United States Patent [19]

Farnsworth et al.

[11] **Patent Number: 5,012,463**

[45] **Date of Patent: Apr. 30, 1991**

[54] **OPTICAL READ/WRITE STORAGE SYSTEM FOR FLEXIBLE MEDIA HAVING BERNOULLI STABILIZATION AT THE OPTICAL HEAD**

[75] Inventors: **Stephen W. Farnsworth**, Berthoud; **David R. Dodds**, Bolder; **Slobodan R. Perera**, Boulder; **K. John Stahl**, Boulder, all of Colo.

[73] Assignee: **Bernoulli Optical Systems Company**, Boulder, Colo.

[21] Appl. No.: **167,652**

[22] Filed: **Mar. 14, 1988**

[51] **Int. Cl.**[5] **G11B 7/00**

[52] **U.S. Cl.** **369/100**

[58] **Field of Search** 369/100, 44-46, 369/111; 350/255; 360/99.01, 99.04, 102

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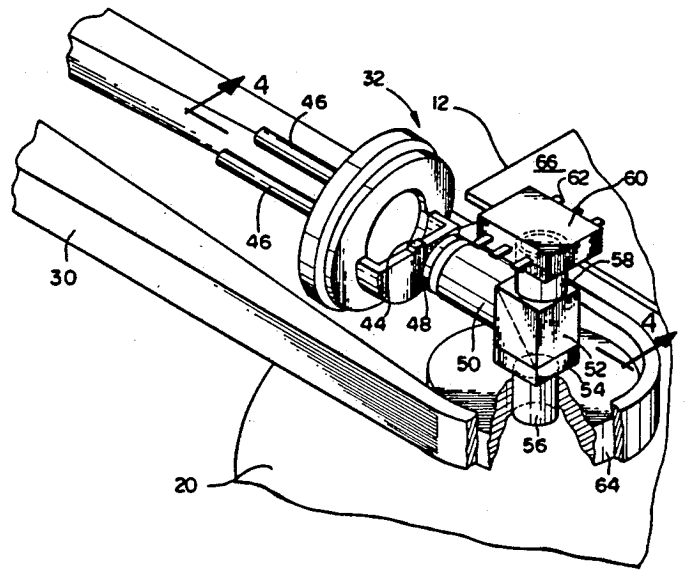
Primary Examiner—Donald McElheny, Jr.

Attorney, Agent, or Firm—Woodcock, Washburn, Kurtz, Mackiewicz & Norris

[57] **ABSTRACT**

An optical read/write storage system for reading and writing data to and from a flexible optical media is shown to include an optical read/write head for providing focused light onto the flexible media and for receiving reflected light from the flexible media and a fine movement stabilizater, connected to the optical head and positioned proximate the flexible media, for stabilizing the flexible media in a desired position so that the optical head need not be moved substantially toward or away from the media in order to maintain the light focused on the media.

1 Claim, 6 Drawing Sheets



United States Patent [19]

Dodds et al.

[11] **Patent Number: 5,077,726**

[45] **Date of Patent: Dec. 31, 1991**

[54] **OPTICAL DISC CARTRIDGE WITH A FLEXIBLE STORAGE MEDIUM**

[75] Inventors: **David R. Dodds; K. John Stahl**, both of Boulder, Colo.

[73] Assignee: **Bernoulli Optical Systems Company**, Boulder, Colo.

[21] Appl. No.: **333,447**

[22] Filed: **Apr. 5, 1989**

[51] **Int. Cl.**[5] **G11B 23/03**

[52] **U.S. Cl.** **369/291**; 369/266; 360/133; 360/99.04; 360/102

[58] **Field of Search** 360/86, 97.01, 97.02, 360/97.03, 97.04, 99.01, 99.02, 99.04, 99.08, 99.12, 102, 103, 104, 106, 122, 133, 135, 137; 369/261, 266, 291

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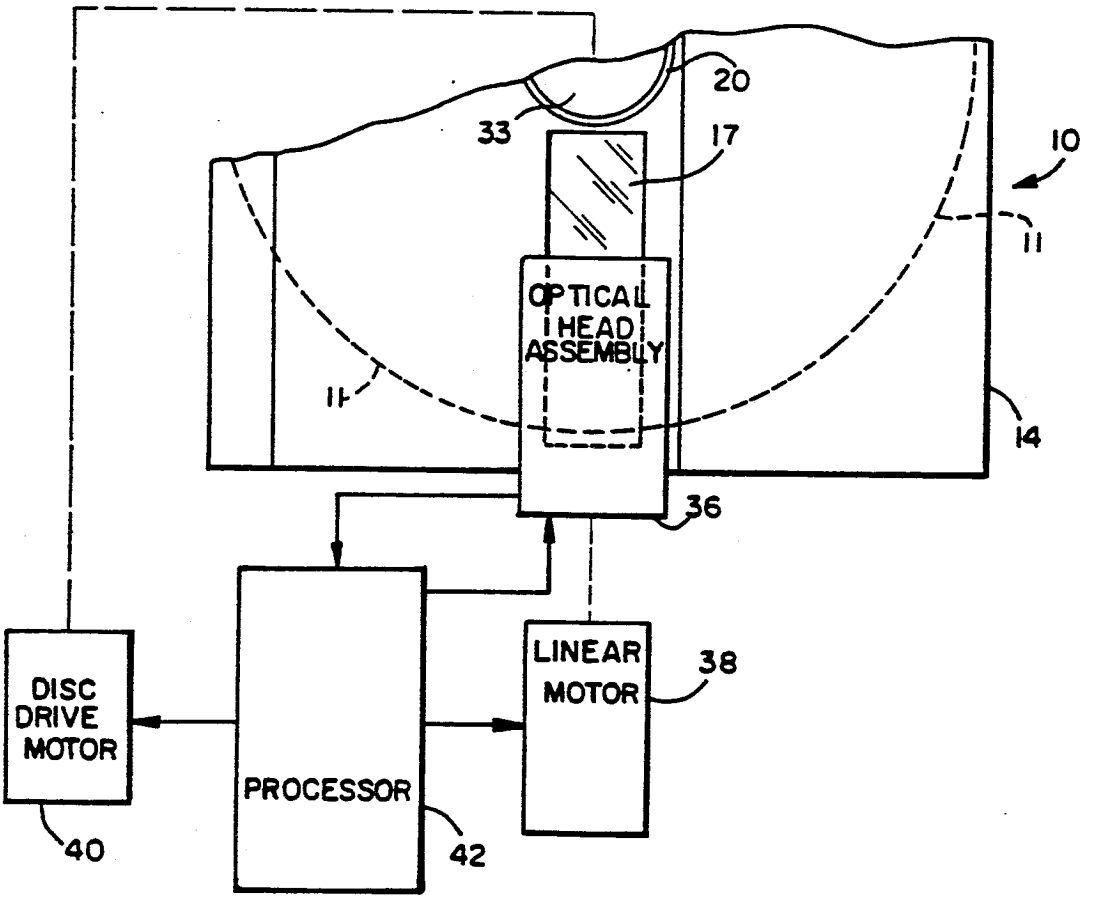
Primary Examiner—Paul Ip

Attorney, Agent, or Firm—Woodcock Washburn Kurtz Mackiewicz & Norris

[57] **ABSTRACT**

An optical disc cartridge with a flexible optical storage medium, stabilized during rotation by a Bernoulli surface, is described. A flexible optical disc having an active layer capable of storing information is mounted within a rigid disc cartridge. A Bernoulli surface is provided on an inside face of the disc cartridge, in close proximity to the flexible disc, to thereby stabilize the flexible disc during rotation. The disc is rotated in order to access locations thereon during information storage and retrieval. Additionally, optical access to these locations during information storage and retrieval is also provided by the stabilizing Bernoulli surface.

8 Claims, 4 Drawing Sheets



US005101385A

United States Patent [19]

Farnsworth et al.

[11] Patent Number: 5,101,385

[45] Date of Patent: Mar. 31, 1992

[54] MAGNETO-OPTICAL INFORMATION STORAGE SYSTEM FOR FLEXIBLE MEDIA HAVING MAXIMUM OVERWRITE EFFICIENCY

[75] Inventors: **Stephen W. Farnsworth**, Berthoud; **David R. Dodds**, Boulder; **Slobodan R. Perera**, Boulder; **K. John Stahl**, Boulder, all of Colo.

[73] Assignee: **Bernoulli Optical Systems Company**, Boulder, Colo.

[21] Appl. No.: **664,529**

[22] Filed: **Mar. 5, 1991**

Related U.S. Application Data

[63] Continuation of Ser. No. 167,659, Mar. 14, 1988, abandoned.

[51] **Int. Cl.**[5] **G11B 13/04**; G11B 11/12

[52] **U.S. Cl.** **369/13**; 369/14; 360/59; 360/114

[58] **Field of Search** 369/13, 14; 360/59, 360/114, 133, 99.01

[56] **References Cited**

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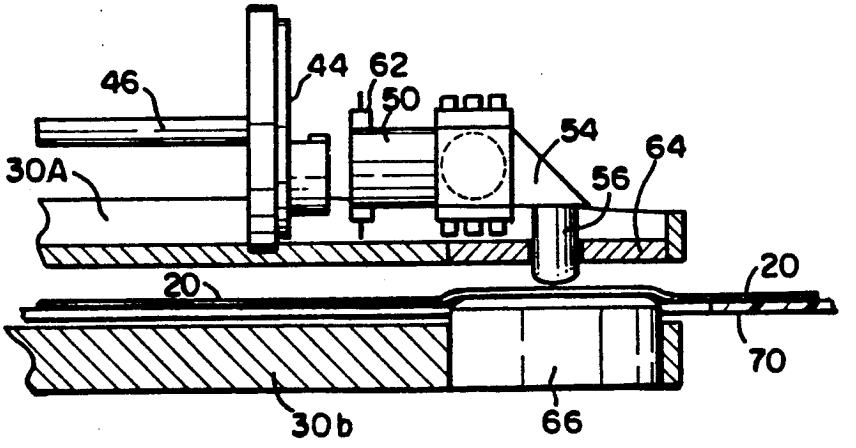
Primary Examiner—Stuart S. Levy
Assistant Examiner—Hoa Nguyen
Attorney, Agent, or Firm—Woodcock Washburn Kurtz Mackiewicz & Norris

[57] **ABSTRACT**

An information read/write storage system for reading and writing data to and from a flexible magneto-optic media is shown to include a magnetic recording member, having a recording head positioned proximate the media, for recording information onto the media at a recording point, the recording point being defined as the area of the media wherein information is being recorded at any given time and an optical read/write assembly for providing focused light onto the media during reading and writing, for receiving reflected light from the media to read the information and for continuously providing focused light onto the media for heating the recording point while the magnetic recording member is recording.

9 Claims, 4 Drawing Sheets



US005293287A

United States Patent [19]

Tzur et al.

[11] Patent Number: 5,293,287

[45] Date of Patent: Mar. 8, 1994

[54] **APPARATUS AND METHODS FOR BACKSIDE STABILIZATION OF FLEXIBLE OPTICAL MEDIA IN INFORMATION STORAGE SYSTEM**

[75] Inventors: **Israel Tzur; David R. Dodds**, both of Boulder, Colo.

[73] Assignee: **Iomega Corporation**, Roy, Utah

[21] Appl. No.: **970,992**

[22] Filed: **Nov. 2, 1992**

Related U.S. Application Data

[63] Continuation of Ser. No. 525,894, May 18, 1990, abandoned.

[51] **Int. Cl.**[5] **G11B 23/033**; G11B 25/04

[52] **U.S. Cl.** **360/98.03**; 360/130.1; 360/133; 369/261; 369/292

[58] **Field of Search** 369/291, 292, 270, 261; 360/102, 103, 133, 99.01, 99.04, 99.08, 128, 129, 130.1, 98.03

[56] **References Cited**

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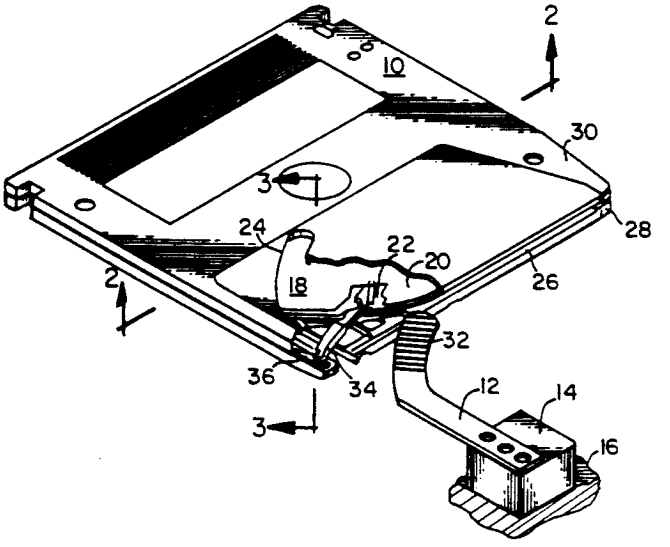
Primary Examiner—Eugene R. LaRoche
Assistant Examiner—Michael C. Kessell
Attorney, Agent, or Firm—Woodcock, Washburn, Kurtz, Mackiewicz & Norris

[57] **ABSTRACT**

Methods and apparatus for providing Bernoulli stabilization to flexible media in an information storage system, are shown to include a stabilizer having a body on which a first surface is formed of a contour sufficient to provide Bernoulli stabilization to media passing thereover. The stabilizer is positioned so that the first surface is proximate backside of the media. In one embodiment, the first surface has a number of grooves which channel air passing between the first surface and the backside. In those situations where the flexible media includes two flexible disks, each having an active side and a backside and where the disks are oriented so that the backsides face one another, the body further includes a second surface of a contour sufficient to provide Bernoulli stabilization to media passing thereover. In such situations the stabilizer is positioned between the disks. In a still further embodiment the disks are rotatably mounted in a cartridge which includes a housing having an opening along one side thereof to allow access to the disks and a separator, attached to the housing and positioned between the disks, for providing separation of the disks. In such a situation when the cartridge is positioned in relation to the information system the space between the disks is accessible.

18 Claims, 4 Drawing Sheets



US006682231B2

(12) **United States Patent**
Meyer et al.

(10) **Patent No.: US 6,682,231 B2**
(45) **Date of Patent: Jan. 27, 2004**

(54) **OPTICAL SUBASSEMBLY AND RELATED METHODS FOR ALIGNING AN OPTICAL FIBER WITH A LIGHT EMITTING DEVICE**

(75) Inventors: **Stephan Meyer**, San Francisco, CA (US); **Andreas H. Dannenberg**, Cupertino, CA (US); **Stefan J. Burmeister**, San Francisco, CA (US); **David R. Dodds**, Boulder, CO (US)

(73) Assignee: **Infineon Technologies North America Corp.**, San Jose, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 85 days.

(21) Appl. No.: **09/738,737**

(22) Filed: **Dec. 14, 2000**

(65) **Prior Publication Data**

US 2002/0076172 A1 Jun. 20, 2002

(51) **Int. Cl.**[7] **G02B 6/36**
(52) **U.S. Cl.** **385/91**; 385/88; 385/89; 385/90
(58) **Field of Search** 385/91, 90, 89, 385/88, 92

(56) **References Cited**

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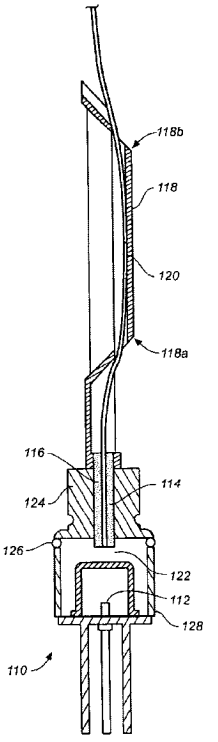
Primary Examiner—Rodney Bovernick
Assistant Examiner—Sung Pak
(74) *Attorney, Agent, or Firm*—Fish & Richardson P.C.

(57) **ABSTRACT**

An optical subassembly for aligning an optical fiber with a light emitting device includes a fiber optic stub mounted in a ferrule and a v-groove device coupled to the ferule with a loose end of the fiber optic stub lying in the v-groove device. The other end of the fiber optic stub is polished. According to methods contemplated by the invention, the ferrule is mounted in a ring which is welded to a light emitting subassembly. The unpolished loose end of the fiber optic stub self-aligns with a mating fiber in the v-groove device. According to the presently preferred embodiment, the v-groove device is provided with s-bends which aid in self-alignment between the loose fibers.

2 Claims, 2 Drawing Sheets



US006997622B2

(12) **United States Patent**
Dodds et al.

(10) **Patent No.: US 6,997,622 B2**
(45) **Date of Patent: Feb. 14, 2006**

(54) **MODE INDICATOR FOR TRANSCEIVER MODULE**

(75) Inventors: **David R. Dodds**, Boulder, CO (US); **Paul A. Winker**, Lafayette, CO (US); **Eric Larson**, Boulder, CO (US)

(73) Assignee: **Infineon Technologies AG**, Muchen (DE)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **10/758,733**

(22) Filed: **Jan. 16, 2004**

(65) **Prior Publication Data**

US 2005/0157987 A1 Jul. 21, 2005

(51) **Int. Cl.**
G02B 6/36 (2006.01)

(52) **U.S. Cl.** **385/92**; 439/491

(58) **Field of Classification Search** 385/92; 439/488, 491

See application file for complete search history.

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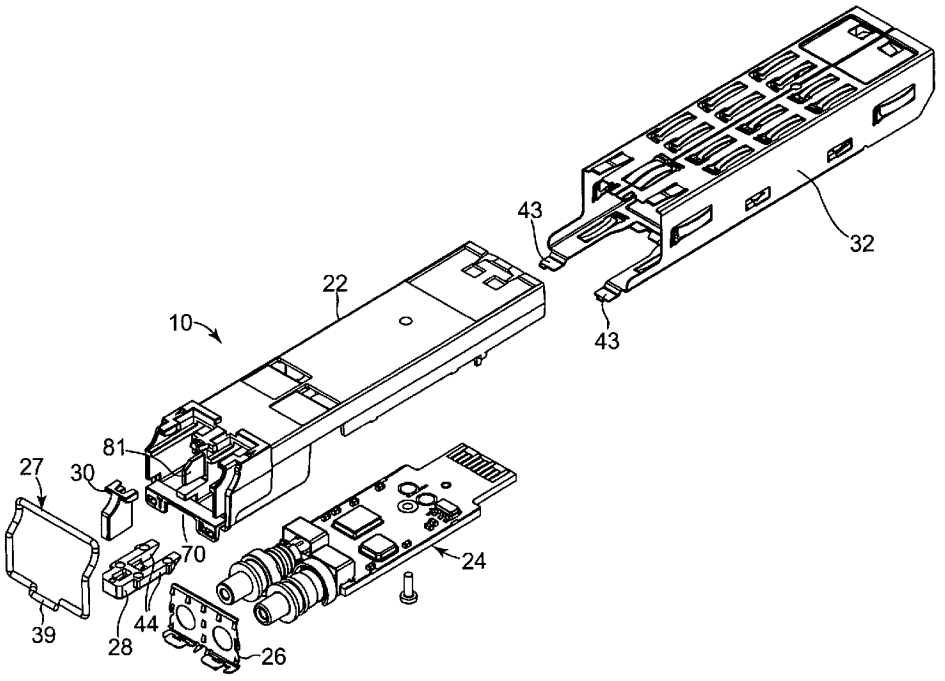
Primary Examiner—Hae Moon Hyeon
(74) *Attorney, Agent, or Firm*—Dicke, Billig & Czaja, PLLC

(57) **ABSTRACT**

A mode indicator for use with a transceiver module includes a colored plastic button having an engagement feature configured for attachment to a corresponding transceiver module engagement feature.

16 Claims, 8 Drawing Sheets



US007625135B2

(12) **United States Patent**
Dodds

(10) **Patent No.: US 7,625,135 B2**
(45) **Date of Patent: Dec. 1, 2009**

(54) **DUAL CONFIGURATION TRANSCEIVER HOUSING**

(75) Inventor: **David R. Dodds**, Boulder, CO (US)

(73) Assignee: **Finisar Corporation**, Sunnyvale, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 673 days.

(21) Appl. No.: **10/758,734**

(22) Filed: **Jan. 16, 2004**

(65) **Prior Publication Data**

US 2005/0158051 A1 Jul. 21, 2005

(51) **Int. Cl.**
G02B 6/42 (2006.01)

(52) **U.S. Cl.** **385/92**

(58) **Field of Classification Search** ..... None
See application file for complete search history.

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Primary Examiner—Mike Stahl
(74) *Attorney, Agent, or Firm*—Workman Nydegger

(57) **ABSTRACT**

A transceiver module is configured for insertion within a cage. The cage has a cage latch that retains the transceiver module in the cage. The transceiver module has a housing configured to receive any one of at least two different release mechanisms. Each of the release mechanisms is movable between a first position and a second position, wherein the cage latch is not deflected when the release mechanism is in the first position, and wherein the cage latch is deflected when the release mechanism is in the second position such that the transceiver module can be removed from the cage.

18 Claims, 7 Drawing Sheets