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**Mackey**

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- (54) **SENSOR PATTERNS FOR A CAPACITIVE SENSING APPARATUS**
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- (73) Assignee: **Synaptics Incorporated**, San Jose, CA (US)
- (\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 232 days.

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(21) Appl. No.: **10/453,223**

(22) Filed: **Jun. 2, 2003**

(65) **Prior Publication Data**  
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- (51) **Int. Cl.**  
**G09G 5/00** (2006.01)
- (52) **U.S. Cl.** ..... **345/174; 345/173; 345/175;**  
178/18.06; 178/19.03
- (58) **Field of Classification Search** ..... 345/174,  
345/173, 175; 178/18.01-18.03, 18.05, 18.06,  
178/19.03  
See application file for complete search history.

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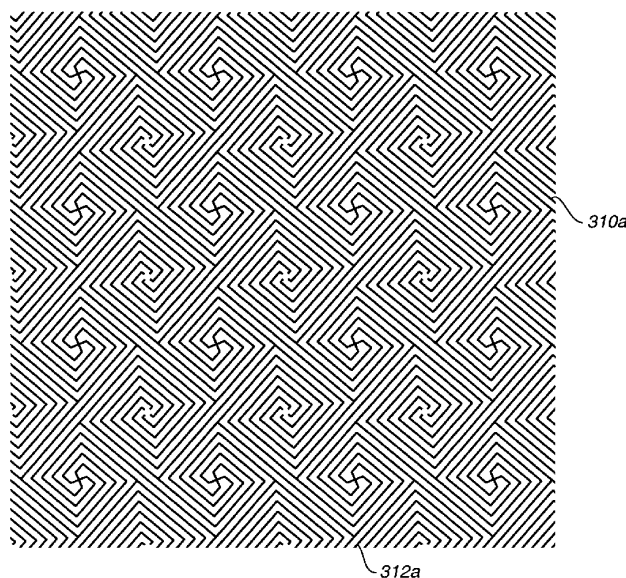
*Primary Examiner*—Richard Hjerpe  
*Assistant Examiner*—Leonid Shapiro

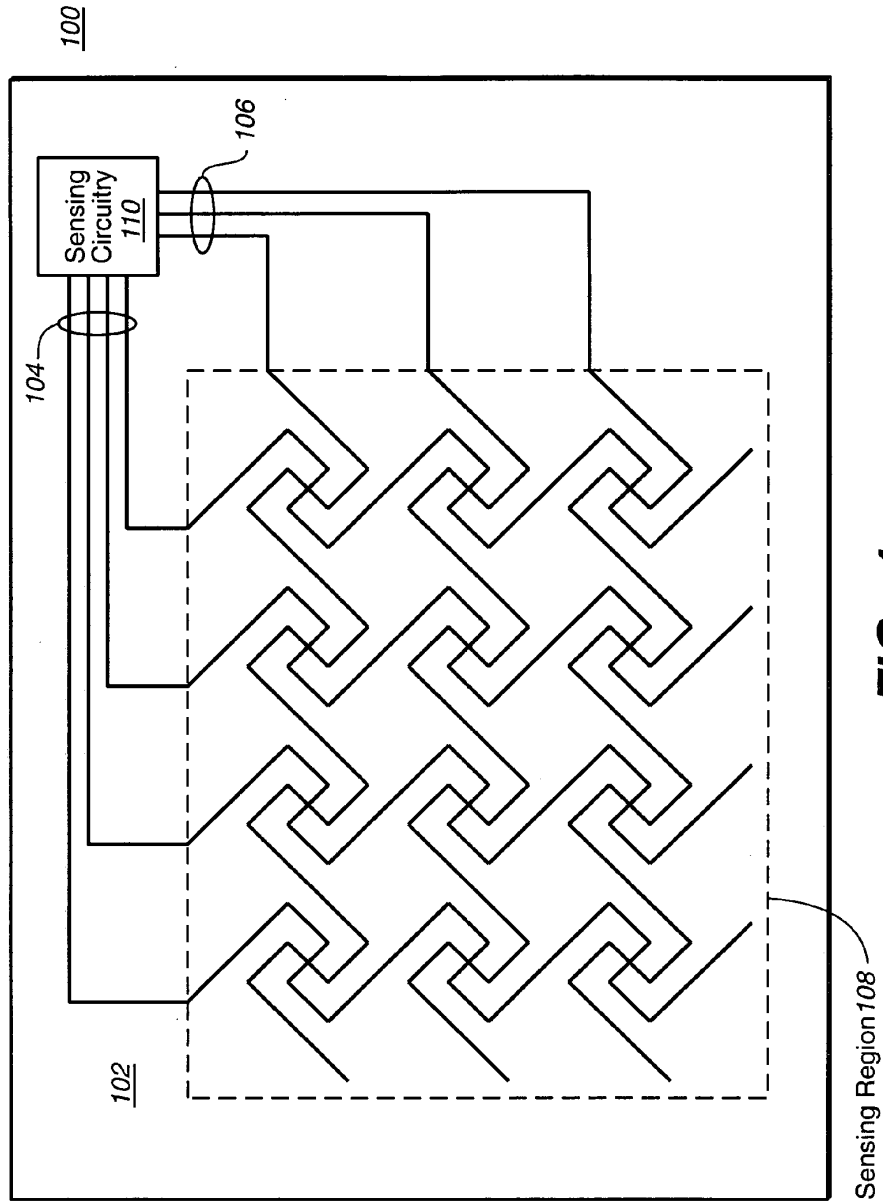
(57) **ABSTRACT**

One embodiment in accordance with the present invention includes a capacitive sensing apparatus. The capacitive sensing apparatus comprises a first set of interdigitated conductive traces. Additionally, the capacitive sensing apparatus comprises a second set of interdigitated conductive traces that are intertwined with the first set of interdigitated conductive traces.

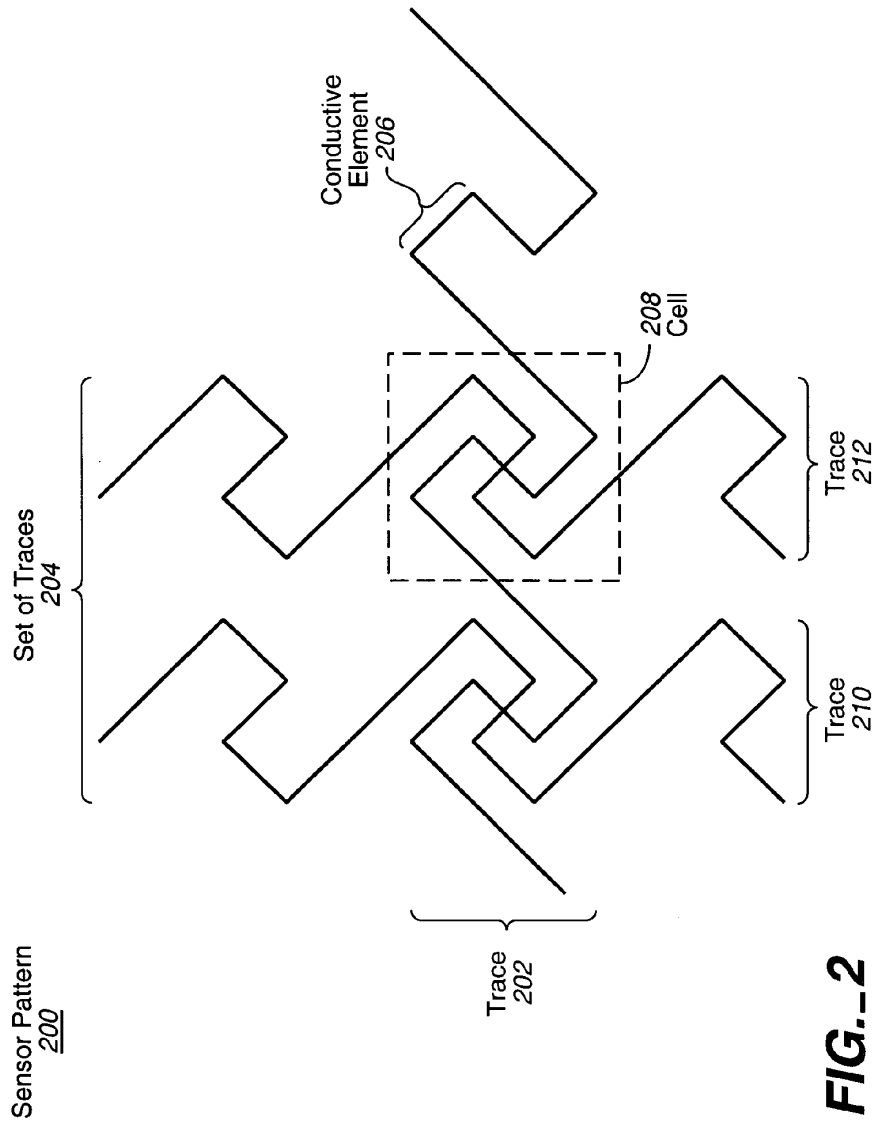
**42 Claims, 18 Drawing Sheets**

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**FIG. 1**



**FIG.--2**

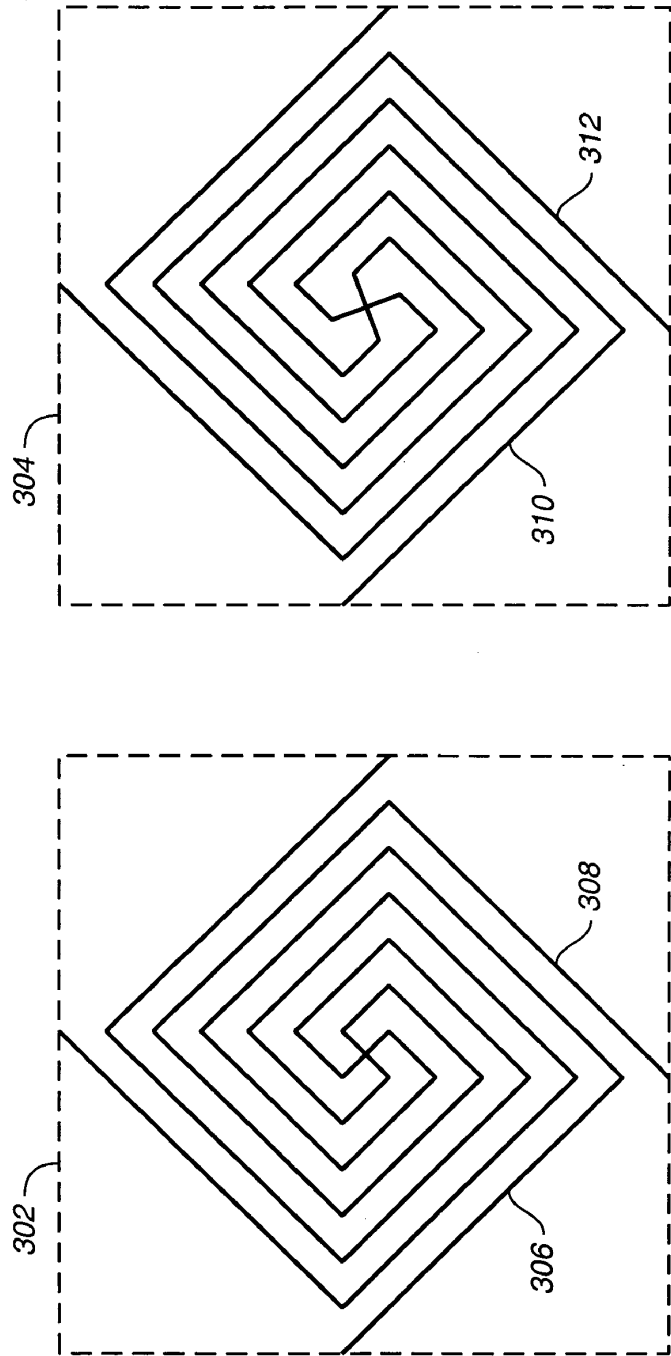
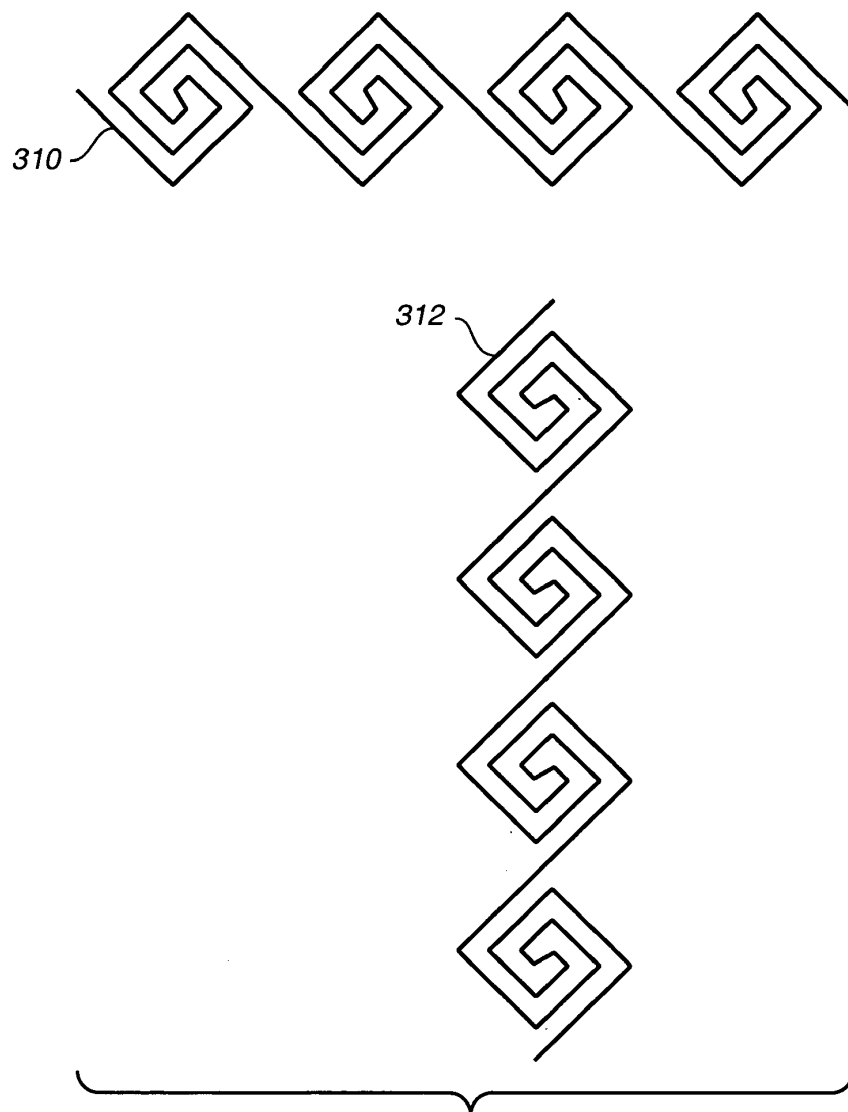


FIG. 3



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