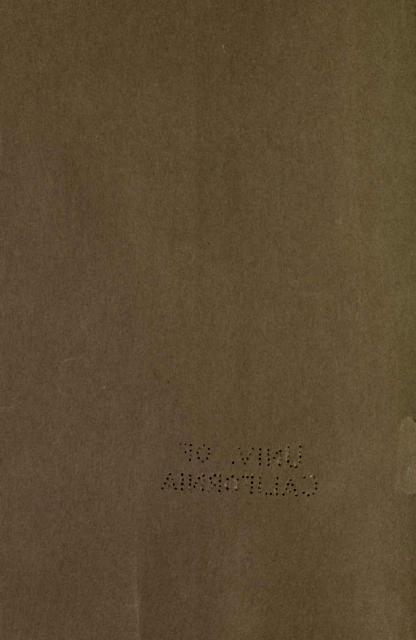


### THE FREE PUBLIC LIBRARY of the CITY OF TRENTON, N. J.

## Books on Industrial Arts



# BOOKS ON INDUSTRIAL ARTS

THE FREE PUBLIC LIBRARY OF THE CITY OF TRENTON, N. J.

# CONTENTS.

	PAGE.
CYCLOPEDIAS AND DICTIONARIES	7
AERIAL NAVIGATION	7
BUILDING AND CARPENTRY	9
Handrailing and stairbuilding	11
Concrete and cement	12
Masonry	13
Stone and stone cutting	14
Graining and marbling	14
House painting, paper hanging and hardwood finishing	15
Heating and ventilation	16
Plumbing	16
CHEMICAL TECHNOLOGY	17
Color, paint and varnish	18
Oils and fats	19
Fuel	.21
Celluloid	22
Leather	22
Paper	23
Rubber	23
Textiles	25
CIVIL ENGINEERING	26
Arches	27
Bridges	28
Strength of materials	29
Earthwork and retaining walls	30
ELECTRIC ENGINEERING	31
Electricity (general and theory)	
Alternating and direct current machinery	
Dynamos and motors	
Electric batteries	
Electric lighting	
Electric measurement	
Electric meters	38

P.	
	1
Electric railways	PAGE. 38
Electric transformers	39
Electric transmission of power	39
Electric wires and wiring	40
Electrochemistry	41
Electromagnets	42
Electroplating	42
Induction coils	17.5
	10/21-
FACTORY MANAGEMENT AND ACCOUNTING	
Hydraulic engineering	
Dams	
Harbors	1111
MARINE ENGINEERING AND NAVAL ENGINEERING	47
MECHANICAL ENGINEERING	
Automobiles	
Compressed air	
Elevators	
Hoisting and conveying machinery	
Foundries	
Gas and oil engines	
Producer gas and gas producers	A CONTRACTOR
Gearing	
Machine shop	
Mechanical drawing and machine design	
Millwrighting	
Pattern making	C
Pumps	
Transmission of power	
MECHANIC TRADES Bookbinding	
Clocks and watches	
Horseshoeing Metal working	
Printing	
Sign painting	
Woodworking (furniture and cabinet work)	
3	
G	

	PAGE.
METALLURGY	76
Aluminum	78
Copper	78
Corrosion	78
Electrometallurgy	79
Furnaces	79
Gold	80
Iron and steel	80
Lead and zinc	82
Metallography	82
Metallurgical plants	83
MINES AND MINING	83
RAILWAY ENGINEERING	85
Airbrake	86
Locomotives	87
Signalling	88
ROADS AND PAVEMENTS	88
STEAM ENGINEERING	90
Boilers	92
Turbines	93
Valves	94
Теlegraphy	94
TELEGRAPHY, WIRELESS	95
TELEPHONY	96
TELEPHONY, WIRELESS	97
WORKSHOP RECEIPTS	97
APPENDIX	98
Books for Boys	98
Periodicals and transactions	107

#### PREFACE.

The books listed hereafter constitute a selected part of the material obtainable in the library. Certain comprehensive works of reference and sets like the International Correspondence School and the various handbooks such as issued by F. J. Drake & Co. have not been included as they are permanently accessible on the open shelves set aside for such purpose.

The selection has been made on the strength of our own experience as to the usefulness of the books listed and the character of the local patronage. Similar lists issued by other libraries have also been consulted and occasionally the judgment of individual experts has been solicited.

The list covers the range of industrial and applied arts; books on fine arts having been left for future treatment.

The expressed purpose of the Charles Skelton Fund, entrusted to the care of the Library Trustees, directs the building up and maintenance of a library that should consist "of works, treatises on the arts and sciences, especially on Mechanics, Engineering, &c., the reading of which will inculcate virtues of honest industry and frugality."

It is hoped that the publication of this list will in a measure realize this expectation, that the attention of all those interested in the various local industries may be called to the resources of the library and that its usefulness will be enhanced. The lists are distributed free of charge.

Key to rating marks:

- A Indicates an elementary work.
- B Indicates a popular, non-technical work.
- **C** Indicates more advanced books treating of details of practical application.
- **D** Indicates books for specialists and professional experts.

#### CYCLOPEDIAS AND DICTIONARIES.

Dixon, D. B. Mechanical arts simplified. \*\*603 D64.5

Goodchild, G. F. and Tweney, C. F. eds. Technological and scientific dictionary. 1906. \*603 G615

Hawkins, Nehemiah. Hawkins' electrical dictionary. 1909. \*537.03 H31.4

Hawkins' mechanical dictionary. 1909. 620.3 H31.4

Henley's encyclopaedia of practical engineering. 1906-8. v. 1-4. \*620.3 H78.4

Tolhausen, Alexandre, and Tolhausen, Louis. Dictionnaire technologique. 3 v. \*603 T57

#### **AERIAL NAVIGATION.**

B, C. Aero club of America. Navigating the air; a scientific statement of the progress of aeronautical science up to the present time. 1907. 533.6 Ae8.6

B, C. Alexander, J. H. Model balloons and flying machines, with a short account of the progress of aviation. 1910. 533.6 Al 2.5

- B, C. Berget, Alphonso. Conquests of the air, aeronautics, aviation, history, theory, practice. 1909. 533.6 B45.3
- C. Brewer, R. W. A. Art of aviation; a handbook upon aeroplanes and their engines, with notes upon propellers. 1910. 533.6 B75.1
- C. Chatley, Herbert. Principles and designs of aeroplanes. 1911. 533.6 C39.58
- D. Problem of flight; a text-book of aerial navigation. 1907. 533.6 C39.6
- B. Hildebrandt, Alfred. Airships past and present, together with chapters on the use of balloons in connection with meteorology, photography and the carrier pigeon; tr. by W. H. Story. 1908. 533.6 H54.1
- A, C. Jackman, W. J., and Russell, T. H. Flying machines, construction and operation; a practical book which shows, in illustrations, working plans and text how to build and navigate the modern airship. 1910. 533.6 Jl21.3
- **C, D. Lanchester, F. W.** Aerial flight. 1908, 1910. 2 v. 533.7 L22.1

Contents: v. 1. Aerodynamics. v. 2. Aerodonetics.

- B, C. Maxim, Sir H. S. Artificial and natural flight. 1908. 533.6 M45.1
- D. Neilson, R. M. Aeroplane patents. 1910. 533.6 N31.1
- C. Petit, Robert. How to build an aeroplane; tr. from the French by T. D. Hubbard and J. H. Ledeboer. 1910. 533.6 P14.4
- B. Turner, C. C. Aerial navigation of to-day; a popular account of the evolution of aeronautics. 1909. 533.6 T85.1
- D. Walker, Frederick. Aerial navigation; a practical handbook on the construction of dirigible balloons, aerostats, aeroplanes and airships. 1910. 533.6 W15.1

#### BUILDING AND CARPENTRY.

C, D. Arthur, William. New building estimator; a practical guide to estimating the cost of labor and material in building construction from excavation to finish. 1909.

D. Bamford, W. B. Agreements for building contracts. 1910. 692.9 B22.1 Reprinted from transactions of American society of civil engineers, vol. 67.

- Bergh, L. de C. Safe building construction; a treatise giving in simplest forms possible practical and theoretical rules and formulæ used in construction of buildings and general instruction. 1908.
- C. Davison, T. R. Arts connected with building, lectures on craftsmanship and design. 1909. 690 D29.1
- D. Diamant, Sidney. Curves for calculating beams, channels and reactions; a manual for engineers, architects, designers, draughtsmen, builders and contractors. 1908. . 625.1 D54.3
- C, D. Ellis, George. Modern practical joinery; a treatise on the practice of joiners' work by hand and machine for the use of workmen, architects, builders and machinists; with chapters on stairbuilding and hand-railing, foreman's work, fixing, &c. 1908.
- C. Hodgson, F. T. Light and heavy timber framing made easy, balloon framing, mixed framing, &c. 1909. 694.2 H66.5
- C. Jacoby, H. S. Structural details; or, Elements of design in heavy framing. 1909. 690 J15.8
- **Ketchum, M. S.** Design of steel mill buildings and calculation of stresses in framed structures. 1903.
   690 K49.3

D. Kidder, F. E. Building construction and superintendence. 1904, 1909. 3 v. 690 K53 Contents:

v. 1. Masons' work. 1909.

v. 2. Carpenters' work. 1904.

v. 3. Trussed roofs and roof trusses. 1904.

C. Munby, A. E. Introduction to the chemistry and physics of building materials. 1909. (Westminster series.) 691 M92.4

C. Richey, H. G. Building foreman's pocket book and ready reference. 1909. 690 R39.08

**C.** Building mechanics' ready reference, carpenters and wood-workers' edition. 1906. 690 R39.1

#### HAND-RAILING AND STAIR-BUILDING.

- C. Hodgson, F. T. Common-sense stair-building and hand-railing. 1907. 694.8 H66.2
- C. Mayer, David. Stair-building made easy. 1908. 694.8 M45.8

#### CONCRETE AND CEMENT.

- D. Desch, C. H. Chemistry and testing of cement. 1911. 666.9 D45.2
- D. Eckel, E. C. Cements, limes and plasters; their materials, manufacture, and properties. 1905. 666.9 Ec5.2
- C. Gilbreth, F. B. Concrete system. 1908. 693.5 G37.3
- C. Gillette, H. P., and Hill, C. S. Concrete construction, methods and cost. 1908. 666.9 G415.2
- C, D. Marsh, C. F., and Dunn, William. Manual of reinforced concrete and concrete block construction. 1908. 691.3 M35.5
- D. Mörsch, Emil. Concrete-steel construction (Der eisenbetonbau); tr. from German ed. . .by
   E. P. Goodrich. 1909. L691.3 M83.2
- Richey, H. G. The building mechanics' ready reference; cement workers' and plasterers' edition. 1908.
   691.5 R39.1
- D. Spaulding, F. P. Hydraulic cement, its properties, testing and use. 1906. 666.9 Sp1.1

- C, D. Taylor, F. W., and Thompson, S. E. Treatise on concrete, plain and reinforced; materials, construction and design of concrete and reinforced concrete. 1909. 691.3 T215
- C, D. Turneaure, F. E., and Maurer, E. R. Principles of reinforced concrete construction. 1909. 691.3 T85.1
- C. Waterbury, L. A. Cement laboratory manual; a manual of instructions for the use of students in cement laboratory practice. 1908. 666.9 W29.2

#### MASONRY.

- D. Baker, I. O. Treatise on masonry construction. 1909. 693 B17
- **D.** Bankhart, G. P. Art of the plasterer; an account of the decorative development of the eraft, chiefly in England from the 16th to the 18th century, with chapters on the stucco of the classic period of the Italian renaissance, also on sgraffito, pargetting, Scottish, Irish and modern plaster work. 1909.
- C. Gilbreth, F. B. Bricklaying system. 1909.. 691.4 G37.1

D.

**Kidder, F. E.** Mason's work. (in his Building construction and superintendence. 1909. pt. 1.) 690 K53 C. Richey, H. G. Building mechanics' ready reference, stone and brick mason's ed. 1907. 693 R39.1

#### STONE AND STONE-CUTTING.

- Dobson, Edward. Rudiments of masonry and stonecutting, exhibiting the principles of masonic projection. 1903.
- C, D. Merrill, G. P. Stones for building and decoration. 1903. 553.5 M55.8
- C, D. Seibert, J. S., and Biggin, F. C. Modern stone-cutting and masonry, with special reference to the making of working drawings. 1900.

693.12 Si1

#### GRAINING AND MARBLING.

- C. Hasluck, P. N., ed. Practical graining and marbling. 1907. 698.1 H27.6
- C. Maire, F. Graining and marbling; a series of practical treatises on material, tools and appliances used, general operations. . . and marbling in all shades. [c. 1910.]
- C, D. Petrie, J. Practical arts of graining and marbling. n. d. \*\*698.1 P44.6

Renwick, W. G. Marble and marble working; a handbook for architects, sculptors, marble quarry owners and workers and all engaged in the building and decorative industries. 1909. 691 R29.5

C.

C. Soxhlet, D. H. Art of dyeing and staining marble, artificial stone, bones, horn, ivory and wood; a practical handbook. . .tr. from the German by Arthur Morris, and Herbert Robson. 1902. 698 So9

#### HOUSE PAINTING, PAPERHANGING AND HARD-WOOD FINISHING.

- C. Hodgson, F. T. Hardwood finisher. 1902. 698.1 H66
- C. Up-to-date hardwood finisher. 1904. 698.1 H66.1
- C. Sabin, A. H. House painting, glazing, paperhanging and whitewashing; a book for the householder. 1908. 698.1 Sal.4
- C. Whigelt, George. Architectural hardwood finishing; a practical treatise on modern methods of finishing the woodwork of new buildings. 1906. 698.1 W63.1

#### HEATING AND VENTILATION.

- C, D. Baldwin, W. J. S. Baldwin on heating. 1908. 697 B19
- **C**, **D**. Hot water heating and fitting; modern hot water apparatus, the methods of their construction and the principles involved. 1908. 697 B19.4
- C, D. Carpenter, R. C. Heating and ventilating buildings; a manual for heating engineers and architects. 1910.
   697 C22.4
- King, A. G. Practical steam and hot water heating and ventilation; a modern practical work on steam and hot water heating and ventilation, with descriptions and data of all materials and appliances used in construction of such apparatus, rules, &c. 1908. 697 K58.6
- D. Shaw, W. W. Air currents and the laws of ventilation, lectures on the physics of the ventilation of buildings. 1907. 697 Sh2.1

#### PLUMBING.

C.

Lawler, J. J. Modern plumbing, steam and hot water heating; a new practical work for the plumber, the heating engineer, the architect and the builder. 1904. 696 L42.5 C. Richey, H. G. Building mechanics' ready reference, plumbers', steamfitters' and tinners' ed. 1908. 696 R39.1

#### CHEMICAL TECHNOLOGY.

- Allen, A. H. Commercial organic analysis; a treatise on the properties, proximate analytical examination and modes of assaying the various organic chemicals and products employed in the arts, manufactures, medicine. 1892-1901. 4 v. in 9. 543 Al 5
- C, D. Lunge, George. Technical chemists' handbook, tables and methods of analysis for manufacturers of inorganic chemical products. 1908. 660 L97.78
- C, D. Technical methods of chemical analysis; tr. from the latest German ed. and adapted to English conditions of manufacture by C. A. Keane. 1908.
   v. 1, pts. 1-2. 660 L97.8
- C. Meade, R. K. Design and equipment of small chemical laboratories. 1908. L542.1 M46.3
- C, D. Phillips, H. J. Engineering chemistry; a practical treatise for the use of analytical chemists, engineers, ironmasters, ironfounders, and students. 1902. 543 P54

- C. Rogers, Allen. Laboratory guide of industrial chemistry. 1908. 660 R63.5
- C, D. Stillman, T. B. Engineering chemistry; a manual of quantitative chemical analysis for the use of students, chemists and engineers. 1910.

545 St5.3

C, D. Thorp, F. H. Outlines of industrial chemistry. 1901. 660.2 T39

#### COLOR, PAINT AND VARNISH.

- C, D. Hall, C. B. Chemistry of paints and paint vehicles. 1906. 667.6 H14.2
- **C**, **D**. **Holley**, **C**. **D**. Lead and zinc pigments. 1909. 667.6 H718.5
- C, D. Holley, C. D., and Ladd, E. F. Analysis of mixed paints, color pigments and varnishes. 1909. 667.6 H72.1
- C. Lowe, Houston. Paints for steel structures. 1909. 667.6 L95.6
- C, D. McIntosh, J. G. Manufacture of varnishes and kindred industries, based on and including the Drying oils and varnishes of Livache, 2d greatly enl. English ed. v. 1-2. 1904-8. \*667.7 L74 To be complete in three volumes.

- C. Maire, Frederick. Modern pigments and their vehicles; their properties and uses considered mainly from the practical side and how to make tints from them. 1908. 667.6 M28.5
- C, D. Zerr, George, and Rubencamp, R. Treatise on colour manufacture; a guide to the preparation, examination and application of all pigment colours in practical use; tr. by Charles Mayer. 1908. 667.6 Z5.8

#### OILS AND FATS.

- D. Allen, A. H. Acid derivatives of phenols, cromatic acids, essential oils, terpenes, camphors, &c. 1901. (In his Commercial organic analysis, v. 2, pt. 3.) 543 Al 5
- C. Andes, L. E. Drying oils, boiled oil and solid and liquid driers; a practical work for manufacturers of oils, varnishes. 1901. 665 An2
- C, D. Archbutt, L., and Deeley, M. Lubrication and lubricants, theory and practice of lubrication. 1900. 665 Ar22
- C. Askinson, G. W. Perfumes and their preparation. 1900. 668.5 As4

- C. Carpenter, W. L. Treatise on the manufacture of soap and candles, lubricants and glycerin. 1895. 668.1 C22.8
- C. Dieterichs, E. E. F. Treatise on friction, lubrication oils and fats; the manufacture of lubricating oils, paint oils, and of grease and the testing of oils. 1906. 665 D57.6
- C, D. Ennis, W. D. Linseed oil and other seed oils. 1910. 665.3 En6.5
- C. Gadd, W. L. Soap manufacture for workmen and students. 1899. 668.1 G11
- C. Gill, A. H. Handbook of oil analysis. 1909. 665 G41.4
- C. Idris, T. H. W. Notes on essential oils. 1898. 668.5 Id5.6
- C. Lamborn, L. L. Modern soaps, candles and glycerin; a practical manual of modern methods of utilization of fats and oils in the manufacture of soap and candles, and of the recovery of glycerin. 1906. 668.1 L17.5
- C, D. Lewkowitsch, Julius. Chemical technology and analysis of oils, fats and waxes. 1909. 3 v. 665 L58.2

- D. Parry, E. J. Chemistry of essential oils and artificial perfumes. 1909. 668.5 P25.2
- C. Rideal, Samuel. Glue and glue testing. 1900. 668.3 R43
- D. Wright, C. R. A. Animal and vegetable fixed oils. 1903. 665.2 W93.1

#### FUEL.

- C. Allen, Horace. Modern power gas producer, practice and applications; a practical treatise dealing with the gasification of various classes of fuels by the pressure and suction systems of producer. 1908. 662.6 Al 5.5
- C, D. Booth, William, and Kershaw, J. B. C. Smoke prevention and fuel economy (based on the German work of E. Schmatolla). 1905. 662.6 B64.8
- C. Gissing, F. T. Commercial peat, its uses and possibilities. 1910. - 662.6 G44.2
- C, D. Jüptner von Jonstorff, Hanns, freiherr. Heat energy and fuels, pyrometry, combustion, analysis of fuels and manufacture of charcoal, coke and fuel gases; tr. by Oskar Nagel. 1909. 662.6 J97.4

**B, C.** Lewes, V. B. Liquid and gaseous fuels and the part they play in modern power production. 1907. (Westminster series.) 662.6 L58.5

B. Neuberger, Henry, and Noalhat, Henri. Technology of petroleum oil fields of the world, their 'history, geography and geology. . .tr. from the French by J. G. McIntosh. 1901. L665.5 N39

C. Thompson, A. B. Petroleum mining and oil field development. 1901. 665.5 T37.6

#### CELLULOID.

C. Böckmann, Frank. Celluloid, its raw material, manufacture, properties and uses. . .tr. by Charles Salter. 1907. 679 B63.2

#### LEATHER.

- **C**, **D**. **Bennett, H. G**. Manufacture of leather. 1909. 675 B43.5
- C. Standage, H. C. Leather workers' manual. . .a compendium of practical recipes and working formulæ for curriers, bootmakers, &c. 1900. 675 St2.5

C, D. Trotman, S. R. Leather trades chemistry; a practical manual on the analysis of materials and finished products. 1908. 675 T75.5

#### PAPER.

C. Sindall, R. W. Manufacture of paper. 1908. (Westminster series.) 676 Si6.5

B. Spicer, A. D. Paper trade; a descriptive and historical survey of the paper trade from the commencement of the 19th century. [c. 1907.] 676 Sp4.6

#### RUBBER.

- B, C. Beadle, Clayton, and Stevens, H. P. Rubber production and utilization of the raw product. 1910. (Pitman's common commodities of commerce.)
- C. Clouth, Franz. Rubber, gutta-percha and balata. 1903. L678 C61
- C. Heil, Adolf, and Esch, W. Manufacture of rubber goods; a practical handbook for the use of manufacturers, chemists and others. 1909. 678 H36.6

- C, D. Johnson, W. H. Cultivation and preparation of Para rubber. 1909.
   678 J63
- C. Pearson, H. C. Crude rubber and compounding ingredients; a textbook of rubber manufacture. 1910. 678 P31
- B. Rubber country of the Amazon. 1911. 678 P31.68
- C. Rubber tires and all about them; pneumatic, solid, cushion, combination for automobiles, omnibuses, cycles and vehicles of every description. 1906. 678 P31.7
- C. Seeligmann, T., and others. India rubber and gutta percha; a. . .practical treatise on india rubber and gutta percha in their historical, botanical, arboricultural, mechanical, chemical and electrical aspects. . .tr. from the French. . . by J. G. McIntosh. 1910. L678 Se3
- B, C. Terry, H. L. India rubber and its manufacture, with chapters on gutta percha and balata. 1907. 678 T27.4
- C. Weber, C. O. Chemistry of india rubber, including the outlines of a theory on vulcanization. 1902. 678 W38

- C. Wright, Herbert. Rubber cultivation in the British empire; a lecture delivered before the Society of Arts. 1907. 678 W93.7
- C. Wyllie, J. A., and Ferreira, O. G. Notes on rubber cultivation, with special reference to Portuguese India. 1907. 678 W972.6

#### TEXTILES AND DYEING.

- C. Barker, A. F. Textiles. 1910. 677 B24.8
- C, D. Bowman, F. H. Structure of wool fibre and its relation to the uses of wool for technical purposes. 1908. 677 B68.8
- C. Bradbury, Fred. Carpet manufacture. 1904. 677 B 72
- C. Brannt, W. T., ed. Practical dry cleaner, scourer and garment dyer. 1909. 667.1 B73.6
- Carter, H. R. Spinning and twisting of long vegetable fibres, flax, hemp, jute, tow and ramie; a practical manual of the most modern methods as applied to the hackling, carding, preparing, spinning and twisting of the long vegetable fibres of commerce. 1904. 677 C24
  - Farrell, F. J. Dyeing and cleaning; a practical handbook. 1908. 667.2 F24.2

C.

- C. Fraps, G. S. Principles of dyeing. 1903. 667.2 F84.6
- C. Hannan, W. I. Textile fibres of commerce; a handbook on the occurrence, distribution, preparation, and uses of the animal, vegetable and mineral fibres used in cotton, woolen, paper, silk, brush and hat manufactures. 1902. 677 H19
- C. Hooper, L. Hand-loom weaving; plain and ornamental. 1910. 677 H76.4
- C. Matthews, J. M. Laboratory manual of dyeing and textile chemistry. 1909. 667.2 M43.5
- C. Nesbit, Harry. Grammar of textile design. 1906. 677 N63.3
- C. Owen, F. A. Dyeing and cleaning of textile fabrics; a handbook for the amateur and the professional. 1909. 667.2 Ow2.3
- C. Taylor, J. T. Cotton weaving and designing. 1910. 677 T21.2

#### CIVIL ENGINEERING.

C. Fieberger, G. J. Civil engineering; a textbook for a short course. 1905. 620 F45

- D. Gillette, H. P. Handbook of cost data for contractors and engineers; a reference book giving methods of construction and actual costs of materials and labor on numerous engineering works. 1910. 620 G41.41
- D. Gillette, H. P., and Dana, R. T. Cost keeping and management engineering; a treatise for engineers, contractors and superintendents engaged in the management of engineering construction. 1909. 620 G412
- C. Humphreys, A. C. Lecture notes on some of the business features of engineering practice. 1905. 620.4 H88.5
- C. Supplement. 1905.

620.4 H88.51

C, D. Trautwine, J. C. Civil engineers' pocketbook, rev. by J. G. Trautwine, jr., and J. C. Trautwine, 3d. 1909. 620.8 T69

#### ARCHES.

D. Balet, J. W. Analysis of elastic arches, threehinged, two-hinged and hingeless of steel, masonry and reinforced concrete. 1908.

624.6 B19.1

C, D. Reuterdahl, Arvid. Theory and design of reinforced concrete arches. 1909. 624.6 R31.8

#### BRIDGES.

D. Burr, W. H., and Falk, M. S. Design and construction of metallic bridges. 1908. 624 B945.2 "This book is based upon the ninth edition of The stresses in bridge and roof trusses, arched ribs and suspension bridges by one of the authors of this volume." Preface.

Davies, M. W. Theory and practice of bridge construction in timber, iron and steel. 1908.
 624 D28.8

- D. Grimm, C. R. Secondary stresses in bridge trusses. 1908. 624 G76.8
- Ketchum, M. S. Design of highway bridges and the calculation of stresses in bridge trusses. 1908. 624 K49.2
- D. Merriman, Mansfield, and Jacoby, H. S. Textbook on roofs and bridges. 1907. 4 v. 624 M55 Contents:
  - v. 1. Stresses in simple trusses.
  - v. 2. Graphic statics.
  - v. 3. Bridge design.

C.

- v. 4. Higher structures.
- **Thomson, W. C.** Design of typical steel railway bridges; an elementary course for engineering students and draughtsmen. 1908. 624 T38.3

#### STRENGTH OF MATERIALS.

- D. Burr, W. H. Elasticity and resistance of the materials of engineering. 1908. 620.1 B94.3
- D. Johnson, J. B. Materials of construction; a treatise for engineers on the strength of engineering materials. 1906. 620.1 J63
- D. Johnson, J. B., Bryan, C. W., and Turneaure, F. E. Theory and practice of modern framed structures. 1910. v. 1. 620.1 J631
- Ketchum, M. S. Design of steel mill buildings and the calculation of stresses in framed structures. 1906. 690 K49.3
- D. Merriman, Mansfield. Textbook on the mechanics of materials and of beams, columns and shafts.
   1905. 620.1 M55
- D. Popplewell, W. C. Strength of material; a manual for students of engineering. 1907. -620.1 P81.8
- Smith, H. E. Strength of material; an elementary study prepared for the use of midshipmen at the U. S. Naval Academy. 1909. 620.1 Sm5.8

**C**, **D**. **Thurston, R. H.** Materials of engineering. 1903-7. 3 v. 620.1 T42

Contents :

v. 1. Non-metallic materials of engineering and metallurgy. v. 2. Iron and steel.

v. 3. Treatise on brasses, bronzes and other alloys and their constituents.

C, D. Unwin, W. C. Testing of materials of construction. 1910. 620.1 Un9.8

#### EARTHWORK AND RETAINING WALLS.

- D. Crockett, C. W. Methods of earthwork computations. 1908. 526.9 C87.5
- **Ketchum, M. S.** Design of walls, bins and grain elevators. 1907. 621.87 K49.3
- D. Patton, W. M. Practical treatise on foundations, explaining fully the principles involved. 1906. 721.1 P27.6
- D. Prelini, C. Graphical determination of earth slopes, retaining walls and dams. 1908. 627.8 P91.4

#### ELECTRIC ENGINEERING.

- A, C. Electrical catechism. 533 plain answers to 533 practical questions about electrical apparatus. 1908. 537 El 2 Compiled from Power.
- C, D. Foster, H. A. Electrical engineers' pocketbook; a handbook of useful data for electricians and electrical engineers. 1908. 537.08 F81
- Franklin, W. S. Elements of electrical engineering; a textbook for technical schools and colleges. 1906. 2 v. 537.8 F85.3 Contents:
   v. 1. Direct current machines.
   v. 2. Alternating currents.
- C, D. Hobart, H. M. Heavy electrical engineering. 1908. 537.8 H65.4
- C. Oudin, M. A. Standard polyphase apparatus and systems. 1907. 537.83 Ou2
- C. Slingo, W., and Brooker, A. Electrical engineering for electric light and power artisans and students. 1908. 537.8 Sl 3
- C, D. Standard handbook for electrical engineers. 1910. \*537 St1.8

#### ELECTRICITY.

#### General and Theory.

A, C. Ashe, S. W. Electricity, experimentally and practically applied; a book for the beginner and for the practical man; principles, experiments, practical applications and problems. 1910.

537 As3.3

B. Broadbent, Frank. Chats on electricity, told in plain language for the non-technical. 1910. 537 B78.3

- C, D. Campbell, N. R. Modern electrical theory. 1908. 537 C15.5
- B. Gibson, C. R. Romance of modern electricity and matter. 1906. 537 G35.7
- C, D. Hobart, H. M. Electricity; a textbook designed in particular for engineering students. 1909. 537 H65.3
- A, C. Houston, E. J., and Kennelly, A. E. Electricity made easy. 1910. 537 H81
- A, B, C. Jackson, D. C. Elementary book on electricity and magnetism and their applications. 1908.

537 J12.

C. Lodge, Sir Oliver. Modern views of electricity. 1907. 537 L82.5

- C. Timbie, W. H. Elements of electricity for technical students. 1911. 537 T48.3
- C. Verschoyle, W. D. Electricity: what is it? 1908. 537 V61.3
- C. Swoope, C. W. Lessons in practical electricity, principles, experiments and arithmetical problems; an elementary textbook. 1910.

\*537 Sw7

# ALTERNATING AND DIRECT CURRENT MACHINERY.

- C. Ashford, C. E., and Kempson, E. W. E. Elementary theory of direct current dynamo electric machinery. 1909. 537.83 As34
- C. Beddell, Frederick, and Pierce, C. A. Direct and alternating current testing. 1909.

537.83 B39.2

- **Bowker, W. R.** Dynamo, motor and switchboard circuits for electrical engineers; a practical book dealing with the subject of direct, alternating and polyphase. 1908. 537.83 B67.2
- C, D. Franklin, N. S. Electric waves; an advanced treatise on alternating current theory. 1909. 537.83 H19.1

- C. Hanchett, G. T. Alternating currents: their generation, distribution and utilization. 1906. 537.83 H19.1
- C. Houston, E. J., and Kennelly, A. E. Alternating electric currents. 1906. 537.83 H82.1
- **D.** Jackson, D. C., and Jackson, J. P. Alternating currents and alternating current machinery. 1909. 537.83 J12.1
- D. Lamb, C. G. Alternating currents; a textbook for students of engineering. 1906. 537.83 L16.1
- C. Larner, E. T. Principles of alternating currents for students of electrical engineering. 1908. 537.83 L32.6

# DYNAMOS AND MOTORS.

- C. Crocker, F. B., and Arendt, Morton. Electric motors, their action, control and application. 1910. 537.83 C875.3
- C. Franklin, W. S., and Esty, W. Dynamos and motors; a textbook for colleges and technical schools, direct-current and alternating-current machines. 1909. 537.83 F853

- D. Hawkins, C. C., and Wallis, F. Dynamo; its theory, design and manufacture. 1909. 2 v. 537.83 H31
- C. Hird, W. B. Elementary dynamo design. 1909. 537.83 H61.3
- C, D. Hobart, H. M. Electric motors, continuous current motors and induction motors, their theory and construction. 1910. 537.03 H65.29
- C, D. Elementary principles of continuous-current dynamo design. 1906. 537.83 H65.3
- D. Hobart, H. M., and Ellis, A. G. High speed dynamo electric machinery. 1908. 537.83 H655.4
- C. Meade, N. G. Electric motors; their installation, control, operation and maintenance. 1908. 537.83 M47.3
- C. Poole, C. P. Designs for small dynamos and motors. 1906. 537.83 P78.2
  - C, D. Sheldon, Samuel, and Mason, Hobart. Dynamo electric machinery, its construction, design and operation. 1908. 2 v. 537.83 Sh4
  - Weed, A. J. Practical dynamo building for amateurs. 1910.
     537.83 W41.6

### ELECTRIC BATTERIES.

- **C, D.** Lyndon, Lamar. Storage battery engineering; a practical treatise for engineers. 1903. 537.84 L98.8
- C. Schneider, N. H. Modern primary batteries, their construction, use and maintenance; including batteries for telephones, telegraphs. . .and all experimental work. 1905. 537.86 Sch5.5
- A, C. Watson, A. E. Storage batteries, their theory, construction and use. 1907. 573.84 W33.8

### ELECTRIC LIGHTING.

- C. Burrows, W. E. Electrical illuminating engineering. 1908. 537.83 B27.3
- C, D. Crocker, F. B. Electric lighting; a practical exposition of the art for the use of engineers, students and others interested in the installation or operation of electrical plants. 1906. 2 v.

537.83 C87

C. Cross, H. H. U. Care and management of ignition accumulators and electric light for the million, containing practical information on the charging and repairing of motor cycle, motor car, and other similar ignition accumulators. 1910. 537.83 C885.2

- C. Cushing, H. C. jr. Standard wiring for electric light and power. 1910. 537.83 C95.1
- C. Solomon, Maurice. Electric lamps. 1908. (Westminster series.) 537.83 So4.3
- C. Zeidler, J., and Lustgarten, J. Electric arc lamps, their principles, construction and working. 1908. 537.83 Z31

### ELECTRIC MEASUREMENT.

- C. Connan, J. C. Switchboard measuring instruments for continuous and polyphase systems. 1908. 537.7 C76.8
- C. Edgecumbe, Kenelm. Industrial electrical measur ing instruments. 1908. 537.7 Ed3.4
- C. Schneider, N. H. Electrical instruments and testing; how to use the voltmeter, ohmmeter, ammeter, potentiometer, galvanometer, the Wheatstone bridge and standard portable testing wires and cables and locating faults, by Jesse Hargrave. 1907. 537.8 Sch5.3

# ELECTRIC METERS.

C. Gerhardi, C. H. W. Electricity meters, their construction and management; a practical manual for central station engineers, distribution engineers and students. [p. 1906.] 537.7 G31.3

# ELECTRIC RAILWAYS.

C, D. Ashe, S. W., and Keeley, J. D. Electric railways, theoretically and practically treated. 1905. 2 v. 537.87 As3.3

- C. Davies, F. H. Electric power and traction. 1907. (Westminster series.) 537.83 D28.3
- C, D. Dawson, Philip. Electric traction on railways. 1910. 537.87 D32.29
- C, D. Engineering and electric traction pocketbook. 1906. 537.87 D32.3
- C. Herrick, A. B. Practical electrical railway handbook. 1906. 537.87 H43.6
- A, C. Houston, E. J., and Kennelly, A. E. Electric street railways. 1906. 537.87 H812
- C. Livermore, V. B., and Williams, J. R. How to become a competent motorman. 1908.

537.87 L75

- C. Parham, E. C., and Shedd, J. C. Shop test on electric car equipment for inspectors and foremen. 1909. 537.87 P218
- D. Parshall, H. F., and Hobart, H. M. Electric railway engineering. 1908. L537.87 P255

# ELECTRIC TRANSFORMERS.

- C, D. Kapp, Gisbert. Transformers for single and multiphase currents; a treatise on their theory, construction and use. 1908. 537.5 K72.8
- C. Taylor, W. T. Stationary transformers; theory, connections, operation and testing of constantpotential, constant-current. . .&c. 1909. 537.5 T21.8

### ELECTRIC TRANSMISSION OF POWER.

- **Abbott, A. V.** Electrical transmission of energy; a manual for the design of electrical circuits. 1907.
   537.84 Ab2
- C. Berg, E. J. Electrical energy, its generation, transmission and utilization; lectures given at Union university. 1908. 537.83 B45.3

- **C**, **D**. **Koester, Frank.** Hydro-electric development and engineering; a practical and theoretical treatise on the development, design, construction, equipment and operation of hydro-electric transmission plants. 1909. 537.84 K81.4
- D. Hutchinson, R. W., jr. Long-distance electric power transmission, being a treatise on the hydro-electric generation of energy, its transmission, and distribution. 1907. 537.84 H97.5
- C. Lyndon, Lamar. Development and electrical distribution of water power. 1908. 627 L98.3
- C. Schon, H. A. E. C. von. Hydro-electric practice; a practical manual of the development of water power, its conversion to electric energy and its distant transmission. 1908. L537.84 Sch6.4

# ELECTRIC WIRES AND WIRING.

C. Auerbacher, L. J. Electrical contracting; shop system, estimating, wiring, construction methods and hints on getting business. 1910.

537.83 Au3.3

Branch, J. G. Electric wiring. 1910. 537.83 B73.3

C.

- C. Cushing, H. C., jr. Standard wiring for electric light and power. . .containing national electrical code explained. 1910. 537.83 C95.1
- C. DelMar, W. A. Electric power conductors. 1909. 537.84 D83.3
- C. Maycock, W. P. Electric wiring, fittings, switches and lamps; a practical book for electric light engineers and contractors, consulting engineers, architects, builders, wiremen and students. 1911. 537.83 M45.3
- C, D. Perrine, F. A. C. Conductors for electrical distribution, their materials and manufacture; the calculation of circuits, pole-line construction, underground working and other uses. 1906. 537.8 P42

# ELECTRO CHEMISTRY.

- D. Arrhenius, Svante. Textbook of electro-chemistry; tr. from the German by John McCrae. 1902. 545.3 Ar6
- C, D. Blount, Bertram. Practical electro-chemistry. 1906. 537.85 B62
- C, D. Hopkins, N. M. Experimental electro-chemistry. 1905. 545.3 H77.3

Jones, H. C., and others. Conductivity and viscosity in mixed solvents; a study of the conductivity and viscosity of solutions of certain electrolytes in water, methyl alcohol, ethyl alcohol and acetone and in binary mixtures of these solvents. 1907. 541 J712

## ELECTRO MAGNETS.

- C, D. Jackson, D. C. Textbook on electro-magnetism and construction of dynamos. 1907. 537.83 J12
- D. Underhill, C. R. Solenoids, electro-magnets and electro-magnetic windings. 1910. 538.3 Un2.8

# ELECTRO PLATING.

- C. Bedell, W. L. D. Practical electro-plating; a guide for the electro-plater, giving complete instructions for the arrangement of the shop, the installation of the plant, polishing, plating, buffing and lacquering. 1909. 537.85 B39.6
- C. Field, Samuel. Principles of electro-deposition; a laboratory guide to electro-plating. 1911. 537.85 F45.6

C, D. Langbein, George. Complete treatise on the electro-deposition of metals; comprising electroplating and galvanoplastic operations, the disposition of metals by the contact and immersion processes.
 tr. from the German ed. with additions by W. T. Brannt. 1909. 537.85 L25

C. Partridge, C. S. Electrotyping; a practical treatise on the art of electrotyping by the latest known methods, containing historical review of the subject, full description of the tools and machinery required and complete instructions for operating an electrotyping plant. 1909.

537.85 P25.3

Pfanhauser, Wilhelm. Manufacture of metallic articles electrolytically, electro-engraving. 1906. 537.85 P47.5

C.

A

D. Watt, Alexander, and Philip, Arnold. Electroplating and electro-refining of metals. 1902. 537.85 W34

# INDUCTION COILS.

- C. Armagnat, H. Theory, design and construction of induction coils, tr. and ed. by O. A. Kenyon. 1908. 537.51 Ar5.8
  - Collins, A. F. Design and construction of induction coils. 1909. 537.5 C69.3

Haller, G. F., and Cunningham, E. T. Tesla high frequency coil, its construction and uses. 1910. 537.5 H15.8

# FACTORY MANAGEMENT AND ACCOUNTING.

Arnold, H. L. Complete cost-keeper; some original systems of shop cost-keeping or factory accounting, together with an exposition of the advantages of account keeping by means of cards instead of books. 1900.

Factory manager and accountant; some examples of the latest American practice. 1910. 338 Ar6.4

- Carpenter, C. U. Profit-making management in shop and factory. 1908. (Works management library.) 338 C22.6
- Church, A. H. Production factors in cost accounting and works management. 1910. (Works management library.) 338 C47.6

Proper distribution of expense burden. 1908. (Works management library.) 338 C47.62

Diemer, H. Factory organization and administration. 1910. (Works management library.) 338 D56.3

- Day, Charles. Industrial plants. 1911. (Works management library.) 338 D33.4
- Emerson, Harrington. Efficiency as a basis for operation and wages. 1909. (Works management library.) 338 Em3.3
- Gantt, H. L. Work, wages and profits. 1910. (Works management library.) 331.8 G15.9
- Gillette, H. P. Handbook of cost data, for contractors and engineers; a reference book giving methods of construction and actual costs of materials and labor on numerous engineering works. 1909. 620 G41.41
- Gillette, H. P., and Dana, R. T. Cost keeping and management engineering; a treatise for engineers, contractors and superintendents engaged in the management of engineering construction. 1909. 620 G412

Prindle, J. E. Patents as a factor in manufacturing. 1908. (Works management library.) 608 P93.6

Taylor, F. W.Principles of scientific management.1911.338 T21.6

# HYDRAULIC ENGINEERING.

C, D.	Beardsley, R. C. Design and construction of hydro- electric plants, including a special treatment of the design of dams. 1907. 537.84 B38.3
C.	Church, I. P. Hydraulic motors, with related sub- jects, including centrifugal pumps, pipes, and open channels, designed as a textbook for engi- neering schools. 1905. 621.2 C47.4
C.	Hawkins, Nehemiah.Pumpsand hydraulies.[e. 1905.]2 v.621.64 H63.6
C, D.	Hoyt, J. C., and Grover, N. C. River discharge; prepared for the use of engineers and students. 1907. 627.1 H851
C, D.	Merriman,Mansfield.Treatiseonhydraulics.1893.532.5 M55.8
D.	Molitor, D. A. Hydraulics of rivers, weirs and sluices; the derivation of new and more accurate formulæ for discharge through rivers and canals, obstructed by weirs, sluices, &c., according to the principles of Gustav Ritter von Wex. 1908.

627.1 M73.4

#### DAMS.

- C, D. Beardsley, R. C. Design and construction of hydroelectric plants, including a special treatment of the design of dams. 1907. 537.84 B38.3
- C, D. Morrison, C. F., and Brodie, O. L. High masonry dam construction. 1910. 627.8 M831
- C. Prelini, Charles. Graphical determination of earth slopes, retaining walls and dams. 1908. 627.8 P91.4
- Wegmann, Edward. Design and construction of dams, including masonry, earth rock-fill, timber, and steel structures, also the principle types of movable dams. 1907. L627.8 W42.2

#### HARBORS.

C. Cunningham, Brysson. Treatise on the principles and practice of harbor engineering. 1908. 627.2 C91.8

# MARINE ENGINEERING AND NAVAL ENGINEERING.

C. Barton, J. K. Naval engines and machinery; a textbook for the instruction of midshipmen at the U. S. Naval Academy. 1906. L621.12 B28.6

- C, D. Bauer, G. Marine engines and boilers. . . for the use of students, engineers and naval constructors, based on the work Berechnung und konstruktion der schiffsmachinen und kessel; tr. from the 2d German ed. by E. M. Donkin and S. B. Donkin; ed. by L. S. Robertson. 1905. 621.12 B32.5
- D. Bertin, L. E. Marine boilers, their construction and working, dealing more especially with tubulous boilers; tr. and ed. by Leslie S. Robertson, with a new chapter on liquid fuel by H. C. Anstey and a preface by Sir William White 1906. 621.12 B46.5
- C. Dinger, H. C. Handbook for the care and operation of naval machinery. 1908. 623.8 D61.4
- C, D. Hasluck, P. N., ed. Building model boats, including sailing and steam vessels. 1908. 699 H27.1
- D. Holms, A. C. Practical shipbuilding; a treatise on the structural design and building of modern steel vessels, the work of construction from the making of the raw material to the equipped vessel, including subsequent upkeep and repairs. 1908. 2 v. L699 H73.6
- D.

**Peabody, G. H.** Naval architecture. 1907. 623 P32.6

D. Seaton, A. E. Manual of marine engineering, comprising the design, construction and working of marine machinery. 1907. 621.12 Se1.5

C.

Screw propeller and other competing instruments for marine propulsion. 1909.

621.12 Se1.8

- D. Sotheran, J. W. Marine steam turbine; a practical description of the Parsons marine turbine as presently constructed, fitted and run; intended for the use of students, marine engineers, &c. 1909. 621.24 So7.5
- C. Tompkins, A. E. Marine engineering; a textbook. 1908. 623.8 T59.5

# MECHANICAL ENGINEERING.

- C, D. Kent, William. Mechanical engineers' pocketbook; a reference book of rules, tables, data and formulæ for the use of engineers, mechanics and students. 1910. 620.8 K41
- C. M'Laren, R. S. Mechanical engineering for beginners. 1908. 621 M22.5
- C. Moore, S. H. Mechanical engineering and machine shop practice. 1908. 621 M78.5

## AUTOMOBILES.

- C. Adams, W. T. Motor car mechanism and management. 1909. 2 v. 625.6 Ad1.5
- **C. Batey, John.** Motor car and its engine. 1909. 625.6 B31.5
- Brewer, R. W. A. Motor car; a practical manual, with notes on the internal combustion engine and its fuel, for the use of students and motor car owners. 1909. 625.6 B75.5
- C. Clough, A. L., ed. Operation, care and repair of automobiles; ed. from the files of the Horseless age. [c. 1907.] 625.6 C62.6
- D. Gunn, James. Practical design of motor cars. 1910. 625 G95.6
- C. Hasluck, P. N., ed. The automobile; a practical treatise on the construction of modern motor cars, steam petrol, electric and petrol-electric. 1906. 625.6 H27.1
- C. Homans, J. E. Self-propelled vehicles; a practical treatise on the theory, construction, operation, care and management of all forms of automobiles. 1909. 625.6 H62

C. Tillson, B. R. Complete automobile instructor; over six hundred questions with answers and illustrations, covering the principle, the operation and the care of gasoline automobiles. 1907. 625.6 T46.2

C. White, T. H. Petrol motors and motor cars. 1910. 625.6 W58

#### COMPRESSED AIR.

- C. Hiscox, G. D. Compressed air, its production, uses and application. 1909. 621.42 H62
- D. Innes, C. H. Air compressors and blowing engines especially adapted for engineers. 1906. 621.5 In6.1
- C. Peele, Robert. Compressed air plant for mines; the production, transmission and use of compressed air with special reference to mine service. 1908. 621.42 P34.2

# ELEVATORS.

Baxter, William, jr. Hydraulic elevators, their design, construction, operation, care and management. 1910.
 621.87 B33.4

- D. Ketchum, M. S. Design of walls, bins and grain elevators. 1907. 621.87 K49.3
- C. Swingle, C. F. Elevators, hydraulic and electric. 1910. 621.87 Sw6.3

#### HOISTING AND CONVEYING MACHINERY.

- C, D. Böttcher, Anton. Cranes, their construction, mechanical equipment and working; tr. and supplemented with English, American and Continental practice by A. Tolhausen. 1908. L621.87 B65.3
- D. Weisbach, P. J., and Hermann, Gustav. Mechanics of hoisting machinery, including accumulators, excavators and pile-drivers. . . tr. from the 2d German ed. by K. P. Dahlstrom. 1907.

621.86 W431

#### FOUNDRIES.

**C**, **D**. **Carr**, **W**. **M**. Open hearth steel castings. 1907. 669.1 C23.6

- C, D. McWilliam, Andrew, and Longmuir, Percy. General foundry practice. 1907. 671 M225
- A, C. Richards, W. A. Textbook of elementary foundry practice, for the use of students in colleges and secondary schools. 1910. 671 R39.8
- C. Tate, J. M., and Stone, M. O. Foundry practice; a treatise on moulding and casting in their various details. 1909. 671 T18.3
- C, D. Thurston, R. H. Treatise on brasses, bronzes and other alloys and their constituent metals. 1907. (Materials of engineering, v. 3.) 673 T42

### GAS AND OIL ENGINES.

- Allen, J. T., comp. Digest of United States patents of air, caloric, gas and oil engines, 1789-1905, chronologically arranged under two hundred and five subdivisions. [c. 1906.] L621.4 Al 52.3
- Carpenter, R. C., and Diedrich, Hermann. Internal combustion engines, their theory, construction and operation. 1908. 621.4 C221

D. Clerk, Dugald. The gas, petrol and oil engine. 1909. v. 1. 621.4 C59.3 Contents:

C.

v. 1. Thermodynamics of the gas, petrol and oil engine together with historical sketch.

- D. Ennis, W. D. Applied thermodynamics for engineers. 1910. 536.7 En6.1
- D. Güldner, Hugo. Design and construction of internal-combustion engines; a handbook for designers and builders of gas and oil engines.
   tr. from the 2d ed. with additions on American engines. 1910.
- C. Hiscox, G. D. Gas, gasoline and oil vapor engines; descriptive of their theory and power, illustrating their design, construction and operation for stationary, marine and vehicle motive power. 1907. 621.4 H62
- C. Jones, F. R. The gas engine. 1909. 621.4 J71
- **C**, **D**. **Junge**, **F**. **E**. Gas power; a study of the evolution of gas power, the design and construction of large gas engines in Europe, the application of gas power to various industries and the rational utilization of low grade fuels. 1908.

621.4 J95.3

- D. Levin, A. M. Modern gas engine and the gas producer. 1910. 621.4 L57.5
- D. Lucke, C. E. Gas engine design. 1905. 621.4 L96

- C, D. Mathat, R. E. Gas engines and producer-gas plants; a practice treatise setting forth the principles of gas engines and producer design, the selection and installation of an engine, conditions of perfect operation, producer-gas engines and their possibilities. . .tr. from. . .French by W. B. Kaempffert. 1905. 621.4 M42.3
- C, D. Peabody, C. H. Thermodynamics of the steam engine and other heat engines. 1905.

621.1 P31.6

- C, D. Mehrtens, A. C. Gas engine theory and design. 1909. 621.4 M48.4
- C. Sharp, Archibald. Balancing of engines, steam, gas and petrol; an elementary textbook, using principally graphical methods. 1907.

621.1 Sh3.1

C, D. Wimperis, H. E. Internal combustion engine, being a textbook on gas, oil and petrol engines for the use of students and engineers. 1909.

621.4 W71.4

#### PRODUCER GAS AND GAS PRODUCERS.

- C. Allen, Horace. Modern power gas producer practice and applications; a practical treatise dealing with the gasification of various classes of fuels by the pressure and suction systems of producer. 1908. 662.6 Al 5.5
- C, D. Latta, M. N. American producer gas practice and industrial gas engineering. 1910. L697.6 L35.1
- D. Levin, A. M. Modern gas engine and the gas producer. 1910. 621.4 L57.5
- C, D. Mathat, R. E. Gas engines and producer gas plants; a practice treatise setting forth the principles of gas engines and producer design.
  with a chapter on volatile hydrocarbon and oil engines, tr. from the.
  French by W. R. Kaempffert. 1905.
  621.4 M42.3
- C. Miller, J. C. Power gas and the gas producer. [c. 1910.] 621.4 M61.6
- C. Robson, P. W. Power gas producers; their design and application. 1908. 621.4 R57.6

C.

Wyer, S. S. Treatise on producer gas and gas producers. 1907. 697.6 W98.8

#### GEARING.

- C. Anthony, G. C. Essentials of gearing; a textbook for technical students and for self instruction, containing problems and practical formulas. 1906. 621.84 An8
- C. Brown and Sharpe manufacturing co. Practical treatise on gearing. 1903. 621.85 B81.6
- Engstrom, D. A. Bevel gear tables; tables and necessary explanation to enable anyone to figure bevel gears without the use of trigonometry. 1909.

C.

Logue, C. H. American machinist gear book; simplified tables and formulas for designing and practical points in cutting all commercial types of gears. 1910. 621.85 L82.1

# MACHINE SHOP.

- C, D. Becker, O. M. High speed steel; the development, nature, treatment and use of high speed steels, together with some suggestions as to the problems involved in their use. 1910. 621.94 B38.4
- C. Collins, H. E. Erecting work. 1908. 621 C69.4 Compiled from Power.

- Colvin, F. H. Engine lathe work; practical suggestions which will give the young machinist or apprentice the foundation principles of engine lathe work. 1909. 621.94 C71.3
- C. Colvin, F. H., and Cheney, W. L. Machine shop arithmetic. 1910. 512 C722.5
- C. Colvin, F. H., and Stanley, F. A. American machinists' handbook and dictionary of shop terms. 1908. 621.9 C728
- C, D. Flanders, R. E. Gear cutting machinery; comprising a complete review of contemporary American and European practice, together with a logical classification and explanation of the principles involved. 1909. 621.85 F61.4
- C. Goodrich, C. L., and Stanley, F. A. Accurate tool work. 1908. 621.9 G628
- C. Hart, R. N. Welding, theory, practice, apparatus and tests, electric thermit and hot-flame processes. 1910. 671 H25.9
- C. Jepson, George. Cams and the principles of their construction. 1905. 621.04 J47
- C. Leonard, W. S. Machine shop tools and methods. 1905. 621.9 L55

C. Moore, S. H. Mechanical engineering and machine shop practice. 1908. 621 M78.5

C. Nedden, D. F., zur. Engineering workshop machines and processes; a handbook for the use of students and others taking the workshop training recommended by the Institution of civil engineers; tr. by J. A. Davenport with an introduction by Sir A. B. W. Kennedy. 1910.

621.7 N28.3

C, D. Nicolson, J. T., and Smith, Dempster. Lathe design for high and low speed steel; a treatise on the kinematical and dynamical principles governing the construction of metal turning lathes, with notes to guide the purchaser in the choice of a tool and many examples from practice. 1908. L621.94 N548.5

C. Oberg, Erik. Handbook of small tools, comprising threading tools, taps, dies, cutters, drills and reamers, together with a complete treatise on screw-thread systems. 1908. 621.9 Ob2.4

C, D. Perrigo, C. O. E. Modern machine shop construction, equipment and management. 1906.

L620 P42.5

C. Piers, Frank. Piers' mathematics for the machine shop; a pocketbook for the use of machinists and toolmakers. 1906. 620.8 P61.5

- C, D. Smith, C. F., and Halsey, F. A. Design and construction of cams. 1906. L620.04 Sm5.2
- C. Woodworth, J. V. American tool making and interchangeable manufacturing; a treatise upon the designing, constructing, use and installation of tools, jigs, fixtures and labor-saving contrivances. 1905. 621.9 W87.1
- C. Dies, their construction and use for the modern working of sheet metals. 1907. 621.9 W87
- C. Drop forging, die sinking and machine forming of steel. 1910. 621.9 W87.27
- C. Punches, dies and tools for manufacturing in presses. 1907. 621.9 W87.6

### MECHANICAL DRAWING AND MACHINE DESIGN.

- C, D. Anthony, G. C. Elements of mechanical drawing, use of instruments, geometrical problems and projection. 1905. 620.04 An8
- C, D. \_Machine drawing. 1910. 620.04 An8.5
- C, D. Cathcart, W. L. Machine design. pt. 1. 620.04 C28.5
- C. Jepson, George. Mechanical drawing. 1909. 620.04 J46.5

- C. Kimball, D. S., and Barr, J. H. Elements of machine design. 1909. 620.04 K561
- C, D. Reuleaux, Franz. The constructor; a handbook of machine design; tr. . .from the German. . . by H. H. Suplee. 1905. L620.04 R32
- C, D. Reid, J. S. Mechanical drawing, elementary and advanced. 1910. 620.04 R27.5
- C. Spooner, H. J. Machine design, construction and drawing; a textbook for the use of young engineers. 1908. 620.04 Sp6.5
- C. Machine drawing and design for beginners; an introductory work for the use of technical students. 1909. 620.04 Sp6.52
- A, C. Sylvester, F. L., and Oberg, Erik. Self-taught mechanical drawing and elementary machine design. . . prepared for the use of practical mechanics and young draftsmen. 1910.

620.04 Sy5.8

D. Unwin, W. C. Elements of machine design. 1909. pt. 1. 620.04 Un9 Standard treatise on the subject. v. 2 in preparation.

#### MILLWRIGHTING.

C. Hobart, J. F. Millwrighting. 1909. 621 H65.5

### PATTERN MAKING.

C. Barrows, F. W. Practical pattern making. 1906. 621.9 B27.6

- C. Chase, I. M. Art of pattern making; a comprehensive treatise, numerous examples of all kinds of pattern work for green-sand, dry-sand and loam mouldings. 1903. 621.9 C38.1
- C. Horner, J. G. Principles of pattern making. . . including a glossary of the common terms employed, both in pattern making and moulding. 1909. 621.9 H78.6

C.

Willard, G. H. Pattern making, to which are added chapters on coremaking and moulding. [c. 1910.] 621.9 W66.6

# PUMPS.

C, D. Barr, W. M. Pumping machinery; a practical handbook relating to the construction and management of steam and power pumping machines. 1908. 621.6 B27.6

- C. Bjorling, P. R. Practical handbook on pump construction. 1904. 621.64 B55.6
- C. Collins, H. E. Pumps; troubles and remedies. (Power handbooks.) 1908. 621.6 C69.68
- C, D. Davey, Henry. Principles, construction and application of pumping machinery. (Steam and water pressure.) 1905. 621.64 D27.6
- C.
   Hawkins, Nehemiah.
   Pumps
   and
   hydraulies.

   [c. 1905.]
   2 v.
   621.64 H63.6
- D. Innes, C. H. Centrifugal pump, turbines and water motors. 1909. 621.2 In6
- D. Lowenstein, L. C., and Crissey. Centrifugal pumps. 1909. 621.2 L95.2
- Weisbach, P. J., and Hermann, Gustav. Mechanics of pumping machinery; a textbook for technical schools and a guide for practical beginners.
   tr. from the 2nd German edition by K. P. Dahlstrom. 1897.

# **REFRIGERATION.**

C.

Anderson, J. W. Refrigeration; an elementary textbook. 1908. 621.5 An2.7

- C. Lorenz, Hans. Modern refrigerating machinery, its construction, methods of working and industrial applications; a guide for engineers and owners of refrigerating plants. . .tr. from the. . .German ed. by. T. H. Pope. 1905. 621.5 L88.5
- D. Paulding, C. P. Transmission of heat through cold storage insulation; formulas, principles and data relating to insulation of every kind; a manual for refrigerating engineers. 1905.

621.5 P28.7

# TRANSMISSION OF POWER.

- C, D. Cooper, J. H. Treatise on the use of belting for the transmission of power. [c. 1901.] 621.8 C78.8

621,86 C88.8

C. Fairbairn, William. Principles of mechanism and machinery of transmission, comprising the principles of mechanism, wheels and pulleys, strength and proportions of shafts, couplings for shafts and engaging and disengaging gear. 1903. 621.8 F15.6 Flather, J. J. Rope-driving; a treatise on the transmission of power by means of fibrous ropes 1903.
 621.8 F61

C.

Kerr, E. W. Power and power transmission. 621.8 K46

# MECHANIC TRADES.

#### Bookbinding.

Bickeel, L. Bookbindings from the Hessian historical exhibition illus. the art of bookbinding from 15th to the 18th centuries. 1893.

\*\*095 B47

Cockerell, Douglas. Bookbinding and the care of books. 1902. 686 C64

Crane, W. T. E. Bookbinding for amateurs. . . descriptions of the. . .tools and appliances required and. . .instructions for their effective use. n. d. - 686 C85

Dana, J. C. Notes on bookbinding for libraries. 1906. 686 D19.6

Davenport, Cyril. English embroidered bookbindings. 1899. 095 D27.3

- Hulme, E. W., and others. Leather for libraries. 1905. 686 H874
- Matthews, J. B. Bookbinding, old and new; notes of a booklover, with an account of the Grolier club of New York. 1895. 095 M43
- Nicholson, J. B. Manual of the art of bookbinding; containing full instructions in. . .forwarding, gilding and finishing, also. . .marbling book edges and paper. 1887. 686 N51
- Prideaux, S. T. Bookbinders and their craft. 1903. 090 P93.1

Smith, A. M. Bookbinding. 1901. 655 Sm5

- Stephen, G. A. Commercial bookbinding; a description of the processes and the various machines. 1910. L686 St42
- Zaehnsdorf, J. W. Art of bookbinding; a practical treatise. 1900. 686 Z1
- Zahn, Otto. On art binding; a monograph. 1904. 686 Z2.1

### CLOCKS AND WATCHES.

Britten, F. J. Old clocks and watches and their makers. . .an historical and descriptive account of the different styles of clocks and watches of the past in England and abroad. . . and a list of ten thousand makers. 1904. 681 B77 3

On the springing and adjusting of watches. 1898. 681 B77

Watch and clock makers' handbook, dictionary and guide. 1907. 681 B77.8

Fritts, C. E. Watch adjuster's manual; a practical guide for the watch and chronometer adjuster in making, springing, timing and adjusting for isonchronism, positions and temperatures. 1904. 681 F91.9

Garrard, F. J. Watch repairing, cleaning and adjusting; a practical handbook. 1908.

681 G19.8

Grossmann, Jules. Lessons in horology. 1905. 681 G91.5

Learned, W. B. Watchmakers' and machinists' handbook; or beginners' guide containing. . . rules and explanations on the relations of wheels to pinions. 1897. 681 L47

- Lewis, W. T. Friction, lubrication and the lubricants in horology. 1896. 681 L58
- Marsh, E. A. Evolution of automatic machinery as applied to the manufacture of watches at Waltham, Mass., by the American Waltham watch co. 1896. 681 M35
- Playtner, R. H. Analysis of the lever escapement. 1895. 681 P69
- Reid, Thomas. Treatise on clock and watch making, thoretical and practical. 1897. L681 R44
- Saunier, Claudius. Watchmakers' handbook, intended as a workshop companion for those engaged in watchmaking and the allied mechanical arts, tr. from the French and enl. by Julian Tripplin and Edward Rigg. 1906. 681 Sa8.9
- Shouffelberger, H. Wheels and pinions and how to determine their exact size, tr. and ed. by Theo. Gribi. 1896.
  681 Sh8

#### HORSESHOEING.

Holmstrom, J. G. Scientific horse, mule and ox shoeing. [c. 1902.] 682.1 H78.8 

# METAL WORKING.

- Alexander, F. Art crafting in metal for amateurs, being the art of ornamenting thin metal with pierced and raised designs. n. d. 739 Al 2.1
- Atkins, E. A. Practical sheet and plate metal work for the use of boilermakers, &c. 1908.

671 At5.6

Brannt, W. T., ed. Metal workers' handy book of receipts and processes. 1899. 671 B73

Crawshaw, F. D. Metal spinning. 1909. 621.94 C85.5

**Erskine, F. J.** Bent iron work; a practical manual of instruction for amateurs in the art and craft of making and ornamenting light articles in imitation of the mediaval and Italian wrought iron work. n. d. 739 Er8

Friling, Hermann. Entwürfe für metallarbeiten. n. d. \*\*739 F91.3

- Gawthorp, T. G., and Gawthorp, W. E. Manual of practical instruction in the art of brass repoussé for amateurs. 1907. 739 G24.5
- Groth, L. A. Welding and cutting metals by aid of gases or electricity. 1909. 671 G89.9
- Harrison, John. Decoration of metals, chasing, repoussé and saw piercing. 1894. 739 H24.2
- Hart, R. N. Welding, theory, practice, apparatus and tests, electric, thermit and hot-flame processes. 1910. 671 H25.9
- Haslope, L. L. Repoussé work for amateurs, being the art of ornamenting thin metal with raised figures. 1902. 739 H27
- Hasluck, P. N., ed. Metal working; a book of tools, materials and processes for the handyman. 1907.
   671 H27.5
- Horner, J. G. Practical metal turning; a handbook for machinists, technical students and amateurs. 1906. 621.94 H78.6
  - Jackson, F. G. Metal work, chasing and repoussé for home art workers. 1903. 739 J13

Kent, W. W. Architectural wrought-iron, ancient and modern examples from various sources. . . from mediaval times down to the present day. 1888. L672 K41

Rose, A. F. Copper work; a textbook for teachers and students in the manual arts. 1906.

739 R72.2

Schubert, Alfred. Alte kunstschmiedearbeiten aus dem 16-18 jahrhundert. n. d. \*\*672 Sch7.01

Wrought iron railings in renaissance and Gothic style, sketches of plain and ornamental grave railings, with detail drawings in working size. n. d. \*672 Sch7

Twopeny, William. English metal work, with a pref. by Lawrence Binyon. 1906. L739 T93.3

# PRINTING.

- Barclay, E. J. Linotype operators' companion; a treatise on how to operate and care for the linotype machine. 1898. 655.2 B23
- **De Vinne, T. L.** Practice of typography; a treatise on the processes of type making, the point system, the names, sizes, styles and prices of plain printing types. 1900. 655.2 D49

Practice of typography; a treatise on title pages, with numerous illustrations in facsimile and some observations on the early and recent printing of books. 1902. 655 D49.69

- **Evans, Frank.** Linotype; its mechanical details and their adjustment. 1897. 655.2 Ev1
- French, George. Printing in relation to graphic art. 1903. 655 F88

**Graphic** arts and crafts year book. 1908. L655 G76

- Humphreys, H. N. History of the art of printing, from its invention to its widespread development in the middle of the 16th century, preceded by a short account of the origin of the alphabet. 1868. \*\*655 H88

Some notes on books and printing; a guide for authors, publishers and others. 1903.

655 J15.8

- Kennard, J. S. Some early printers and their colophons. 1902. 093 K36
- Linotype manual; giving detailed instructions of the proper adjustment and care of the linotype. 1898. 655.2 L64
- **Partridge, C. S.** Electrotyping; a practical treatise on the art of electrotyping by the latest known methods, containing historical review of the subject, full description of the tools and machinery required, and complete instructions for operating an electrotyping plant. 1909.

537.85 P25.3

- Plomer, H. R.
   Short history of English printing, 1476-1898.

   1900.
   655 P72.8
  - Roberts, William. Printers' marks; a chapter in history of typography. 1893. 655 R54.6
  - Smith, A. M. Printing and writing materials; their evolution. 1901. 655 Sm5

Proofreading and punctuation. [c. 1901.] 655.2 Sm5

### SIGN PAINTING.

Brown, F. C. Letters and lettering; a treatise with 200 examples. 1902. 745 B81

- Callingham, James. Sign writing and glass embossing; a complete. . .manual of the art to which is added the art of letter painting made easy. 1903. 745 C13
- Delamotte, F. Signist's book of modern alphabets, plain and ornamental, ancient and mediæval, from the 8th to the 20th century, with numerals. [c. 1906.] 745 D37.8
- Henderson, R., pub. Modern sign writer and art ornamenter. . .alphabets and designs, relief scrolls, ornaments, &c. 1895. 745 H38

Signist; a compilation of the most modern and artistic designs. 1903. 745 H38.8

### WOODWORKING.

Furniture and Cabinet Work.

- Binstead, H. E. Useful details in several styles. 1907. L749 B51.9
- Brigham, Louise. Box furniture; how to make useful articles for the home. 1909. 749 B76.1
- Crawshaw, F. D. Problems in furniture making. 1906. 749 C85.6

Goss, W. F. M. Bench work in wood. 1906. 694 G69

Griffith, I. S. Essentials of woodworking. [c. 1908.]

Hasluck, P. N. Bamboo work; comprising the construction of furniture, household fitments and other articles in bamboo. 1903. 694 H87

Cabinet work and joinery; comprising designs and details of construction with 2021 working drawings and 12 coloured plates. 1908.

694 H27.1

Nye, A. C. Collection of scale drawings, details and sketches of. . .colonial furniture; measured and drawn from antique examples. 1895. \*\*749 N98.2

Furniture designing and draughting; notes on the elementary forms, methods of construction and dimensions of common articles of furniture. 1900. L749 N98

Ross, G. A. Wood turning; prepared for the use of students in manual training high schools, technical schools and colleges. [c. 1909.]

371.42 R73.9

Van Deusen, C. S. Beginning woodwork at home and in school. 1907. 371.42 V28.1 Wells, P. A., and Hooper, John. Modern cabinetwork, furniture and fitments. 1910. 694.7 W464.5

Wheeler, C. G. Woodworking for beginners. 1900. 694 W56

Windsor, H. H., ed. Mission furniture. 1910. 2 pts. 749 W73.5

### METALLURGY.

- C. Douglas, James. Untechnical addresses on technical subjects. 1908. - 622 D74.9
- C. Furman, H. V. Manual of practical assaying. 1910. 669.9 F98
- C, D. Hiorns, A. H. Mixed metals or metallic alloys. 1901. 669 H61.5
- **C**, **D**. **Howe, H. M.** Iron, steel and other alloys. 1906. 669.1 H83
- C, D. Johnson, C. M. Rapid methods for the chemical analysis of special steels, steel-making alloys and graphite. 1909. 669.1 J62.7
- D. Louis, Henry. Dressing of minerals. 1909. L669 L92.3

- Low, A. H. Technical methods of ore analysis. 1905. 669 L95
  - Miller, A. S. Cyanide process; an introduction to the cyanide process, including the determination of the applicability of the process to an ore. 1906. 669.2 M61.2
- **D.** Nagel, Oskar. Mechanical appliances of the chemical and metallurgical industries; a complete description of the machines and apparatus used in chemical and metallurgical processes for chemists, &c. 1908. 660 N13.5
- D. Phillips, J. A. Elements of metallurgy; a practical treatise on the art of extracting metals from their ores. 669 P54
- D. Richards, J. W. Metallurgical calculations. 1906-8. 3 pts, 669 R39.5 Contents: pt. 1. Introduction, chemical and thermal principles, problems in combustion.

pt. 2. Iron and steel.

C.

pt. 3. Metals other than iron.

- C, D. Roberts-Austen, Sir W. C. An introduction to the study of metallurgy. 1910. 669 R54.4
- C, D. Seamon, W. H. Manual for assayers and chemists. 1910. 669.9 Se1.5

Wysor, Henry. Metallurgy; a condensed treatise for the use of college students and any desiring a general knowledge of the subject. 1908. 669 W99.5

# ALUMINUM.

C.

C. Minet, Adolphe. Production of aluminum and its industrial use. 1905. 669.7 M66.6

#### COPPER.

- C. Eissler, Manuel. Hydro-metallurgy of copper. 1902. 669.3 Ei8.4
- **C**, **D**. **Peters, E. D**. Modern copper smelting. 1905. 669.3 P44
- D. Ulke, Titus. Modern electrolytic copper refining. 1903. 669.3 Ul4

#### CORROSION.

- C. Cushman, A. S. Corrosion and preservation of iron and steel. 1910. 691.7 C954.3
- C. Lowe, Houston. Paints for steel structures. 1910. 667.6 L95.6
- C. Sang, Alfred. Corrosion of iron and steel. 1910. 691.7 Sa5.2

# ELECTRO METALLURGY.

- C, D. Borchers, Wilhelm. Electric smelting and refining. 1904. 537.85 B64
- C. Kershaw, J. B. Electro-metallurgy. 1908. (Westminster series.) 537.85 K47.3
- C. Pfanhauser, Wilhelm. Manufacture of metallic articles electrolytically, electro-engraving. 1906. 537.85 P47.5

# FURNACES.

- C. Borchers, Wilhelm. Electric furnaces; the production of heat from electrical energy and the construction of electric furnaces; tr. by H. G. Solomon. 1908. 669.8 B64.3
- C. Forsythe, Robert. Blast furnace and the manufacture of pig iron; an elementary treatise for the use of the metallurgical student and the furnaceman. 1908. 669 F77.1
- C, D. Moissan, F. F. H. Electric furnace; tr. by Victor Lenher. 1904. 669.8 M72.3
- B, C. Stansfield, Alfred. Electric furnace, its evolution, theory and practice. 1908. 669.8 St2.3
- C. Wright, J. Electric furnaces and their industrial applications. 1906. 669.8 W93.3

# GOLD.

- C. Eissler, Manuel. Metallurgy of gold; a practical treatise on the metallurgical treatment of goldbearing ores, including the assaying, smelting and refining of gold. 1900. 669.2 Ei8
- C, D. Park, James. Cyanide process of gold extraction; a textbook for the use of mining students, metallurgists and cyanide operators. 1900.

669.2 P21

**C**, **D**. **Wilson, E. B**. Cyanide processes. 1902. 669.2 W69

### IRON AND STEEL.

- C, D. Arnold, J. O., and Ibbotson, Fred. Steel works analysis. 1907. 669.1 Ar65
- C. Blair, A. A. Chemical analysis of iron; a complete account of all the best known methods for the analysis of iron, steel, pig-iron, iron ore, limestone, slag, clay, sand, coal, coke and furnace and producer gases. 1908. 669.1 B57.2
- C, D. Campbell, H. H. Manufacture and properties of iron and steel. 1907. 669.1 C15
- D. Hahn, Hans. Eisenhüttenkunde, eisen-metallgiesserei, schmeiden, walzen. 1906. L671 H12.3

- C, D. Harbord, F. W., and Hall, J. W. Metallurgy of steel, with a section on the mechanical treatment of steel. 1908. 669.1 H21
- C, D. Heess, J. K. Practical methods for the iron and steel works chemist. 1908. 669.1 H36.6
- D. Howe, H. M. Iron, steel and other alloys. 1906. 669.1 H83
- **D.** Johnson, C. M. Rapid methods for the chemical analysis of special steels, steel-making, alloys and graphite. 1909. 669.1 J62.7
- C. Lake, E. F. Composition and heat treatment of steel. 1910. 669.1 L14.2
- Ledebur, A. Handbuch der eisen und stahlgiesserei umfassend die darstellung des gesamten geissereiberriebes. 1901. 669.1 L49.3
- C. Macfarlane, Walter. Principles and practice of iron and steel manufacture. 1906. 669.1 M16.6 Describes British practice and appliances.
- B, C. Stansbie, J. H. Iron and steel. 1908. 669.1 St2.4
- B, C. Stoughton, Bradley. Metallurgy of iron and steel. 1908. 669.1 St7.5

# LEAD AND ZINC.

C.	Betts, A. G. Lead refining by electrolysis. 1908. 669.4 B46.5
C.	Fay, C. H. Art of lead burning; a practical treat- ise explaining the apparatus and processes. 1905. 669.4 F29
C, D.	Hixon, H. W. Notes on lead and copper smelting. 1900. 669.3 H64
C, D.	Holley, C. D. Lead and zinc pigments. 1909. 667.6 H718.5
C, D.	Ingalls, W. R.Metallurgy of zine and cadmium.1906.669 In4.5
B.	Lead and zinc in the United States. 1908. 669.4 In4.5
C.	Lead smelting and refining. 1908.
METALLOGRAPHY.	
C.	Goerens, Paul. Introduction to metallography; tr by Fred. Ibbotson. 1908. 669 G55.4

C, D. Ruer, Adolf. Elements of metallography; tr. by C. H. Mathewson. 1909. 669 R83.3

## METALLURGICAL PLANTS.

C, D. Ingalls, W. R., ed. Notes on metallurgical mill construction. 1906. 621.7 In4.6

# MINES AND MINING.

- C. Collins, H. E. Shaft governors, centrifugal and inertia; simple methods for the adjustment of all classes of shaft governors. 1908. 621.1 C69.8
- C. Crane, W. R. Gold and silver; comprising an economic history of mining in the United States. 1908. 622.34 C85.4
- D. Goesel, J. G. Minerals and metals, a reference book; useful data and tables of information on legal, customary and scientific measurements. 1906. 549.G55
- C. Hoover, H. C. Principles of mining, valuation, organization and administration; copper, gold, lead, silver, tin, and zinc. 1909.
- C, D. Hughes, H. W. Textbook of coal mining. 1901. 622 H87

83

C. Ihlseng, M. C. Manual of mining. 1900. 622 Ih4

**C**, **D**. **Kerr, G. L**. Practical coal mining. 1900. 622 K46

C, D. McMechen, F. L. Tests for ores, minerals and metals of commercial value; I. Rock formations; II. Ore and vein formations; III. Chemical properties; IV. Metals and minerals, their occurrence, uses and tests; V. Glossary of mining terms, working processes and theories. 1907.
 622.1 M22.8

**C, D. Peele, Robert.** Compressed air plant for mines, the production, transmission and use of compressed air, with special reference to mine service. 1908. 621.42 P34.2

C. Elementary textbook of coal mining. 1901. 622 P34

C. Roberts, Peter. Anthracite coal industry; a study of the economic conditions and relations of the co-operative forces in the development of the anthracite coal industry of Pennsylvania. 1901. 622 R54

**B.** Weed, W. H. Copper mines of the world. 1907. 553 W42.2

Wilson, E. B. Treatise on practical and theoretical mine ventilation. 1900. 622.4 W69

# RAILWAY ENGINEERING.

C.

C.

(See also Electric Railways, p. 38.)

 C. Hadley, E. S. Railway working and appliances; to which are added a chapter and diagram on railway sketching. 1908. 625.5 H11.7

**Jacobs, H. W.** Betterment briefs; a collection of published papers on organized industrial efficiency. 1909. 625 J15.1

- C. Lavarack, F. C. Locking; being an elementary treatise on the mechanisms in interlocking lever machines by which the movements of the levers are restricted to certain predetermined ways, rendering it impossible to operate conflicting switches and signals on railways. [c. 1907.] 625.2 L38.5
- C. Master car builders' association. Car builders' dictionary; an illustrated vocabulary of terms which designate American railroad cars. 1906. 625 M39.2
  - Orrock, J. W. Railroad structures and estimates. 1909. 625 Or7.7

C. Railway master mechanic. Railway shop to date; a reference book of up-to-date American railway shop practice. 1907. L625 R13

C. Raymond, W. G. Elements of railroad engineering. 1908. (Railroad engineering, v. 2.) 625 R21.3

- C, D. Roberts, L. S. Track formulæ and tables; a handbook of the theory and practice of turnouts and track connections, with useful tables. 1910. 625 B54.8
- C, D. Tratman, E. E. R. Railway track and track work. [c. 1908.] 625.1 T69.7
- C. Webb, W. L. Economics of railroad construction. 1906. 625 W38.3
- B, C. Wilson, W. L. Elements of railroad track and construction. 1909. 625 W69.3

### AIR BRAKES.

- C. Denehie, G. R. Motorman's practical air brake instructor; a concise, up-to-date treatise on the construction and operation of the different air brake equipments. [c. 1909.] 625.2 D41.5
- C. Dukesmith, F. H. Modern air brake practice, its use and abuse. 1908. 625.2 D88.5

- C. McArdle, Fred., ed. Air brake text for engineers and firemen; a complete treatise on the Westinghouse and New York air brake and signal systems, air brake practice and train handling. 1909. 625.2 M11.1
- C. McShane, Charles. New York and Westinghouse air brakes. 1905. 625.2 M24.5

### LOCOMOTIVES.

- D. Goss, W. F. M. Locomotive performance; the result of a series of researches conducted by the engineering laboratory of Purdue university. 1907. 621.13 G69.5
- C. Grimshaw, Robert. Locomotive catechism; an upto-date practical and complete work on the locomotive. 1908. 625 G88.5
- **B, C.** Pendred, Vaughan. Railway locomotive, what it is and why it is what it is. 1908. 621.13 P37.7
- B, C. Sinclair, Angus. Locomotive engine running and management; shows how to manage locomotive in running different kinds of trains with economy and dispatch. 1908. 621.13 Si6.5

87

# SIGNALING.

- C. Electric journal. Railway signaling; a comprehensive treatise on modern methods of railway signaling; covering principles of operation and types of apparatus written by a staff of expert signal engineers. 1908. 625.2 El 2.7
- C. Elliott, W. H. A B C of railroad signaling. [c. 1909.] 625.2 El 22.1
- C. Latimer, J. B. Railway signaling, in theory and practice. 1909. 625.2 L34.7
- C. Scott, Ralph. Automatic block signals and signal circuits; American practice in the installation and maintenance of signals electrically controlled. 1908. 625.2 Sco8.1

# **ROADS AND PAVEMENTS.**

- D. Baker, J. O. Treatise on roads and pavements. 1903. 625 B17
- Boorman, T. H. Asphalts, their sources and utilizations; asphalt for dustless roads; recent improvements in asphalt industries, together with addenda treating on general waterproof construction. 1908. 625.8 B64.1

- C, D. Byrne, A. T. Treatise on highway construction. 1908. 625.7 B99
- C. Boynton, C. W. Portland cement sidewalk construction. 1908. 666.9 B71.6
- B, C. Frost, Harwood. Art of road making, treating of the various problems and operations in the construction and maintenance of roads, streets and pavements. 1910. 625.7 F92.1
- D. Hubbard, Prevost. Dust preventives and road binders. 1910. 625.7 H86.2
- C. Judson, W. P. Road preservation and dust prevention. 1908. 625.7 J92.7
- C. Richardson, Clifford. Modern asphalt pavement. 1908. 625.8 R39
- C, D. Smith, J. W. Dustless roads; tar macadam; a practical treatise for engineers, surveyors and others. 1909. 625.7 Sm5.3 Devoted almost wholly to British practice. -
- C, D. Spalding, F. P. Textbook on roads and pavements. 1908. 625.7 Sp1

89

# STEAM ENGINEERING.

- C. Benjamin, C. H. Steam engine; a concise treatise for students and engineers. [c. 1909.] 621.1 B43.8
- C. Collins, H. E. Knocks and kinks, causes, detection and cure for many of the commonest of these troubles of the engineman; plain directions for prevention and remedy. 1908. (Power handbooks.) 621.1 C69.47
- C. Shaft governors, centrifugal and inertia; simple methods for the adjustment of all classes of shaft governors. 1908. 621.1 C69.8
- C. Creighton, W. H. P. Steam engine and other heat motors. 1907. 621.1 C86.8
- C, D. Gebhardt, G. F. Steam power plant engineering. 1908. 621.1 G26.8
- C. Grimshaw, Robert. Engine runner's catechism; containing correct answers to direct questions on how to erect, adjust and run the principal steam engines used in the United States. 1910.

621.1 G88

C, D. Heck, R. C. H. Steam engine and other steam motors; a textbook for engineering colleges and a treatise for engineers. 1905-7. 2 v.

621.1 H35

Contents :

v. 1. Thermodynamics and the mechanics of the engine. v. 2. Form, construction and working of the engine; the steam turbine.

- C. Hiscox, G. D. Modern steam engineering in theory and practice; a new, complete and practical work for steam users, electricians, firemen and engineers. 1907. 621.1 H62.5
- C, D. Peabody, C. H. Manual of the steam engine indicator. 1900. 621.1 P31
- C, D. Thermodynamics of the steam engine and other heat engines. 1909. 621.1 P31.6 The standard American treatise on engineering thermodynamics.
- D. Valve gears for steam engines. 1906. 621.1 P31.71
- A, C. Richardson, John. Modern steam engine, theory, design, construction, use; a practical treatise. 1908. 621.1 R39.5
- C, D. Spangler, H. W., Greene, A. M. jr., and Marshall,
  S. M. Elements of steam engineering. 1903.
  621.1 Sp2.3

C, D. Thurston, R. H. Manual of the steam engine; for engineers and technical schools. 1903. 2 v. 621.1 T42

**Contents**:

v. 1. Structure and theory.

- v. 2. Design, construction and operation.
- C, D. Stationary steam engines, simple and compound, especially as adapted to light and power plants. 1902.
   621.16 T42
- Weisbach, P. J. Heat, steam and steam engines. (In his Manual of the mechanics of engineering. 1894. v. 2, see. 2, pt. 2.)
   621.1 W43

#### BOILERS.

- D. Christie, W. W. Boiler waters, scale, corrosion, foaming. 1906. 621.18 C46.1
- D. Peabody, C. H., and Miller, E. F. Steam boilers. 1909. 621.18 P31
- C, D. Thurston, R. H. Handbook of engine and boiler trials and of the indicator and Prony brake, for engineers and technical schools. 1903. 621.18 T42.4
- C, D. Manual of steam boilers, their design, construction and operation. 1907. 621.18 T42.5

#### TURBINES.

C, D. Kennedy, Rankin. Steam turbines, their design and construction. 1911. 621.24 K38.8

3.

D.

D.

D.

C.

D.

D.

- Moyer, J. A. Steam turbine; a practical and theoretical treatise for engineers and designers, including a discussion of the gas turbine. 1908. 621.24 M87.8
- Sothern, J. W. Marine steam turbine; a practical description of the Parsons marine turbine as presently constructed, fitted and run. 1909. 621.24 So7.5
- Stevens, T., and Hobart, H. M. Steam turbine engineering. 1906. 621.24 St4.8
- Supplee, H. H. Gas turbine; progress in the design and construction of turbines operated by gases of combustion. 1910. 621.24 Su7.4
- **Thomas, C. C.** Steam turbines. 1910. 621.24 T38.8
  - Thurso, J. W. Modern turbine practice and waterpower plants. 1905. 621.24 T42.5

### VALVES.

- C. Auchincloss, W. S. Link and valve motion simplified. 1909. 621.84 Au2.5
- Collins, H. E. Valve setting; simple methods of setting the plain slide valve, Meyer cut-off, Corliss and Poppet types. 1908. 621.84 C69.9

#### TELEGRAPHY.

- A. Gibson, C. R. How telegraphs and telephones work, explained in non-technical language. 1909. 537.8 G35.4
- A. Jones, W. H. Telegraphy for beginners; the standard method. 1910. 537.81 J73.8
- B, C. Monckton, C. C. F. Radio-telegraphy. 1908 (Westminster series.) 537.81 M74.6
- C. Pendry, H. W. Elementary telegraphy; a manual for students. 1910. 537.81 P37.3
- C. Sewall, C. H. Lessons in telegraphy; for use as a textbook in schools and colleges and for individual students. 1909. 537.81 Se8.5

#### TELEGRAPHY, WIRELESS.

C. Collins, A. F. Manual of wireless telegraphy. 1909. 537.81 C69.5

> Erskine-Murray, J. Handbook of wireless telegraphy. 1909. 537.81 Er8.4

Fleming, J. A. Principles of electric wave telegraphy. 1910. 537.81 F62.6

D.

C.

C.

A, C. Graham, R. P. Wireless telegraphy for amateurs; a handbook on the principles of radiotelegraphy and the construction and working apparatus for short distance transmission. 1907.

537.81 G76.9

A. Harrison, Newton. Making wireless outfits; a concise and simple explanation of the construction and use of an inexpensive wireless equipment for sending and receiving up to 100 miles. 1909. 537.81 H24.5

Kennelly, A. E. Wireless telegraphy; an elementary treatise. 1906. 537.81 K39.9

Wireless telegraphy and wireless telephony; an elementary treatise. 1909. 537.81 K39.8

95

- A. Massie, W. W., and Underhill, C. R. Wireless telegraphy and telephony popularly explained; with special article by Nikola Tesla. 1908. 537.81 M389.9
- A, C. Morgan, A. P. Wireless telegraph construction for amateurs. 1910. 537.81 M82.9
- C. Pierce, G. W. Principles of wireless telegraphy. 1910. 537.81 P61.6
- C. Robison, S. S. Manual of wireless telegraphy for the use of naval electricians. 1909.

537.81 R56.5

C. Sewall, C. H. Wireless telegraphy; its origin, development, inventions and apparatus. 1903.
 537.81 Se8

# TELEPHONY.

- **Abbott, A. V.** Telephony; a manual of the design, construction and operation of telephone exchanges. 1903. 6 v. 537.82 Ab2
- B. Casson, H. N. History of the telephone. 1910. 537.82 C27.4
- C. Fairman, J. F. Standard telephone wiring for common battery and magneto systems; a handbook for telephone men. 1905. 537.82 F16.8

- C. Mayer, Clarence. Telephone construction, methods and cost. 1908. 537.82 M455.8
- C, D. Miller, K. B. American telephone practice. 1905. L537.82 M61.1
- C. Poole, Joseph. Practical telephone handbook and guide to the telephone exchange. 1910. 537.82 P78.6
- C. Wev, E. M. Telephone troubles; their location and remedy. 1907. 537.82 W54.8

### TELEPHONY, WIRELESS.

- A. Erskine-Murray, James. Wireless telephones and how they work. 1910. 537.82 Er8.9
- C. Ruhmer, Ernst. Wireless telephony in theory and practice; tr. from the German by James Erskine-Murray. 1908. 537.82 R85.8

### WORKSHOP RECEIPTS.

- Bond, A. B., ed. Handy man's workshop and laboratory. 1909. \*603 B64.4
- Brannt, W. T., and Wahl, W. H. Techno-chemical receipt book, containing several thousand receipts. 1908. \*603 B731

- Hiscox, G. D. Henley's twentieth century book of recipes. 1910. \*603 H38
- Hopkins, A. A., ed. Scientific American cyclopedia of formulas. 1911. \*603 Sci2.1

Spon's workshop receipts. New ed. 1909. v. 1-3. 603 Sp6.9

#### Contents:

v. 1. Acetylene lighting to dyeing.

v. 2. Dyes and dyeing to japanning.

v. 3. Jointing pipes to pumps.

Standage, H. C., ed. Decoration of metal, wood, glass, &c.; a book for manufacturers, mechanics, painters, decorators and all workmen in the fancy trades. 1908. 602 St2.2

# APPENDIX.

Books for Boys.

# **AERIAL NAVIGATION.**

Aero club of America. Navigating the air. 1907. 533.6 Ae8.6

Alexander, J. H. Model balloons and flying machines. 1910. 533.6 Al 2.5 Collins, F. A. Boys' book of model aeroplanes; how to build and fly them, with the story of the flying machine. 1910. Y533.6 C69.1

Delacombe, Harry. Boys' book of airships. 1909. Y533.6 D38.1

- Jackman, W. J., and Russell, T. H. Flying machines, construction and operation; a practical book which shows in illustrations, working plans and text, how to build and navigate the modern airship. 1910. 533.6 J121.3
- Maxim, Sir Hiram. Artificial and natural flight. 1908. 533.6 M45.1
- Petit, Robert. How to build an aeroplane. 1910. 533.6 P14.4

### ARTS AND CRAFTS.

- Adams, J. H. Harper's indoor work for boys. 1908. Y790 Ad1.3
- Alexander, F. Art crafting in metals for amateurs. 1909. 739 Al 2.1
- Beard, D. C. American boy's handy book on what to do and how to do it. 1908. Y790 B37

Jack of all trades. 1906. Y790 B38

Bond, A. R. Scientific American boy at school. 1910. Y790 B64.82

Hall, A. N. Boy craftsman. 1905. Y790 H14

Rose, A. F. Copper work; a textbook for teachers and students in the manual arts. 1906.

739 R72.2

Sanford, F. Art crafts for beginners. 1904. Y740 Sa5

## BOAT BUILDING.

Davis, C. G. How to design a yacht. 1906. L797 D29.4

Fisher, Herbert. How to build a model yacht. 1902. L797 F53.4

Mower, C. D. How to build a racing sloop. 1902. L623.8 M87.5

**The Rudder.** The cat book, containing the designs and plans of twelve cat-rigged yachts. 1903. L797 R83.2

How to design and construct a power boat. 1910. L621.12 R83.4

How to build a shoal draught sloop. 1902. L623.8 R83 Schock, E. B. Cabin plan book; containing the accommodation plans of twenty-sail craft. 1904. L697 Sch6.2

Stephens, W. P. Canoe and boat building. . .directions for the construction of canoes, rowing and sailing boats and hunting craft. 1898. 797 St4

### ELECTRICITY.

- Adams, J. H. Harper's electricity books for boys. 1907. Y537 Ad1.4
- Gibson, C. R. Electricity of to-day, its work and mysteries. 1907. 537 G35.3

Hall, H. Young electrician. 1910. Y537 H14.9

- Hibbert, W. Popular electricity. 1909. Y537 H52.6
- Jenks, Tudor. Electricity for young people. 1907. Y537 J42.3

Onken, W. H., and Onken, J. B. Harper's how to understand electrical work. 1908. Y537 On4.4

St. John, T. M. Real electric toy making for boys. 1905. Y537 Sa2.68 How two boys made their own electrical apparatus. 1910. Y537 Sa2.4

Things a boy should know about electricity [c. 1900.] Y537 Sa2.8

Sloane, T. O. Electric toy making for amateurs. 1906. Y537 Sl 5.5

Weed, A. J. Practical dynamo building for amateurs. 1910. 537.83 W41.6

# INDUSTRY AND INVENTION.

Adams, J. H. Harper's machinery book for boys. 1909. Y620-Ad1.4

Baker, R. S. Boys' book of inventions. 1906. Y608 B17.15

Boys' second book of inventions. 1905. Y608 B17.2

Burns, E. E. Story of great inventions. 1910. Y609 B93.8

Gibson, C. R. Romance of modern manufacture. 1910. Y670 G35.7

Howden, J. R. Boys' book of locomotives. 1907. Y621.13 H83.1 Boys' book of railways. [c. 1909.] ¥656 H83.08

Boys' book of steamships. 1908. 656 H83.1

Locomotives of the world. 1910. L621.13 H82.5

Iles, George. Inventors at work. 1906. 608 Il 3.4

Moffett, Cleveland. Careers of danger and daring. 1907. Y600 M72.2

Stables, Gordon. Boys' book of battleships. n.d. LY359 St1.1

Williams, Archibald. How it is done; or, Victories of the engineer. [e. 1908.] Y620 W67.4

How it is made, describing in simple language how various machines and many articles in common use are manufactured from the raw material. n. d. Y670 W67.4

How it works, dealing in simple language with steam, electricity, light, heat, sound, hydraulics, optics and with their applications to apparatus in common use. n. d. Y620 W67.44

Romance of modern engineering. 1904. Y620 W67 Romance of modern locomotion. . . descriptions . . . of the rise and development of the railroad systems. 1904. Y385 W67

Romance of modern mechanism. 1906. ¥609 W67.8

Romance of mining. 1905. Y622 W67

### TELEPHONE AND TELEGRAPHY

### including

### WIRELESS TELEPHONY AND TELEGRAPHY.

Erskine-Murray, James. A handbook of wireless telegraphy. 1909. 537 Er8.4

Wireless telephones and how they work. 1910. 537 Er8.9

Gibson, C. R. How telegraphs and telephones work. 1909. 537.8 G35.4

Harrison, Newton. Making wireless outfits. 1909. 537.81 H24.5 Jones, W. H. Telegraphy for beginners; the standard method. . .a book of instruction in . . .methods and forms. . .including the Morse and Continental codes. 1910. 537.81 J73.8

Massie, W. W., and Underhill, C. R. Wireless telegraphy and telephony popularly explained. 1908. 537.81 M389.9

St. John, T. M. Wireless telegraphy. 1906. 537.81 Sa2.9

Sewall, C. H. Lessons in telegraphy. 1909. 537.81 Se8.5

## WOODWORK AND CARPENTRY.

Brigham, Louise. Box furniture; how to make a hundred useful articles for the home. 1909. 749 B76.1

Crawshaw, F. D. Problems in woodturning. 1909. 621.94 C85.5

Hall, Cyril. Young carpenter. [p. 1909.] Y694 H14.9

- Kilbon, G. B. Carpentry for boys; elementary woodwork; a series of lessons designed to give fundamental instruction in use of all the principal tools needed in carpentry and joinery. 1893.
   Y371.42 K55.3
- Lydon, F. F. Woodwork for schools. 1902. 371.42 L98.9
- Larsson, Gustaf: Elementary sloyd and whittling with drawings and working directions. [c. 1906.] 371.42 L32.3
  - Sloyd for the three upper grammar grades. 1907. 371.42 L32.8
- Park, J. C. Educational woodworking for house and schools. 1908. 371.42 P22.3

Ross, G. A. Woodturning. 1909. 371.42 R73.9

- Wheeler, C. G. Woodworking for beginners. 1908. Y694 W56
- Windsor, H. H., ed. Mission furniture. 1910. 2 pts. 749 W93.5
- Wright, John. Home mechanic. 1903. 680 W93

## PERIODICALS AND TRANSACTIONS.

American Architect and Building News. American Contractor. American Institute Electrical Engineers. Transactions. American Machinist. American Society Mechanical Engineers. Transacactions. Brick. Building Age. Cassier's Magazine. Concrete. Electric Railway Journal. Electric Review. Electric Record. Electrical World. Engineering Magazine. Engineering News. Engineering Record. Flight. Foundry. Horseless Age. Illuminating Engineer. India Rubber World. Inland Printer. Iron Age. Journal American Chemical Society. Journal of Industrial and Engineering Chemistry. Journal of Iron and Steel Institute. (Annual.) Journal of Society of Chemical Industry.

Keith's Magazine. Lumber Trade Journal. Machinery. Machinists' Monthly Journal. Metal Worker. Metallurgical and Chemical Engineering. Mining Science. Power. Printing Art. Railroad Age Gazette. Railroad Master Mechanic. Southern Lumberman. System. Technical World Magazine. Telephony. Textile World Record.

## BOARD OF TRUSTEES.

JOHN A. CAMPBELL, President. JOHN J. CLEARY, Secretary. Edward L. Katzenbach, Treasurer. Hamilton Schuyler. HARRY G. Stoddard. Walter F. Madden (Mayor), ex officio. Ebenezer Mackey (Supervisor of Schools), ex officio.

> LIBRARIAN, Adam Strohm.

> > 109

