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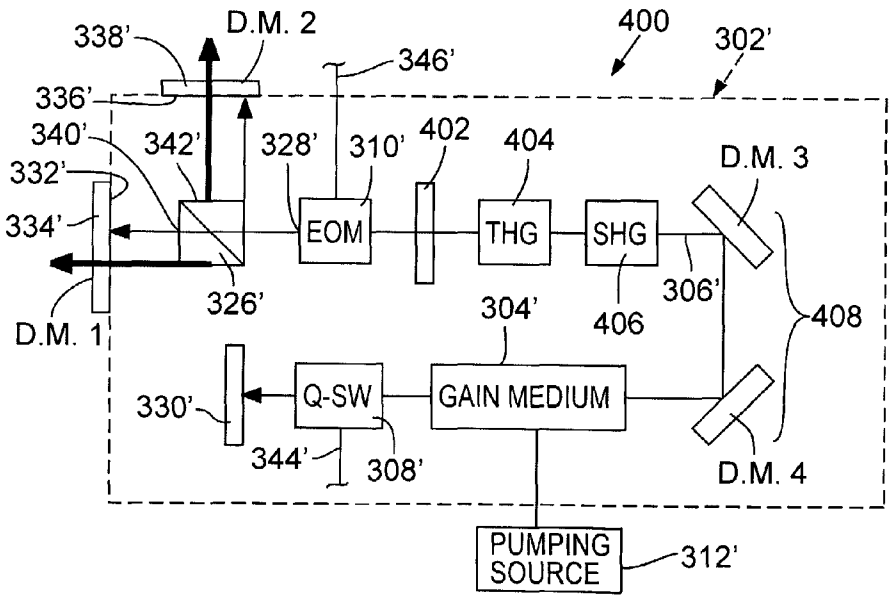
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(54) Title: EFFICIENT MICRO-MACHINING APPARATUS AND METHOD EMPLOYING MULTIPLE LASER BEAMS



(57) Abstract: A laser beam switching system (50) employs a laser (52) coupled to a beam switching device (58) that causes a laser beam to switch between first and second beam positioning heads such that while the first beam positioning head (60) is directing the laser beam to process a workpiece target location, the second beam positioning head (62) is moving to another target location and vice versa. A preferred beam switching device includes first and second AOMs. When RF is applied to the first AOM (72), the laser beam is diffracted toward the first beam positioning head, and when RF is applied to the second AOM (74), the laser beam is diffracted toward the second beam positioning head. A workpiece processing system (120) employs a common modular imaged optics assembly (122) and an optional variable beam expander (94) for optically processing multiple laser beams.

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