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(71) Applicant: **MICRODIFFUSION, INC.** [US/US]; 580
Commerce St., Suite 150, Southlake, TX 76092 (US).

(72) Inventors: **WOOTAN, Norman, L.**; 6008 Ridgcrest
#448, Dallas, TX 75231 (US). **WOOD, Anthony, B.**;
6043 Bryan Parkway, Dallas, TX 75206 (US).

(74) Agents: **HOWISON, Gregory, M.** et al.; Howison,
Thoma & Arnott, L.L.P., P.O. Box 741715, Dallas, TX
75374-1715 (US).

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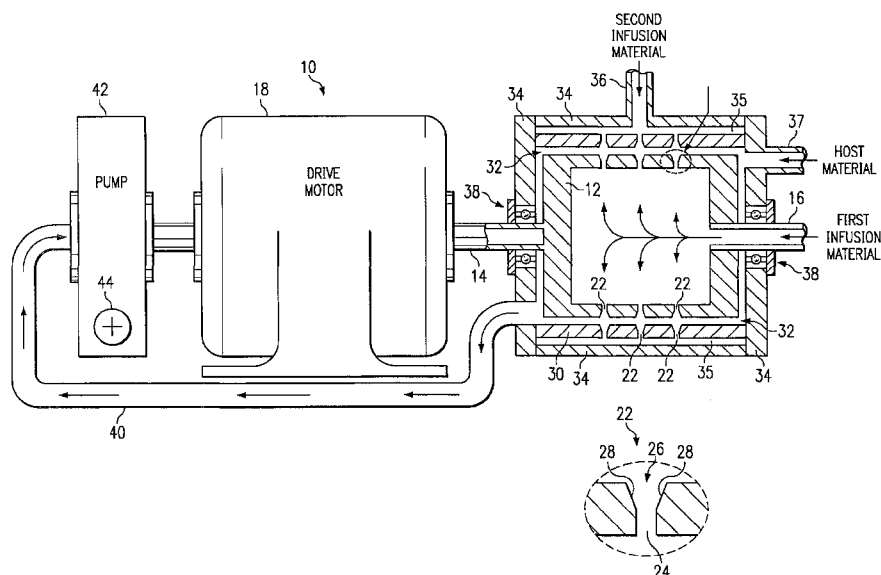
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(54) Title: DIFFUSER/EMULSIFIER



(57) **Abstract:** A diffuser (10) provides the ability to diffuse one or more infusion materials into a host material. A rotor (12) and stator (30) rotate relative to one another. The infusion materials are drawn through openings (22) in the rotor and stator. These openings (22) are also causing turbulence within the host material, which is flowing through an area between the rotor (12) and stator (30). As aligned openings (22) pass one another, succussion occurs, which provides energy to diffuse the infusion materials into the host material to an extremely high degree. The opening patterns in the rotor and stator can be designed to operate at a single frequency or at multiple frequencies. The frequencies of operation may affect bonding between the infusion materials and the host material and the host material and may also be effective in break down of complex molecular structures.



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