(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
26 July 2001 (26.07.2001)

PCT

(10) International Publication Number
WO 01/54129 A1

(51) International Patent Classification[7]: G11B 23/087

(21) International Application Number: PCT/NL01/00025

(22) International Filing Date: 16 January 2001 (16.01.2001)

(25) Filing Language: Dutch

(26) Publication Language: English

(30) Priority Data:
1014096 17 January 2000 (17.01.2000) NL

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(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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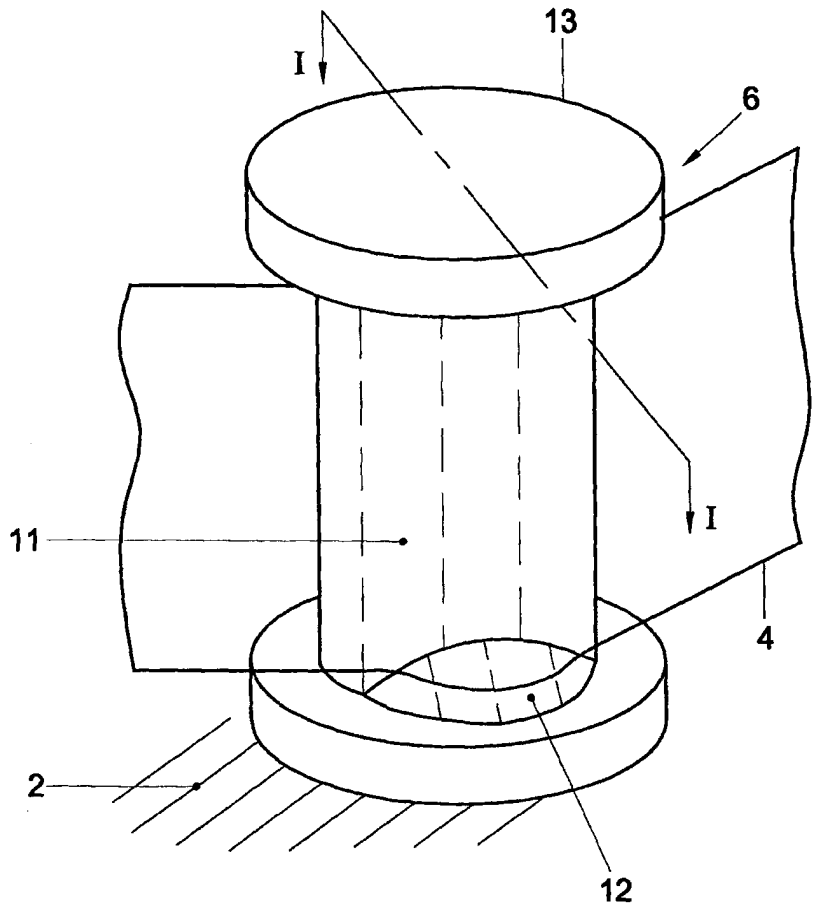
(54) Title: REEL HOLDER



(57) Abstract: The invention relates to a cartridge for computer tapes with an improved tape transport. For positioning the tape in a stable manner, the invention provides a reel holder provided with a base plate, two reels for a magnetic tape, and tape guiding elements with a guiding surface for guiding the tape therealong in a transport direction. Two tape guides are present, each of which, at one of its ends, has a protuberance and, at the other end, a flange or plate shaped body, which protuberance has a surface intersecting the guiding surface at an angle varying between 10° and 50°, preferably 30°-45°. The guiding surface and the protuberance can have a substantially cylindrical shape. Due to the asymmetry of the guiding surface, it is achieved that the tape is transported at a fixed, preferred position on the guiding surface, and that deflections from this preferred position are smoothly neutralized.

WO 01/54129 A1

Published:
— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Title: Reel holder

The invention relates to a reel holder provided with a base plate, two reels for a magnetic tape, and tape guiding elements with a guiding surface for guiding the tape therealong in a transport direction. In particular, the invention relates to a cartridge for computer tapes.

Such a reel holder is known from the European patent application EP-A-0,493,880. Between the unwinding point of one reel and the winding point of the other reel, the tape is transported along tape guiding elements, and the tape is read with the aid of a magnetic reading head. When transporting the tape it is important that it is positioned in a very stable manner, in particular at the location where the tape is led along the reading and/or writing head. Additionally, it is important to further improve stabilization, because, due to the use of increasingly thinner materials for the magnetic tape, lateral deflections can lead more and more easily to damage to or breakage of the tape. The tape guide described in the application mentioned is of complex construction, because it consists of a rotating and a non-rotating part. Applying rotating tape guiding elements can lead to loss of stability in the transport of the tape.

The object of the invention is to solve this drawback and to provide a reel holder with an improved transport for the tape.

To that end, the invention provides a reel holder of the type described in the preamble, wherein two tape guides are present, each having a protuberance at one of the ends, and a flange or plate shaped body at the other end, which protuberance has a surface intersecting a guiding surface at an angle varying from 10° to 50°, preferably from 30° - 45°. Due to the asymmetry of the guiding surface, it is achieved that the tape is guided over the guiding surface in a fixed, preferred position.

Additional advantages and characteristics of the invention will be further clarified on the basis of the accompanying drawing. In the drawing:

Fig. 1 shows a reel holder according to the invention;

Fig. 2 shows a tape guiding element with a protuberance according to the invention;

Fig. 3 shows a cross section of Fig. 2 along the line I-I.

In the figures, identical parts are designated with the same reference numerals.

In Fig. 1, a reel holder 1 is represented having a base plate 2 and reels 3 on which a magnetic tape 4 is wound. The reels 3 rotate around reel spindles 5, the tape 4 being unwound from one reel 3 and wound onto the other reel 3. In the drawing, the transport of the free tape 4 is represented by means of a dotted line. The tape 4 is transported along tape guiding elements 6 and 7, and can be read by a magnetic reading head at the location of the recess 8 between the tape guiding elements 6. With reference numeral 9, the tape is designated which is wound onto reel 3 when this is empty for the greater part, reference numeral 10 designates the transport of the tape when the reel 3 is full. The tape guiding elements 7 are right cylinders.

Figures 2 and 3 are schematic representations of a tape guiding element 6 with a guiding surface 11 having an asymmetrical guiding surface. In Fig. 2 the line I-I is indicated, along which line Fig. 3 represents a cross section of Fig. 2. The tape guiding element 6 is fixed on the base plate 2, and guides the magnetic tape 4. The guiding surface 11 is cylinder-shaped. The tape 4 runs over the tape guiding element 6, while the form of the protuberance 12 forces the tape 4 upwards against the flange 13. The protuberance 12 has a cylinder-shaped surface, which makes an angle of approximately 30° with the guiding surface.

Claims

1. A reel holder provided with a base plate, two reels for a magnetic tape, and tape guiding elements with a guiding surface for guiding the tape therealong in a transport direction, characterized in that two tape guides are present, each of which has a protuberance at one of the ends and a flange or plate shaped body at the other end, which protuberance has a surface intersecting a guiding surface at an angle varying between 10° and 50° and preferably 30°-45°.

2. A reel holder according to claim 1, characterized in that the guiding surface and the protuberance have a substantially cylindrical shape.

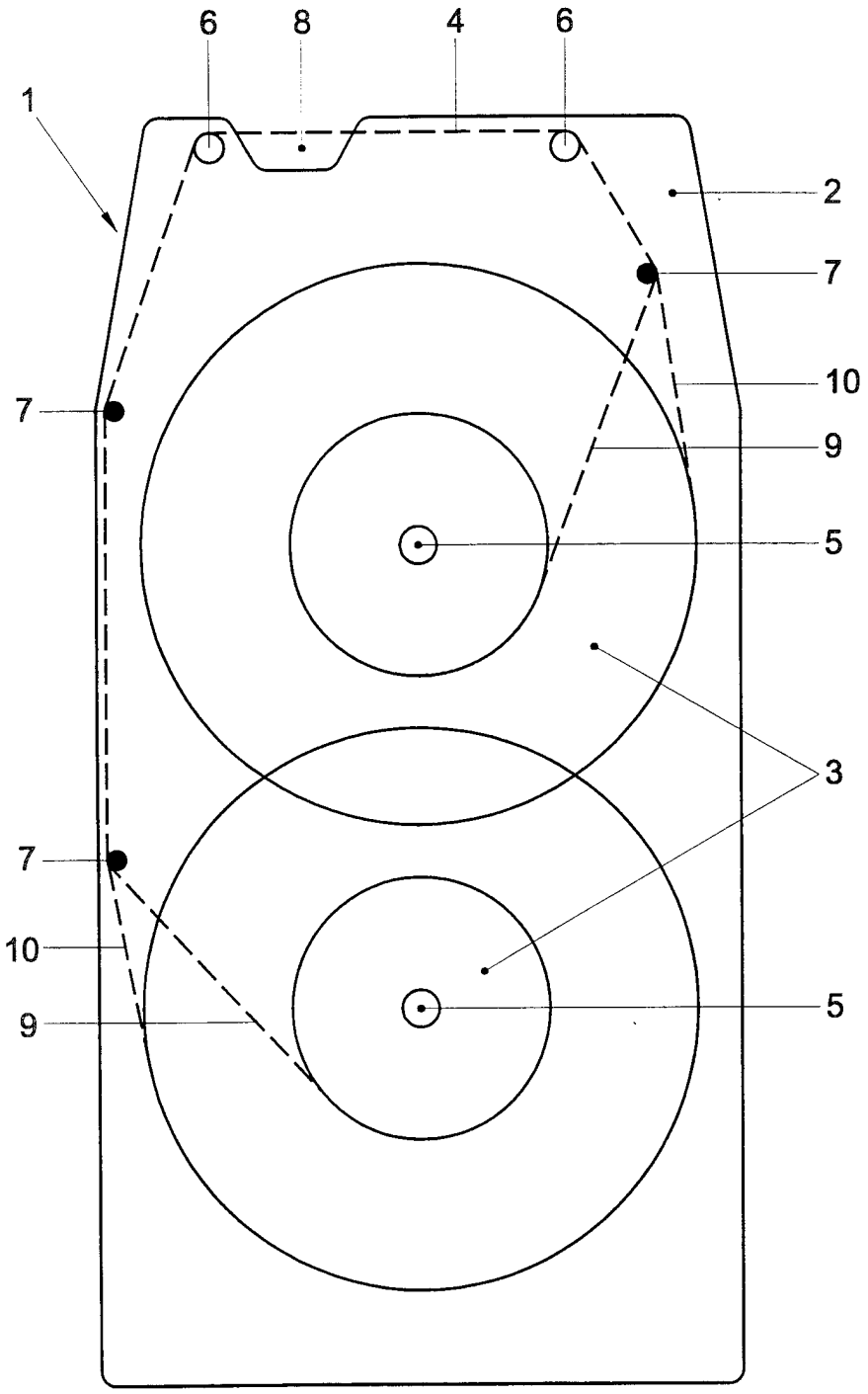


Fig. 1

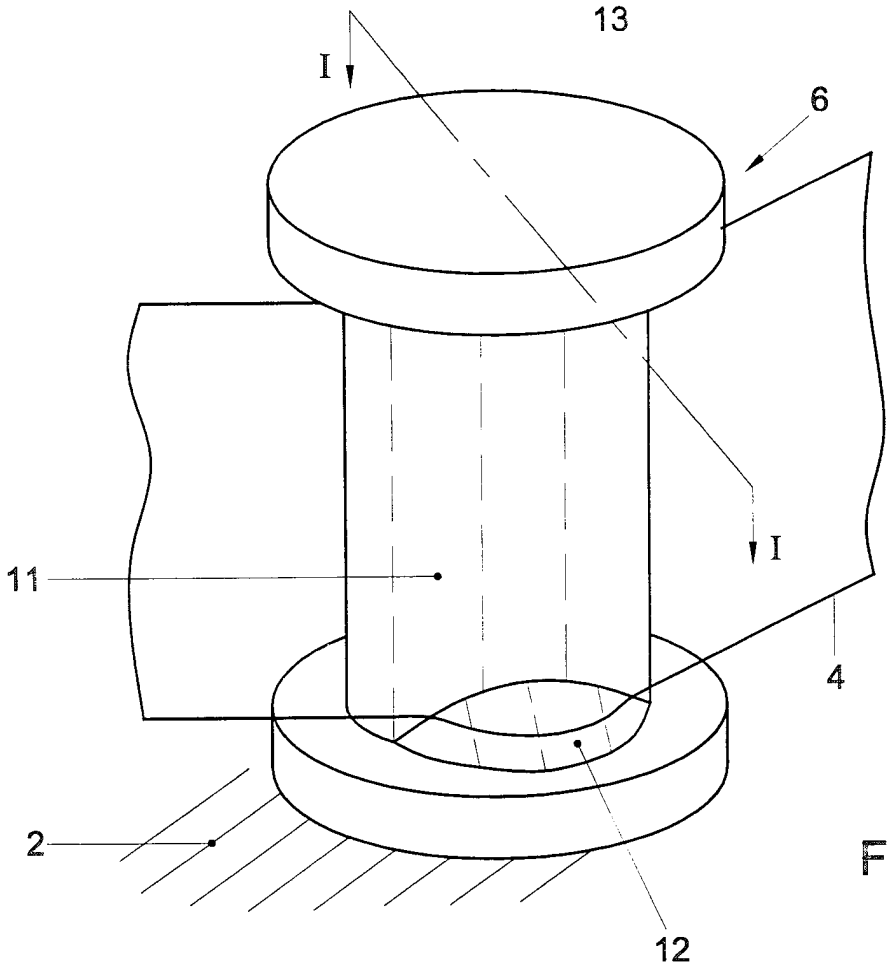


Fig.2

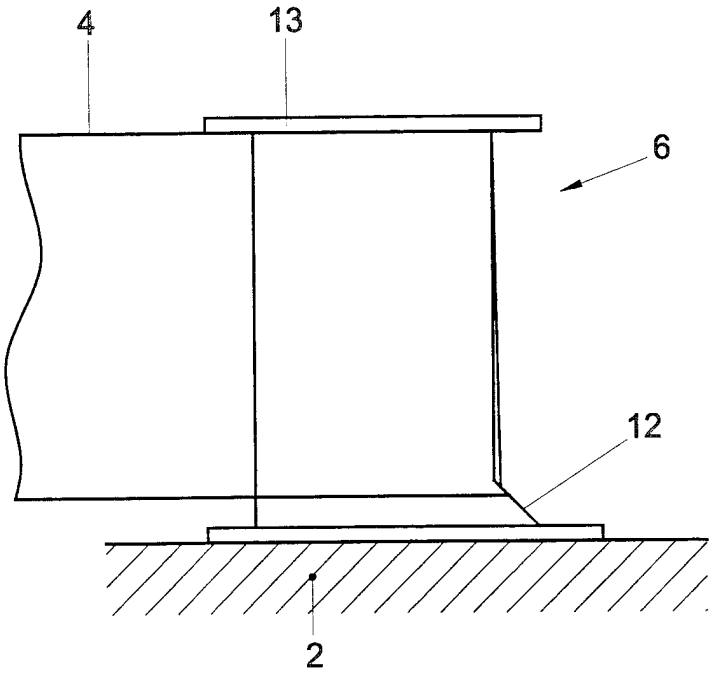


Fig.3

INTERNATIONAL SEARCH REPORT

Intern. nal Application No
PCT/NL 01/00025

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G11B23/087

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 G11B

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)
WPI Data, EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 97 29487 A (IMATION CORP) 14 August 1997 (1997-08-14) abstract; claims 1,10,15-21; figures 1,6,12,14-20	1
Y	EP 0 493 880 A (SONY CORP) 8 July 1992 (1992-07-08) cited in the application	1
A	abstract; figures	2
A	US 3 991 956 A (MACHIDA TETSUO) 16 November 1976 (1976-11-16) abstract; figures column 3, line 58 -column 4, line 51	1

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
18 May 2001	07/06/2001

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Declat, M

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