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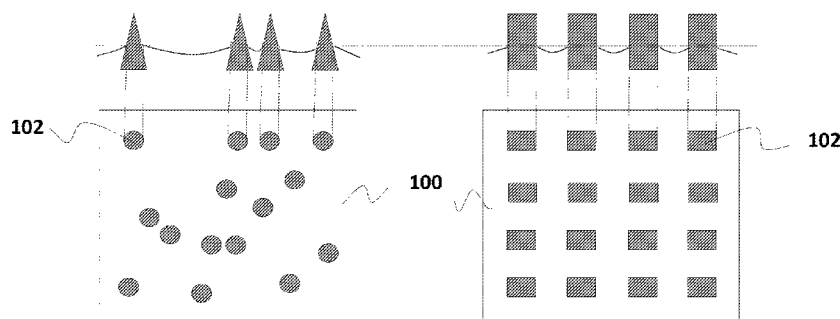


FIG. 1

(57) Abstract: The invention is directed to apparatus comprising a liquid-impregnated surface (100), said surface (100) comprising an impregnating liquid and a matrix of solid features (102) spaced sufficiently close to stably contain the impregnating liquid therebetween or therewithin, and methods thereof. In some embodiments, one or both of the following holds: (i) $0 < \phi \leq 0.25$, where ϕ is a representative fraction of the projected surface area of the liquid-impregnated surface (100) corresponding to non-submerged solid at equilibrium; and (ii) $S_{ow(a)} < 0$, where $S_{ow(a)}$ is spreading coefficient, defined as $\gamma_{wa} - \gamma_{wo} - Y_{oa}$, where γ is the interfacial tension between the two phases designated by subscripts w, a, and o, where w is water, a is air, and o is the impregnating liquid.