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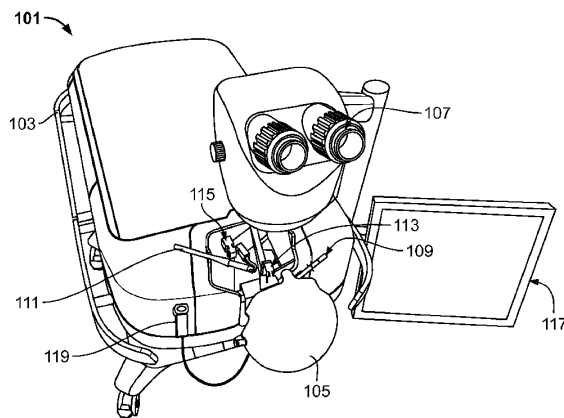


FIG. 1a

(57) Abstract: A surgical simulator comprising a haptic arm capable of simulating forces generated during surgery from interactions between a surgical tool and tissue operated upon. The simulator further comprises a visual display capable of depicting a three-dimensional image of the simulated surgical tool and a physics-based computer model of the tissue. The haptic arm controls the movement and orientation of the simulated tool in the three-dimensional image, and provides haptic feedback forces to simulate forces experienced during surgery. Methods for simulating surgery and training users of the simulator are also described.

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