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**Silvestrini et al.**

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(54) **METHOD AND APPARATUS FOR ALIGNING  
A MASK WITH THE VISUAL AXIS OF AN  
EYE**

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(51) **Int. Cl.**  
**A61F 2/14** (2006.01)

(52) **U.S. Cl.**  
USPC ..... **623/5.11**; 606/4; 606/5

(58) **Field of Classification Search**  
CPC ..... A61F 2/147  
USPC ..... 606/4, 5, 10, 11; 623/5.11  
See application file for complete search history.

(57) **ABSTRACT**

A method is provided for increasing the depth of focus of an eye of a patient. A visual axis of the eye is aligned with an instrument axis of an ophthalmic instrument. The ophthalmic instrument has an aperture through which the patient may look along the instrument axis. A first reference target is imaged on the instrument axis at a first distance with respect to the eye. A second reference target is imaged on the instrument axis with the ophthalmic instrument at a second distance with respect to the eye. The second distance is greater than the first distance. Movement is provided such that the patient's eye is in a position where the images of the first and second reference targets appear to the patient's eye to be aligned. A mask comprising a pin-hole aperture having a mask axis is aligned with the instrument axis such that the mask axis and the instrument axis are substantially collinear. The mask is applied to the eye of the patient while the alignment of the mask axis and the instrument axis is maintained. Maintaining alignment of the mask axis and the instrument axis may be facilitated by capturing an image of the eye.

**18 Claims, 31 Drawing Sheets**

