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(54) Title: SYSTEMS AND METHODS FOR FABRICATING DISPLACEMENT SCALES

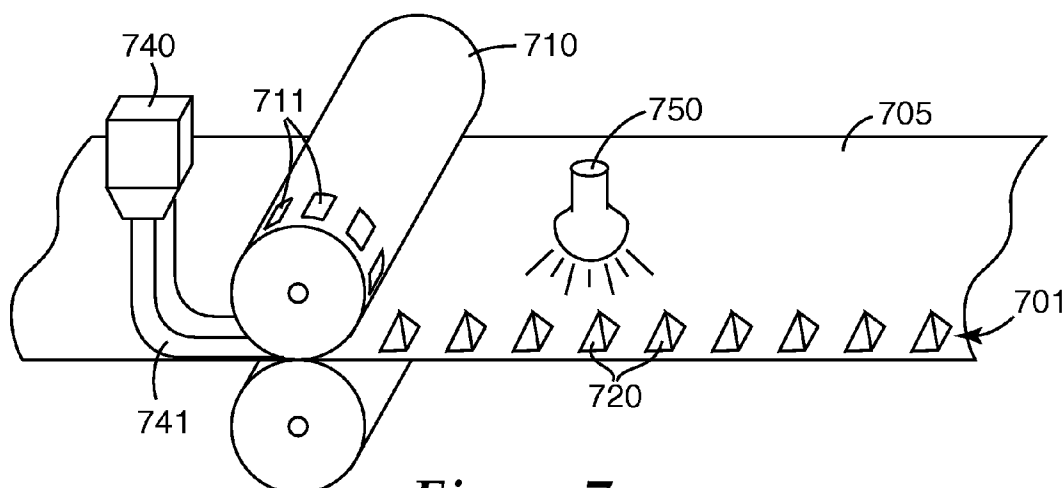


Figure 7

(57) Abstract: Methods and systems for forming a displacement scale comprising TIR prisms on a substrate are described. A system for forming the displacement scale includes one or more rollers having a pattern of total internal reflection (TIR) prism features in negative relief. As the rollers are rotated, the scale is formed on the substrate. The rollers may also include pattern features in negative relief. Rotation of the rollers simultaneously forms the displacement scale and the pattern features on the substrate. The TIR prism features of the displacement scale may be oriented to provide measurement of one or more of lateral displacement, longitudinal displacement and angular displacement.



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