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(54) **CORRECTION OF PARASITIC CAPACITANCE EFFECT IN TOUCH SENSOR PANELS**

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(57) **ABSTRACT**

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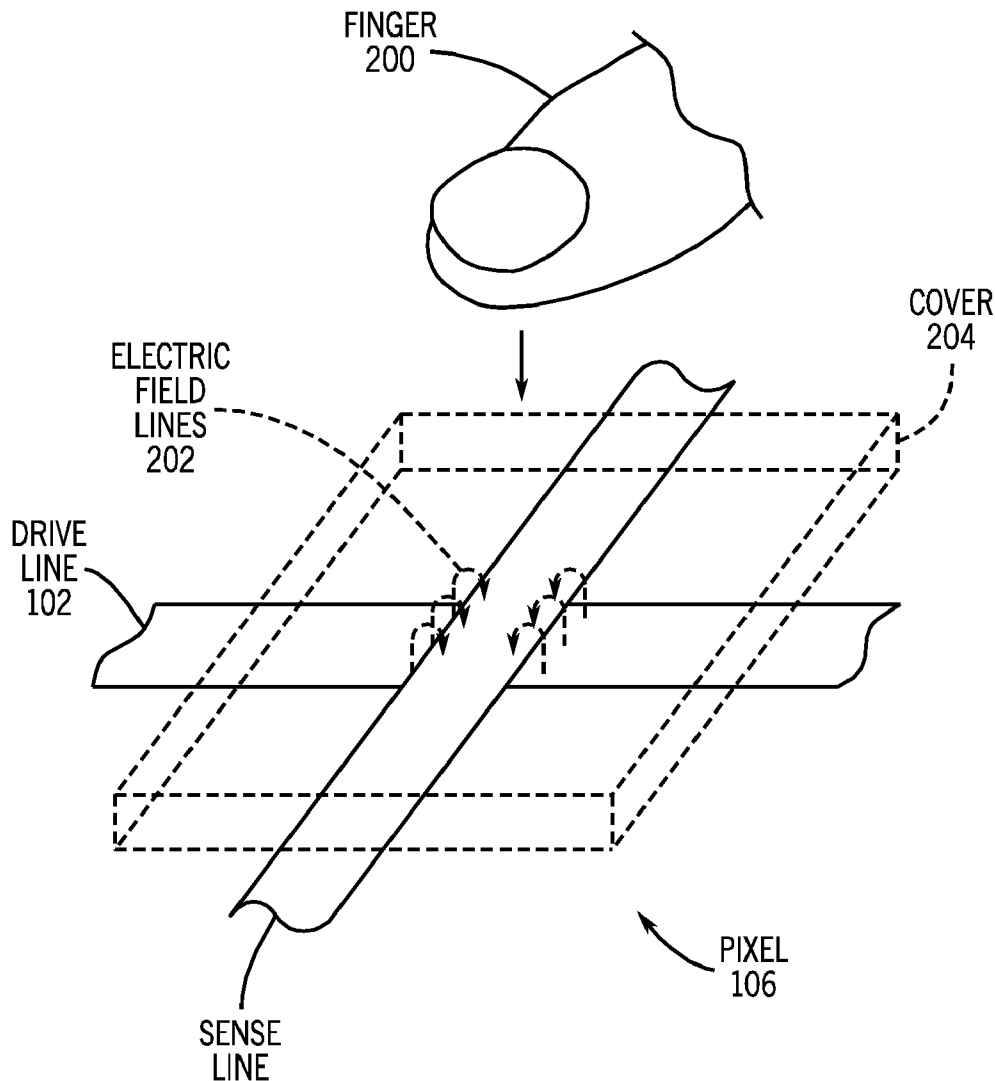
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Compensation of pixels included in a touch sensor panel that generate erroneous readings (so called "negative pixels") due to a poor grounding condition of the object touching the touch sensor panel is disclosed herein. To compensate for the erroneous readings, sense lines of the touch sensor panel can include reverse driving circuits to facilitate calculation of an object-to-ground capacitance. If the calculated object-to-ground capacitance indicates the presence of a poor grounding condition, then the object-to-ground capacitance and detected pixel touch output values are used to estimate new pixel touch output values that are used instead of the detected pixel touch output values to determine touch event(s).

(73) **Assignee: Apple Inc., Cupertino, CA (US)**

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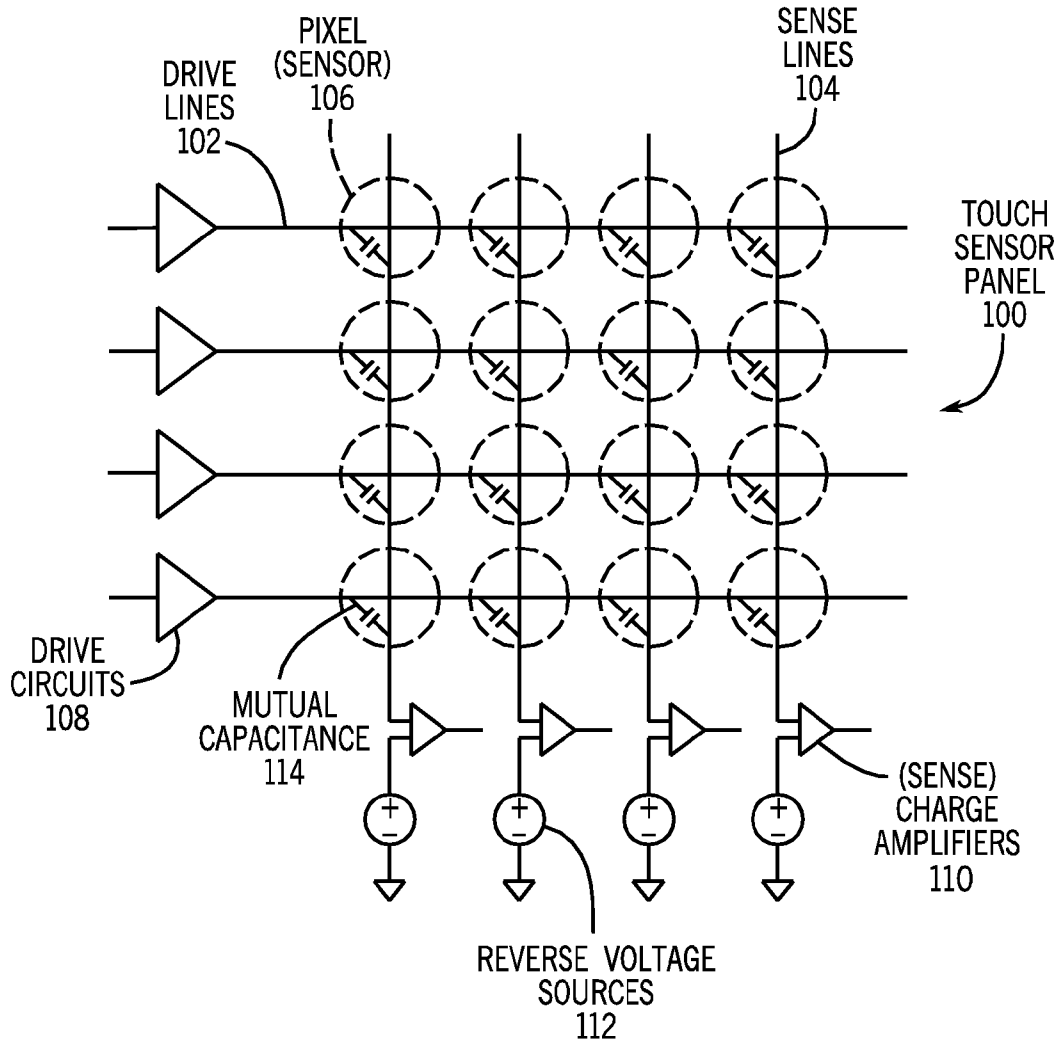


FIG. 1

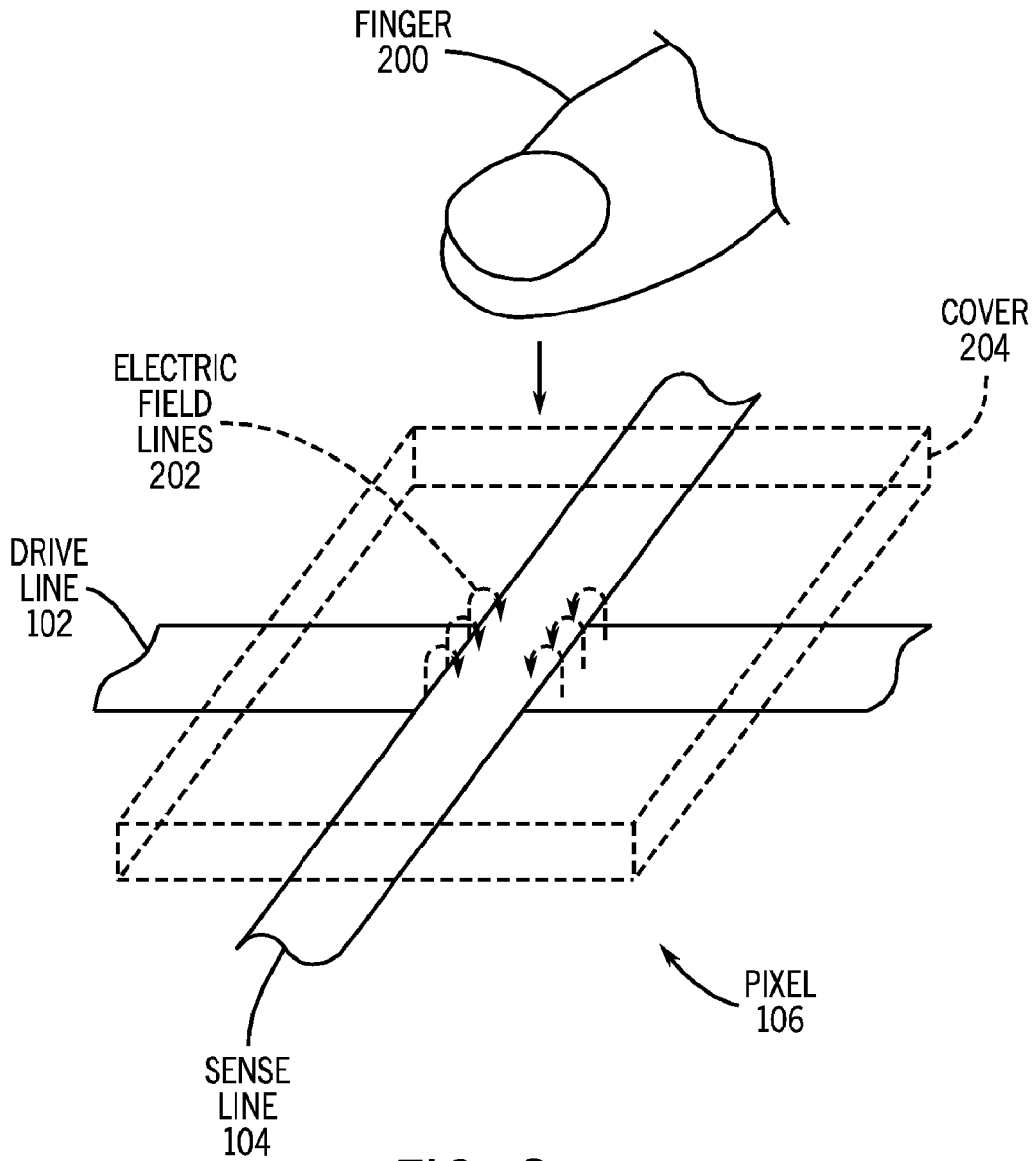


FIG. 2

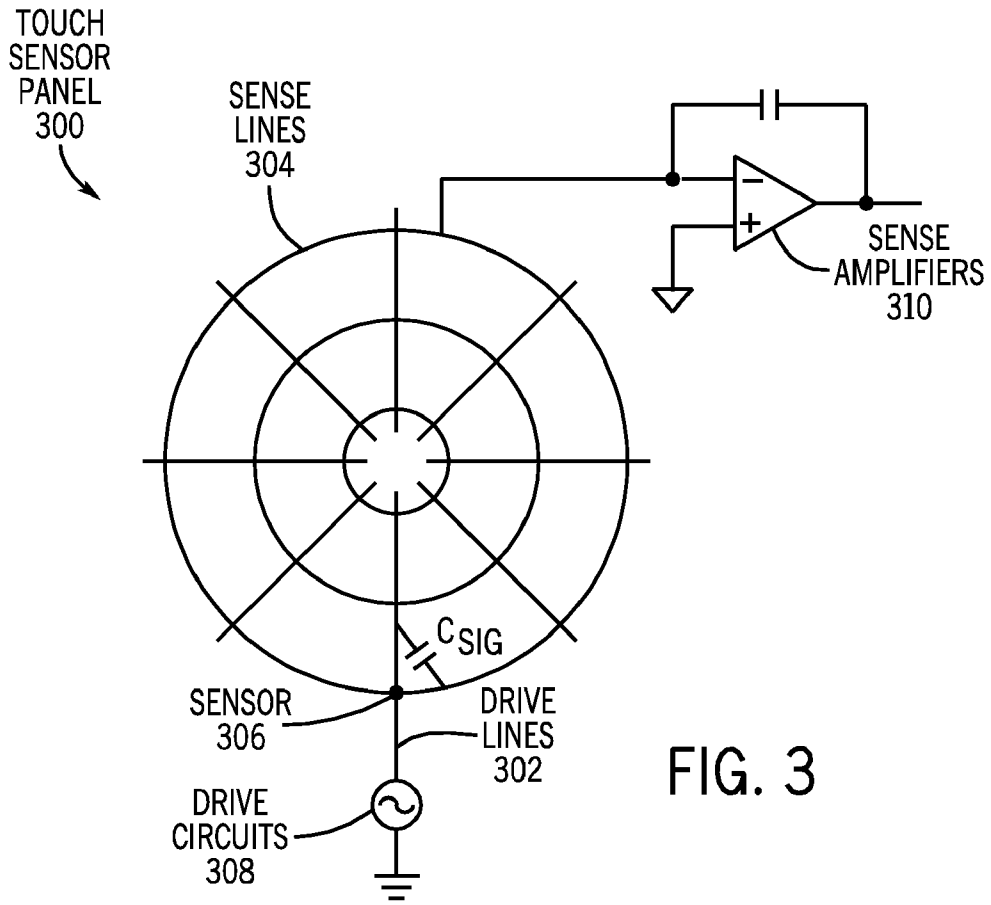


FIG. 3

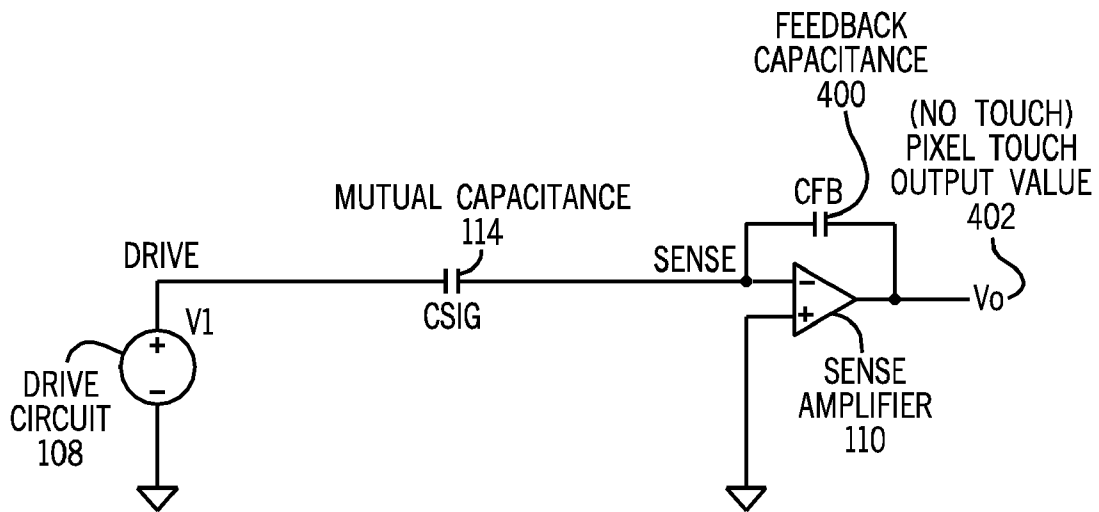


FIG. 4A

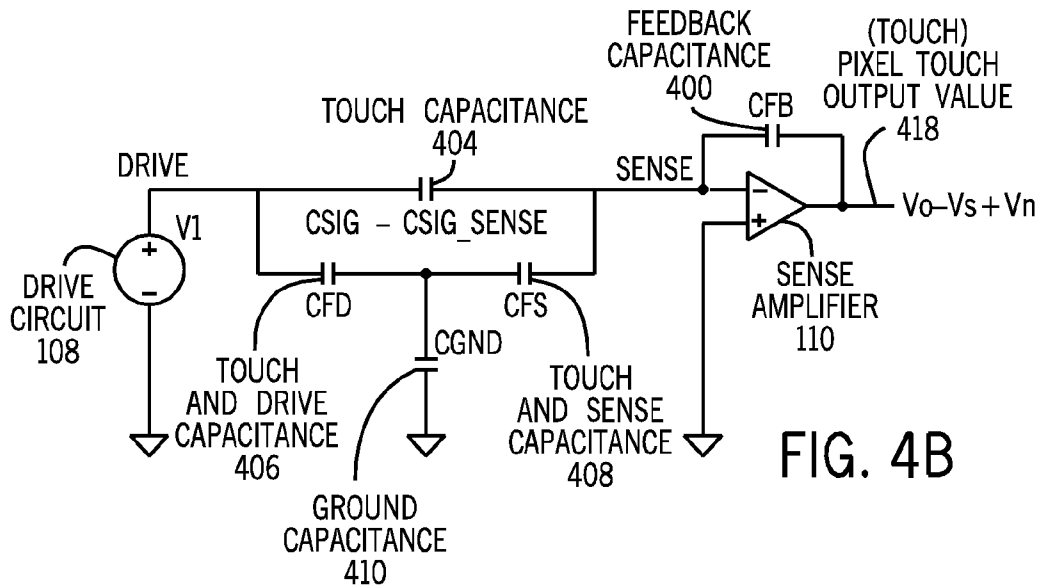


FIG. 4B

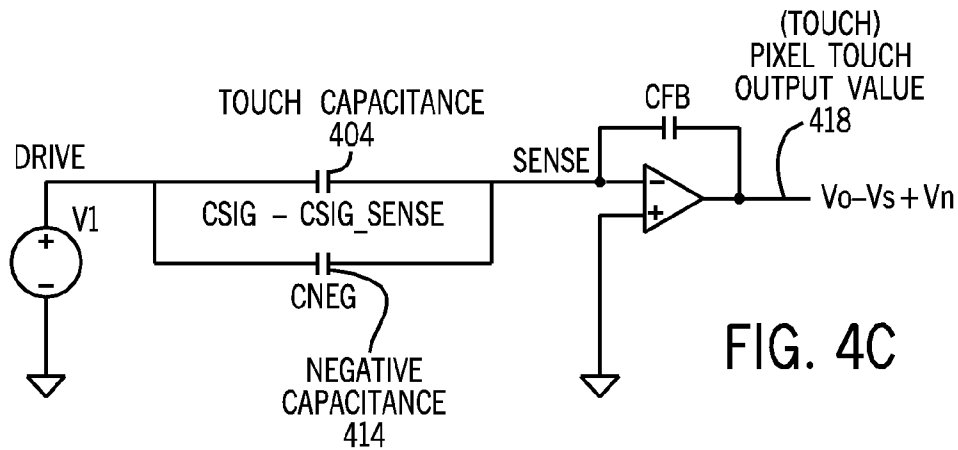


FIG. 4C

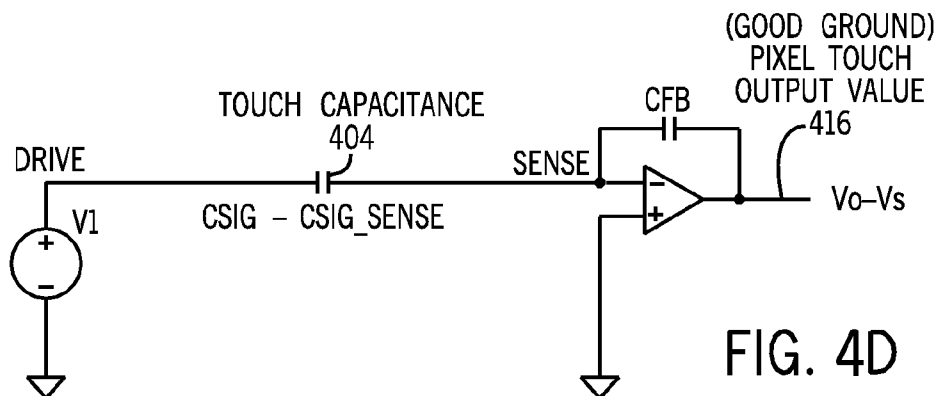


FIG. 4D

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