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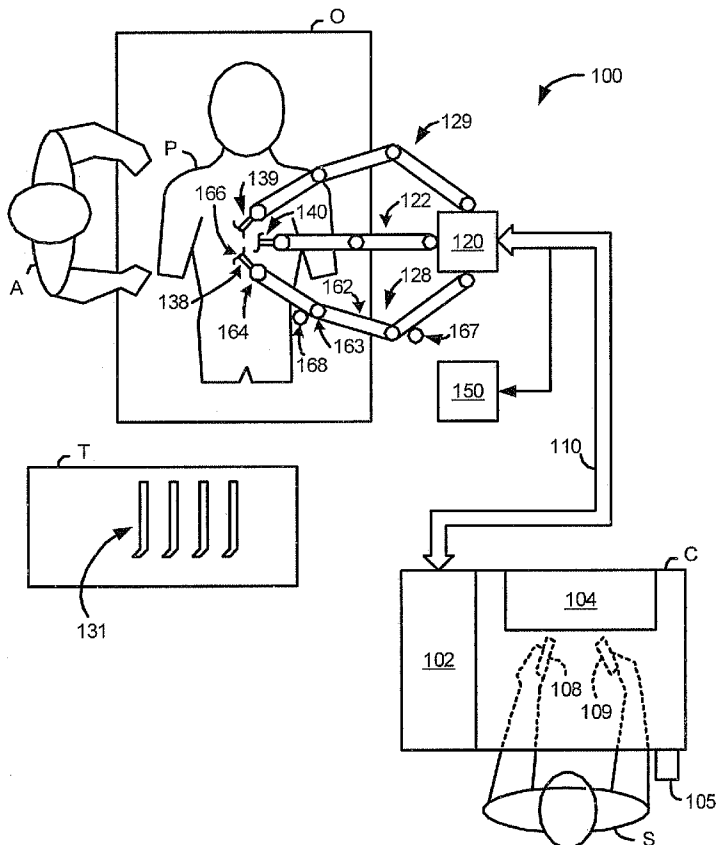
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[Continued on next page]

(54) Title: SURGICAL TOOL POSITION AND IDENTIFICATION INDICATOR DISPLAYED IN A SOUNDARY AREA OF A COMPUTER DISPLAY SCREEN



(57) Abstract: An endoscope captures images of a surgical site for display in a viewing area of a monitor. When a tool is outside the viewing area, a GUI indicates the position of the tool by positioning a symbol in a boundary area around the viewing area so as to indicate the tool position. The distance of the out-of-view tool from the viewing area may be indicated by the size, color, brightness, or blinking or oscillation frequency of the symbol. A distance number may also be displayed on the symbol. The orientation of the shaft or end effector of the tool may be indicated by an orientation indicator superimposed over the symbol, or by the orientation of the symbol itself. When the tool is inside the viewing area, but occluded by an object, the GUI superimposes a ghost tool at its current position and orientation over the occluding object.

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FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL,
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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 practical, search terms used)
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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 748 767 A (RAAB SIMON [US]) 5 May 1998 (1998-05-05) the whole document	1-9, 28-36, 55-63
A	US 5 408 409 A (GLASSMAN EDWARD [US] ET AL) 18 April 1995 (1995-04-18) the whole document	1-76
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A	EP 0 812 662 A (FANUC LTD [JP]) 17 December 1997 (1997-12-17) the whole document	1-71

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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