



(12) **United States Patent**  
**DiPippo et al.**

(10) **Patent No.:** **US 6,389,229 B1**  
(45) **Date of Patent:** **May 14, 2002**

(54) **OPTICAL FSTOP/RESOLUTION APPARATUS AND METHOD FOR SPECIFIED DEPTH-OF-FIELD**

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/575,542**

(22) Filed: **May 17, 2000**

(51) Int. Cl.<sup>7</sup> ..... **G03B 7/00**

(52) U.S. Cl. .... **396/63; 396/65**

(58) Field of Search ..... **396/63, 121, 65-70, 396/257, 258, 260**

(56) **References Cited**

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(57) **ABSTRACT**

A method and apparatus to determine the  $f_{stop}$  that provides optimal image resolution for a predetermined depth-of-field. An approximate and exact method and apparatus are provided to determine the optimal resolution  $f_{stop}$ . The optimal resolution  $f_{stop}$  is a function of the lens focal length, depth-of-field in front of the object, wavelength of light, and distance of the object to the lens center. Once the optimal resolution  $f_{stop}$  is determined, the camera is adjusted to the closest discrete  $f_{stop}$  available. When the approximate field technique is utilized, the camera must be adjusted to the discrete  $f_{stop}$  closest to, but not exceeding, the computed  $f_{stop}$ .

**17 Claims, 8 Drawing Sheets**

