

Most of the great men in engineering are given due credit for their work, but in the turbine section Rateau is surely as much entitled as De Laval and Curtis to be mentioned with Parsons. Yet he is not even referred to; the credit for his work is given to Curtis, and a Curtis-Rateau or pressure compounded impulse turbine is inadvertently described as velocity compounded, whereas this description applies only to the first of its several stages. These, however, are merely the slips which appear to be inevitable, and they do not in any way affect the fundamental facts with which the book sets out to deal. It is an excellent work and should prove a valuable asset to those responsible for the early education of engineers.

L. M. D.

Steam Condensing Plant: a Brief Account of the Construction and Principles involved in the Design of Steam Condensing Plant. By John Evans. Pp. xii + 202. (London: Sir Isaac Pitman and Sons, Ltd., 1928.) 7s. 6d. net.

As the sub-title indicates, this book is intended for those "engaged in Installing, Maintaining, or Operating Steam Power Plant," and to such it should prove invaluable. It is of no particular value, except perhaps as a convenient handbook, to the designer or the theorist, and for the purpose for which it is intended this is perhaps its most valuable characteristic. The amount of theory used in the descriptive matter has been kept down to a minimum, consistent with the necessity for the reader to understand the functions and factors which affect condenser performance, and the theoretical explanations given are so lucidly expressed that they are quite easily understood by those unskilled in the technical treatment of engineering problems.

The order of work is well arranged. The functions and desiderata of condensers in general are first dealt with, after which the various types of condenser are classified. The types are then separately treated in detail in their proper order of importance, namely, surface, jet, ejector, and evaporative. This separate treatment is brief but concise and none of the rudiments escape attention, while space is found for some excellent descriptive illustrations and sketches of the commercial products of some of the best manufacturers. In each case the advantages and disadvantages of the type, as compared with the others, are set out clearly, and the general outlines of a design for certain specified conditions are given. A chart showing the maximum economical vacuum for given cooling water conditions, and an investigation of the causes of failure of a condenser to maintain the designed vacuum, are exceedingly useful sections. Air pumps, sometimes erroneously styled auxiliaries to condensers, are very properly treated as fully as condensers themselves, and feed systems, de-aerators, etc., and cooling towers, spray ponds, etc., each receive appropriate attention.

For its size the book contains a wonderful lot of useful matter, and there is probably not a single paragraph which could be excised to advantage.

L. M. D.

Practical Radio Telegraphy. By Lieut. Arthur R. Nilson and J. L. Hornung. Pp. ix. + 380. (New York: McGraw-Hill Book Co., Inc.; London: McGraw-Hill Publishing Co., Ltd., 1928.) 15s. net.

THIS book is written for radio students who are preparing to become radio operators. Very little knowledge is presupposed and we were impressed with the care the authors take to explain elementary electrical principles, so that when the student comes to radio circuits and apparatus he can readily obtain a good knowledge of how they work. It is a good handbook from which to train elementary students, and should also prove useful to operators who have to work standard American equipments.

Previous to the War it was the custom to use sparks for radiotelegraphic transmission. After the War the trend of design was towards vacuum tube and arc equipments. Hence many of the textbooks written in the early days are of little use to those who have to operate modern equipments. Again, in 1918, when broadcasting began to be considered as a commercial proposition, many books appeared describing receiving and transmitting sets, but entirely neglecting to explain radiotelegraphic apparatus. This book, therefore, will be welcomed by all—and especially by those with scant technical knowledge—who desire to qualify as radio operators.

In arc radio transmission the carbon electrode burns away very slowly, as it burns in a closed chamber containing hydrogen gas. The hydrogen gas for the arc is obtained by the decomposition of alcohol, which is fed into the chamber drop by drop and is vaporised by the intense heat of the arc between the copper and carbon electrodes. In the last chapter a good description is given of the radio compass which enables the navigator to locate the position of radio beacons. Light and sound signals are both very untrustworthy in foggy weather. Had this device been invented fifty years ago, many thousands of lives and millions of pounds would doubtless have been saved by its use.

Geography and Travel.

- (1) *India by Air.* By the Rt. Hon. Sir Samuel Hoare. Pp. xix + 156 + 24 plates. (London: Longmans, Green and Co., Ltd., 1927.) 6s. 6d. net.
- (2) *Il mio volo attraverso l'Atlantico e le due Americhe.* Per Francesco de Pinedo. Con un proemio di Gabrielle d'Annunzio. Pp. vi + 27 + 281 + 130 tavole. (Milano: Ulrico Hoepli, 1928.) 48 lire.

(1) SUCCESSFUL long-distance flights are becoming so numerous that the habit of writing a book descriptive of each must soon end. Except for the technical details of flying, there is a great deal of sameness about such books, although the aerial views are always of interest. Five de Havilland aeroplanes were ordered for the new service between