

lowest range, which does, of course, when measuring low values, draw appreciable current from the cell.

Before commencing tests on either of these ranges, it is advisable to check and, if necessary, to adjust as follows:

- (1) Connect the leads together and set the "A.C." switch to "D.C."
- (2) With the "D.C." switch set to 10,000 ohms, adjust control "P" until the pointer indicates approximately zero on the ohms scale.
- (3) Switch to the 1,000 ohms range, and if the pointer differs from the last setting, adjust by means of "R" so that it just overshoots that position. Since, on the low range, the "R" adjustment causes ten times the change of pointer position that it does on the higher range, the need for just overdoing the apparently correct setting will be obvious. This adjustment should now be checked by comparing it once again with the pointer position on the 10,000 ohms range, and if necessary, the operation repeated. The object is to make the pointer take up the same position on the scale, irrespective of which of the two ranges is selected.
- (4) Set to zero ohms precisely, by means of control "P".

After these adjustments, the leads should be connected to the resistance to be tested.

The markings on the resistance scale apply to the 1,000 ohms range, but when using the 10,000 ohms range, the indication on the ohms scale should be multiplied by ten.

The 100,000 ohms Range

This range makes use of two $4\frac{1}{2}$ -volt batteries in series (dimensions $2\frac{7}{16}'' \times 1\frac{3}{8}'' \times 2\frac{5}{8}''$), such as Ever Ready 1289. Before using this range it is necessary to carry out the following adjustments:

- (1) Connect the leads together, and set the "A.C." switch to "D.C."
- (2) Set the "D.C." switch to the 100,000 ohm position.
- (3) Raise the adjusting knob "Q" from its position in the panel and rotate it in a clockwise direction until the pointer indicates zero.

To test, connect the leads to the unknown resistance, and note the