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**Von Wallfeld et al.**

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(54) **METHOD FOR DETERMINING A REQUIRED SHAPE FOR AT LEAST ONE SURFACE OF AN ARTIFICIAL OR NATURAL PART OF AN EYE WHICH IS INTERSECTED BY A PATH OF RAYS THROUGH THE PUPIL OF THE EYE, AND DEVICE FOR THE MANUFACTURE OF AN ARTIFICIAL LENS**

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(57) **ABSTRACT**

In this method, the refraction performance is either measured along the path of rays (5-7) for a multitude of ray paths which are distributed across a surface, each path originating from one point (P), or is given based on empirically established values. Afterwards the distances of the incident rays between the surfaces intersected by the path of rays are measured along the path or are given based on empirically established values, and the required shape of at least one surface intersected by the paths of rays is calculated based on those values so that the paths of rays intersect in one point as accurately as possible. Based on the values derived in this way optical fittings (3) can be calculated which can be placed on the cornea surface (8-10), inserted into the inner cornea, attached to the anterior section (11) of the eye and inserted into the inner part of the eye in order to simulate arithmetically all measures that change the refraction power of the eye before the measure is actually implemented. As an example a device for the manufacture of an artificial lens (14) is described.

**13 Claims, 2 Drawing Sheets**

