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Witheridge

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(54) **MAINTAINING FLUIDIZED BEDS OF COHESIVE PARTICLES USING VIBRATING FLUIDS**

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Related U.S. Application Data

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(58) **Field of Classification Search** 366/3, 366/4, 5, 10, 106, 107; 406/136, 137, 89, 406/90, 91, 138, 197, 85
See application file for complete search history.

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(57) **ABSTRACT**

This invention is a method for operating fluidized beds, such as used to convey powdered material, wherein the fluidizing gas flows are pulsed or vibrated to help initiate and maintain fluidization. The invention maintains the fluidization effects by preventing channeling or 'rat-holing' in a powder bed by oscillating gas pulse frequencies in the 0.5 to 300 hertz range. The invention further is directed to efficient conversion of the energy contained in the pressurized gas flow to vibrational energy. The invention describes devices capable of feeding one or more fluidized-beds from a compressed (pressurized) gas supply, thus conserving energy and increasing mass transfer within the beds.

22 Claims, 3 Drawing Sheets

