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(54) **Title:** PARALLEL SCANNING CONFOCAL MICROSCOPE AND PARALLEL SCANNING CONFOCAL MICROSCOPY METHOD

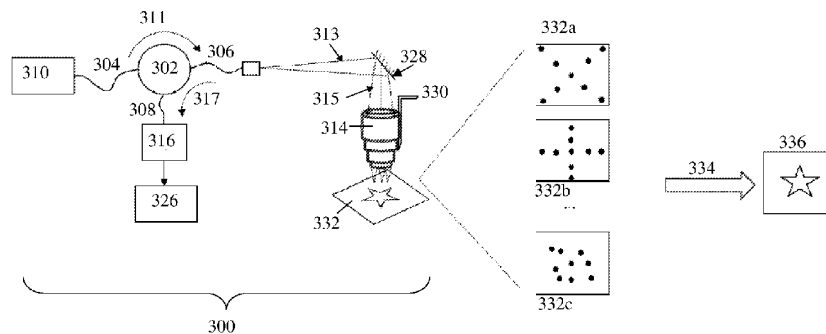


FIG. 3

(57) **Abstract:** According to embodiments of the present invention, a parallel scanning confocal microscope is provided. The microscope includes an optical circulator including a first port, a second port and a third port; a light source optically coupled to the first port; an optical arrangement in optical communication with the second port; a focusing lens; and a photodetector optically coupled to the third port. The light source may be configured to emit light towards the optical arrangement along an illumination path. The light may be directed as multiple optical beams towards the focusing lens, which may be configured to focus the beams to confocally and simultaneously illuminate a sample along the illumination path; and to collect light reflected from the sample confocally along a reflection path. The reflected light may be directed towards the photodetector along the reflection path. According to further embodiments, a parallel scanning confocal microscopy method is also provided.

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