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(71) Applicant: **LEICA MICROSYSTEMS INC.** [US/US];
10 Parkway North, Suite 300, Deerfield, Illinois 60015
(US).

(71) Applicant (for AL only): **LEICA MICROSYSTEMS
CMS GMBH** [DE/DE]; Ernst-Leitz-Strasse 17-37, 35578
Wetzlar (DE).

(72) Inventor: **HART, Robert H**; c/o Leica Microsystems Inc.,
10 Parkway North, Suite 300, Deerfield, Illinois 60015
(US).

(74) Agent: **J A KEMP LLP**; 80 Turnmill Street, London,
EC1M 5QU (GB).

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(54) Title: COMPACT MEMS TWO-DIMENSIONAL MEMS SCANNING MIRROR ASSEMBLY DESIGN AND RELATED ASPECTS

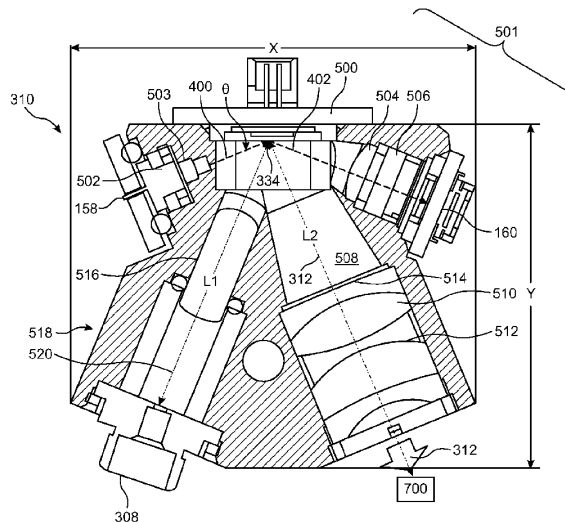


FIG. 5A

(57) Abstract: A micro-electro-mechanical system, MEMS, two-dimensional scanning mirror assembly (310), the scanning mirror assembly having an optical design comprising a moveable MEMS scanning mirror having a reflective surface (334), a point light source (308a) for a light beam, a collimating lens assembly (516) configured to receive light from the light source and output a collimated light beam with an exit beam diameter above a threshold towards the reflective surface (334), and an objective lens assembly (510, 512) via which a collimated light beam reflected from the reflective surface exists the scanning mirror assembly. The reflective surface (334) is configured to reflect an incident collimated light beam to form a probe beam (312) which exits the mirror assembly as a telecentric beam (312) towards a telecentric image plane with a resolution better than a threshold for the telecentric beam resolution. The optics of the scanning mirror assembly are configured to provide a total track length, L, from the point light source to the telecentric image

[Continued on next page]

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plane (700) less than 40mm.