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(54) **Title:** A METHOD AND SYSTEM FOR LASER-BASED, WAVELENGTH SPECIFIC INFRARED IRRADIATION TREATMENT

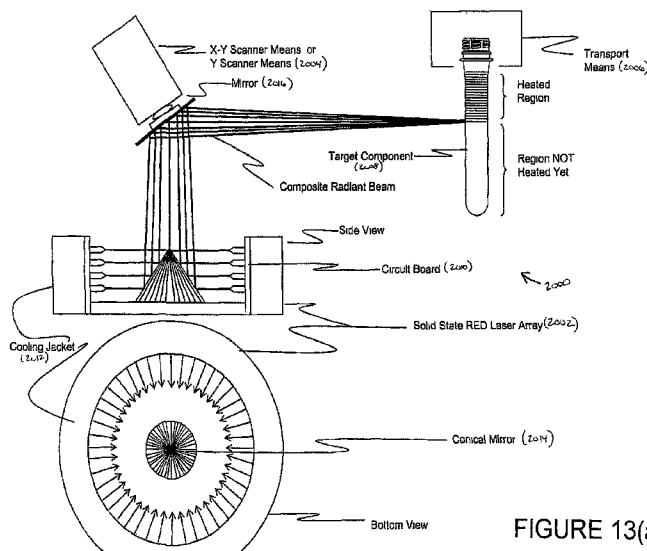


FIGURE 13(a)

(57) **Abstract:** A laser diode based system for direct injection of selected thermal-infrared (IR) wavelength radiation or energy into articles for a wide range of processing purposes is provided. These purposes may include heating, raising or maintaining the temperature of articles, or stimulating a target item in a wide range of different industrial, medical, consumer, or commercial applications. The system is especially applicable to operations that require or benefit from the ability to irradiate at specifically selected wavelengths or to pulse or inject the radiation. The system is particularly advantageous when functioning at higher speeds and in a non-contact environment with the target.

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US07/13306

## A. CLASSIFICATION OF SUBJECT MATTER

IPC: B29C 49/64( 2006.0 1),49/78( 2006.01)

USPC: 264/40.6,458,492;425/174.4,526

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 264/40.6, 458, 492; 425/174.4, 526

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2006/0048881 A1 (EVANS et al) 09 March 2006, see figure.	1-71
Y	WAGNER, J. Diode Lasers for High Pressure Applications at 2 um, White Paper, Fraunhofer Institute, Germany, 2001, pp. 24-25.	1-71
X,P	US 2006/01 18983 A1 (COCHRAN et al) 08 June 2006, see entire document.	1-71
Y	US 6,361,301 B1 (SCAGLOTTI et al) 26 March 2002, figures 1-8.	1-71



Further documents are listed in the continuation of Box C.

**D**

See patent family annex.

## \* Special categories of cited documents

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