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Smith et al.

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(54) **MEMS VERTICAL TO HORIZONTAL
MOTION TRANSLATION DEVICE**

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(58) **Field of Search** 102/254; 310/40 MM

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(57) **ABSTRACT**

A micromechanical device that takes a vertical force to a micro substrate that results into a vertical motion and translates that vertical motion into horizontal motion. A pit is etched onto a micro substrate where the walls of the pit meet the floor of the pit at less than a 90° angle. A vertical force is applied to a structure to push it along the angled wall of the pit and as the structure reaches the bottom of the pit the vertical motion is translated into horizontal motion. By attaching a spring or similar mechanism to the structure, one can store the horizontal momentum for later use by latching the structure in some way before the spring can pull the structure back into its original position.

20 Claims, 3 Drawing Sheets

