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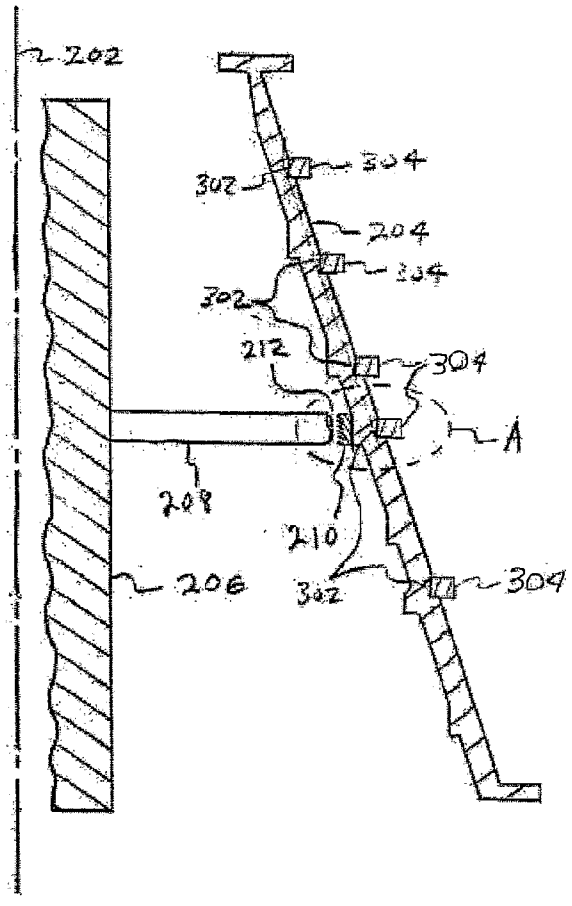
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(54) **Title:** TURBINE CASE REINFORCEMENT IN A GAS TURBINE JET ENGINE



(57) **Abstract:** In one embodiment, a low or high pressure turbine case (204) is machined on its outside surface to form circumferential notches (302). The notches may coincide with internal locations of seals (210) for the blades (208), or with "hot spots" that have been identified, for example. A stiffener ring (304) may be shrunk with an interference fit into each notch (302) through inducing temperature differentials between the ring and the case. The radially compressive circumferential force exerted by each ring can inhibit the low or high pressure turbine case from expanding as much as it would otherwise. In some applications, a stiffener ring can improve blade tip clearance or counterbalance "hot spots", stiffen the case, improve case cooling, or other benefits, depending upon the particular application. In one embodiment, notches may be avoided. In an alternate embodiment, C-rings, or multiple segmented rings, may be coupled together by hydraulic, electrical, or other means and actuated by a controller to exert adjustable radially compressive circumferential force. Other embodiments are described and claimed.

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