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**EUROPEAN PATENT APPLICATION**

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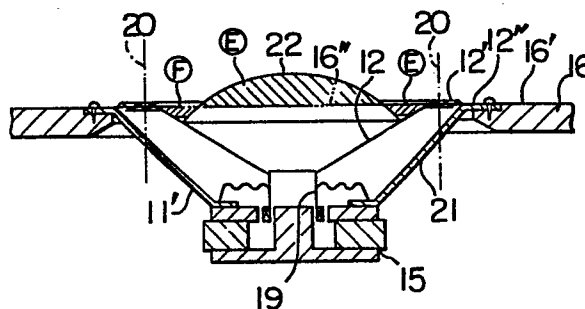
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88 Date of deferred publication of search  
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**54 Speaker system.**

57 In a speaker system having a cone type vibration plate (12), a part of the cone type vibration plate is made to protrude toward a space beyond a baffle surface (16') to which the sound wave is radiated from the vibration plate (12) while a dome type vibration plate (22) having a bump effect is fixed to the cone type vibration plate (12) so that the cone type vibration plate (12) may have both dip and bump effects simultaneously, whereby using a complementary characteristic for these dip and bump effects required sound pressure-frequency characteristic and sound pressure phase-frequency characteristic can be obtained.





**DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Citation of document with indication, where appropriate, of relevant passages                                  | Relevant to claim                              | CLASSIFICATION OF THE APPLICATION (Int. Cl. <sup>3</sup> )   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------------------|
| Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>---<br/>US-A-3 746 125 (HAMMES)<br/>*Figure 6; column 2, lines 9-17*</p>                                    | 1                                              | <p>H 04 R 1/22<br/>H 04 R 7/12<br/>H 04 R 9/06</p>           |
| Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>---<br/>DE-C- 899 048 (A.STEPHAN)<br/>*Claim*</p>                                                           | 1                                              |                                                              |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                | 2-3                                            |                                                              |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>---<br/>US-A-4 057 694 (OBUCHI)<br/>*The whole document*</p>                                                | 1                                              |                                                              |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>---<br/>US-A-2 303 989 (CUNNINGHAM)<br/>*Page 2, left-hand column, lines 2-48*</p>                          | 3-4                                            |                                                              |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>---<br/>US-A-2 549 091 (HOPKINS)<br/>*Column 3, lines 12-38; column 6, line 36 - column 9, line 12*</p>     | 1-4                                            | <p>TECHNICAL FIELDS<br/>SEARCHED (Int. Cl. <sup>3</sup>)</p> |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>---<br/>US-A-4 146 756 (KITO et al.)<br/>*Column 3, lines 33-43; column 4, line 30 - column 5, line 49*</p> | 1                                              | H 04 R                                                       |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>---<br/>FR-A- 673 659 (RENARD)<br/>*Page 1, line 43 - page 2, line 11*</p>                                  | 1-4                                            |                                                              |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>---<br/>US-A-3 940 576 (SCHULTZ)<br/>*The whole document*</p> <p>-----</p>                                  | 1-4                                            |                                                              |
| The present search report has been drawn up for all claims                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                |                                                |                                                              |
| Place of search<br>THE HAGUE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                | Date of completion of the search<br>18-01-1983 | Examiner<br>GULDNER H.D.                                     |
| <p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone<br/>Y : particularly relevant if combined with another document of the same category<br/>A : technological background<br/>O : non-written disclosure<br/>P : intermediate document</p> <p>T : theory or principle underlying the invention<br/>E : earlier patent document, but published on, or after the filing date<br/>D : document cited in the application<br/>L : document cited for other reasons</p> <p>&amp; : member of the same patent family, corresponding document</p> |                                                                                                                |                                                |                                                              |