

PatBase - Search results 30 October 2018

Search query (3): [SP]: sensor-operated pull-out faucet a sensor-operated pull-out faucet can include a spout having a hose disposed therein, a pull-out spray head fluidly coupled to the hose and configured to dock at an end of the spout, and a sensor assembly disposed at least partially in the spout proximate the end of the spout. the sensor assembly can include a sensor and a shutter disposed adjacent the sensor. the shutter can be operable to obscure the sensor in a closed state and expose the sensor in an open state. the faucet can also include a control unit communicatively coupled to the sensor and configured to control fluid flow through the hose and the pull-out spray head based on control signals generated by the sensor.

Results: 16

Nicolas Vargas

Title: SENSOR-OPERATED PULL-OUT FAUCET

Abstract: A sensor-operated pull-out faucet can include a spout having a hose disposed therein, a pull-out spray head fluidly coupled to the hose and configured to dock at an end of the spout, and a sensor assembly disposed at least partially in the spout proximate the end of the spout. The sensor assembly can include a sensor and a shutter disposed adjacent the sensor. The shutter can be operable to obscure the sensor in a closed state and expose the sensor in an open state. The faucet can also include a control unit communicatively coupled to the sensor and configured to control fluid flow through the hose and the pull-out spray head based on control signals generated by the sensor.

Classifications:

International (IPC 8-9): E03C1/04 E03C1/042 E03C1/05 F16K F16K11/02 F16K31/02 F16K31/06 G01R33/07

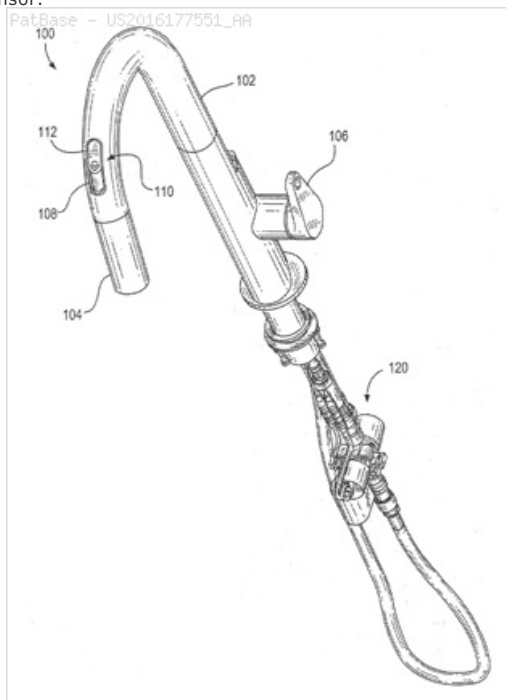
G05D7/06 (Advanced/Invention);

F16K31/02 (Core/Invention)

International (IPC 1-7): F16K31/02 G05D7/06

CPC: E03C1/057 G01R33/07 E03C2001/0415 Y10T137/9464

US: 137/78.1 324/251



Family:

Publication number	Publication date	Application number	Application date
AU2015369720 AA	20160630	AU20150369720	20151222
BR112017013526 A2	20180102	BR20171113526	20151222
CA2971722 AA	20170620	CA20152971722	20151222
CL2017001666 A1	20180126	CL20170001666	20170622
CN107407436 A	20171128	CN201580076741	20151222
CO20170007020 A2	20171130	CO20170007020	20170713
CR20170298 A	20171124	CR20170000298	20151222
EP3237782 A1	20171101	EP20150874318	20151222
HK1238702 A1	20180504	HK20170112544	20171128
JP2018505979 T2	20180301	JP20170533862T	20151222
KR20170118704 A	20171025	KR20177020127	20151222
MX2017008395 A1	20171026	MX20170008395	20151222
PE13862017 A1	20170915	PE20170001133	20151222
TH174393 A	20180315	TH20171003396	20151222
US2016177551 AA	20160623	US20150978852	20151222
WO16106339 A1	20160630	WO2015US67426	20151222

Priority:

US20140096045P 20141223

US20150978852 20151222

WO2015US67426 20151222

Probable Assignee: IP HOLDCO LLC AS

Assignee(s): (std): IP HOLDCO LLC AS

Assignee(s): LI HSIAO CHANG ; SEGGIO FRANK

Inventor(s): (std): FRANK SEGGIO ; HSIAO CHANG LI ; SEGGIO FRANK ; LI HSIAO CHANG

Agent(s): FB RICE PTY LTD; BORDEN LADNER GERVAIS LLP; SARGENT AND KRAHN; JOSE ANDRES RINCON USCATEGUI; HERZOG FIESSER AND PARTNER PATENTANWALTE PARTG MBB; ZHONGZI IP; MOSS RICHARD L ET AL

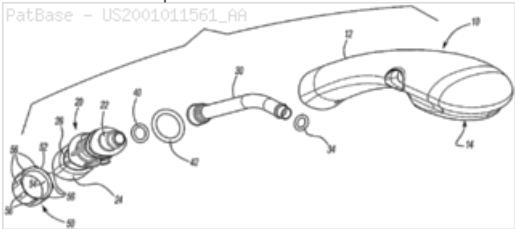
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW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

Title: PULL-OUT SPRAY HEAD HAVING REDUCED PLAY

Abstract: In a pull-out spray head faucet an annular elastomeric bushing disposed in a groove in a portion of the adapter extending rearwardly outside of the handle section of the pull-out spray head. The elastomeric bushing has a plurality of axially extending circumferentially spaced apart raised ribs on its outer surface which frictionally engage the inner surface of the spout to reduce the play and wobble of the spray head when it is inserted into the spout.

Classifications:

International (IPC 8-9): E03C 1/04 (Advanced/Invention);
E03C 1/04 (Core/Invention)
International (IPC 1-7): E03C 1/04
CPC: Y10T137/9464 E03C 1/0405 E03C 1/0404 E03C 2001/0415
European: E03C 1/04D E03C 1/04D2 P03C 1/04K
US: 137/801 239/588 239/588S 4/678 4/678S



Family:

Publication number	Publication date	Application number	Application date
US2001011561 AA	20010809	US20010837993	20010419
US6220297 BA	20010424	US19990379071	19990823

Priority:

US19990379071 19990823 US20010837993 20010419

Probable Assignee: MASCO OF INDIANA CORP

Assignee(s): (std): MASCO CORP

Assignee(s): MASCO OF INDIANA CORP ; ALMENDINGER OTTO ; MARTY GARRY

Inventor(s): (std): ALMENDINGER OTTO ; MARTY GARRY

Title: DEVICE AND METHOD FOR OPERATING AT LEAST TWO VALVES

Abstract: A valve device and a method for operating at least two valves is actuated by an actuator and arranged for controlling fluid flow in at least two separate fluid lines. The two valves are preferably diaphragm operated valves, but may be also piston valves. The valve device includes a pressure release mechanism constructed to change pressure in a diaphragm chamber of each diaphragm operated valve and thereby open or close the valve. The pressure release mechanism may include a fluid passage in communication with each diaphragm chamber, where it is simultaneously controlled by a movement of a single sealing member actuated by a single actuator. The valve device may also include a manual actuator.

Classifications:

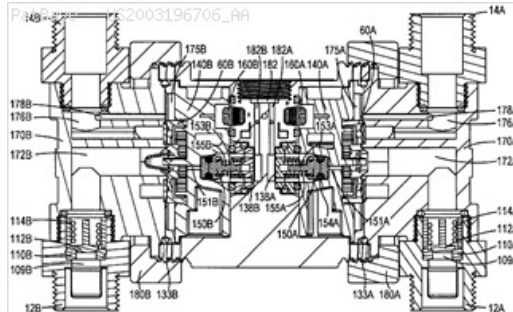
International (IPC 8-9): A01G25/16 E03C1/04 E03C1/044 E03C1/05 E03D3/02 E03D3/06 E03D5/10 F16K11/10 F16K17/36 F16K27/00 F16K31/00 F16K31/02 F16K31/06 F16K31/126 F16K31/385 F16K31/40 F16K47/02 F16K7/00 F16K7/17 (Advanced/Invention); E03C1/04 E03C1/05 E03D3/00 E03D5/00 F16K11/10 F16K17/36 F16K27/00 F16K31/00 F16K31/02 F16K31/126 F16K31/36 F16K47/00 F16K7/00 F16K7/12 (Core/Invention)

International (IPC 1-7): E03C1/04 E03C1/044 E03C1/05 F16K11/00 F16K11/02 F16K11/24 F16K31/126 F16K31/128 F16K31/385 F16K31/40 F16K7/17

CPC: Y10T137/87161 Y10T137/87692 Y10T137/0318 Y10T137/7758 Y10T137/7762 Y10T137/9464 Y10T137/7761 Y10T137/8242 E03C1/10 E03C2201/40 F16K31/402 E03D3/06 A01G25/16 A01G25/167 F16K31/02 E03C1/057 Y10T137/189 Y10T137/86389 Y02A40/232 Y02A40/237 E03D5/105

European: A01G25/16 E03C1/05 E03C1/05D2 E03C1/10 E03D3/02 E03D5/10 E03D5/10B F16K31/40A P03C201/40

US: 137/595 137/607 137/607S 137/624.11 137/801 250/221 251/129.03 251/129.04 251/129.040P 251/129.15 251/129.150S 251/30.04 4/313 4/623

**Family:**

Publication number	Publication date	Application number	Application date
AT371774 E	20070915	AT20020784724T	20021204
AU2002225647 AA	20020603	AU20020225647	20011120
CA2430189 AA	20030520	CA20012430189	20011120
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CN1474919 A	20040211	CN20018019191	20011120
DE60305732 T2	20070531	DE20036005732T	20031204
EP1409904 A2	20040421	EP20010995136	20011120
EP1409904 B1	20140806	EP20010995136	20011120
EP2410221 A2	20120125	EP20110008308	20011120
EP2410221 A3	20121226	EP20110008308	20011120
IL156011 A0	20031214	IL20010156011	20011120
IL165800 A0	20060115	IL20030165800	20030624
IN00742CN2003 A	20050415	IN2003CN00742	20030514
IN224860 B	20081205	IN2003CN00742	20030514
JP2004523697 T2	20040805	JP20020544568T	20011120
JP5020457 B2	20120905	JP20020544568T	20011120
US2003196706 AA	20031023	US20030440997	20030519
US2007057215 AA	20070315	US20060446506	20060602
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WO0242671 A2	20020530	WO2001US43277	20011120
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Priority:

US20000718026	20001120	EP20010995136	20011120	WO2001US43277	20011120
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WO2003US20117	20030624	US20030513722P	20031022	WO2003US38730	20031204
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US20060446506	20060602	US20060480780	20060703	US20060648706	20061230

Probable Assignee: ARICHELL TECHNOLOGIES INC

Assignee(s): (std): GREENE GREGORY P ; GULER FATIH ; HADLEY DAVID ; HERBERT KAY ; MO XIAOXIONG ; PARSONS NATAN E ; SHAMITZ ROBERT ; WU HAIYOU ; ZHANG YUE ; SLOAN VALVE CO ; ARICHELL TECH INC ; ARICHELL TECHNOLOGIES INC

Inventor(s): (std): GREENE GREGORY ; GREENE GREGORY P ; GULER FATIH ; HADLEY DAVID ; HERBERT KAY ; MO XIAOXIONG ; NATAN E PARSONS ; PARSONS E ; PARSONS NATAN ; PARSONS NATAN E ; SHAMITZ ROBERT ; ZHANG YUE ; WU HAIYOU ; ROBERT SHAMITZ ; KAY HERBERT ; DAVID HADLEY

Inventor(s): PARSONS NATAN E

Agent(s): RIDOUT AND MAYBEE LLP; WAGNER KARL H; IVAN DAVID ZITKOVSKY PHD PC; IVAN DAVID

Designated states: AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD ME MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SD SE SG SI

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WO07040413 A1	20070412	WO2006NZ00258	20061005
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Probable Assignee: DELTA FAUCET CO

Assignee(s): (std): DELTA FAUCET CO ; GAO HONGZHI ; HUFFINGTON TODD ; HUFFINTGON TODD ; JONTE PATRICK ; MASCO CORP ; MARTY GARRY R ; JONTE PATRICK B ; MARTY GARY R ; MARTY GARRY M ; MARTY GARRY ROBIN ; BURKE DAVID M ; MOORE JEFFREY L ; SAILORS TIMOTHY J JR ; MOORE JEFFREY LEE ; PURE DEPTH LTD ; RODENBECK ROBERT W ; PUREDEPTH LTD ; SAILORS JR TIMOTHY JAY

Assignee(s): SAILORS TIMOTHY JAY JR ; SAWASKI JOEL D ; MASCO OF INDIANA CORP55 EAST 111TH STREETINDIANAPOLISIN46280US ; THOMAS KURT J ; SAILORS TIMOTHY J ; DAVIDSON KYLE R ; MASCO OF INDIANA CORP55 EAST 111TH ST.INDIANAPOLISIN46280US ; JOINTE PATRICK B ; K ONE W ONE LTD ; MASCO OF INDIANA CORP

Inventor(s): (std): JONTE PATRICK ; SAILORS JR TIMOTHY JAY ; TODD HUFFINGTON ; THOMAS KURT J ; SAILORS TIMOTHY JAY JR ; SAILORS TIMOTHY J JR ; RODENBECK ROBERT W ; MOORE JEFFREY LEE ; MOORE JEFFREY L ; MARTY GARY R ; MARTY GARRY ROBIN ; MARTY GARRY R ; MARTY GARRY M ; JOINTE PATRICK B ; SAWASKI JOEL D ; HUFFINTGON TODD ; HUFFINGTON TODD ; GAO HONGZHI ; DAVIDSON KYLE R ; BURKE DAVID M ; JONTE PATRICK B

Inventor(s): JOINTE PATRICK BUS ; SAWASKI JOEL DUS ; RODENBECK ROBERT WUS ; SAILORS TIMOTHY JAY ; MARTY GARY ROBIN ; ROBERT W RODENBECK ; PATRICK B JONTE ; GARRY R MARTY ; DAVID M BURKE ; MARTY GARRY ; JONTE PATRICK BUS ; MARTY GARY ; MARTY GARRY RUS ; MARTY GARRY ROBINUS ; MOORE JEFFREY ; MOORE JEFFREY LUS ; MOORE JEFFREY LEEUS ; SAILORS TIMOTHY J ; SAILORS TIMOTHY ; SAILORS TIMOTHY J JRUS ; SAILORS TIMOTHY JJR ; SAILORS TIMOTHY JAY JRUS ; BURKE DAVID ; RODENBECK ROBERT

Agent(s): DIMOCK STRATTON LLP; PIASETZKI NENNIGER KVAS LLP; MACRAE AND CO; HEENAN BLAIKIE LLP; HOWE STEVEN ET AL; WOODARD EMHARDT MORIARTY MCNETT AND HENRY LLP, BANK ONE CENTER/TOWER; WOODARD EMHARDT MORIARTY MCNETT AND HENRY LLP BANK ONE CENTER TOWER; BAKER AND DANIELS LLP; WOODARD EMHARDT MORIARTY MCNETT AND HENRY LLP; MURABITO HAO AND BARNES LLP; DOUGLAS A YERKESON BAKER AND DANIELS LLP; ZARINS EDGAR A; PARIKH NIRAV D; EDGAR A; NIRAV D; FAEGRE BAKER; FAEGRE BAKER DANIELS LLP; YERKESON DOUGLAS A

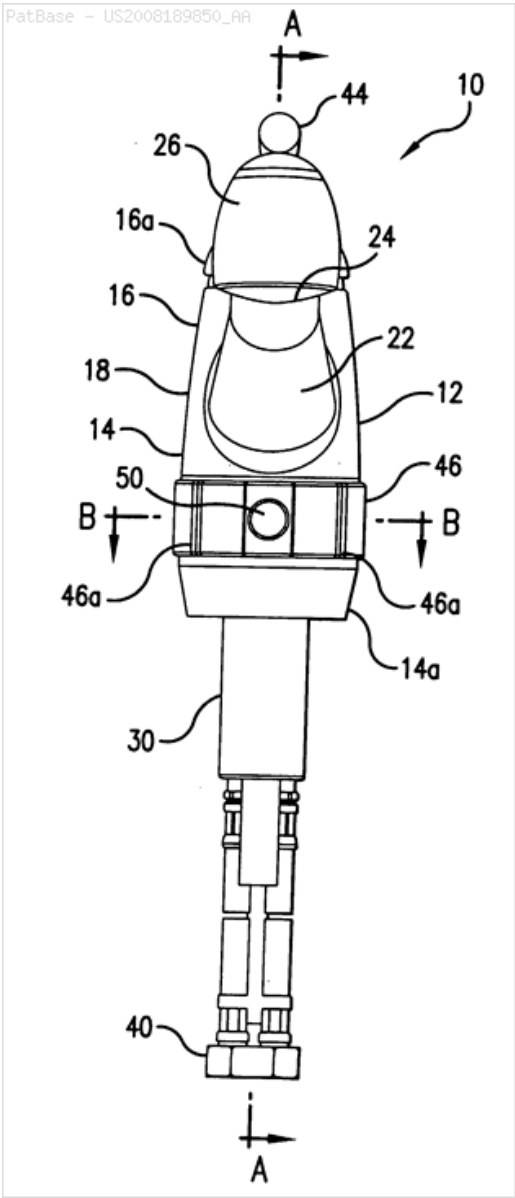
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Title: PROXIMITY FAUCET HAVING SELECTIVE AUTOMATIC AND MANUAL MODES

Abstract: A proximity faucet is provided that includes a housing, faucet and lever support portions and a peripheral housing wall with a spout portion having a neck extending outward from the housing wall and a fluid outlet at a free extent thereof. The faucet support portion accommodates an elongate shank extending downwardly therefrom and having at least one fluid supply conduit therein. The lever support portion receives a mixing cartridge therein that mixes cold and hot water delivered by the fluid supply conduit. The lever support portion supports a freely rotatable lever thereon. The lever is coupled to the mixing cartridge such that rotation of the lever adjusts the water temperature and flow rate. A sensor cover ring that is rotatably disposed adjacent the housing wall includes a reflective surface along an inner surface thereof that lies adjacent the housing wall. The sensor cover ring includes an eye that aligns with a proximity detector disposed in the housing wall and permits the proximity detector to emit a signal therefrom. The proximity detector, which is in electrical communication with an electronically controlled valve that is positioned downstream of the mixing cartridge, transmits a signal to the electronically controlled valve upon sensing an object upon concealment of the proximity detector by the sensor cover ring, thereby maintaining the mixing cartridge in an open position. The proximity detector is correspondingly rotatable with the spout portion as the spout portion rotates relative to a receptacle proximate which the faucet is used. A proximity filter faucet having selective automatic and manual modes is also disclosed.

Classifications:

International (IPC 8-9): E03C1/05 (Advanced/Invention);
E03C1/05 (Advanced/Non-invention);
E03C1/05 (Core/Invention)
CPC: E03C1/05 E03C1/057 E03C1/0401 E03C2001/026
European: E03C1/05
US: 251/129.04 4/623 4/623P



Family:

Publication number	Publication date	Application number	Application date
AT423240 E	20090315	AT20050855435T	20051222
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CN101137797 B	20100623	CN200580049022	20051222
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EP1841924 A1	20071010	EP20050855435	20051222
EP1841924 B1	20090218	EP20050855435	20051222
KR100938793 B1	20100127	KR20077018575	20051222
KR20070106610 A	20071102	KR20077018575	20051222
US2008189850 AA	20080814	US20050795209	20051222
US7464418 BB	20081216	US20050795209	20051222
WO06076149 A1	20060720	WO2005US46871	20051222

Priority:

US20050644121P 20050113 US20050795209 20051222 WO2005US46871 20051222

Probable Assignee: IDEAL STANDARD INT BVBA

Assignee(s): (std): AMERICAN STANDARD INT INC ; IDEAL STANDARD INT BVBA ; IDEAL STANDARD INTERNAT BVBA ;
SEGGIO FRANK A ; KASS ROBERT C ; MEISNER DAVID J

Assignee(s): IDEAL STANDARD INTERNATIONAL BVBA ; AMERICAN STANDARD INTERNATIONAL INC ; BANC OF
AMERICA SECURITIES LTD ; IDEAL STANDARD INT BV ; AMERICAN STANDARD INT

Inventor(s): (std): KASS ROBERT ; KASS ROBERT C ; MEISNER DAVID ; MEISNER DAVID J ; SEGGIO FRANK ; SEGGIO
FRANK A

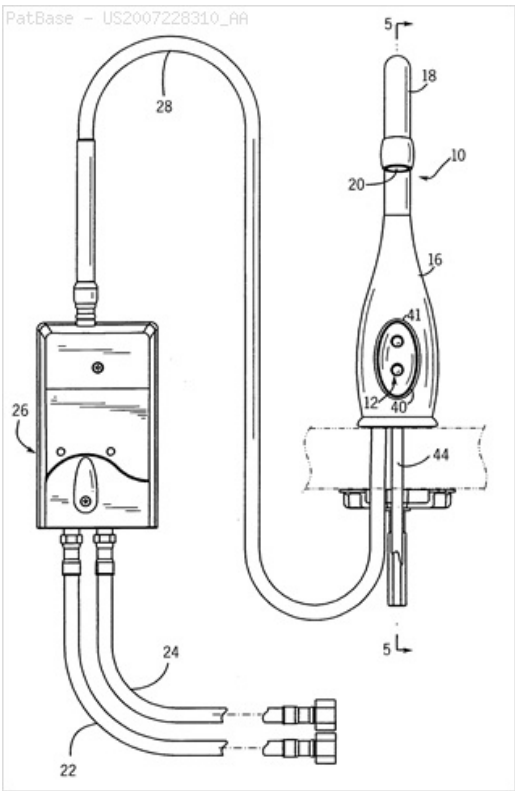
Agent(s): TURNER JAMES ARTHUR; FROMMER LAWRENCE AND HAUG; FROMMER LAWRENCE AND HAUG LLP; RYAN
MATTHEW K; MATTHEW K

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ
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NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA
UG US UZ VC VN YU ZA ZM ZW

Title: FAUCET SENSOR MOUNTING ASSEMBLY

Abstract: The present invention provides an automatic faucet with a movable cam assembly for mounting the sensor and sensor window inside of the faucet body. The cam has an obliquely angled surface and can be moved up against a spring to provide space for assembling the sensor inside the faucet. Once the sensor is properly positioned, the spring drives the wedge-like cam back down to apply a holding force against the sensor and the window. Back pressure against the sensor or window can be absorbed to some extent by the spring to reduce the chance of damaging the window and/or sensor from impact.

Classifications:
International (IPC 8-9): E03C1/05 F16K31/02 (Advanced/Invention); E03C1/05 F16K31/02 (Core/Invention)
CPC: E03C1/057
European: E03C1/05D2
US: 251/129.04 251/129.040P 251/263 4/623 4/695



Family:

Publication number	Publication date	Application number	Application date
■ CN101410576 A	20090415	CN200780011266	20070328
■ MX2008012417 A1	20081007	MX20080012417	20070328
■ US2007228310 AA	20071004	US20070731666	20070330
■ US7627909 BB	20091208	US20070731666	20070330
■ WO07123639 A1	20071101	WO2007US07732	20070328

Priority:

US20060787278P 20060330 WO2007US07732 20070328 US20070731666 20070330

Probable Assignee: KOHLER CO

Assignee(s): (std): ESCHE JOHN ; ESCHE JOHN C ; KOHLER CO

Inventor(s): (std): JOHN ESCHE ; ESCHE JOHN C ; ESCHE JOHN

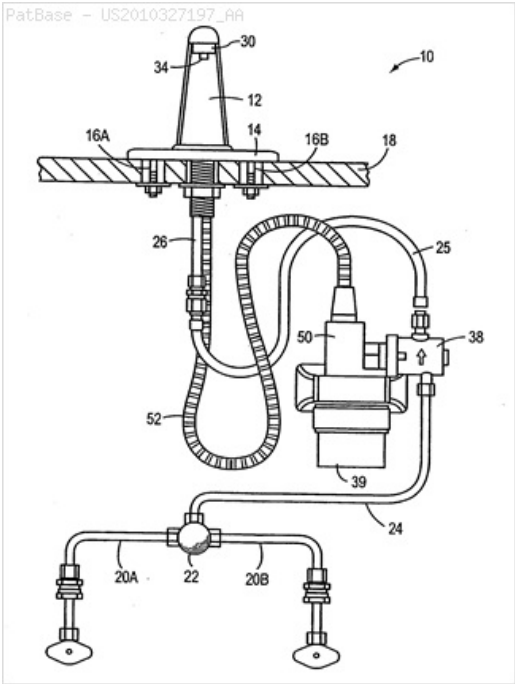
Agent(s): QUARLES AND BRADY LLP

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 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 MG MK ML MN MR MT 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

Title: PASSIVE SENSORS FOR AUTOMATIC FAUCETS AND BATHROOM FLUSHERS

Abstract: The present invention is directed to novel optical sensors and novel methods for sensing optical radiation. The novel optical sensors and the novel optical sensing methods are used, for example, for controlling the operation of automatic faucets and flushers. The novel sensors and flow controllers (including control electronics and valves) require only small amounts of electrical power for sensing users of bathroom facilities, and thus enable battery operation for many years. A passive optical sensor includes a light detector sensitive to ambient (room) light for controlling the operation of automatic faucets or automatic bathroom flushers.

Classifications:
International (IPC 8-9): E03C1/05 E03D5/10
F16K31/02 (Advanced/Invention)
CPC: E03D5/105 E03C1/057
European: E03C1/05D2 E03D5/10 E03D5/10B
US: 251/129.04 251/129.040P 4/623



Family:

Publication number	Publication date	Application number	Application date
US2010327197 AA	20101230	US20100802396	20100605
US8276878 BB	20121002	US20100802396	20100605

Priority:

WO2002US38757 20021204	WO2002US38758 20021204	WO2002US41576 20021226
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US20050145524 20050603	US20080217511 20080705	US20100802396 20100605

Probable Assignee: SLOAN VALVE CO

Assignee(s): (std): GULER FATIH ; HERBERT KAY ; MO XIAOXIONG ; PARSONS NATAN E ; ZHANG YUE ; WU HAIYOU

Assignee(s): SLOAN VALVE CO

Inventor(s): (std): GULER FATIH ; HERBERT KAY ; MO XIAOXIONG ; PARSONS NATAN E ; WU HAIYOU ; ZHANG YUE

Agent(s): IVAN DAVID ZITKOVSKY PHD PC; IVAN DAVID

Title: AUTOMATIC FAUCET AND WATER DISCHARGING DEVICE

Abstract: An automatic faucet, which has a water spout member and a sensor placed in a front end section of a water spout pipe and automatically ejects water from the spout member by the detection by the sensor. The water spout pipe has a shape, in which a section of the front end side is directed forward and obliquely downward with respect to a user. The water spout member and the sensor are axially inserted into the water spout pipe from the obliquely downward opening of the tip of the water spout pipe, and the sensor is disposed above the water spout member. The water spout member is disposed in a state where the front end face thereof is positioned to the inside of the water spout pipe than the front end face of the sensor.

Classifications:

International (IPC 8-9): E03C1/04 E03C1/05 E03C1/08 E03C1/084

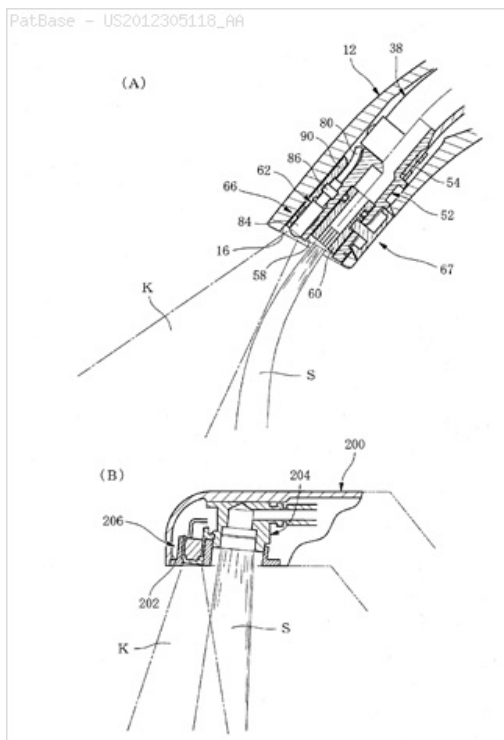
E03C1/086 F16K21/00 F16K31/02 F16K37/00 (Advanced/Invention)

CPC: E03C1/057 Y10T137/1842 Y10T137/9464 Y02A20/411

European: E03C1/05D2

US: 137/78.1 137/801

PatBase - US2012305118_AA



Family:

Publication number	Publication date	Application number	Application date
CA2783539 AA	20110616	CA20102783539	20101210
CN102791933 A	20121121	CN201080063666	20101210
CN103821987 A	20140528	CN201410012311	20101210
CN103821988 A	20140528	CN201410013200	20101210
CN103821988 B	20171219	CN201410013200	20101210
DE602010048719 D1	20180322	DE201060048719T	20101210
EP2511434 A1	20121017	EP20100836077	20101210
EP2511434 A4	20150415	EP20100836077	20101210
EP2511434 B1	20180221	EP20100836077	20101210
IN05095DN2012 A	20151023	IN2012DN05095	20120608
JP2011122356 A2	20110623	JP20090281028	20091210
JP2011122357 A2	20110623	JP20090281029	20091210
JP2011122359 A2	20110623	JP20090281031	20091210
JP2011252286 A2	20111215	JP20100125401	20100531
JP2011252287 A2	20111215	JP20100125402	20100531
JP5435273 B2	20140305	JP20090281029	20091210
JP5541703 B2	20140709	JP20100125402	20100531
JP5566090 B2	20140806	JP20090281028	20091210
JP5643952 B2	20141224	JP20100125401	20100531
JP5686514 B2	20150318	JP20090281031	20091210
US2012305118 AA	20121206	US20100514854	20101210
US2014109985 AA	20140424	US20130144078	20131230
WO11071158 A1	20110616	WO2010JP72274	20101210

Priority:

JP20090281028	20091210	JP20090281029	20091210	JP20090281031	20091210
JP20100125401	20100531	JP20100125402	20100531	CN201080063666	20101210
EP20100836077	20101210	WO2010JP72274	20101210	US20120514854	20120815
US20130144078	20131230				

Probable Assignee: LIXIL CORP

Assignee(s): (std): INAX CORP ; ITAZU NOBUAKI ; LIXIL CORP ; YOSHITANI RYOUSUKE

Inventor(s): (std): BANDO NOBUAKI ; NOBUAKI ITAZU ; RYOUSUKE YOSHITANI ; YOSHITANI RYOSUKE ; YOSHITANI RYOUSUKE ; ITAZU NOBUAKI

Agent(s): RICHES MCKENZIE AND HERBERT LLP; KRAMER BARSKE SCHMIDTCHEN PATENTANWALTE PARTG MBB; KRAMER BARSKE SCHMIDTCHEN; HONDA HIRONORI 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 CL 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 KE KG KM KN KP KR KZ LA LC LI 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 PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV
SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: WATER DELIVERY DEVICE

Abstract: A proximity sensor is disclosed. The proximity sensor may be incorporated as part of a water delivery device. A holder which aligns an optical source and sensor of the proximity sensor is disclosed.

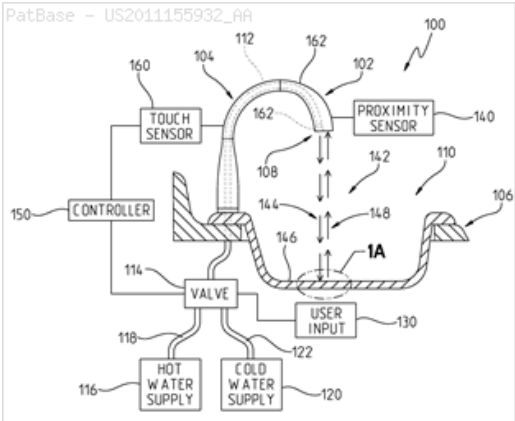
Classifications:

International (IPC 8-9): B05B1/22 E03C1/05 F16K11/00
F16K31/02 (Advanced/Invention)

CPC: E03C1/057

European: E03C1/05D2

US: 250/221 251/129.01 251/129.010P 251/129.04



Family:

Publication number	Publication date	Application number	Application date
CA2725975 AA	20110629	CA20102725975	20101220
CA2725975 C	20140916	CA20102725975	20101220
US2011155932 AA	20110630	US20090648530	20091229
US8408517 BB	20130402	US20090648530	20091229

Priority:

US20090648530 20091229 CA20102725975 20101220

Probable Assignee: DELTA FAUCET CO

Assignee(s): (std): JONTE PATRICK B ; ENSOR TIMOTHY J ; MASCO CORP ; RODENBECK ROBERT WILMER ; THORN TIMOTHY JOHN ; STORKEY MATTHEW E M ; COMBS TOM

Assignee(s): DELTA FAUCET CO ; MASCO OF INDIANA CORP ; MASCO OF INDIANA CORP55 EAST 111TH ST.INDIANAPOLISIN46280US

Inventor(s): (std): COMBS TOM ; ENSOR TIMOTHY J ; JONTE PATRICK B ; RODENBECK ROBERT WILMER ; STORKEY MATTHEW E M ; THORN TIMOTHY JOHN

Inventor(s): THORN TIMOTHY JOHNUS ; STORKEY MATTHEW E MUS ; RODENBECK ROBERT WILMERUS ; JONTE PATRICK BUS ; ENSOR TIMOTHY JUS ; COMBS TOMUS ; STORKEY MATTHEW EM

Agent(s): KAPLAN ADRIAN M; PIASETZKI NENNIGER KVAS LLP; FAEGRE BAKER DANIELS

Title: ELECTRONIC PLUMBING FIXTURE FITTING

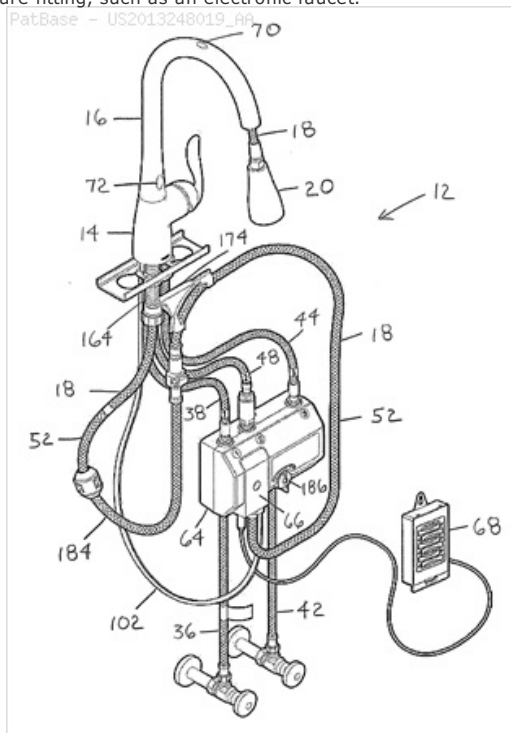
Abstract: The present invention provides an electronic plumbing fixture fitting, such as an electronic faucet.

Classifications:

International (IPC 8-9): E03C1/04 E03C1/042 E03C1/05 F16K11/00 F16K31/02 F16L3/01 G01V8/10 (Advanced/Invention); E03C1/02 (Advanced/Non-invention)

CPC: Y10T137/87281 Y10T137/87338 Y10T137/87507 Y10T137/87579 Y10T137/87917 E03C2001/0415 G01V8/10 E03C2001/026 E03C1/057 E03C1/04 E03C1/0401 E03C1/0402 E03C1/05 E03C1/055 F16K19/006 Y10T137/7737 Y10T137/87692 Y10T137/9464

US: 1/1 137/468 137/607 137/78.1 137/801 239/195



Family:

Publication number	Publication date	Application number	Application date
CA2866674 AA	20140905	CA20132866674	20130307
CA3016923 AA	20130912	CA20133016923	20130307
CN204199385 U	20150311	CN201390000439U	20130307
CN204852449 U	20151209	CN201520110601U	20130307
EP2823107 A2	20150114	EP20130757770	20130307
EP2823107 A4	20160615	EP20130757770	20130307
EP3026183 A1	20160601	EP20150003456	20130307
US2013248019 AA	20130926	US20130788533	20130307
US2013248033 AA	20130926	US20130788737	20130307
US2013248620 AA	20130926	US20130788725	20130307
US2015259889 AA	20150917	US20150723176	20150527
US2016076233 AA	20160317	US20150948902	20151123
US9194110 BB	20151124	US20130788533	20130307
US9758951 BB	20170912	US20130788725	20130307
US9828751 BB	20171128	US20150723176	20150527
WO13134525 A2	20130912	WO2013US29650	20130307
WO13134525 A3	20150205	WO2013US29650	20130307

Priority:

US20120607860P	20120307	CA20132866674	20130307	US20130788533	20130307
CN201390000439U	20130307	EP20130757770	20130307	US20130788737	20130307
US20130788725	20130307	WO2013US29650	20130307	US20150723176	20150527
US20150948902	20151123	CA20182866674	20180913		

Probable Assignee: MOEN INC

Assignee(s): (std): EVANS KENNETH E ; FRICK TIMOTHY A ; MOEN INC ; PARIKH HARSHIL ; SONG INHO ; TUCKER W RANDALL ; WEBER ERIC M ; PAGANO TERRENCE A

Assignee(s): PARIKH HARSHIL R ; MOEN INC25300 AL MOEN DRIVENORTH OLMSTEDOH44070US

Inventor(s): (std): PARIKH HARSHIL R ; WALLERSTORFER KURT ; SONG INHO ; PARIKH HARSHIL ; PAGANO TERRENCE A ; K WALLACETEFEFEL ; INHO SONG ; FRICK TIMOTHY A ; EVANS KENNETH E ; WEBER ERIC M ; TUCKER W RANDALL

Inventor(s): TUCKER W ; WEBER ERIC MUS ; EVANS KENNETH EUS ; FRICK TIMOTHY AUS ; PAGANO TERRENCE AUS ; PARIKH HARSHILUS ; SONG INHOUS ; TUCKER W RANDALLUS

Agent(s): NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; RICKER MATHIAS; KIRCHNER CHRISTIAN; CALFEE HALTER AND GRISWOLD LLP; KASTELIC TARA A

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL 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 LI 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 PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SYSTEM AND METHOD TO POSITION AND RETAIN A SENSOR IN A FAUCET SPOUT

Abstract: A faucet having an electronic valve is provided. The faucet includes a spout having a first end through which a fluid exits, a second end coupled to a faucet body, and a sidewall disposed between the first end and the second end. The spout extends along a curved longitudinal axis. A sensor is disposed completely within the spout along a curved portion of the sidewall. The sensor is operatively coupled to the electronic valve.

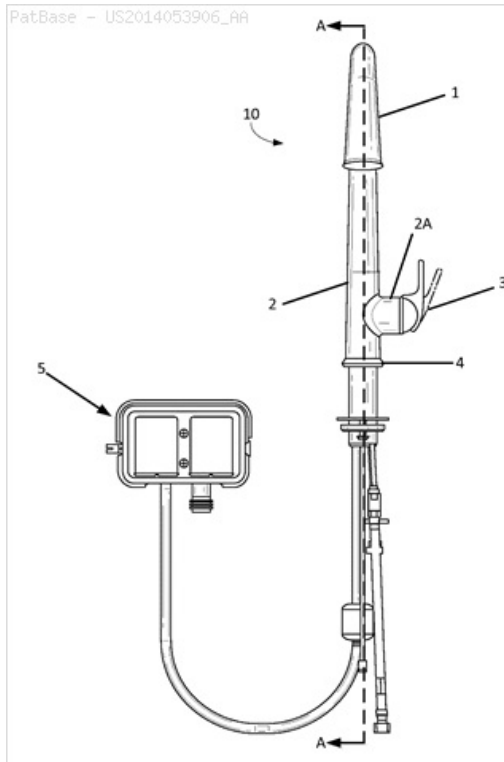
Classifications:

International (IPC 8-9): E03C1/04 E03C1/05 F16K11/00 F16K11/078 F16K27/00 F16K31/00 F16K31/05 F16K31/06 F16K31/40 F16K31/50 F16K31/60 F16K31/72 F16K37/00 (Advanced/Invention); E03C1/04 F16K11/00 (Advanced/Non-invention)

CPC: F16K31/05 E03C2001/0415 F16K11/078 F16K37/00 F16K31/60 F16K31/50 F16K37/0083 F16K31/0675 F16K27/041 F16K31/061 E03C1/057 F16K37/0041 F16K19/006 F16K31/06 F16K31/40 F16K31/0655 E03C1/0404 E03C2001/0418 Y10T137/9464 Y10T137/0318 Y10T137/0324 Y10T137/87917 Y10T137/8242 F16K31/002 F16K27/00

US: 1/1 137/1 137/2 137/554 137/613 251/129.03 251/129.04 4/623

PatBase - US2014053906_AA



Family:

Publication number	Publication date	Application number	Application date
■ CN103629412 A	20140312	CN201310373445	20130823
■ CN103629412 B	20170419	CN201310373445	20130823
■ CN103629426 A	20140312	CN201310373883	20130823
■ CN103629426 B	20161102	CN201310373883	20130823
■ CN103629429 A	20140312	CN201310373193	20130823
■ CN103629429 B	20160615	CN201310373193	20130823
■ CN106870794 A	20170620	CN201710165934	20130823
■ CN203656322 U	20140618	CN201320520819U	20130823
■ CN203656351 U	20140618	CN201320520101U	20130823
■ CN203718116 U	20140716	CN201320521000U	20130823
■ EP2700757 A2	20140226	EP20130181612	20130823
■ EP2700757 A3	20180103	EP20130181612	20130823
■ EP2700854 A2	20140226	EP20130181609	20130823
■ EP2700854 A3	20171227	EP20130181609	20130823
■ EP2700856 A2	20140226	EP20130181610	20130823
■ EP2700856 A3	20180103	EP20130181610	20130823
■ US2014053906 AA	20140227	US20130794638	20130311
■ US2014053925 AA	20140227	US20130794631	20130311
■ US2014054478 AA	20140227	US20130794614	20130311
■ US2015240462 AA	20150827	US20150710383	20150512
■ US2015308587 AA	20151029	US20150791009	20150702
■ US2016238152 AA	20160818	US20160140127	20160427
■ US2017275861 AA	20170928	US20170610934	20170601
■ US2018038510 AA	20180208	US20170786109	20171017
■ US9062790 BB	20150623	US20130794638	20130311
■ US9074698 BB	20150707	US20130794631	20130311
■ US9341278 BB	20160517	US20130794614	20130311
■ US9695580 BB	20170704	US20150710383	20150512
■ US9822902 BB	20171121	US20150791009	20150702

Priority:

US20120692912P	20120824	US20120692959P	20120824	US20120692966P	20120824
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CN201310373445	20130823	CN201320520101U	20130823	CN201320520819U	20130823
CN201320521000U	20130823	US20150710383	20150512	US20150791009	20150702
US20160140127	20160427	US20170610934	20170601	US20170786109	20171017

Probable Assignee: KOHLER CO

Assignee(s): (std): KOHLER CO

Inventor(s): (std): COCHART CHAD J ; JOHN C ESCHE ; JEFFREY C HILDEBRAND ; HILDEBRAND JEFFREY C ; HANSEN

DAVID E ; ESCHE JOHN C ; DAVID E HANSEN ; CHAD J COCHART

Agent(s):

WIGHTMAN DAVID ALEXANDER; BRADDON NICHOLAS; FOLEY AND LARDNER LLP

Designated states:

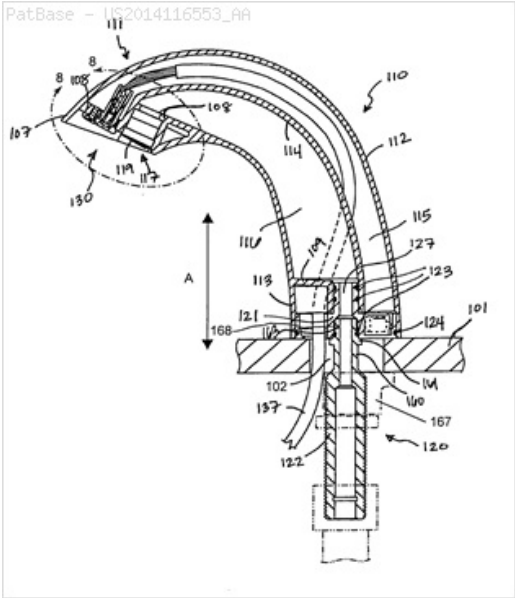
AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO
PL PT RO RS SE SI SK SM TR

Title: MODULAR SENSOR ACTIVATED FAUCET

Abstract: A modular sensor activated faucet assembly provides a spout that can be coupled and removed from its mounting base quickly and easily for installation and service. A water tight connection can be established between the mounting base and the spout without the use of tools or additional mechanical connections, thus allowing the spout to be installed by simply plugging into its base. A seamless spout construction defining a hollow interior bifurcated by integral internal wall structure provides a wet chamber between its mounting end and the outlet and a flow pipe inside the spout. The modular base provides a cooperating flow pipe. When the spout is mounted onto the base, the flow pipes are configured to nest together in close relation such that one or more seals can be disposed between the flow pipes to provide a water tight seal between the spout and base.

Classifications:

International (IPC 8-9): E03C 1/04 E03C 1/05 (Advanced/Invention)
CPC: E03C 1/057 E03C 1/0404 E03C 2001/0416 Y10T 137/9464 Y10T 137/1842 Y10T 137/86815
US: 1/1 137/625.4 137/78.1 137/801



Family:

Publication number	Publication date	Application number	Application date
CA2889844 AA	20150428	CA20132889844	20131030
US2014116553 AA	20140501	US20130067662	20131030
US2015345120 AA	20151203	US20150819870	20150806
US9133607 BB	20150915	US20130067662	20131030
US9587384 BB	20170307	US20150819870	20150806
WO14070918 A1	20140508	WO2013US67555	20131030

Priority:

US20120720902P 20121031 US20130067662 20131030 WO2013US67555 20131030
US20150819870 20150806

Probable Assignee: ZURN IND LLC

Assignee(s): (std): CHENARD SEAN M ; LEVINER III ROY ; LEVINER ROY III ; LIEBAL MICHAEL ; STEPHENS PAUL ; SCHOOLCRAFT JOHN KEVIN ; SAUNDERS CRAIG ; VELET ALEX ; TILK JASON ; ZURN IND LLC

Assignee(s): NOTTINGHAM SPIRK

Inventor(s): (std): CHENARD SEAN M ; LEVINER III ROY ; LEVINER ROY III ; LIEBAL MICHAEL ; SAUNDERS CRAIG ; SCHOOLCRAFT JOHN KEVIN ; STEPHENS PAUL ; TILK JASON ; VELET ALEX

Agent(s): MCCARTHY TETRAULT LLP; QUARLES AND BRADY LLP; WIETRZNY STEVEN J

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL 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 IR 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 PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: FAUCET SYSTEM COMPRISING A LIQUID SOAP DELIVERY LINE

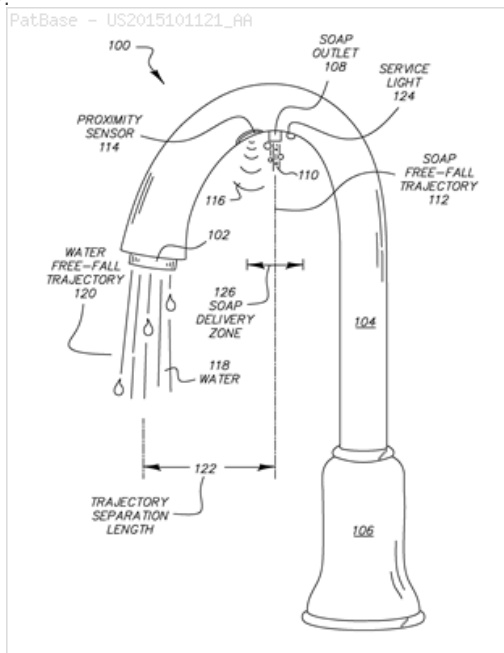
Abstract: A water faucet system including a faucet having a neck comprising a water passageway and liquid soap delivery line, both integrated within the neck assembly. The water faucet system features a streamlined neck assembly that includes a water outlet or spout, located at the distal portion of the neck assembly, and additionally includes a separate soap outlet located at a predetermined location. The soap delivery (soap dispensing) is initiated by a user performing an activation event directed to a sensor system located in the neck assembly. In preferred embodiments, the sensor system utilizes touchless type sensors so to avoid any physical contact with the neck assembly.

Classifications:

International (IPC 8-9): A47K5/12 A47K5/14 A47K7/04 E03C1/00 E03C1/04 E03C1/046 E03C1/05 (Advanced/Invention)

CPC: A47K5/14 A47K5/1217 A47K2005/1218 A47K5/12 E03C1/0404 A47K5/1211 E03C1/057

US: 222/133 4/668

**Family:**

Publication number	Publication date	Application number	Application date
US2015101121 AA	20150416	US20140512387	20141011
US2016069052 AA	20160310	US20150941652	20151115
US2017138025 AA	20170518	US20160296021	20161017
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WO15057564 A1	20150423	WO2014US60255	20141013

Priority:

US20130890483P 20131014 US20140512387 20141011 US20150941652 20151115
 US20160296021 20161017 US20170688450 20170828

Probable Assignee: BURGO FRANK M

Assignee(s): (std): BURGO FRANK ; BURGO FRANK M ; BURGO GARY SR ; BURGO SR GARY A

Inventor(s): (std): BURGO FRANK ; BURGO FRANK M ; BURGO GARY SR ; BURGO SR GARY A

Inventor(s): BURGO SR

Agent(s): LOUIS; CHENG NING; TRACY JONG LAW FIRM; JONG TRACY

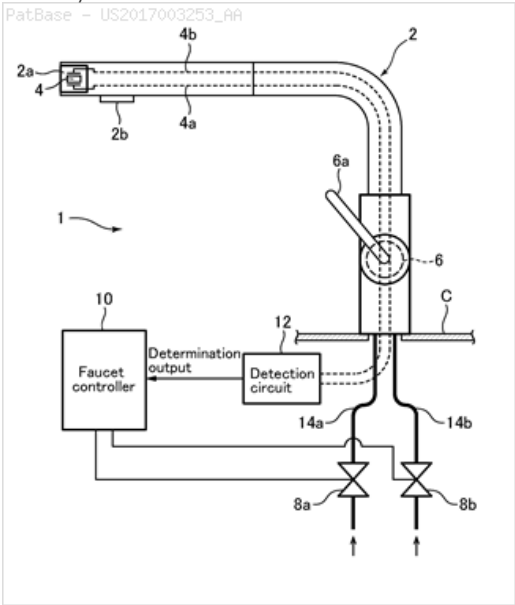
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX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

Title: TOUCH DETECTION DEVICE USED IN WATER HANDLING EQUIPMENT, AND FAUCET APPARATUS INCLUDING THE SAME

Abstract: A touch detection device capable of operation by a light touch, and of preventing false operations even when used in water handling equipment includes a sensing portion for sensing contact by a target object; a vibration excitation element attached to this sensing portion, a drive circuit for exciting vibration in the sensing portion, and a contact determining circuit for determining whether a target object is contacting a sensing portion based on vibration of the sensing portion after stopping the application of an AC voltage to the vibration excitation element by this drive circuit.

Classifications:

International (IPC 8-9): E03C1/05 F16K31/02 F16K37/00 G01H11/08 G01N29/12 G01N9/24 G05B11/12 H01H36/00 H01L41/04 H03K17/96 H13K17/96 (Advanced/Invention); E03C1/05 F21V33/00 G01L1/14 G06F3/043 (Advanced/Non-invention); G08G1/01 (Core/Invention)
CPC: G01N29/12 G01H11/08 F16K37/0091 F16K31/02 E03C1/05 E03C1/055 F21V33/004 G01L1/14 G06F3/0436 H03K17/96 H03K17/964 H03K2217/96003 Y10T137/0318 Y10T137/9464
US: 73/769



Family:

Publication number	Publication date	Application number	Application date
CN106321953 A	20170111	CN201610479503	20160627
EP3113365 A2	20170104	EP20160176692	20160628
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EP3297165 A1	20180321	EP20170198954	20160628
EP3312995 A1	20180425	EP20170199412	20160628
JP2017017677 A2	20170119	JP20160090605	20160428
SG10201605239Y A1	20170227	SG20161005239	20160624
TH163230 A	20170608	TH20161003899	20160629
TW201730696 A	20170901	TW20160119749	20160623
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US2017003253 AA	20170105	US20160189262	20160622
US9958418 BB	20180501	US20160189262	20160622

Priority:

JP20150132444 20150701 JP20160090605 20160428 EP20160176692 20160628

Probable Assignee: TOTO LTD

Assignee(s): (std): TOTO LTD

Inventor(s): (std): YOSHIYUKI KANEKO ; KANEKO YOSHIYUKI

Agent(s): TAKEUCHI MAYA; MATSUSHITA MITSURU; NISHIJIMA TAKAKI; WATANABE MAKOTO; KURASAWA ICHIRO; INO SARI; DESHIMARU TAKESHI; AMICA LAW LLC; BAKER AND HOSTETLER LLP

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

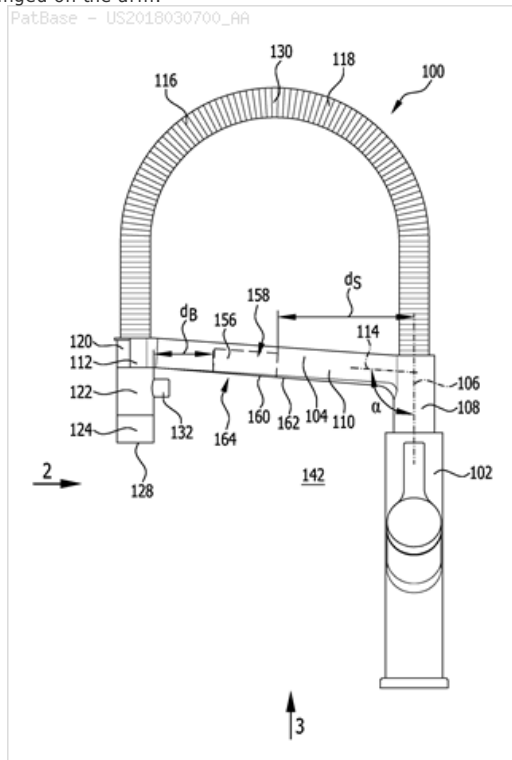
Title: FAUCET

Abstract: In order to provide a faucet comprising a base, a hose spray unit and an arm held on the base, wherein the arm comprises a hose spray unit receptacle on which the hose spray unit is releasably held in a rest position, wherein the passage of water through the hose spray unit is controllable particularly easily and rapidly by an operating person, it is proposed that the faucet comprises a sensor for detecting the presence and/or the movement of a hand of an operating person in a detection region of the sensor, wherein the sensor is arranged on the arm.

Classifications:

International (IPC 8-9): E03C 1/04 E03C 1/05 F16K11/00
F16K31/02 (Advanced/Invention)

CPC: E03C1/0404 E03C1/0405 F16K19/006 E03C1/057
E03C2001/0415



Family:

Publication number	Publication date	Application number	Application date
CA2974388 AA	20180127	CA20172974388	20170724
DE102016113832 A1	20180201	DE201610113832	20160727
EP3276090 A1	20180131	EP20170183060	20170725
US2018030700 AA	20180201	US20170655719	20170720

Priority:

DE201610113832 20160727

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Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO
PL PT RO RS SE SI SK SM TR