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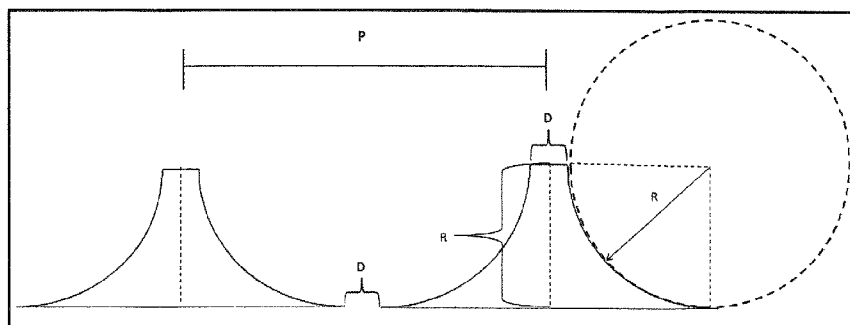


Figure 4

(57) Abstract: A piezoelectric ejector device is provided which is designed to minimize the intake of air into the device upon actuation by providing for laminar flow of the fluid. In an ejector mechanism that includes a generator plate and a piezoelectric actuator operable to directly or indirectly oscillate the generator plate, at a frequency to generate a directed stream of droplets of fluid, the generator plate includes a fluid facing surface, a droplet ejection surface, and a plurality of holes formed through its thickness between the surfaces. The plurality of holes are configured so as to minimize airflow through the plurality of openings from the droplet ejection surface to the fluid facing surface during generation of the directed stream of droplets by configuring the shape of the holes to minimize turbulence.