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Mittelstadt et al.

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(54) **BONE MOTION TRACKING SYSTEM**

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(58) **Field of Search** 606/130, 1; 600/425, 600/426, 427, 429; 128/922

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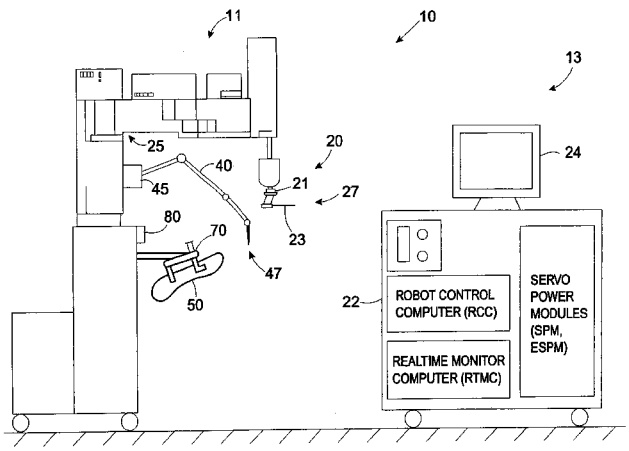
(57) **ABSTRACT**

A method of tracking and compensating for bone motion when operating on bone **(50)** with surgical robotic arm **(20)**, comprising: determining a spatial relationship between surgical robotic arm **(20)** and bone **(50)**; tracking translational and rotational movements of bone **(50)** with a bone motion detector, which preferably comprises a passive mechanical arm **(40)**; and updating the spatial relationship as bone **(50)** moves.

22 Claims, 4 Drawing Sheets