

Water Filtration Device and Method of Fabrication

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Technology Summary

This invention relates to a regenerable water filtration device and the method for fabricating this device. The device uses any porous substrate as a support for the filter media. In the preferred embodiment, the filter media is carbon and may be activated or non-activated type. The method of fabrication involves using the porous support, which in the preferred embodiment is a metal or alloy but may be of any material, as a filter in which carbon in any of several forms is suspended in, preferably, water and the carbon is filtered from the water leaving a carbon membrane layer on the surface of the support tube. It will be obvious that membrane materials other than carbon and carrier materials other than water may be used. For example, a smoke, solid colloidal dispersion in a gas, could also be used. Control of the membrane pore size may be accomplished by layering the membrane by applying first a larger particle size of the membrane layer followed by a smaller size and so on until the requisite pore size is attained. Carbons are especially to formation of membranes of this type because carbon is available in sub-micrometer sizes to millimeter sizes. As a rule of thumb, the pore size created in such a membrane will be about one-seventh the size of the particles of material making up the membrane.

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