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(12) **United States Patent**
Yeh

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(54) **VOLUME CONTROL KNOB FOR USE WITH A LAPTOP COMPUTER**

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(75) Inventor: **Shih-Ping Yeh**, Taipei (TW)

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Alps Electric Co., Ltd. Data Sheet; Oct. 9, 1997.

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

* cited by examiner

(21) Appl. No.: **09/524,423**

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(51) **Int. Cl.**⁷ **H03M 1/22**

(57) **ABSTRACT**

(52) **U.S. Cl.** **341/16; 381/109**

A volume control knob for use with a laptop computer uses the engagement between the springs and the connecting plates to generate different messages. The messages will then be transmitted to the chip received in the secondary control device. With the messages received by the chip, the volume of the laptop computer is controlled.

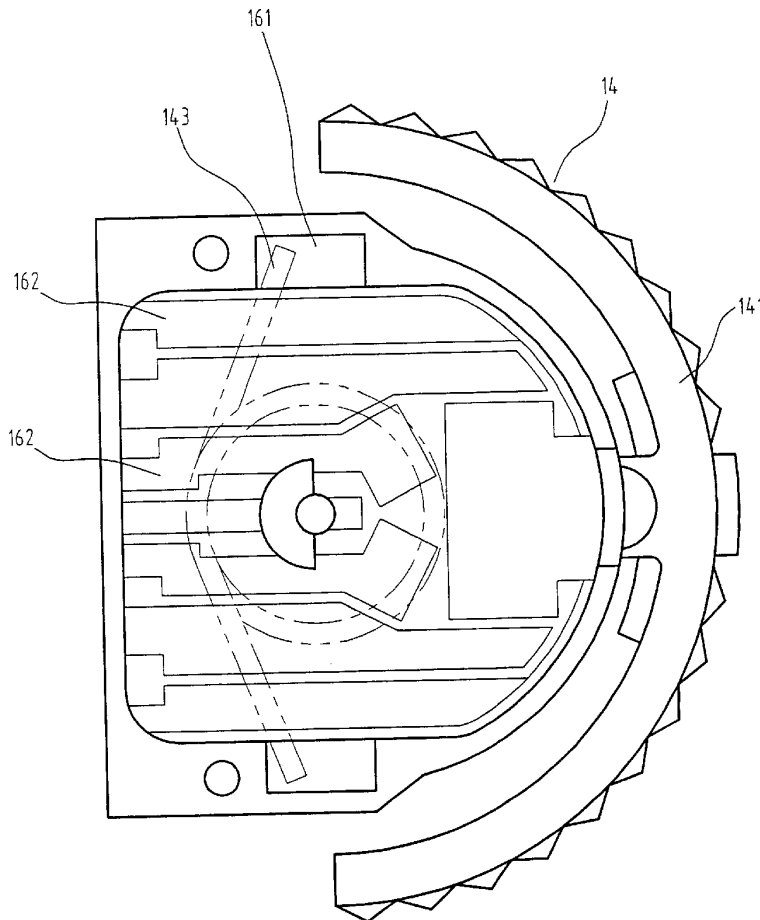
(58) **Field of Search** 341/16; 710/38; 381/104, 109, 107, 118, 26, 306, 58, 124

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7 Claims, 15 Drawing Sheets



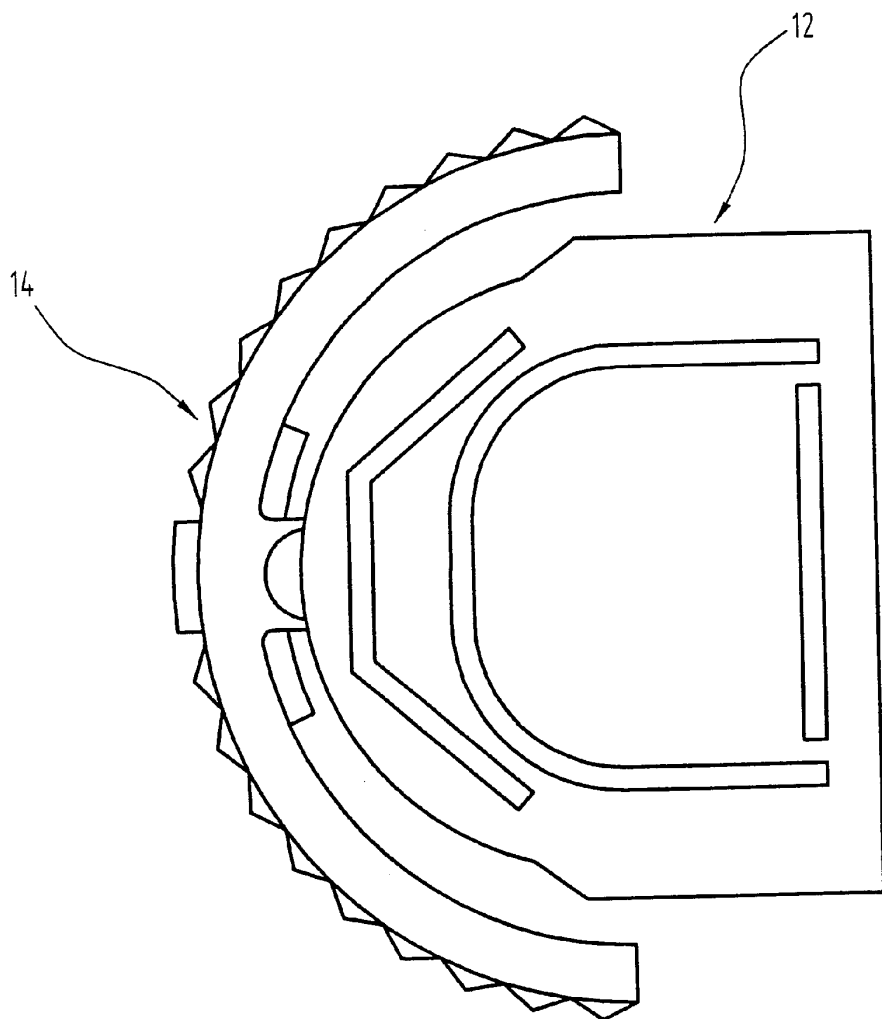


Fig. 1

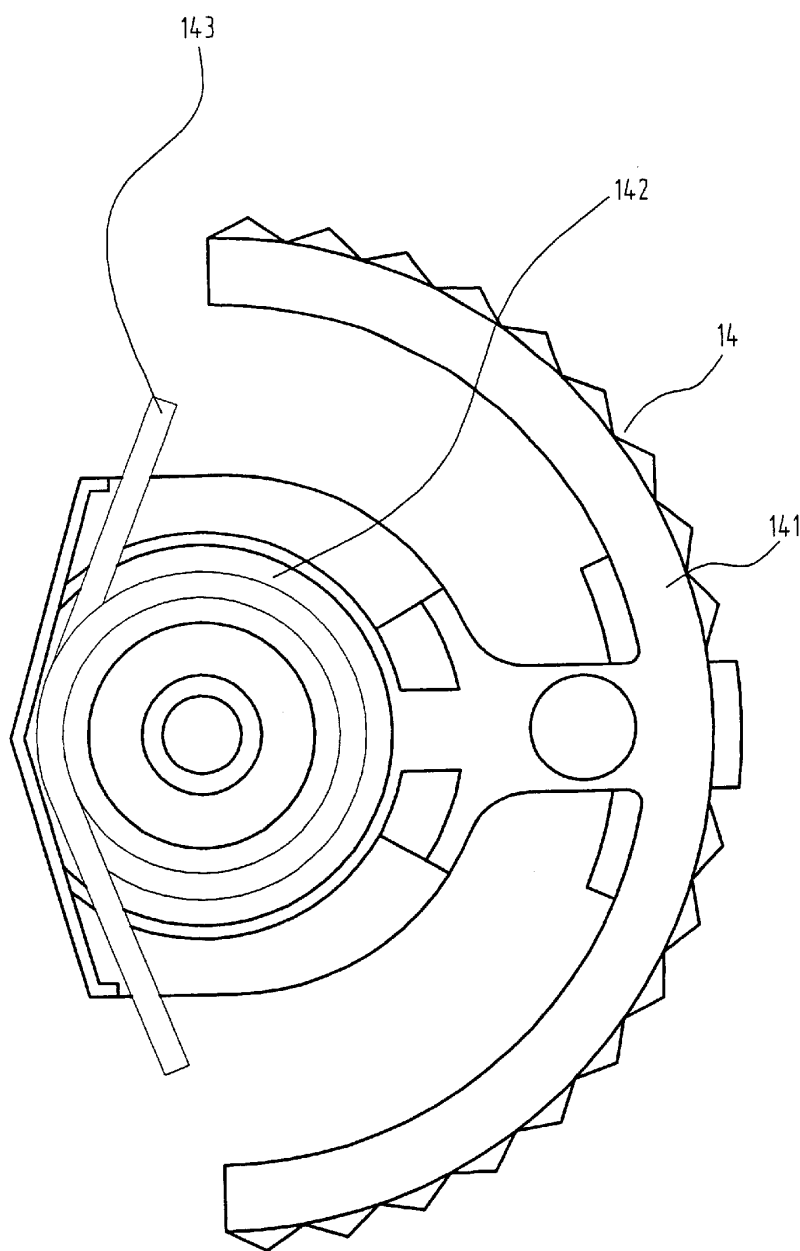


Fig. 2a

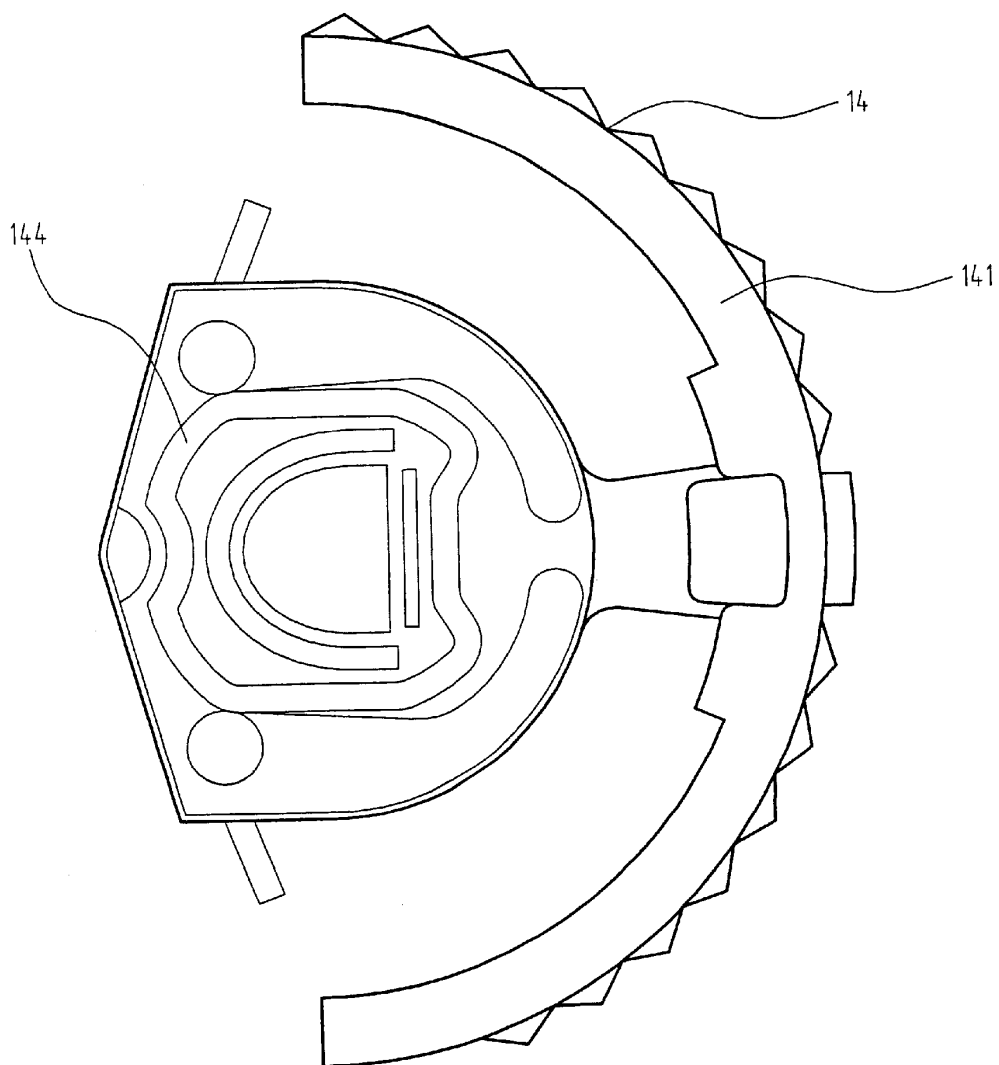


Fig. 2b

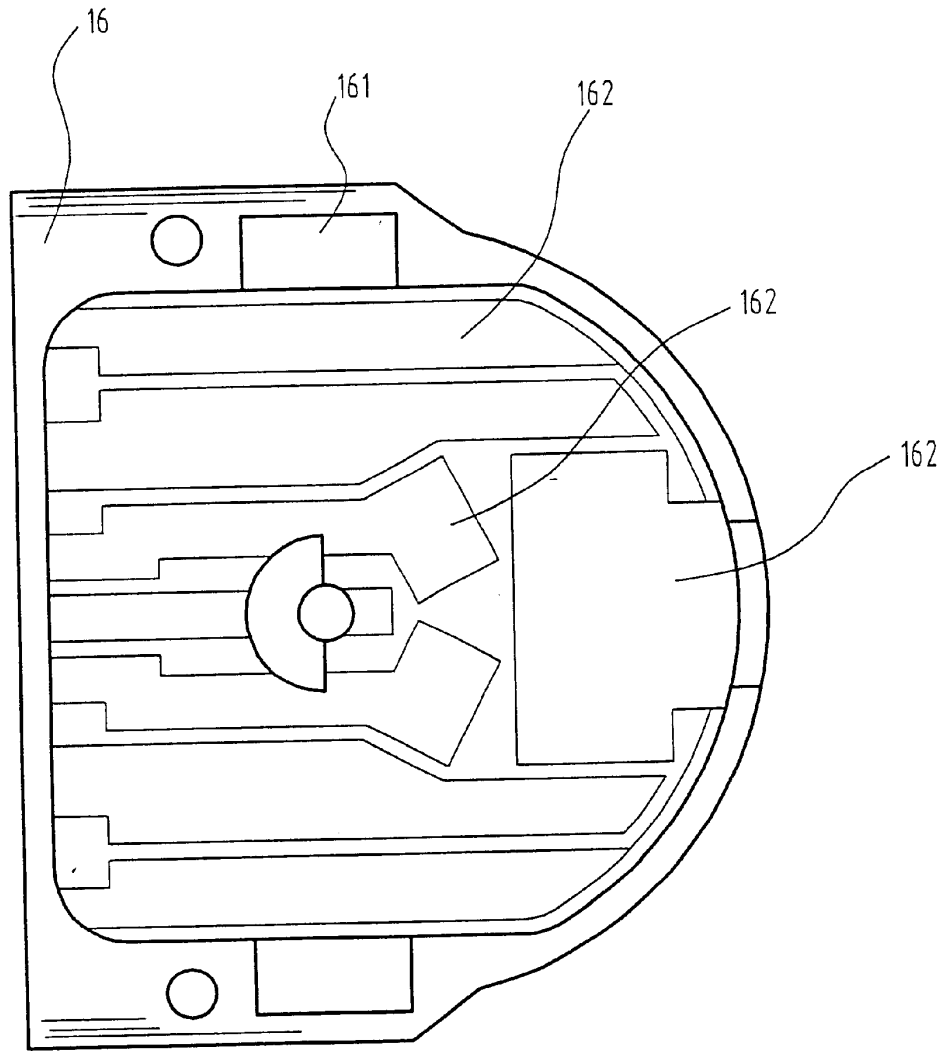


Fig. 3

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