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(71) Applicant: **OPTOMECH, INC.** [US/US]; 3911 Singer
Boulevard, N.E., Albuquerque, New Mexico 87109 (US).

(72) Inventors: **HAMRE, John David**; 17540 46th Avenue
North, Plymouth, Minnesota 55446 (US). **CONROY,
Chad Michael**; 4737 13th Avenue South, Minneapolis,
Minnesota 55407 (US). **WRIGHT, John S.**; 4200 West
64th Street, Edina, Minnesota 55424 (US).

(74) Agent: **ASKENAZY, Philip D.**; Peacock Law P.C., P.O.
Box 26927, Albuquerque, New Mexico 87125 (US).

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(54) Title: HIGH RELIABILITY SHEATHED AEROSOL FLOW SPLITTER

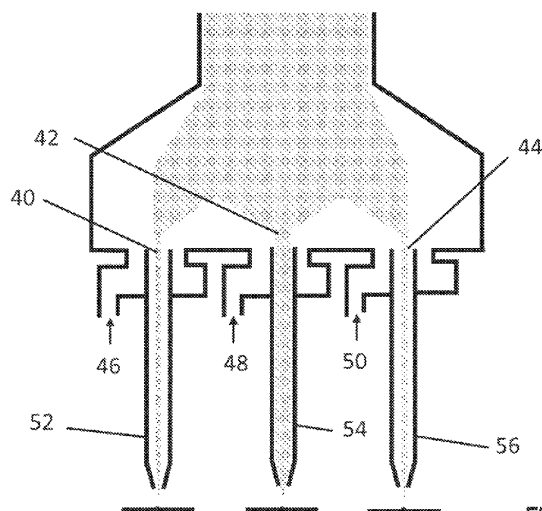


FIG. 3

(57) **Abstract:** Method and apparatus for splitting an aerosol flow into multiple streams prior to deposition. The aerosol flow is surrounded in each outlet by a sheath gas flow. Adjusting the sheath gas flow in each outlet determines the amount, if any, of aerosol transported through each of the outlets. For example, the sheath flow in an outlet may be increased until all of the aerosol flow through that outlet is diverted to one or more other outlets. One of the outlets can be an exhaust outlet, which can exhaust all of the aerosol produced by the system if the aerosol flows in the other outlets are stopped, thus preventing material settling and, in combination with increasing the sheath gas flows in the other outlets, enables fast shuttering rates. The sheath gas prevents the aerosolized material from building up on the bottom of the splitter chamber and inside the outlets.

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