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(54) Title of the Invention: **Moveable assembly for simultaneous detection of analytic and compensation signals in optical computing**  
Abstract Title: **Moveable assembly for simultaneous detection of analytic and compensation signals in optical computing**

(57) An optical computing device uses a moveable assembly to simultaneously analytic and compensation signals to determine sample characteristics in real-time. In one embodiment, the moveable assembly is a rotating carousel including at least one optical element pair positioned thereon, where one of the optical elements forms an analytic channel, and the other forms the compensation channel. Alternatively, two carousels may be utilized, where one includes the analytic channel and the other includes the compensation channel. In another embodiment, a linear array having compensation and analytic channels may be utilized. During operation, electromagnetic radiation optically interacts with the sample to form sample-interacted light, which is directed toward the optical elements on the moveable assembly. The optical elements are positioned on the moveable assemblies such that the sample-interacted light optically interacts with both simultaneously, thereby providing compensation in parallel with the sample characteristic measurement.

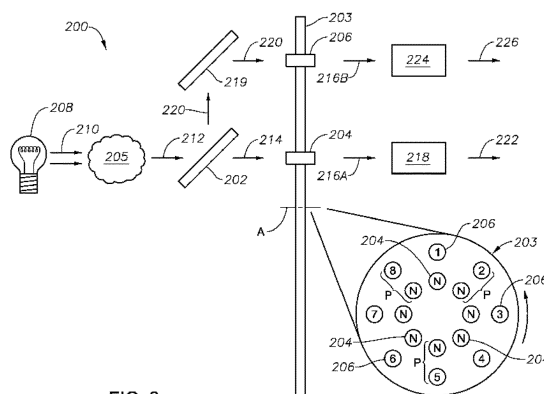


FIG. 2