

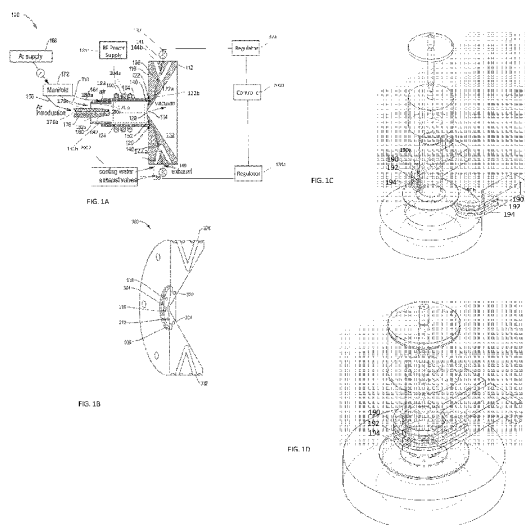


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- (54) Title: SEALED PLASMA TORCH



- (57) Abstract:** A sealed plasma torch assembly is described. In various embodiments, the sealed plasma torch completely separates the inert gas that flows inside the torch and forms the plasma from the surrounding air. In this way, the inert gas (e.g., argon) is not mixed with air. The sealed torch, in various embodiments, allows for better heat management, reduced consumption of gas, and a simpler and cheaper construction. The gas may be recirculated, further reducing consumption of gas. The reproducibility of analytical measurements using the plasma torch may be improved because the pressure of the plasma torch does not depend on atmospheric pressure. Methods of using the plasma torch are also described.

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