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(54) **BI-DIRECTIONAL STIFFNESS FOR OPTICAL IMAGE STABILIZATION IN A DUAL-APERTURE DIGITAL CAMERA**

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(58) **Field of Classification Search**
None
See application file for complete search history.

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(57) **ABSTRACT**

Mechanisms for providing optical image stabilization in at least one direction as well as auto-focus in a digital camera comprise a plurality of springs mechanically coupled to at least a lens module carrying a lens of the digital camera, wherein the plurality of springs provides overall low stiffness to movement of the lens in two, first and second directions orthogonal to each other, and provides high stiffness to torsion of the lens module.

15 Claims, 10 Drawing Sheets