

dragged from Finland to its present location by men. Its weight is estimated at 2,000 tons. Iron rails were laid upon which cannon balls rolled, and thus the huge block was drawn by men.

NEW BOOKS, ETC.

KRIECHTIERE UND LURCHE DEUTSCHLANDS. By Dr. Kurt Floericke. Kosmos Gesellschaft der Naturfreunde. Geschäftsstelle Franckh'sche Verlagshandlung in Stuttgart. Price, 50 cents.

In this book Dr. Floericke has presented a popular account of the principal reptiles and amphibians of Middle Europe. To those who are familiar with the German language and desire to obtain a general knowledge of an interesting class of animals, without delving into technical details, the book can be recommended.

THE FIXED LAW OF PATENTS. By William Macomber. Boston: Little, Brown & Co., 1909. Large 8vo.; pp. 1,060. Price, \$7.50 net.

In this work Mr. Macomber has presented in digested form the patent statutes, the decisions of the Supreme Court of the United States, and the decisions of the nine Circuit Courts of Appeals, the three constituting what Mr. Macomber calls "The Fixed Law of Patents." As a piece of compilation and arrangement the book is indeed admirable; as a reference work for the patent lawyer it will be extremely helpful. The principles of patent law, although fairly few in number and simple in essence, have in later years become more or less fogged in the effort of non-technical judges to administer the patent law fairly. In view of that fact, any attempt to bring something like order out of a chaos of decisions is certainly commendable. Because the book gathers up the appellate law, in the language of decisions, it should be of interest to the specialist. Unless he has digested the law for himself, the specialist will hardly have such a compilation. Considered as a whole, the work may be regarded as an orderly statement of the courts' language in important cases, and therefore absolutely authoritative.

INNS AND TAVERNS OF OLD LONDON. By Henry C. Shelley. Boston: L. C. Page & Co., 1909. 364 pp. Price, \$3.

The subject of inns and taverns in London has always been a fascinating one, and the literature concerning them is quite voluminous. The present volume sets forth the historical and literary associations of those haunts, together with an account of the most notable coffee houses, clubs, and pleasure gardens of the British metropolis. The English have always had a reputation of being essentially a home-loving people; still in the seventeenth and eighteenth centuries they seem to have exercised considerable zeal in creating substitutes for that home which they ought to have loved above all else. When the Londoner had procured his taverns and inns, he set to work evolving a new species of public resort in the coffee house. That type of establishment appears to have been responsible for the development of the club as the substitute for the home, and then came the age of the pleasure garden. Both of the latter survive, the one in the form of a more rigid exclusiveness than the eighteenth century Londoner would have dreamed possible; the other is so changed that frequenters of the latter would scarcely recognize the relationship. The engravings are taken from old prints, and are of great interest. The book is beautifully printed and most attractively bound.

IMAGINATION IN BUSINESS. By Lorin F. Deland. New York: Harper Brothers, 1909. 18mo.; 108 pp. Price, 50 cents net.

This little book contains a number of shrewd essays which deal with a curious phase of business. It shows the remarkable part which imagination plays in business, especially to-day.

LIGHT AND HEAVY TIMBER FRAMING MADE EASY. By Fred T. Hodgson. Chicago: Fred J. Drake & Co., 1909. 12mo.; 395 pp. Price, \$1.

The present work is a copious treatise on the modern practical methods of executing all kinds of timber framing, from the simple scantling shed or lean-to to the heavy and complicated timber bridges, centers, needling, and shoring, roughing and railway work, tank frames and taper structures, and is illustrated by 450 engravings and diagrams.

THE ROMANCE OF MODERN MANUFACTURE. By Charles R. Gibson. Philadelphia: J. B. Lippincott & Co., 1910. 12mo.; 320 pp. Price, \$1.50.

In the present volume the author has endeavored to trace the evolution of the different industries, and to describe in everyday language the methods of modern manufacture in all of the principal industries. It deals with textile machinery, laundry machinery, needle machinery, thread machinery, shoe machinery, manufacture of pottery by machinery, paper making, manufacture of books, artificial light, manufacture of confectionery, the mechanical baker, clocks and watches, manufacture of iron, making steel rails, the railroad and the locomotive, building a ship, and other chapters. The illustrations and diagrams are particularly clear, and we are glad to note a number of the

best ones have appeared first in the SCIENTIFIC AMERICAN, and that they are reprinted properly credited.

MACHINE DRAWING AND DESIGN FOR BEGINNERS. By Henry J. Spooner, C.E. New York and London: Longmans, Green & Co., 1908. 8vo.; 266 pp.; 743 illustrations. Price, \$1.25.

The author is director and professor of mechanical and civil engineering in the Polytechnic School of Engineering in London, and is the author of valuable works on drawing and machine design. The work is an excellent one, and the drawings which are reproduced are thoroughly common sense. Of course, English practice is slightly different from American, but the differences are not so great as to militate against the value of this book. The questions suitable for examination and home work are valuable, but the Board of Education examination papers are worthless for American students.

AN EXPERIMENTAL STUDY OF BAGASSE AND BAGASSE FURNACES. By E. W. Kerr, M.E., assisted by E. M. Percy, B.S. Baton Rouge, 1909. 8vo.; 106 pp.

During the last few years the writer, who has charge of the instruction of students in the engineering branches of the Audubon Sugar School, has visited a large number of sugar factories in Louisiana for the purpose of gathering data and information for classroom use. In these visits he has been particularly struck with the lack of uniformity in the methods employed for utilizing bagasse as a fuel, both as to the form and proportions as well as to the manipulation of the furnaces. With a view to standardizing as far as possible the methods employed, it was decided to conduct a series of investigations, the object of which should be to gain a thorough insight, by general observation and by tests, into the methods used in Louisiana for utilizing the heat from bagasse. The result of the labors of the author is included in the present pamphlet, which gives his views on the subject most exhaustively and reflects great credit upon the author.

LABORATORY NOTES ON IRON AND STEEL ANALYSES. By Walter Macfarlane. London and New York: Longmans, Green & Co., 1909. 12mo. 462 pp. Price, \$2.50 net.

These notes were in the first instance written for the guidance of the staff in an iron and steel works laboratory, which was for some years under the supervision of the author, and where the results of over 40,000 estimations were annually placed on record. The methods required to be reliable and rapid, so as to control and keep pace with the manufacturing operations. It was necessary that all the analysts should work on identical lines, and the accuracy of the methods were tested in daily practice and confirmed by other analysts. These notes have been explained and published, and are for the benefit of all students. The general aim of the book has been to set out a full course of assaying or analysis in full detail. The work is an excellent one, and is certain of a considerable sale.

MODERN PRACTICE IN MINING. Volume II. The Sinking of Shafts. By R. A. S. Radmayne. New York and London: Longmans, Green & Co., 1909. 8vo.; 275 pp. Price, \$2.25 net.

The sinking of shafts for the purpose of opening out and developing mineral wealth constitutes one of the most important branches of mining; and although a vast amount of information respecting such operations is disseminated throughout the proceedings of the various mining institutions, and excellent chapters are devoted to the subject in many textbooks on mining, so far as the present writer knows, shaft sinking has not hitherto been treated from the British standpoint of the work. While the practice described is British practice, it cannot help but be of interest to the mining engineers in this country. The illustrations are numerous and are well executed on a good scale.

AREIKA. By D. Randall Maciver and C. Leonard Woolley. With a chapter on Merottic Inscriptions by F. Ll. Griffith. Oxford: The University Press, 1909. 4to.; 56 pp.; 42 plates.

This volume is the first of a series which will record the results of explorations in Egypt planned and financed by Mr. Eckley B. Coxe, Jr., of Philadelphia, and this is the first volume of the series to be known as the Eckley B. Coxe, Jr., Expedition to Nubia. The expedition is to be conducted for five years on behalf of the University of Pennsylvania, and the antiquities that may be obtained will be presented to the University Museum. The district selected for the researches is a part of the country which lies between the First and Second Cataracts, and this first volume records the results obtained in the year 1907. The plates are beautifully executed, and the monograph is an important contribution to the archaeology of a section of the world concerning which very little is known.

THE AUTOBIOGRAPHY OF SIR HENRY MORTON STANLEY, K.C.B. By his Wife Dorothy Stanley. Cambridge, Mass., and New York: Houghton, Mifflin & Co., 1909. 8vo.; 550 pp. Price, \$5 net.

Stanley was a remarkable man, and this revelation of his personal life and of his keen and unprejudiced view of men and affairs

stands as one of the books of permanent importance in this field. Of all the interesting and important autobiographies that have seen the light in the last decade none perhaps has a wider appeal to all classes of readers than the autobiography of Henry Morton Stanley. The grim workhouse, the squalid life in Liverpool, the terrible experiences at sea, his adoption by a New Orleans merchant, his life as a planter, the enlistment in the Confederate army, the wonderful picture of Shiloh, his life in prison and escape, his finding of Livingstone, the exploration of the Dark Continent, the founding of the Congo State, and his closing years are described with a vigor of style which has rarely been surpassed. The book is beautifully printed and illustrated, and is certain to have a large sale, as it appeals to almost everyone.

MECHANICAL DRAWING FOR TRADE SCHOOLS. By Charles C. Leeds. New York: D. Van Nostrand Company, 1909. Ob-long 4to.; 58 plates and text. Price, \$2.

This work on mechanical drawing has been prepared with a purpose in view of thoroughly grounding draftsmen and others of the various machinery trades in the principles of mechanical drawing. It is also intended to familiarize them with modern drafting-room practice. The author does not believe in using models, as he thinks this tends to develop copyists, and in this he is undoubtedly correct. The author, who is connected with the Carnegie Technical Schools, finds that the results obtained by this system are excellent. The plates are on an enlarged scale, and the drawings from which they are made are well executed. There is a bill of material with nearly every plate.

IRRIGATION ENGINEERING. By Herbert M. Wilson, C.E. New York: John Wiley & Sons, 1909. 8vo.; 625 pp. Price, \$4 net.

The Reclamation Service of the United States now has 21 projects which have reached such a state of completion that water is being furnished settlers for irrigation of their lands. At this date 675,514 acres are under irrigation from Reclamation projects and \$42,932,787 have been expended upon the construction of works completed or in progress. The revenues collected to date from projects in operation and available under the law for re-expenditure on future construction amount to \$1,070,596. The present or sixth edition has been almost entirely rewritten, bringing up to date the tremendous progress made in construction by the Reclamation Service. Since the last edition important changes have been produced in the design and in the materials used in structures on irrigation works as a result of the very general adoption of reinforced concrete for such works.

ARCHITECTURAL PERSPECTIVE. By I. P. Hicks. New York: Industrial Publication Company, 1909. Square 12mo.; 38 pp. Price, 50 cents.

BUILDING PLANS AND HOW TO DRAW THEM. By I. P. Hicks. New York: Industrial Publication Company, 1909. Square 8vo.; 73 pp. Price, 50 cents.

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INDEX OF INVENTIONS

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