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Hanson et al.

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(54) **BUFFER LAYER IN FLAT PANEL DISPLAY**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 535 days.

This patent is subject to a terminal disclaimer.

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(65) **Prior Publication Data**

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Related U.S. Application Data

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(51) **Int. Cl.**
C25D 11/04 (2006.01)
C23C 28/00 (2006.01)

(52) **U.S. Cl.** **205/199**; 216/95; 216/102; 204/192.22; 205/201; 205/223; 205/324; 205/325

(58) **Field of Classification Search** 205/199, 205/201, 323, 324, 325; 204/192.22
See application file for complete search history.

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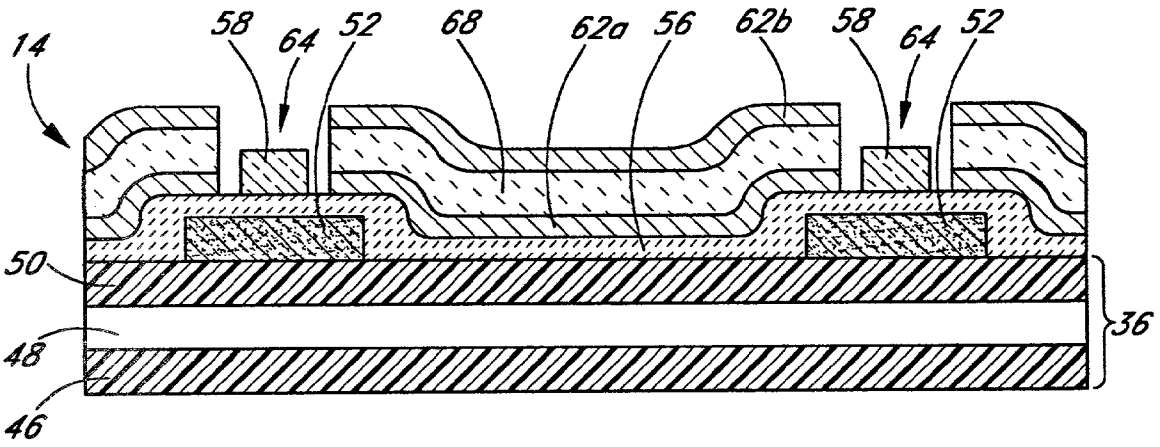
(57) **ABSTRACT**

In devices such as flat panel displays, an aluminum oxide layer is provided between an aluminum layer and an ITO layer when such materials would otherwise be in contact to protect the ITO from optical and electrical defects sustained, for instance, during anodic bonding and other fabrication steps. This aluminum oxide barrier layer is preferably formed either by: (1) partially or completely anodizing an aluminum layer formed over the ITO layer, or (2) an in situ process forming aluminum oxide either over the ITO layer or over an aluminum layer formed on the ITO layer. After either of these processes, an aluminum layer is then formed over the aluminum oxide layer.

18 Claims, 8 Drawing Sheets



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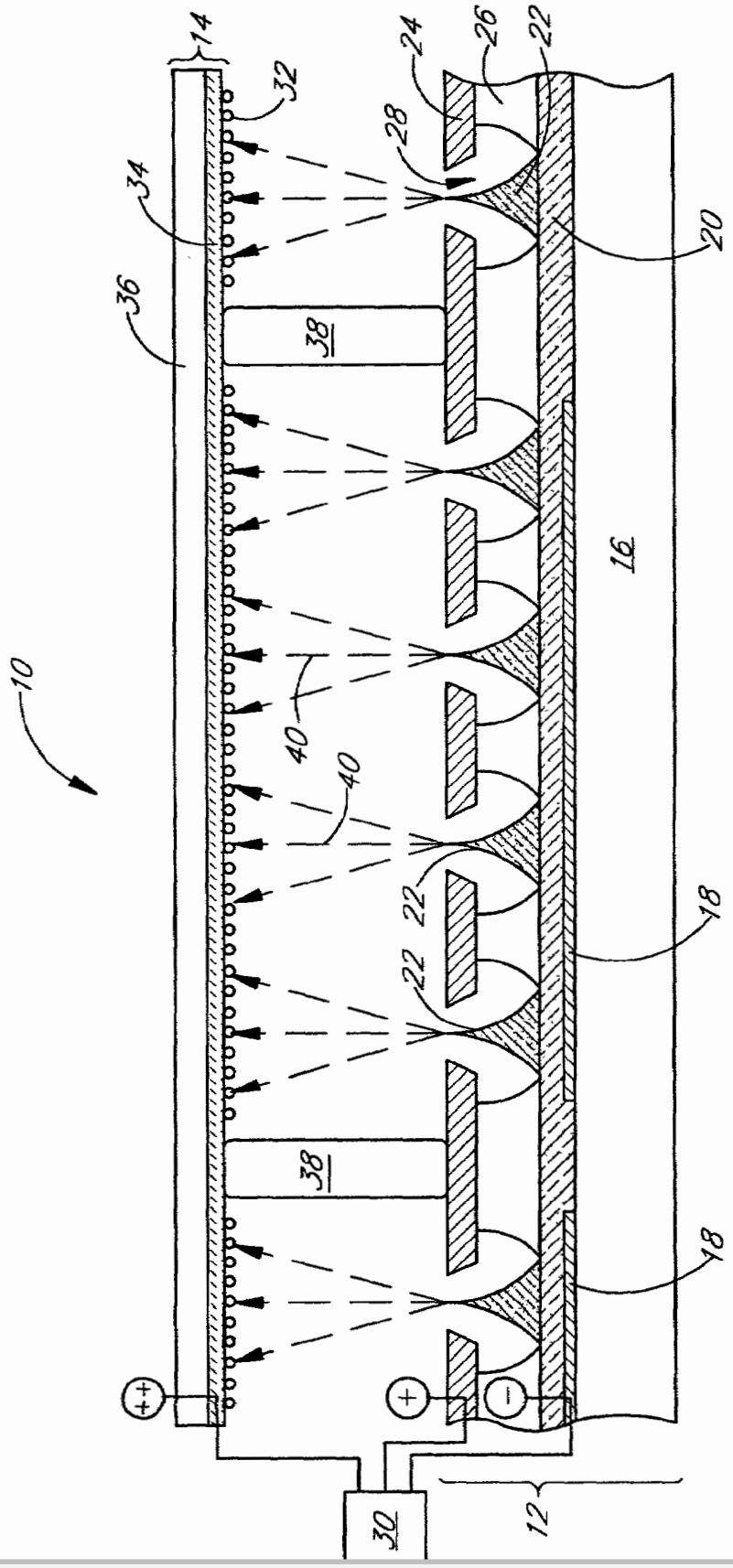

FIG. 1
(PRIOR ART)

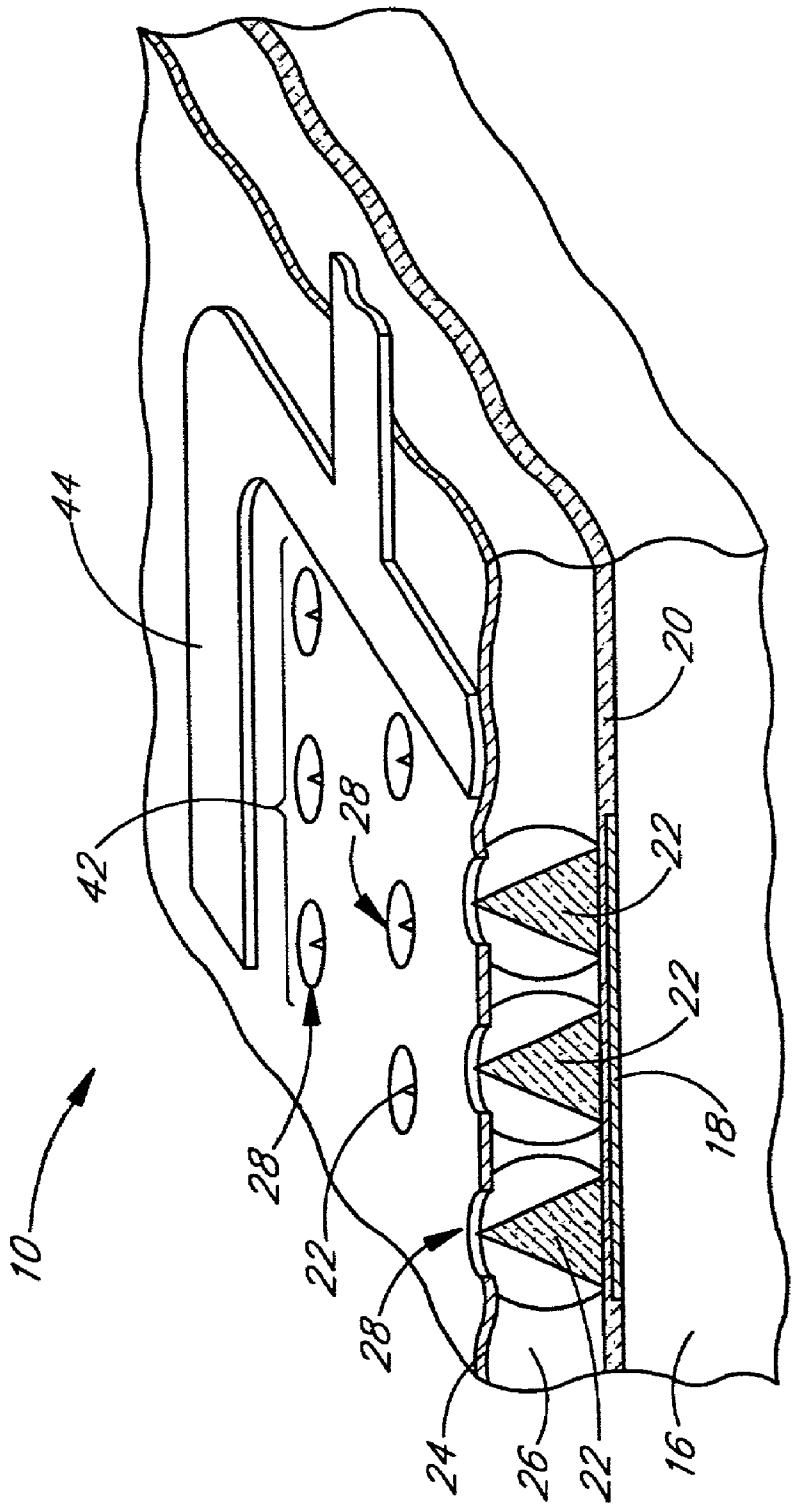

FIG. 2
(PRIOR ART)

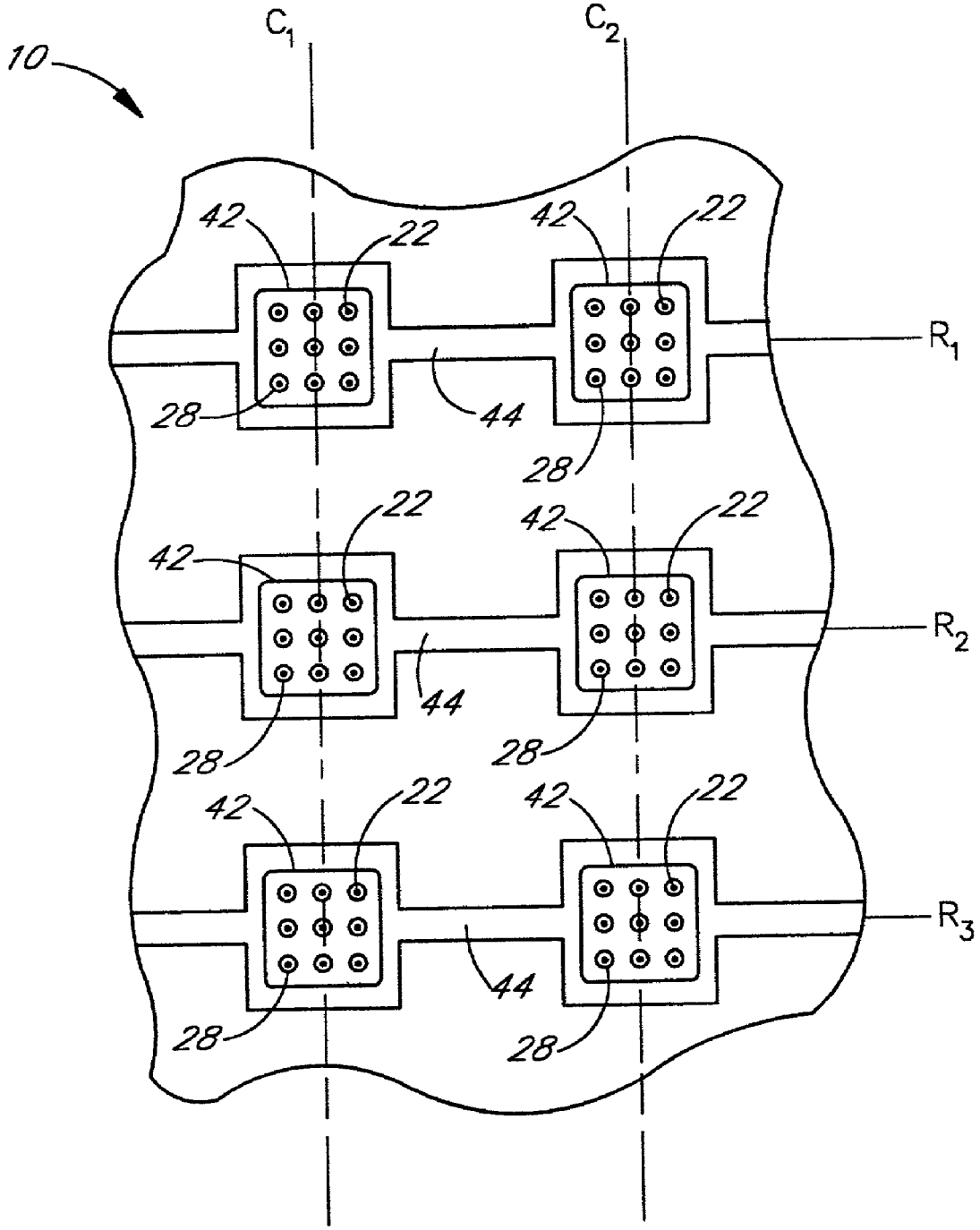

FIG. 3
(PRIOR ART)

DOCKET ALARM

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