

In Large 8vo. Cloth. Pp. i-xxiii + 271. With 147 Illustrations.
15s. net.

A MANUAL OF
THE PRINCIPLES OF SEWAGE TREATMENT.

By PROF. DUNBAR, Director of the Institute of State Hygiene, Hamburg.

ENGLISH EDITION BY HARRY T. CALVERT, M.Sc., Ph.D., F.I.C.,
Chief Chemical Assistant, West Riding of Yorkshire Rivers Board.

ABRIDGED CONTENTS.—HISTORICAL DEVELOPMENT OF THE SEWAGE PROBLEM.—Growth of River Pollution.—Legal Measures of Central and Local Authorities.—Rise and Development of Methods of Sewage Treatment.—Earlier Views, their Object and Utility. PRESENT POSITION OF SEWAGE TREATMENT.—The Characteristics of Sewage.—Objects of Precipitation Works.—Description for the Removal of Suspended Matters.—Methods for the Removal of Putrescibility.—The Disinfection of Sewage.—Supervision and Inspection of Sewage Disposal Works.—The Utility and Cost of the various Methods of Sewage Treatment.—INDEX.

"We heartily commend the book as a peculiarly fair and impartial statement of the present position of the sewage problem."—*Lancet*.

In Medium 8vo. Cloth. Pp. i-xiii + 356. With Tables, Illustrations
in the Text, and 36 Plates. 21s. net.

MODERN METHODS OF
SEWAGE PURIFICATION.

A Guide for the Designing and Maintenance of Sewage Purification Works.

By G. BERTRAM KERSHAW, F.R.S.I., F.R.M.S., F.G.S., &c.,
Engineer to the Royal Commission on Sewage Disposal.

CONTENTS.—Introduction.—Historical.—Conservancy Methods, &c.—Sewerage Systems.—Rainfall, Storm Water.—Variations in Flow of Sewage.—Classification and Composition of Sewages.—Considerations to be observed in selecting the Site for Sewage Disposal Works.—Preliminary Processes.—Disposal of Sludge.—Land Treatment of Sewage.—Contact Beds.—Percolating Filters.—Trades' Wastes.—Miscellaneous.—Precipitation Works in Actual Operation.—INDEX.

"A large and comprehensive work . . . replete with information."—*Journal Royal Sanitary Institute*.

Large 8vo. Handsome Cloth. Price 16s. net.

FIRE AND EXPLOSION RISKS:

A Handbook of the Detection, Investigation, and Prevention of Fires and Explosions.

By DR. VON SCHWARTZ,

Translated from the Revised German Edition by C. T. C. SALTER.

ABRIDGED GENERAL CONTENTS.—Fires and Explosions of a General Character.—Dangers arising from Sources of Light and Heat.—Dangerous Gases.—Risks Attending Special Industries.—Materials Employed.—Agricultural Products.—Fats, Oils, and Resins.—Mineral Oils and Tar.—Alcohol, &c.—Metals, Oxides, Acids, &c.—Lightning Ignition Appliances, Fireworks.

"The work affords a wealth of information on the chemistry of fire and kindred topics."—*Fire and Water*.

"A complete and useful survey of a subject of wide interest and vital importance."—*Oil and Colourman's Journal*.

In Handsome Cloth. Pp. i-xiii + 256. With 59 Illustrations. 6s. net.

SMOKE ABATEMENT.

A Manual for the Use of Manufacturers, Inspectors, Medical Officers of Health, Engineers, and Others.

By WILLIAM NICHOLSON,

Chief Smoke Inspector to the Sheffield Corporation.

"We welcome such an adequate statement on an important subject."—*British Medical Journal*.

See also—

THE MAIN DRAINAGE OF TOWNS,	page 6.
REFUSE DISPOSAL,	" 6.
AND MODERN DESTRUCTOR PRACTICE,	" 6.

LONDON: CHARLES GRIFFIN & CO., LTD., EXETER STREET, STRAND.

SECOND EDITION. In Large 8vo. Handsome Cloth. Beautifully
Illustrated. With Plates and Figures in the Text. 21s. net.

ROAD MAKING AND MAINTENANCE

A Practical Treatise for Engineers, Surveyors, and Others.

By THOS. AITKEN, M.Inst.C.E.,

Member of the Association of Municipal and County Engineers; Member of the Sanitary Inst.; Surveyor to the County Council of Fife, Cupar Division.

CONTENTS.—Historical Sketch.—Resistance of Traction.—Laying out New Roads.—Earthworks, Drainage, and Retaining Walls.—Road Materials, or Metal.—Quarrying.—Stone Breaking and Haulage.—Road-Rolling and Scarifying.—The Construction of New, and the Maintenance of existing Roads.—Carriage Ways and Foot Ways.

"The Literary style is EXCELLENT. . . . A COMPREHENSIVE and EXCELLENT Modern Book, an UP-TO-DATE work. . . . Should be on the reference shelf of every Municipal and County Engineer or Surveyor in the United Kingdom, and of every Colonial Engineer."—*The Surveyor*.

In Handsome Cloth. Fully Illustrated. 10s. 6d. net.

**DUSTLESS ROADS.
TAR MACADAM.**

By J. WALKER SMITH,

City Engineer, Edinburgh.

CONTENTS.—Necessity for Improved and Standard Road Construction.—Tar.—Standardisation of Matrix.—Aggregate for Macadam.—Different Modes of Preparing and Laying.—Mechanical Mixing.—Effects of Wear, Density, Porosity, Distribution of Weight.—Scavenging; Watering and Maintenance.—Camber; Gradient, Noiselessness, Hygienic Advantages.—Rolling.—Traetive Effort.—Statistics.—Tar Spraying on Ordinary Macadam Surfaces.—APPENDICES.—INDEX.

"The book is in every respect up-to-date and very suggestive. It is practical in the best sense of the term."—*County and Municipal Record*.

In Crown 8vo. Cloth. Pp. i-xi + 137. With 25 Illustrations, Coloured Map, and a
Chart. 4s. 6d. net.

MODERN ROAD CONSTRUCTION.

A Practical Treatise for the Use of Engineers, Students,
Members of Local Authorities, &c.

By FRANCIS WOOD, M.Inst.C.E., F.G.S.

CONTENTS.—Introductory.—Macadam Roads.—Wear of Roads.—Effect of Traffic on Roads.—Tarred Roads.—Bitumen.—Methods of Using Tar and Bitumen.—Rollers and Rolling.—Paving.—Cost of Maintenance of Roads.—APPENDICES.—INDEX.

"A little volume that should find its place on the shelf of every road and highway surveyor and engineer in the Local Government world."—*Municipal Journal*.

In Crown 8vo. Cloth. Pp. i-vii + 149. With Illustrations. 5s. net.

AN INTRODUCTION TO
TOWN PLANNING.

A Handbook dealing with the Principles of the Subject, and a Consideration of the Problems
Involved, Powers of Local Authorities, etc.

By JULIAN JULIAN, B.E.

CONTENTS.—Ancient Town Planning.—Mediæval and Modern Town Planning.—Authorities and Bye-Laws.—Powers of Local Authorities.—Practical Considerations in the Preparation of Town Plans.—A Town-Planning Tour.—APPENDICES.—INDEX.

"There are many books on Town Planning, but none that covers quite the same ground as this one traverses so ably . . . a valuable addition to the Town Planner's library."—*Surveyor*.

LONDON: CHARLES GRIFFIN & CO., LTD., EXETER STREET, STRAND.

TECHNOLOGICAL WORKS.

- Chemistry for Engineers and Manufacturers** By B. BLOUNT, F.I.C., and A. G. BLOXAM, F.I.C. Vol. I.—SECOND EDITION, 14s. Vol. II.—SECOND EDITION, 16s.
- Oils, Fats, Butters, and Waxes.** By ALDER WRIGHT and MITCHELL. SECOND EDITION. 25s. net.
- Oils, Resins, and Paints (Analysis and Valuation).** By HARRY INGLE, D.Sc. net. 3s. 6d.
- Physico-Chemical Tables.** By J. CASTELL-EVANS, F.I.C. Vol. I.—Chemical Engineering, 24s. net. Vol. II.—Physical and Analytical Chemistry, 36s. net.
- Quantitative Inorganic Analysis.** By Dr. J. W. MELLOR. 30s. net.
- Water Analysis for San. and Tech. Purposes.** By H. B. STOCKS. 4s. 6s. net.
- Methods of Air Analysis.** By J. S. HALDANE, M.D., LL.D. F.R.S. 5s. net.
- The Principles and Practice of Brewing.** By Dr. W. J. SYKES. THIRD EDITION, Revised by A. R. LING, F.I.C. 21s. net.
- Technical Mycology.** Dr. F. LAFAR. SECOND EDITION. In Two Vols. Vol. I., 15s. net. Vol. II., 24s. net.
- Micro-Organisms and Fermentation.** By ALFRED JÖRGENSEN. FOURTH EDITION, Completely Revised. Translated by S. H. DAVIES, B.Sc. 15s. net.
- Ferments and their Actions.** By C. OPPENHEIMER. Translated by C. A. MITCHELL, B.A. F.I.C. In Cloth. 7s. 6d. net.
- Vinegar: Its Manufacture and Examination.** By C. A. MITCHELL, B.A., F.I.C. 8s. 6d. net.
- Peat; Its Use and Manufacture.** By BJÖRLING and GISSING. 6s. net.
- Commercial Peat; Its Uses and its Possibilities.** By F. T. GISSING. 6s. net.
- Paper Technology.** By R. W. SINDALL, F.C.S. SECOND EDITION, Revised. 12s. 6d. net.
- Stationery Testing.** By H. A. BROMLEY. Fully Illustrated. 2s. 6d. net.
- The Clayworkers' Handbook.** By A. B. SEARLE. SECOND EDITION. 6s. net.
- British Clays, Shales and Sands.** By A. B. SEARLE. Illustrated. 7s. 6d. net.
- Ceramic Literature.** Compiled, Classified, and Described by M. L. SOLON. 42s. net.
- Art of the Goldsmith and Jeweller.** By T. B. WIGLEY. SECOND EDITION. 7s. 6d. net.
- Smoke Abatement.** By WM. NICHOLSON. With Illustrations. 6s. net.
- Calcareous Cements.** By G. R. REDGRAVE and CHARLES SPACKMAN, F.C.S. SECOND EDITION. 15s. net.
- Handbook for Cement Works' Chemists.** By FRANK B. GATEHOUSE, F.C.S. In Handsome Cloth. 5s. net.
- Gas Manufacture.** By W. J. A. BUTTERFIELD. Vol. I. 7s. 6d. net. Vol. II. *Shortly.*
- Calorific Power of Coal Gas.** By J. H. COSTE, F.I.C. 6s. net.
- Fuel: Gaseous, Liquid, and Solid.** By J. H. COSTE and E. R. ANDREWS. 6s. net.
- Acetylene.** By F. H. LEEDS and W. J. A. BUTTERFIELD. SECOND EDITION. 8s. 6d. net.
- Fire and Explosion Risks.** By Dr. VON SCHWARTZ. In Cloth. 16s. net.
- Enamelling on Iron and Steel.** By JULIUS GRÜNWARD. Cloth. Illustrated. 6s. net.
- Technology of Iron Enamelling and Tinning.** By JULIUS GRÜNWARD. 6s. net.
- The Chemistry of the Colloids.** By Dr. V. PÖSCHL. Translated by Dr. H. HODGSON. 3s. 6d. net.
- Celluloid; Its Manufacture, Application, and Substitutes.** From the French of MASSELO, ROBERTS, and CILLARD. By Dr. H. H. HODGSON. 25s. net.
- Chemistry of India Rubber.** By C. O. WEBER, Ph.D. THIRD IMPRESSION. With many Illustrations. 16s. net.
- The Manufacture of Rubber Goods.** By ADOLF HEIL and Dr. W. ESCH. Translated by E. W. LEWIS, A.C.G.I. In Cloth. Illustrated. 10s. 6d. net.
- Glue, Gelatine, and their Allied Products.** By THOMAS LAMBERT. In Large Crown 8vo. Fully Illustrated. 5s. net.
- Leather Trades Chemistry.** By S. R. TROTMAN M.A. F.I.C. In Handsome Cloth. Fully Illustrated. 15s. net.
- Ink Manufacture.** By C. A. MITCHELL, B.A., F.I.C., and T. C. HEPWORTH. SECOND EDITION, Revised. In Cloth. With Plates and Illustrations.
- Inorganic Chemistry.** By A. DUPRÉ and WILSON HAKE. THIRD EDITION. 6s. net.
- Elements of Chemical Engineering.** By J. GROSSMANN, Ph.D. SECOND ED. 3s. 6d. net.
- Elementary Practical Chemistry.** MYERS and FIRTH. 4s. net.
- Outlines of Quantitative Analysis.** By A. H. SEXTON, F.I.C. FIFTH EDITION. 3s.
- Outlines of Qualitative Analysis.** By A. H. SEXTON, F.I.C. FOURTH EDITION. 3s. 6d.

LONDON: CHARLES GRIFFIN & CO., LTD., EXETER STREET, STRAND.

THE FERMENTATION INDUSTRIES.

THIRD EDITION. In Handsome Cloth. Fully Illustrated. 21s. net.
PRINCIPLES AND PRACTICE OF BREWING.
 FOR THE USE OF STUDENTS AND PRACTICAL MEN.
 By WALTER J. SYKES.

REVISED BY ARTHUR R. LING, F.I.C., F.C.S.,

Editor of the Journal of the Institute of Brewing.

CONTENTS.—Physical Principles Involved.—The Chemistry of Brewing.—The Microscope.—Vegetable Biology.—Fermentation.—Water.—Barley and Malt.—Arrangement of Brewery Plant.—Quantities of Materials.—Fermentation.—Antiseptics.—Finings.—Characteristics of Beer.—Diseases of Beer.—INDEX.

"A thorough and comprehensive text-book . . . up-to-date . . . a standard text-book."—*Brewers' Journal*.

In Large 8vo. Complete in Two Volumes.

Each Volume Complete in Itself, and Sold Separately.

TECHNICAL MYCOLOGY:

The Utilisation of Micro-organisms in the Arts and Manufactures.

By DR. FRANZ LAFAR,

Prof. of Fermentation-Physiology and Bacteriology in the Technical High School, Vienna.
 TRANSLATED BY CHARLES T. C. SALTER.

Vol. I.—SCHIZOMYCETIC FERMENTATION. 15s. net.

Vol. II.—EUMYCETIC FERMENTATION. 24s. net.

NOTE.—Part I. of Vol. II. was issued separately at 7s. 6d. Copies of Part II., Vol. II., have, therefore, been bound up to enable those possessing Part I. to complete their copies. The price of Vol. II., Part II., is 18s. net.

"The first work of the kind which can lay claim to completeness in the treatment of a fascinating subject. The plan is admirable, the classification simple, the style is good, and the tendency of the whole volume is to convey sure information to the reader."—*Lancet*.

FIFTH EDITION. In Demy 8vo. Revised Throughout. Pp. i.xi + 489.
 With 101 Illustrations. In Cloth. 15s. net.

MICRO-ORGANISMS AND FERMENTATION.

By ALFRED JÖRGENSEN.

TRANSLATED BY SAMUEL H. DAVIES, M.Sc.

CONTENTS.—Microscopical and Physiological Examination—Biological Examination of Air and Water—Bacteria—Moulds—Yeasts—The Pure Culture of Yeasts on a Large Scale.—INDEX.

"The student taking up this subject would do well to work through this book first and then take Lafar's."—*Brewing Trade Review*.

In Crown 8vo, Handsome Cloth. Price 7s. 6d. net.

FERMENTS: AND THEIR ACTIONS.

A Text-book on the Chemistry and Physics of Fermentative Changes.

By CARL OPPENHEIMER, Ph.D., M.D.

TRANSLATED BY C. AINSWORTH MITCHELL, B.A., F.I.C., F.C.S.

CONTENTS.—Introduction.—Definition of Ferment.—Chemical Nature of Ferment.—Influence of External Factors on Ferments.—Mode of Action.—Physiological Action.—Secretion of Ferments.—Ferments and the Vital Processes.—A. THE HYDROLYTIC FERMENTS: Proteolytic Ferments.—Trypsin.—Bacteriolytic and Hemolytic.—Proteolytic Vegetable Ferments.—Coagulating Ferments.—Saccharifying Ferments.—Animal Diastases.—Enzymes of the Disaccharides.—Ferments which decompose Glucosides.—Lactic Acid Fermentation.—B. THE OXIDISING FERMENTS: Alcoholic Fermentation.—Biology of do.—The Oxydases.—Acetic, Oxalic, and similar Fermentations.—Bibliography.—INDEX.

"Such a veritable *multum in parvo* has never yet appeared."—*Brewers' Journal*.

LONDON: CHARLES GRIFFIN & CO., LTD., EXETER STREET, STRAND.

In Cloth. Pp. i-xxxii + 778. With 2 Coloured Plates and 206 other Illustrations. 30s. net.

A TREATISE ON
QUANTITATIVE INORGANIC ANALYSIS,
With Special Reference to the Analysis of Clays, Silicates, etc.

By J. W. MELLOR, D.Sc.

PART I. General:—Introduction.—Weighing.—Measurement of Volumes.—Volumetric Analysis.—Colorimetry and Turbidimetry.—Filtration and Washing.—Heating and Drying.—Pulverisation and Grinding.—Sampling.—The Reagents. PART II. Typical Silicate Analyses—Clays.—Volatile Matters.—Opening up Silicates.—Determination of Silica.—The Ammonia Precipitate.—Iron.—Titanium.—Calcium and Magnesium.—The Alkalies.—Abbreviated Analysis and Analytical Errors.—Electro-Analysis. PART III. Glasses, Glazes, Colours, and Complex Silicates:—Analysis of Glass, Glazes, Enamels and Colours.—Determination of Arsenic.—Antimony.—Tin.—Lead.—Bismuth and Mercury.—Copper and Cadmium.—Zinc.—Manganese.—Cobalt and Nickel. PART IV. Special Methods—Bases:—Determination of Molybdenum.—Tungsten, Columbium, and Tantalum.—Gold and Selenium.—Aluminium and Beryllium.—Special Methods for Non-Compounds.—Chromium, Vanadium, and Uranium.—Zirconium, Thorium, and the Rare Earths.—Barium, Strontium, Calcium, and Magnesium.—Alkalies and their Salts. PART V. Special Methods—Acids and Non-Metals:—Carbon.—Water.—Boron Oxide.—Phosphorus.—Sulphur.—The Halogens.—Rational Analysis of Clays.—APPENDICES.—INDICES.

"The ceramic chemist has waited many years for a thorough and comprehensive treatise on the quantitative analysis of the materials with which he has had to deal, and here at last is what he had so long and so urgently needed."—*Nature*.

In Demy 8vo, Cloth. Pp. i-xvii + 411. With 4 Coloured Plates and 263 other Illustrations. 15s. net.

CLAY AND POTTERY INDUSTRIES,

Being Vol. I. of the Collected Papers from the County Pottery Laboratory, Staffordshire.

BY SEVERAL AUTHORS.

EDITED BY J. W. MELLOR, D.Sc.

* * For Full List of Contents, send for Prospectus.

"A fund of information on varied subjects of importance to the potter."—*Pottery Gazette*.

In Imperial 8vo. Strongly and Elegantly Bound in Half Leather. Enclosed in Case. Pp. i-xviii + 660. £2 2s. net.

CERAMIC LITERATURE

Compiled, Classified, and Described by M. L. SOLON,

President of the English Ceramic Society.

An Analytical Index to the Works Published in all Languages on the History and the Technology of the Ceramic Art; also to the Catalogues of Public Museums, Private Collections, and of Auction Sales in which the Description of Ceramic Objects occupy an important place; and to the most important Price Lists of the Ancient and Modern Manufactories of Pottery and Porcelain.

"A work of inestimable value to all serious study of Ceramics."—*Burlington Magazine*.

In Two Large Volumes, Large 8vo, Strongly Bound. Each complete in itself and sold separately.

BRIQUETTING.

Coal, Shale, &c.; Ores, Furnace Products, Metal Swarf, &c.

By G. FRANKE. Translated and Edited by F. LANTSBERRY, M.Sc.

Vol. I.—Pp. i-xxx + 631. With 9 Folding Plates and 225 other Illustrations. 30s. net.

"Messrs. Griffin & Company have once again rendered service to the nation by providing this useful addition to the manufacturers' library."—*Iron and Coal Trades Review*.

LONDON: CHARLES GRIFFIN & CO., LTD., EXETER STREET, STRAND.

In Med. 8vo. Cloth. Pp. i-vii + 171. With Many Tables. 6s. net.

The Theory and Practice of
Enamelling on Iron and Steel.

By JULIUS GRÜNWARD, DR., ING.

Translated by H. H. HODGSON, M.A., B.Sc., Ph.D.

CONTENTS.—Introduction.—The Raw Materials.—The Mixing, Dissolving, and Application of Enamel.—Heating and Pickling Goods in the Rough.—Correct laying on.—Baking Enamelled Ware.—Decorations of Enamelled Objects.—Photo-Ceramics in their Application to Enamels.—General and Statistical Chapter.—The History of Enamels and their Uses.—INDEX.
"Combines the theory and practice of enamelling in a most effective manner."—*Iron and Steel Trades' Journal*.

In Med. 8vo. Uniform with the above. 6s. net.

The Technology of
Iron Enamelling and Tinning.

By JULIUS GRÜNWARD, DR., ING.

Translated by H. H. HODGSON, M.A., B.Sc., Ph.D.

CONTENTS.—The History of the Enamels and their Technology.—Economic Significance of the Sheet-Iron Enamelling Industry.—Chemical Technology of the Enamelling Industry.—Enamel Manufacture and the Function of Clay in the Enamel.—Purple of Cassius.—The Examination of Enamels for Cast Iron.—The Stiffening of Enamels when ground moist by means of Vehicles.—Heating and Pickling of Rough Iron Wares.—The Pickling Process.—Chemical Composition of an Enamel.—Tinning.—Tin Recovery.—Danger of Lead Compounds.—Tin Disease.—Procedure in an Enamel Works.—Educational Training of Managers for Enamel Works.—INDEX.
"The author of this book . . . has done much to put our knowledge of the subject upon a scientific basis."—*Foundry Trade Journal*.

In Cloth. Pp. i-xi + 225. Uniform with the Author's other Works. 8s. 6d. net

THE RAW MATERIALS OF THE ENAMEL INDUSTRY AND THEIR CHEMICAL TECHNOLOGY.

By JULIUS GRÜNWARD, DR., ING.

Translated by H. H. HODGSON, M.A., B.Sc., Ph.D.

CONTENTS.—Felspar.—Quartz.—Fluorspar or Fluorite.—Clay (Alumino-Silicates), Borax and Boric Acid.—Cryolite and its Substitutes and its Functions in Enamel Manufacture.—Pyrolusite.—Tin Oxide.—Other White Colouring Agents.—Nickel Oxides.—Cobalt Oxide and its Compounds.—Sodium Carbonate.—Saltpetre.—Potash.—Some Important Enamelling Pigments.—General Enamel Recipes.—INDEX.

In Medium 8vo. Handsome Cloth. Illustrated. Pp. i-xix + 359. 25s. net.

CELLULOID.

ITS MANUFACTURE, APPLICATIONS, AND SUBSTITUTES.

Translated from the French of MASSELOU, ROBERTS, and CILLARD.

By H. H. HODGSON, M.A. (Camb.), B.Sc. (Lond.), Ph.D. (Heidelberg).

CONTENTS.—Composition, Origin, Properties.—Nitrocellulose.—Commercial Nitration Processes.—Bleaching of Cellulose.—Drying.—Steeping.—Staining of Celluloid.—Rolling, Compression.—Cutting and Dressing.—Tubes.—Waste.—Analyses.—Mechanical Tests. Inflammability.—Precautions in Celluloid Works.—INDEX.

SECOND EDITION, Thoroughly Revised. Re-set Throughout. In Large 8vo. Cloth. Pp. i-xvi + 266. With Frontispiece and 58 other Illustrations. 7s. 6d. net.

THE MANUFACTURE OF INK.

A Handbook of the Production and Properties of Printing, Writing, and Copying Inks.

By C. A. MITCHELL, B.A., F.I.C., F.C.S., & T. C. HEPWORTH.

CONTENTS.—Introduction.—Carbon and Carbonaceous Inks.—Tannin Materials for Inks.—Nature of Inks.—Manufacture of Iron Gall Inks.—Logwood, Vanadium, and Aniline Black Inks.—Coloured Writing Inks.—Examination of Writing Inks.—Early Methods of Manufacture.—Manufacture of Varnish.—Preparation and Incorporation of the Pigment.—Coloured Printing Inks.—Copying Inks.—Marking Inks.—Safety Inks and Papers.—Sympathetic Inks.—Inks for Special Purposes.—English Patents.—INDEX.
"Thoroughly well arranged . . . and of a genuinely practical order."—*British Printer*.

LONDON: CHARLES GRIFFIN & CO., LTD., EXETER STREET, STRAND.

PAINTS, COLOURS, DYEING, AND THE TEXTILE INDUSTRIES.

- TREATISE ON COLOUR MANUFACTURE** (Preparation, Examination, and Application of Pigments). By GEORGE ZERR and Dr. RUBENCAMP. English Edition by Dr. C. MAYER, of Burgdorf. Profusely Illustrated. 30s. net.
- TESTS FOR COAL-TAR COLOURS IN ANILINE LAKES.** By GEORGE ZERR. Translated by Dr. C. MAYER. In Medium 8vo. Cloth. 10s. 6d. net.
- PAINTING AND DECORATING. A Complete Practical Manual.** By W. J. PEARCE. FOURTH EDITION, Revised and Enlarged. Profusely Illustrated, and with many Plates in Colours. 12s. 6d.
- IDEAS AND STUDIES FOR STENCILLING AND DECORATING.** By A. DESAINT. In Medium Quarto. With Designs in Colour and Colour Scheme.
- PAINTERS' COLOURS, OILS, AND VARNISHES.** G. H. HURST, F.C.S. FIFTH EDITION, Revised and Enlarged, by NOEL HEATON, B.Sc., with Chapter on Varnishes by M. B. BLACKLER. 10s. 6d. net.
- PAINTERS' LABORATORY GUIDE.** By G. H. HURST, F.C.S. In Crown 8vo. Cloth. With Illustrations. 5s.
- OILS, RESINS, AND PAINTS.** By HARRY INGLE, D.Sc., Ph.D., F.I.C. In Three Volumes. Sold separately.
- A MANUAL OF DYEING.** By E. KNECHT, Ph.D., CHR. RAWSON, F.I.C., and R. LOEWENTHAL, Ph.D. THIRD EDITION, Thoroughly Revised and Rewritten.
- SYNTHETIC DYESTUFFS, and the Intermediate Products from which they are Derived.** By J. C. CALN, D.Sc., and J. F. THORPE, Ph.D. SECOND EDITION, Revised. With 7 Folding Tables. 16s. net.
- THE ANALYSIS OF DYESTUFFS.** By A. E. GREEN, M.Sc. SECOND EDITION. 8s. 6d. net.
- DICTIONARY OF DYES, MORDANTS, AND OTHER COMPOUNDS.** By CHR. RAWSON, F.I.C., W. M. GARDNER, F.C.S., and W. F. LAYCOCK, Ph.D. In Large 8vo. Cloth, Library Style. Reprinted. 16s. net.
- SPINNING AND TWISTING OF LONG VEGETABLE FIBRES (Flax, Hemp, Jute, Tow, and Ramie).** By H. R. CARTER. With Plates and Illustrations in the Text. 16s. net.
- THE COTTON WEAVERS' HANDBOOK.** By H. B. HEYLIN. In Cloth. Fully Illustrated. 6s. net.
- BUYERS AND SELLERS IN THE COTTON TRADE.** By H. B. HEYLIN. With Chronological and Statistical Chart. 8s. 6d. net.
- TEXTILE FIBRES OF COMMERCE (Occurrence, Distribution, Preparation, and Uses).** By W. I. HANNAN. In Cloth. With Illustrations. 9s. net.
- BLEACHING AND FINISHING OF COTTON.** By S. R. TROTMAN, M.A., and E. L. THORP, M.I.Mech.E. 16s. net.
- TEXTILE PRINTING.** By E. KNECHT, Ph.D., and J. B. FOTHERGILL. With 13 Plates and 86 Patterns in the Text. 36s. net.
- TEXTILE PRINTING.** By C. F. S. ROTHWELL, F.C.S. Illustrated. 21s.
- DYEING AND CLEANING.** By FRANK J. FARRELL, M.Sc. In Cloth. With 76 Illustrations. THIRD EDITION. Enlarged. 5s. net.
- BLEACHING AND CALICO PRINTING.** By GEORGE DUERR, Assisted by Wm. TURNBULL. Cloth. 12s. 6d.

LONDON: CHARLES GRIFFIN & CO., LTD., EXETER STREET, STRAND.

In Medium 8vo. Handsome Cloth. Pp. i-xvi + 615. With 13 Plates and 80 Illustrations, also 86 Patterns inset in Text. 36s. net.

The PRINCIPLES & PRACTICE of TEXTILE PRINTING

By E. KNECHT, Ph.D., and J. B. FOTHERGILL.

CONTENTS.—Part I. Introduction.—Part II. Methods of Printing.—Part III. Preparation of Cloth for Printing.—Part IV. Preparation of Printing Colours.—Part V. Treatment of Goods after Printing.—Part VI. Mordants.—Part VII. Styles of Printing: (a) Direct; (b) Dyed; (c) Insoluble Azo-Colour; (d) Discharge; (e) Resist or Reserve; (f) Raised; (g) Printing of Linings; (h) Metal Printing; (i) Crepon or "Crimp."—Part VIII. Finishing of Printed Calicoes.—Part IX. Wool and Half Wool Printing.—Part X. Silk and Half Silk Printing.—INDEX.

"This important book . . . fills an admitted gap in textile literature very systematic."—*Journal of Society of Dyers and Colourists.*

In Medium 8vo. Handsome Cloth. Pp. i-xi + 347. With 131 Illustrations. 16s. net.

THE BLEACHING AND FINISHING OF COTTON.

By S. R. TROTMAN, M.A., F.I.C., and E. L. THORP, M.I.Mech.E.

CONTENTS.—Structure of Cotton Fibre.—Constituents of Cotton Fibre.—Cotton Steeping.—Carbohydrates.—Water.—Bacteria in Bleaching.—Cotton Piece Goods.—Steeping.—Transmission of Cloth.—Alkali Boiling.—Soap.—Soap Making.—Organic Solvents.—Keirs.—Washing Machines.—Bleaching and Bleaching Powder.—Bleaching and Souring Apparatus.—Sodium Hypochlorite and Electrolytic Bleaching Solutions.—Other Bleaching Agents.—Souring Acids and Souring Apparatus.—Processes.—Coloured Goods.—Stains and Discolourations.—Finishing and Materials Used.—Mangling, Drying, and Conditioning.—Stiffening and Mangles.—Auxiliary Machines and Processes.—Stenters.—Beetling.—Calendering.—Finishing Processes.—INDEX.

"Deserves the attention of practical bleachers, and we can recommend it to them with confidence."—*Textile Mercury.*

In Medium 8vo. Cloth. Pp. i-xvi + 360. With 161 Illustrations. 16s. net.

THE SPINNING AND TWISTING OF LONG VEGETABLE FIBRES

(FLAX, HEMP, JUTE, TOW, & 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.

By HERBERT R. CARTER, of Belfast, Ghent, and Lille.

CONTENTS.—Long Vegetable Fibres of Commerce.—Rise and Growth of the Spinning Industry.—Raw Fibre Markets and Purchase of Materials.—Storing and Preliminary Operations of Batching, Softening, Knifing, Breaking, and Cutting.—Hackling by Hand and Machine, Cost and Speed of Machining.—Sorting, and Management of Hackling Dept.—Preparing Department.—Sliver Formation.—Tow Carding and Mixing.—Preparing, Drawing and Doubling, and Tow Combing.—Gill Spinning.—Rope Yarn.—Binder Twine.—Trawl Twine and Shoe Threads.—The Flax, Hemp, Jute, and Ramie Roving Frame.—Dry and Demy-Sec Spinning of Flax, Hemp, Jute, and Ramie.—The Wet Spinning of Flax, Hemp, and Ramie Yarns.—Flax, Hemp, Jute, and Ramie Waste Spinning.—Yarn Reeling, Winding, Drying, Cooling, and Bundling.—Manufacture of Threads, Twines, and Cords.—Rope Making.—Weight of Ropes.—Mechanical Department: Repairs.—Fluting.—Hackle-Setting.—Wood Turning.—Oils and Oiling.—Mill Construction; Heating, Lighting, Ventilation, and Humidification.—Boilers, Engines, etc.—Power Transmission.—INDEX.

"The whole subject is exhaustively and ably dealt with by Mr. Carter, and the letterpress is illustrated by an abundance of excellent plates. . . . The book is the work of a technical expert, who can put his knowledge into plain English, and it is worth the attention of all concerned with the industries treated of."—*The Dyer and Calico Printer.*

LONDON: CHARLES GRIFFIN & CO., LTD., EXETER STREET, STRAND.

A TEXT-BOOK OF PHYSICS.

By J. H. POYNTING, Sc.D., F.R.S.,
Professor of Physics, Birmingham University,

And Sir J. J. THOMSON, O.M., M.A., F.R.S.,
Professor of Experimental Physics in the University of Cambridge.

In Five Volumes. Large 8vo. Sold Separately.

INTRODUCTORY VOLUME. FIFTH EDITION, Revised. Fully Illustrated.
10s. 6d.

PROPERTIES OF MATTER.

CONTENTS.—Gravitation.—The Acceleration of Gravity.—Elasticity.—Stresses and Strains.—Torsion.—Bending of Rods.—Spiral Springs.—Collision.—Compressibility of Liquids.—Pressures and Volumes of Gases.—Thermal Effects Accompanying Strain.—Capillarity.—Surface Tension.—Laplace's Theory of Capillarity.—Diffusion of Liquids.—Diffusion of Gases.—Viscosity of Liquids.—INDEX.

"We regard this book as quite indispensable not merely to teachers but to physicists of every grade above the lowest."—*University Correspondent*.

VOLUME II. SIXTH EDITION. Fully Illustrated. Price 8s. 6d.

SOUND.

CONTENTS.—The Nature of Sound and its chief Characteristics.—The Velocity of Sound in Air and other Media.—Reflection and Refraction of Sound.—Frequency and Pitch of Notes.—Resonance and Forced Oscillations.—Analysis of Vibrations.—The Transverse Vibrations of Stretched Strings or Wires.—Pipes and other Air Cavities.—Rods.—Plates.—Membranes.—Vibrations maintained by Heat.—Sensitive Flames and Jets.—Musical Band.—The Superposition of Waves.—INDEX.

"The work . . . may be recommended to anyone desirous of possessing an EARLY UP-TO-DATE STANDARD TREATISE ON ACOUSTICS."—*Literature*.

VOLUME III. FOURTH EDITION, Revised. Fully Illustrated. Price 15s.

HEAT.

CONTENTS.—Temperature.—Expansion of Solids.—Liquids.—Gases.—Circulation and Convection.—Quantity of Heat; Specific Heat.—Conductivity.—Forms of Energy; Conservation; Mechanical Equivalent of Heat.—The Kinetic Theory.—Change of State; Liquid, Vapour.—Critical Points.—Solids and Liquids.—Atmospheric Conditions.—Radiation.—Theory of Exchanges.—Radiation and Temperature.—Thermodynamics.—Isothermal and Adiabatic Changes.—Thermodynamics of Changes of State, and Solutions.—Thermodynamics of Radiation.—INDEX.

"Well up-to-date, and extremely clear and exact throughout. . . . As clear as would be possible to make such a text-book"—*Nature*.

VOLUME IV. IN THREE PARTS—TWO BOUND VOLUMES.

ELECTRICITY & MAGNETISM.

PARTS I. & II. In Cloth. Pp. i-xiv + 246. Price 10s. 6d.

STATIC ELECTRICITY AND MAGNETISM.

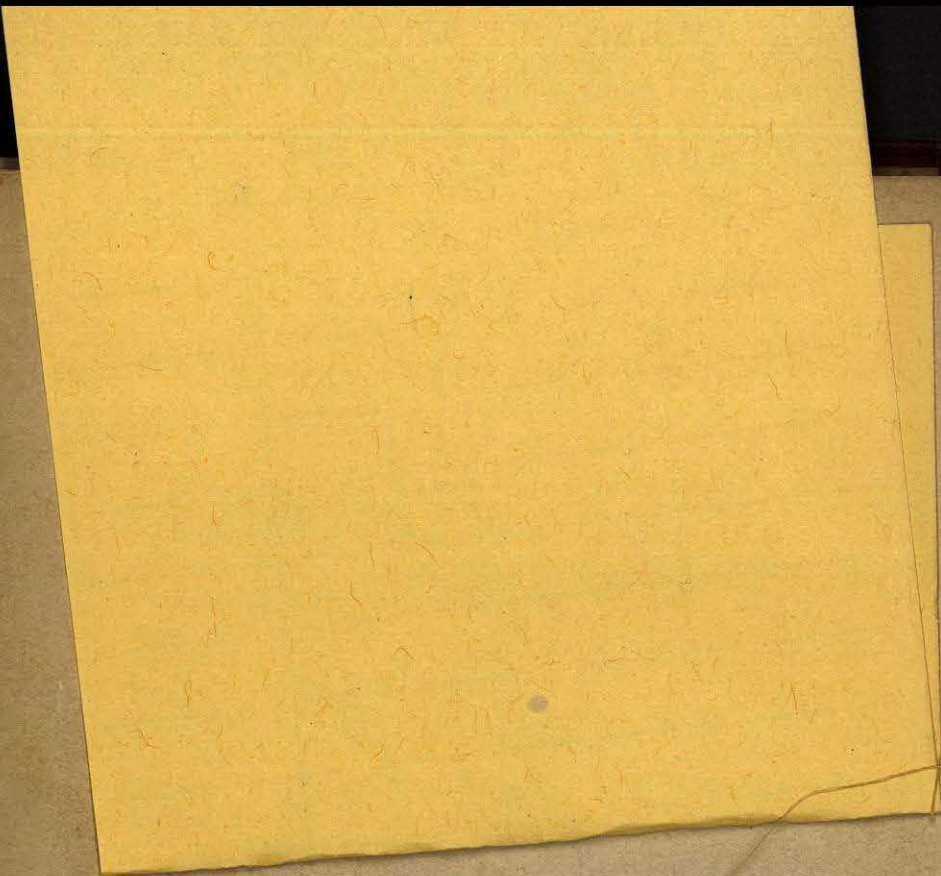
CONTENTS.—Common Phenomena.—Quantity of Electrification.—"Inverse Square" Systems.—Electric Strain produced in a Field.—Force on a Small Charged Body in the Field.—Potential.—Energy in Electrified Systems.—Measuring Potential and Capacity.—Dielectric, Specific Inductive Capacity, Residual Effects.—Spec Ind. Capacity and Refractive Index.—Stress in Dielectric.—Alteration in Dielectric under Strain.—Pyro- and Piezo-electricity.—Magnetic Actions.—Molecular Hypothesis of Magnets.—Magnets other than Iron.—Inverse Square Law.—Magnetic Fields.—Induced Magnetism.—Permeability.—Measurements of Susceptibility and Permeability.—Terrestrial Magnetism.—Magnetism and Light.—INDEX.

"The student of Physics has only to know of its existence and its authors in order to possess it."—*Electrical Times*.

PART III.—Is in the Press.

VOLUME V. **LIGHT**—Is in Preparation.

LONDON: CHARLES GRIFFIN & CO., LTD., EXETER STREET, STRAND.



TS1890
H4

127481

AUTOR

HEIL, Adolf

TITULO

The manufacture of rubber

goods

NOMBRE DEL LECTOR

127481

