

**THE ELECTRO-PLATERS'
HANDBOOK; A PRACTICAL
MANUAL FOR AMATEURS AND
YOUNG STUDENTS IN ELECTRO-
METALLURGY**

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The electro-platers' handbook; a practical manual for amateurs and young students in electro-metallurgy by G. E. Bonney

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G. E. BONNEY

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WITH SIXTY-ONE ILLUSTRATIONS.

FOURTH EDITION.

ENLARGED BY AN APPENDIX ON ELECTROTYPING, ETC.



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PREFACE.

THIS book has been written to meet the wants of amateurs and young workmen desiring a practical manual on electro-plating at a low price. It supposes the workman to have an elementary acquaintance with electrical science, and a wish to put this knowledge to a practical use in the electro-deposition of metals. Although the information given here has been proven in the workshop, the author has not relied entirely on his own experience, but has incorporated with it the experience of fellow-workers in the art. His thanks are specially due to Mr. J. E. Hartley, of the firm of Messrs. J. E. Hartley and Co., 13, St. Paul's Square, Birmingham, for useful information and loan of electros; to Mr. T. Hemming, of the firm of Messrs. Canning and Co., Birmingham; to Messrs. Doulton and Co., Lambeth Potteries, S.E.; Messrs. Cassell and Co., Crosby Lockwood and Co., and the Electrical Engineering Corporation, for loans of electros.

Much of the information contained in Chapter III. has been kindly supplied by Mr. S. Bottone, the well-known author of "Electrical Instrument Making for Amateurs," "Electric Bells and all About Them," "Electro-Motors, How Made and How Used," etc., etc. The hints herein given on the choice, management, and care of electro-plating dynamos, will, it is believed, supply a want long felt by electro-platers.

January, 1891.

PREFACE TO THE SECOND EDITION.

IN preparing this Second Edition of the *Electro-Platers' Handbook*, I make use of the opportunity to thank those reviewers of the first edition who so generously aided me with suggestions for its improvement. The chapter on *Dynamo-Electric Plating Machines* has been left practically untouched, because there has been little or nothing added to the list of good plating dynamos since this chapter was first published, and, the old ones mentioned there, still serve as obsolete ensamples to be avoided in the future. Some additional notes on this subject will be found in the *Appendix*, which also contains an additional chapter on *Electrotyping*, together with short sections on *Frosting Gold*, *Stopping-off Varnishes*, and *Rates of Deposit* for the principal metals in use by electro-platers.

PREFACE TO THE THIRD EDITION.

IN issuing a Third Edition of this work, I have deemed it advisable to revise the chapter on Dynamo-Electric Plating Machines, replacing some of the old dynamos with machines of a more modern type. Advances in the application of electro-metallurgy to Cycle Plating has rendered an expansion of Chapter VIII. a necessity. This has been done by adding two sub-sections dealing with Nickel-Plating Cycle Fittings, and Nickelling Small Articles. In the preparation of these I have received assistance from Mr. H. E. Hartley, and Messrs. Canning and Co., of Birmingham.