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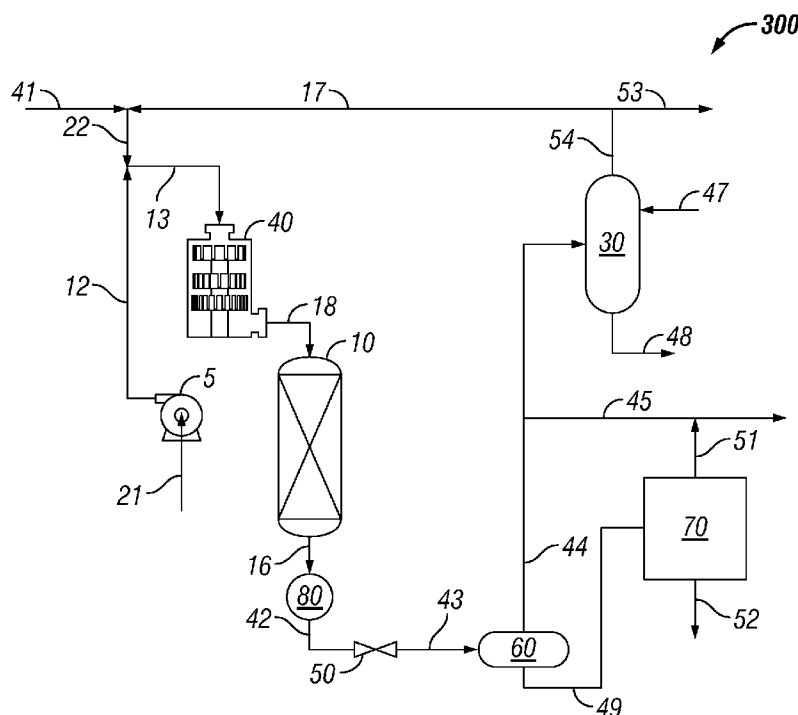


FIG. 2

(57) Abstract: A method for hydrodesulfurization by forming a dispersion comprising hydrogen-containing gas bubbles with a mean diameter of less than 1 micron dispersed in a liquid phase comprising sulfur-containing compounds. Desulfurizing a liquid stream comprising sulfur-containing compounds by subjecting a fluid mixture comprising hydrogen-containing gas and the liquid to a shear rate greater than $20,000 \text{ s}^{-1}$ to produce a dispersion of hydrogen in a continuous phase of the liquid and introducing the dispersion into a fixed bed hydrodesulfurization reactor from which a reactor product is removed. Systems of apparatus for hydrodesulfurization are also presented.



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