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(54) THERMOTUNNEL CONVERTER WITH SPACERS BETWEEN THE ELECTRODES

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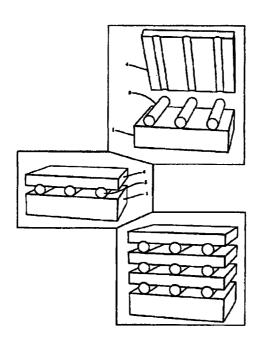
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(57) ABSTRACT

A thermotunneling converter is disclosed comprising a pair of electrodes having inner surfaces substantially facing one another, and a spacer or plurality of spacers positioned between the two electrodes, having a height substantially equal to the distance between the electrodes, and having a total cross-sectional area that is less than the cross-sectional area of either of the electrodes. In a preferred embodiment, a vacuum is introduced, and in a particularly preferred embodiment, gold that has been exposed to cesium vapor is used as one or both of the electrodes. In a further embodiment, the spacer is made of small particles disposed between the electrodes. In a yet further embodiment, a sandwich is made containing the electrodes with an unoxidized spacer. The sandwich is separated and the spacer is oxidized, which makes it grow to a required height whilst giving it insulatory properties, to allow for tunneling between the electrodes.

52 Claims, 7 Drawing Sheets



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