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Iyer et al.

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(54) **REFRACTIVE-DIFFRACTIVE MULTIFOCAL LENS**

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G02C 7/06 (2006.01)

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USPC **351/159.42**; 351/159.44

(58) **Field of Classification Search**
USPC 351/159.42, 159.44; 623/6.25, 6.3, 6.31
See application file for complete search history.

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(57) **ABSTRACT**

Aspects of the present invention provide multifocal lenses having one or more multifocal inserts comprising one or more diffractive regions. A diffractive region of a multifocal insert of the present invention can provide a constant optical power or can provide a progression of optical power, or any combination thereof. A multifocal insert of the present invention can be fabricated from any type of material and can be inserted into any type of bulk lens material. A diffractive region of a multifocal insert of the present invention can be positioned to be in optical communication with one or more optical regions of a host lens to provide a combined desired optical power in one or more vision zones. Index matching layers of the present invention can be used to reduce reflection losses at interfaces of the host lens and multifocal insert.

18 Claims, 7 Drawing Sheets

