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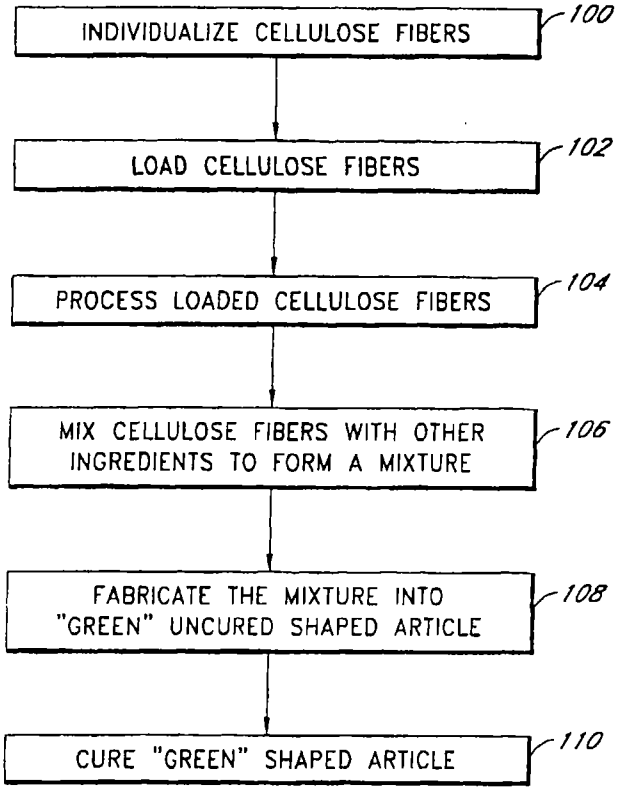
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(54) Title: FIBER CEMENT COMPOSITE MATERIALS USING CELLULOSE FIBERS LOADED WITH INORGANIC AND/OR ORGANIC SUBSTANCES



(57) Abstract: This invention discloses a new technology related to cellulose fiber reinforced cement composite materials using the loaded cellulose fibers. This invention discloses four aspects of the technology: fiber treatment; formulation; method and final product. This technology advantageously provides fiber cement building materials with the desirable characteristics of reduced water absorption, reduced rate of water absorption, lower water migration, and lower water permeability. This invention also impart the final products improved freeze-thaw resistance, reduced efflorescence, reduced chemical dissolution and re-deposition, and improved rot and fire resistances, compared to conventional fiber cement products. These improved attributes are gained without loss in dimensional stability, strength, strain or toughness.

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