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(54) Title: CYCLONE SEPARATOR FOR HIGH GAS VOLUME FRACTION FLUIDS

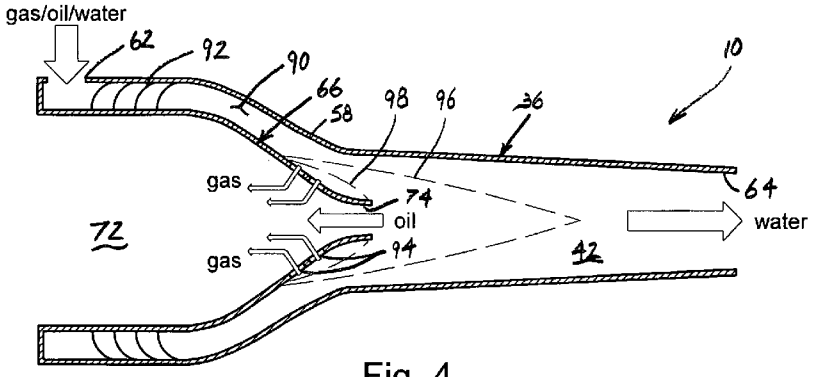


Fig. 4

(57) Abstract: A cyclone separator for separating a heavy fraction from a multiphase fluid comprising a mixture of the heavy fraction, a medium fraction and a light fraction includes an elongated cyclone tube which comprises a fluid inlet, a heavy fraction outlet and a flow bore that extends between the fluid inlet and the heavy fraction outlet. A mandrel is positioned concentrically within the cyclone tube and comprises a light fraction outlet that extends generally axially therethrough and an outer diameter surface that together with the cyclone tube defines an annular flow path for the multiphase fluid which extends between the fluid inlet and the flow bore. The outer diameter surface comprises a generally cylindrical section which extends from proximate the fluid inlet to a convergence section which extends toward an outlet port that connects the light fraction outlet with the flow bore, and the mandrel further comprises a plurality of outlet holes which extend through the convergence section between the flow path and the light fraction outlet.

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