

Title (en)
An injection apparatus and method

Title (de)
Injektionsvorrichtung und -verfahren

Title (fr)
Appareil et procédé d'injection

Publication
EP 2128378 A1 20091202 (EN)

Application
EP 08157376 A 20080530

Priority
EP 08157376 A 20080530

Abstract (en)
An injection apparatus for injecting a chemical additive into a fluid mixture flowing into an annulus AN of a well-bore WB comprises a body 1 defining an internal chamber 20 receiving a valve arrangement 30. The body 1 comprises at least one port 14, 18 for coupling to a reservoir RS containing the chemical additive, and at least one injection nozzle 11 for injecting the chemical additive into the fluid mixture flowing into the annulus AN. The valve arrangement 30 has a closed position and an open position defined as a function of the fluid flow-rate of the fluid mixture flowing through the valve arrangement 30. In a closed position, the valve arrangement 30 closes the communication between the reservoir RS and the injection nozzle 11, the injection apparatus delivering a non-activated fluid mixture. In an open position, the valve arrangement 30 puts in communication the reservoir RS with the injection nozzle 11, the injection apparatus injecting the chemical additive into the fluid mixture flowing into the annulus AN.

IPC 8 full level
E21B 33/13 (2006.01); **E21B 33/138** (2006.01); **E21B 33/14** (2006.01)

CPC (source: EP US)
E21B 23/006 (2013.01 - EP US); **E21B 27/02** (2013.01 - EP US); **E21B 33/13** (2013.01 - EP US); **E21B 33/14** (2013.01 - EP US)

Citation (applicant)
US 7013971 B2 20060321 - GRIFFITH JAMES E [US], et al

Citation (search report)
• [A] EP 1653042 B1 20070815 - SCHLUMBERGER SERVICES PETROL [FR], et al
• [A] EP 1653043 B1 20080312 - SCHLUMBERGER SERVICES PETROL [FR], et al
• [A] EP 1223303 A1 20020717 - CARISELLA JAMES VICTOR [US], et al
• [A] EP 0722037 A2 19960717 - HALLIBURTON CO [US]

Cited by
GB2517351A; IT202000005386A1; US9638001B2; US9771775B2; WO2013164599A1; WO2013004609A1; US9435174B2; WO2021181320A1

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

Designated extension state (EPC)
AL BA MK RS

DOCDB simple family (publication)
EP 2128378 A1 20091202; **EP 2128378 B1 20110413**; AT E505621 T1 20110415; DE 602008006176 D1 20110526; DK 2128378 T3 20110718; US 2009294133 A1 20091203

DOCDB simple family (application)
EP 08157376 A 20080530; AT 08157376 T 20080530; DE 602008006176 T 20080530; DK 08157376 T 20080530; US 46865609 A 20090519