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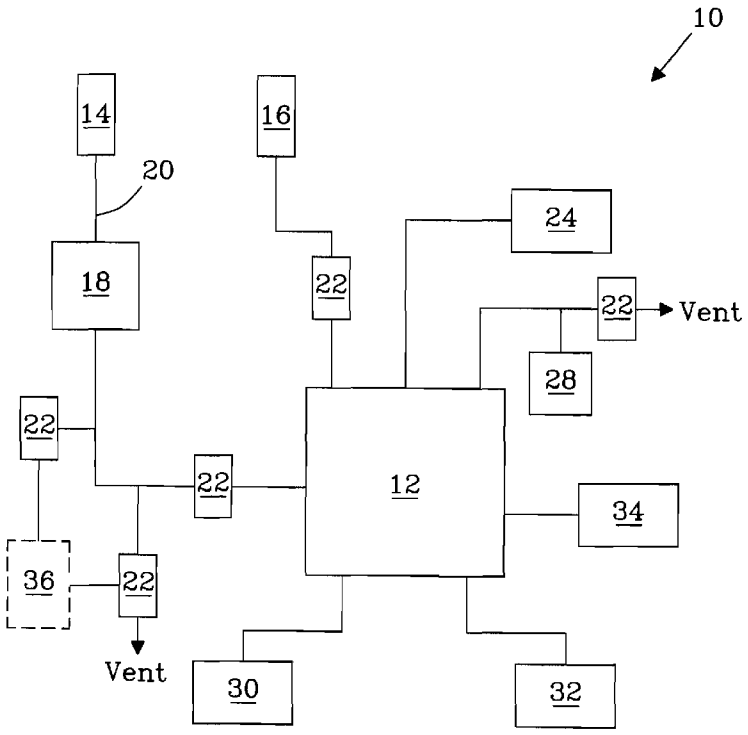
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(54) Title: METHODS AND APPARATUS FOR DEPOSITING TANTALUM METAL FILMS TO SURFACES AND SUBSTRATES



(57) Abstract: Methods and an apparatus are disclosed for depositing tantalum metal films in next-generation solvent fluids on substrates and/or deposition surfaces useful, e.g., as metal seed layers. Deposition involves low valence oxidation state metal precursors soluble in liquid and/or compressible solvent fluids at liquid, near-critical, or supercritical conditions for the mixed precursor solutions. Metal film deposition is effected via thermal and/or photolytic activation of the metal precursors. The invention finds application in fabrication and processing of semiconductor, metal, polymer, ceramic, and like substrates or composites.

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