

## **HEAT TRANSFERRING COOLING FEATURES FOR AN AIRFOIL**

### **ABSTRACT OF THE DISCLOSURE**

A turbine blade airfoil assembly includes a cooling air passage. The cooling air passage includes a plurality of impingement openings that are isolated from at least one adjacent impingement opening. The cooling air passage is formed and cast  
5 within a turbine blade assembly through the use of a single core. The single core forms the features required to fabricate the various separate and isolated impingement openings. The isolation and combination of impingement openings provides for the augmentation of convection and film cooling and provide the flexibility to tailor airflow on an airfoil to optimize thermal performance of an  
10 airfoil.

Figure 1A