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(54) **CLOSED-LOOP SENSOR ON A SOLID-STATE OBJECT POSITION DETECTOR**

**Related U.S. Application Data**

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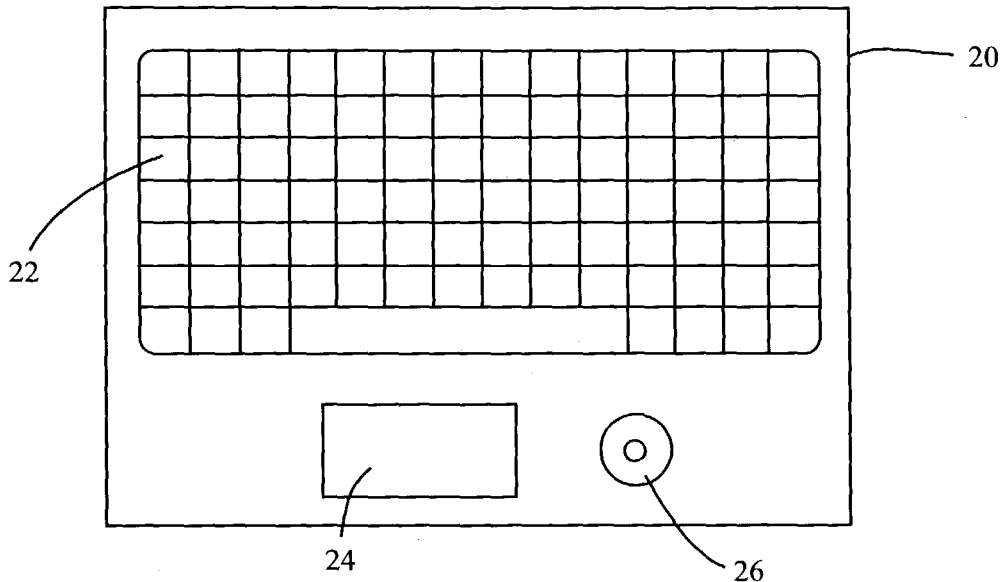
(57) **ABSTRACT**

The present disclosure discloses an object position detector. The object position detector comprises a touch sensor formed as a closed loop and having a physical constraint formed on an upper surface of the touch sensor and coextensive with the closed loop. The touch sensor is configured to sense motion of an object proximate to the closed loop. The object position detector also comprises a processor coupled to the touch sensor and is programmed to generate an action in response to the motion on the touch sensor.

(73) Assignee: **Synaptics, Inc.**

(21) Appl. No.: **10/338,765**

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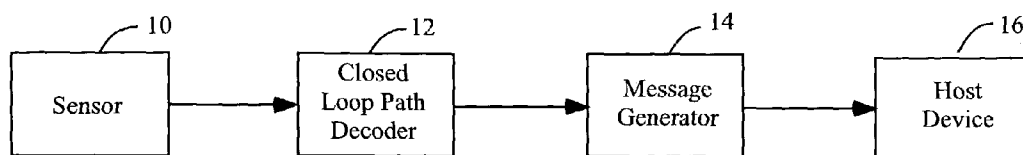


Fig. 1

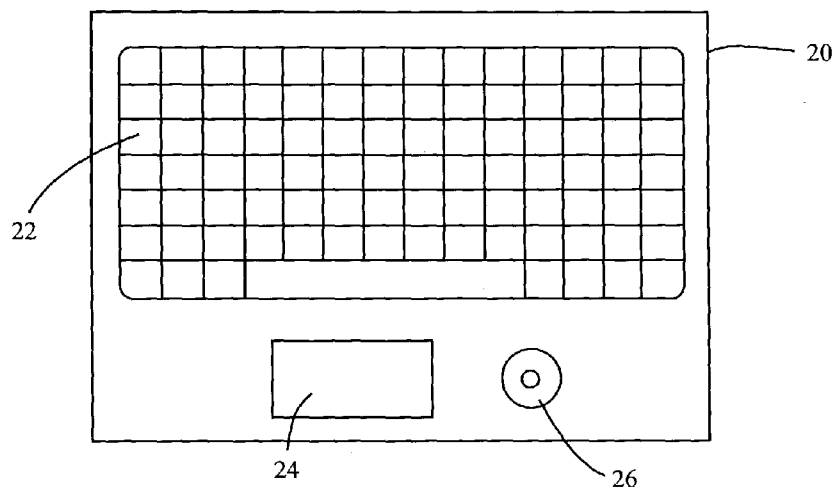


Fig. 2

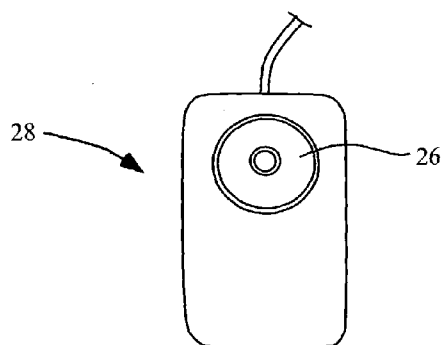


Fig. 3

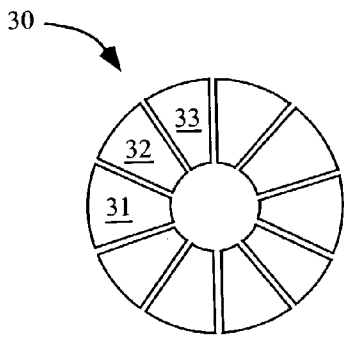


Fig. 4

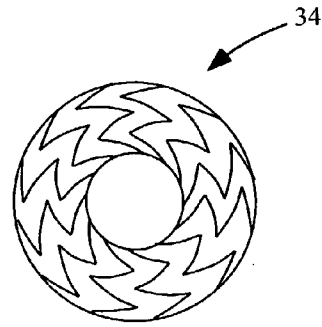


Fig. 5

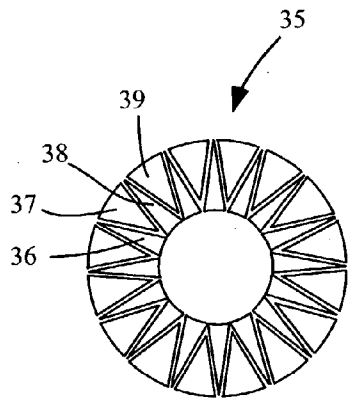


Fig. 6

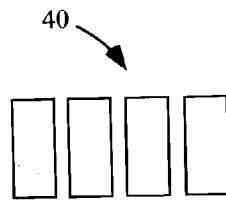


Fig. 7

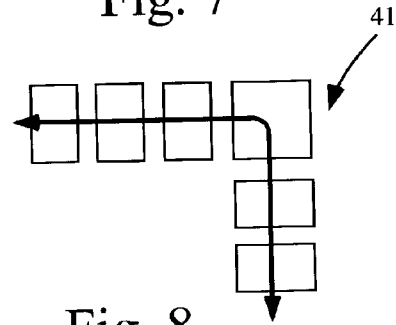


Fig. 8

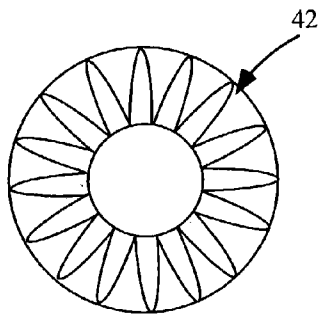


Fig. 9

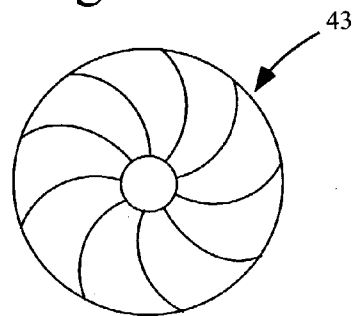


Fig. 10



Fig. 11



Fig. 12



Fig. 13



Fig. 14



Fig. 15



Fig. 16



Fig. 17

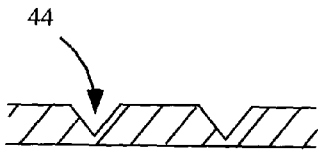


Fig. 18

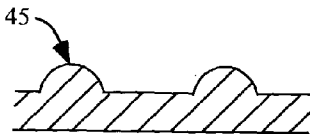


Fig. 19



Fig. 20

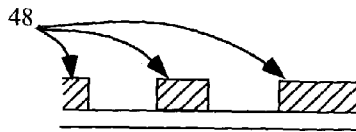


Fig. 21

Fig. 22

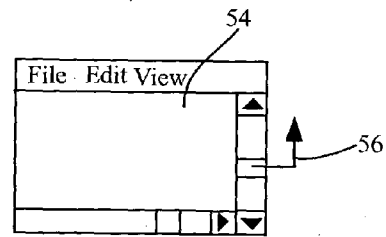
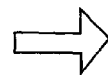
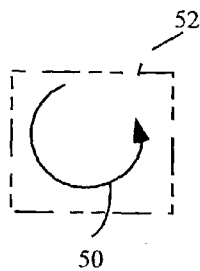
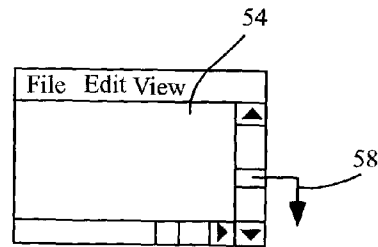
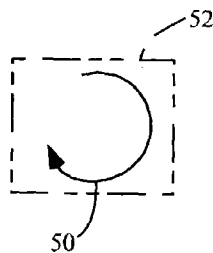


Fig. 23



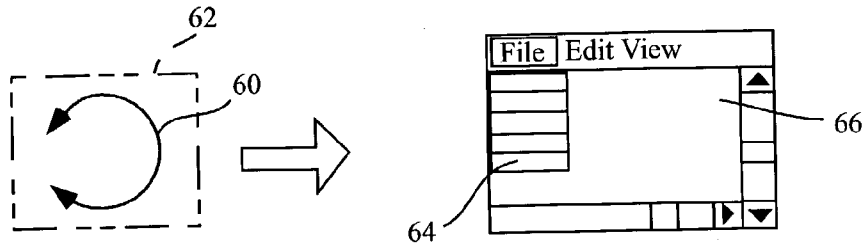


Fig. 24

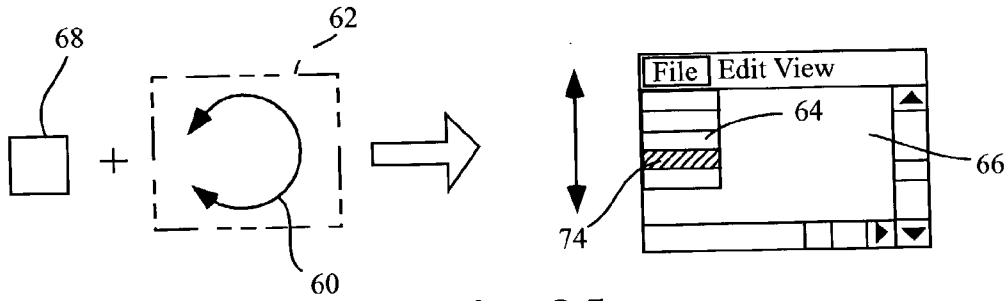


Fig. 25

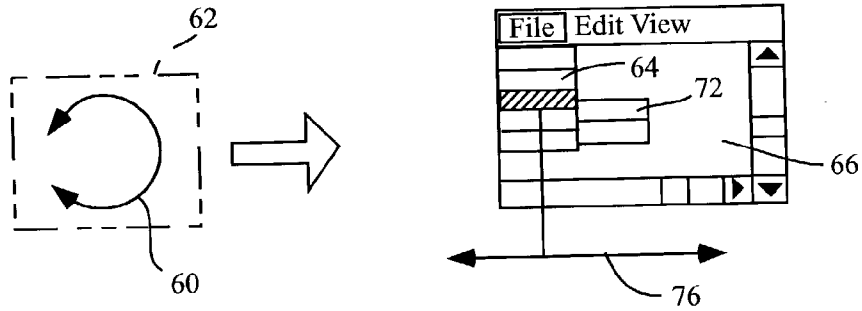


Fig. 26

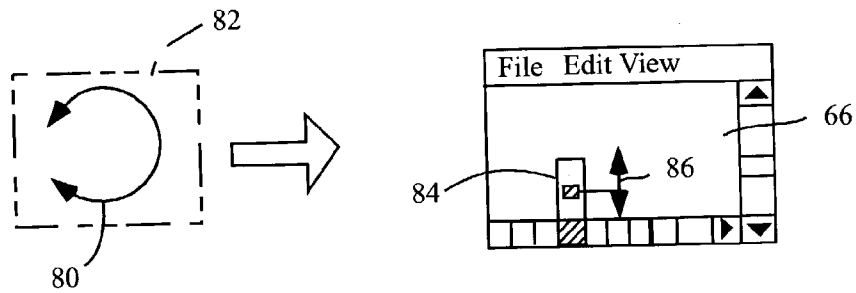


Fig. 27

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