

[54] **INDIVIDUAL IDENTIFICATION AND DIAGNOSIS USING WAVE POLARIZATION**

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[58] **Field of Search**..... **128/2 R, 2 V, 2 A; 73/67.2; 340/279**

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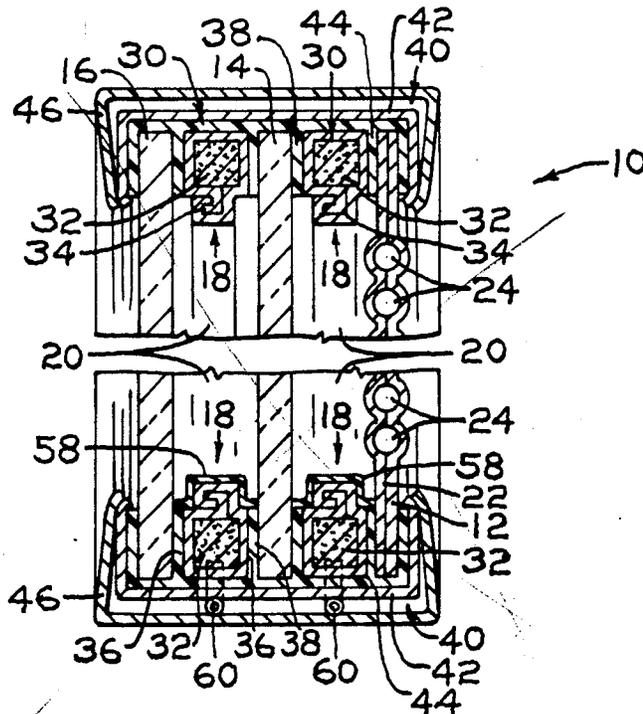
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[57] **ABSTRACT**

A method for the medical diagnosis of human and other bodies and also for use in the automatic machine interrogation of individuals for identifying persons such as those seeking credit or admittance to a security area. Oscillatory wave energy, preferably a sonic signal, is applied with a selected polarization to a first part of a body. The polarization of the wave energy transmitted through a portion of the body is detected at a second part of the body. Data representing the shift in polarization is stored for subsequent comparison to a polarization shift which is subsequently measured by the same steps. Comparison of the data representing the two polarization shifts can be used for quantitative and qualitative medical diagnosis as well as for an automatic machine decision whether the polarization shifts are sufficiently similar that they were derived from the same individual. The use of multiple frequencies permits the derivation of a polarization shift characteristic over a range of frequencies. Apparatus is disclosed comprising a wave generating transducer and a plurality of receiving transducers mounted in side-by-side arcuate arrangement for at least partially surrounding the second body part.

11 Claims, 6 Drawing Figures



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