

(54) **LIQUID DISPLAY DEVICE AND FABRICATION METHOD THEREOF**

**Publication Classification**

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(52) **U.S. Cl.** ..... **349/39**  
(57) **ABSTRACT**

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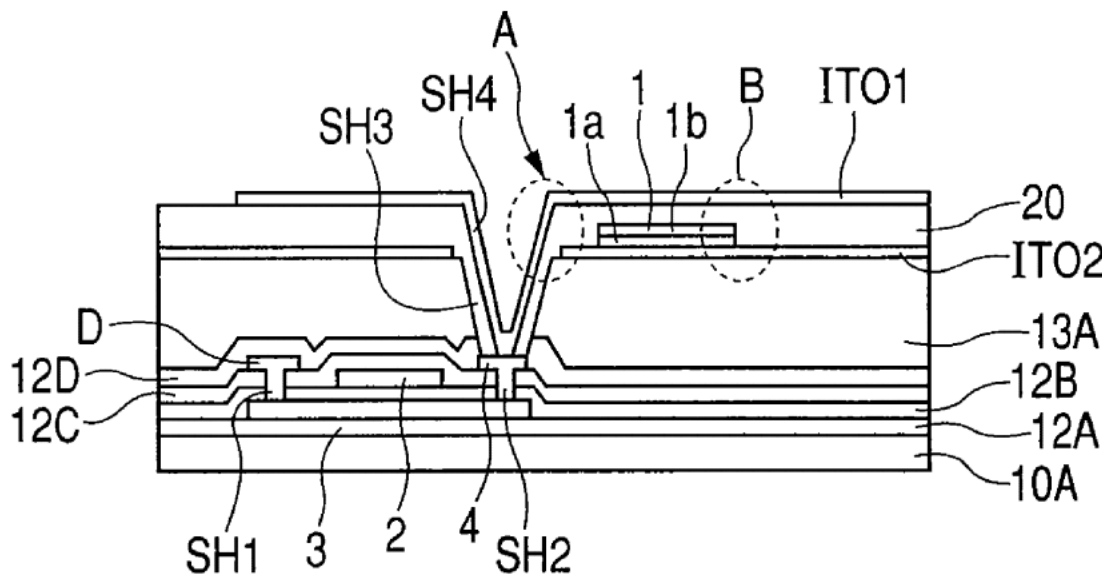
A liquid crystal display improved with the opening ratio and increased for the storage capacitance, in which a gate insulating film, a gate electrode, an interlayer insulating film, an image line and a source electrode are stacked in this order formed in the layer above an active device formed to a first substrate, the interlayer insulating film is formed with a coatable transparent insulating film having a specific dielectric constant of 4.0 or higher at least containing high dielectric fine particle or sol-gel, a first through hole is formed in the gate insulating film, a second through hole is formed to the interlayer insulating film in the inside of the first through hole, the source electrode is electrically connected with the active device by way of the second through hole, and the storage capacitance is constituted by the gate electrode, the image line, the source electrode, and the interlayer insulating film.

(21) Appl. No.: **11/777,853**

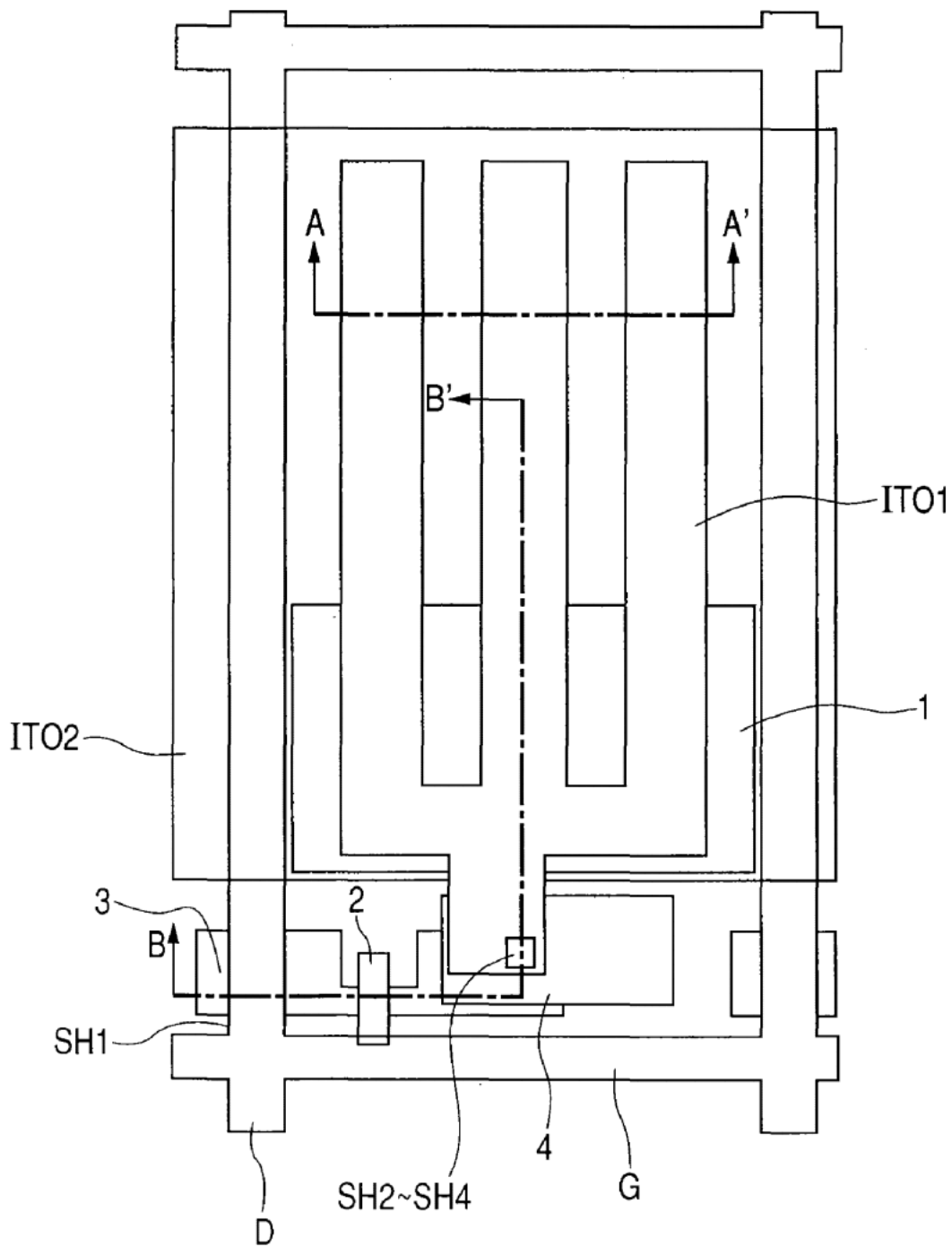
(22) Filed: **Jul. 13, 2007**

(30) **Foreign Application Priority Data**

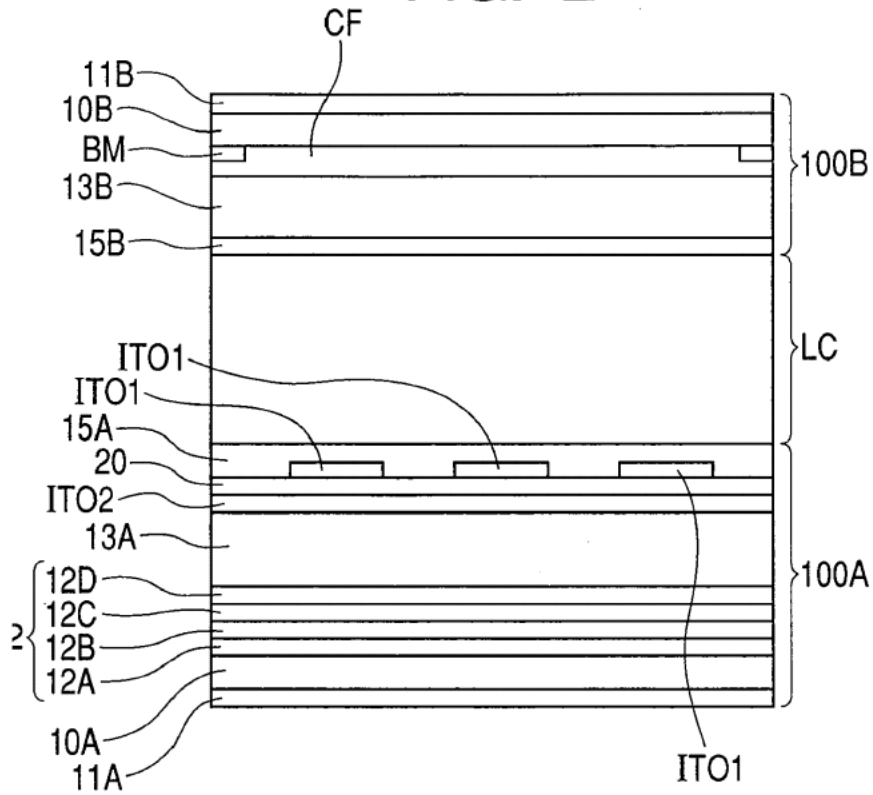
Jul. 19, 2006 (JP) ..... 2006-196375



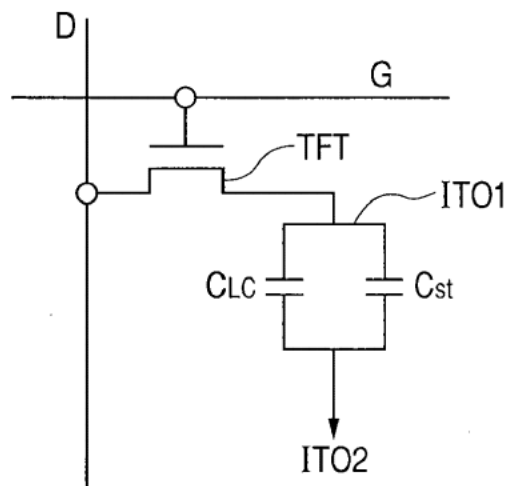
**FIG. 1**



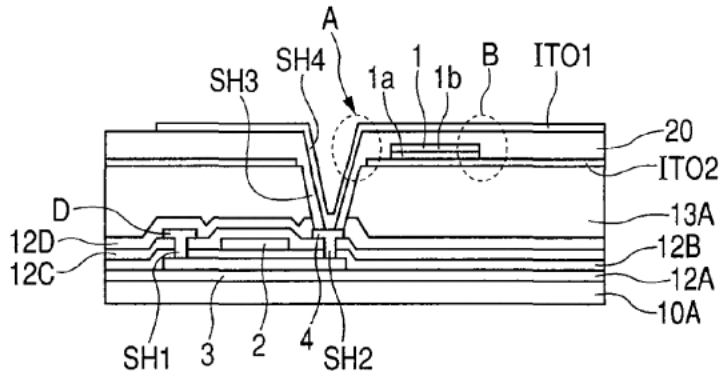
**FIG. 2**



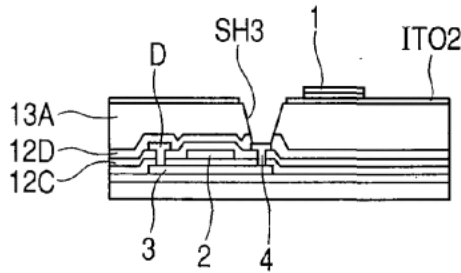
**FIG. 3**



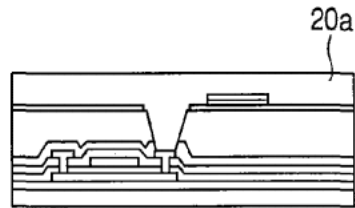
**FIG. 4**



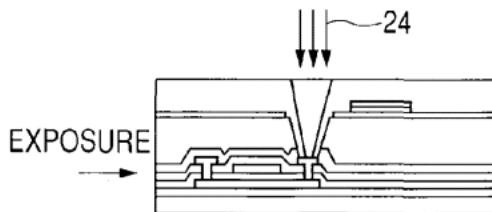
**FIG. 5A**



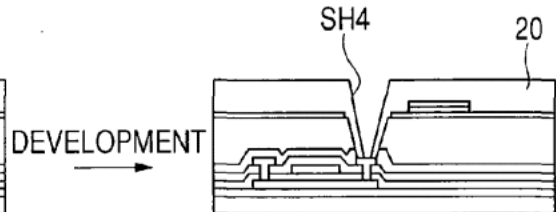
**FIG. 5B**



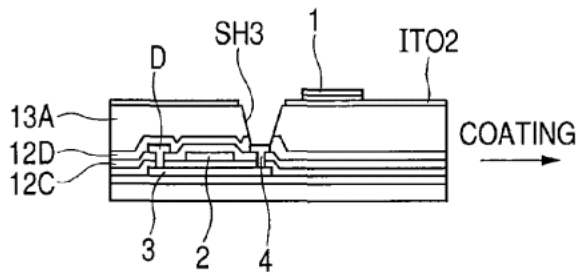
**FIG. 5C**



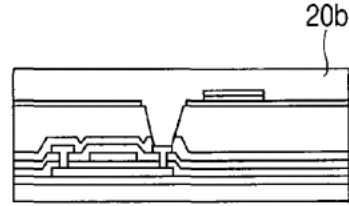
**FIG. 5D**



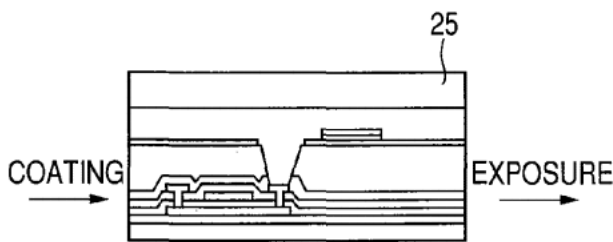
**FIG. 6A**



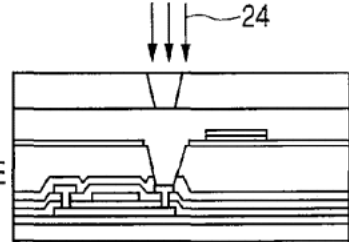
**FIG. 6B**



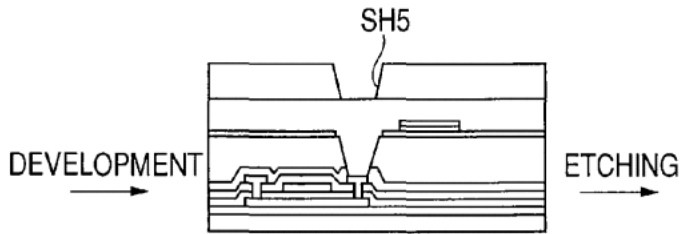
**FIG. 6C**



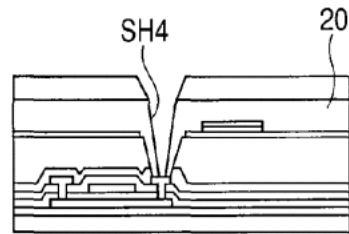
**FIG. 6D**



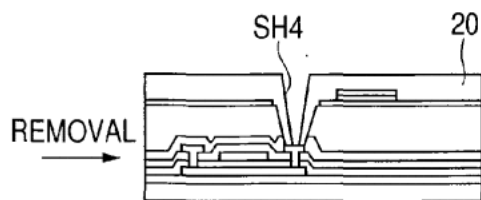
**FIG. 6E**



**FIG. 6F**



**FIG. 6G**



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