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# United States Patent [19]

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Maynard

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## [54] HYBRID-OPTICAL MULTI-AXIS BEAM STEERING APPARATUS

5,208,880	5/1993	Riza et al.	385/25
5,325,116	6/1994	Sampsell	346/108
5,448,546	9/1995	Pauli	369/112
5,504,614	4/1996	Webb et al.	359/223

[75] Inventor: **Ronald S. Maynard**, 777 Hollenbeck #15Q, Sunnyvale, Calif. 94087

### FOREIGN PATENT DOCUMENTS

[73] Assignee: **Ronald S. Maynard**, San Jose, Calif.

0 331 331 A2	6/1989	European Pat. Off.	G02B 6/42
0 614 101 A2	7/1994	European Pat. Off.	G02B 26/08
0 650 133 A2	4/1995	European Pat. Off.	G06K 7/10
WO95/13638	5/1995	WIPO	H01S 3/085

[21] Appl. No.: **695,717**

[22] Filed: **Aug. 12, 1996**

[51] Int. Cl.<sup>6</sup> ..... **G02B 6/36**

Primary Examiner—Hung N. Ngo

[52] U.S. Cl. .... **385/88**; 385/18; 385/19; 385/83

Attorney, Agent, or Firm—Wilson Sonsini Goodrich & Rosati

[58] Field of Search ..... 385/88-94, 16-23, 385/25, 83

### [57] ABSTRACT

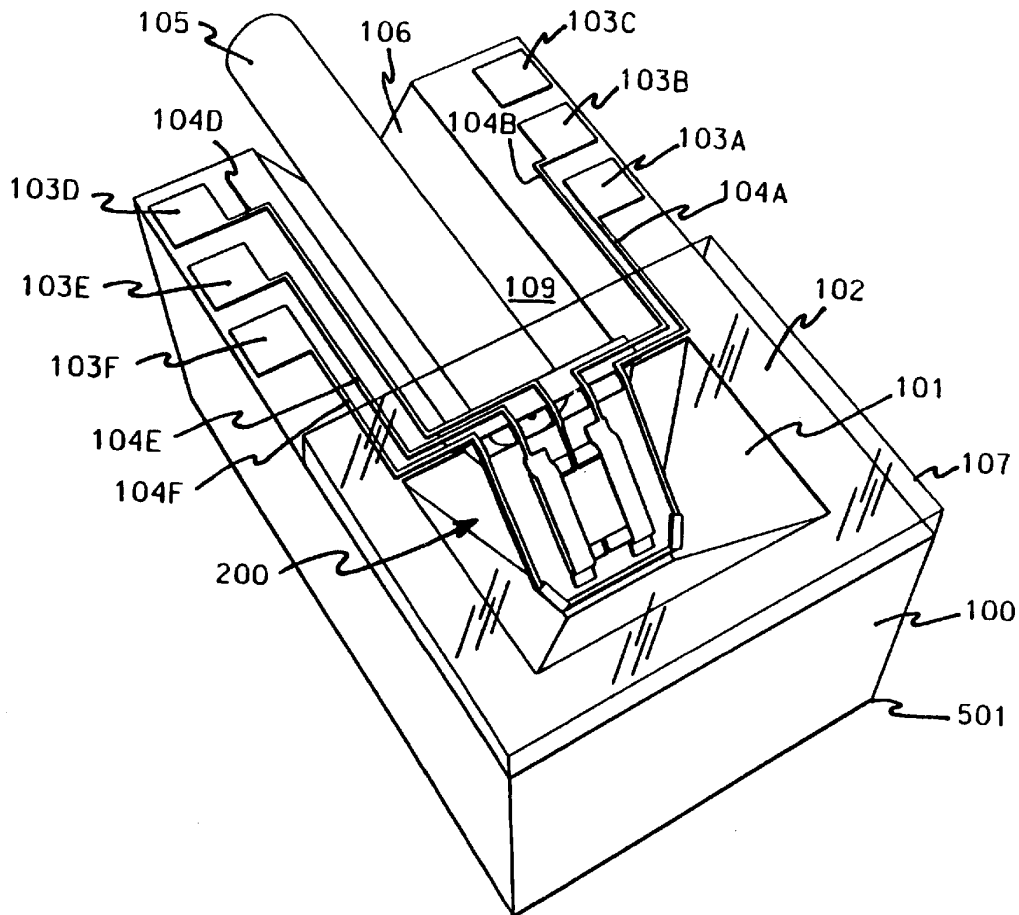
### [56] References Cited

An apparatus for precisely steering a beam of light by making use of a hybrid inter optical alignment precision which occurs when a beam steering mechanism is micro-machined with respect to a crystallographic orientation of a substrate.

#### U.S. PATENT DOCUMENTS

4,505,539	3/1985	Auracher et al.	385/18
4,854,685	8/1989	Stanley	385/18
4,923,745	5/1990	Blonder	385/18

**45 Claims, 17 Drawing Sheets**



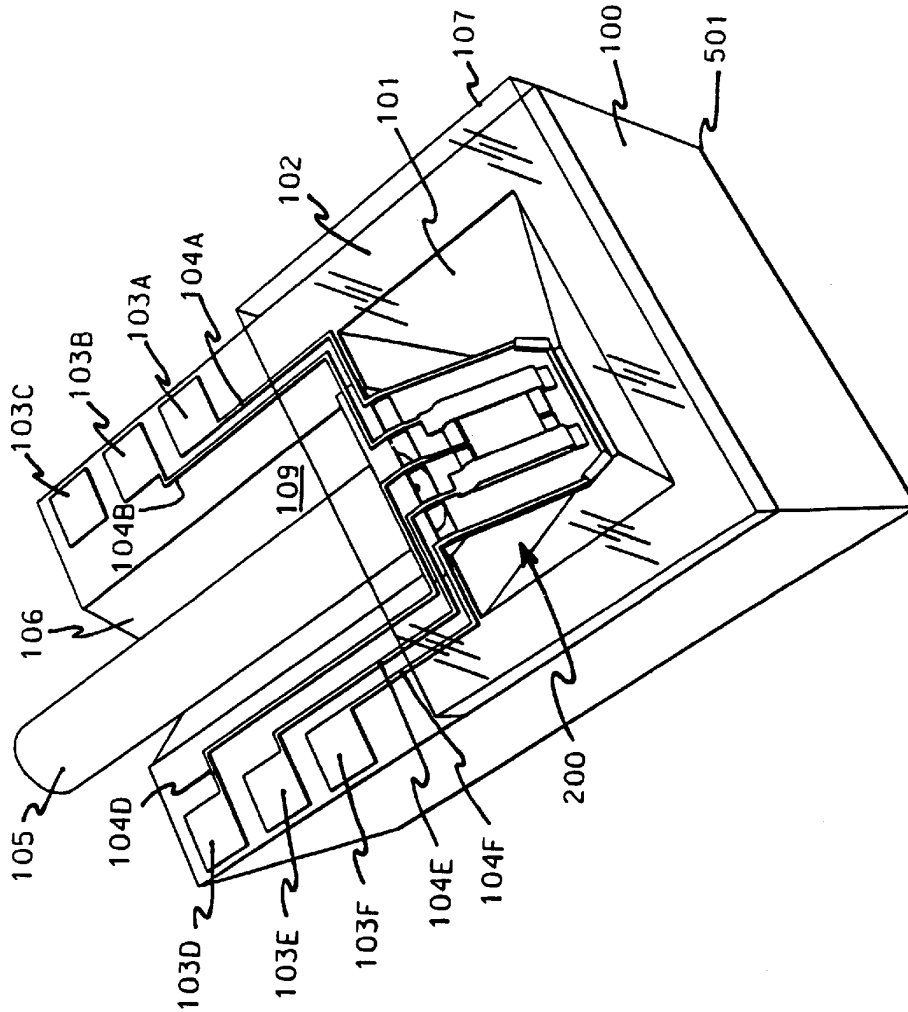


FIG. 1

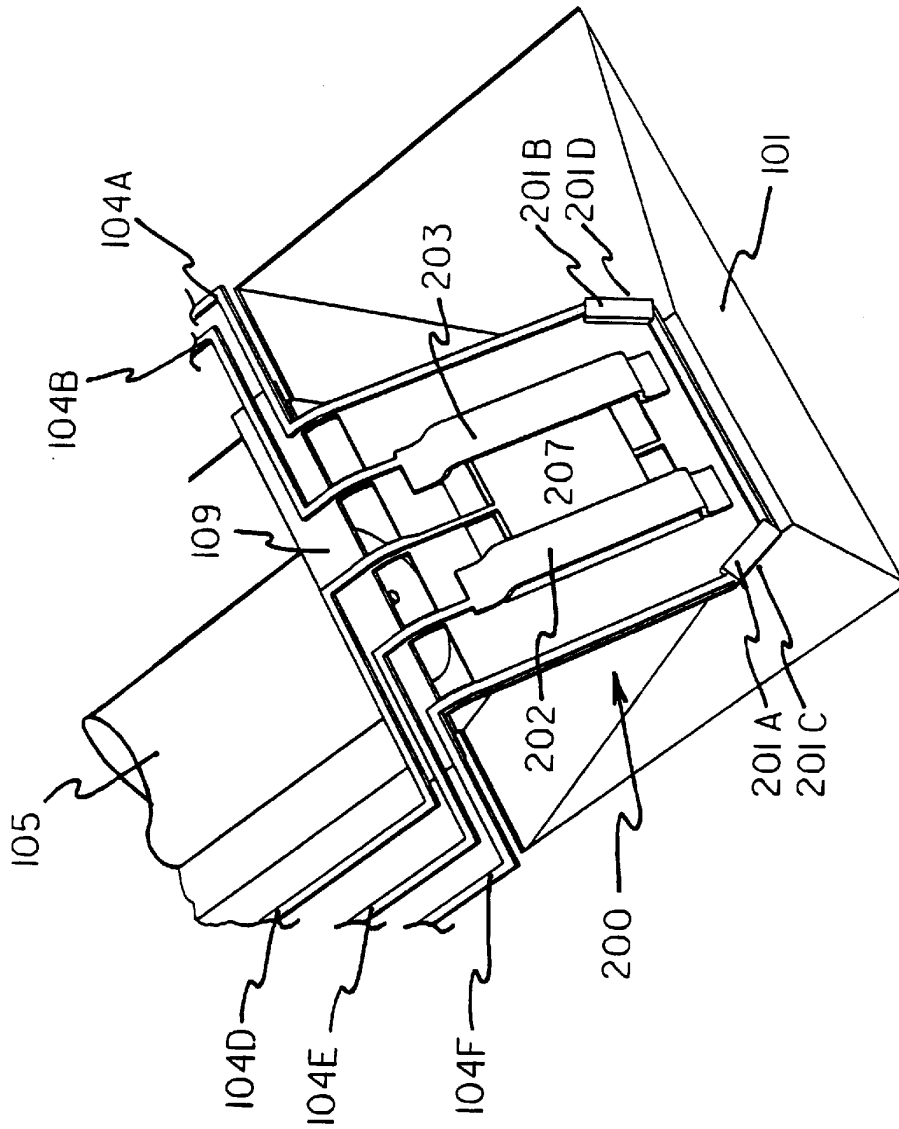


FIG. 2

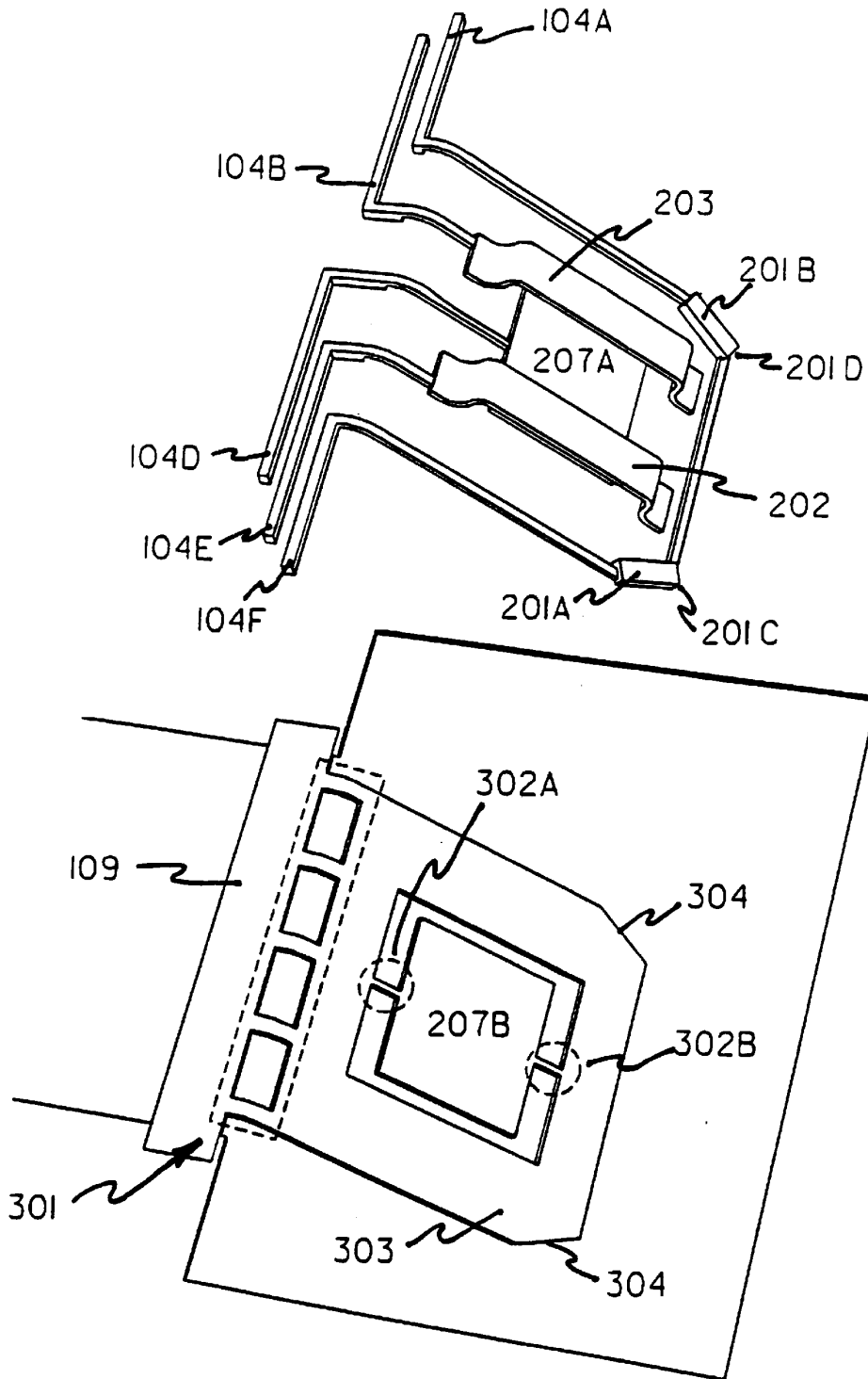


FIG. 3

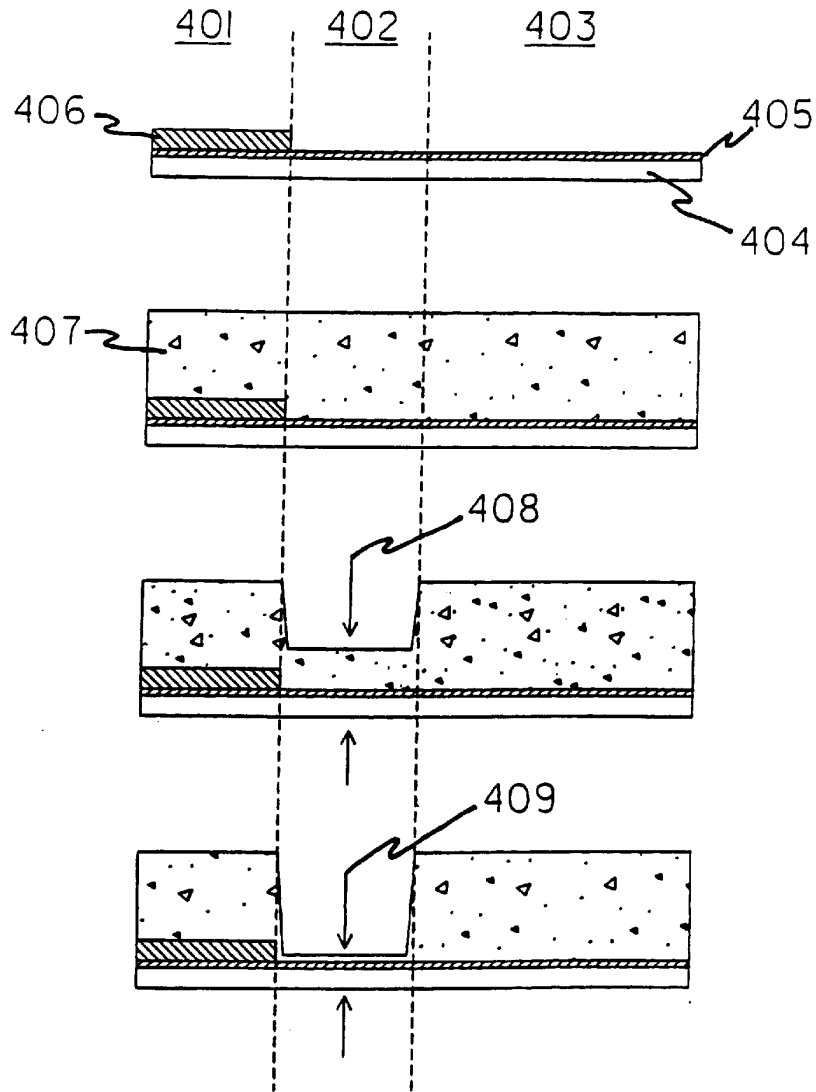


FIG. 4

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