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(54) Title: **DIAGNOSTICS AND RESOLUTION OPTIMIZATION FOR SCANNING PROJECTION STEREOLITHOGRAPHY**

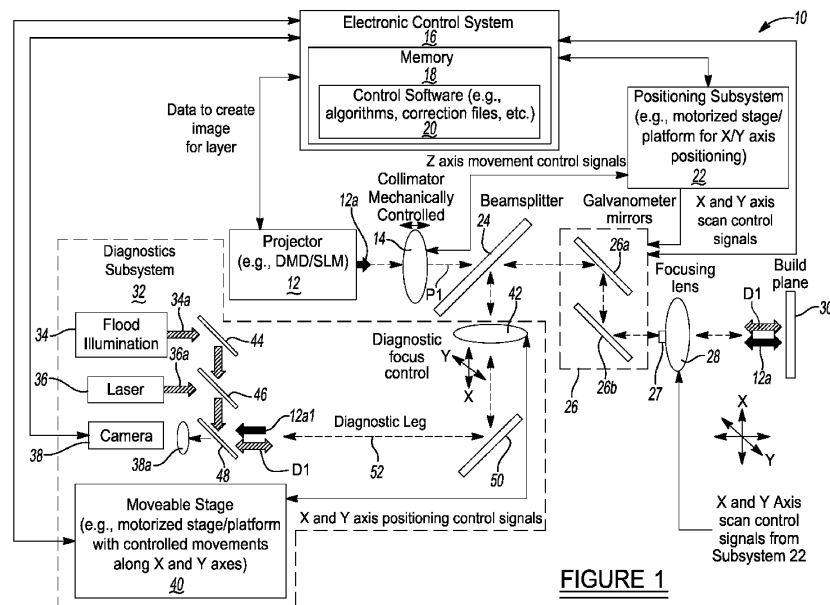


FIGURE 1

(57) Abstract: The present disclosure relates to a system for performing scanning projection stereolithography. The system uses a light projector which is configured to generate a polymerizing optical signal to initiate polymerization of a photopolymerizable resin or material at a build plane. An optics subsystem collimates and focuses the polymerizing optical signal. The optics subsystem is movable relative to the build plane to optimize focus of the polymerizing optical signal at the build plane. A light scanning subsystem directs the polymerizing optical signal received from the optics subsystem to selected X axis and Y axis locations on the build plane. A positioning subsystem positions the optics subsystem at a selected location relative to the build plane, where the selected location is chosen to optimize focusing of the polymerizing optical signal at a specific, selected X/Y location on the build plane.

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