

Title (en)
FILLING MACHINE

Title (de)
FÜLLMASCHINE

Title (fr)
REMP LISSEUSE

Publication
EP 2094600 B1 20161228 (DE)

Application
EP 07819028 A 20071016

Priority
• DE 102006049963 A 20061024
• DE 202006016208 U 20061024
• EP 2007008958 W 20071016

Abstract (en)
[origin: WO2008049535A2] The invention relates to a filling machine for filling bottles or similar containers with a liquid filling product, comprising several filling elements which are provided on a rotor section or a rotor that can be rotatably driven about a vertical machine axis. According to the invention, each filling element is provided with a discharge opening for the controlled discharge of the liquid filling product into the containers to be filled and is part of a path of the filling product, wherein said path is formed by components carrying the filling product and connects the respective discharge opening to a filling product container which is provided on the rotor or a rotor section.

IPC 8 full level
B67C 3/22 (2006.01)

CPC (source: BR EP US)
B67C 3/22 (2013.01 - BR EP US)

Citation (opposition)
Opponent : Krones AG
• US 4559961 A 19851224 - ANDERSON FRANK E [US], et al
• DE 2159498 A1 19730607 - SEEBERGER KG MASCHINEN UND GER
• WO 9943553 A1 19990902 - CROWN SIMPLIMATIC INC [US]
• DE 102004017205 A1 20051027 - KHS MASCH & ANLAGENBAU AG [DE]
• US 6305437 B1 20011023 - EDWARDS SIMON P [US], et al
• WO 2006010635 A2 20060202 - MERRION RES II LTD [IE], et al
• DE 19607448 A1 19970904 - SOLVAY INTEROX GMBH [DE], et al
• DE 1908822 A1 19690918 - RHONE POULEN S A
• DE 20103071 U1 20020704 - KRONES AG [DE]
• US 2953169 A 19600920 - HENRY BREEBACK RUDOLPH
• US 2309859 A 19430202 - MOJONNIER ALBERT B, et al
• JP H04299968 A 19921023 - MITSUBISHI HEAVY IND LTD
• US 2003075547 A1 20030424 - STOCCHI GABRIELE [FR]
• DE 4309429 A1 19940929 - KHS MASCH & ANLAGENBAU AG [DE]
• DE 3832045 C1 19891207
• KRONES AG: "Neutraubling, Druckvermerk", KRONES MECAFILL VKP, May 2001 (2001-05-01), XP055425266
• HARTMUT EVERS ET AL.: "Fundamental design conditions and materials", MANUAL OF FILLING TECHNOLOGY, 2004, pages 19 - 21, XP055425278
• H J SOMMER: "Kunststoffe rosten nicht", GF PIPING SYSTEMS, CH -SCHAFFHAUSEN, December 2009 (2009-12-01), XP055425283
• SCHMITT G: "The term corrosion for nonmetallic materials", MATERIALS AND CORROSION, vol. 55, no. 5, 2004, pages 367 - 372, XP055425289
• KRONES AG: "Neutraubling, Druckvermerk", KRONES VOLUMETRIC VODM, September 2001 (2001-09-01), XP055425308

Cited by
CN105883705A

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 2008049535 A2 20080502; WO 2008049535 A3 20090115; BR PI0715553 A2 20130702; BR PI0715553 B1 20191126;
EP 2094600 A2 20090902; EP 2094600 B1 20161228; EP 2094600 B2 20220518; JP 2010507536 A 20100311; JP 5465532 B2 20140409;
RU 2009119477 A 20101127; RU 2426686 C2 20110820; SI 2094600 T1 20170331; SI 2094600 T2 20220831; US 2010101183 A1 20100429;
US 8936052 B2 20150120

DOCDB simple family (application)
EP 2007008958 W 20071016; BR PI0715553 A 20071016; EP 07819028 A 20071016; JP 2009533699 A 20071016;
RU 2009119477 A 20071016; SI 200731893 T 20071016; US 42858309 A 20090423