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(54) Title: FLEXIBLE BEAM DELIVERY SYSTEM FOR HIGH POWER LASER SYSTEMS

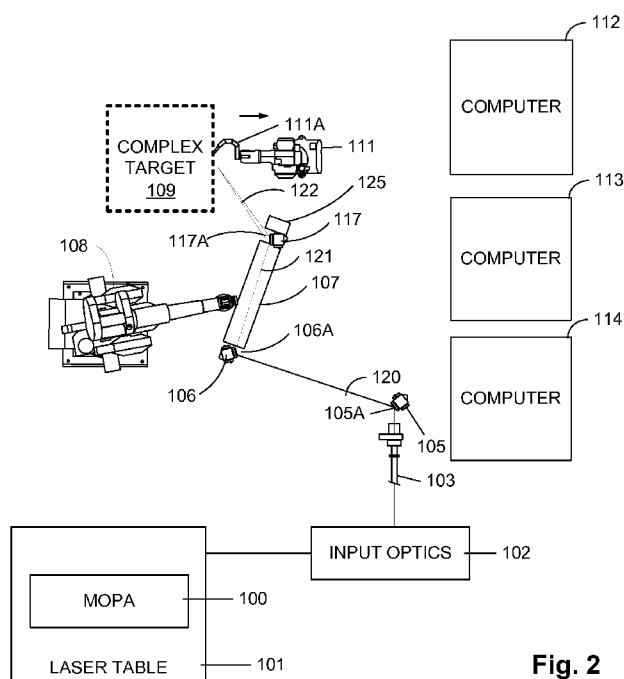


Fig. 2

(57) **Abstract:** A beam delivery technology for high power laser systems, like laser peening systems, for work pieces which may have compound curvatures, includes placing an optical assembly having a receiving optic, beam formatting optics and a scanner mounted thereon, in a position to receive laser pulses from a laser source and within an operating range of the process area. Polarized laser pulses are delivered to the receiving optic while the position of the optical assembly remains unchanged. The pulses proceed through the beam formatting optics to the scanner, and are direct to respective impact areas having nominal shapes and locations on the work piece. The scanning process includes for each laser pulse, setting direction, divergence, polarization, rotation and aspect ratio of the laser pulses output from the scanner, to control the polarization, shape and location on respective impact areas.

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