

Search strategy

Query

(STEREO AND VISION AND DRILL)/AB/TI/TX AND ((G06T-007)/IPC AND (A61B)/IPC)

10 Documents

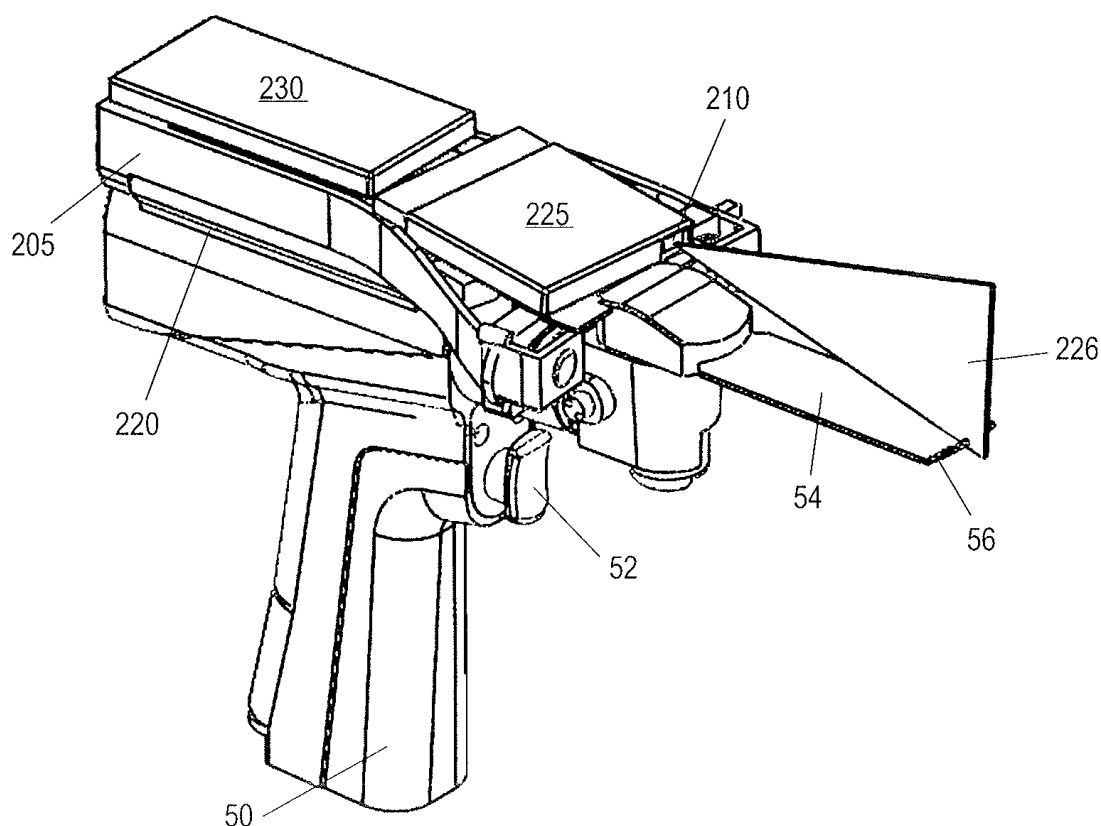
Publication numbers	Title	Current assignees
EP2967657 A1	On-board tool tracking system and methods of computer assisted surgery	UNIVERSITY OF NEBRASKA
WO201750761 A1	System and method for determining the three-dimensional location and orientation of identification markers	NAVIGATE SURGICAL TECHNOLOGIES
EP2666428 A1	System and method for estimating the spatial position of a tool within an object	UNIVERSITY OF BERN
EP3087424 A1	Surgical visualization systems	CAMPLEX
EP3273854 A1	Methods and systems for computer-aided surgery using intra-operative video acquired by a free moving camera	UNIVERSIDADE DE COIMBRA
EP2863827 A1	Surgical robot platform	GLOBUS MEDICAL
EP2998931 A2	Image guidance system for detecting and tracking an image pose	X NAV TECHNOLOGIES
EP3241518 A2	Surgical tool systems and methods	GLOBUS MEDICAL
EP3509527 A1	Methods and systems for display of patient data in computer-assisted surgery	MOBIUS IMAGING
US20190246088 A1	Augmented Reality Guidance for Spinal Surgery and Spinal Procedures	ONPOINT MEDICAL

Family 1/10 - FAMPAT - ©Questel

Title

(EP2967657)

On-board tool tracking system and methods of computer assisted surgery

Images**Publication numbers with kind code & date**

CN105377175	B	2019-04-09	CN105377175B
US20190090959	A1	2019-03-28	US20190090959
US10219811	B2	2019-03-05	US10219811
EP2723270	B1	2019-01-23	EP2723270
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HK1220794	A1	2017-05-12	HK1220794
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CN103764061	B	2017-03-08	CN103764061B
EP2973407	A4	2017-02-22	EP2973407
US9498231	B2	2016-11-22	US9498231
EP2967657	A4	2016-11-02	EP2967657
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JP2016513564	A	2016-05-16	JP2016513564



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IN9612/DELNP/2015	A	2016-02-26	IN2015DN09612				
CN105358085	A	2016-02-24	CN105358085				
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WO2013/052187	A2	2013-04-11	WO201352187				

Abstract

(EP2967657)

A number of improvements are provided relating to computer aided surgery utilizing an on tool tracking system. The various improvements relate generally to both the methods used during computer aided surgery and the devices used during such procedures. Other improvements relate to the structure of the tools used during a procedure and how the tools can be controlled using the OTT device. Still other improvements relate to methods of providing feedback during a procedure to improve either the efficiency or quality, or both, for a procedure including the rate of and type of data processed depending upon a CAS mode.

Inventors

HAIDER HANI

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BARRERA OSVALDO ANDRES

Latest standardized assignees - inventors removed

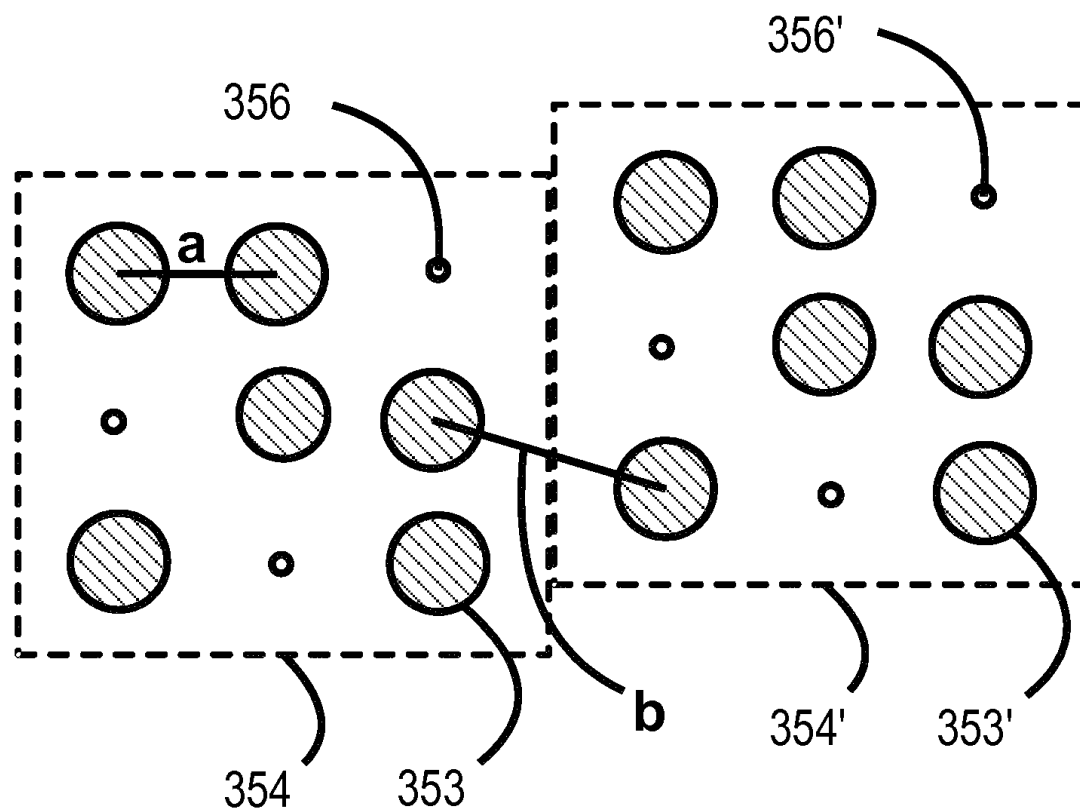
UNIVERSITY OF NEBRASKA

Family 2/10 - FAMPAT - ©Questel

Title

(WO201750761)

System and method for determining the three-dimensional location and orientation of identification markers

Images**FIG. 3P****Publication numbers with kind code & date**[WO2017/050761](#)

A1 2017-03-30

WO201750761

**Abstract**

(WO2017/050761)

A three-dimensional tracking system comprises tracking markers having at least one undemarcated pattern composed of a plurality of contrasting portions arranged in a rotationally asymmetric pattern, a tracker for obtaining image information about the markers, a database with geometric information describing patterns on the markers; and a controller for receiving and processing the image information about the markers from the tracker, accessing the database to retrieve the geometric information, and comparing the image information to the geometric information. At least one of the contrasting portions on a marker may have a perimeter that has a mathematically describable curved section that may comprise a conic section. More than one pattern may be employed on a marker, one pattern being used to identify the marker, including for example an ellipse or a circle. The patterns may be on pattern tags attached to the markers and the markers may have a three-dimensionally shaped surface.

Inventors

DAON EHUD UDI

BECKETT MARTIN GREGORY

Latest standardized assignees - inventors removed

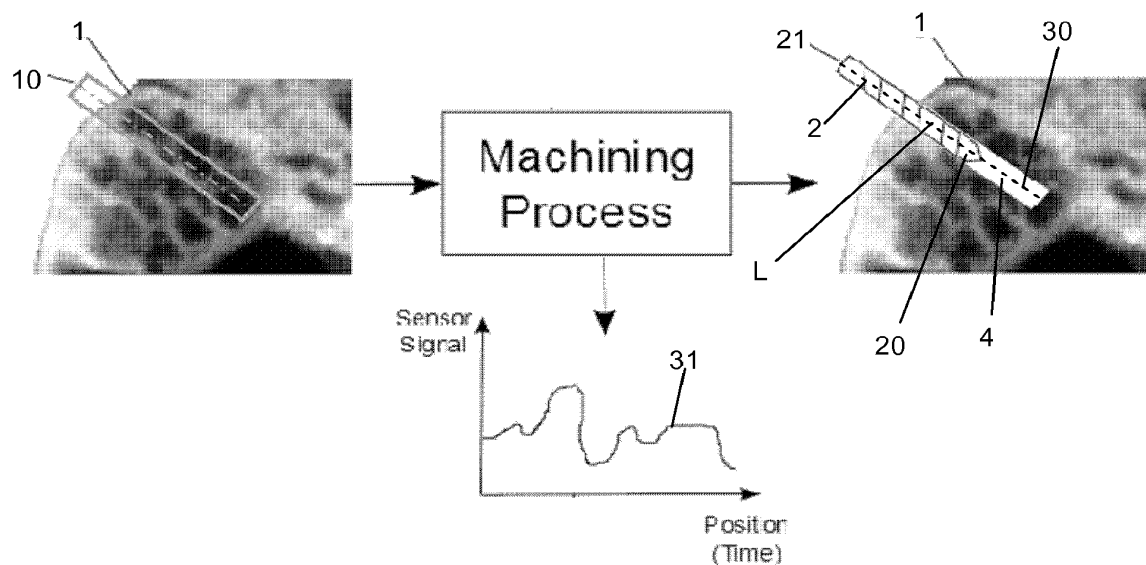
NAVIGATE SURGICAL TECHNOLOGIES

Family 3/10 - FAMPAT - ©Questel

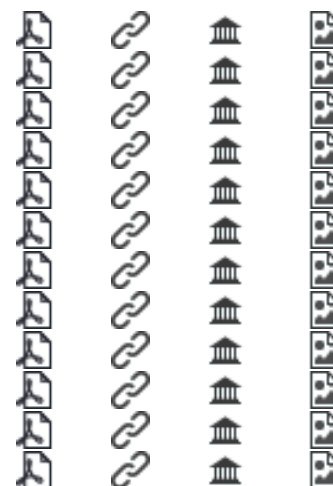
Title

(EP2666428)

System and method for estimating the spatial position of a tool within an object

Images**Publication numbers with kind code & date**

US10342622	B2	2019-07-09	US10342622
US20180085172	A1	2018-03-29	US20180085172
US9814532	B2	2017-11-14	US9814532
CN104540467	B	2017-10-13	CN104540467B
AU2013265396	B2	2017-05-25	AU2013265396
EP2666428	B1	2015-10-28	EP2666428
US20150157419	A1	2015-06-11	US20150157419
CN104540467	A	2015-04-22	CN104540467
AU2013265396	A1	2014-12-18	AU2013265396
WO2013/174801	A3	2014-01-16	WO2013174801
WO2013/174801	A2	2013-11-28	WO2013174801
EP2666428	A1	2013-11-27	EP2666428

**Abstract**

(EP2666428)

The invention relates to a system for estimating the spatial position (pose) of a tool (2) within an object (1), particularly in the form of a human bone that is to be machined with said tool, comprising: a sensor (21) being designed to be coupled to said tool (2), which sensor (21) is further designed to generate an sensor output signal (31) upon machining of said object (1) along an actual trajectory (30), which sensor output signal (31) depends on a material property of said object along said actual trajectory (30), an analyzing means being designed to determine a correlation between said sensor output signal (31) upon machining said object (1) and a plurality of pre-determined candidate output signals (42), each candidate output signal (42) being generated in beforehand using said material property along an associated model trajectory (40) in a model of said object (1), and wherein said analyzing means is designed to estimate a spatial position of the tool (2) within the object (1) using the model trajectory (40) whose associated candidate output signal (42) has the highest correlation with the sensor output signal (31), for instance. The invention further relates to a method for estimating the pose of the tool (2), as well as a computer program product

Inventors

BELL BRETT J

WILLIAMSON TOM

WEBER STEFAN

Latest standardized assignees - inventors removed

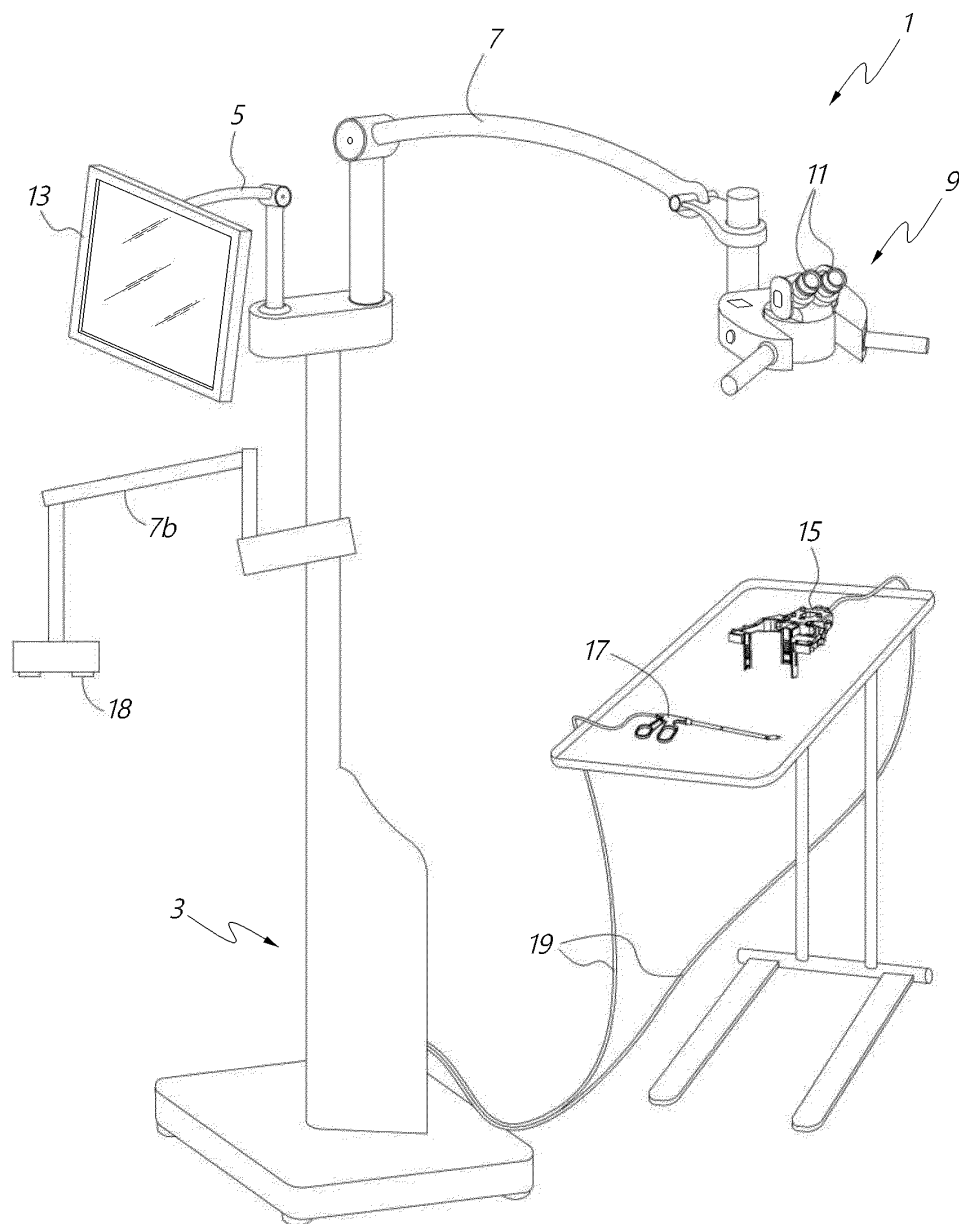
UNIVERSITY OF BERN

Family 4/10 - FAMPAT - ©Questel

Title

(EP3087424)

Surgical visualization systems

Images**Publication numbers with kind code & date**

JP2020000921	A	2020-01-09	JP2020000921
EP3087424	A4	2017-09-27	EP3087424
JP2017507680	A	2017-03-23	JP2017507680
EP3087424	A1	2016-11-02	EP3087424
US20150297311	A1	2015-10-22	US20150297311
WO2015/100310	A1	2015-07-02	WO2015100310

**Abstract**

(EP3087424)

A medical apparatus is described for providing visualization of a surgical site. The medical apparatus includes an electronic display disposed within a display housing, the electronic display configured to produce a two-dimensional image. The

medical apparatus includes a display optical system disposed within the display housing, the display optical system comprising a plurality of lens elements disposed along an optical path. The display optical system is configured to receive the two-dimensional image from the electronic display, produce a beam with a cross-section that remains substantially constant along the optical path, and produce a collimated beam exiting the opening in the display housing. The medical apparatus can also include an auxiliary video camera configured to provide an oblique view of a patient on the electronic display without requiring a surgeon to adjust their viewing angle through oculars viewing the electronic display.

Inventors

TESAR JOHN

Latest standardized assignees - inventors removed

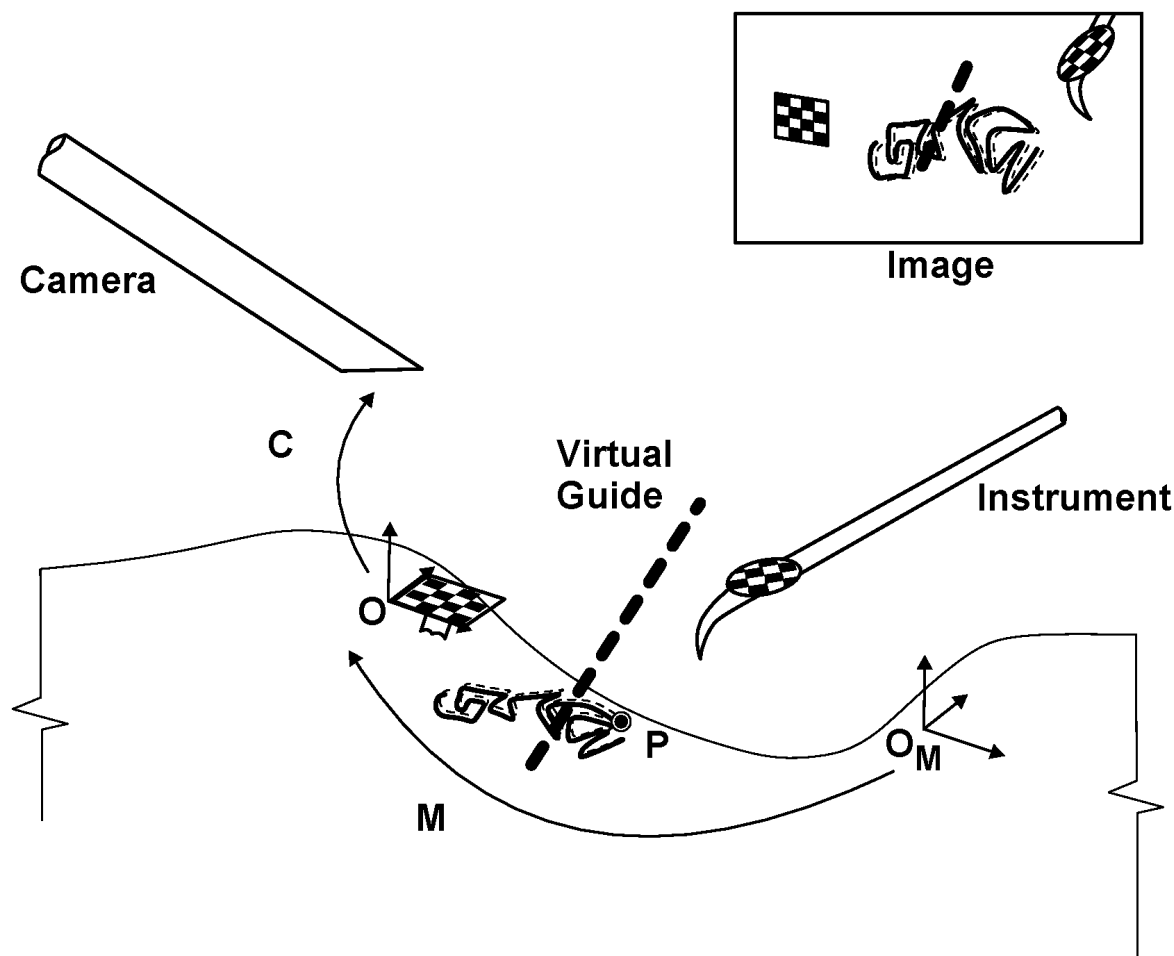
COMPLEX

Family 5/10 - FAMPAT - ©Questel

Title

(EP3273854)

Methods and systems for computer-aided surgery using intra-operative video acquired by a free moving camera

Images**Publication numbers with kind code & date**

US10499996	B2	2019-12-10	US10499996
EP3273854	A4	2018-12-05	EP3273854
US20180071032	A1	2018-03-15	US20180071032
EP3273854	A1	2018-01-31	EP3273854
WO2016/154557	A1	2016-09-29	WO2016154557

**Abstract**

(EP3273854)

Disclosed is a concept for computer-assisted procedures of surgery and diagnosis that target rigid, non-deformable anatomical parts such as bone, tissue, or teeth. The disclosure describes attaching small visual markers to instruments and anatomy of interest (e.g. bone surface), with each marker having a printed known pattern for detection and unique identification in images acquired by a free-moving camera, and a geometry that enables estimating its rotation and translation with respect to the camera using solely image processing techniques.

Inventors

DE ALMEIDA BARRETO JOAO PEDRO

Latest standardized assignees - inventors removed

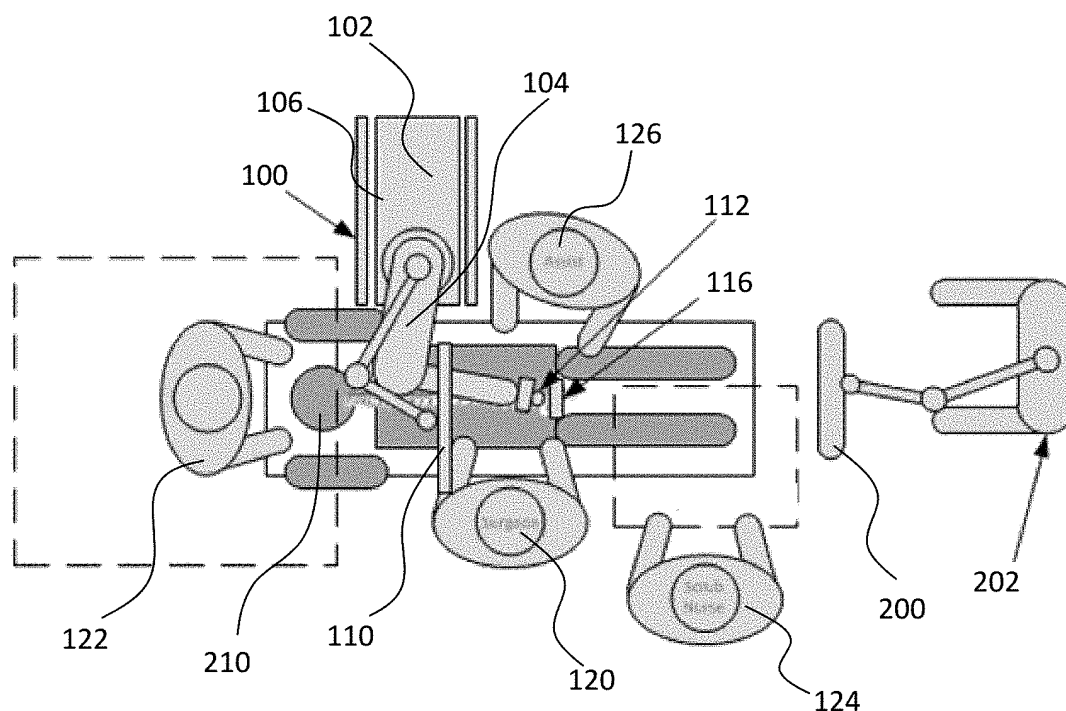
UNIVERSIDADE DE COIMBRA

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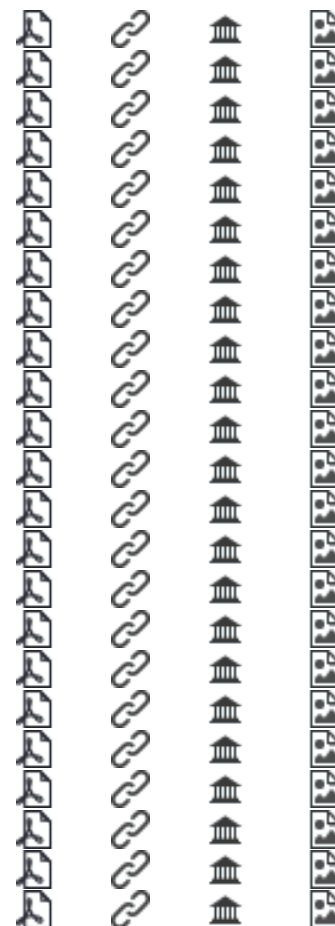
Title

(EP2863827)

Surgical robot platform

Images**Publication numbers with kind code & date**

EP3306567	B1	2020-03-11	EP3306567
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JP2020018842	A	2020-02-06	JP2020018842
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CN110638526	A	2020-01-03	CN110638526
EP3586782	A1	2020-01-01	EP3586782
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EP3295887	B1	2019-12-25	EP3295887
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US20190314094	A1	2019-10-17	US20190314094
US20190282123	A1	2019-09-19	US20190282123
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EP3278758	B1	2019-08-14	EP3278758
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EP3517069	A1	2019-07-31	EP3517069
US10357184	B2	2019-07-23	US10357184
US10350013	B2	2019-07-16	US10350013
JP2019088781	A	2019-06-13	JP2019088781



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WO2016/118744	A1	2016-07-28	WO2016118744				
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US20130345718	A1	2013-12-26	US20130345718				

Abstract

(EP2863827)

A medical robot system, including a robot coupled to an effectuator element with the robot configured for controlled movement and positioning. The system may include a transmitter configured to emit one or more signals, and the transmitter is coupled to an instrument coupled to the effectuator element. The system may further include a motor assembly coupled to the robot and a plurality of receivers configured to receive the one or more signals emitted by the transmitter. A control unit is coupled to the motor assembly and the plurality of receivers, and the control unit is configured to supply one or more instruction signals to the motor assembly. The instruction signals can be configured to cause the motor assembly to selectively move the effectuator element and is further configured to (i) calculate a position of the at least one transmitter by analysis of the signals received by the plurality of receivers; (ii) display the position of the at least one transmitter with respect to the body of the patient; and (iii) selectively control actuation of the motor assembly in response to the signals received by the plurality of receivers.

Inventors

CRAWFORD NEIL R

THEODORE NICHOLAS

FOSTER MITCHELL A

Latest standardized assignees - inventors removed

GLOBUS MEDICAL

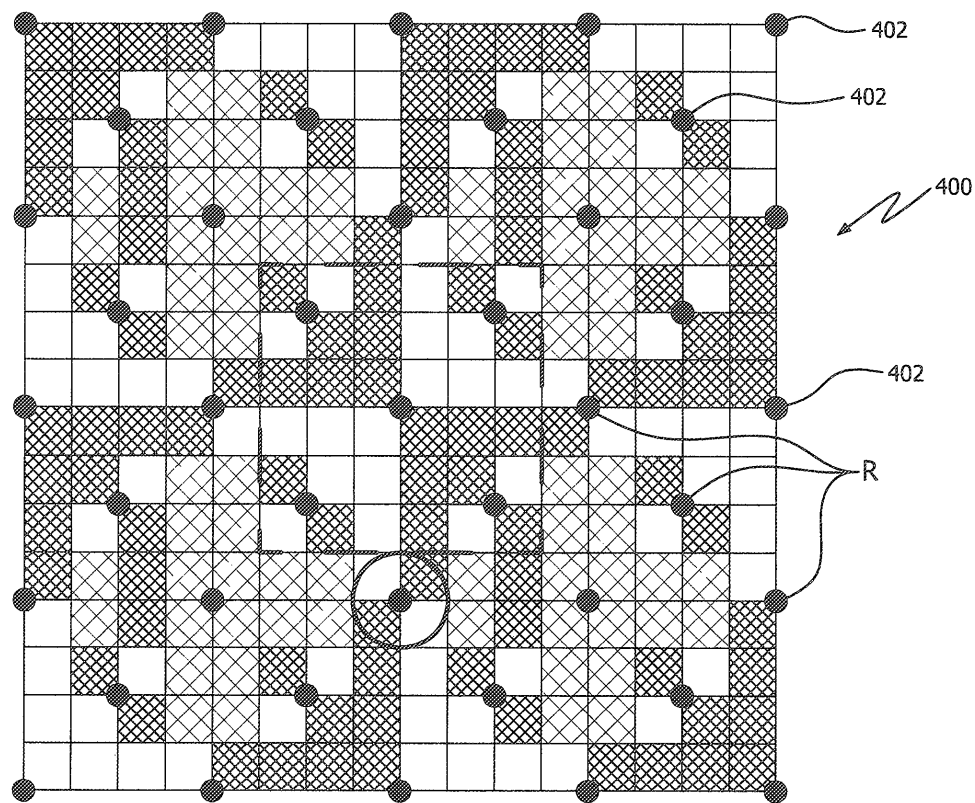
Family 7/10 - FAMPAT - ©Questel

Title

(EP2998931)

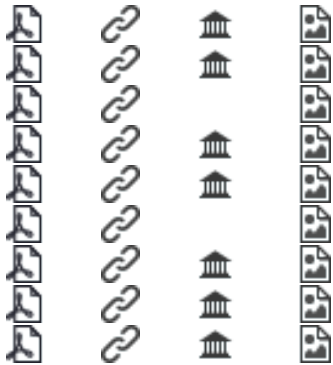
Image guidance system for detecting and tracking an image pose

Images



Publication numbers with kind code & date

CN105411677	B	2019-11-29	CN105411677B
US9943374	B2	2018-04-17	US9943374
KR101740935	B1	2017-05-29	KR101740935
USD776813	S1	2017-01-17	USD776813
EP2998931	A3	2016-07-06	EP2998931
KR20160032695	A	2016-03-24	KR20160032695
CN105411677	A	2016-03-23	CN105411677
EP2998931	A2	2016-03-23	EP2998931
US20160074127	A1	2016-03-17	US20160074127



Abstract

(EP2998931)

An image guidance system for tracking a surgical instrument during a surgical procedure. The image guidance system includes a plurality of cameras adapted to be located external to a surgical area for capturing images of optically visible patterns. A processing system receives and processes the images to recognize the patterns and triangulate the locations and orientations of each pattern relative to a camera. The processing system uses a reference dataset to recognize the patterns.

Inventors

MERRITT SCOTT A

EMERY ROBERT W

MARANDOLA EDWARD J

SCHARFF CHRISTOPHER W

Latest standardized assignees - inventors removed

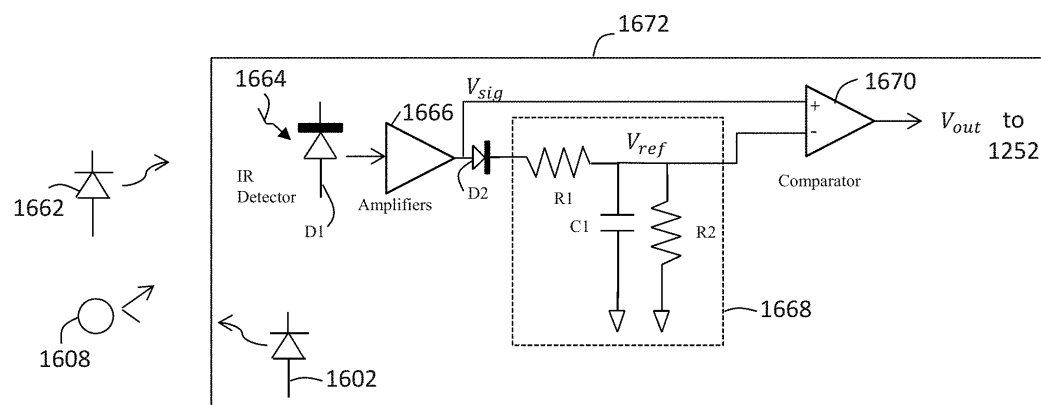
X NAV TECHNOLOGIES

Family 8/10 - FAMPAT - ©Questel

Title

(EP3241518)

Surgical tool systems and methods

Images**Publication numbers with kind code & date**

US20190388161	A1	2019-12-26	US20190388161
US20190380794	A1	2019-12-19	US20190380794
US20190269467	A1	2019-09-05	US20190269467
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US20170071691	A1	2017-03-16	US20170071691
US20170020630	A1	2017-01-26	US20170020630
US20170007334	A1	2017-01-12	US20170007334
US20160235493	A1	2016-08-18	US20160235493

Abstract

(EP3241518)

Embodiments of the present disclosure provide a surgical robot system may include an end-effector element configured for controlled movement and positioning and tracking of surgical instruments and objects relative to an image of a patient's anatomical structure. In some embodiments the end-effector may be tracked by surgical robot system and displayed to a user. In some embodiments the end-effector element may be configured to restrict the movement of an instrument assembly in a guide tube. In some embodiments, the end-effector may contain structures to allow for magnetic coupling to a robot arm and/or wireless powering of the end-effector element. In some embodiments, tracking of a target anatomical structure and objects, both in a navigation space and an image space, may be provided by a dynamic reference base located at a position away from the target anatomical structure.

Inventors

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JOHNSON NORBERT

MOULTON THIMOTHY

ZHANG KEVIN

FORSYTH JEFFREY

MAJOR CHRIS

LEBOEUF ROBERT

CLEARY DAVID

Latest standardized assignees - inventors removed

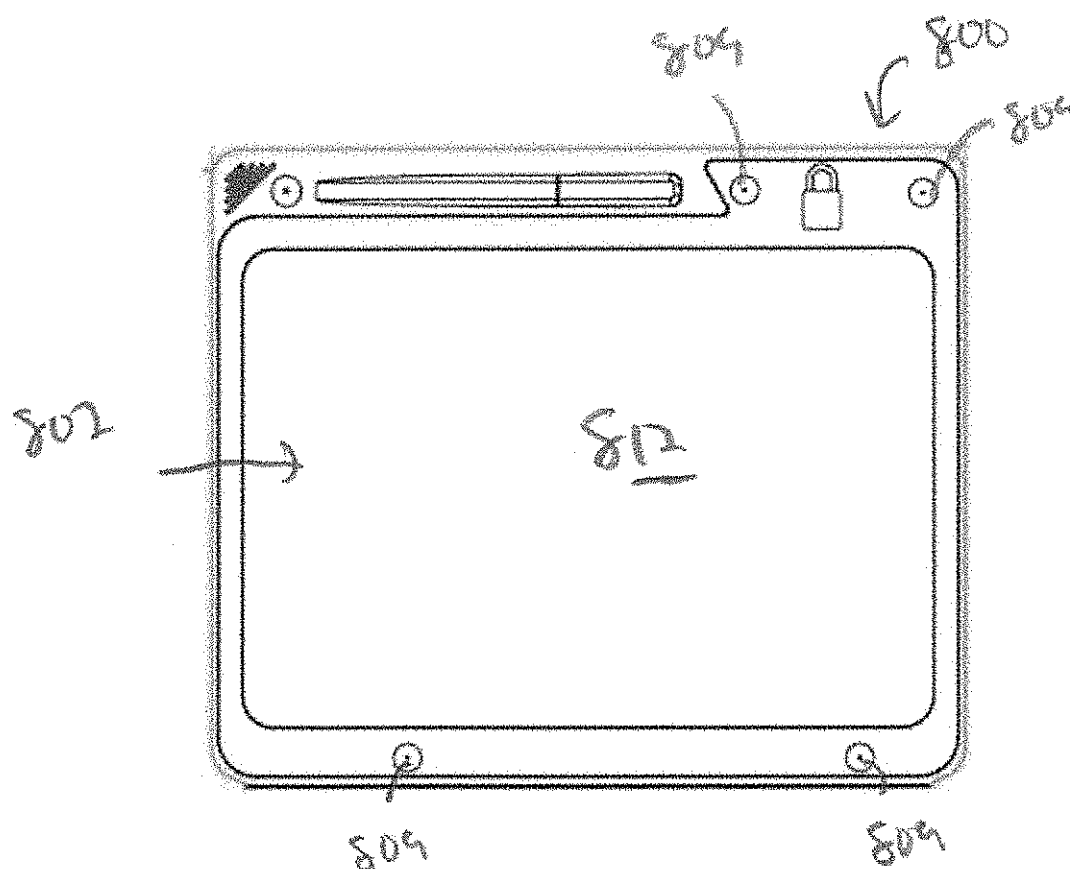
GLOBUS MEDICAL

Family 9/10 - FAMPAT - ©Questel

Title

(EP3509527)

Methods and systems for display of patient data in computer-assisted surgery

Images**Publication numbers with kind code & date**

CN110248618	A	2019-09-17	CN110248618
EP3509527	A1	2019-07-17	EP3509527
US20180185113	A1	2018-07-05	US20180185113
WO2018/049196	A1	2018-03-15	WO201849196

**Abstract**

(EP3509527)

Methods and systems for performing computer-assisted image-guided surgery, including robotically-assisted surgery. A method of displaying image data includes displaying image data of a patient on a handheld display device, tracking the handheld display device using a motion tracking system, and modifying the image data displayed in response to changes in the position and orientation of the handheld display device. Further embodiments include a sterile case for a handheld display device, display devices on a robotic arm, and methods and systems for performing image-guided surgery using multiple reference marker devices fixed to a patient.

Inventors

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Latest standardized assignees - inventors removed

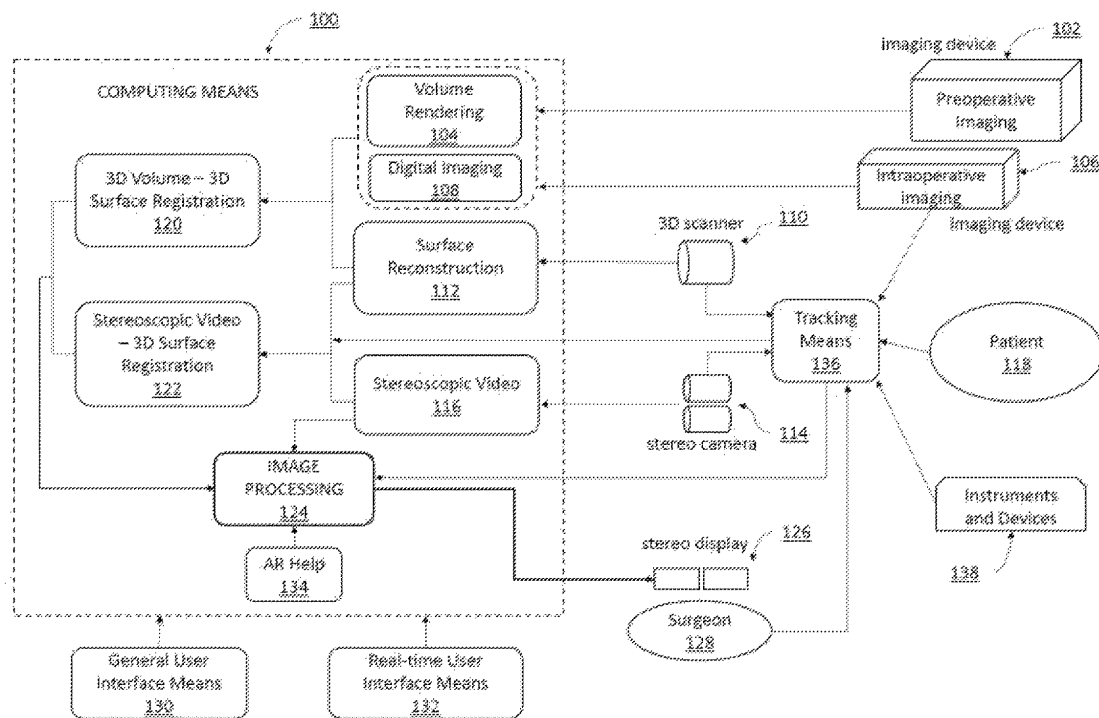
MOBIUS IMAGING

Family 10/10 - FAMPAT - ©Questel

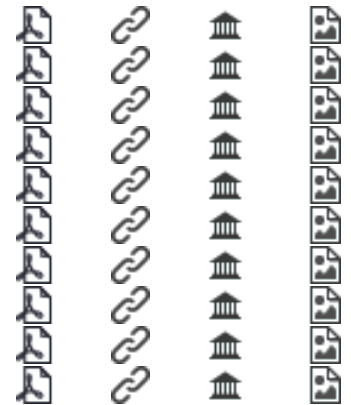
Title

(US20190246088)

Augmented Reality Guidance for Spinal Surgery and Spinal Procedures

Images**Publication numbers with kind code & date**

US20200053335	A1	2020-02-13	US20200053335
US10511822	B2	2019-12-17	US10511822
US20190349559	A1	2019-11-14	US20190349559
US20190246088	A1	2019-08-08	US20190246088
US10326975	B2	2019-06-18	US10326975
US20190149797	A1	2019-05-16	US20190149797
US10194131	B2	2019-01-29	US10194131
US10154239	B2	2018-12-11	US10154239
US20180262743	A1	2018-09-13	US20180262743
US20160191887	A1	2016-06-30	US20160191887

**Abstract**

(US20190246088)

Embodiments disclose a real-time surgery method and apparatus for displaying a stereoscopic augmented view of a patient from a static or dynamic viewpoint of the surgeon, which employs real-time three-dimensional surface reconstruction for preoperative and intraoperative image registration. Stereoscopic cameras provide real-time images of the scene including the patient. A stereoscopic video display is used by the surgeon, who sees a graphical representation of the preoperative or intraoperative images blended with the video images in a stereoscopic manner through a see through display.

Inventors

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