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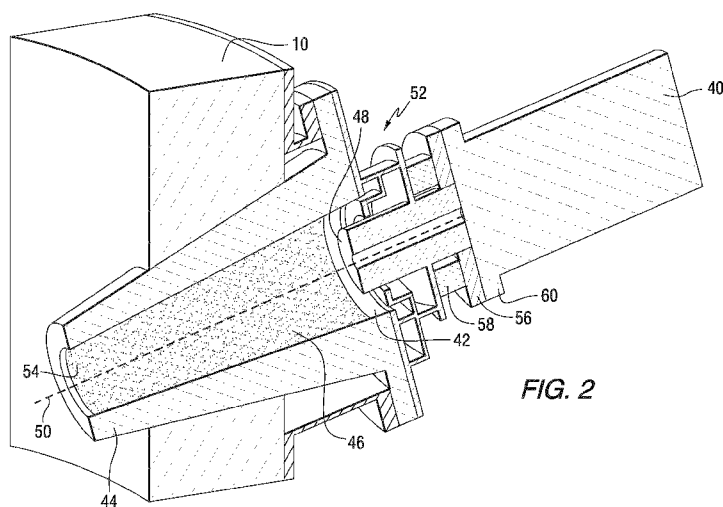


FIG. 2

(57) Abstract: An apparatus includes a tuyere chamber, a plasma torch configured to produce a superheated gas and to direct the superheated gas into the tuyere chamber in an axial direction, and a shroud gas inlet assembly configured to direct a shroud gas into the tuyere chamber wherein one part of the shroud gas is injected coaxially with the super heated gas and a second part of the shroud gas is injected as a swirl shielding the tuyere walls.