

CHAPTER I.

ELECTRICAL PRINCIPLES.

In view of the steadily increasing use of electricity in nearly every phase of our existence, there is not the same mystery attached to the subject, especially among educated minds, as was the case only a few years ago. It has been an almost invariable custom to begin every book on medical electricity and radiology with an epitome of the whole science of electricity, because even medical men had for the most part an almost complete ignorance of the science. It is doubtful if this is necessary at the present time since it is almost impossible for those whose work lies within the field of science to avoid becoming familiar with at least some of the elementary principles underlying the practical application of electricity in the service of mankind.

In the present instance it is not proposed to deal with the technical side of electricity except as regards a few of the more important points bearing on the working and management of X-ray apparatus and tubes. There are numerous excellent text books available for those who require more extended information, and the latter cannot do better than attend classes where demonstrations are given and practical work done by the students themselves. In this way they will obtain an understanding of the subject scarcely possible from any amount of reading alone, and it is a procedure that should be carried out by every medical student and many others as well.

Probably the greatest difficulty in the way of a proper understanding of electricity arises from the fact that none of our ordinary tests can be applied to it, as in the case