

Title (en)

AUTOMATED LASER WORKSTATION FOR HIGH PRECISION SURGICAL AND INDUSTRIAL INTERVENTIONS.

Title (de)

AUTOMATISIERTE LASER-EINHEIT FÜR HOCHGENAUE CHIRURGISCHE UND INDUSTRIELLE EINGRIFFE.

Title (fr)

POSTE DE TRAVAIL AUTOMATISE A LASER POUR INTERVENTIONS INDUSTRIELLES ET CHIRURGICALES DE HAUTE PRECISION.

Publication

EP 0630205 A4 19950614 (EN)

Application

EP 93907083 A 19930226

Priority

- US 9301787 W 19930226
- US 84337492 A 19920227

Abstract (en)

[origin: WO9316631A1] A method, apparatus and system for template-controlled, precision laser interventions is described for microsurgery, and industrial micromachining. The system includes a user interface, wherein the user can either draw, adjust, or designate particular template patterns overlaid on live video images of the target and provides the means for converting the template pattern into a sequence of laser shots on the corresponding surgical or industrial site. The user interface also continuously presents three dimensional visual information to the surgeon/ user during the operation. The system thus comprises the following key elements: (a) a user interface (19), consisting of a video display (18), microprocessor (16) and controls, (b) an imaging system (86), including a surgical video microscope with zoom capability, (c) an automated 3D target acquisition and tracking system (84, 85, 82) that can follow the movements of the tissue, during the operation, (d) a laser, (e) a diagnostic system, incorporating a mapping and topography means (98) for measuring precise surface shapes prior to and subsequent to a procedure.

IPC 1-7

A61B 5/02

IPC 8 full level

A61F 9/008 (2006.01); **B23K 26/00** (2006.01); **B23K 26/04** (2006.01); **B23K 26/42** (2006.01); **A61B 17/00** (2006.01); **A61F 9/00** (2006.01); **A61F 9/01** (2006.01)

CPC (source: EP)

A61F 9/008 (2013.01); **A61F 9/00804** (2013.01); **A61F 9/00821** (2013.01); **A61F 9/00827** (2013.01); **B23K 26/0096** (2013.01); **B23K 26/04** (2013.01); **B23K 26/043** (2013.01); **A61B 3/113** (2013.01); **A61B 2017/00694** (2013.01); **A61F 2009/0035** (2013.01); **A61F 2009/00846** (2013.01); **A61F 2009/00863** (2013.01); **A61F 2009/0087** (2013.01); **A61F 2009/00872** (2013.01); **A61F 2009/00882** (2013.01)

Citation (search report)

- [XD] WO 9009141 A2 19900823 - PHOENIX LASER SYSTEMS INC [US]
- [A] US 5029220 A 19910702 - JUDAY RICHARD D [US]
- [X] MARKOW ET AL.: "An Automated Laser System for Eye Surgery", I.E.E.E. ENGINEERING IN MEDICINE & BIOLOGY, vol. 8, no. 4, December 1989 (1989-12-01), NEW YORK, pages 24 - 29, XP000100548
- See references of WO 9316631A1

Designated contracting state (EPC)

CH DE FR GB IT LI NL SE

DOCDB simple family (publication)

WO 9316631 A1 19930902; AU 3781193 A 19930913; CA 2130999 A1 19930902; EP 0630205 A1 19941228; EP 0630205 A4 19950614

DOCDB simple family (application)

US 9301787 W 19930226; AU 3781193 A 19930226; CA 2130999 A 19930226; EP 93907083 A 19930226