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(71) Applicant (for all designated States except US): **EXXON-MOBIL RESEARCH AND ENGINEERING COMPANY** [US/US]; 1545 Route 22 East, P.O.Box 900, Annandale, NJ 08801-0900 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **YEGANEH, Mohsen, Shahmirzadi** [US/US]; 826 Atkinson Circle, Hillsborough, NJ 08844 (US). **BRONS, Glen, Barry** [US/US]; 43 Harwich Road, Phillipsburg, NJ 08865 (US). **WOLF, Henry, Alan** [US/US]; 145 Lake Road, Morristown, NJ 17960 (US). **SONG, Limin** [US/US]; 42 Zaitz Farm Road, West Windsor, NJ 08550 (US).

(74) Agents: **BARRETT, Glen, T.** et al.; Exxonmobil Research And Engineering Company, 1545 Route 22 East, P.O.Box 900, Annandale, NJ 08801-0900 (US).

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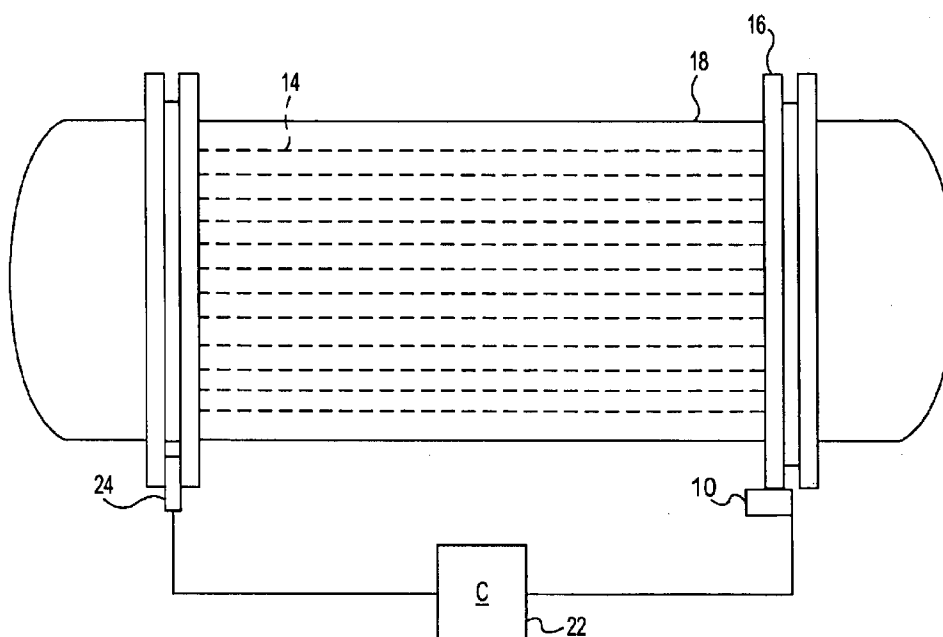
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(54) Title: A DEVICE FOR GENERATING ACOUSTIC AND/OR VIBRATION ENERGY FOR HEAT EXCHANGER TUBES



(57) Abstract: A device is coupled to a heat exchanger for mitigating fouling by applying a mechanical force to a fixed heat exchanger to excite a vibration in the heat exchange surface and produce shear waves in the fluid adjacent the heat exchange surface while the heat exchanger is in operation. An electromagnetic driven impulse device induces vibration onto heat exchanger tubes and/or an acoustic wave through the liquid service fluid to reduce fouling. The device can be mounted directly onto the outer part or piping and produces acoustical/vibrational modes onto the tube or near the surface of tubes.

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