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- (54) **Title:** CRYOGENIC ADSORPTION REFRIGERATOR

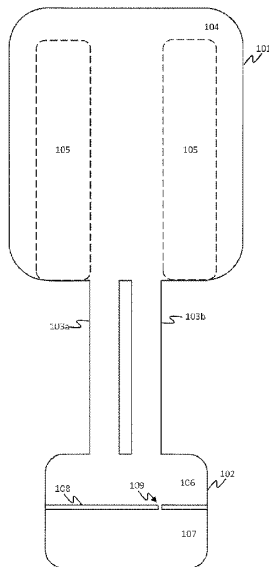


Fig 1

(57) **Abstract:** Disclosed herein is a cryogenic adsorption refrigerator for cooling a thermal load, the cryogenic adsorption refrigerator comprising: an adsorption pump comprising a chamber containing an adsorbent material; an evaporator arranged to contain coolant; and one or more fluid flow conduits. The evaporator comprises a first evaporation chamber and a second evaporation chamber. The first evaporation chamber is fluidly connected with the adsorption pump via the one or more fluid flow conduits such that gaseous coolant can flow from the first evaporation chamber to the adsorption pump. The first evaporation chamber and the second evaporation chamber are fluidly connected via a flow control aperture arranged to restrict the flow of superfluid coolant from the second evaporation chamber to the first evaporation chamber.

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