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(54) Title: **CONTOUR FORMING OF METALS BY LASER PRENNING**

(57) Abstract: A method and apparatus are provided for forming shapes and contours in metal sections by generating laser induced compressive stress on the surface of the metal workpiece. The laser process can generate deep compressive stresses to shape even thick components without inducing unwanted tensile stress at the metal surface. The precision of the laser-induced stress enables exact prediction and subsequent contouring of parts. A light beam of 10 to 100 J/pulse is imaged to create an energy fluence of 60 to 200 J/cm² on an absorptive layer applied over a metal surface. A tamping layer of water is flowed over the absorptive layer. The absorption of laser light causes a plasma to form and consequently creates a shock wave that induces a deep residual compressive stress into the metal. The metal responds to this residual stress by bending.