

Title (en)  
ULTRASONIC WASHING APPARATUS

Publication  
**EP 0450222 A3 19920729 (EN)**

Application  
**EP 90308705 A 19900808**

Priority  
JP 8856090 A 19900403

Abstract (en)  
[origin: EP0450222A2] A spray type ultrasonic washing apparatus including a coaxial nozzle structure (1) which comprises inner and outer hollow conical frustums (3,2) for supplying nondeaerated washing liquid (12) by way of the annular passage (7) delimited between the frustums and supplying deaerated washing liquid (11) by way of the inner frustum, thus causing the deaerated washing liquid to be enclosed by nondeaerated washing liquid when spraying on a surface to be washed, so as to isolate the deaerated washing liquid from the surrounding atmosphere and thereby preventing invasion of air into the same. This enables cavitation to be formed effectively in the deaerated washing liquid, thereby increasing washing efficiency. <IMAGE>

IPC 1-7  
**B08B 3/12**

IPC 8 full level  
**B05B 7/06** (2006.01); **B08B 3/12** (2006.01)

CPC (source: EP)  
**B08B 3/12** (2013.01); **B08B 2203/0288** (2013.01)

Citation (search report)  
• [A] EP 0140505 A1 19850508 - CERA LTD [GB]  
• [A] GB 2018626 A 19791024 - KAERCHER GMBH & CO ALFRED  
• [A] DE 3916446 A1 19900315 - AUTOBAHNBAUKOMBINAT VEB [DD]

Cited by  
EP0675525A1; CN107876230A; CN105834165A; EP3450103A1; US11679454B2; US10836012B2; EP3450105A1; CN109420986A; CN109420987A

Designated contracting state (EPC)  
AT BE CH DE DK ES FR GB GR IT LI LU NL SE

DOCDB simple family (publication)  
**EP 0450222 A2 19911009; EP 0450222 A3 19920729; EP 0450222 B1 19951129**; AT E130786 T1 19951215; DE 69023897 D1 19960111; DE 69023897 T2 19960418; JP H03288581 A 19911218; JP H0536114 B2 19930528

DOCDB simple family (application)  
**EP 90308705 A 19900808**; AT 90308705 T 19900808; DE 69023897 T 19900808; JP 8856090 A 19900403