

Title (en)  
Speaker and method of manufacturing the same

Title (de)  
Lautsprecher und Herstellungsverfahren dafür

Title (fr)  
Haut-parleur et son procédé de fabrication

Publication  
**EP 1482762 A2 20041201 (EN)**

Application  
**EP 04252290 A 20040419**

Priority  
• JP 2003154744 A 20030530  
• JP 2003192968 A 20030707

Abstract (en)  
A magnet 200 having different polar surfaces respectively at the inner surface and the outer surface thereof is placed on a table 610 of an assembly jig 600 in such a way that a gap aligning section 620 of the assembly jig 600 engages the inside of the magnet 200. A diaphragm 400 provided with a voice coil 500 that is wound around the outer surface of its substantially cylindrical rising wall in advance is mounted on the assembly jig 600 such that the outer surface of the voice coil 500 engages the inner surface of the gap aligning section 620 and a pinched section 440 of the peripheral edge of the diaphragm 400 is bonded to the magnet 200. An outer shell 310 of a magnetic body 300 is made to engage an outer yoke 230 of the magnet 200 at an end thereof while the pinched section 440 is being pinched and bonded. The operation of assembling a speaker 100 is completed when the assembly jig 600 is removed. Since a magnetic body 300 covers an edge section 430 and partly found within the voice coil 500 to that the speaker 100 can be made to show a low profile with ease and the manufacturing productivity can be improved.  
The speaker (100) has a diaphragm (400) having a curved vibratory section located at a center of the diaphragm. A voice coil is arranged integrally with the diaphragm. A cylindrical rising section is located opposite to a curved central part of the vibratory section. An arch-shaped edge section is formed at an axial end of the rising section. A magnetic body (300) is located on a voicing outer surface side of the speaker. An independent claim is also included for a method of manufacturing a speaker.

IPC 1-7  
**H04R 9/00**

IPC 8 full level  
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Citation (applicant)  
US 4317965 A 19820302 - TOYODA MITSURU

Cited by  
CN113873403A; FR2960738A1; EP1843630A4; RU2694785C1; CN108093353A; CN108449693A; US8384375B2; US11387027B2; WO2011148109A1; US9532145B2; US7885425B2; EP2437518A1; US9071898B2; WO2007093903A1; WO2018161659A1

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