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(54) **COMPACT UNIVERSAL GAS POOL HEATER AND ASSOCIATED METHODS**

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(Continued)

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(57) **ABSTRACT**

Swimming pool or spa gas heaters, cabinets, water header manifolds, and heat exchangers include: gas heaters having an air gap between a cabinet and combustion chamber to reduce heat transfer to sides of the cabinet; gas heaters having a user interface that is repositionable on a top panel; gas heater cabinets including a removable top panel that can be hung on a side panel; gas heaters having a built-in dual junction box; gas heaters having a top-accessible igniter and burner that are interlocked to maintain positioning thereof; adaptable water manifolds including connectable inlet and outlet fittings that adjust effective inlet and outlet positions; heat exchangers having a plurality of tube-and-fin subassemblies arranged in a semi-circular configuration; and water manifolds including internal cartridges that divide the water manifold into a plurality of chambers for improved circulation through a heat exchanger are disclosed.

45 Claims, 89 Drawing Sheets

