NEW IDEA

Plant-water monitor

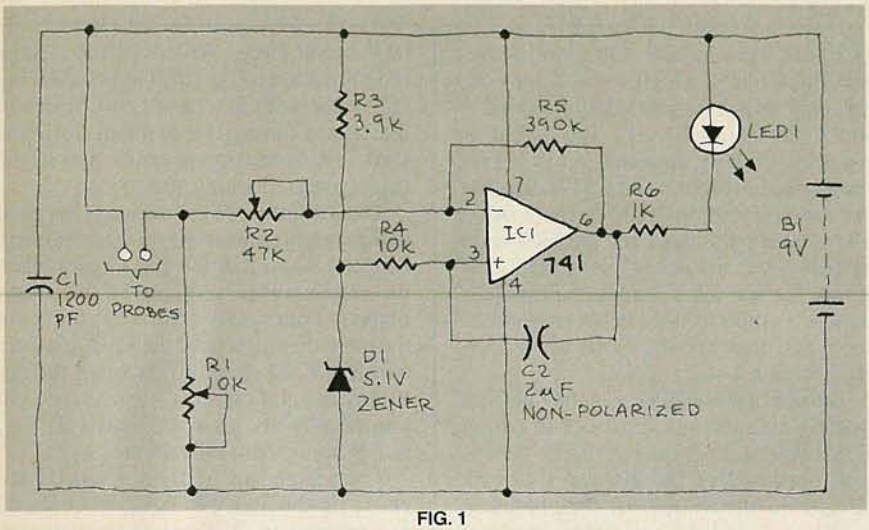


FIG. 1

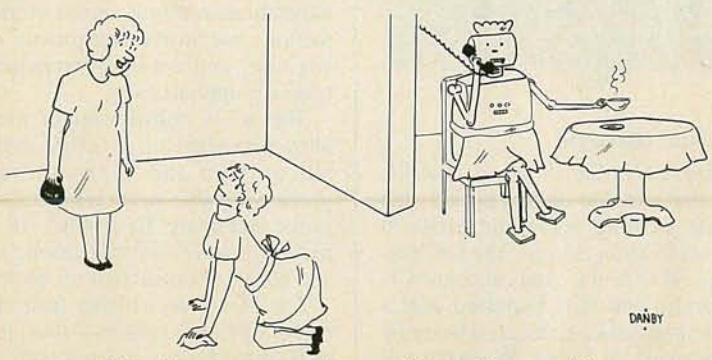
ONE OF THE MOST CRITICAL FACTORS IN A plant's well-being is the amount of water it receives. A plant that receives too little, or, for that matter, too much water will soon be in poor condition. As for house plants, you, their owner, determines how much or how little water to give them, but how do you know when to water them? Just looking at the soil can be misleading because it's the moisture at the root level that's critical. Thus, soil that's dry at the top of the pot could be quite moist at the root level and adding more water could put the plant in jeopardy.

That's where this project idea comes in. It's a plant-water monitor and is used to test the moisture of the soil at root level. When the soil is moist, an LED glows. If the moisture falls below a certain predetermined level, the LED begins to flash. If there is still less moisture, the LED turns off.

The schematic diagram of the device is shown in Fig. 1. It can be built on a small piece of perforated construction-board and housed in a small plastic case or experimenter's box. The probes are two slender metal rods. They should be tinned to prevent corrosion. For convenience, you can mount the probes on the case.

Calibrating the monitor is easy. Just connect the battery and insert the probe into a container of dry soil. Set R1 to its maximum value then reduce that resistance until the LED begins to flash. The range over which the LED flashes before going out is adjusted using R2.

If you wish, you can reverse the operation of the circuit. That is, you can have the LED off when there is enough water, and on when more water is needed. That's done by simply switching the positions of R1 and the probes in the circuit.—*Sreekumar. J.*



"How's your new robot maid working out?"