tional to the amount of rain falling, provided that, as before, when starting to use the rain gauge the container is first filled with water to a level at which the pumping action will just cease during subsequent use.

The electronic switching unit in this case only draws current from the power supply when the sensor terminals are electrically connected. This makes this type of rain gauge capable of operating from low capacity batteries and thus suitable for long periods of use in unattended out-stations.

Although a peristaltic pump is specified in the two example of the rain gauge described above, it is to be noted that any form of positive displacement pump, in which the throughput can be related to the number of pumping cycles and which can be adapted to indicate conveniently the number of pumping cycles that have taken place, may be used e.g. a reciprocating pump or a rotary vane pump.

I claim:

1. A rain gauge comprising a rainwater-collection container, a positive-displacement pump connected to pump rainwater from the container, sensor means for detecting when the level of rainwater collected in the container reaches an upper predetermined level and when the said level falls below a lower predetermined level, switching means controlled by the sensor means, for starting the pump whenever the collected rainwater reaches the upper predetermined level and for stopping the pump whenever the level of the collected rainwater falls below the lower predetermined level, and measuring means coupled to the pump for providing a representation of the number of cycles of operation of the pump and thereby affording a measure of the amount of rainwater collected in and pumped from the container.

2. A rain gauge as claimed in claim 1 and wherein the pump is a peristaltic pump.

3. A rain gauge as claimed in claim 1 wherein the pump comprises an electric motor and a positive-displacement pump mechanism connected to be driven by the electric motor and the measuring means comprises means for transmitting signals representing the number of cycles of operation of the pump to a remote indicator.

4. A rain gauge as claimed in claim 3 and in which the pump is a peristaltic pump.

5. A rain gauge as claimed in claim 3 and wherein the measuring means comprises an indicator coupled to the drive motion of the pump.

6. A rain gauge as claimed in claim 5 and in which the pump is a peristaltic pump.

7. A rain gauge comprising:

container means for collecting and containing rainwater,

first and second electrical contacts disposed in said container means and separated from each other so that rainwater electrically connects said contacts together when the rainwater reaches a first predetermined level in said container means,

circuit means electrically connected to said first and second contacts for producing a given signal whenever said first and second contacts are electrically connected together by said rainwater,

a peristaltic pump connected to said circuit means for pumping rainwater from said container means when said circuit means produces said given signal, and

means for detecting and indicating the number of cycles of operation of said peristaltic pump and, hence, the amount of rainwater collected.

8. A rain gauge comprising:

container means for collectind and containing rainwater,

capacitor means disposed in said container means so that rainwater alters capacitance of said capacitor means from a first to second value when the rainwater reaches a first predetermined level in said container means,

circuit means electrically connected to said capacitor means for producing a given signal whenever said capacitance of said capacitor means is altered by said rainwater to said second value,

a peristaltic pump connected to said circuit means for pumping rainwater from said container means when said circuit means produces said given signal, and

means for detecting and indicating the number of cycles of operation of said peristaltic pump, and, hence, the amount of rainwater collected.

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