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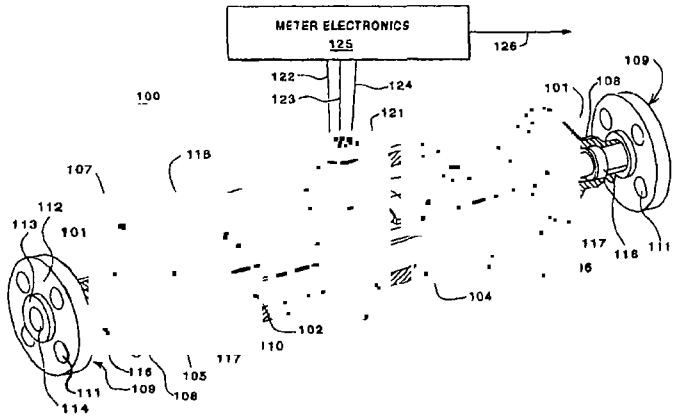
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(54) Title: BALANCE BAR FOR A CORIOLIS FLOWMETER



(57) Abstract: A balance bar for a straight tube Coriolis flowmeter. The balance bar is preferably manufactured by process that provides an increased number of flowmeter elements integral to the balance bar. These integral elements comprise: brace bars at each end of the balance bar, rib elements on each side of the balance bar to raise the lateral vibration frequency, a surface to facilitate the mounting of a driver to the balance bar and to a flow tube surrounded by the balance bar, surfaces to facilitate the mounting of sensors to the balance bar and flow tube, voids that lower the resonant frequency of the balance bar in the drive mode as well as in the second bending mode. An integral mass makes the vibration amplitude of the balance bar less than that of the flow tube. Said element that lowers the resonant frequency of the balance bar in the second bending mode also makes the flowmeter calibration factor independent of density. The balance bar is ideally made by a casting process in which the entirety of the balance bar is formed, but it may be fabricated by any process, including machining, that produces a flowmeter having some or all of the above mentioned elements integral thereto.

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