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 - (71) **Applicant (for all designated States except US):** LUNA INNOVATIONS INCORPORATED [US/US], 2851 Commerce Street, Blacksburg, VA 42060 (US)
 - (72) **Inventors; and**
 - (75) **Inventors/Applicants (for US only):** KOENE, Bryan, E. [CA/US], 1835 Augusta National Rd, Blacksburg, VA 24060 (US) ROGERS, Martin, E. [US/US], 1222 Village Way S, Blacksburg, VA 24060 (US) GUNTER, Jonas, C. [US/US], 1766 Mountainside Drive, Blacksburg, VA 24060 (US)
 - (74) **Agent:** DAVIDSON, Bryan, H., Nixon & Vanderhye P C, 901 North Glebe Road, 11th Floor, Arlington, VA 22203 1808 (US)
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(54) **Title:** ADDITIVE PARTICLES HAVING SUPERHYDROPHOBIC CHARACTERISTICS AND COATINGS AND METHODS OF MAKING AND USING THE SAME

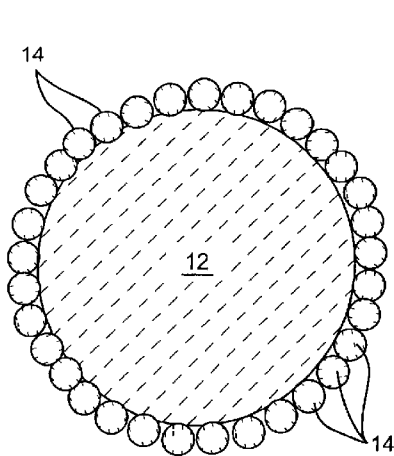


FIG. 1A

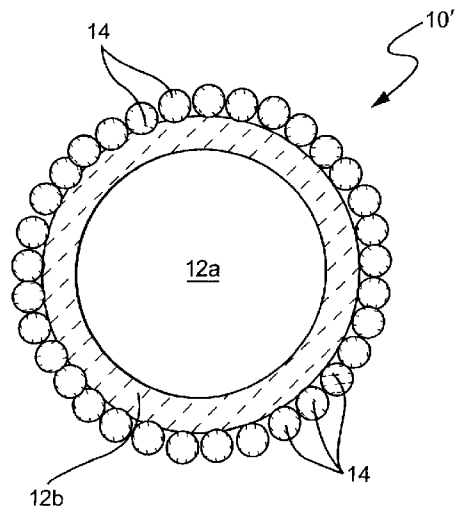


FIG. 1B

(57) **Abstract:** Additive particles may be employed in sufficient amounts to impart superhydrophobicity to a coating system in which the additive particles are incorporated. The additive particles include carrier microparticles and a dense plurality of nanoparticles adhered to the surfaces of the carrier microparticles (e.g., preferably by electrostatic deposition or covalent bonding). The additive particles are advantageously incorporated into a coating material (e.g., a polymer material) in amounts sufficient to render a substrate surface superhydrophobic when coated with the coating material. The substrate may be rigid (e.g., glass, ceramic or metal) or flexible (e.g., a polymer film or sheet or a fabric).

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C DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X -- Y	US 2006/0019098 A1 (CHAN et al) 26 January 2006 (26 01 2006), para [0004], [0006]-[0012], [0034], [0037], [0041], [0055], [0058], [0065], [0067]-[0068]	1-5, 8-9, 22-25 ----- 6-7, 10-21, 26-32
Y	US 2004/0224087 A1 (WEIMER et al) 11 November 2004 (11 11 2004), para [0007], [0029]-[0030]	6-7, 10-11
Y	US 2006/0141 148 A1 (VOIGT et al) 29 June 2006 (29 06 2006), para [0025], [0027], [0029], [0082]	12, 15, 26
Y	US 2006/0029808 A1 (ZHAI et al) 09 February 2006 (09 02 2006), para [0004]-[0008], [001 1]-[0012], [0016]	13-21, 27-32
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