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Cuomo et al.

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[54] **PHOTON ENERGY CONVERTER**

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[52] **U.S. Cl.** ..... **126/270**; 126/400; 427/253; 136/89 PC; 73/355 R; 427/160; 427/162; 136/206

[51] **Int. Cl.**[2] **F24J 3/02**

[58] **Field of Search** ..... 126/400, 270, 271; 73/355 R; 136/206, 89; 156/612, 613, 614; 428/97; 427/252, 253, 160

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[57] **ABSTRACT**

An efficient converter of photon energy to heat has been devised comprising a dense array of metal whiskers grown with spacings between the whiskers of a few wavelengths of visible light. The material selected, and tungsten is exemplary of such materials, has low emissivity, but achieves significant optical absorption by trapping the light impinging on the dense array by a geometric maze effect. The characteristics of the surface are excellent for the conversion of solar energy to heat.

22 Claims, 5 Drawing Figures