

Title (en)  
Underwater cementing method

Title (de)  
Unterwasserzementiervverfahren

Title (fr)  
Procédé de cimentation sous-marin

Publication  
**EP 2230377 A1 20100922 (EN)**

Application  
**EP 09250755 A 20090318**

Priority  
EP 09250755 A 20090318

Abstract (en)  
A method of cementing a casing string in a wellbore that has been drilled below a body of water wherein the wellbore penetrates at least one permeable fluid-bearing formation, the method comprising: (a) injecting a cement slurry through the casing string (3) and into the annulus (5) formed between the casing string and the wellbore wall thereby displacing any wellbore fluid from the wellbore through a discharge line that is in fluid communication with the annulus wherein the cement slurry is injected into the annulus at a sufficiently high pressure to prevent fluid ingress from the permeable fluid-bearing formation into the annulus; (b) when the cement has reached a desired height in the annulus above the permeable fluid-bearing formation, isolating the discharge line from the annulus by closing a discharge valve (V3); (c) opening an isolation valve (V1) that isolates a one-way valve (V2) from the annulus wherein the one-way valve is in fluid communication with a column of liquid that is above the valve and the one-way valve opens when the pressure below the one-way valve falls to below the head pressure of the column of liquid such that the head pressure of the column of liquid maintains the pressure in the annulus adjacent to the permeable fluid-bearing formation at above the pressure of the permeable formation thereby allowing the slurry to set and bond the casing string to the wellbore wall without ingress of fluids into the annulus from the permeable fluid-bearing formation.

IPC 8 full level  
**E21B 33/14** (2006.01); **E21B 21/00** (2006.01); **E21B 21/08** (2006.01)

CPC (source: EP US)  
**E21B 21/001** (2013.01 - EP US); **E21B 21/08** (2013.01 - EP US); **E21B 33/143** (2013.01 - EP)

Citation (search report)  
• [A] US 3189100 A 19650615 - HAEBER JOHN A, et al  
• [A] US 5327969 A 19940712 - SABINS FRED L [US], et al  
• [A] US 4063602 A 19771220 - HOWELL JAMES DAMRON, et al  
• [A] US 6415877 B1 20020709 - FINCHER ROGER W [US], et al  
• [A] FR 2787827 A1 20000630 - ELF EXPLORATION PROD [FR]  
• [A] US 4655286 A 19870407 - WOOD EDWARD T [US]

Cited by  
CN111021982A; CN108505966A

Designated contracting state (EPC)  
GB

Designated extension state (EPC)  
AL BA RS

DOCDB simple family (publication)  
**EP 2230377 A1 20100922**

DOCDB simple family (application)  
**EP 09250755 A 20090318**