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(54) **Title:** METHOD FOR NON-INTRUSIVE MEASUREMENT OF LOW WATER CONTENT IN OIL

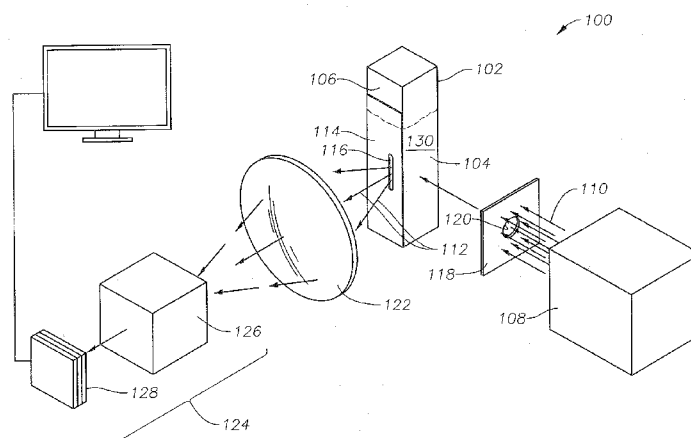


FIG. 1

(57) **Abstract:** The present invention relates to a method and apparatus for determining trace amounts of water in oil, including the steps of obtaining a blended sample of a low water content fluid including an amount of water and an amount of oil, transferring a portion of the blended sample to a cuvette to create a measurement sample, covering a viewing surface of the cuvette with an opaque sheet with a slit, providing a barrier with a fixed opening between a laser source and a laser-receptive surface of the cuvette, transmitting a pulsed laser beam from the laser source into the cuvette; inducing fluorescence in the measurement sample, focusing the fluorescence through a collecting lens and transmitting the fluorescence to a spectrometer, and measuring the fluorescence with the spectrometer by dispersing the fluorescence with a spectrograph and intensifying the fluorescence with an intensified charge coupled device.