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Dror et al.

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(54) **MINIATURE TELEPHOTO LENS ASSEMBLY**

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This patent is subject to a terminal disclaimer.

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CPC **G02B 13/0045** (2013.01); **G02B 1/041** (2013.01); **G02B 9/60** (2013.01);
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(58) **Field of Classification Search**

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(57) **ABSTRACT**

An optical lens assembly includes five lens elements and provides a TTL/EFL<1.0. In an embodiment, the focal length of the first lens element $f_1 < TTL/2$, an air gap between first and second lens elements is smaller than half the second lens element thickness, an air gap between the third and fourth lens elements is greater than $TTL/5$ and an air gap between the fourth and fifth lens elements is smaller than about 1.5 times the fifth lens element thickness. All lens elements may be aspheric.

12 Claims, 6 Drawing Sheets

