

Title (en)
DRAIN CARTRIDGE HAVING REMOVABLE VALVED SYSTEM

Title (de)
ABFLUSSEINSATZ MIT LÖSBAREM VENTILSYSTEM

Title (fr)
CARTOUCHE DE DRAIN PRÉSENTANT UN SYSTÈME À VANNE AMOVIBLE

Publication
EP 3447202 A1 20190227 (EN)

Application
EP 18193493 A 20100504

Priority

- US 17570509 P 20090505
- US 17583109 P 20090506
- US 17715009 P 20090511
- US 26298109 P 20091120
- US 28963309 P 20091223
- EP 10772682 A 20100504
- US 2010033521 W 20100504

Abstract (en)
Various embodiments of a cartridge for regulating a fluid flow are described that include an upper housing, and an insert that is user-removable from the upper housing. The cartridge can include one or more valves that are biased in a closed position to prevent odors from escaping the cartridge. The cartridge can also include a fluid trap that is at least partially disposed within the cartridge or fluidly coupled thereto. An ultraviolet light can be inserted within the cartridge to disinfect a fluid passageway of the cartridge.

IPC 8 full level
E03C 1/29 (2006.01); **E03C 1/298** (2006.01); **E03D 13/00** (2006.01)

CPC (source: EP)
E03C 1/29 (2013.01); **E03C 1/298** (2013.01); **E03D 13/007** (2013.01)

Citation (applicant)

- US 5711037 A 19980127 - REICHARDT KLAUS H [US], et al
- US 6053197 A 20000425 - GORGES DITMAR L [US]
- US 6644339 B2 20031111 - GORGES DITMAR L [US], et al
- US 6959723 B2 20051101 - GORGES DITMAR L [US]
- US 6973939 B2 20051213 - GORGES DITMAR L [US], et al
- US 6401266 B1 20020611 - MITCHELL GEOFF JOHN [GB], et al
- US 2006010565 A1 20060119 - TEOH SENG C [MY], et al
- US 2006207005 A1 20060921 - JANSSEN TERRANCE E [US]
- WO 2009040524 A1 20090402 - MCALPINE & CO LTD [GB], et al
- US 6286153 B1 20010911 - KELLER HANS [CH]
- US 4180875 A 19800101 - WILSON PORTER C [US]
- US 2008295233 A1 20081204 - FIMA R GIOVANNI [US]

Citation (search report)

- [Y] WO 9214888 A1 19920903 - AC DEV LTD [GB]
- [Y] US 4088149 A 19780509 - LOGSDON DUANE D
- [YD] US 2008295233 A1 20081204 - FIMA R GIOVANNI [US]
- [Y] US 2002189675 A1 20021219 - HUBER DONALD G [US], et al
- [Y] US 5419359 A 19950530 - KOR BOUKO J [CA]
- [YA] US 1137516 A 19150427 - MOON GEORGE W [US]
- [YA] US 5518026 A 19960521 - BENJEY ROBERT P [US]
- [Y] US 4762149 A 19880809 - PICKL JR JOSEPH [US]
- [A] US 2912999 A 19591117 - KERSH RONALD C
- [A] US 4712574 A 19871215 - PERROTT CHARLES H [US]
- [A] US 2531721 A 19501128 - EMRAL BROCK
- [A] WO 9711234 A1 19970327 - NOW 2 000 LIMITED [IE], et al

Cited by
CN110409587A

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

DOCDB simple family (publication)
WO 2010129531 A1 20101111; AU 2010246053 A1 20111222; AU 2010246053 B2 20161013; BR PI1011823 A2 20161025; CN 102459972 A 20120516; CN 102459972 B 20150923; EP 2427677 A1 20120314; EP 2427677 A4 20121031; EP 3447202 A1 20190227; MX 2011011707 A 20120529

DOCDB simple family (application)
US 2010033521 W 20100504; AU 2010246053 A 20100504; BR PI1011823 A 20100504; CN 201080029860 A 20100504; EP 10772682 A 20100504; EP 18193493 A 20100504; MX 2011011707 A 20100504