



- [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**
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- [51] Int. Cl.⁶ **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**

OTHER PUBLICATIONS

Patent Abstracts of Japan, vol. 9, No. 253 (P-395) (1976) 11 Oct. 1985.
 Patent Abstracts of Japan, vol. 5, No. 146 (P-80) (818) 16 Sep. 1981.

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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.

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,312,358	1/1982	Barney	128/670
4,367,752	1/1983	Jimenez et al.	128/689
4,566,461	1/1986	Lubell et al.	128/689
4,807,639	2/1989	Shimizu et al.	128/690
4,855,942	8/1989	Bianco	377/24.2
4,962,469	10/1990	Ono et al.	364/561
4,974,601	12/1990	Tranjan et al.	128/696
5,164,967	11/1992	Endo et al.	377/24.2

19 Claims, 12 Drawing Sheets

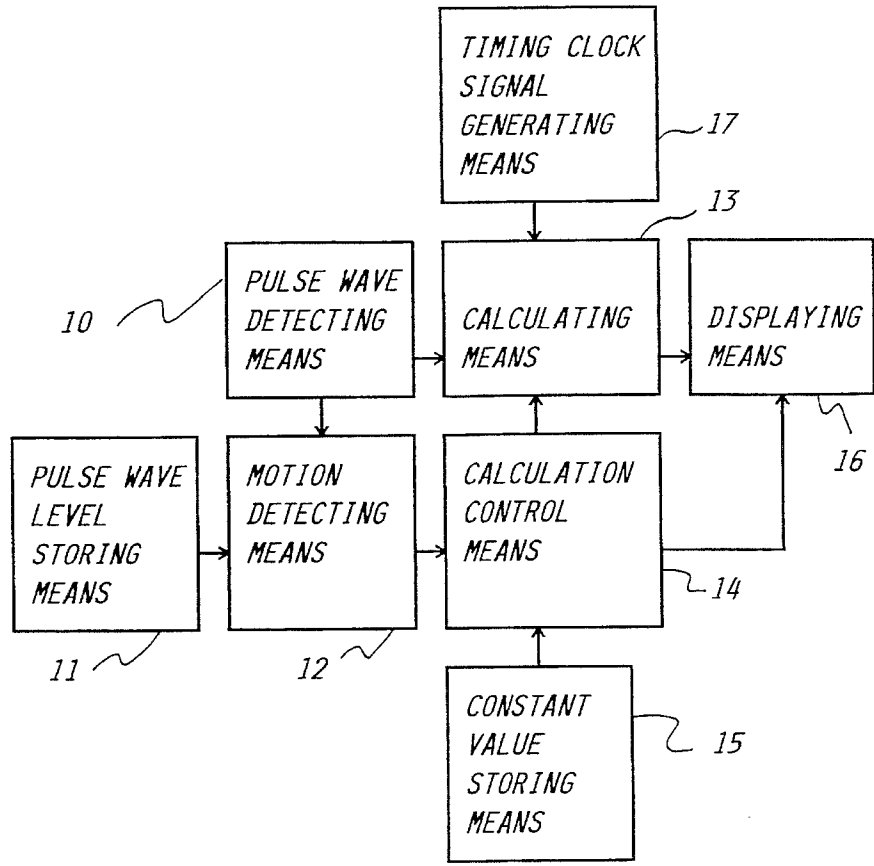


FIG. 1

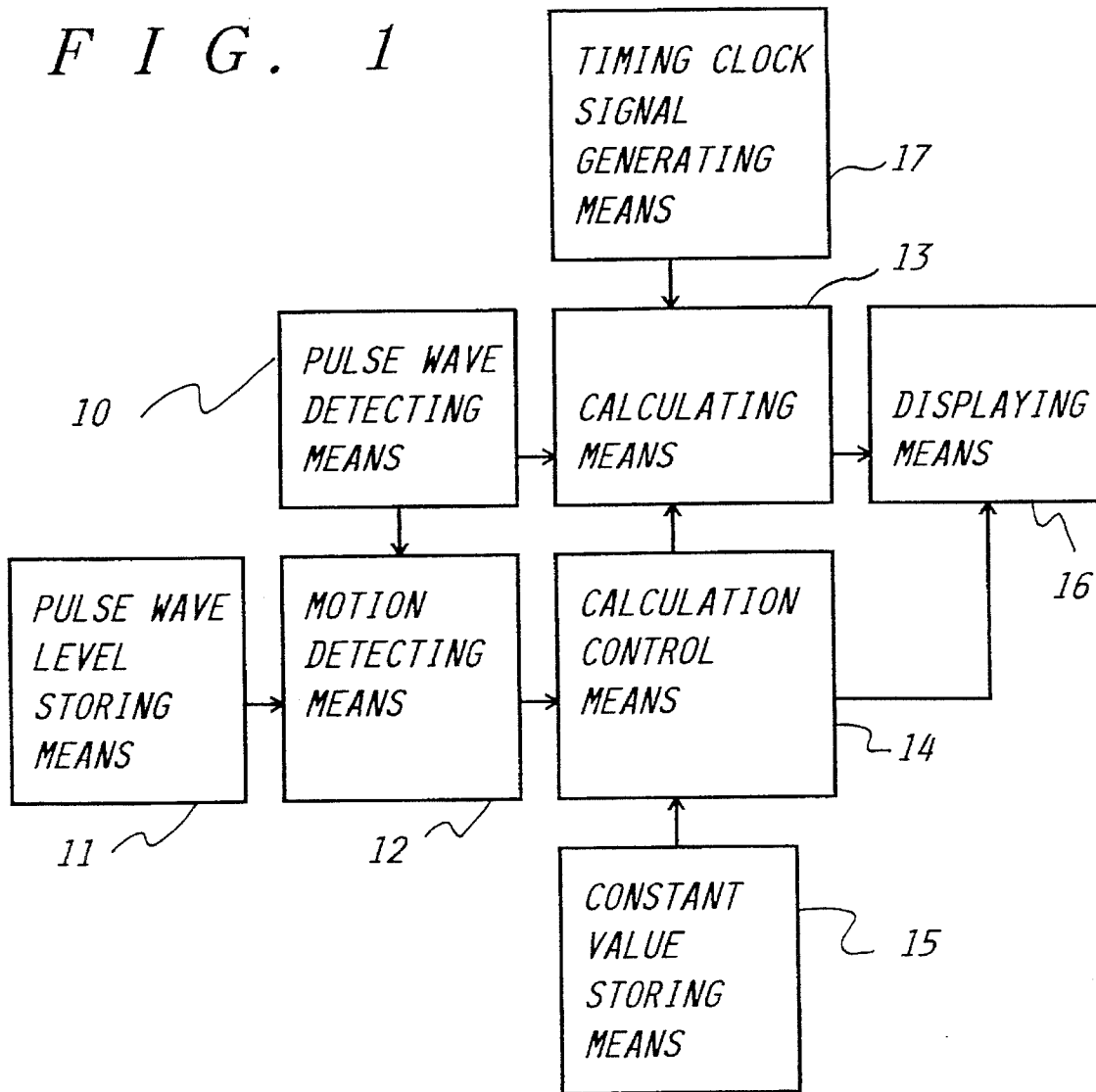


FIG. 2

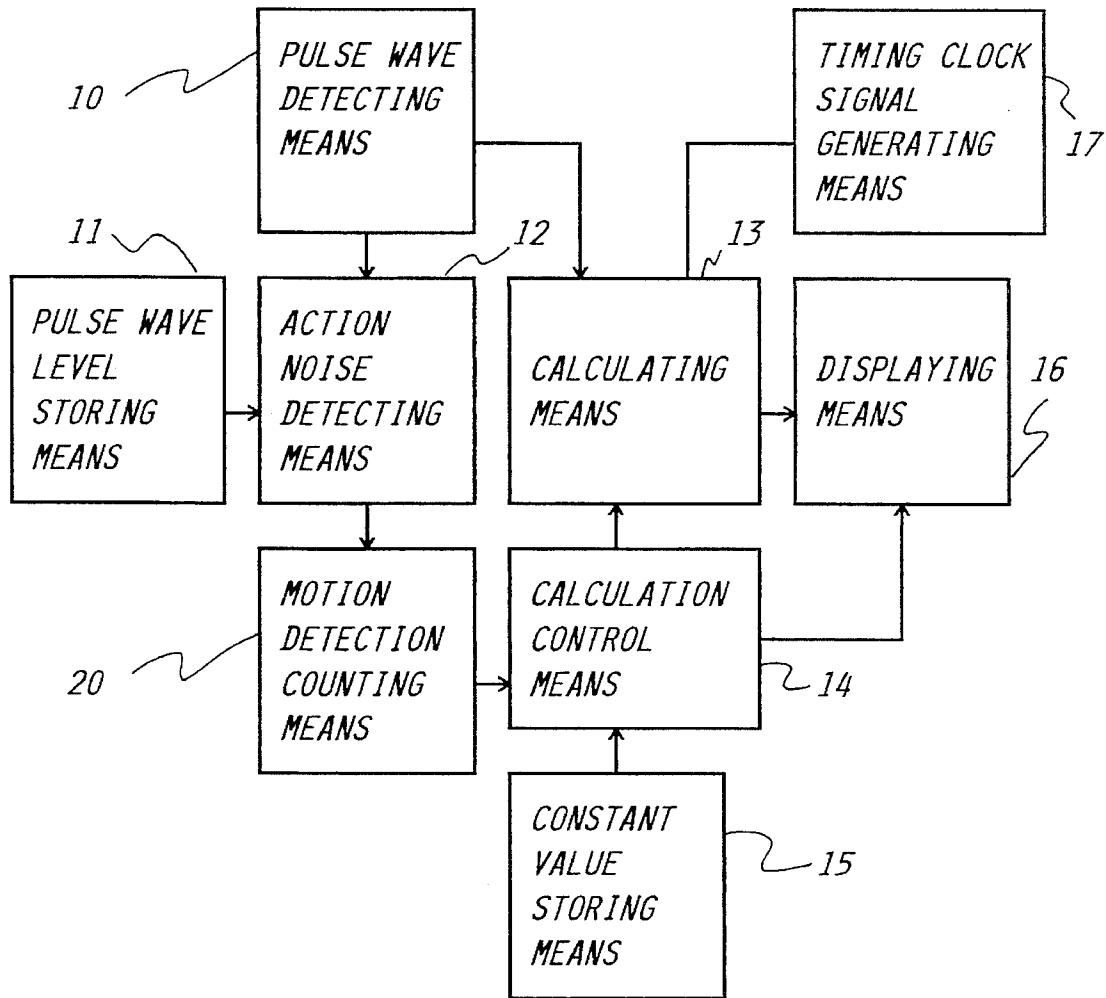


FIG. 3

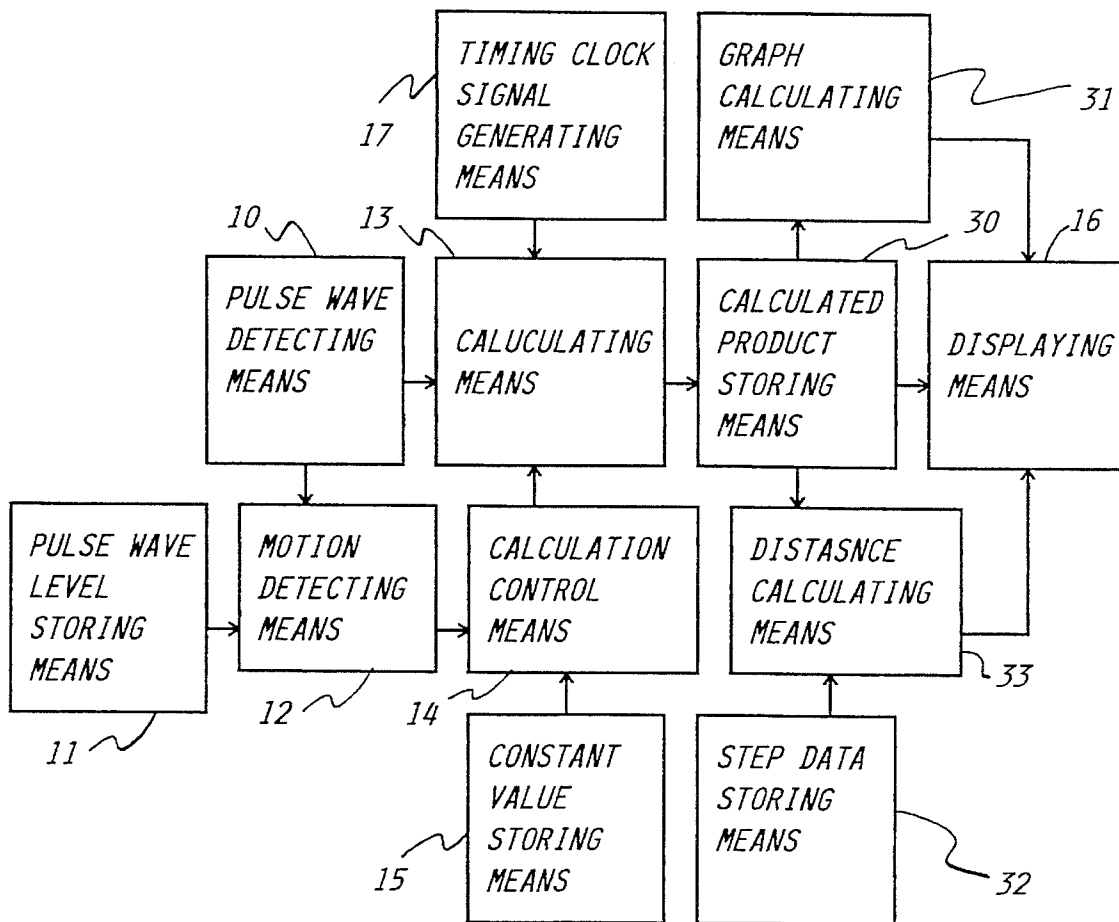
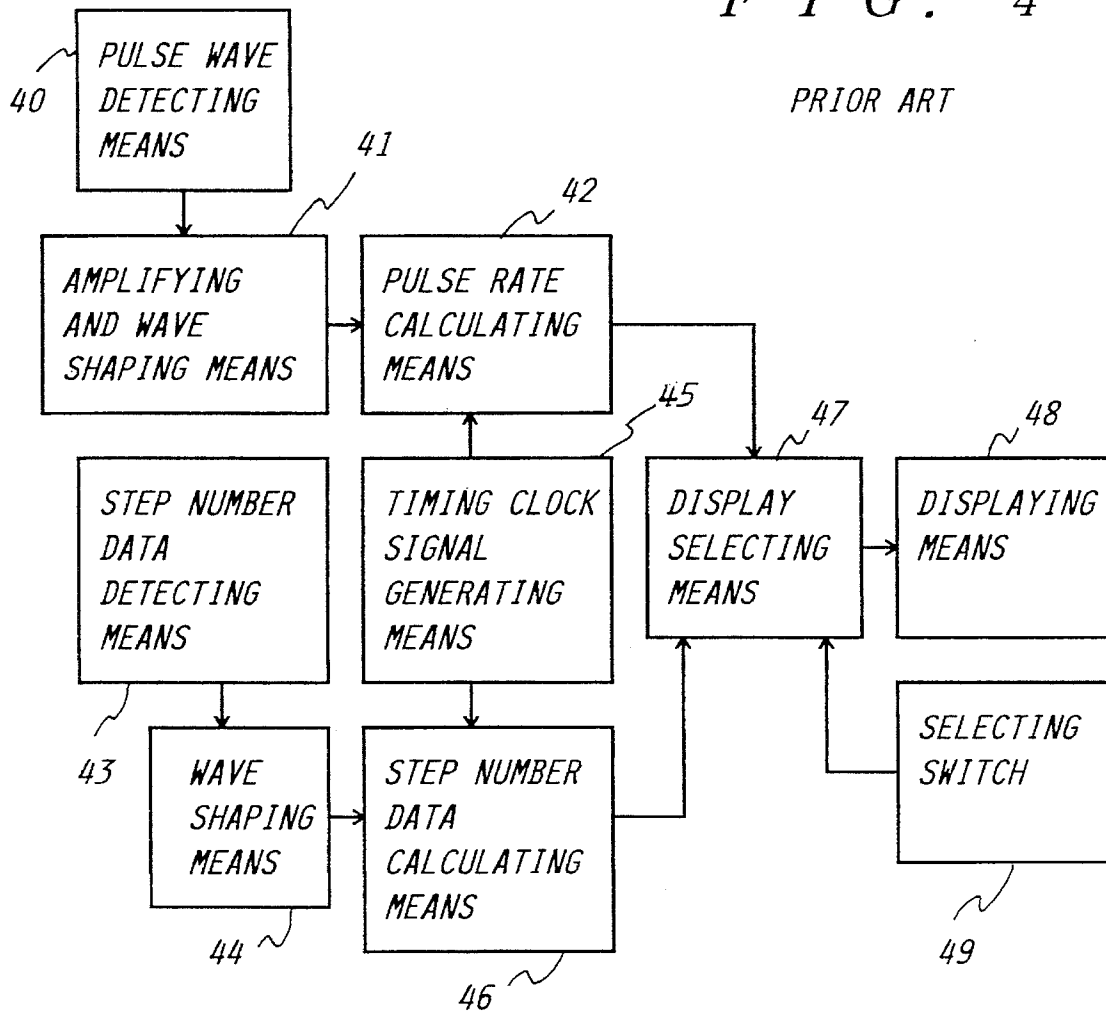


FIG. 4

PRIOR ART



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