13189	20081126

Priority:

US20070005713P 20071207	US20070005838P 20071207	US20080315055 20081126
WO2008US13189 20081126		

Probable Assignee: FLUIDMASTER INC

Assignee(s): (std): FLUIDMASTER ; HAN JOSEPH

Assignee(s): BANK OF AMERICA NA ; FLUIDMASTER INC

Inventor(s): (std): HAN JOSEPH ; JOSEPH HAN

Agent(s): SMART AND BIGGAR; JOSEPH HAN; GORDON AND REES LLP; LIN VIC ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG UM UY VC VN ZA ZM ZW