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(54) Title: ENERGY HANDLING SYSTEM

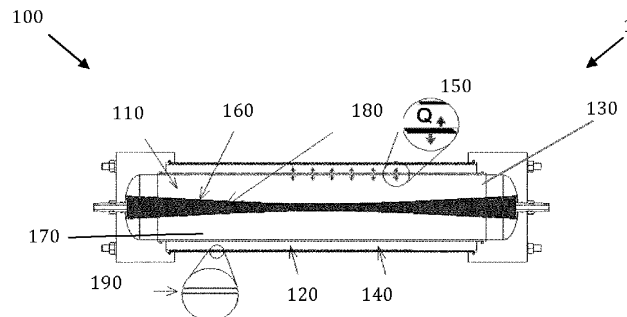


FIG. 2

(57) Abstract: An energy handling system (1) for converting, storing or transmitting energy is described. The energy handling system (1) comprises a heat exchange unit (100) for exchanging heat between a first substance (110) and a second substance (120). The heat exchange unit (100) comprises a first inner compartment (130) and a second outer compartment (140) being positioned adjacent each other and being separated by a heat exchange surface (150). The system also comprises a balloon (160) being mounted in the first inner compartment (130) so as to form in the first inner compartment (130) a hermetically sealed volume (170) between the outer surface of the balloon (160) and the heat exchange surface (150). The hermetically sealed volume (170) is being filled with the first substance (110), the balloon (160) is configured for being filled with a balloon fluid (180) and the second outer compartment (140) is being filled with the second substance (120). The area of the heat exchange surface (150) that is in contact with the first substance (110) and a second substance (120) remains substantially the same during the heat exchange process.

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