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(58) Field of Search:
INT CL **B01L, G01J, G01N**
Other: **EPO-Internal, BIOSIS**

(54) Title of the Invention: **Micro fluidic optic design**
Abstract Title: **Micro fluidic optic design**

(57) Aspects of the disclosure provide a DNA analyzer. The DNA analyzer includes an interface for coupling a microfluidic chip to the DNA analyzer. The microfluidic chip includes a first separation channel for electrophoretic separation of DNA fragments in a first sample. Further, the DNA analyzer includes a first optical device. The first optical device includes an illuminating path and a detecting path. The illuminating path directs a first input light beam received from a light source to a first separation channel of the microfluidic chip. The first input light beam causes fluorescent labels attached on DNA fragments in the first separation channel to emit a first fluorescence light. The detecting path collects and directs the first fluorescent light to a first plurality of optical fibers. Further, the DNA analyzer includes a spectrometer configured to receive the first fluorescent light from the plurality of optical fibers and detect fluorescent components in the first fluorescent light. Further, in an embodiment, the illuminating path is configured to receive the first input light beam from the light source via a first input optical fiber.

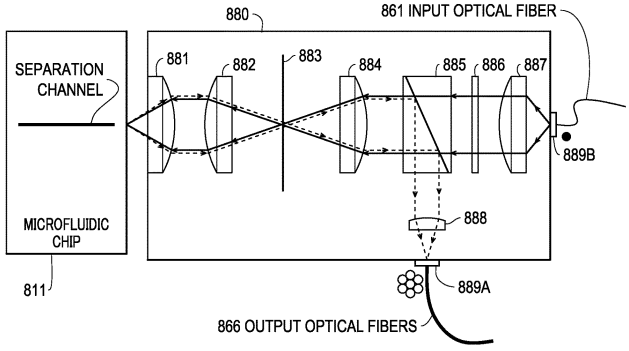

FIG. 8

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