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**Dunn**

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(54) **CONSTRICTED CONVECTION COOLING SYSTEM FOR AN ELECTRONIC DISPLAY**

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**Related U.S. Application Data**

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CPC ..... **H05K 7/20972** (2013.01); **G02F 1/133385** (2013.01)

USPC ..... **349/161**; 361/694; 361/695

(58) **Field of Classification Search**  
USPC ..... 349/161, 58; 361/692, 694-696; 165/104.34, 121  
See application file for complete search history.

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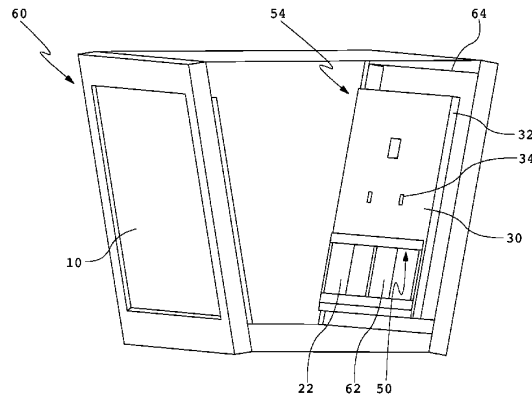
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(57) **ABSTRACT**

Preferred embodiments provide a cooling system for an electronic display. A constricted convection channel is used to force cooling air against a posterior surface of the electronic display. Fans may be used to propel or pull air through the constricted convection channel in a substantially uniform manner. A refrigeration unit or thermoelectric module may be employed to cool or heat the air traveling through the constricted convection channel. Some embodiments include a closed loop which extracts heat (or adds heat) to the front display surface.

**20 Claims, 10 Drawing Sheets**



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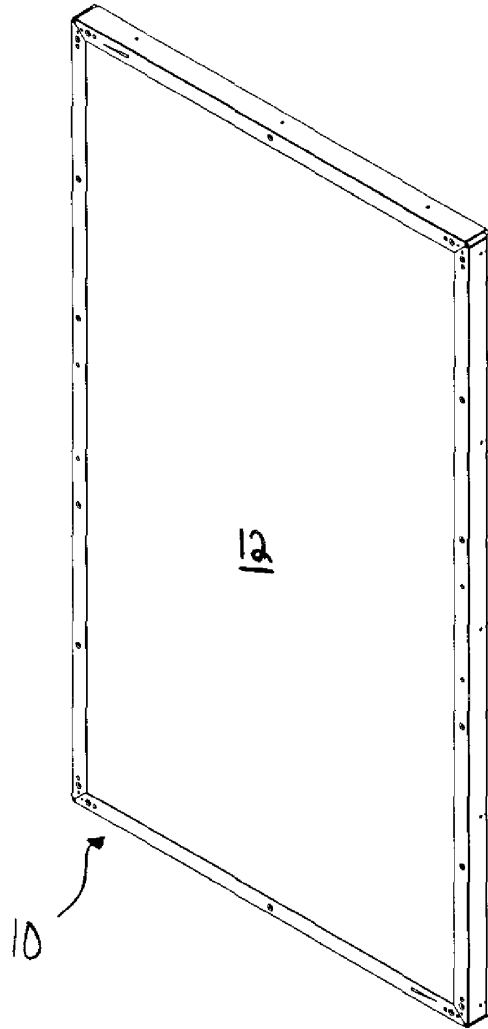


Fig. 1

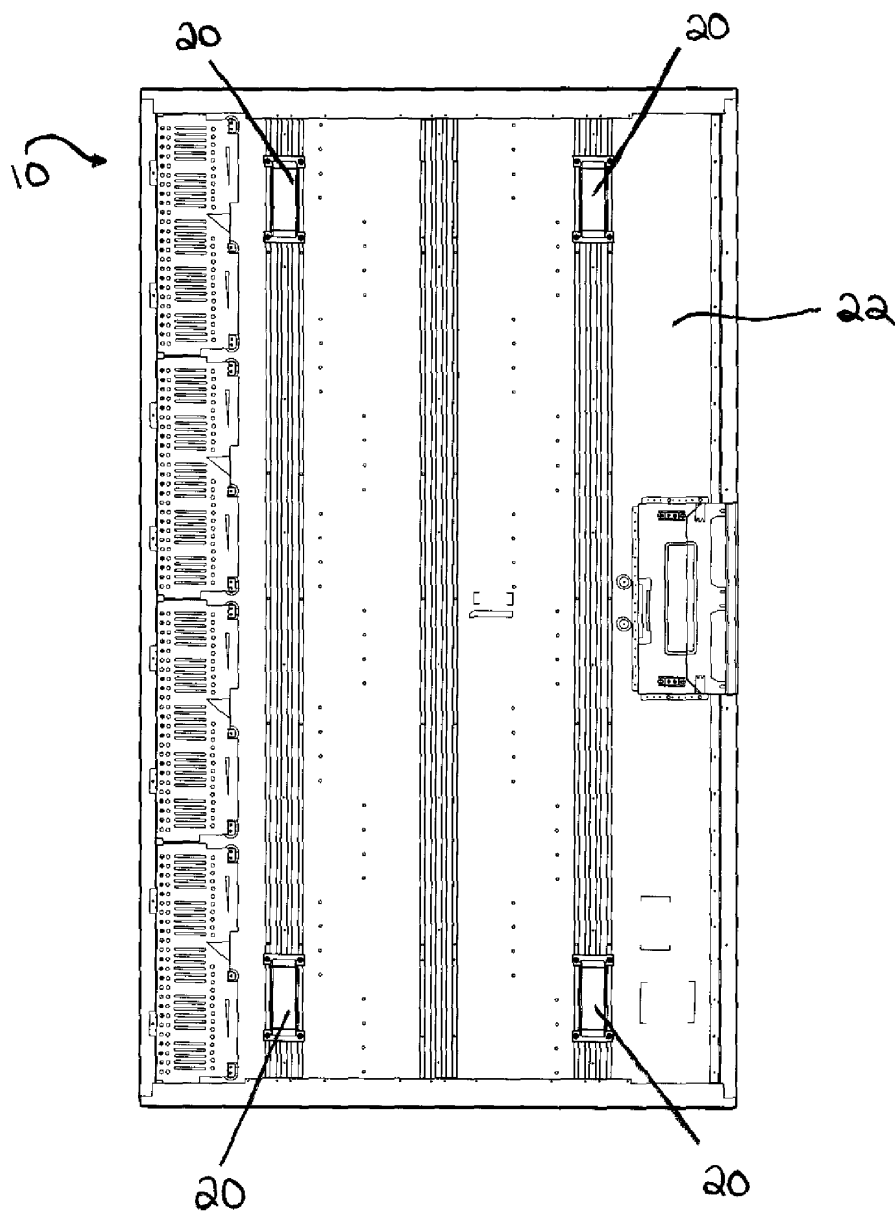


Fig. 2

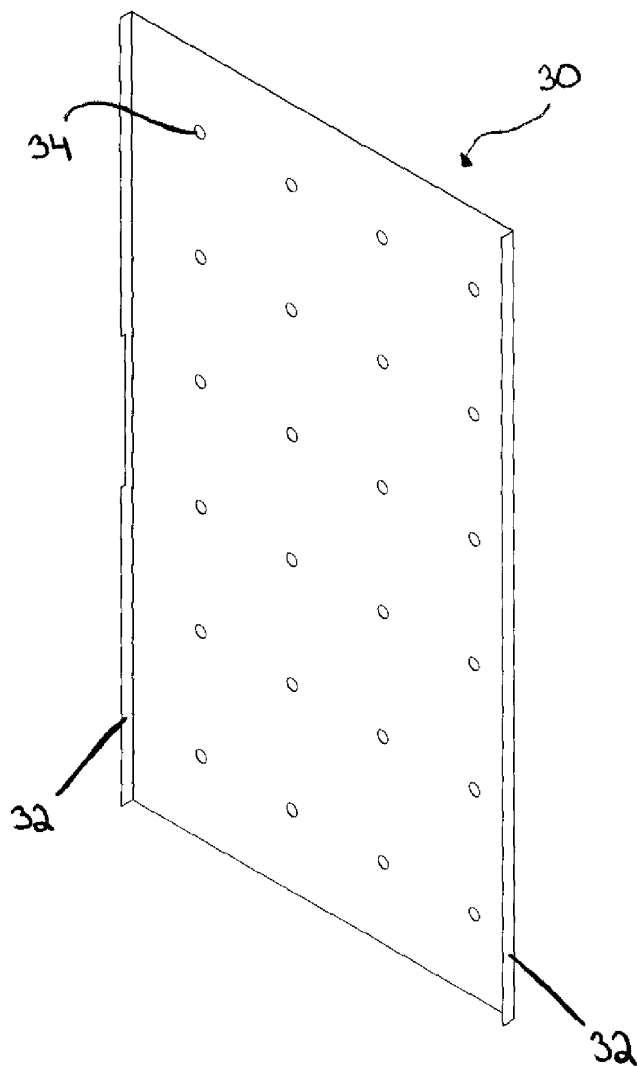


Fig. 3

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