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Shabtay et al.

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(54) **THIN MULTI-APERTURE IMAGING SYSTEM WITH AUTO-FOCUS AND METHODS FOR USING SAME**

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CPC G02B 27/646; G02B 7/36; H04N 5/2258; H04N 5/23212; H04N 5/23232; H04N 5/2628; H04N 5/33; H04N 9/045; H04N 9/09; H04N 9/64
See application file for complete search history.

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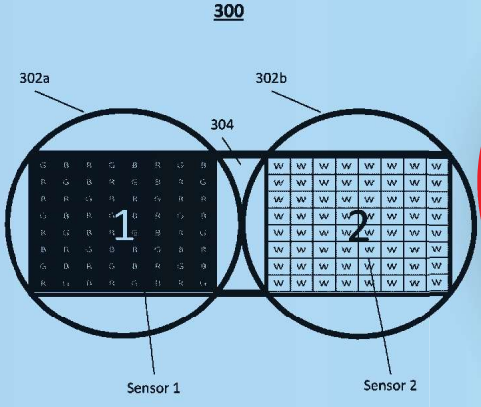
(57) **ABSTRACT**

Dual-aperture digital cameras with auto-focus (AF) and related methods for obtaining a focused and, optionally optically stabilized color image of an object or scene. A dual-aperture camera includes a first sub-camera having a first optics bloc and a color image sensor for providing a color image, a second sub-camera having a second optics bloc and a clear image sensor for providing a luminance image, the first and second sub-cameras having substantially the same field of view, an AF mechanism coupled mechanically at least to the first optics bloc, and a camera controller coupled to the AF mechanism and to the two image sensors and configured to control the AF mechanism, to calculate a
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