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(71) Applicant: **HAVEN TECHNOLOGY SOLUTIONS LLC** [US/US]; 20603 Sapphire Circle, Magnolia, Texas 77355 (US).

(72) Inventors: **ELMS, David James**; 20603 Sapphire Circle, Magnolia, Texas 77355 (US). **HUDSPETH, Gregory Allen**; 5050 Buffalo Springs Trail, Amarillo, Texas 79119 (US).

(74) Agent: **TIDWELL, Mark** et al.; Haynes and Boone, LLP, 2323 Victory Avenue, Suite 700, Dallas, Texas 75219 (US).

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(54) Title: METHOD AND DEVICE FOR SEPARATING A LIGHTER DENSITY FLUID FROM A HEAVIER DENSITY FLUID

(57) Abstract: A fluid separation apparatus for removing one fluid component from another fluid component in a fluid stream includes an impeller disposed between an annular inlet chamber and a first fluid chamber having a hollow, conical trapezoidal shape with a diameter that reduces along a portion of the length of the first fluid chamber. The impeller redirects a liquid flowing in a circular swirling flow path along the wall of the inlet chamber to an outlet an inlet of the first fluid chamber disposed adjacent the central axis of the first fluid chamber. A coaxially aligned extraction pipe extends into a lighter density fluid envelope formed in the first fluid chamber adjacent the inlet of the first fluid chamber. The extraction pipe may be dynamically adjustable based on the shape of the lighter density fluid envelope to maximize removal of lighter density fluid from the lighter density fluid envelope.

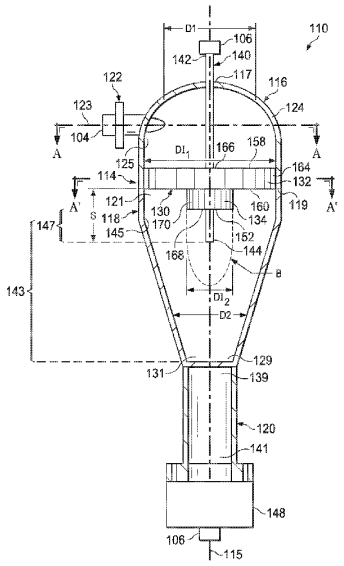


Fig. 2A

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