



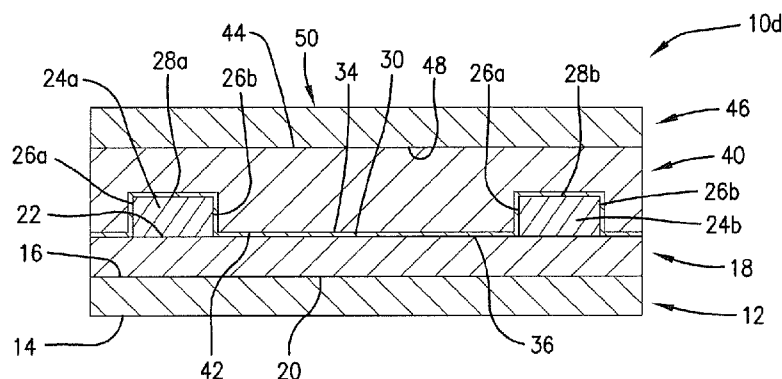
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(54) **Title:** THIN-FILM RESISTIVE-BASED SENSOR*Fig. 5.*

(57) **Abstract:** Printed resistive-based sensors and transducers comprising a thin, electronically "active" sensing layer within a dielectric and/or metallic layered structure are provided. The electronic resistance of the active sensing layer is measured during a change in the sensor environment. By utilizing a multi-layered architecture around the active sensing layer, the electronic signal of the sensing element can be improved. By carefully selecting the architecture and materials that surround the active sensing layer, the sensitivity, stability, and selectivity of the sensor to detect changes in the environment are improved. This design allows for a number of specific application areas for environmental sensing.