

## Sensitive Moisture Detector

The circuit shown in Figure 45 will detect the presence of moisture. Applications include use as a water-level, overflow, or rain indicator.

When the sense pad is dry, its resistance is high. Moisture on the pad reduces its resistance, so TR1 passes current through P2, moving the base of TR2 positive. This operates the relay. VR1 allows adjustment of the point at which TR1 operates, and hence the sensitivity, which can be set very high. VR2 allows setting of the collector current, as explained for Figure 44, so that current in the relay coil is negligible when the pad is dry.

TR1 is the 2N3819 or other general purpose FET, and TR2 a BC108 or other high gain general purpose NPN transistor. VR1 and VR2 allow wide changes in types to be serviceable.

The sense pad is readily made from 0.1in or 0.15in matrix perforated circuit board having conductive foil along the rows of holes. A board 1 x 3 ins is large enough for an overflow or water level detector, but a larger board (say 3 x 4 ins) is better for a rain indicator. It is convenient to have the foil strips following the longer dimension. Connect together the 1st, 3rd, 5th... foils for one side

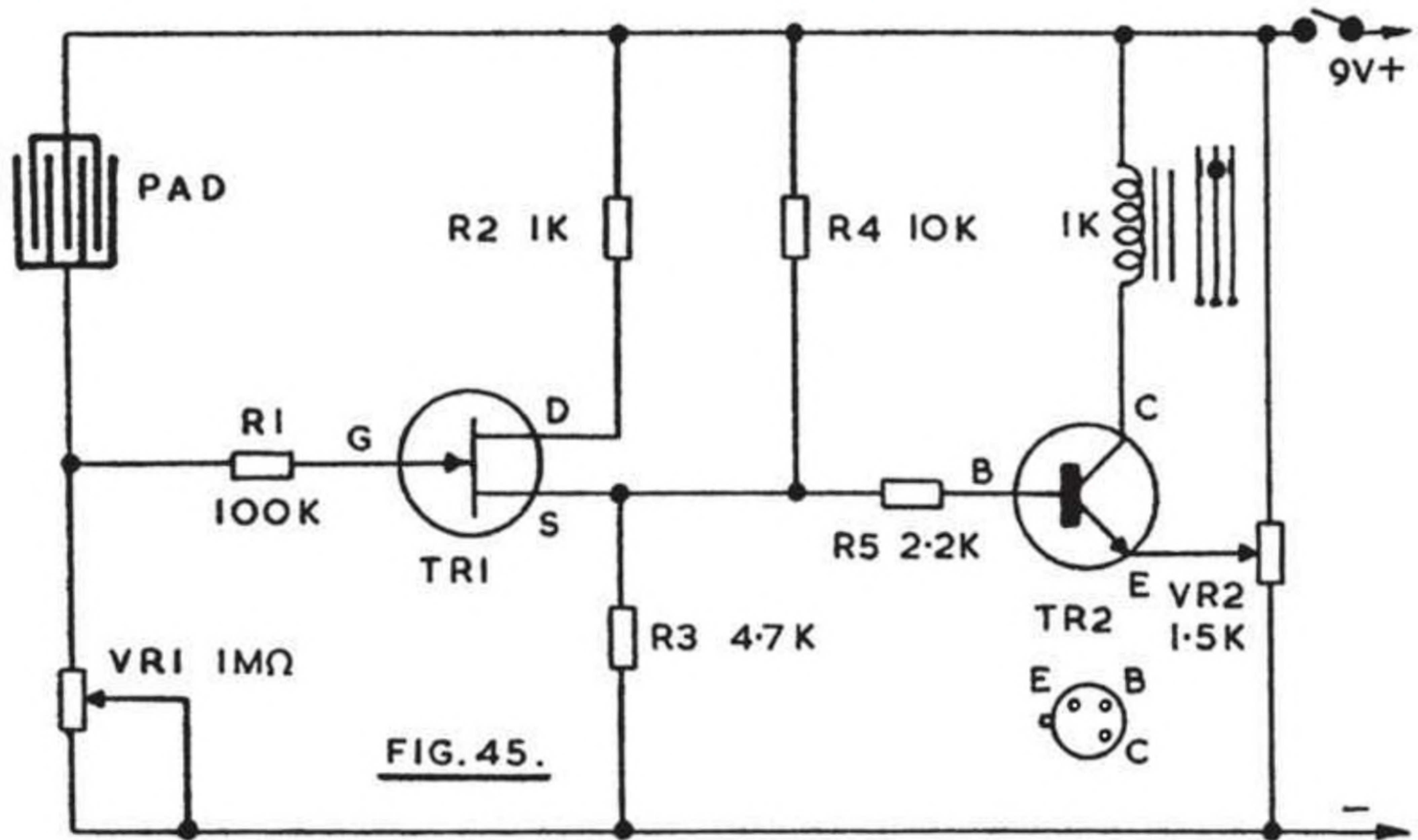


FIG. 45.

of the circuit, and 2nd, 4th, 6th... foils for the other side. Insulated leads can then run to the circuit points in Figure 45.

The warning device can take the form of an indicator lamp, bell, buzzer or audio oscillator, and it can be incorporated in the case, or placed elsewhere and be connected by an extension lead. The sense pad can be suspended over a cistern, pool, or other container to be filled; or it can be positioned where water from an overflow will touch it. For rain indication, place it with the foil strips uppermost, out of doors away from shelter.