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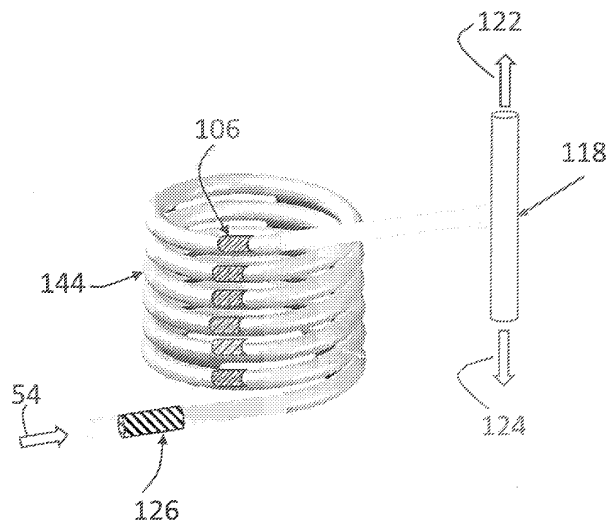


FIG. 7

(57) Abstract: Apparatus and method for separating oil from water in produced oil without requiring large separation tanks in which the fluid is heated, using a simple, energy efficient separation process, are described. Centrifugal forces, by themselves, are not effective for completely separating a two-component fluid, especially when the densities of the fluids are similar, such as for heavy oil. By combining both primary and secondary acoustic forces, and taking advantage of centrifugal forces from fluid flow, such that acoustic radiation forces initiate the process of droplet accumulation, and contribute to droplet coalescence, centrifugal separation is enhanced.

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