

14 TEXT-BOOK OF RADIOLOGY.

that the effect of this on a conductor is to set up currents of electricity in it. It will also be found that we can vary the voltage or pressure of this secondary current to any extent we please. It is simply a question of the number of turns wound on the secondary as compared to the number of turns on the primary. This will be best explained by an example. Suppose our primary coil has one hundred turns of wire and the alternating current

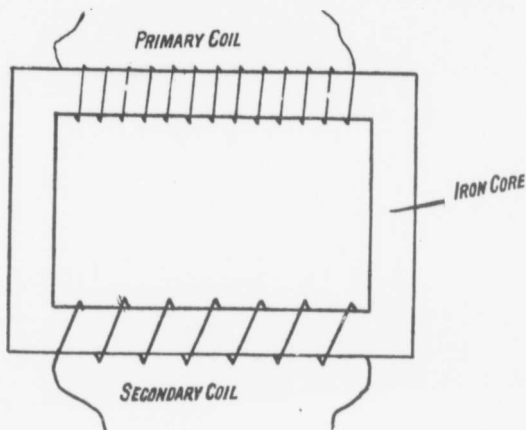


Fig. 2. Diagram of Transformer.

supplied to it has a mean pressure of 100 volts, and we wish to obtain a current to heat a cautery which requires a pressure of say five volts. The primary has one turn per volt and theoretically the same will be right for the secondary—in this case five turns. It will be found that this will come out about right, and if the wire of the secondary has been chosen sufficiently thick plenty of current will be available for even the largest cautery used in surgery. A transformer regulates itself in a most perfect manner. As we draw off current from the