

Title (en)  
Directional vibrator

Title (de)  
Schwingungserreger zum Erzeugen einer gerichteten Schwingung

Title (fr)  
Vibrateur à action dirigée

Publication  
**EP 0780164 A3 19990303 (DE)**

Application  
**EP 96120175 A 19961217**

Priority  
DE 19547043 A 19951218

Abstract (en)  
[origin: EP0780164A2] Two intermediate shafts(4,5) are mounted in the housing(1) to rotate between, and parallel to, the unbalanced shafts(3a,3b). The intermediate shafts are interconnected and positively connected to one or the other unbalanced shafts by means of toothed wheels(7-10,16) so that the one(5) intermediate shaft rotates in the opposite direction as the one unbalanced shaft(3b), and the other intermediate shaft(4) rotates in the opposite direction as the other unbalanced shaft(3a).

IPC 1-7  
**B06B 1/16**

IPC 8 full level  
**B06B 1/16** (2006.01)

CPC (source: EP US)  
**B06B 1/166** (2013.01 - EP US); **Y10T 74/18344** (2015.01 - EP US); **Y10T 74/18552** (2015.01 - EP US)

Citation (search report)

- [X] DE 4118069 A1 19921203 - HALBROCK UDO [DE]
- [A] EP 0070343 A1 19830126 - LOSENHAUSEN MASCHINENBAU AG [DE]
- [DA] DE 3806897 A1 19890914 - WACKER WERKE KG [DE]
- [A] EP 0473449 A1 19920304 - KENCHO KOBE CO LTD [JP]
- [A] EP 0467758 A1 19920122 - PROCEDES TECH CONST [FR]

Designated contracting state (EPC)  
CH DE FR GB IT LI NL SE

DOCDB simple family (publication)  
**DE 19547043 A1 19970619; DE 19547043 C2 19971002; EP 0780164 A2 19970625; EP 0780164 A3 19990303; JP H09206683 A 19970812;**  
US 5818135 A 19981006

DOCDB simple family (application)  
**DE 19547043 A 19951218; EP 96120175 A 19961217; JP 33697596 A 19961217; US 76848196 A 19961218**