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WP

United States
MacNeille

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X 4050 T

- [54] OPTICAL SYSTEM FOR IMPROVED EYE REFRACTION
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- [73] Assignee: American Optical Corporation, Southbridge, Mass.
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- [21] Appl. No.: 162,960

7, 1957, pps. 533-541
 W. J. Biessels, "The Cross-Cylinder Simultan Test," J. Amer. Optom. Assoc., Vol. 38, No. 6, June 1967, pp. 473-476
 Erwin J. Daniels, "The Zeiss Simultantest," The Optician, vol 156, No. 4034, July 26, 1968, pp. 83-85

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- [52] U.S. Cl. 351/25, 350/157, 350/175 DR, 350/184, 351/17, 351/32
- [51] Int. Cl. A61b 3/02, G02b 3/04, G02b 15/16
- [58] Field of Search 351/17, 25, 28, 29, 351/32; 350/175 DR, 132, 157, 184

[56] **References Cited**

UNITED STATES PATENTS

3,240,548	3/1966	Biessels.....	351/25 X
3,583,790	6/1971	Baker.....	350/184
3,507,565	4/1970	Alvarez et al.....	350/184 X
3,507,549	4/1970	Land.....	350/132
2,280,297	4/1942	Neumueller et al.....	350/132 X

OTHER PUBLICATIONS
 W. J. Biessels, "The Simultantest," The Optician, June

[57] **ABSTRACT**
 Eye refraction optical system including birefringent and variable power lens means in optical alignment with target structure providing target area to be viewed simultaneously in light of two different groups of polarized light rays, said birefringent and variable power lens means including birefringent means for effecting a slightly different dioptric power for the viewed target area for one of said groups from that of the other and also including movable refractive lens means for changing the effective dioptric power of both target areas simultaneously for choice by patient of image of best focus.

10 Claims, 9 Drawing Figures

