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(54) Title: SECURITY DEVICE COMPRISING SOFT MAGNETIC THIN FILM

(57) Abstract: A security device such as an anti-pilferage label or authentication label comprises as security feature a (first) soft-magnetic thin film having a thickness ranging from 100 nm to 2000 nm. The thin film is composed of an amorphous $\text{Co}_x\text{Zr}_y\text{Nb}_z$ alloy, where x, y and z are atomic percentages and fulfil following conditions: (a) x ranging between 80 and 95; (b) y and z ranging between 0 and 20; (c) $y + z = 100 - x$. Due to the high effective relative permeability μ_r , and the direction of its easy axis, a label with a CoZrNb thin film is relatively independent of its geometry.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G08B13/24 H01F10/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G08B H01F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 295 028 A (SCIENT GENERICS LTD) 14 December 1988 (1988-12-14) cited in the application claims 1-3,24 ---	1-3
Y	EP 0 147 126 A (HITACHI LTD) 3 July 1985 (1985-07-03) page 2, line 19 - line 23 page 16, line 14 - line 23; claims 1,2,4 ---	1-3
A	---	7
A	ROUABHI M ET AL: "DOMAIN WALL PINNING AND HYSTERESIS LOSSES IN AMORPHOUS CONBZR FILMS" IEEE TRANSACTIONS ON MAGNETICS, vol. 29, no. 6, 1 November 1993 (1993-11-01), pages 3502-3504, XP000429390 the whole document -----	1

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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