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(21) International Application Number: PCT/US97/10177 (22) International Filing Date: 13 June 1997 (13.06.97) (30) Priority Data: 08/663,500 14 June 1996 (14.06.96) US (71) Applicant: THE PROCTER & GAMBLE COMPANY [US/US]; One Procter & Gamble Plaza, Cincinnati, OH 45202 (US). (72) Inventors: TROKHAN, Paul, Dennis; 1356 Warvel Road, Hamilton, OH 45013 (US); PHAN, Dean, Van; 6512 Tylers Crossing, West Chester, OH 45069 (US); MELVIN, Joe, Brian; 1382 Burdett Avenue #3, Cincinnati, OH 45206 (US). (74) Agents: REED, T., David et al.; The Procter & Gamble Company, 5299 Spring Grove Avenue, Cincinnati, OH 45217 (US).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, <u>SG</u> , SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the</i> <i>claims and to be republished in the event of the receipt of</i> <i>amendments.</i>
(54) Title: CHEMICALLY ENHANCED MULTI-DENSITY PAPER STRUCTURE AND METHOD FOR MAKING SAME		
(57) Abstract A chemically enhanced paper structure (20) having a discrete pattern of a chemical composition is disclosed. The paper structure (20) comprises a cellulose substrate (22) such as tissue paper. The substrate has regions of relatively high (34) and relatively low (38) densities. The chemical composition (24) may include a chemical softener composition or a surface-active composition and is preferentially applied to the low density regions (38) of the substrate. Preferably, the low density regions (38) are discrete (36), so that an essentially continuous high density network (32) is present between the low density regions (36, 38). The paper structure is suitable for use as bath tissue or facial tissue. Preferably, the additive (24) is applied to the paper (22) from a solution (40) in an apparatus (50) comprising at least two axially rotatable rolls, i.e. an anvil roll (56) and optionally a transfer roll (54) and a metering gravure roll (52), forming a gap (60) through which the paper (22) passes, and optionally a nip (58).		

