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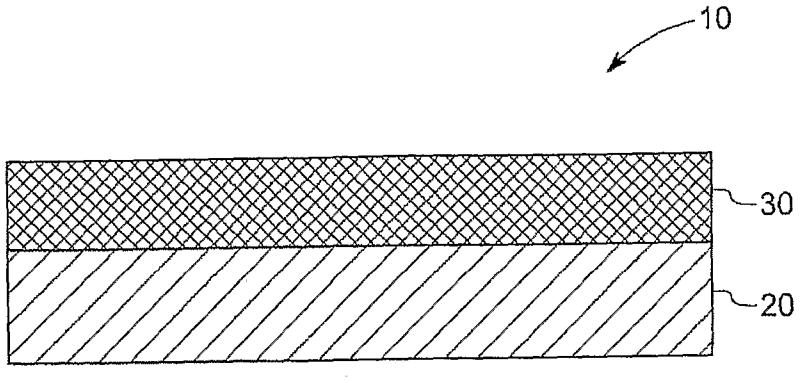
Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

[Continued on next page]

(54) Title: MATERIAL COMPOSITIONS FOR SENSORS FOR DETERMINATION OF CHEMICAL SPECIES AT TRACE CONCENTRATIONS AND METHOD OF USING SENSORS



(57) Abstract: A method of quantitatively measuring the concentration of a chemical species in a sample solution with a sensor film. A hydrogel sensor film is prepared having a chemical composition comprising an indicator that changes its optical property in the ultra-violet, visible or near-infrared spectral range upon being exposed to the chemical species in the sample solution. The film is exposed to a fixed amount of the sample solution. The concentration of the chemical species in the sample solution is quantified using the average absorbance measured from the sensor film.

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