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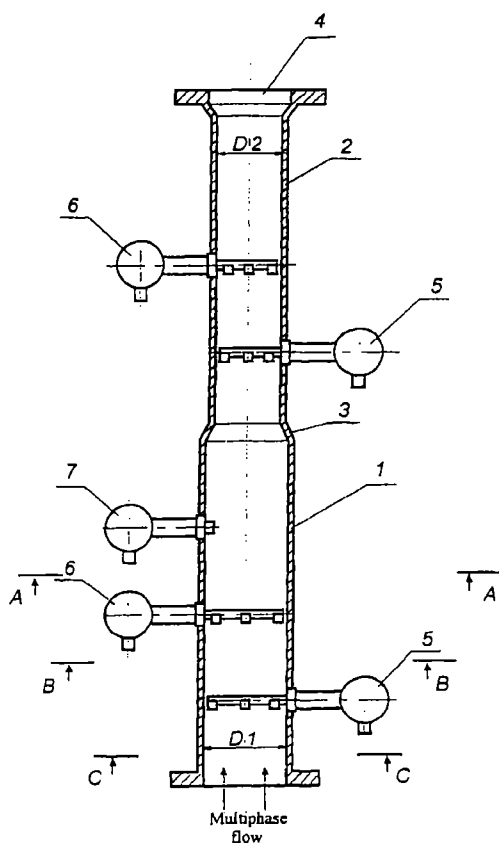
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(54) Title: SIMULTANEOUS DETERMINATION OF MULTIPHASE FLOWRATES AND CONCENTRATIONS



(57) Abstract: The present invention relates to a method and a device for measuring volume flow rates of liquid phase components and gas and determining their volume concentrations in a multiphase mixture along a pipeline. Measurements are executed with an ultrasonic system which includes a set of local acoustic transducers arranged in the interior of the pipeline. Each pair of an emitter and a receiver of the transducer forms a sampling volume of a medium being under control. Volume concentrations of mixture components are determined by timing of passage of acoustic pulses through the sampling volume of the medium. Volume flow rates of the mixture components are calculated by measuring phase velocities and volume concentrations in two pipeline divisions with different cross-section areas located in series at a distance one from the other in flow direction.

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