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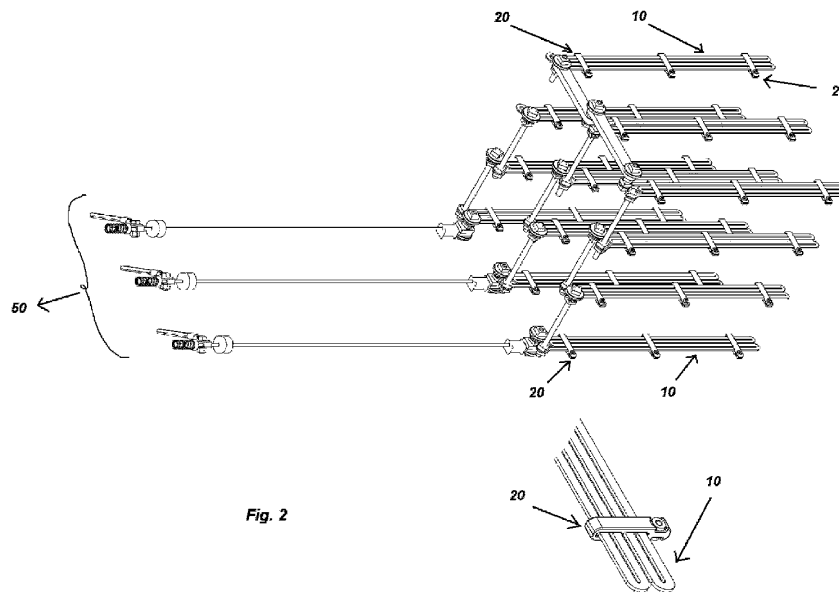


Fig. 2

(57) **Abstract:** The present invention is directed to high temperature energy storage arrangements that utilize electrical heating elements for charging a carbon-based heat retaining core. A high temperature electrically isolating support element is used to support a resistive heating element. The components are designed for extended life in a high temperature thermal core with frequent thermal cycling. The heat retaining core is of graphite or carbon based material that is electrically conductive. The electrically isolating support element reduces leakage current losses while providing high mechanical strength and effective heat transfer from the resistive heating element to the heat retaining core. The contact surface of the electrically isolating support element and the resistive heating element is limited while still providing effective mechanical support. The support element and heating element engage in a manner to locate and position the support element on the heating element.

[Continued on next page]

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