

Geodetic Surveying. By Edward R. Cary, Professor of Railroad Engineering and Geodesy, Rensselaer Polytechnic Institute. Published by John Wiley & Sons (Inc.), New York. 279 pages, $5\frac{1}{2} \times 8$ ins., 98 figures and 21 tables, cloth. Price, \$2.50 net.

The book has been written with the idea of bringing literature on the subject up to date, as during the past fifteen years some marked improvements in the practice of geodetic surveying have taken place.

The book covers reconnaissance, describing the methods of precise measurement of base lines and various corrections to be applied to angular measurements in laying out the network of triangles for the survey. A chapter on geodetic latitudes, longitudes and azimuth takes up approved methods of calculating these quantities. A great deal of attention is allotted to the instruments used in geodetic work, with methods of adjustment. Precise levelling and trigonometric levelling are dealt with fully and map projections are given a chapter.

One appendix is devoted to practical astronomy, with examples of methods of computing, time, latitude, longitude and azimuth. Another appendix on the method of least squares completes the book.

The author has described many methods employed by the United States Coast and Geodetic Survey, which represent the most advanced practice.

The book should be of particular value as a text-book for use in engineering schools, as all the subjects taught in lectures on Geodesy and Practical Astronomy are contained in the same work. Engineers engaged in geodetic work and precise surveying will find this work useful as a reference. The book is well bound and the illustrations are very good.

Practical Surveying. By Ernest McCullough, C.E., M.Am.Soc.C.E. Published by the D. Van Nostrand Co., New York. 395 pages, 5×8 ins., 229 illustrations, cloth. Price, \$2.00 net.

The purpose of this book, the author says in his preface, is to meet the needs of students whose mathematical preparation does not extend beyond simple arithmetic. It is intended to be used as a text in high schools or vocational schools and for self-tutored men who wish to become surveyors.

Instruments used in all branches of survey work are described in detail. The chapter on chain surveying is very complete. Under compass surveying are given the use of the instrument in the field, notes on attraction and variation, balancing errors, computing lost courses and areas and plotting the map. Trigonometry is treated in simple language in one chapter, giving both the regular and graphic solutions of plane triangles, with problems; and the use of logarithms is explained. The use of the transit is taken up, and a small amount of space is devoted to stadia work. The chapter on surveying laws is very thorough, treating with the various United States laws which have to do with the surveyor.

The book is well illustrated and the language throughout is very easily understood, making it a very valuable work for students of surveying.

Forest Protection in Canada, 1913-14. Compiled under the direction of Clyde Leavitt, M.Sc.F., Chief Forester of the Commission of Conservation. Published by the Commission of Conservation of Canada. Illustrated, 274 pages, 6×9 ins., cloth.

The report contains much information respecting the work of the provincial forest services and of the federal departments entrusted with the care of our forests.

Forest fire protection is assuming a large place in public attention. It is obvious that, if Canada is to continue as a wood-producing country, she must conserve her resources of this natural product. The report treats exhaustively of the fire protection of forest lands along railway rights-of-way. Through co-operative action great headway has been made in securing the reduction of forest losses through fires traceable to railway causes.

The forests of British Columbia and on Dominion lands in the West have been dealt with in reports containing the results of special studies conducted by Dr. C. D. Howe and Mr. J. H. White. The Trent watershed in Ontario has also received especial attention in a report of an investigation by Dr. C. D. Howe in the townships of Burleigh and Methuen. This district is important in that, while of very little value as an agricultural area, it is being repeatedly overrun by forest fires and the little remaining merchantable timber destroyed. It is suggested that the area be placed under the control of the Dominion Forestry Branch for protection from fires and for reforestation.

Elements of Railroad Track and Construction. By Winter L. Wilson, Professor of Railroad Engineering, Lehigh University. Published by John Wiley & Sons (Inc.), New York. 396 pages, 5×7 ins., 210 illustrations, cloth. Price, \$2.50 net.

This is a revision of an earlier edition, with some seventy pages of additional matter and several new chapters. A chapter on the Practical Turnout, which has been written on the recommendation of the American Railway Engineering Association, is responsible for over half the additional matter. The make-up of the book is open to criticism, owing to the fact that the first 260 pages take up track and maintenance, leaving only 130 pages at the end of the book for railroad construction, trestles, culverts, etc. The very last chapter, which is devoted to "Classes of Grades," is covered in six pages, which is very short, considering the importance of this subject to the maintenance of way engineer. As the size of the train which can be hauled over any division is directly proportional to the ruling grade, and, therefore, has a bearing on the operating costs, the question of economic grades should have received more attention.

The chapters dealing with railroad construction and engineering organization should have been at the front of the book.

The author states that the book has been published as an aid to students of railway engineering to take the place of large treatises, which deal with the work more in detail than the student requires.

Engineering as a Career. A series of papers by eminent engineers. Edited by Prof. F. H. Newell, of University of Illinois, and C. E. Drayer, Secretary, Cleveland Engineering Society. Published by D. Van Nostrand Company, New York. 226 pages, 5×7 ins., cloth. Price, \$1.00.

This book has been published as a guide to parents and others interested in technical education. The facts presented should be a guide to them or to young men who plan a career along engineering lines without knowing just what is in store for them. It explains the duties of an engineer, whether civil, mechanical, electrical or mining, and tells what qualifications the prospective student of engineering should have before commencing his studies.

The various contributors to the book have, perhaps unconsciously, written the histories of their careers.