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[Continued on next page]

(54) Title: ON-CHIP 4D LIGHTFIELD MICROSCOPE

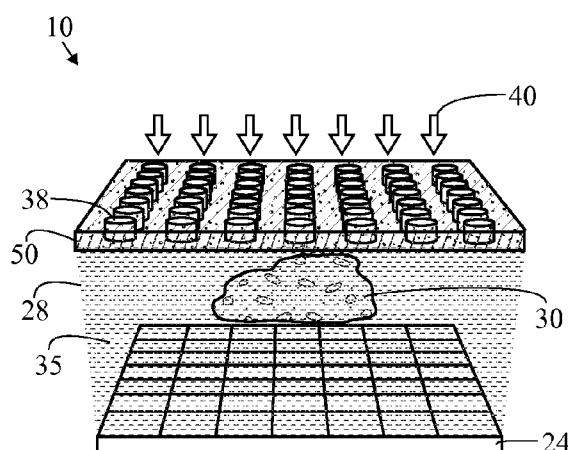


FIG. 2

(57) Abstract: The present invention extends on-chip lensless microscope systems (10), including optofluidic microscope (OFMs) and holographic imaging microscopes to incorporate computational photography principles. A LF-OFM system 10 includes at least one plasmonic lens (50) with apertures (38), at least one microfluidic channel (28), and an image sensor array (24). The system (10) is capable of generating an image through computational photography.



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