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Toda et al.

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[54] **COORDINATE INPUT DEVICE**

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[21] Appl. No.: **317,688**

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Related U.S. Application Data

[63] Continuation of Ser. No. 47,221, Apr. 14, 1993, abandoned.

[30] **Foreign Application Priority Data**

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Apr. 21, 1992	[JP]	Japan	....	4-101352
Apr. 21, 1992	[JP]	Japan	....	4-101353
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[51] **Int. Cl.**^{6} **G09G 5/08**

[52] **U.S. Cl.** **345/157**; 345/173; 341/34

[58] **Field of Search** .... 345/156, 157, 345/160, 173, 179, 180, 182, 174, 104, 145; 178/18, 19; 463/37; 273/178 B; D14/114, 100, 107; 341/34

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[57] **ABSTRACT**

A cursor control device is provided which has good operability and can reflect clearly an operator's natural motion in accordance with a qualified value (conversion coefficient). The cursor control device is constituted of an operation plate (5) with an operation surface (7), an operation pressure detector with a pressure-sensitive sensor (3) arranged on the back surface of the operation plate (5) to detect a touch pressure by a control member, and an arithmetic circuit. The arithmetic circuit performs an arithmetic operation of both the coordinate position and the moving rate of the control member using a detection signal from the operation pressure detector, and the movement of a cursor based on a first qualified value and a second qualified value. The first qualified value is determined according to the movement and the moving rate of a coordinate position. The second qualified value is determined according to the touch pressure of the control member.
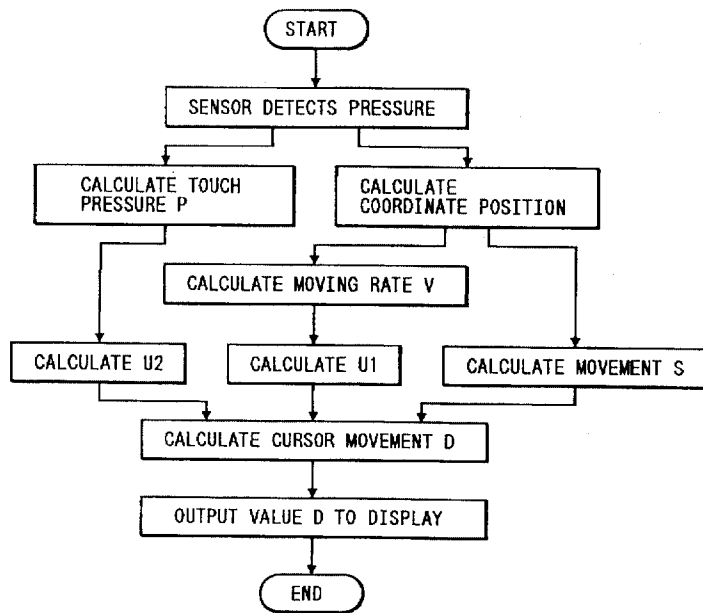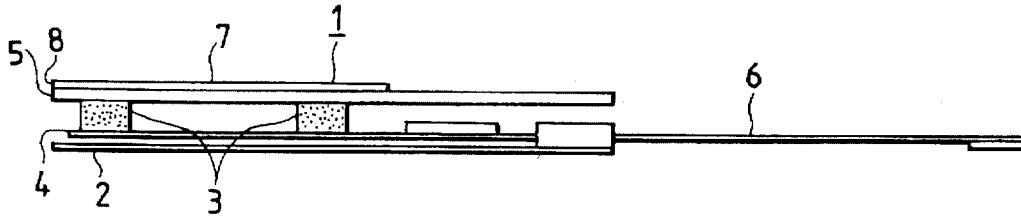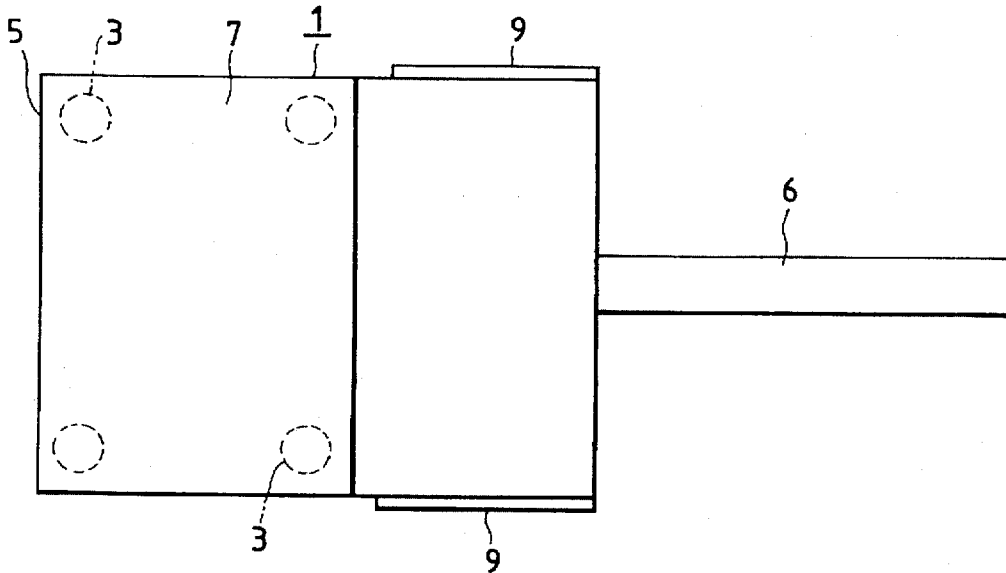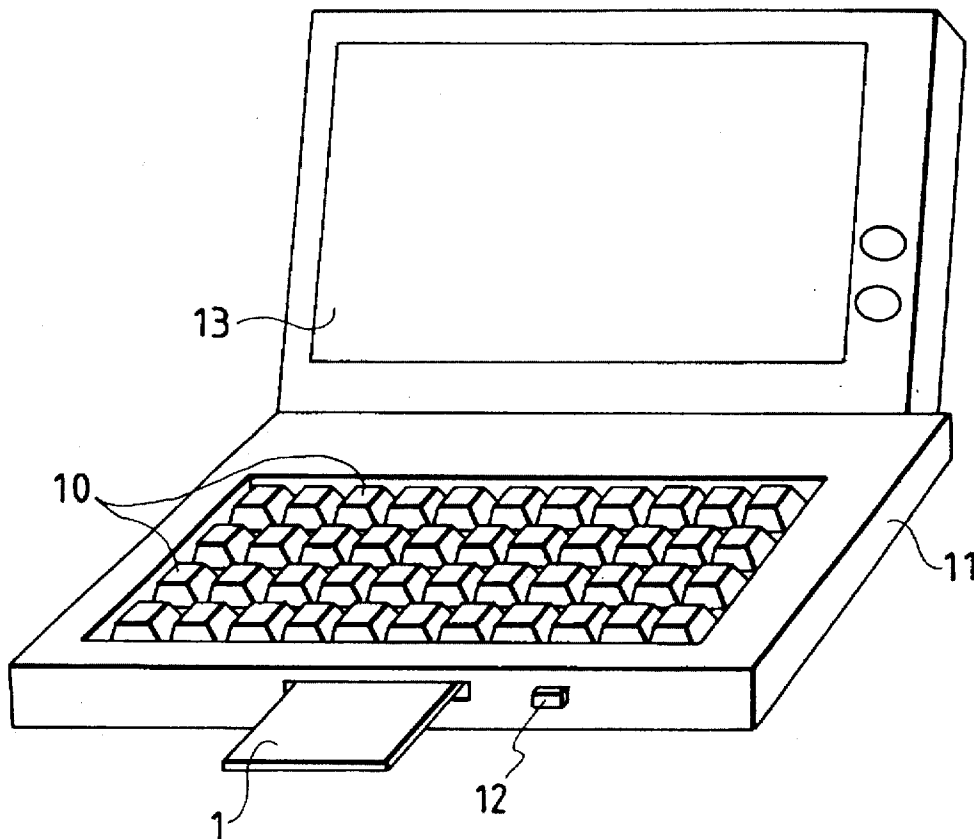
4 Claims, 19 Drawing Sheets

FIG. 1

FIG. 2

FIG. 3

FIG. 4

```
              ( START )
                  |
                  v
    +-----------------------------+
    |   SENSOR DETECTS PRESSURE   |
    +-----------------------------+
         |                    |
         v                    v
  +---------------+    +---------------------+
  | CALCULATE TOUCH|   |      CALCULATE      |
  |  PRESSURE P    |   | COORDINATE POSITION |
  +---------------+    +---------------------+
       |                |              |
       |                v              |
       |   +-----------------------+   |
       |   | CALCULATE MOVING RATE V|  |
       |   +-----------------------+   |
       |        |                      |
       v        v                      v
 +-------------+  +-------------+  +-------------------+
 | CALCULATE U2|  | CALCULATE U1|  | CALCULATE MOVEMENT S|
 +-------------+  +-------------+  +-------------------+
       |              |                  |
       v              v                  v
    +----------------------------------+
    |   CALCULATE CURSOR MOVEMENT D    |
    +----------------------------------+
                  |
                  v
    +----------------------------------+
    |    OUTPUT VALUE D TO DISPLAY     |
    +----------------------------------+
                  |
                  v
              (  END  )
```

FIG. 5

U1 — FIRST QUALIFIED VALUE vs V — MOVING RATE OF CONTROL MEMBER

FIG. 6

U2 — SECOND QUALIFIED VALUE vs P — TOUCH PRESSURE OF CONTROL MEMBER

DOCKET ALARM
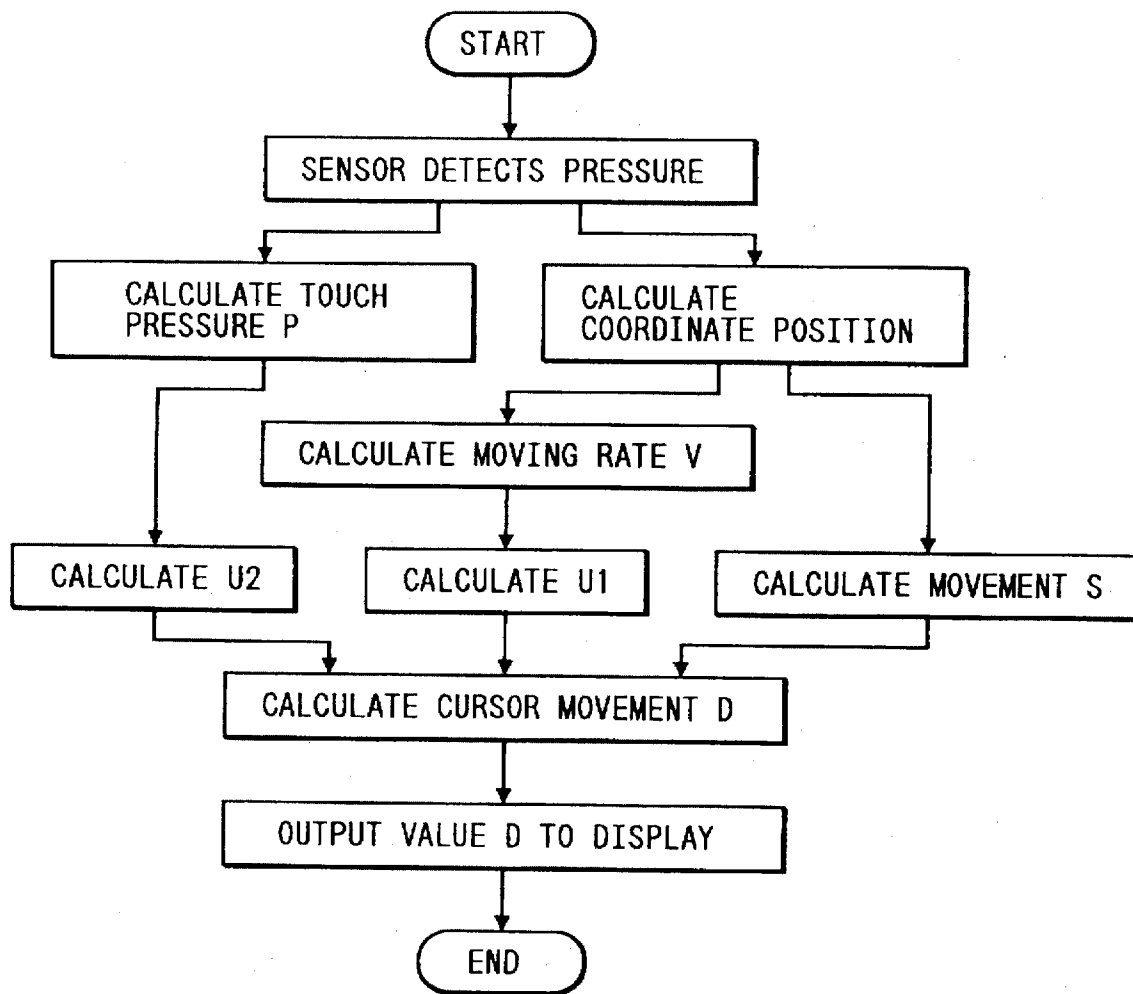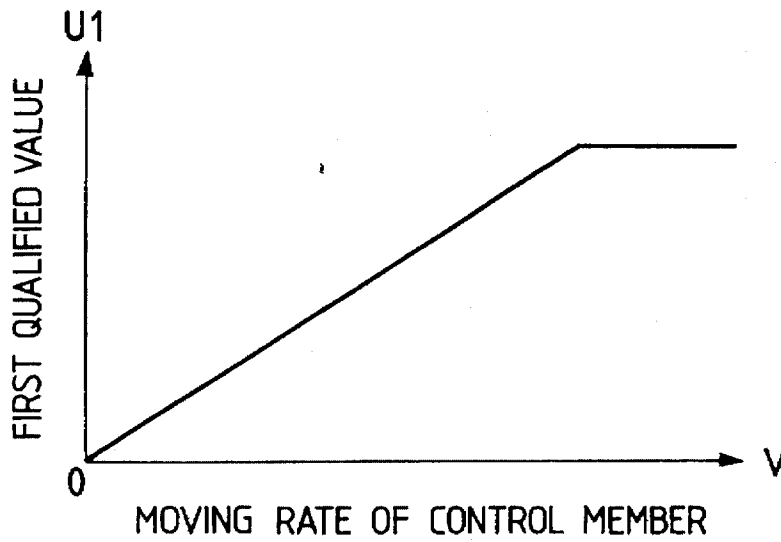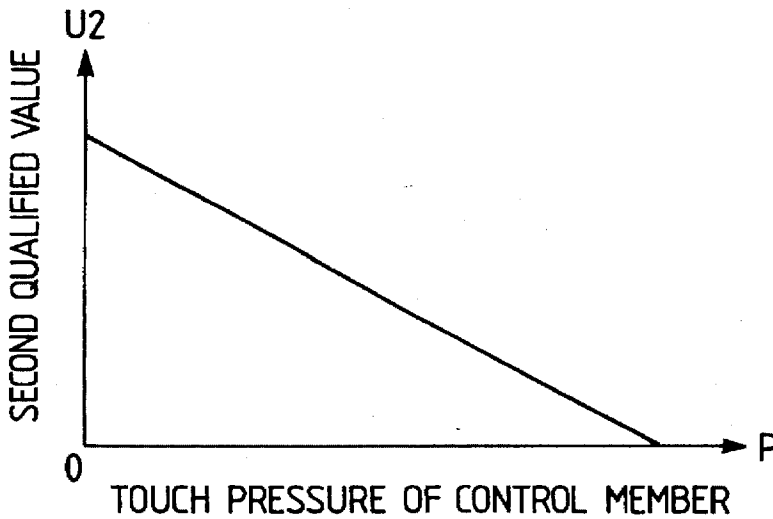
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