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(74) Agent: **D'AMICO, Thomas, J.**; Dickstein Shapiro Morin & Oshinsky LLP, 2101 L Street NW, Washington, DC 20037-1526 (US).

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(71) Applicant (for all designated States except US): **MICRON ELECTRONICS, INC.** [US/US]; 8000 S. Federal Way, Boise, ID 83707-0006 (US).

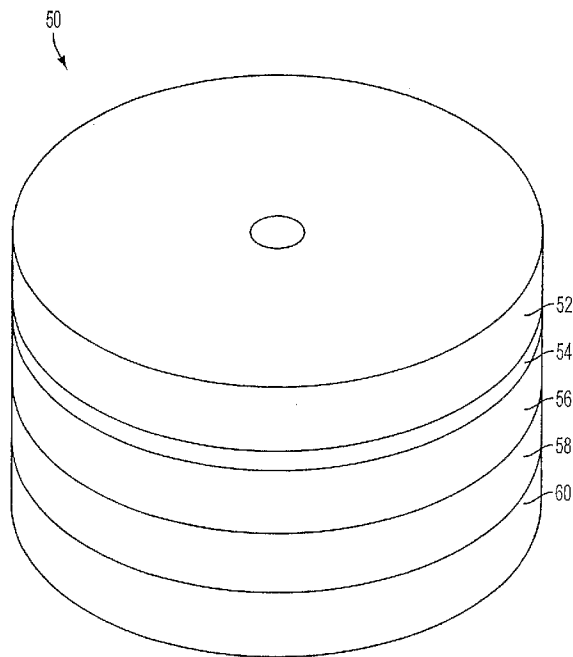
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(72) Inventors; and

(75) Inventors/Applicants (for US only): **FORBES, Leonard** [US/US]; 965 NW Highland Terrace, Corvallis, OR 97339-1716 (US). **FARRAR, Paul, A.** [US/US]; 227 Argent Place, Okatie, SC 29910 (US). **REINBERG, Alan, R.** [US/US]; 20 Currier Place, Cheshire, CT 06410 (US).

[Continued on next page]

(54) Title: GOLD-SEMICONDUCTOR PHASE CHANGE MEMORY FOR ARCHIVAL DATA STORAGE



(57) Abstract: A structure for storing digital data is provided, with a high reflectance layer comprising a gold film formed over a semiconductor layer, and a plurality of low reflectance portions comprising a mixture of a gold material and a semiconductor material. The plurality of low reflectance portions have top surfaces comprising more semiconductor material than the gold material. The invention also provides a method of changing reflectance on a data storage disk, comprising irradiating a laser light beam onto a gold film formed over a semiconductor layer, and raising the temperature of the gold film above a eutectic temperature for a mixture of gold and the semiconductor layer.

WO 2007/005323 A2

