LABORATORY MANUAL OF GLASS-BLOWING

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PREFACE

The purpose of this little book is to provide a clear and detailed discussion of the elements of glass-blowing. Many laboratories in this country, especially in the west, are located a long way from any professional glass-blower, and the time and money spent in shipping broken apparatus several hundred miles to be mended could often be saved if some of the laboratory force could seal on a new stop-cock, replace a broken tube, or make some temporary repairs. Many men in physical or chemical laboratories have occasion to modify some piece of apparatus designed perhaps for other uses, or to design new apparatus. To such also, the ability to perform some of the operations herein described may be very valuable.

No originality is claimed for the methods here described. They are those which the author has found most suitable and convenient in his own work, and most easily learned by students. The aim has been to describe each operation in such detail that a beginner can follow the process without help and, with practice, attain satisfactory results. It is, however, much easier to perform any of the operations described, after seeing some one else perform it correctly; since the temperature, the exact time to begin blowing the glass, and many other little details are very difficult to obtain from a description.

It has not been thought worth while to describe the process of making stop-cocks, thermometers, vacuum tubes, etc., as such things can be purchased more cheaply and of much better quality than any amateur can make unless he is willing to spend a very large amount of time in practice. For similar reasons the manipulation of quartz glass has been omitted.

The author will be grateful for all suggestions and criticisms tending to improve the methods presented If some of them appear to be given in excessive detail, the reader will remember that many things which are obvious to the experienced worker are not so to the beginner, and that it is the little details in the manipulation which often spell success or failure in glass-blowing.

F. C. F.

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