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[54] **CATALYST RETAINING APPARATUS AND METHOD OF MAKING AND USING SAME**

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[51] **Int. Cl.**[6] **D02J 1/06**

[52] **U.S. Cl.** **264/288.8**; 264/288.4; 264/291; 264/628; 428/306.6; 428/307.7; 442/29; 442/43; 442/59; 422/211

[58] **Field of Search** 422/211, 213, 422/216, 171; 428/221, 222, 292.1, 293.4, 297.7, 306.6, 307.3, 307.7, 311.11, 315.5; 442/29, 43, 46, 59, 63, 76; 264/628, 641, 288.4, 291, 288.8

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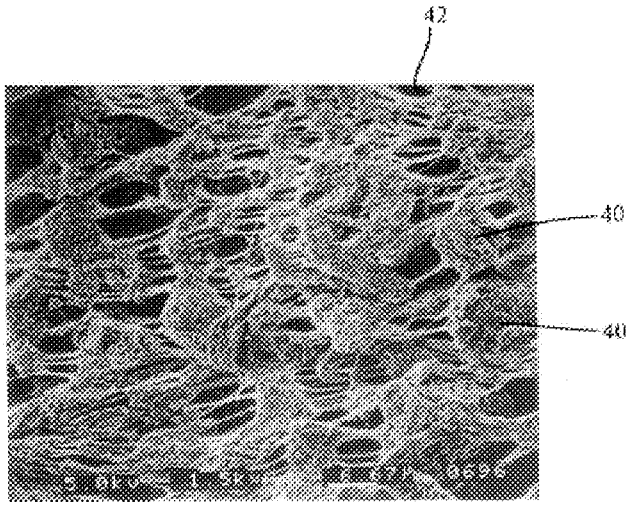
[57] **ABSTRACT**

The present invention is an improved apparatus and method for using a catalyst to remove contaminants from a fluid stream. Catalytic particles are enmeshed within a highly porous expanded polytetrafluoroethylene (PTFE) substrate. The use of an expanded PTFE substrate provides added strength to the substrate and provides open and uniform porosity, thus, assuring proper exchange of molecules between the exterior surface of the substrate and the catalytic particles held within it. As such, the present invention is particularly suitable for use as a cross-flow filter for use in ozone generating office equipment (e.g., an electrostatic photocopy machine) or similar application requiring minimal pressure drop across the filter unit.

5 Claims, 6 Drawing Sheets