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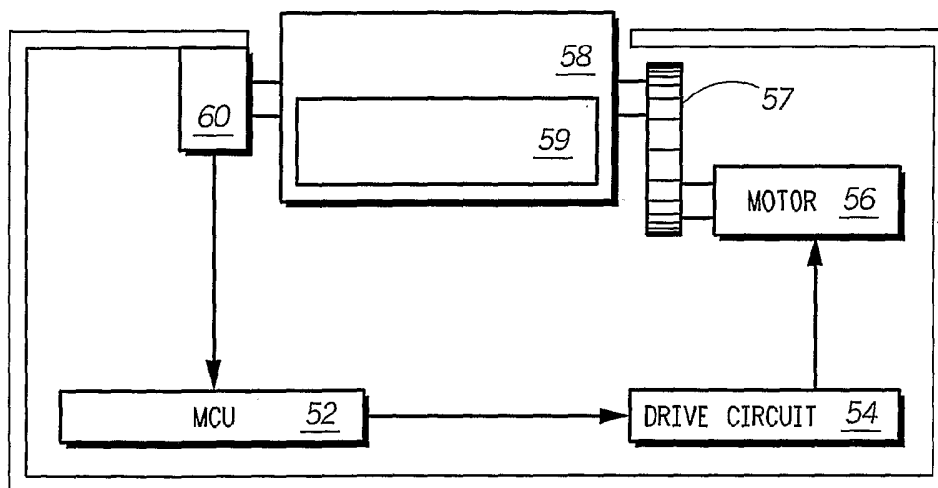
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[Continued on next page]

(54) Title: INTEGRATED INPUT ROLLER HAVING A ROTARY MASS ACTUATOR



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(57) Abstract: An input roller device (50) includes a roller (58), an eccentric rotating mass (59) within the roller, a drive mechanism (54, 56 and 57) causing the eccentric rotating mass to rotate within the roller, and a processor (52) coupled to the drive mechanism. The drive mechanism can also optionally include a drive link (57) if not directly driven by the shaft of the motor. The input roller device 50 can further include a rotary encoder (60) coupled to the roller such that the rotary encoder can provide data to the processor on a rotation of the roller. Note, the processor can be programmed to cause the input roller to provide a varied tactile feedback to the user to correspond to different events or to cause the input roller to provide a rolling resistance that varies in coordination with inputs from a user interface.



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

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| <b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>  |  |  |
| Category*  | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No.  |
| Y  | US 6,693,622 B1 (SHAHIOIAN et al.) 17 February 2004 (17.02.2004); entire document  | 1 and 8  |
| Y  | US 6,154,201 A (LEVIN et al.) 28 November 2000 (28.11.2000); entire document       | 1 and 8  |
| X  | US 6,483,294 B1 (KIRJANEN) 19 November 2002 (19.11.2002), entire document.         | 1-10   |
| A  | US 6,256,011 B1 (CULVER) 03 July 2001 (03.07.2001); entire document                | 1-10   |
| A  | US 2004/0008190 A1 (WANG) 15 January 2004 (15.01.2004); abstract, claims 1-12.     | 1-10   |
| A  | US 2003/0038774 A1 (PIOT et al.) 27 February 2003 (27.02.2003); abstract           | 1-10   |
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