

United States Patent [19] Shirayanagi

[11] Patent Number: **4,469,413**
[45] Date of Patent: **Sep. 4, 1984**

- [54] **ASPHERICAL LENS FOR INDIRECT OPHTHALMOSCOPE**
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- [21] Appl. No.: **425,583**
- [22] Filed: **Sep. 28, 1982**
- [30] **Foreign Application Priority Data**
Dec. 22, 1981 [JP] Japan 56-208726
- [51] Int. Cl.³ **A61B 3/12; G02B 13/18**
- [52] U.S. Cl. **350/432; 351/205**
- [58] Field of Search **350/432; 351/205**

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[57] ABSTRACT

An aspherical lens for an indirect ophthalmoscope, comprising a single biconvex lens having a first surface with a radius of curvature r_1 , and a second aspherical surface facing the examiner and having a paraxial radius of curvature r_2 . The lens being constructed to meet the following requirements:

$$-0.65 < \frac{r_2}{r_1} < -0.35 \tag{1}$$

$$1 - 3x^2 < \frac{d^2y}{dx^2} < 1 - 1.4x^3 \left(0 \leq x \leq -\frac{D}{2r_2} \right) \tag{2}$$

where D is the effective diameter of the lens, y is the displacement in the direction of an optical axis of an aspherical shape as expressed by a rectangular coordinate system having the origin at the vertex of the second surface and normalized by r_2 , and x is the displacement in a direction normal to the optical axis and also normalized by r_2 .

4 Claims, 10 Drawing Figures

