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(54) Title: ELECTRONIC INSTRUMENT MOVEMENT/BAROMETER

(57) **Abstract:** An instrument [particularly barometer] movement includes a plurality of elements including a pressure transducer capable of sensing barometric pressure and converting the sensed pressure into electric signals, a stepper motor having an hour shaft used in a conventional quartz clock movement, a microprocessor, and a battery, operatively connected together so that the microprocessor controls movement of the stepper motor with power supplied by the battery in response changes in atmospheric pressure sensed by the pressure transducer; and a housing mounting the plurality of elements with the motor shaft extending outwardly from the housing. Other transducers, such as temperature or humidity, may alternatively be utilized. Other d. c. motors with positional feedback may sometimes alternatively be used in place of the stepper motor. The movement is operatively connected to a pointer (which may be much larger and heavier than in conventional analog instruments) which is accurately moved by the d. c. motor with respect to a dial with barometric or other indicia. An alarm, and battery voltage sensing circuitry, may be mounted within the housing and operatively connected to the microprocessor and activated by the microprocessor when the battery voltage drops below a predetermined threshold. The microprocessor preferably controls the battery so that the battery is substantially in an inactive mode more than 95% of the time. The microprocessor can also activate a second mode of the alarm if the change in the environmental condition sensed between two or more spaced transducer readings is greater than a predetermined threshold. A second dial with second pointer and motor may be utilized to indicate other environmental conditions (such as pressure rate of change, temperature, or humidity).



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