

Title (en)  
Method and device for cleaning dirt in heat exchangers, waste heat boilers and combustion chambers

Title (de)  
Verfahren und Vorrichtung zur Reinigung von Verschmutzungen in Wärmetauschern, Abhitzeesseln und Brennkammern

Title (fr)  
Procédé et dispositif de nettoyage de salissures dans des échangeurs de chaleur, des chaudières de récupération et des chambres de combustion

Publication  
**EP 2682706 A1 20140108 (DE)**

Application  
**EP 13187411 A 20041220**

Priority

- DE 10360705 A 20031219
- EP 11173818 A 20041220
- EP 04030137 A 20041220

Abstract (en)  
The explosive cleaning system uses a first fixed tube (Rohr-1) with a water inlet (Wassereinlass) and an air inlet (Lufteinlass). The mixture of water and air flows through this tube, and passes through a flexible link (Gelenk) to a second movable tube (Rohr-2). It flows into the space between the boiler tubes (8,9) to be cleaned. A wire (Zundleitung) passes through the first tube and the link to an igniter (Zunder) and an explosive cord (Sprengschnur) in the second tube. The tubes may be made of cardboard or copper and burst with the water and air scattered by explosion of elongated cord.

Abstract (de)  
Verfahren zur Reinigung von Verschmutzungen in Wärmetauschern, Abhitzeesseln und Brennkammern, wobei die Verschmutzungen durch eine lineare Sprengung gelockert und/oder abgelöst werden.

IPC 8 full level  
**F28G 13/00** (2006.01); **B08B 7/00** (2006.01); **F23J 1/00** (2006.01); **F23J 3/02** (2006.01); **F28G 7/00** (2006.01)

CPC (source: EP)  
**B08B 7/0007** (2013.01); **F23J 3/023** (2013.01); **F28G 7/00** (2013.01); **F28G 7/005** (2013.01)

Citation (applicant)

- EP 1226881 A2 20020731 - STADTWERKE ROSENHEIM GMBH & CO [DE]
- EP 1067349 A2 20010110 - ZILKA FRANCIS [US], et al
- EP 0109351 A1 19840523 - DIEDERICHSMIEIER KLAUS
- US 2839435 A 19580617 - BOSWELL ARTHUR D
- EP 1275925 A1 20030115 - HANS EICHNER GMBH & CO KG [DE]
- WO 9816329 A2 19980423 - FOSTER MILLER INC [US]
- DE-FACHBUCH: "Wärmeübertrager- Reinigungssysteme", 2001, PUBLICO PUBLICATIONS, pages: 382
- DE-FACHBUCH: "Handbuch der Sprengtechnik", 1995, VEB DEUTSCHER VERLAG, pages: 344 - 351,31

Citation (search report)

- [X] US 5056587 A 19911015 - JONES LINZA J [US], et al
- [X] US 5211135 A 19930518 - CORREIA PAUL A [US], et al
- [X] EP 1067349 A2 20010110 - ZILKA FRANCIS [US], et al
- [E] WO 2007023176 A2 20070301 - DYNAENERGETICS GMBH & CO KG [DE], et al

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**EP 1544567 A2 20050622; EP 1544567 A3 20081022; EP 1544567 B1 20110921**; AT E525623 T1 20111015; DE 10360705 A1 20050714; DE 20321732 U1 20090528; DK 1544567 T3 20120116; DK 2383534 T3 20140519; EP 2383534 A1 20111102; EP 2383534 B1 20140219; EP 2682706 A1 20140108; ES 2373655 T3 20120207; PL 1544567 T3 20120229; PL 2383534 T3 20140731

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**EP 04030137 A 20041220**; AT 04030137 T 20041220; DE 10360705 A 20031219; DE 20321732 U 20031219; DK 04030137 T 20041220; DK 11173818 T 20041220; EP 11173818 A 20041220; EP 13187411 A 20041220; ES 04030137 T 20041220; PL 04030137 T 20041220; PL 11173818 T 20041220