

**THE ART OF LEAD BURNING:
A PRACTICAL
TREATISE EXPLAINING THE
APPARATUS AND PROCESSES**

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The Art of Lead Burning: A Practical Treatise Explaining the Apparatus and Processes by C. H. Fay

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C. H. FAY

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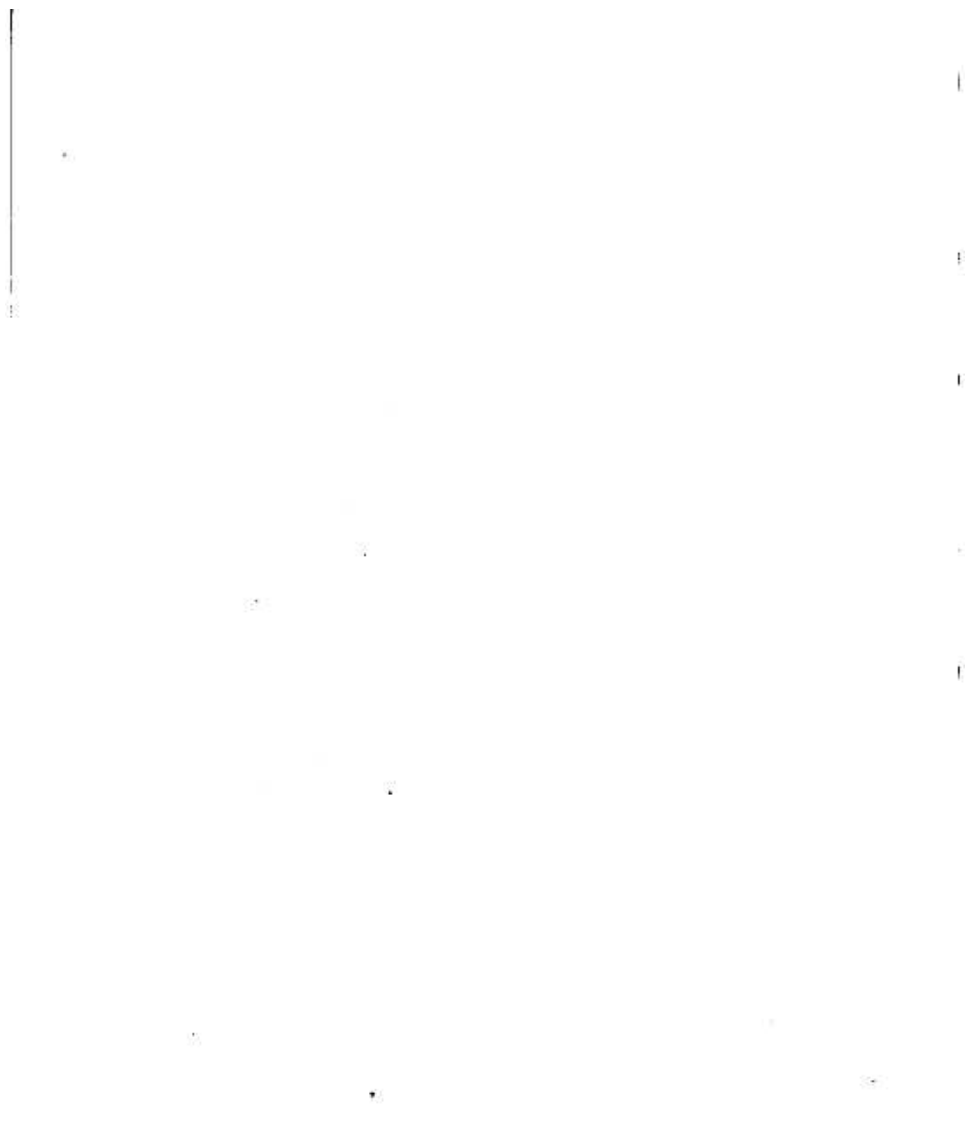
PREFACE.

The mystery which has always surrounded the work of the lead burner, like that of all other handicrafts outside of ordinary occupations, dissolves under the light of a full knowledge of the causes and effects that have a bearing upon it. While different works have treated on lead burning, it is the object of this special treatise to explain fully in detail every part of the apparatus and fixtures in common use, as well as their application, so that the careful reader may understand and acquire the art of lead burning by observing scrupulously the rules laid down and devoting sufficient time to practice to master it. This instruction, given by text and illustration, is only presented after the dangerous power of hydrogen gas when misused is thoroughly impressed on the reader. It would be well for all who hope to become lead burners to devote several evenings, with an interval between, to a thorough study of the chapters on hydrogen gas and its properties before taking any further steps. To those who have not had previous experience with chemicals and gases this preliminary study is indispensable for their own safety,

for the successful operation of the apparatus and to insure satisfactory work. When fully familiar with the properties of hydrogen gas and the necessity of being careful when it is used little difficulty will be experienced in acquiring a full knowledge of the apparatus and fixtures. The art of burning the lead can only be acquired by practice, and either quickly or slowly, as the operator may be quick and skillful in acquiring any handicraft. In addition to describing what has been common practice for many years, the treatise contains a description of a new machine and burner which has only recently become available to lead burners. It also describes the method of lead burning with the use of illuminating gas and a soldering flux. A chapter is devoted to soft soldering and Britannia metal work, which is largely used in the equipment of bars and restaurants, the various joints being more easily made with a blow pipe than by any other method. As the workman who hopes to profit by reading this book can by a little negligence make a great deal of trouble for himself and others, caution and great care are advised whenever he is at work.

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CHAPTER I.

INTRODUCTION.

In compiling a treatise on the subject of lead burning too much stress cannot be laid upon the fact that the greatest care must be taken to observe the smallest details and to follow carefully every suggestion in regard to safety. I am aware of the responsibility resting upon me in placing this article into hundreds of hands, comparatively ignorant of the danger involved in handling so much hydrogen, without thoroughly instructing them in detail as to its use. I may be excused, therefore, if, for that reason, some of the explanations are so simple as to seem ridiculous; but my aim is to present to the trade a treatise that can be relied upon to be free from theory that has not been thoroughly tried and tested, so that the beginner can be sure that, if he follows directions as printed, nothing but satisfaction to him can result.

Study the Chapter on Hydrogen Gas.

I cannot too strongly recommend that the beginner study the chapter on hydrogen gas until the main points are memorized and clearly

understood. The experiments should be performed and the result carefully noted for future reference before attempting to use the generator. It is time well spent to master the technical parts thoroughly before attempting the mechanical part. Then when a man takes up the mechanical he will do so with an intelligent understanding of what he is doing, and any little trouble which may then arise can be quickly overcome.

Another thing to be observed is to avoid nervousness. A nervous person cannot do this work with any degree of satisfaction, as it requires a cool head and a steady hand and a vast amount of patience to burn the upright and inverted seams.

Lead Burning Explained.

Lead burning is the process of fusing two pieces of lead together without the use of solder. The process consists in melting the edges together, a drop at a time, and when done with hydrogen gas and the blow pipe is called the "autogenous process." Lead can be fused with gasoline or illuminating gas by the use of the compound blow pipe; but, as ordinary gases give an oxidizing flame and require a flux, it is not considered a practical method.

Lead is used extensively in lining tanks made