can be found by the method described in § 221. The value of C depends on the nature and on the diameter of the fine wire employed; its value for the Service standard iridio-platinum wires is given in Table II.

MEASUREMENT OF AN ELECTRICAL CURRENT.

236. The object in view when making measurements of current is to find the strength of the current (in webers) flowing in some given circuit. If the electromotive force in that circuit be known, and also the total resistance in circuit, the current can be easily found from the equation

$$C_x = \frac{P}{R}$$

If P and R are not known they can be measured. This constitutes one of the methods of measuring currents of electricity.

237. Since the strength of the current flowing in a circuit depends on the resistance in that circuit, if the introduction of the measuring apparatus alters this resistance, the current *measured* will not be the current actually sought, and a correction must therefore be applied. This correction can be made as follows:

Let R be the total resistance in circuit before the measuring apparatus is introduced, then

$$C_x = \frac{P}{R}$$

and C_x is the current to be measured.

Now let r be the additional resistance due to the measuring apparatus, and C'_x the current actually measured, then

$$C'_x = \frac{P}{R+r}$$

and hence

$$C_x = \frac{R+r}{R} C'_x$$

BY THE DEFLECTION OF A GALVANOMETER.

238. In this method the unknown current is compared with a known current, such as that produced by a standard cell in a circuit of known resistance.

A galvanometer, shunted if necessary, is first introduced into the circuit under examination, and the deflection noted. The galvanometer, with the same shunt as before, together with a box of resistance coils, is now connected to a standard cell capable of