

# **WOODWORKING TECHNOLOGY**

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## Foreword

This book has been written for those who have a need or a desire for knowing about the several related factors involved in the fabrication of wood for useful purposes. Both a comprehensive coverage and a reasonable degree of detail have been attempted. The content is technical and cultural. It ranges from simple, interesting facts to complex principles of wood technology. It encompasses the theory and application of wood in furniture, structures, and patterns.

The underlying assumption of the authors is that the subject of wood and wood fabrication is many-sided. It consists of "the what" and "the why" as well as "the how" of woodworking. The authors believe that intelligent and effective work with wood presupposes knowledge of tools, materials, processes, mechanics, and design. Hence the book is divided into sections dealing with the respective topics of design, woods, tools, machines, processes, and finishing. References are made also to industries and to occupations within the wood industries.

The section on design should be helpful to individuals who wish to design a project or who have a woodworking design problem. Basic principles are suggested, along with dimension ranges, shapes, forms, and decorations.

Facts and principles are given on the general topic of wood and the properties, characteristics, and uses of more than twenty-five woods are covered specifically.

Each tool and machine is considered as both a unit of precision or mechanical efficiency and as a device for performing a particular kind of work. The outline for each tool includes descriptions of the principal

parts and their function, along with safety considerations and information about sizes, attachments, and other pertinent facts. Something of the history and evolution of some tools is also given.

While the book is not primarily a "How To Do" book, nonetheless virtually all of the woodworking operations and processes normally covered in woodworking books have been included in this one. In addition to outlining and illustrating the steps of procedure, the principles underlying the processes involved are also given.

Since no book on woodworking would be complete without some reference to the subject of wood finishing, both modern and traditional finishes and finishing methods have been included.

Each specie of wood, each separate material, tool, machine, operation, or process has been handled as a distinct topic. To assist the reader, these topics have been grouped into appropriate sections. It is assumed that the reader or student will study the respective topics with reference to some problem or need for information. Obviously it is not intended that each topic and section will be studied in the order and sequence by which they have been organized in the book.

The materials contained in this book were developed first as instruction sheets to be used in the classes of the authors. The response of the students who used them first suggested the idea of presenting them in a form suitable for publication. The students requested that additional topics be presented in keeping with the outline form used in the instruction sheets. It was their belief that the outline provided a pattern of analysis to guide