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(54) Title: INTELLIGENT TEMPERATURE AND PRESSURE GAUGE ASSEMBLY

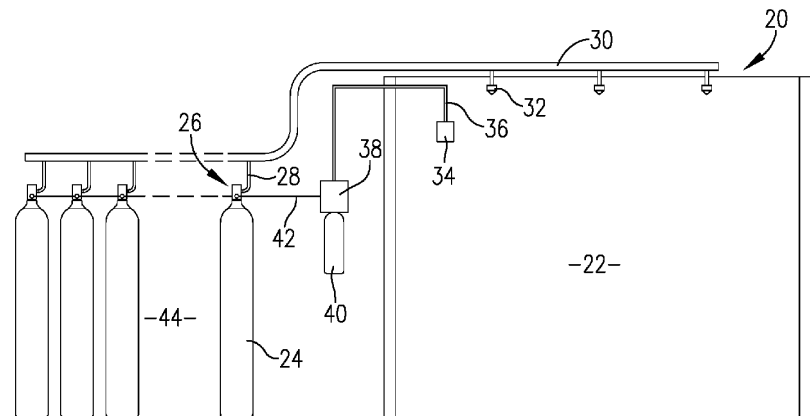


FIG. 1

(57) Abstract: Intelligent temperature and pressure gauge assemblies (52) for use with vessels (24) having pressurized hazard suppression materials therein include temperature and pressure sensors (136, 138) coupled with a digital processor (72) with associated memory for storing empirical temperature and pressure data. The data includes normalized linear temperature-pressure curves consistent with static or slowly changing temperature conditions experienced by the vessels (24), as well as nonlinear temperature-pressure curves consistent with rapidly changing temperature conditions. In use, the assemblies (52) repeatedly sense the temperature and pressure conditions of the hazard suppression material and compare these sensed values with the stored values, and generate an output in conformance with the comparison. In this fashion, the assemblies (52) compensate for rapidly changing temperatures without generating false failure signals.

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