PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT3874531

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY AGREEMENT

CONVEYING PARTY DATA

Name	Execution Date
WESTERN DIGITAL (FREMONT), LLC	05/12/2016

RECEIVING PARTY DATA

Name:	JPMORGAN CHASE BANK, N.A., AS COLLATERAL AGENT
Street Address:	IL1-1145/54/63, P.O. BOX 6026
City:	CHICAGO
State/Country:	ILLINOIS
Postal Code:	60680

PROPERTY NUMBERS Total: 843

Property Type	Number
Patent Number:	5750275
Patent Number:	5943761
Patent Number:	5959811
Patent Number:	5984104
Patent Number:	5986978
Patent Number:	5986995
Patent Number:	5996213
Patent Number:	6002552
Patent Number:	6016290
Patent Number:	6018441
Patent Number:	6025988
Patent Number:	6034851
Patent Number:	6043959
Patent Number:	6055138
Patent Number:	6094803
Patent Number:	6118629
Patent Number:	6125015
Patent Number:	6130779
Patent Number:	6130863
Patent Number:	6134089

Property Type	Number
Patent Number:	6137656
Patent Number:	6137662
Patent Number:	6144528
Patent Number:	6151196
Patent Number:	6160684
Patent Number:	6175476
Patent Number:	6178066
Patent Number:	6178070
Patent Number:	6181525
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Patent Number:	6237215
Patent Number:	6249404
Patent Number:	6275354
Patent Number:	6282056
Patent Number:	6296955
Patent Number:	6304414
Patent Number:	6310746
Patent Number:	6310750
Patent Number:	6317290
Patent Number:	6317297
Patent Number:	6330136
Patent Number:	6330137
Patent Number:	6333830

Property Type	Number
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Patent Number:	6349014
Patent Number:	6351355
Patent Number:	6353318
Patent Number:	6353511
Patent Number:	6356412
Patent Number:	6369983
Patent Number:	6376964
Patent Number:	6377535
Patent Number:	6378195
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Patent Number:	6396660
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Patent Number:	6552928
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Patent Number:	6771468
Patent Number:	6775902
Patent Number:	6778358
Patent Number:	6781927
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Patent Number:	7474508
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Patent Number:	7522377
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Patent Number:	7542246
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Patent Number:	8163185
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Patent Number:	8343319
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Patent Number:	8381391
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Patent Number:	8404128
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Patent Number:	8405930
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Patent Number:	8413317
Patent Number:	8416540
Patent Number:	8418353
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Patent Number:	8422176
Patent Number:	8422342
Patent Number:	8422841
Patent Number:	8424192
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Patent Number:	8444866
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Patent Number:	8480911
Patent Number:	8485579
Patent Number:	8486285
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Patent Number:	8488272
Patent Number:	8488279
Patent Number:	8488281
Patent Number:	8491801
Patent Number:	8491802
Patent Number:	8493693
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Patent Number:	8643980
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Patent Number:	8653824
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Property Type	Number
Patent Number:	8665677
Patent Number:	8665690
Patent Number:	8670211
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Property Type	Number
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Patent Number:	9251813
Application Number:	12146370
Application Number:	12466353
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Application Number:	13631808
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Application Number:	13664271
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Application Number:	13756379
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Property Type	Number
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Application Number:	14981830
Application Number:	14993127
Application Number:	14994361
Application Number:	62152753

CORRESPONDENCE DATA

Fax Number: (800)914-4240

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

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SIGNATURE:	/Elaine Carrera/
DATE SIGNED:	05/16/2016

Total Attachments: 56
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U.S. DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

RECORDATION FORM COVER SHEET
PATENTS ONLY

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

1. Name of conveying party(ies)

Western Digital (Fremont), LLC

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

2. Name and address of receiving party(ies)

Name: JPMorgan Chase Bank, N.A., as Collateral Agent

Internal Address:

Street Address: IL1-1145/54/63, P.O. Box 6026

City: Chicago

State: IL

Country: USA Zip: 60680

Additional name(s) & address(es) attached? ☐ Yes ☒ No

3. Nature of conveyance/Execution Date(s):

Execution Date(s) May 12, 2016

☐ Assignment ☐ Merger
☒ Security Agreement ☐ Change of Name
☐ Joint Research Agreement
☐ Government Interest Assignment
☐ Executive Order 9424, Confirmatory License
☐ Other

4. Application or patent number(s): ☐ This document is being filed together with a new application.

A. Patent Application No.(s)
See Schedule A

B. Patent No.(s)
See Schedule A

Additional numbers attached? ☒ Yes ☐ No

5. Name and address to whom correspondence concerning document should be mailed:

Name: Elaine Carrera, Legal Assistant

Internal Address:

Street Address: c/o Cahill Gordon & Reindel LLP

80 Pine Street

City: New York

State: NY Zip: 10005

Phone Number: (212) 701-3365

Docket Number:

Email Address: ecarrera@cahill.com

6. Total number of applications and patents involved: 843

7. Total fee (37 CFR 1.21(h) & 3.41) $

☐ Authorized to be charged to deposit account
☐ Enclosed
☐ None required (government interest not affecting title)

8. Payment Information

Deposit Account Number

Authorized User Name

9. Signature:

Elaine Carrera — Signature

May 12, 2016 — Date

Elaine Carrera — Name of Person Signing

Total number of pages including cover sheet, attachments, and documents: 56

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Patent Collateral Agreement

This Thursday, May 12, 2016, WESTERN DIGITAL (FREMONT), LLC ("*Debtor*"), for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, grants to JPMORGAN CHASE BANK, N.A., a national banking association (the "*Agent*"), acting as collateral agent hereunder for the Secured Parties as defined in the Security Agreement, dated as of May 12, 2016, among Debtor, Agent and the other debtors party thereto, as the same may be amended, restated, amended and restated or otherwise modified from time to time (the "*Security Agreement*") for the benefit of the Secured Parties, a lien on and security interest in, all right, title, and interest of such Debtor in and to all of the following (collectively, "*Patent Collateral*"):

(i) Each patent and patent application owned by Debtor, other than to the extent the same constitutes Excluded Property, that is listed on Schedule A hereto (the "*Patents*"); and

(ii) All proceeds of the foregoing, including any claim by Debtor against third parties for damages by reason of past, present or future infringement of any Patent, in each case together with the right to sue for and collect said damages.

All capitalized terms used herein without definition have the meanings given to such terms in the Security Agreement.

Debtor and Agent do hereby further acknowledge and affirm that the rights and remedies of the Agent with respect to the grant of a security interest in the Patent Collateral made hereby are more fully set forth in, and subject to, the Security Agreement, the terms and provisions of which are incorporated herein by reference as if fully set forth herein. In the event of any conflict between the terms of this Patent Collateral Agreement and the terms of the Security Agreement, the terms of the Security Agreement shall govern.

THIS PATENT COLLATERAL AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER SHALL BE GOVERNED BY, AND CONSTRUED BY AND INTERPRETED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the undersigned Debtor has caused this Patent Collateral Agreement to be duly executed as of the date and year last above written.

WESTERN DIGITAL (FREMONT), LLC

By: _____

Name: Michael C. Ray
Title: Vice President and Secretary

Accepted and agreed to as of the date and year last above written.

JPMORGAN CHASE BANK, N.A., as Agent

By: Caitlin Stewart

Name: Caitlin Stewart
Title: Vice President

SCHEDULE A
TO PATENT COLLATERAL AGREEMENT

U.S. PATENTS AND PATENT APPLICATIONS

No.	Title	Patent /Application Number
1.	Thin Film Heads With Insulated Laminations For Improved High Frequency Performance	5750275
2.	Method For Adjusting The Gram Load Of Head Gimbal Assemblies	5943761
3.	Magnetoresistive Transducer With Four-lead Contact	5959811
4.	Protective Carrier For Magnetic Head Assembly	5984104
5.	READ/WRITE HEAD AND METHOD FOR MAGNETIC READING AND MAGNETO-OPTICAL WRITING ON A DATA STORAGE MEDIUM	5986978
6.	HIGH NA CATADIOPTRIC FOCUSING DEVICE HAVING FLAT DIFFRACTIVE SURFACES	5986995
7.	Thin Film MR Head And Method Of Making Wherein Pole Trim Takes Place At The Wafer Level	5996213
8.	ADAPTIVE LOADING/UNLOADING SUSPENSION	6002552
9.	READ/WRITE HEAD WITH SHIFTED WAVEGUIDE	6016290
10.	Disk Drive Pivot Bearing And Actuator Arm Assembly	6018441
11.	Interconnect Adapter And Head Suspension Assembly	6025988
12.	Shorting Bar And Test Clip For Protecting Magnetic Heads From Damage Caused By Electrostatic Discharge During Manufacture	6034851
13.	Inductive Write Head Formed With Flat Yoke And Merged With magnetoresistive Read Transducer	6043959
14.	Thin Film Pedestal Pole Tips Write Head Having Narrower Lower Pedestal Pole Tip	6055138
15.	Wafer Processing Techniques for Near Field Magneto-Optical Head	6094803
16.	Magnetic Head With Aligned Pole Tips And Pole Layers Formed Of High Magnetic Moment Material	6118629
17.	HEAD GIMBAL ASSEMBLY WITH LOW STIFFNESS FLEX CIRCUIT AND ESD PROTECTION	6125015
18.	Near Field Magneto-Optical Head Made Using Wafer Processing Techniques	6130779

No.	Title	Patent /Application Number
19.	Slider and Electro-Magnetic Coil Assembly	6130863
20.	Current Perpendicular To Plane Magnetoresistive Device With Low Resistance Lead	6134089
21.	Air Bearing Slider	6137656
22.	Magnetoresistive Sensor With Pinned SAL	6137662
23.	AIR BEARING SLIDER WITH REDUCED STICTION	6144528
24.	Magnetic Head Suspension Assembly Including An Intermediate Flexible Member That Supports An Air Bearing Slider With A Magnetic Transducer For Testing	6151196
25.	Head Suspension Having Tabs And Force Isolation Welds For Gram Load Reduction During Swaging	6160684
26.	Synthetic Spin-Valve Device Having High Resistivity Anti Parallel Coupling Layer	6175476
27.	Thin Film Device Having A Small Element With Well Defined Corners And Method Of Fabrication	6178066
28.	Magnetic Write Head And Method For Making Same	6178070
29.	READ/WRITE HEAD WITH A LIMITED RANGE OF MOTION RELATIVE TO A LOAD BEAM	6181525
30.	High Numerical Aperture Optical Focusing Device for Use in Data Storage Systems	6185051
31.	SPIN VALVE SENSOR WITH ANTIFERROMAGNETIC AND MAGNETOSTATICALY COUPLED PINNIN STRUCTURE	6185077
32.	BIAS LAYERS WHICH ARE FORMED ON UNDERLAYERS PROMOTING IN-PLANE ALIGNMENT OF THE C-AXIS OF COBALT USED IN MAGNETORESISTIVE TRANSDUCERS	6185081
33.	Apparatus and Method of Device Stripe Height Control	6193584
34.	Thin Film MR Head And Method Of making Wherein Pole Trim Takes Place At The Wafer Level	6195229
35.	MR SENSOR WITH BLUNT CONTIGOUS JUNCTION AND SLOW-MILLING-RATE READ GAP	6198608
36.	CPP Magnetoresistive Device With Reduced Edge Effect And Method For Making Same	6198609

No.	Title	Patent / Application Number
37.	SYSTEM FOR BIASING A SYNTHETIC FREE LAYER IN A MAGNETORESISTANCE SENSOR	6201673
38.	High NA Solid Catadioptric Focusing Device Having a Flat Kinoform Phase Profile	6212153
39.	Apparatus And Method For Adhesive Bridge Suspension Attachment	6215625
40.	BOTTOM OR DUAL SPIN VALVE HAVING A SEED LAYER THAT RESULTS IN AN IMPROVED ANTIFERROMAGNETIC LAYER	6222707
41.	High Gram Load Air Bearing Geometry For A Tripad Slider	6229672
42.	High Numerical Aperture Optical Focusing Device for Use in Data Storage Systems	6229782
43.	Gram Load Change Reduction Isolation Load Beam/Suspension	6230959
44.	Thin Film Write Head With Improved Laminated Flux Carrying Structure and Method Of Fabrication	6233116
45.	DURABLE LANDING PADS FOR AN AIR-BEARING SLIDER	6236543
46.	Test Fixture For Positioning And Testing A Magnetic Head	6237215
47.	HEAD GIMBAL ASSEMBLY WITH A FLEXIBLE PRINTED CIRCUIT HAVING A SERPENTINE SUBSTRATE	6249404
48.	Magnetic Head With A Toroidal Coil Encompassing Only One Yoke Layer	6275354
49.	Tapered Stitch Pole Writer for High Density Magnetic Recording	6282056
50.	High moment and high permeability transducer structures and formation	6296955
51.	Thin Film Magnetic Write Head Having An Ultra-Low Stack Height and Method Of Manufacturing Same	6304414
52.	Piezoelectric Vibration Damping For Disk Drives	6310746
53.	Disk Drive Actuator Arm With Microactuated Read/Write Head Positioning	6310750
54.	Advanced Pole Trim Writer with High Moment P1 and Low APEX Angle	6317290
55.	CURRENT PINNED DUAL SPIN VALVE WITH SYNTHETIC PINNED LAYERS	6317297
56.	Magnetic Read Sensor With SDT Tri-Layer And Method For Making Same	6330136
57.	MAGNETORESISTIVE READ SENSOR INCLUDING A CARBON BARRIER LAYER AND METHOD FOR MAKING SAME	6330137

No.	Title	Patent /Application Number
58.	Low Resistance Coil Structure for High Speed Writer	6333830
59.	Air bearing slider with shaped taper	6339518
60.	Magnetic Read/Write Device With Insulated Coil Layer Recessed Into Pole	6349014
61.	Spin Valve Device With Improved Thermal Stability	6351355
62.	Hard Biased Current Perpendicular To The Plane Sensor And Method Of Fabrication Thereof	6353318
63.	Thin Film Write Head For Improved High Speed and High Density Recording	6353511
64.	Air Bearing Facilitating Load/Unload Of A Magnetic Read/Write Head	6356412
65.	WRITE HEAD HAVING A DRY-ETCHABLE ANTIREFLECTIVE INTERMEDIATE LAYER	6369983
66.	Collocated Rotating Flexure Microactuator For Dual-Stage Servo In Disk Drives	6376964
67.	High Numerical Aperture Optical Focusing Device Having a Conical Incident Facet and a Parabolic Reflector for Use in Data Storage Systems	6377535
68.	A FICTURE FOR ASSEMBLING AND TESTING A READ/WRITE HEAD WITH A GIMBAL BALL ASSEMBLY	6378195
69.	Hybrid Dual Spin Valve Sensor and Method For Making Same	6381105
70.	Coil Structure with High Thermal Conductor Buffer in Writer of Merged Head	6396660
71.	Laser Mounting for a Thermally Assisted GMR Head	6404706
72.	Method of Building an Ultra-Small Advanced Writer	6417998
73.	Magnetoresistive Head Stabilized Structure and Method of Fabrication Thereof	6417999
74.	DUAL SYNTHETIC SPIN VALVE SENSOR USING CURRENT PINNING	6418000
75.	SPIN-DEPENDENT TUNNELING SENSORS FOR MAGNETIC RAM (MRAM)	6418048
76.	Disk Drive Actuator Arm With Microactuated Read/Write Head Positioning	6421211
77.	Thin Film Read Head Structure With Improved Bias Magnet-to-Magnetoresistive Element Interface and Method Of Fabrication	6421212
78.	METHOD AND SYSTEM FOR PROVIDING ELECTROSTATIC DISCHARGE PROTECTION FOR FLEX-ON SUSPENSION ASSEMBLY, OR CALBE-ON SUSPENSION	6424505

No.	Title	Patent /Application Number
79.	SPIN VALVE MAGNETORESISTIVE SENSOR FOR HIGH TEMPERATURE ENVIRONMENT USING IRIDIUM MANGANESE	6424507
80.	LAMINATED CARBON-CONTAINING OVERCOATS FOR INFORMATION STORAGE SYSTEM TRANSDUCERS	6433965
81.	Structure and Method for Redeposition Free Thin Film CPP Read Sensor Fabrication	6433970
82.	Airflow-Assisted Ramp Loading And Unloading In Hard Disk Drives	6437945
83.	Triple Step Technique For Air-Bearing Fabrication	6445542
84.	METHOD AND SYSTEM FOR PROVIDING EDGE-JUNCTION TMR FOR HIGH AREAL DENSITY MAGNETIC RECORDING	6445554
85.	METHOD AND SYSTEM FOR REDUCING ASSYMETRY IN A SPIN VALVE HAVING A SYNTHETIC PINNED LAYER	6447935
86.	Thin Film Write Head With Interlaced Coil Winding And Method of Fabrication	6466401
87.	Compact MR Write Structure	6466402
88.	Magnetic Read/Write Device With Insulated Coil Layers Recessed Into Pole	6466404
89.	Method And System For Providing A Magnetoresistive Head Having Higher Efficiency	6468436
90.	Spin Valve Device With Improved Exchange Layer Defined Track Width and Method of Fabrication	6469877
91.	Method for Manufacturing a GMR Spin Valve Having A Smooth Interface Between Magnetic And Non-Magnetic Layers	6479096
92.	High Density Multi-Coil Magnetic Write Head Having A Reduced Yoke Length And Short Flux Rise Time	6483662
93.	Thin film head with self-aligned pole tips	6487040
94.	Thin film read head structure with improved bias magnet-to-magnetoresistive element interface and method of fabrication	6487056
95.	Thin Film Write Head With Improved Yoke to Pole Stitch	6490125
96.	Magnetic Write Head Having A Split Coil Structure	6496330
97.	Data Storage Retrieval Apparatus With Thin Film Read Head Having Planarized Extra Gap an Shield Layers And Method Of Fabrication Thereof	6496334

No.	Title	Patent / Application Number
98.	Disk Drive Actuator Arm with Microactuated Read/Write Head Positioning	6512659
99.	VERTICAL GIANT MAGNETORESISTANCE SENSOR UTILIZING AN INSULATING BIAS LAYER	6512661
100.	HIGH SENSITIVITY COMMON-SOURCE AMPLIFIER MRAM CELL, MEMORY ARRAY AN READ-WRITE SCHEME	6512690
101.	METHOD AND SYSTEM FOR PROVIDING EDGE-JUNCTION TMR UTILIZING A HARD MAGNET PINNED LAYER	6515573
102.	ACTIVE REFLECTION AND ANTI-REFLECTION OPTICAL SWITCH	6515791
103.	Low Profile Head Gimbal Assembly With Shock Limiting And Load/Unload Capability and Method Of Manufacture Thereof	6538850
104.	Read/Write Control Circuit for Magnetic Tunnel Junction MRAM	6552928
105.	METHOD AND SYSTEM FOR PROVIDING A TAPE HEAD SUBASSEMBLY STRUCTURE HAVING AN INTEGRATED WEAR BAR AND OUTRIGGER RAIL	6577470
106.	SiC Overcoat & Method For Sliders	6583953
107.	Magnetoresistive Element and Magnetic Head	6597548
108.	SPIN DEPENDENT TUNNELING BARRIERS DOPED WITH MAGNETIC PARTICLES	6639291
109.	SLIDER FOR LOAD/UNLOAD OPERATION WITH HIGH SITFFNESS AND LOW UNLOAD FORCE	6646832
110.	THIN FILM INDUCTIVE READ/WRITE HEAD WITH A SLOPED POLE	6657816
111.	SPIN-DEPENDENT TUNNELING SENSOR WITH LOW RESISTANCE METAL OXIDE TUNNEL BARRIER	6661625
112.	MRAM MEMORY ARRAY HAVING MERGED WORD LINES	6680863
113.	Top Spin Valve With Improved Seed Layer	6687098
114.	Temperature Dependent Write Current Source For Magnetic Tunnel Junction MRAM	6687178
115.	Designs of Reference Cells for Magnetic Tunnel Junction (MTJ) MRAM	6697294
116.	NARROW TRACK WIDTH MAGNETORESISTIVE SENSOR AND METHOD OF MAKING	6700759
117.	Shear Mode Multilayered Collocated Micro-Actuator For Dual-Stage Servo Controllers In Disk Drives	6704158

No.	Title	Patent /Application Number
118.	METHOD AND SYSTME FOR PROVIDING ESD PROTECTION USING DIODES AND A GROUNDING STRIP IN A HEAD GIMBAL ASSEMBLY	6704173
119.	MAGNETIC TUNNELING JUNCTION WITH IMPROVED POWER CONSUMPTION	6707083
120.	Airflow-Assisted Ramp Loading And Unloading Of Sliders In Hard Disk Drives	6717773
121.	INDUCTIVE TRANSDUCER WITH STITCHED POLE TIP AND PEDESTAL DEFINING ZERO THROAT HEIGHT	6721138
122.	Non-Corrosive GMR Slider For Proximity Re-cording	6721142
123.	TUNNELING MAGNETORESISTANCE SPIN-VALVE READ SENSOR WITH LANIO3 SPACER	6721149
124.	Designs of Reference Cells for Magnetic Tunnel Junction (MTJ) MRAM	6721203
125.	Thin Film Writer With Multilayer Write Gap	6724569
126.	INDUCTIVE TRANSDUCER WITH RECESSED LEADING POLE LAYER	6724572
127.	Magnetic Head Device Manufacturing Method and Intermediate Product of Magnetic Head De-vice Manufacture	6729015
128.	Thin Film Read Head Structure With Improved Bias Magnet-to-Magnetoresistive Element Inter-face And Method Of Fabrication	6735850
129.	METHOD OF MAKING TRANSDUCER WITH INORGANIC NONFERROMAGNETIC APEX REGION	6737281
130.	METHOD AND SYSTEM FOR MAKING TMR JUNCTIONS	6744608
131.	SPIN DEPENDENT TUNNELING BARRIERS FORMED WITH A MAGNETIC ALLOY	6747301
132.	Inductive Transducer With Reduced Pole Tip Protrusion	6751055
133.	TRANSDUCERS FOR PERPENDICULAR RECORDING WITH INDUCTIVE CANCELLATION AT MR SENSOR	6754049
134.	METHOD FOR MANUFACTURING A GMR SPIN VALVE HAVING A SMOOTH INTERFACE BETWEEN MAGNETIC AND NON-MAGNETIC LAYERS	6756071
135.	ELECTROSTATIC MICROELECTROMECHANICAL (MEM) MICROACTUATOR FOR PRECISE READ/WRITE HEAD POSITIONING	6757140

No.	Title	Patent / Application Number
136.	MICROACTUATOR WITH OFFSETTING HINGES AND METHOD FOR HIGH-RESOLUTION POSITIONING OF MAGNETIC READ/WRITE HEAD	6760196
137.	Data Storage and Retrieval Apparatus With Thin Film Read Head Having Inset Extra Gap Insulation Layer And Method Of Fabrication	6762910
138.	Ultra-Short Yoke & Ultra-Low Stack Height Writer and Method of Fabrication	6765756
139.	SLIDER WITH HIGH PITCH-STIFFNESS AIR BEARING DESIGN	6771468
140.	METHOD OF MAKING A MAGNETIC HEAD WITH ALIGNED POLE TIPS	6775902
141.	MAGNETICALLY SOFT, HIGH SATURATION MAGNETIZATION LAMINATES OF IRON-COBALT-NITROGEN AND IRON-NICKEL	6778358
142.	Data storage system having an optical processing flying head	6781927
143.	METHOD FOR PROVIDING PEDESTAL-DEFINED ZERO THROAT WRITERS (as amended)	6785955
144.	PERPENDICULAR RECORDING WRITE HEAD HAVING A RECESSED MAGNETIC ADJUNCT POLE AND METHOD OF MAKING THE SAME	6791793
145.	Spin-Valve Magnetic Transducing Element and Magnetic Head Having Free Layer With Negative Magnetostriction	6791807
146.	METHOD OF FORMING A SLIDER/SUSPENSION ASSEMBLY	6796018
147.	Write Head Architecture For Improved Manufacturablity	6798616
148.	Spin-Valve Magnetoresistance Sensor and Thin-Film Magnetic Head	6798625
149.	DATA STORAGE AND RETRIEVAL APPARATUS WITH THIN FILM READ HEAD HAVING A PLANAR SENSOR ELEMENT AND AN EXTRA GAP AND METHOD OF FABRICATION THEREOF	6801408
150.	Dual Stripe Spin Valve Sensor Without Antiferromagnetic Pinning Layer	6801411
151.	Magnetic Tunnel Junction MRAM With Improved Stability	6803615

No.	Title	Patent /Application Number
152.	WAFER SERIALIZATION MANUFACTURING PROCESS FOR READ/WRITE HEADS USING PHOTOLITHOGRAPHY AND SELECTIVE REACTIVE ION ETCHING	6806035
153.	ENCLOSED PIEZOELECTRIC MICROACTUATORS COUPLED BETWEEN HEAD AND SUSPENSION	6807030
154.	Piezoelectric Actuated Optical Switch	6807332
155.	MAGNETIC HEADS FOR PERPENDICULAR RECORDING WITH TRAPEZOIDAL POLE TIPS	6809899
156.	MAGNETORESISTIVE SENSORS HAVING SUBMICRON TRACK WIDTHS AND METHOD OF MAKING	6816345
157.	MAGNETIC RAM CELL WITH AMPLIFICATION CIRCUITRY AND MRAM MEMORY ARRAY FORMED USING THE MRAM CELLS	6829160
158.	METHOD OF FORMING A MAGNETORESISTIVE DEVICE	6829819
159.	Airflow-Assisted Ramp Loading And Unloading Of Sliders In Hard Disk Drives	6856489
160.	HYBRID DIFFUSER FOR MINIMIZING THERMAL POLE TIP PROTRUSION AND READER SENSOR TEMPERATURE	6859343
161.	Magnetic Write Element Having A Well Defined Coil Wall Structure And A Method Of Manufacturing the Same	6859997
162.	DOUBLE WINDING TWIN COIL FOR THIN-FILM HEAD WRITER	6861937
163.	Inductive Writer With Flat Top Pole & Pedestal Defined Zero Throat	6870712
164.	WRITE HEAD WITH HIGH MOMENT FILM LAYER HAVING TAPERED PORTION EXTENDING BEYOND WRITE GAP LAYER	6873494
165.	SIDE RAIL SLIDER HAVING IMPROVED FLY HEIGHT CONTROL	6873496
166.	HIGH CAPACITY MRAM MEMORY ARRAY ARCHITECTURE	6873547
167.	Air Bearing Having a Cavity Patch Surface Co-planar with a Leading Edge Pad Surface	6879464
168.	SHIELDED MAGNETIC RAM CELLS	6888184
169.	METHOD AND SYSTEM FOR PROVIDING HIGH SENSITIVITY GIANT MAGNETORESISTIVE SENSORS	6888704

No.	Title	Patent/Application Number
170.	TECHNIQUE FOR REDUCING POLE TIP PROTRUSION IN A MAGNETIC WRITE HEAD AND GMR STRIPE TEMPERATURE IN AN ASSOCIATED READ HEAD STRUCTURE UTILIZING ONE OR MORE INTERNAL DIFFUSER REGIONS	6894871
171.	Compact MR Write Structure	6894877
172.	WRITE HEAD HAVING A RECESSED, MAGNETIC ADJUNCT POLE FORMED ATOP A MAIN POLE, AND METHOD OF MAKING THE SAME	6906894
173.	METHOD AND SYSTEM FOR REDUCING THERMAL POLE TIP PROTRUSION	6909578
174.	WRITER WITH A HOT SEED ZERO THROAT AND SUBSTANTIALLY FLAT TOP POLE	6912106
175.	METHOD AND SYSTEM FOR PROVIDING DYNAMIC ACTUATION OF A WRITE HEAD USING A STRAIN ELEMENT	6934113
176.	MAGNETORESISTIVE SENSOR WITH OVERLAPPING LEAD LAYERS INCLUDING ALPHA TANTALUM AND CONDUCTIVE LAYERS	6934129
177.	COIL INDUCTIVE WRITER HAVING A LOW INDUCTANCE AND SHORT YOKE LENGTH	6940688
178.	UV CURABLE AND ELECTRICALLY CONDUCTIVE ADHESIVE FOR BONDING MAGNETIC DISK DRIVE COMPONENTS	6942824
179.	MAGNETIC RECORDING HEAD WITH A SIDE SHIELD STRUCTURE FOR CONTROLLING SIDE READING OF THIN FILM READ SENSOR	6943993
180.	METHOD OF FORMING A MAGNETORESISTIVE DEVICE	6944938
181.	UV CURABLE AND ELECTRICALLY CONDUCTIVE ADHESIVE FOR BONDING MAGNETIC DISK DRIVE COMPONENTS	6947258
182.	ACTIVE FLY HEIGHT CONTROL CROWN ACTUATOR	6950266
183.	Ultra-Short Yoke And Ultra-Low Stack Height Writer And Method Of Fabrication	6954332
184.	SANDWICH DIAMOND-LIKE CARBON OVERCOAT FOR USE IN SLIDER DESIGNS OF PROXIMITY RECORDING HEADS	6956718
185.	Insulation Layer Structure For Inductive Write Heads And Method Of Fabrication	6958885
186.	PIEZOELECTRIC MICROACTUATORS WITH SUBSTANTIALLY FIXED AXIS OF ROTATION AND MAGNIFIED STROKE	6961221

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189.	POLE STRUCTURE TO RELIEVE ADJACENT TRACK WRITING	6987643
190.	INDUCTIVE WRITE HEAD HAVING HIGH MAGNETIC MOMENT POLES AND LOW MAGNETIC MOMENT THIN LAYER IN THE BACK GAP, AND METHODS FOR MAKING	6989962
191.	MAGNETORESISTIVE SENSOR WITH OVERLAPPING LEADS HAVING DISTRIBUTED CURRENT	6989972
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194.	SUBMICRON TRACK-WIDTH POLE-TIPS FOR ELECTROMAGNETIC TRANSDUCERS	7023658
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196.	Method and Apparatus for Measuring Write-Induced Pole Tip Protrusion	7027242
197.	METHOD AND SYSTEM FOR PROVIDING A DUAL SPIN FILTER	7027268
198.	SPIN-DEPENDENT TUNNELING READ/WRITE SENSOR FOR HARD DISK DRIVES	7027274
199.	SYSTEM AND METHOD FOR MINIMIZING THERMAL POLE TIP PROTRUSION	7035046
200.	MANIPULATOR FOR MICROSCOPY SAMPLE PREPARATION AND METHODS FOR MAKING AND USE THEREOF	7041985
201.	Spin Valve Magnetoresistance Sensor and Thin Film Magnetic Head	7046490
202.	READER/WRITER FOR MAGNETIC MEMORY	7054113
203.	DIMPLE PIVOT POST FOR A ROTARY CO-LOCATED MICROACTUATOR	7057857
204.	CONNECTION OF TRACE CIRCUITRY IN A COMPUTER DISK DRIVE SYSTEM	7059868

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206.	METHODS FOR FABRICATING REDEPOSITION FREE THIN FILM CPP READ SENSORS	7111382
207.	DOUBLE-NOSED INDUCTIVE TRANSDUCER WITH REDUCED OFF-TRACK WRITING	7113366
208.	STITCHED POLE WRITE ELEMENT WITH A T-SHAPED POLE TIP PORTION	7116517
209.	METHOD FOR DETERMINING A MICROACTUATOR RANGE OF MOVEMENT	7124654
210.	TRAILING EDGE RECORDING MAGNETIC HEAD WITH REVERSED DOUBLE BIAS COIL AND DEFLECTION POLE FOR PERPENDICULAR RECORDING WITH A NON-PERPENDICULAR WRITE FIELD	7126788
211.	MAGNETIC HEAD FOR PERPENDICULAR RECORDING WITH MAGNETIC LOOP PROVIDING NON-PERPENDICULAR WRITE FIELD	7126790
212.	SPIN STAND TESTING SYSTEM WITH FINE POSITIONER FOR HEAD STACK ASSEMBLY	7131346
213.	POLE TIP WITH SIDES FLARED AT MEDIA-FACING SURFACE	7133253
214.	NARROW TRACK WIDTH MAGNETORESISTIVE SENSOR AND METHOD OF MAKING	7134185
215.	MAGNETIC SENSOR HAVING AN ALUMINUM-NITRIDE SEED LAYER FOR AN ANTI-FERROMAGNETIC LAYER	7170725
216.	PROCESS OF MAKING A NON-CORROSIVE GMR SLIDER FOR PROXIMITY RECORDING	7174622
217.	MAGNETICALLY SOFT, HIGH SATURATION MAGNETIZATION LAMINATES OF IRON-COBALT-NITROGEN AND IRON-NICKEL FOR MAGNETIC HEAD POLE LAYERS	7177117
218.	SHIELDED POLE MAGNETIC HEAD FOR PERPENDICULAR RECORDING	7193815
219.	SPIN VALVE SENSOR HAVING A NONMAGNETIC ENHANCEMENT LAYER ADJACENT AN ULTRA THIN FREE LAYER	7196880
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225.	A WRITE ELEMENT FOR PERPENDICULAR RECORDING IN A DATA STORAGE SYSTEM	7239478
226.	METHOD OF FABRICATING A PERPENDICULAR RECORDING WRITE HEAD HAVING A GAP WITH TWO PORTIONS	7248431
227.	MAGNETIC HEAD WITH STITCHED TOP POLE LAYER AND SINGLE LAYER COIL OR SOLENOIDAL COIL	7248433
228.	MAGNETORESISTIVE READ SENSOR WITH REDUCED EFFECTIVE SHIELD-TO-SHIELD SPACING	7248449
229.	FERROMAGNETIC STRUCTURE INCLUDING A FIRST SECTION SEPARATED FROM A FERROMAGNETIC LAYER BY AN ELECTRICALLY CONDUCTIVE NONMAGNETIC SPACER AND A SECOND SECTION ELONGATED RELATIVE TO THE FIRST SECTION IN AT LEAST ONE DIMENSION	7280325
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231.	MAGNETORESISTIVE READ HEAD HAVING A BIAS STRUCTURE WITH AT LEAST ONE DUSTING LAYER	7342752
232.	METHOD OF MONITORING OPERATION OF A DISK DRIVE BY ANALYZING THE ENVELOPE OF A READ-BACK SIGNAL IN THE FREQUENCY DOMAIN	7349170
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235.	METHOD FOR MANUFACTURING A GROUP OF HEAD GIMBAL ASSEMBLIES	7363697
236.	NON-UNIFORM SUBAPERTURE POLISHING	7371152
237.	MAGNETIC RECORDING HEAD WITH RESISTIVE HEATING ELEMENT LOCATED NEAR THE WRITE COIL	7372665
238.	INDUCTIVE WRITER DESIGN USING A SOFT MAGNETIC PEDESTAL HAVING A HIGH MAGNETIC SATURATION LAYER	7375926
239.	WRITE ELEMENT WITH REDUCED YOKE LENGTH FOR ULTRA-HIGH DENSITY WRITING	7379269
240.	METHOD OF FABRICATING THIN FILM WRITE HEADS WITH A SHORTENED YOKE AND IMPROVED DIMENSION CONTROL	7386933
241.	METHOD TO FABRICATE AN ESD RESISTANT TUNNELING MAGNETORESISTIVE READ TRANSDUCER.	7389577
242.	MAGNETORESISTIVE STRUCTURE HAVING A NOVEL SPECULAR AND FILTER LAYER COMBINATION	7417832
243.	METHOD AND SYSTEM FOR PROVIDING A SMALLER CRITICAL DIMENSION MAGNETIC ELEMENT UTILIZING A SINGLE LAYER MASK	7419891
244.	MAGNETIC RECORDING HEAD WITH RESISTIVE HEATING ELEMENT AND THERMAL BARRIER LAYER	7428124
245.	PERPENDICULAR MAGNETIC RECORDING HEAD WITH DYNAMIC FLYING HEIGHT HEATING ELEMENT	7430098
246.	METHOD FOR SELECTING AN ELECTRICAL POWER TO BE APPLIED TO A HEAD-BASED FLYING HEIGHT ACTUATOR	7436620
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248.	FERROMAGNETIC PINNING STRUCTURE INCLUDING A FIRST SECTION ANTIFERROMAGNETICALLY COUPLED TO A PINNED LAYER AND A SECOND SECTION ELONGATED RELATIVE TO THE FIRST SECTION IN A STRIPE HEIGHT DIRECTION	7436638
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251.	DAMASCENE PROCESS FOR FABRICATING POLES IN RECORDING HEADS	7444740
252.	HEAD GIMBAL ASSEMBLY WITH AIR BEARING SLIDER CROWN HAVING REDUCED TEMPERATURE SENSITIVITY	7474508
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255.	METHOD AND SYSTEM FOR PROVIDING PERPENDICULAR MAGNETIC RECORDING TRANSDUCERS	7508627
256.	MAGNETIC WRITE HEAD WITH HIGH MOMENT MAGNETIC THIN FILM FORMED OVER SEED LAYER	7522377
257.	WRITE ELEMENT WITH RECESSED POLE AND HEAT SINK LAYER FOR ULTRA-HIGH DENSITY WRITING	7522379
258.	HEAD STACK ASSEMBLY WITH INTERLEAVED FLEXURE TAIL BOND PAD ROWS	7522382
259.	TRANSDUCER WITH POLE TIP PROTRUSION COMPENSATION LAYER	7542246
260.	DUAL ELECTRICAL LAPPING GUIDES WITH COMMON BONDING PAD	7551406
261.	ELECTRICAL LAPPING GUIDE DISPOSED LATERALLY RELATIVE TO A SHIELD PEDESTAL	7554767
262.	DISK DRIVE DETERMINING OPERATING FLY HEIGHT BY DETECTING HEAD DISK CONTACT FROM DISK ROTATION TIME	7583466
263.	FLEXURE DESIGN AND ASSEMBLY PROCESS FOR ATTACHMENT OF SLIDER USING SOLDER AND LASER REFLOW	7593190

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265.	SLIDER WITH AN AIR BEARING SURFACE HAVING A INTER-CAVITY DAM WITH OD AND ID DAM SURFACES OF DIFFERENT HEIGHTS	7616405
266.	MAGNETIC SENSOR WITH UNDERLAYERS PROMOTING HIGH-COERCIVITY, IN-PLANE BIAS LAYERS	7639457
267.	READ/WRITE HEAD WITH DYNAMIC FLYING HEIGHT CONTROL BY MAGNETOSTRICTION	7660080
268.	LAMINATED PERPENDICULAR WRITER HEAD INCLUDING AMORPHOUS METAL	7672080
269.	METHOD AND SYSTEM FOR PROVIDING A MAGNETIC ELEMENT HAVING A CURRENT CONFINED LAYER	7672086
270.	MAGNETORESISTIVE STRUCTURE HAVING A NOVEL SPECULAR AND BARRIER LAYER COMBINATION	7684160
271.	PERPENDICULAR MAGNETIC RECORDING HEAD HAVING NONMAGNETIC INSERTION LAYERS	7688546
272.	METHOD FOR FABRICATING MAGNETORESISTIVE READ HEAD HAVING A BIAS STRUCTURE WITH AT LEAST ONE DUSTING LAYER	7691434
273.	METHOD AND SYSTEM FOR PROVIDING A SPIN TUNNELING MAGNETIC ELEMENT HAVING A CRYSTALLINE BARRIER LAYER	7695761
274.	HEAD HAVING A TRANSDUCER HEATER AND AN AIR BEARING SURFACE WITH A FLOW-DIVERSION DAM AND PRESSURE-RELIEF TROUGH DISPOSED UPSTREAM OF THE TRANSDUCER	7719795
275.	METHOD OF FABRICATING A PERPENDICULAR RECORDING WRITE HEAD HAVING A GAP WITH TWO PORTIONS	7726009
276.	PERPENDICULAR MAGNETIC RECORDING HEAD WITH DYNAMIC FLYING HEIGHT HEATING ELEMENT DISPOSED BELOW TURNS OF A WRITE COIL	7729086
277.	MAGNETIC RECORDING HEAD WITH RESISTIVE HEATING ELEMENT LOCATED NEAR THE WRITE COIL	7729087

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278.	METHOD AND SYSTEM FOR PROVIDING OPTICAL PROXIMITY CORRECTION FOR STRUCTURES SUCH AS A PMR NOSE	7736823
279.	METHOD AND SYSTEM FOR PROVIDING A MAGNETIC RECORDING MEDIA	7755861
280.	METHOD AND SYSTEM FOR FABRICATING A MAGNETIC RECORDING DEVICE	7785666
281.	HEAD INTEGRATED TOUCHDOWN SENSOR FOR HARD DISK DRIVES	7796356
282.	DIFFERENTIAL HEAD INTEGRATED TOUCHDOWN SENSORS FOR HARD DISK DRIVES	7800858
283.	METHOD AND SYSTEM FOR CLEANING MAGNETIC ARTIFACTS USING A CARBONYL REACTIVE ION ETCH	7819979
284.	METHOD AND SYSTEM FOR PROVIDING A MICROELECTRONIC DEVICE USING A PLURALITY OF FOCUS DISTANCES	7829264
285.	METHOD AND SYSTEM FOR PROVIDING A STRUCTURE IN A MICROELECTRONIC DEVICE USING A CHROMELESS ALTERNATING PHASE SHIFT MASK	7846643
286.	HEAD WITH AN AIR BEARING SURFACE HAVING A SHALLOW RECESSED TRAILING AIR FLOW DAM	7855854
287.	PERPENDICULAR RECORDING HEAD WITH SHAPED POLE SURFACES FOR HIGHER LINEAR DATA DENSITIES	7869160
288.	SETTING AN OPERATING BIAS CURRENT FOR A MAGNETORESISTIVE HEAD BY COMPUTING A TARGET OPERATING VOLTAGE	7872824
289.	HEAD WITH A TRANSDUCER OVERCOAT HAVING A TRAILING AIR FLOW DAM THAT IS SHALLOWLY RECESSED FROM AN AIR BEARING SURFACE	7872833
290.	METHOD AND SYSTEM FOR PROVIDING OPTICAL PROXIMITY CORRECTION FOR STRUCTURES SUCH AS A PMR NOSE	7910267
291.	PERPENDICULAR MAGNETIC RECORDING HEAD UTILIZING A NONMAGNETIC UNDERLAYER LAYER	7911735
292.	METHOD AND SYSTEM FOR PROVIDING A PMR HEAD HAVING AN ANTIFERROMAGNETICALLY COUPLED POLE	7911737

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293.	HEAD WITH AN AIR BEARING SURFACE HAVING LEFT AND RIGHT LEADING PRESSURIZING STEPS, EACH WITH SHORT AND LONG REGIONS	7916426
294.	SYSTEM FOR MANUFACTURING A GROUP OF HEAD GIMBAL ASSEMBLIES (HGAS)	7918013
295.	MAGNETICALLY SOFT, HIGH SATURATION MAGNETIZATION LAMINATE OF IRON-COBALT-NITROGEN AND IRON-NICKEL FOR PERPENDICULAR MEDIA UNDERLAYERS	7968219
296.	METHOD AND SYSTEM FOR MEASURING MAGNETIC INTERFERENCE WIDTH	7982989
297.	METHOD AND SYSTEM FOR TESTING P2 STIFFNESS OF A MAGNETORESISTANCE TRANSDUCER AT THE WAFER LEVEL	8008912
298.	METHOD AND SYSTEM FOR MOUNTING LASERS ON ENERGY ASSISTED MAGNETIC RECORDING HEADS	8012804
299.	A METHOD FOR PROVIDING A PERPENDICULAR MAGNETIC RECORDING (PMR) HEAD	8015692
300.	MAGNETIC RECORDING HEAD FORMED BY DAMASCENE PROCESS	8018677
301.	METHOD FOR SIMULTANEOUS ELECTRONIC LAPPING GUIDE (ELG) AND PERPENDICULAR MAGNETIC RECORDING (PMR) POLE FORMATION	8018678
302.	METHOD AND SYSTEM FOR PROVIDING A MAGNETIC WRITER USING A BARC	8072705
303.	METHOD OF MEASURING A BEVEL ANGLE IN A WRITE HEAD	8074345
304.	REDUCING THERMAL PROTRUSION OF A NEAR FIELD TRANSDUCER IN AN ENERGY ASSISTED MAGNETIC RECORDING HEAD	8077418
305.	PERPENDICULAR MAGNETIC RECORDING HEAD HAVING A RECESSED MAGNETIC BASE LAYER	8077434
306.	CURRENT PERPENDICULAR-TO-PLANE READ SENSOR WITH BACK SHIELD	8077435
307.	MULTIPLE APERTURE VCSEL EAMR HEADS	8077557
308.	METHOD FOR PROVIDING A PERPENDICULAR MAGNETIC RECORDING (PMR) TRANSDUCER	8079135

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309.	SLIDER WITH AN AIR-BEARING SURFACE INCLUDING FOUR PRESSURE GENERATING POCKETS FOR COUNTERING DISRUPTIVE MOVEMENT	8081400
310.	MAGNETIC ELEMENT HAVING A SMALLER CRITICAL DIMENSION OF THE FREE LAYER	8081403
311.	SLIDER WITH LEADING EDGE BLEND AND CONFORMAL STEP FEATURES	8087973
312.	SUSPENSION ASSEMBLY HAVING A READ HEAD CLAMP	8089730
313.	METHOD FOR PROVIDING A STRUCTURE IN A MAGNETIC RECORDING TRANSDUCER	8091210
314.	METROLOGY AND 3D RECONSTRUCTION OF DEVICES IN A WAFER	8097846
315.	SELF-ALIGNED METHOD FOR FABRICATING A HIGH DENSITY GMR READ ELEMENT	8104166
316.	METHOD AND SYSTEM FOR PROVIDING A MAGNETIC TRANSDUCER HAVING AN IMPROVED READ SENSOR SYNTHETIC ANTIFERROMAGNET	8116043
317.	METHOD AND SYSTEM FOR PROVIDING ENERGY ASSISTED MAGNETIC RECORDING DISK DRIVE USING A VERTICAL SURFACE EMITTING LASER	8116171
318.	METHOD AND SYSTEM FOR OPTICALLY COUPLING A LASER WITH A TRANSDUCER IN AN ENERGY ASSISTED MAGNETIC RECORDING DISK DRIVE	8125856
319.	METHOD AND SYSTEM FOR PROVIDING AN ENERGY ASSISTED MAGNETIC RECORDING HEAD IN A WAFER PACKAGING CONFIGURATION	8134794
320.	METHOD AND SYSTEM FOR PROVIDING A PERPENDICULAR MAGNETIC RECORDING HEAD UTILIZING A MASK HAVING AN UNDERCUT LINE	8136224
321.	METHOD AND SYSTEM FOR PROVIDING A PERPENDICULAR MAGNETIC RECORDING HEAD	8136225
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323.	DISK DRIVE COMPRISING A DUAL READ ELEMENT AND DELAY CIRCUITRY TO IMPROVE READ SIGNAL	8139301

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324.	METHOD FOR MANUFACTURING A PERPENDICULAR MAGNETIC RECORDING TRANSDUCER	8141235
325.	METHOD FOR PROVIDING A PERPENDICULAR MAGNETIC RECORDING (PMR) TRANSDUCER	8146236
326.	PERPENDICULAR MAGNETIC RECORDING HEAD HAVING A POLE TIP FORMED WITH A CMP UNIFORMITY STRUCTURE	8149536
327.	METHOD FOR PROVIDING AND UTILIZING AN ELECTRONIC LAPPING GUIDE IN A MAGNETIC RECORDING TRANSDUCER	8151441
328.	METHOD AND APPARATUS FOR LIFTING OFF PHOTORESIST BENEATH AN OVERLAYER	8163185
329.	METHOD AND SYSTEM FOR INTERROGATING THE THICKNESS OF A CARBON LAYER	8164760
330.	METHOD AND SYSTEM FOR PROVIDING A WRITE POLE IN AN ENERGY ASSISTED MAGNETIC RECORDING DISK DRIVE	8164855
331.	READ HEAD HAVING CONDUCTIVE FILLER IN INSULATED HOLE THROUGH SUBSTRATE	8164858
332.	METHOD AND SYSTEM FOR FABRICATING MAGNETIC TRANSDUCERS WITH IMPROVED PINNING	8164864
333.	FOUR PAD SELF-CALIBRATING ELECTRONIC LAPPING GUIDE	8165709
334.	METHOD FOR FABRICATING A MAGNETIC RECORDING TRANSDUCER HAVING SIDE SHIELDS	8166631
335.	METHOD FOR PROVIDING A PERPENDICULAR MAGNETIC RECORDING (PMR) TRANSDUCER	8166632
336.	METHOD AND SYSTEM FOR EXPOSING A PHOTORESIST IN A MAGNETIC DEVICE	8169473
337.	TUNABLE POLE TRIM PROCESSES FOR FABRICATING TRAPEZOIDAL PERPENDICULAR MAGNETIC RECORDING (PMR) WRITE POLES	8171618
338.	METHOD AND SYSTEM FOR PROVIDING A PERPENDICULAR MAGNETIC RECORDING WRITER	8179636
339.	METHOD FOR PROVIDING A STRUCTURE IN A MAGNETIC TRANSDUCER	8191237

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341.	TMR READ HEAD STRUCTURES WITH DIFFERENTIAL STRIPE HEIGHTS	8194366
342.	METHOD AND SYSTEM FOR PROVIDING A POLE FOR A PERPENDICULAR MAGNETIC RECORDING HEAD USING A MULTI-LAYER HARD MASK	8196285
343.	HEAD WITH AN AIR BEARING SURFACE HAVING A PARTICLE FENCE SEPARATED FROM A LEADING PAD BY A CONTINUOUS MOAT	8199437
344.	HIGH EFFICIENCY GRATING COUPLING FOR LIGHT DELIVERY IN EAMR	8200054
345.	SERVO DESIGN IN DATA STORAGE MEDIA	8203800
346.	ENERGY ASSISTED MAGNETIC RECORDING HEAD HAVING A NEAR FIELD TRANSDUCER WITH REDUCED THERMAL PROTRUSION	8208350
347.	SYSTEM FOR PERFORMING BONDING A FIRST SUBSTRATE TO A SECOND SUBSTRATE	8220140
348.	PRECISE METROLOGY WITH ADAPTIVE MILLING	8222599
349.	METHOD FOR PROVIDING A PERPENDICULAR MAGNETIC RECORDING (PMR) POLE	8225488
350.	METHOD AND SYSTEM FOR FABRICATING MAGNETIC TRANSDUCERS WITH IMPROVED PINNING	8227023
351.	METHOD AND SYSTEM FOR PROVIDING A MAGNETIC RECORDING TRANSDUCER HAVING A HYBRID MOMENT POLE	8228633
352.	METHOD AND SYSTEM FOR PROVIDING A MAGNETIC RECORDING TRANSDUCER HAVING SIDE SHIELDS	8231796
353.	METHOD AND SYSTEM FOR PROVIDING A MAGNETIC RECORDING TRANSDUCER USING A LINE HARD MASK	8233248
354.	METHODS FOR MINIMIZING COMPONENT SHIFT DURING SOLDERING	8240545
355.	METHOD AND SYSTEM FOR PROVIDING AN ENERGY ASSISTED MAGNETIC RECORDING DISK DRIVE HAVING IMPROVED HEAT DISSIPATION	8248896
356.	STRAIGHT TOP MAIN POLE FOR PMR BEVEL WRITER	8254060

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357.	UV ADHESIVE VISCOSITY ADJUSTMENT APPARATUS AND METHOD	8256272
358.	DOUBLE RIE DAMASCENE PROCESS FOR NOSE LENGTH CONTROL	8257597
359.	METHOD AND SYSTEM FOR PROVIDING A MAGNETIC HEAD USING A COMPOSITE MAGNETIC MATERIAL IN THE RECORDING TRANSDUCER	8259410
360.	INTEGRATION OF A VERTICAL CAVITY SURFACE EMITTING LASER (VCSEL) ON AN ENERGY-ASSISTED MAGNETIC RECORDING (EAMR) HEAD	8259539
361.	METHODS OF PRODUCING DAMASCENE MAIN POLE FOR PERPENDICULAR MAGNETIC RECORDING HEAD	8262918
362.	METHOD AND SYSTEM FOR PROVIDING A PERPENDICULAR MAGNETIC RECORDING POLE USING MULTIPLE CHEMICAL MECHANICAL PLANARIZATIONS	8262919
363.	HEAD GIMBAL ASSEMBLY HAVING A RADIAL ROTARY PIEZOELECTRIC MICROACTUATOR BETWEEN A READ HEAD AND A FLEXURE TONGUE	8264797
364.	MAGNETIC RECORDING HEAD	8264798
365.	METHOD AND SYSTEM FOR PROVIDING AN IMPROVED HARD BIAS STRUCTURE	8270126
366.	METHOD FOR FABRICATING A MAGNETIC RECORDING TRANSDUCER	8276258
367.	METHOD AND SYSTEM FOR PROVIDING A PERPENDICULAR MAGNETIC RECORDING POLE HAVING A LEADING EDGE BEVEL	8277669
368.	METHOD AND SYSTEM FOR COUPLING A LASER WITH A SLIDER IN AN ENERGY ASSISTED MAGNETIC RECORDING DISK DRIVE	8279719
369.	PERPENDICULAR MAGNETIC RECORDING HEAD	8284517
370.	METHOD OF FABRICATING COMPONENTS WITH PRECISE DIMENSION CONTROL	8288204
371.	METHOD AND SYSTEM FOR PULSING EAMR DISK DRIVES	8289821
372.	METHOD AND SYSTEM FOR CALIBRATING AN ELECTRONIC LAPPING GUIDE FOR A BEVELED POLE IN A MAGNETIC RECORDING TRANSDUCER	8291743
373.	METHODS FOR MODELING DEVICES IN A WAFER	8307539

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374.	METHOD FOR PROVIDING AN ENERGY ASSISTED MAGNETIC RECORDING (EAMR) TRANSDUCER	8307540
375.	MASK FOR INCREASED UNIFORMITY IN ION BEAM DEPOSITION	8308921
376.	PERPENDICULAR MAGNETIC RECORDING HEAD	8310785
377.	METHOD AND SYSTEM FOR PROVIDING SEPARATE WRITE AND OPTICAL MODULES IN AN ENERGY ASSISTED MAGNETIC RECORDING DISK DRIVE	8310901
378.	METHOD AND SYSTEM FOR PROVIDING AN IMPROVED MAGNETORESISTIVE STRUCTURE UTILIZING AN OXIDATION BUFFER LAYER	8315019
379.	METHOD FOR PROVIDING AT LEAST ONE MAGNETORESISTIVE DEVICE	8316527
380.	METHOD AND SYSTEM FOR PROVIDING A MAGNETIC RECORDING TRANSDUCER INCLUDING AN ASSIST POLE HAVING SURFACES ANGLED WITH RESPECT TO THE ABS	8320076
381.	METHOD AND SYSTEM FOR PROVIDING A HIGH MOMENT FILM	8320077
382.	TRAILING EDGE OPTIMIZED NEAR FIELD TRANSDUCER	8320219
383.	METHOD AND SYSTEM FOR PROVIDING AN ENERGY ASSISTED MAGNETIC RECORDING DISK DRIVE HAVING A NON-CONFORMAL HEAT SPREADER	8320220
384.	NON-LINEAR OPTICAL GRATING	8320722
385.	METHOD FOR PROVIDING AN ENERGY ASSISTED MAGNETIC RECORDING HEAD IN A WAFER PACKAGING CONFIGURATION	8322022
386.	METHOD FOR PROVIDING A WRAP-AROUND SHIELD FOR A MAGNETIC RECORDING TRANSDUCER	8322023
387.	AN EAMR HEAD HAVING IMPROVED OPTICAL COUPLING EFFICIENCY	8325569
388.	METHOD FOR MANUFACTURING A PERPENDICULAR MAGNETIC RECORDING TRANSDUCER	8333008
389.	METHOD AND SYSTEM FOR PROVIDING A PERPENDICULAR MAGNETIC RECORDING HEAD	8334093
390.	METHOD OF FABRICATING A TUNNELING MAGNETORESISTIVE (TMR) READER	8336194

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392.	SLIDER WITH LEADING EDGE BLEND AND CONFORMAL STEP FEATURES	8339742
393.	METHOD AND SYSTEM FOR PROVIDING A PERPENDICULAR MAGNETIC RECORDING TRANSDUCER USING A SPLIT SEED LAYER	8341826
394.	METHOD AND SYSTEM FOR PROVIDING AN IMPROVED HARD BIAS STRUCTURE	8343319
395.	METHOD AND SYSTEM FOR FABRICATING A CAVITY IN A SUBSTRATE OF A MAGNETIC RECORDING HEAD	8343363
396.	DOUBLE HARD-MASK MILL BACK METHOD OF FABRICATING A NEAR FIELD TRANSDUCER FOR ENERGY ASSISTED MAGNETIC RECORDING	8343364
397.	METHOD AND SYSTEM FOR PROVIDING A SUSPENSION HEAD BOND PAD DESIGN	8345519
398.	METHOD AND SYSTEM FOR PROVIDING A MAGNETORESISTIVE STRUCTURE USING UNDERCUT FREE MASK	8349195
399.	TRAILING EDGE OPTIMIZED NEAR FIELD TRANSDUCER HAVING NON-RECTANGULAR PIN CROSS SECTION	8351307
400.	METHOD FOR LIFTING OFF PHOTORESIST BENEATH AN OVERLAYER	8357244
401.	MAGNETIC WRITER HAVING A SPLIT YOKE	8373945
402.	METHOD FOR FABRICATING A POLE OF A MAGNETIC TRANSDUCER	8375564
403.	METHOD FOR PROVIDING AN ELECTRONIC LAPPING GUIDE CORRESPONDING TO A NEAR-FIELD TRANSDUCER OF AN ENERGY ASSISTED MAGNETIC RECORDING TRANSDUCER	8375565
404.	METHOD FOR PROVIDING A MAGNETIC RECORDING TRANSDUCER	8381391
405.	METHOD AND SYSTEM FOR PROVIDING A MAGNETIC RECORDING TRANSDUCER HAVING A PLANARIZED NEAR-FIELD TRANSDUCER AND A SLOPED POLE	8385158
406.	RESIST PATTERN PROTECTION TECHNIQUE FOR DOUBLE PATTERNING APPLICATION	8394280
407.	WRITE HEAD WITH VARIABLE SIDE SHIELD GAPS	8400731

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409.	METHOD AND SYSTEM FOR PROVIDING A CURVED SURFACE IN A MAGNETIC RECORDING HEAD	8404129
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451.	METHOD AND SYSTEM FOR PROVIDING A MAGNETIC READ TRANSDUCER HAVING AN IMPROVED SIGNAL TO NOISE RATIO	8493695
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773.	A MAGNETIC WRITER HAVING A DUAL SIDE GAP	14/574,250
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776.	METHOD AND SYSTEM FOR PROVIDING AN NFT USING A LIFT-OFF PROCESS	14/578,227
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778.	METHOD AND SYSTEM FOR PROVIDING A READ TRANSDUCER HAVING SYMMETRIC ANTIFERROMAGNETICALLY COUPLED SHIELDS	14/578,450
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787.	SLIDER BACK SIDE ETCHING TO INCREASE SHEAR STRENGTH BETWEEN SUSPENSION AND SLIDER	14/664,425
788.	SYSTEM AND METHOD FOR MAGNETIC TRANSDUCERS HAVING MULTIPLE SENSORS AND AFC SHIELDS	14/667,433
789.	MAGNETIC WRITER HAVING A GRADIENT IN SATURATION MAGNETIZATION OF THE SHIELDS AND RETURN POLE	14/667,506
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798.	SHINGLE MAGNETIC WRITER HAVING A LOW SIDEWALL ANGLE POLE	14/729,403
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807.	MAGNETIC READER HAVING A NONMAGNETIC INSERTION LAYER FOR THE PINNING LAYER	14/752,659
808.	METHOD FOR FABRICATING A MAGNETIC WRITE POLE HAVING AN IMPROVED SIDEWALL ANGLE PROFILE	14/753,630
809.	METHOD AND SYSTEM FOR AUTOMATICALLY EXTRACTING PARAMETERS FROM SCANNING PROBE MICROSCOPE DATA	14/754,490
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819.	FREE-STANDING REFLECTOR USABLE IN HEAT ASSISTED MAGNETIC RECORDING TECHNOLOGY	14/869,606
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821.	SHINGLE MAGNETIC WRITER HAVING NONCONFORMAL SHIELDS	14/871,763
822.	TEST STRUCTURE FOR A MAGNETIC READ SENSOR	14/871,844
823.	WAVEGUIDE WITH REFLECTIVE GRATING FOR LOCALIZED ENERGY INTENSITY	14/886,870
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828.	SYSTEMS AND METHODS FOR USING WHITE LIGHT INTERFEROMETRY TO MEASURE UNDERCUT OF A BI-LAYER STRUCTURE	14/937,971
829.	METHOD FOR PROVIDING A MAGNETIC RECORDING WRITE APPARATUS HAVING A SEAMLESS POLE	14/939,934
830.	MAGNETIC READ HEAD WITH ANTIFERROMAGENTIC LAYER	14/943,211
831.	SYSTEMS AND METHODS FOR FORMING MEMS ASSEMBLIES INCORPORATING GETTERS	14/943,300
832.	SYSTEMS AND METHODS FOR FORMING MEMS ASSEMBLIES INCORPORATING GETTERS	14/943,391

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835.	MAGNETIC RECORDING WRITE APPARATUS HAVING A STEPPED CONFORMAL TRAILING SHIELD	14/953,982
836.	SHORT YOKE LENGTH WRITER HAVING ASSIST COILS	14/954,293
837.	METHOD FOR PROVIDING A MULTILAYER AFM LAYER IN A READ SENSOR	14/955,375
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839.	MAGNETIC WRITER HAVING CONVEX TRAILING SURFACE POLE AND CONFORMAL WRITE GAP	14/956,168
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842.	PROCESS FOR MAKING PMR WRITER WITH CONSTANT SIDE WALL ANGLE	14/994,361
843.	METHOD AND SYSTEM FOR IMPROVING FIELD STITCHING ERROR OF PHOTOLITHOGRAPHY PATTERNED WAFER BY OPTIMIZING SCAN SPEED	62/152,753