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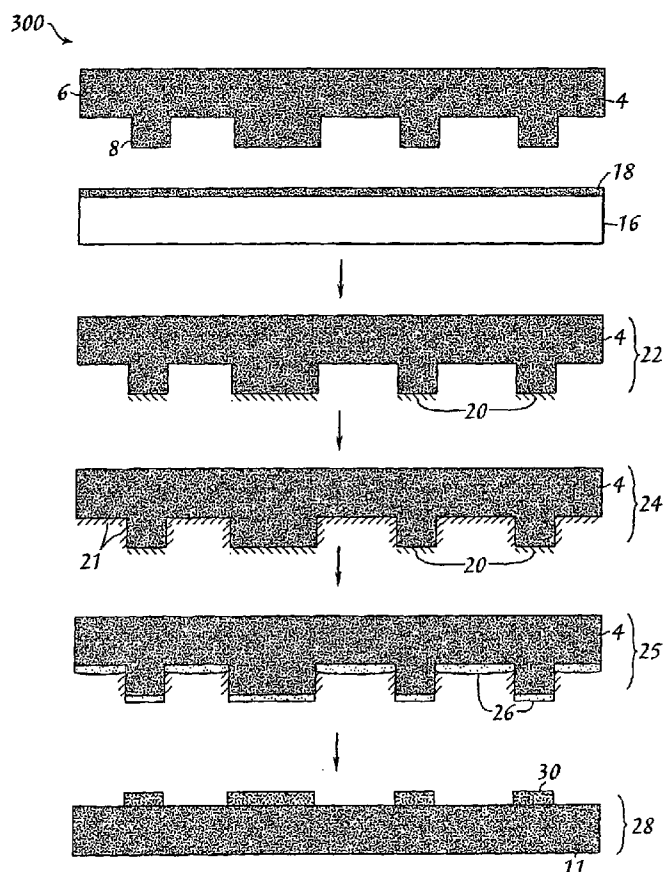
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(54) Title: METHODS OF CREATING PATTERNS ON SUBSTRATES AND ARTICLES OF MANUFACTURE RESULTING THEREFROM



(57) Abstract: Methods of creating patterns on substrates are presented, and articles of manufacture resulting therefrom. One method comprises applying a first surface energy modifier (18) to an applicator (16) to form a coating on the applicator; contacting the coating (18) with a receiving member (4), the receiving member having a topography, the coating only contacting and remaining on at least some protrusions (8); exposing the first modified receiving member (22) to a second surface energy modifier (21), thereby forming a second modified receiving member (24) having surface modified recesses; applying a composition (26) comprising a polymeric material to the second modified receiving member (24), the composition substantially conforming to the topography of the surface modified protrusions (8) and the surface modified recesses; and contacting the composition-coated, surface modified protrusions with a substrate (11) for a time and under conditions sufficient to transfer the polymeric material (26) on protrusions to the substrate (11). Because the surface energy of the sidewalls is lower than that on the protrusions, polymer dewetting from the sidewalls is promoted, which makes the polymer film discontinuous along the edges of patterns. Therefore, inked polymer patterns from the protrusions of the mold show very smooth edges and smaller dimensions compared to that of the mold.



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