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(54) Title: OPTICAL SEE-THROUGH NEAR-EYE DISPLAY USING POINT LIGHT SOURCE BACKLIGHT

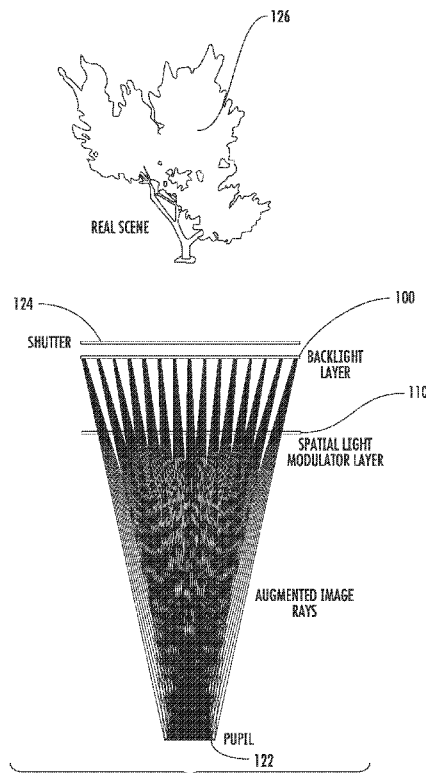
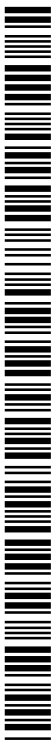


FIG. 13

(57) Abstract: According to one aspect, the subject matter described herein includes a near-eye optical see-through display. The display includes a backlight layer including a plurality of point light sources. The display further includes a spatial light modulator (SLM) layer for modulating light from the point light sources. The spatial light modulator is located in the optical path between the point light sources and a user's eye. The spatial light modulator layer includes pixels that are controllable to modulate light from the point light sources such that the light that impacts the user's eye has a desired intensity and color to display a synthetic image. At least a portion of the backlight layer and the spatial light modulator layer are optically transparent to allow a user to view a real scene through the spatial light modulator layer and the backlight layer such that the synthetic image appears to be overlaid on a view of the real scene. Each pixel in the spatial light modulator layer modulates only a portion of the light emanating from the point light sources such that the synthetic image appears to be in focus to the user's eye.



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Minimum documentation searched (classification system followed by classification symbols)			
G02B 27/00-27/64, G02F 1/00-1/39, G06F 3/00-3/01, 15/00-15/82, G09G 3/00-3/38, 5/00-5/42, H04N 5/00-5/956, 9/00-9/898, 13/00-13/04, 15/00			
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched			
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)			
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C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
X Y	US 7639208 B1 (UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC.) 29.12.2009, col. 1, lines 12-16, col. 3, lines 23-27, 30-56, col. 5, lines 43-61, col. 6, lines 43-67, col. 7, lines 1-3, 10-62, col. 8, lines 35-44, 47-61, fig. 9	1, 8, 14, 17-18, 25 2-7, 9-13, 15-16, 19-24	
Y	US 2012/0119978 A1 (OSTERHOUT GROUP, INC.) 17.05.2012, par. [0028], [0030], [0032], [0035], [0040]-[0042]	2-4, 6-7, 10-12, 20-21	
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Y	US 2005/0117016 A1 (PHILIP A. SURMAN) 02.06.2005, abstract	11	
Y	US 2012/0235887 A1 (OSTERHOUT GROUP, INC.) 20.09.2012, par. [0151], [0154], [0245], [0298], [0351], [0555]-[0556], [0782], [0911]	13, 15-16, 19, 22-24	
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