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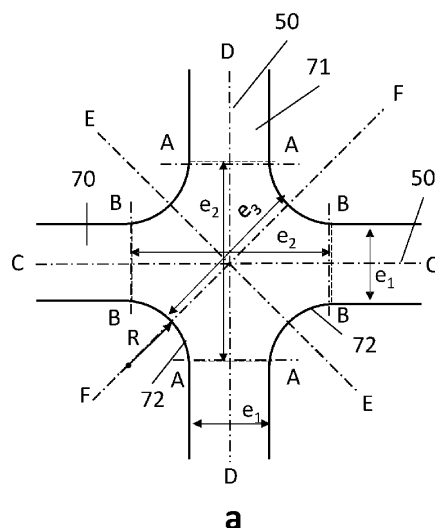
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(54) Title: MEMBRANE TANK FEASIBLE FOR CRYOGENIC SERVICE

Figure 7



(57) Abstract: Membrane tank for containment of fluids at temperature that can differ significantly from ambient temperature, for example for containing a cryogenic fluid, wherein the membrane tank comprises, in direction from an inner containment volume: a primary membrane that is fluid tight, facing the contained fluid in operation and functioning as the primary fluid barrier, an insulation layer, surrounding the membrane on the outside, an outer structure, such as a ship hull or bulkhead or other structure, wherein the outer structure supports the insulation layer and primary membrane inside and carries the resulting forces thereby, and at least one opening for loading and unloading of fluid, and an optional secondary membrane if the outer structure is a steel structure becoming brittle at cryogenic temperature, such as a ship hull outer structure, the secondary membrane dividing the insulation layer into an inner insulation between the primary and secondary membranes and an outer insulation between the secondary membrane and the outer structure, wherein the primary membrane comprises areas of flat, curved or double curved shape and a corrugation in between said areas, wherein said areas are fastened to the underlying insulation and the corrugations are taking up thermally induced strain. The membrane tank is distinguished in that it further comprises a coupling part for connecting a vacuum pump operatively to the whole insulation layer or the inner insulation layer, for enabling vacuum in the whole insulation layer or the inner insulation layer, during loading, containment and unloading of cryogenic fluid.

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