

Title (en)  
COMPACT PISTON VIBRATOR

Publication  
**EP 0398078 A3 19910904 (DE)**

Application  
**EP 90108347 A 19900503**

Priority  
DE 3915773 A 19890513

Abstract (en)  
[origin: JPH02307577A] PURPOSE: To provide a more compact structure when an outside diameter is made constant and when efficiency is made higher or the efficiency is made constant by making a cylindrical hole in the axial center height of at least air connection 7 on an outside wall 1 of the case part of eccentric therefrom. CONSTITUTION: The piston vibrator has at least one air connection 7 on an outside wall 1 of the case and some minimum wall thickness is necessary for providing the air connection 7. When the outside wall 1 of the case part is constituted asymmetrical or eccentric with the cylindrical hole 5 in the section of the air connection 7, the wall thickness of the section to be provided with the air connection 7 may be made sufficient for forming ordinary thread ridges and the wall thickness of other sections may be made thinner. Then, when the outside diameter of the case part is made constant, the efficiency may be made higher by increasing the diameter of the cylindrical hole. When the diameter of the cylindrical holder is made constant and the efficiency constant, the structure may be made more compact when the outside diameter of the case part is decreased.

IPC 1-7  
**B06B 1/18**

IPC 8 full level  
**E04G 21/08** (2006.01); **B06B 1/18** (2006.01)

CPC (source: EP US)  
**B06B 1/183** (2013.01 - EP US)

Citation (search report)  
• [X] FR 898967 A 19450514  
• [X] US 3376790 A 19680409 - MATSON CARL G

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

DOCDB simple family (publication)  
**EP 0398078 A2 19901122; EP 0398078 A3 19910904**; DD 294197 A5 19910926; DE 3915773 A1 19901115; JP H02307577 A 19901220; US 5095809 A 19920317

DOCDB simple family (application)  
**EP 90108347 A 19900503**; DD 34054690 A 19900510; DE 3915773 A 19890513; JP 12019290 A 19900511; US 52215890 A 19900511