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## **EUROPEAN PATENT APPLICATION**

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 07.08.86 JP 185905/86
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 06.01.87 JP 85787/87

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26.04.89 Bulletin 89/17

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- Representative: Strehl, Schübel-Hopf, Groening, Schulz Maximilianstrasse 54 Postfach 22 14 55 D-8000 München 22(DE)
- Permanent magnet with good thermal stability.
- (57) A permanent magnet having good thermal stability, consisting essentially of the composition represented by the general formula:

 $R(Fe_{l\cdot x\cdot y\cdot z}Co_xB_yGa_z)_A$  wherein R is Nd alone or one or more rare earth elements mainly composed of Nd, Pr or Ce,  $0\le x\le 0.7$ ,  $0.02\le y\le 0.3$ ,  $0.001\le z\le 0.15$  and  $4.0\le A\le 7.5$ .

This permanent magnet may contain one or more additional elements selected from Nb, W, V, Ta and Mo. This permanent magnet has high coercive force and Curie temperature and thus highly improved thermal stability.

EP 0 258



## **EUROPEAN SEARCH REPORT**

EP 87 11 0634

|  | DOCUMENTS CONS   | DERED TO BE RELEVA                     | NT  |  | •   |  |
|--|--|--|---|--|---|--|
| Category   | Citation of document with indication, where appropriate, of relevant passages  |  | Relevant<br>to claim  |  | CLASSIFICATION OF THE APPLICATION (Int. CI.4) |  |
| P,X  | EP-A-0 216 254   | (K.K. TOSHIBA)                         |   |  | H 01 F 1/04                                   |  |
|  | * Claims 1,4,5;  | : table 1-1 *                          | 1   | ,2                                       |   |  |
| P,X  | April 11, 1987   | L7 (E-498)(2564)<br>201 (HITACHI META  | LS  |  |   |  |
|  | * Abstract *   |  | 1   | ,2                                       |   |  |
| A  | DE-A-3 514 516<br>SEIZO K.K.)  | (NIPPON GAKKI                          |   |  |   |  |
| A  | PATENT ABSTRACT<br>vol. 10, no. 19<br>July 5, 1986   | 92 (417)(2248)                         |   |  | ·   |  |
|  | & JP-A-61 39 50<br>ELECTRONICS LTI   | 07 (SEIKO INST. &<br>0) 25-02-1986     |   |  | - TECHNICAL FIELDS                            |  |
| E  | EP-A-0 248 981   | (K.K. TOSHIBA)                         |   |  | SEARCHED (Int. Cl.4)                          |  |
|  | * Claims 1,2; 1<br>30-35 *   | page 3, lines                          | 1   | .,2                                      | H 01 F  |  |
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|  | Place of search  | Date of completion of the sear         | ch  |  | Examiner                                      |  |
|  | THE HAGUE  | 26th October 198                       | 8   |  | DECANNIERE                                    |  |
| Y: pa<br>do<br>A: ted                              | CATEGORY OF CITED DOCU<br>rticularly relevant if taken alone<br>rticularly relevant if combined w<br>cument of the same category<br>chnological background | ith another D: docum                   | patent di<br>le filing di<br>lent cited<br>lent cited       | ocument<br>late<br>in the ap<br>for othe |   |  |
| O: non-written disclosure P: intermediate document |  |  | k: member of the same patent family, corresponding document |  |   |  |



| CLAIMS INCURRING FEES  |   |  |  |  |  |  |
|--|---|--|--|--|--|--|
|  |   |  |  |  |  |  |
| The pre  | sent European patent application comprised at the time of filing more than ten claims.  |  |  |  |  |  |
|  | All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.   |  |  |  |  |  |
|  | Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claims:                                   |  |  |  |  |  |
| No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims. |   |  |  |  |  |  |
| L  | ACK OF UNITY OF INVENTION   |  |  |  |  |  |
| The Sea  | rch Division considers that the present European patent application does not comply with the requirement of unity of<br>and relates to several inventions or groups of inventions,  |  |  |  |  |  |
| 1.   | Claims 1,2: permanent magnet of a first composition   |  |  |  |  |  |
| 2.   | Claims 3-7: permanent magnet of a second composition  |  |  |  |  |  |
| -  |   |  |  |  |  |  |
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|  |   |  |  |  |  |  |
|  | All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.  |  |  |  |  |  |
|  | Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, |  |  |  |  |  |
|  | namely claims:  |  |  |  |  |  |
| X  | None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims.                         |  |  |  |  |  |
|  | namely claims: 1,2  |  |  |  |  |  |