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(51) International classification	:A61B0003060000, H01L0025075000, G16H0010200000, G02F0001153000, G09F0009330000	(71)Name of Applicant : 1)Chitkara University Address of Applicant :Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Rajpura Punjab India 2)Chitkara Innovation Incubator Foundation
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(57) Abstract :

A device for diagnosing and managing color vision deficiency, comprising a roller 101 integrated at both ends of the device 102 with straps 103 rolled on each roller 101, each strap 103 having an electromagnet 104 at its end, a first motorized slider 105 mounted along the inner periphery carrying multiple colored lenses 106, and a second motorized horizontal slider 107 equipped with a light-emitting diode (LED) display 108 for showing color vision test figures and patterns, an embedded microphone 109 and a speaker 110 for patient interaction, a plurality of electrochromic optical fibers integrated with the LED display 108 for real-time color adjustment based on patient responses, a user interface for displaying detailed diagnosis results, and a processing module coupled to the mechanical and electronic components to control testing, diagnosis, and management of color vision deficiency.

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