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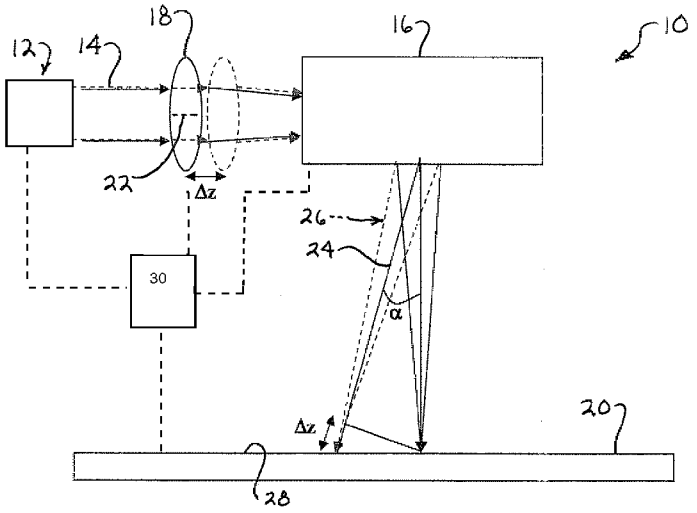


FIG 1

(57) **Abstract**: A laser micro-machining system includes a simple focusing lens located between a laser source and a beam steering mechanism along the path of a laser beam pulse. The focusing lens is a simple single-element spherical lens with an optical axis of the focusing lens located in line with a laser beam input from the laser source. The focusing lens is located further away from a work piece than the beam steering mechanism. An active beam path management system moves the simple focusing lens in concert with and relative to the beam steering mechanism to maintain a focal point coincident with a surface of the work piece at all deflection angles affected by the beam steering mechanism. The focusing lens is rapidly moveable in concert with the beam steering mechanism to maintain a constant beam path length from the lens output to the work piece.

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