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[73] Assignee **General Electric Company**
a corporation of New York

[56] **References Cited**

UNITED STATES PATENTS

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[54] **FILM COOLING OF STRUCTURAL MEMBERS IN GAS TURBINE ENGINES**
9 Claims, 5 Drawing Figs.

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[50] Field of Search **416/90, 97;**
415/115

ABSTRACT: A structural member, having an external surface exposed to a high temperature source and varied static pressures, is provided with a common plenum chamber for containment of a cooling media, a plurality of passages of generally uniform cross section to deliver the cooling media from the chamber to the higher pressure portion of the external surface and a plurality of passageways of nonuniform cross section to deliver the cooling media to the low pressure portion of the external surface for effective and efficient film cooling of the member. The nonuniform passageways are formed with a flow rate metering portion adjacent the plenum chamber and a diffuser portion adjacent the external surface.

