

DIRT SEPARATION FOR IMPINGEMENT **COOLED TURBINE COMPONENTS**

ABSTRACT OF THE DISCLOSURE

A vane for use in a gas turbine engine has a leading edge facing an upstream combustor. The vane has hollow areas that receive an impingement tube for delivering impingement air. The impingement tube includes a radially outer portion and a radially inner portion. An end wall of the radially outer portion is angled relative to a rotational axis of the turbine such that air entering the impingement tube from a radially outer source has dirt directed away from the leading edge. Thus, dirt is less likely to clog leading edge air supply holes. In one embodiment, the inner and outer portions are formed as separate pieces, and in another embodiment, the inner and outer portions are formed as a single piece.

Figure 1