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Mittelstadt

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[54] **METHOD AND SYSTEM FOR POSITIONING SURGICAL ROBOT**

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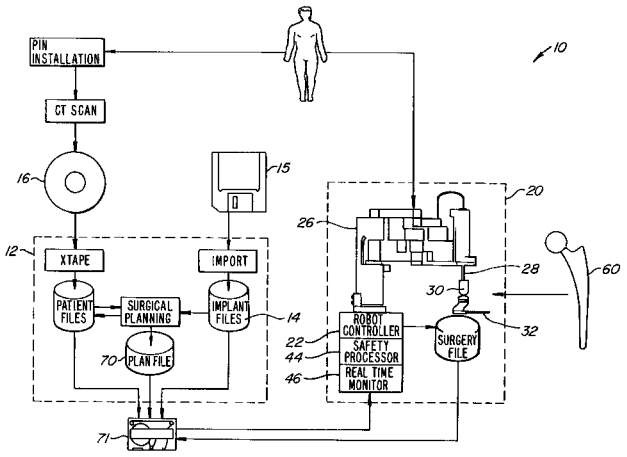
[57] **ABSTRACT**

A method for transforming the image of a long bone into a system coordinate space, such as robotic system coordinate space, comprises identifying in the image data set directional coordinates representing bone axis and at least one positional coordinate on the bone surface. Corresponding coordinates in the actual bone immobilized in the robotic or other system space are then determined by contacting a probe, such as a probe at the end of a manipulatable arm on a robot, to corresponding locations in the actual bone. The coordinates within the image data set are then registered with the actual coordinates within the immobilized bone to produce a transfer function that can be used to transform the image data set to the coordinate system space.

36 Claims, 8 Drawing Sheets