



(12)

**EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**04.06.2003 Bulletin 2003/23**

(51) Int Cl.<sup>7</sup>: **H01H 50/44**, H01H 50/30,  
G10K 11/16

(43) Date of publication A2:  
**12.09.2001 Bulletin 2001/37**

(21) Application number: **01105565.4**

(22) Date of filing: **06.03.2001**

(84) Designated Contracting States:  
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU**  
**MC NL PT SE TR**  
 Designated Extension States:  
**AL LT LV MK RO SI**

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(30) Priority: **08.03.2000 EP 00104952**

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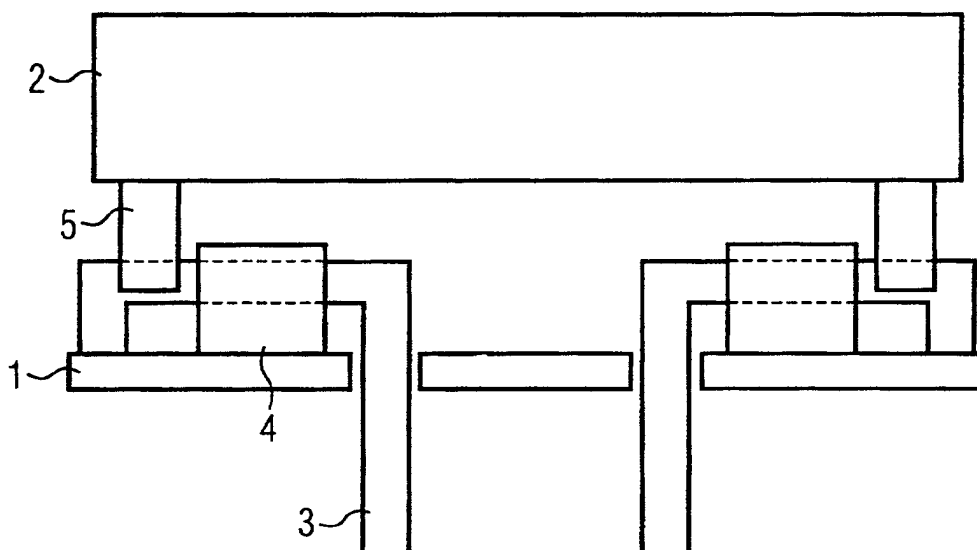
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(54) **Electrical component and process for the manufacture thereof**

(57) The invention relates to an electrical component having a functional unit (2) which is secured to a header (1) and which generates or is sensitive to sound, and having terminal elements (3) which are mechanically secured to the header (1) and electrically and acoustically coupled to the functional unit (2) and which project through holes in the header (1) onto the side of the head-

er (1) remote from the functional unit (2) and which have a modulus of elasticity of  $E_A > 50$  MPa, in which the terminal elements are partially encased in a viskoelastic material (4) having a modulus of elasticity of  $E_w < 10$  MPa. By encasing the terminal elements (3) in a viskoelastic material (4), effective sound-damping can be produced. Furthermore, the invention relates to a process for manufacturing the component.

FIG 1





European Patent  
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# EUROPEAN SEARCH REPORT

Application Number  
EP 01 10 5565

| 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.7) |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | US 4 933 655 A (MATSUBARA YUKIO)<br>12 June 1990 (1990-06-12)<br>* column 5, line 7 - line 37; figures 8-11<br>* | 1                                                 | H01H50/44<br>H01H50/30<br>G10K11/16          |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | FR 2 719 716 A (OTIS ELEVATOR CO)<br>10 November 1995 (1995-11-10)<br>* claim 1; figures 2,3 *                   | 1                                                 |                                              |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | DE 197 12 958 C (KLOECKNER MOELLER GMBH)<br>7 May 1998 (1998-05-07)<br>* claims 2,3; figures 1,2 *               | 1                                                 |                                              |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | US 5 949 313 A (AOKI SHIGEMITSU ET AL)<br>7 September 1999 (1999-09-07)<br>-----                                 |                                                   |                                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                  |                                                   | TECHNICAL FIELDS SEARCHED (Int.Cl.7)         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                  |                                                   | G10K<br>H01H                                 |
| The present search report has been drawn up for all claims                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                  |                                                   |                                              |
| Place of search<br>THE HAGUE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                  | Date of completion of the search<br>16 April 2003 | Examiner<br>Janssens De Vroom, P             |
| <p>CATEGORY OF CITED DOCUMENTS</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<br/>.....<br/>&amp; : member of the same patent family, corresponding document</p> |                                                                                                                  |                                                   |                                              |

EPO FORM 1503 03/92 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 10 5565

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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16-04-2003

| Patent document<br>cited in search report |   | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
|-------------------------------------------|---|---------------------|----------------------------|---------------------|
| US 4933655                                | A | 12-06-1990          | NONE                       |                     |
| FR 2719716                                | A | 10-11-1995          | FR 2719716 A1              | 10-11-1995          |
| DE 19712958                               | C | 07-05-1998          | DE 19712958 C1             | 07-05-1998          |
|                                           |   |                     | AT 230155 T                | 15-01-2003          |
|                                           |   |                     | AU 7033498 A               | 22-10-1998          |
|                                           |   |                     | DE 59806727 D1             | 30-01-2003          |
|                                           |   |                     | WO 9844524 A1              | 08-10-1998          |
|                                           |   |                     | EP 0970497 A1              | 12-01-2000          |
|                                           |   |                     | US 6246021 B1              | 12-06-2001          |
| US 5949313                                | A | 07-09-1999          | JP 10027533 A              | 27-01-1998          |