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(71) Applicant: **HONEYWELL INTERNATIONAL INC.**
[US/US]; 101 Columbia Road, P.O. Box 2245, Morris-
town, NJ 07960 (US).

(72) Inventors: **RENTERIA, Federico**; 319 Karsten Creek
Drive, Greenville SC 28681 (US). **HEHMANN, William**,
F.; 235 Rock Road, Greer SC 29651 (US).

(74) Agent: **HONEYWELL INTERNATIONAL INC.**
HOIRIS, David, Esq; 101 Columbia Road, P.O. Box
2245, Morristown, NJ 07960 (US).

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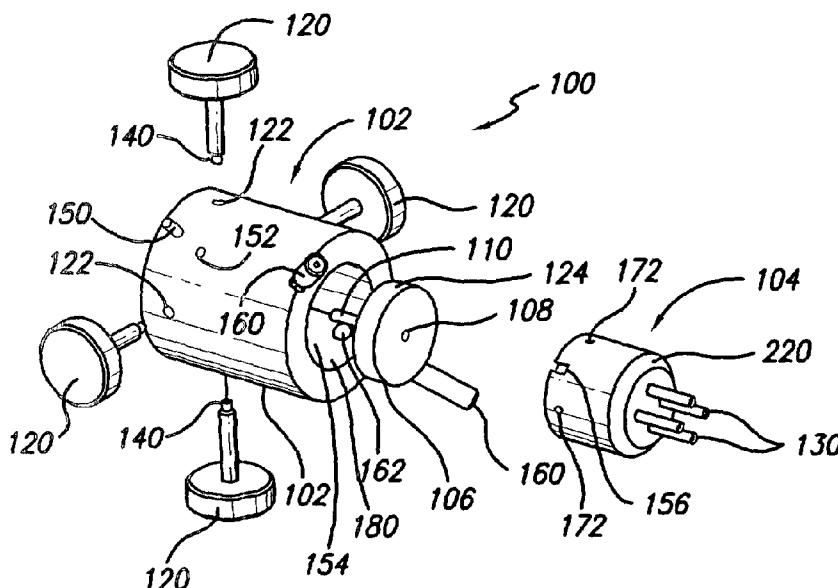
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(54) Title: POWDER FEED SPLITTER FOR HAND-HELD LASER POWDER FUSION WELDING TORCH



(57) Abstract: A powder feed splitter (100) to divide a powder flow into two or more streams in a predictable, adjustable, and reliable manner for use in material processing such as welding. A housing (102) encloses an inlet (106) disk having an inlet regulator (106) preferably a disk (106), having an inlet tube (110) which may be adjustable radially or laterally with respect to the housing (102). An adjustment mechanism (120) can selectively move the inlet regulator (106) to adjust the powder flow amongst the several powder outlet ports (130). Funnel-shaped cavities within the housing (102) may have optional gas inlets to enable the introduction of additional gas to the separated powder flow into streams. A one-way fit may be present between the interior powder flow splitter and the exterior casing (102). Smooth interior surfaces through the device prevent turbulence and buildup of powder.