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[Continued on next page]

(54) **Title:** FLUID-PERMEABLE BODY HAVING A SUPERHYDROPHOBIC SURFACE

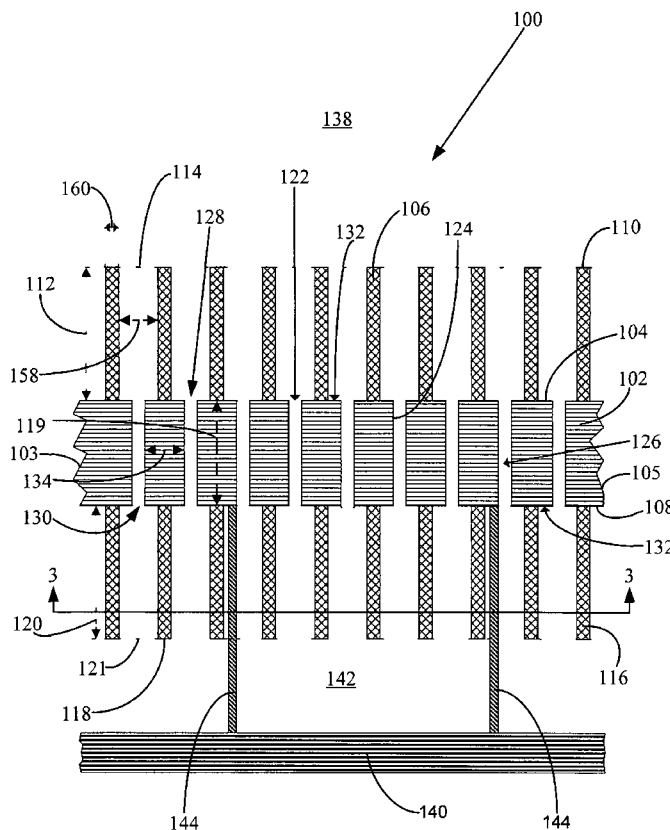


FIG. 2

(57) **Abstract:** Apparatus including a rigid fluid-permeable body, having a first non-planar fluid-permeable body surface, and having a second fluid-permeable body surface, a plurality of fluid-permeable cells in the fluid-permeable body, and a plurality of raised micro-scale features on the first fluid-permeable body surface. Apparatus including a fluid-permeable body having first and second fluid-permeable body surfaces, a plurality of fluid-permeable cells in the fluid-permeable body, a plurality of raised micro-scale features on the first fluid-permeable body surface, and a fluid containment body forming, together with the second fluid-permeable body surface, a second fluid containment structure. Methods, utilizing an apparatus, of treating a liquid with a fluid, and of maintaining a superhydrophobic surface.

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and where practical search terms used)

EPO-Internal , WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication where appropriate, of the relevant passages	Relevant to claim No
X	EP 1 591 415 A (LUCENT TECHNOLOGIES INC [US]) 2 November 2005 (2005-11-02) column 6, line 34 - line 38 paragraph [0018] paragraph [0021] figures 8, 10, Ua, lib -----	1-3, 5-7, 9

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See patent family annex

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1591415 A	02-11-2005	CA 2499595 A1	30-10-2005
		CN 1693184 A	09-11-2005
		DE 602005000397 T2	08-11-2007
		JP 2005349558 A	22-12-2005
		KR 20060047398 A	18-05-2006
		US 2006255171 A1	16-11-2006
		US 2005269743 A1	08-12-2005
