sion of Entomology of the U. S. Dept. of Agriculture have been drawn on heavily for the book's illustration. One hundred and one out of the one hundred and eighty-three figures are from this source.

A brief but good bibliography is appended and there is an index. The work of printers and binders has been tastefully done. Altogether the book is a useful one, and one that can be recommended to beginning students of insects.

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The Strength of Materials. By J. A. EWING, Professor of Mechanism and Applied Mechanics in the University of Cambridge. Cambridge, The University Press. 1899. Octavo. Pp. 246.

It will be news to many Americans to learn that instruction in the subject of the strength of materials is now given at the University of Cambridge and that laboratory work in testing is done there. The mathematical theory of elasticity has long received attention at the universities of England and Scotland, as shown by the works of Todhunter and Pearson, of Love, and of Thompson and Tait; this theory and these volumes have, however, added little to the practical knowledge of the properties of materials and have not influenced engineering constructions. At last, after many years of waiting, there comes from Cambridge a book which recognizes the fact that observation and experiment are essentially necessary, and which sets forth the fundamental principles and facts in a manner likely to be of much value to the engineering students and civil engineers of Great Britain.

In its theoretical discussions the book covers about the same ground as that given in American engineering colleges, but there are few numerical exercises and no problems for solution by the student. That such problems are necessary is, however, recognized by the author in his preface which states that the volume is a lecture room treatment of the subject and should be supplemented by laboratory work and computations. The theory is not given isolated from experience, but methods of testing are explained in an interesting manner, and the principal conclusions of the authorities in all countries are noted. Processes of manufacture which influence strength and ductility also receive some attention. The theory of beams, columns and shafts is presented clearly and concisely, and the subject of stresses in trusses and arches is briefly treated. The author has succeeded admirably in putting much sound doctrine and practical information into a limited space. The notation and terminology leans toward that of the mathematical theory of elasticity, but here and there the author breaks away from that bondage and uses the notation of engineering literature. In short this happy wedlock of theory and practice is one upon which the University of Cambridge should be congratulated. No book has appeared in England in recent years which so fully corresponds to the American ideal of a text-book for sound and successful education.

M. M.

GENERAL.

PART V. of the 19th Annual Report, and accompanying Atlas, consists of a collection of papers and reports of the U. S. Geological Survey descriptive of the forests of the West, especially of certain of the forest reserves created by Executive Order of February 22, 1896, prominent among which are the Black Hills, Bighorn, Teton, Yellowstone Park, Priest River, Bitterroot and Washington Forest Reserves. Copies may be secured through United States Senators and Representatives, or by application to the Survey.

THE Liverpool School of Tropical Medicine has just issued a memoir, or small book, containing 'Instructions for the Prevention of Malarial Fever,' for the use of residents in malarious places.

BOOKS RECEIVED.

The Ore Deposits of the United States and Canada. JAMES FURMAN KEMP. New York and London, The Scientific Publishing Co. 1900. Pp. xiv + 481.

Annals of the Astronomical Observatory of Harvard College. EDWARD C. PICKERING, Director. *Visual Observations of the Moon and Planets.* WILLIAM H. PICKERING. Vol. XXXII. Part II. Pp. iv + 117–317. Plates viii–xiv. *Miscellaneous Researches.* Vol. XXXIII. Pp. 287. *Observations made at the Blue Hill Meteorological Observatory.* A. LAWRENCE ROTCH. Pp. 131–280. Cambridge, 1900.