9803117-2

RTMP copy + IPER + Annexes

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : G11B 5/48, 21/16

A1

(11) International Publication Number: WO 97/21212

(43) International Publication Date: 12 June 1997 (12.06.97)

(21) International Application Number: PCT/GB96/02760

(22) International Filing Date: 13 November 1996 (13.11.96)

(30) Priority Data:
08/566,219 1 December 1995 (01.12.95) US

(71) Applicant: INTERNATIONAL BUSINESS MACHINES CORPORATION [US/US]; Armonk, NY 10504 (US).

(71) Applicant (*for MC only*): IBM UNITED KINGDOM LIMITED [GB/GB]; P.O. Box 41, North Harbour, Portsmouth, Hampshire PO6 3AU (GB).

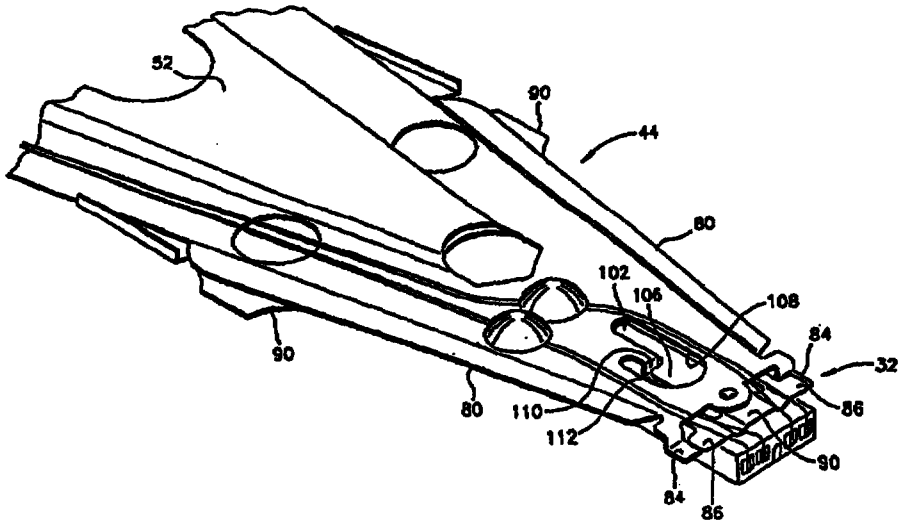
(72) Inventors: FRATER, Norman, Kermit; 321 Los Pinos Way, San Jose, CA 95119 (US). HOFFMANN, Thomas, Mark; 914 35th Avenue, Santa Cruz, CA 95062 (US). INGALLS, Donald, Harold; 7315 Chadwick Street, Gilroy, CA 95020 (US). KRIEHN, Bradley, John; 5359 Great Oaks Drive, San Jose, CA 95111 (US).

(74) Agent: LITHERLAND, David, Peter; IBM United Kingdom Limited, Intellectual Property Dept., Hursley Park, Winchester, Hampshire SO21 2JN (GB).

(81) Designated States: CN, CZ, HU, JP, KR, PL, RU, SG, VN, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published
With international search report.

(54) Title: SUSPENSION SYSTEM FOR DISK DRIVE



(57) Abstract

A head/gimbal assembly (HGA) of a suspension system for a disk drive includes a uniquely configured flexure tongue which allows for parallel positioning of a slider air bearing surface (ABS) during merge and a limitation of pitch of the slider during non-merge. A cantilevered end of the flexure tongue is provided with a finger extension which can be employed for merge operations and a remainder cantilevered end portion adjacent a base of the finger can be employed for limiting pitch of the slider. When a merge comb engages multiple flexure fingers of multiple suspensions in a head stack assembly the air bearing surfaces of the sliders are positioned parallel with respect to one another. This allows maximum disk stack density when a head stack assembly is merged with a head stack assembly. The flexure finger allows various arrangements to be employed for implementing a merge. The present invention also cooperates with a prior art roll limiter so that during merge a three point fixation normalizes a slider at zero pitch.