



- [54] **PULSE METER WITH PEDOMETER FUNCTION**
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- [73] Assignee: **Seiko Instruments Inc.**, Japan
- [21] Appl. No.: **191,017**
- [22] Filed: **Feb. 2, 1994**
- [30] **Foreign Application Priority Data**  
Feb. 22, 1993 [JP] Japan ..... 5-032310
- [51] Int. Cl.<sup>6</sup> ..... **G01C 22/00; A61B 5/02**
- [52] U.S. Cl. .... **377/24.2; 128/689**
- [58] Field of Search ..... **377/24.2; 128/689, 128/668, 696**

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*Primary Examiner*—John S. Heyman  
*Attorney, Agent, or Firm*—Adams & Wilks

[57] **ABSTRACT**

An electronic combined pulse meter and pedometer may be provided with only a single sensor used for determining walking pace and pulse rate. A pulse wave detector detects a pulse wave of the user and outputs a corresponding pulse wave signal to a calculating circuit and a walking state detector. The walking state detector compares the detected pulse wave with a reference level stored in a pulse wave level memory and outputs a walking state signal if the level of the detected pulse wave exceeds the reference level. Calculation control circuitry selects various constant values pre-stored in a constant value memory based upon the walking state signal and outputs the selected constant values to the calculating circuit and a display device. The calculating circuit calculates the time interval between successive pulses of the detected pulse wave signal in accordance with a clock signal and the selected constant values, and outputs the result to the display device.

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**19 Claims, 12 Drawing Sheets**

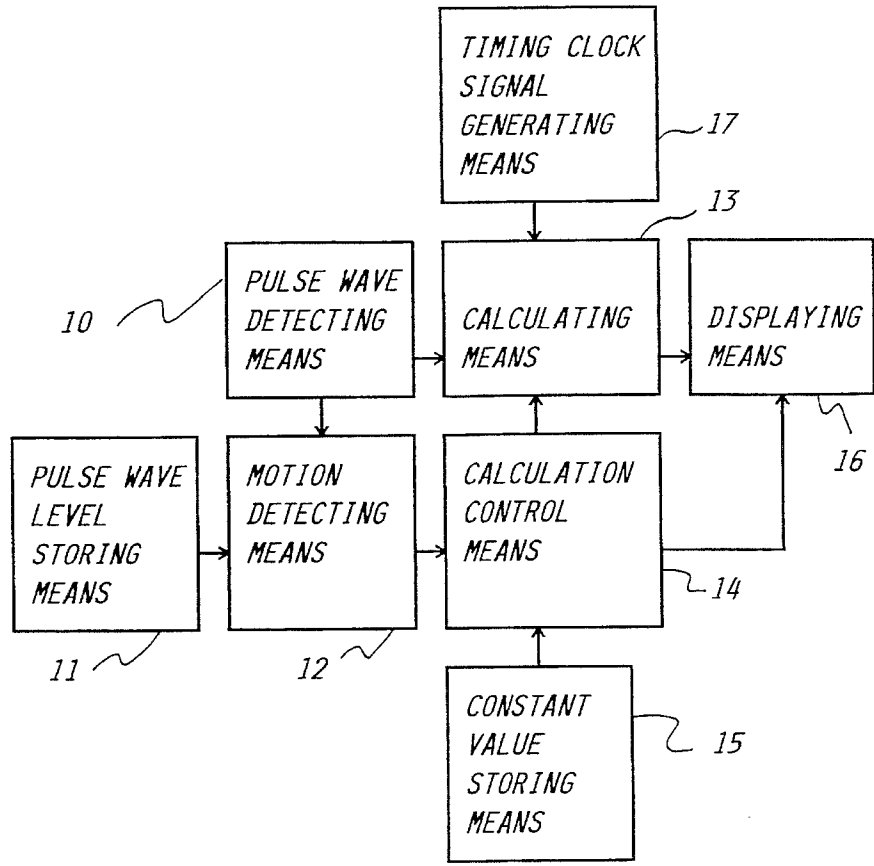


FIG. 1

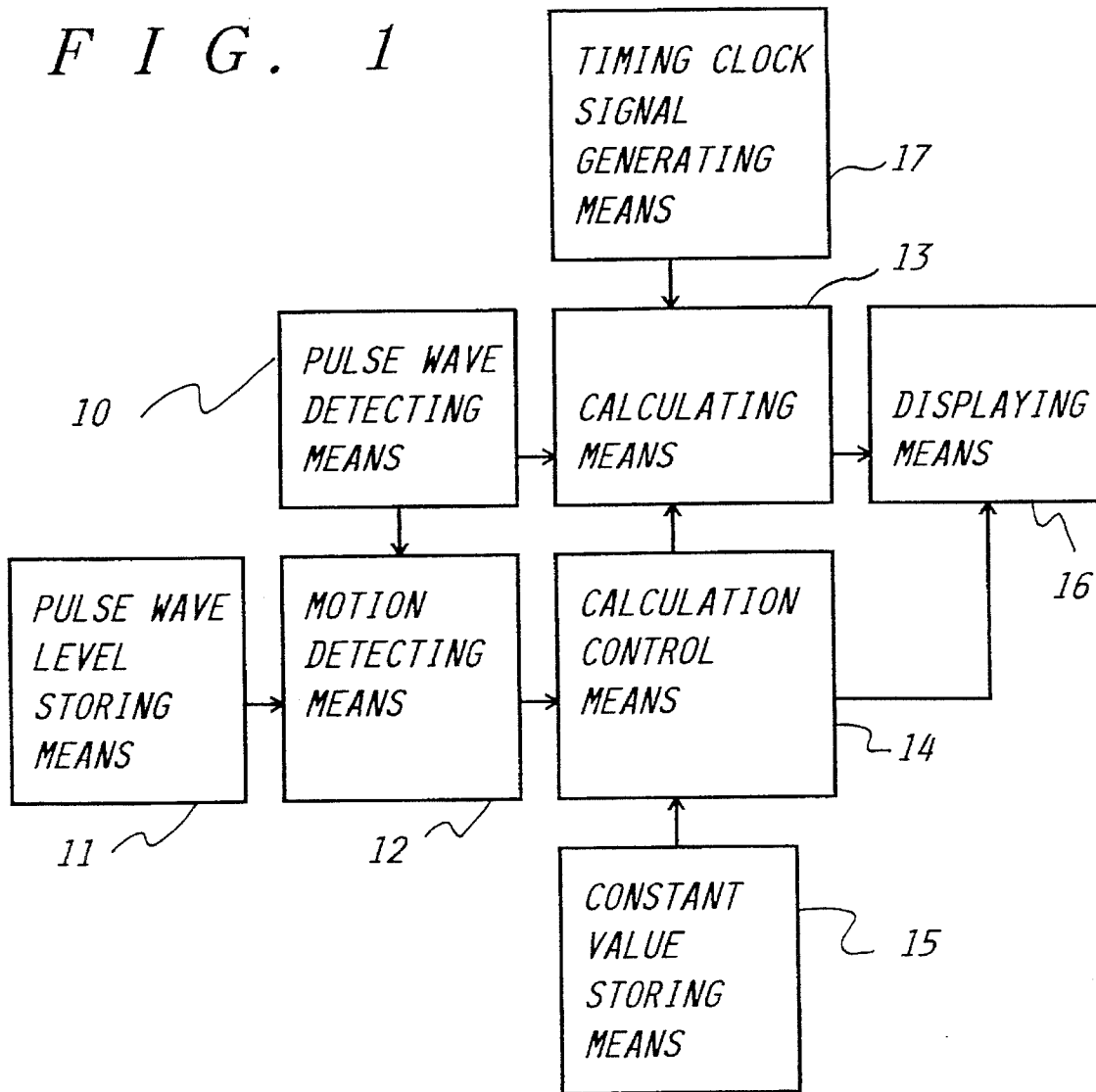


FIG. 2

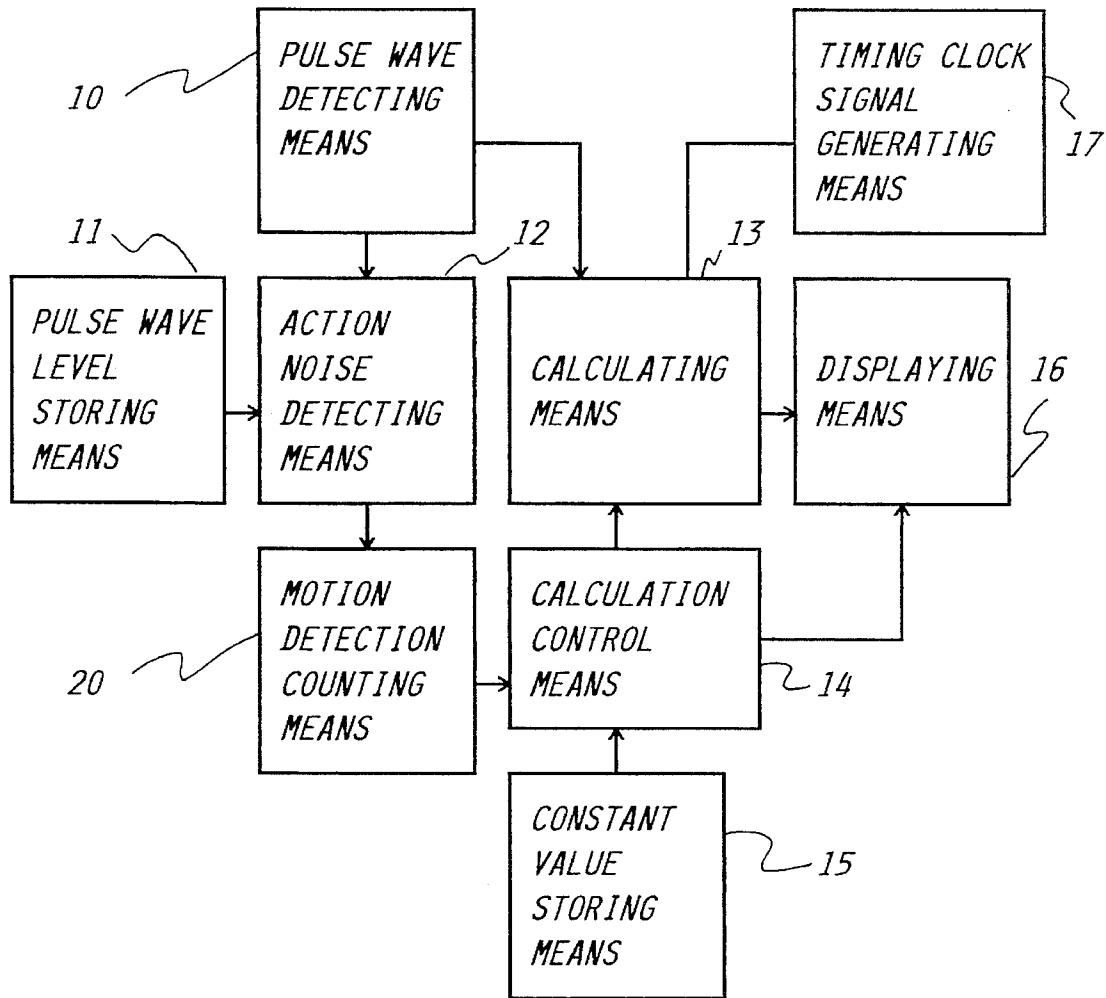


FIG. 3

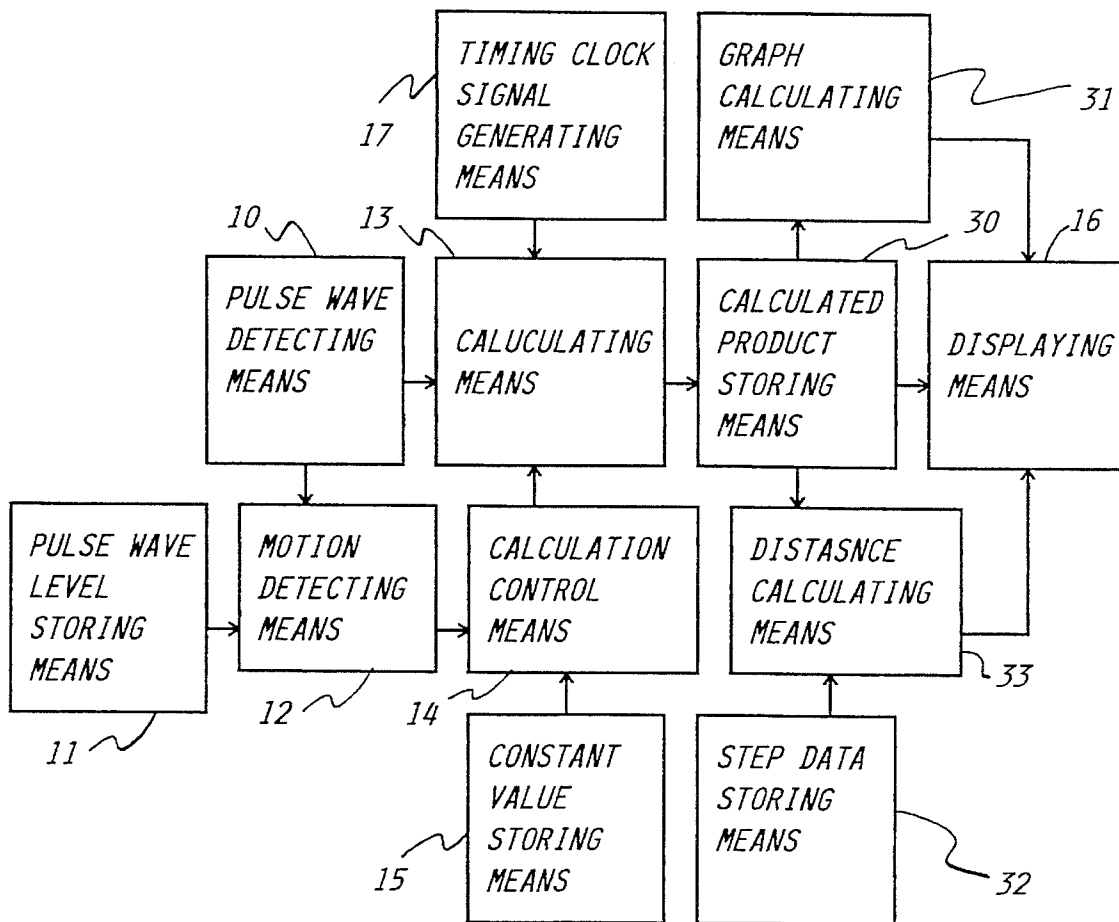
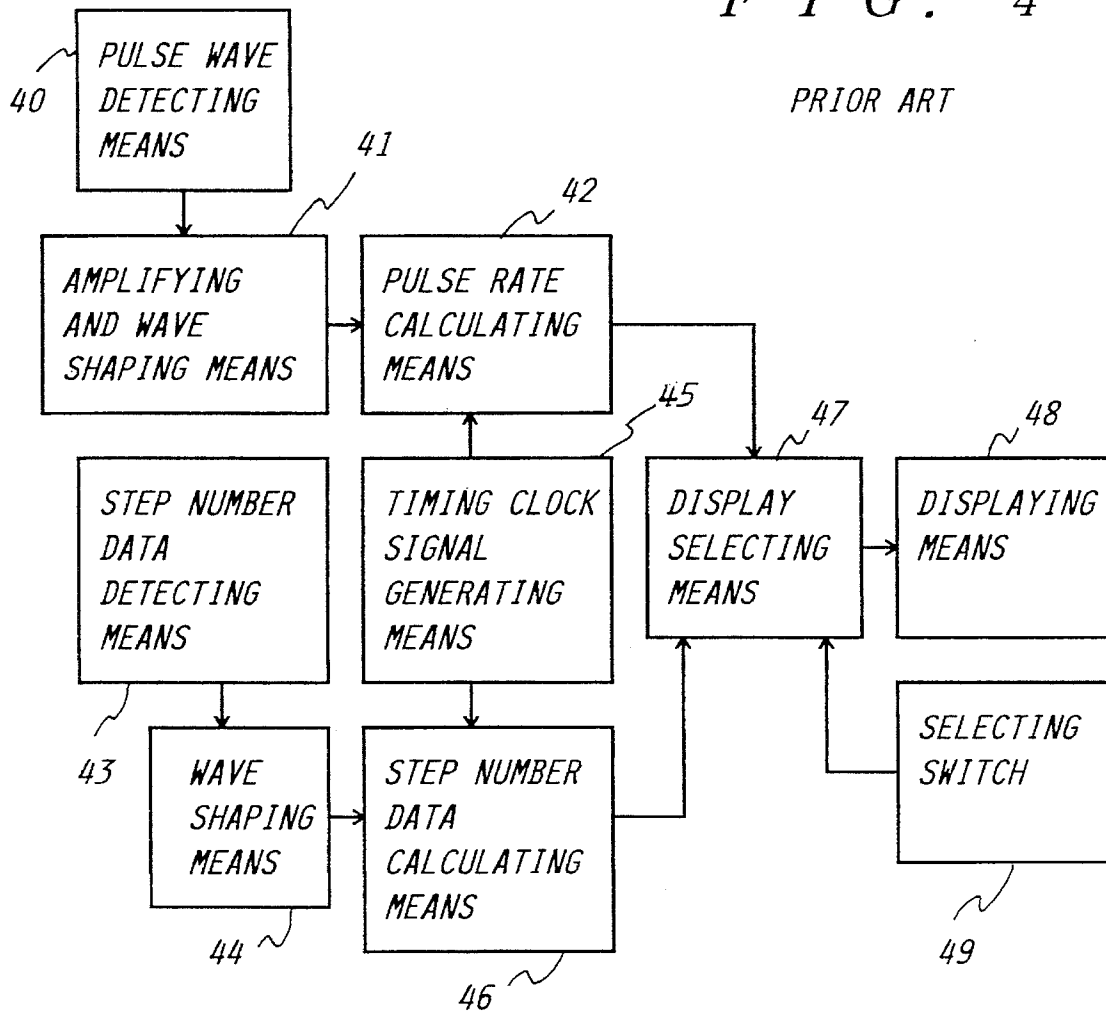


FIG. 4

PRIOR ART



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