

**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**

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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 by C. S. Partridge

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C. S. PARTRIDGE

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ELECTROTYPING

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CONTAINING HISTORICAL REVIEW OF THE SUBJECT, FULL DESCRIPTION OF THE TOOLS AND MACHINERY REQUIRED, AND COMPLETE INSTRUCTIONS FOR OPERATING AN ELECTROTYPING PLANT.

BY C. S. PARTRIDGE.

SECOND EDITION.

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PREFACE TO FIRST EDITION.

THE art of electrotyping has within recent years made material advancement. Labor-saving machinery and appliances have simplified and at the same time insured greater accuracy in the mechanical features of the art, while the constant and increasing demand for rapid work has been an incentive to invention and research, with the result that electrotypes are now produced in much less time than was formerly required. That the literature of electrotyping, although of great value, is hardly up to date, is evidenced by the statements of Urquhart, Wilson, Langbein and others, to the effect that from seven to twenty hours are required to deposit shells of practical thickness. While these statements were, perhaps, correct at the time they were published, they can hardly be considered accurate now, in view of the fact that the plate from which this page is printed was deposited in fifteen minutes.

In the following pages, revised from a series of articles in *The Inland Printer*, I have endeavored to describe, as clearly and simply as possible, the most approved methods of producing electrotypes, with the hope that the information may prove of value both to the professional and the amateur.

C. S. PARTRIDGE.

CHICAGO, June, 1899.

PREFACE TO SECOND EDITION.

THE general favor accorded "Electrotyping" made several printings of the first edition necessary. This second edition has been revised and corrected to date and much new matter added, an important addition being a glossary or reference list of terms, processes and apparatus.

C. S. PARTRIDGE.

CHICAGO, December, 1908.

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ELECTROTYPING.

CHAPTER I.

HISTORICAL REVIEW.

DURING the period of 1837-1839, Professor Jacobi, of St. Petersburg, Mr. Thomas Spencer, of Liverpool, and Mr. C. J. Jordan, of London, made at different times announcement of their independent discovery of the art of electrotyping. According to one authority the rival claims of Professor Jacobi and Mr. Spencer were presented by them in person before the Chemical Section of the British Association for the promotion of Science, and this august assembly after prolonged discussion decided that both had independently arrived at the same result, but that the priority of discovery was undoubtedly Mr. Spencer's. However, this decision of the society with the high-sounding title did not by any means settle the controversy, which became still further complicated by the later claims of Mr. Jordan. In view of the conflicting character of the evidence we are inclined to divide the honor between the gentlemen named; but whatever merit may attach to their respective claims as discoverers, there is probably no question but that the credit for the first practical application of the new art to the printing business belongs to an Amer-

ican—Mr. J. A. Adams, of New York, who produced successful electrotypes of wood engravings in 1841. It is to American inventive genius, also, that we are indebted for most of the labor-saving methods and machinery which have brought the art to its present state of perfection. In England, electrotyping seems to have been first utilized chiefly for the production of metallic art work such as engraved medals, statuary, etc. Messrs. Elkington & Co. were so successful in this branch of the art that in 1845 they had established a considerable business in the duplication of cups, vases and other articles, deposited entirely in gold, silver and copper. While our friends over the water have perhaps excelled in this feature of electrotyping, Americans were quick to grasp and develop the possibilities of the art as applied to printing purposes. In 1863, Mr. William Filmer, an electrotyper of New York, who had much to do with the early development of electrotyping, after an extended trip abroad stated that electrotyping as applied to the printing industry was generally recognized in Europe as an American art.

The discovery of electrotyping, like many other important discoveries, was purely accidental. Mr. Spencer, for instance, was trying some experiments in electro-chemistry. He had immersed a copper plate in a solution of sulphate of copper and a zinc plate in a solution of common salt, connecting them together by a wire, and separating the fluids by a partition of plaster of paris. In order that no action should take place on the wire connecting the plates, he covered it with sealing wax, and in so doing, spilled some of the wax on the copper plate. After a few days he found