

## Book Reviews

**Machinery and Tools, 1906.**—By Brown & Sharpe Mfg. Co., Providence, Rhode Island, U.S.A. Size, 6 x 4, pp. 514. (Free to buyers everywhere.)

Every machinist, worthy of the name, in the world knows that "Brown & Sharpe" is synonymous with the finest bench and measuring tools in the trade. Established in 1833 on a small scale, their works now cover 14½ acres. At the St. Louis World's Fair, 1904, they were awarded the Grand Prize for exhibit of machinists' tools and measuring tools. Among our readers are many intelligent mechanics, and the number is daily increasing. To such we would say, send for this new edition of the B. & S. Co.'s well-known handbook straightway. It contains many tables useful in shop practice and illustrated descriptions of their latest tools and machinery.

**The Arithmetic of Electrical Measurements.** By W. R. P. Hobbs, R.N., Head Master of Naval Torpedo School, Portsmouth. 12th edition. London: Thomas Murby & Co., 6, Bouverie Street, E. C. Size 7¼ x 4¾, 126 pp. (Price one shilling.)

The fact that this text-book has reached its 12th edition is proof that it has filled a large gap in the literature of electrical engineering. It originated in this way. The author read the following statement in Professor Fleming Jenkin's preface to his work on "Electricity and Magnetism": "The difference between the electricity of the schools and the testing office has been mainly brought about by the absolute necessity in practice for definite measurement." The lecturer is content to say, under such and such circumstances a current flows or a resistance is increased. **The practical electrician must know how much current and how much resistance, or he knows nothing.** It was with a view, therefore, of guiding the student of electrical science to the best methods of translating theory into practice; especially in the way of making accurate arithmetical calculations that this excellent book was written. The chapter showing the applications of Ohm's law—the foundation of all electrical measurements—is simple in statement, logical in arrangement, and practical almost to a fault, in the number of problems solved, and examples for working given. While section X, on the "Best Arrangement of Cells" is exceedingly useful. In fact, as an elementary treatise on electrical engineering calculations, the work before us is in a class by itself; and we are not surprised to find that it is used universally in the British Government Dockyard Schools, and has been adopted by the leading technical institutions of Great Britain.

**The World-Wide Atlas of Modern Geography: Political and Physical.**—By J. Scott Keltie, LL.D, etc., Secretary Royal Geographical Society. Seventh edition. 1906. Edinburgh and London: W. & A. K. Johnston, Limited. Size, 12½ x 10. 128 colored plates and complete index. (Price 7s. 6d.)

This atlas is without a doubt the best and cheapest popular map book in the English language. The authoritative introduction by Dr. J. Scott Keltie contains a concise historical account of geographical discoveries and territorial changes up to the French Antarctic expedition under Dr. Jean Charcot in 1905. We had occasion to look up a location in the recently explored Chibogamoo region of northern Quebec, and amazed we were to find what we wanted. The 128 maps are admirably tinted in artistically contrasted colors; the line engraving excellent in definition, while the text and number printing is a printer's pride. A better atlas for popular use in Canada, where new regions and far northern lands are in these progressive days being constantly brought under public notice, we can hardly conceive.

**Machine-Shop Arithmetic.**—By Fred H. Colvin and Walter Lee Cheney. Fourth edition. 1905. New York: The Derry-Collard Company. Size, 6 x 4. pp. 144. (Price 50 cents.)

Here is a book which every machine-shop superintendent ought to place in the hands of his apprentices. In the nineties, when teaching the largest Science Classes in the United States in Machine Drawing and Construction, we would have rejoiced at having a book like the one before us to place in the hands of the fine, young mechanics under our instruction. It is astonishing how utterly impracticable are the methods of teaching even the rudiments of arithmetic in our public schools. We are afraid that if 90 per cent. of the young fellows in our modern workshops, (who have been lagging behind because of their inability to attack and properly solve machine-shop problems as they arise in practice), could be induced to earnestly master the contents of this little volume of 144 pages, that they would almost curse the teachers who kept them fooling over interminable fractions and assinine weight and proportion examples about sugar, treacle, tea and the like, instead of simple examples in elementary applied mechanics, etc., which would

not only have trained the memory, imagination, and inventive faculties at an age when the mind is plastic and impressionable, but would have laid the sure foundation of success in early manhood. These thoughts pressed themselves irresistibly upon us as we carefully read this admirable little text-book, suitably entitled, "Machine-Shop Arithmetic"; for the examples given are all adapted to machine-shop practice. It shows how technical problems are attacked and worked out, and lays down philosophically, the principles underlying the various arithmetical rules; in fact, gives in clear language the reason "why" for everything. Beginning with decimals, passes on to mensuration, then to cube and square root, rule of three, etc. Since we read Butter's "Tangible Arithmetic," we have seen nothing to equal the lucid, perspicuous exposition of the principle underlying square root extraction. The practical examples of applied arithmetic include change gears, screw cutting, speed of drills, countershaft and pulley calculations, tap-drill figuring, shrink and force fits, etc., ending in a lucid exposition of the metric system of measurements and valuable tables.

That this book has already reached a fourth edition surprises us not. It ought to be in the hands of every public school principal, and used as a text-book in every technical high school in Canada.



## BOOKS RECEIVED.

**Eminent Engineers.**—Brief biographies of thirty-two of the inventors and engineers who did most to further mechanical progress. By Dwight Goddard. New York: The Derry-Collard Company. Size, 8 x 5¾, pp. 280, 32 illustrations. (Price \$1.50.)

**Tables for Blacksmiths and Forgers.**—Giving the allowances for the drawing down and staving of round, square and flat sections of all sizes. By John Watson. London, E.C.: Longmans, Green & Co., 39 Paternoster Row. Size, 6¼ x 4¾, pp. 88. (Price 2s. 6d. nett.)

**Link Motions, Valves and Valve-setting.**—By Fred H. Colvin. New York: The Derry-Collard Company. Size, 6 x 4, pp. 82, 43 illustrations. (Price 50 cents.)

**The Wiring Handbook, with Complete Labor-saving Tables and Digest of Underwriter's Rules.**—By Cecil P. Poole. New York: McGraw Publishing Company, 114 Liberty Street. Size, 8 x 4½, pp. 85, 32 pocket tables. (Price \$1 nett.)

**Standard Telephone Wiring.**—For common battery and magneto systems. By James F. Fairman. New York: McGraw Publishing Company. Size, 7 x 4½, pp. 91, 74 illustrations. (Price \$1 nett.)

**The Chemistry of Materials of Engineering.**—By A. H. Sexton, F.C.S., F.I.C. Manchester: The Technical Publishing Co., Limited, 287 Deansgate. Size, 7¾ x 5¼, 35 illustrations. (Price 5s. nett.)

**The Seven Follies of Science.**—A popular account of the most famous scientific impossibilities and the attempts made to solve them. By John Phin. New York: D. Van Nostrand Company, 23 Murray and 27 Warren Streets. 1906. Size, 7½ x 5¼, pp. 178, 35 illustrations. (Price \$1.25 nett.)

To be reviewed in our May number.

**Electric Power Transmission.**—A practical treatise for practical men. By Louis Bell, Ph.D. New York: The McGraw Publishing Company. Size, 6 x 9¼, pp. 703, 341 illustrations. (Price \$4 nett.)

**A Treatise on Producer-Gas and Gas-Producers.**—By Samuel S. Wyer, M.E. New York: The Engineering and Mining Journal, 505 Pearl Street. pp. 296, 113 illustrations. Size, 9¼ x 6½. (Price \$4 retail.)



## CATALOGUES AND CIRCULARS.

**Telephones.**—The R. E. T. Pringle Co., Limited, 172 Dalhousie Street, Montreal, are the Canadian agents for the Deveau Private Line and Intercommunicating Telephones. They are described in two neat pamphlets which Messrs. Pringle have sent to us. 3¼ x 6, pp. 8.

**Tools and Machinery.**—F. H. Hopkins & Co., Montreal. This booklet contains a classified list of tools and machinery for all forms of construction work, railroad, mill, and contractors' supplies, as handled by the above company. 8 x 3½, pp. 20.

**Department of Railways and Canals.**—The annual report of the Department of Railways and Canals for 1905 has just come to hand, accompanied by 10 maps showing the various railway and canal routes of the Dominion. The report of the Deputy Minister of Railways and Canals, statement of the accountant of the Department, report of the chief engineer, and other miscellaneous statements are contained in this volume.