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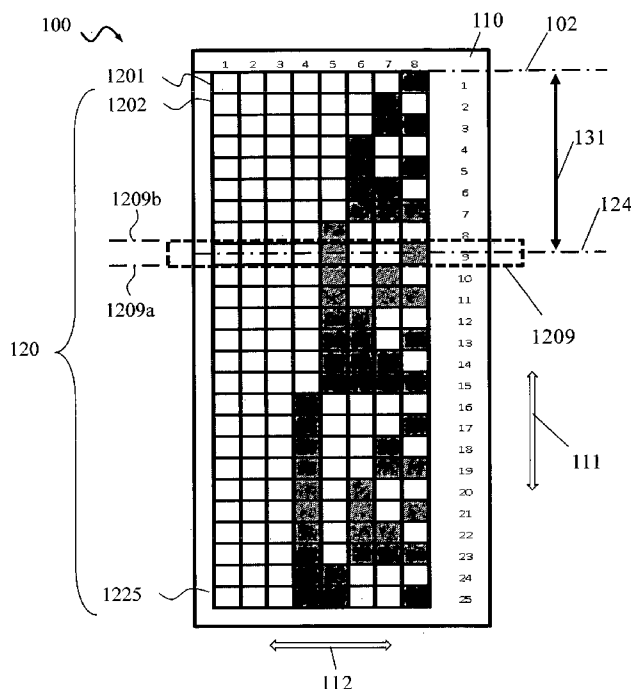
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(54) Title: OPTICAL MEASUREMENT SYSTEM, METHOD AND SCALEPLATE THEREFOR



(57) Abstract: Embodiment of the present invention provides various types of optical measurement scaleplates, optical measurement apparatus and method using the optical measurement scaleplates for position measurements. In one embodiment, an optical measurement scaleplate has a substrate and a plurality of marking units each being borne on the substrate at a predetermined position. Each marking unit includes a plurality of optically detectable marking elements. Each of said marking elements has an element value defined a permutation of the element value of each of the marking elements in said marking unit, and each unit value corresponds to a physical quantity. On the substrate there is defined a first direction. The physical quantity includes a first distance between a reference position and said predetermined position along the first direction.