

Title (en)
APPARATUS HAVING SCANNER LENS FOR MATERIAL PROCESSING BY WAY OF LASER

Title (de)
VORRICHTUNG MIT SCANNER-OPTIK ZUR MATERIALBEARBEITUNG MITTELS LASER

Title (fr)
DISPOSITIF COMPORTANT UNE OPTIQUE DE BALAYAGE POUR LE TRAITEMENT DE MATÉRIAUX AU LASER

Publication
EP 2393626 A1 20111214 (DE)

Application
EP 10715656 A 20100121

Priority
• DE 2010000057 W 20100121
• DE 102009008126 A 20090209
• DE 102009057209 A 20091127

Abstract (en)
[origin: WO2010088873A1] The invention relates to an apparatus equipped with a scanner lens (pre- or post-objective scanning) for material processing by way of laser (1), in particular for laser welding. The apparatus comprises an image sensor (18), which can be moved along with the scanner lens (2a, 2b) and which is optically integrated into a partial region of the beam path of the scanner lens (2a, 2b), the partial region beginning with the processing position (16) on the workpiece (7), and at least one projector (10), which can be moved along with the scanner lens (2a, 2b) and is used to project measurement light (11) in the form of measurement structures onto the workpiece (7) to be processed. The image sensor (18) is sensitive in the wavelength range of the measurement light (11) emitted by the projector (10) and arranged on the side of a deflection unit (4a, 4b) facing away from the beam path, the unit allowing light in the wavelength range emitted by the projector (10) to be transmitted and reflecting light in the wavelength range emitted by the processing laser (1). The apparatus can be used to weld geometric patterns having high resolution, such as fine hollow and crimp seams, without difficulty in mass production.

IPC 8 full level
B23K 26/08 (2006.01); **B23K 26/04** (2006.01); **B23K 26/14** (2006.01)

CPC (source: EP US)
B23K 26/044 (2015.10 - EP US); **B23K 26/082** (2015.10 - EP US); **B23K 26/14** (2013.01 - EP US)

Citation (search report)
See references of WO 2010088873A1

Citation (examination)
WO 2007088122 A1 20070809 - THYSSENKRUPP STEEL AG [DE], et al

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)
WO 2010088873 A1 20100812; **WO 2010088873 A4 20101007**; CN 102307698 A 20120104; CN 102307698 B 20150422;
DE 102009057209 A1 20100819; DE 102009057209 B4 20120628; EP 2393626 A1 20111214; US 2011290780 A1 20111201

DOCDB simple family (application)
DE 2010000057 W 20100121; CN 201080007258 A 20100121; DE 102009057209 A 20091127; EP 10715656 A 20100121;
US 201113205297 A 20110808