



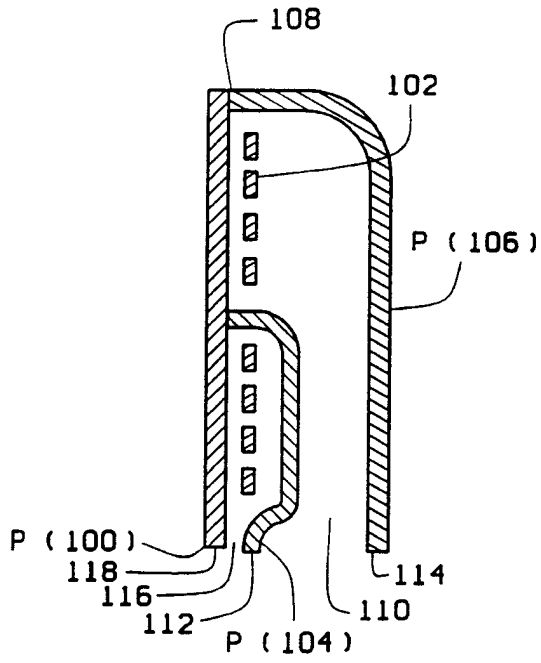
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<p>(21) International Application Number: PCT/US98/05242 (22) International Filing Date: 17 March 1998 (17.03.98) (30) Priority Data: 08/822,778 21 March 1997 (21.03.97) US (71) Applicant: WASHINGTON UNIVERSITY [US/US]; One Brookings Drive, St. Louis, MO 63130 (US). (72) Inventor: INDECK, Ronald, S.; 729 Gralee Lane, Olivette, MO 63132 (US). (74) Agents: HAFERKAMP, Richard, E. et al.; Howell & Haferkamp, L.C., Suite 1400, 7733 Forsyth Boulevard, St. Louis, MO 63105 (US).</p>	<p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>With international search report.</i></p> <p>(88) Date of publication of the international search report: 23 December 1998 (23.12.98)</p>	

(54) Title: MAGNETIC WRITE HEAD WITH PRECONDITIONING GAP

(57) Abstract

A thin film magnetic head includes an integrally formed preconditioning gap (110) having a width greater than the write gap width (116) to precondition a magnetic media for the more accurate placement of magnetic transitions on a magnetic medium. The thin film magnetic head is comprised of a first extended pole piece (100) underlying a thin pancake helically wound magnetic coil (102) with a second pole piece (104) aligned with the first pole piece (100) and attached to it through the center of the coil. A third pole piece (106), aligned with the first two pole pieces (100 and 104), overlies all of the foregoing and is attached to the first pole piece (100) at its rearward end (108) to thereby cover the other underlying layers of this thin film structure. The single magnetic coil (102) surrounds the second pole piece (104) and energizes both gaps (110 and 116).



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US98/05242

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :G11B 5/012, 5/17, 5/265

US CL :360/119, 121

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)

U.S. : 360/110, 120, 122, 123, 125, 126

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

NONE

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

APS, GPIC 1.0

search terms: magnetic head, gaps, precondition, poles, magnetization, alignment, coils

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,908,724 A (JEFFERS) 13 March 1990, entire document.	1-25, 29
X	SU 287125 A (TSILIK) 20 January 1971, abstract and figure 1.	26-28

Further documents are listed in the continuation of Box C.

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