

**ELEMENTARY
WOODWORK FOR USE
IN MANUAL
TRAINING CLASSES**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649076925

Elementary woodwork for use in manual training classes by Frank Henry Seldon

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

FRANK HENRY SELDON

**ELEMENTARY
WOODWORK FOR USE
IN MANUAL
TRAINING CLASSES**

ELEMENTARY WOODWORK

FOR USE IN

MANUAL TRAINING CLASSES

BY

FRANK HENRY SELDEN

AUTHOR OF "ELEMENTARY TURNING" AND "ELEMENTARY
CABINETWORK"

FULLY ILLUSTRATED

CHICAGO—NEW YORK
RAND, McNALLY & CO., PUBLISHERS

Preface

The object of this work is to place before pupils who are beginning woodwork such information as will lead to a correct use of the tools and lay a good foundation for advanced work without lessening in any way the other benefits of school shop work.

It is designed for elementary rather than technical instruction, and therefore many problems and suggestions found in other works have been omitted. Great care, however, has been taken to arrange and illustrate the exercises employed so that pupils will avoid the common error of using tools improperly in the first years of work, and thus escape fixing habits which later will cause much trouble. We are certain there is no need of using tools improperly in the first years of shop work.

The work is so arranged that each new lesson contains a step in advance, yet is so closely related to the previous exercise that an ordinary pupil may properly comprehend and execute the new problem.

This book is intended for class use, and the author has endeavored so to arrange and grade the exercises that they may be followed very closely. Where no preliminary exercises are made, and the pupils proceed at once to the construction of some complete object, the problems should be studied

ELEMENTARY WOODWORK

topically as the pupil has need of them. The complete index and the cross references found in the text will aid greatly in finding any desired instruction. The special information required by the instructor will be found in another volume.

If the methods of doing work given in the following pages are judged from the standpoint of first-class practical workmen they will be found correct in every case. Where there is a choice of methods, the one which is considered best for the pupil's use is given. The lessons have been tested carefully with many pupils, and the various processes tested not only in the school room, but also in years of practical work among mechanics. The foundation principles involved are treated so thoroughly that no pupil, after completing the book, need fear to use these methods in any first-class shop. In shops where special methods are employed these lessons will be found to have given a broad basis on which to build any special line of mechanical work. Above all, these exercises will give a drill in system, careful forethought, and intelligent perseverance which will be of great value to any pupil, either boy or girl, and will well repay the effort, even though the pupil may never use such tools after leaving school. Care must be taken to do the work thoroughly and earnestly in order to receive the full benefit of the course. Whenever possible, one hour and a half each day should be devoted to shop work.

CONTENTS

INTRODUCTION	- - - - -	3
PERSONAL EQUIPMENT	- - - - -	4
SCHOOL EQUIPMENT	- - - - -	5
REGULATIONS	- - - - -	5

Part I. Elementary Exercises

LESSON I.	TO TRUE THE FIRST SURFACE OF A PIECE OF WOOD	- - - - -	10
LESSON II.	TO PLANE AN EDGE AT RIGHT ANGLES TO A SURFACE	- - - - -	17
LESSON III.	USE OF THE GAUGE	- - - - -	20
LESSON IV.	FINISHING THE THIRD SIDE	- - - - -	23
LESSON V.	FINISHING THE FOURTH SIDE	- - - - -	25
LESSON VI.	LAYING OFF SPACES AND LINING	- - - - -	26
LESSON VII.	BENCH-HOOK	- - - - -	30
LESSON VIII.	SHIELD BORDER	- - - - -	35
LESSON IX.	BIRING	- - - - -	38
LESSON X.	SAWING	- - - - -	41
LESSON XI.	CHISELING	- - - - -	44
LESSON XII.	MAKING THE CORNER SHELF	- - - - -	46
LESSON XIII.	CHISELING ENDS	- - - - -	47
LESSON XIV.	SANDPAPERING	- - - - -	50
LESSON XV.	SHELLACING	- - - - -	53
LESSON XVI.	HALVED CORNER	- - - - -	56
LESSON XVII.	FINISHING THE HALVED CORNER	- - - - -	64
LESSON XVIII.	MAKING A HALVED TEE	- - - - -	68
LESSON XIX.	HALVED CROSS	- - - - -	71
LESSON XX.	HALVED DOVETAIL	- - - - -	74
LESSON XXI.	SLIP MORTISE AND TENON	- - - - -	77
LESSON XXII.	THROUGH MORTISE AND TENON	- - - - -	83
LESSON XXIII.	FRANK MORTISE AND TENON	- - - - -	85
LESSON XXIV.	BLIND MORTISE AND TENON	- - - - -	88
LESSON XXV.	SINGLE DOVETAIL	- - - - -	91
LESSON XXVI.	COMMON DOVETAIL	- - - - -	93
LESSON XXVII.	HALF BLIND DOVETAIL	- - - - -	96

Part II. Supplementary Lessons

LESSON XXVIII	GETTING OUT STOCK - - - -	99
LESSON XXIX	BENCH-HOOK - - - - -	102
LESSON XXX	RABBETED CORNER - - - -	110
LESSON XXXI	GAINED AND RABBETED CORNER - -	112
LESSON XXXII	BRIDLE JOINT - - - - -	114
LESSON XXXIII	HAUNCHED MORTISE AND TENON -	115
LESSON XXXIV	DOWEL JOINT - - - - -	117
LESSON XXXV	SPECIAL DOWEL JOINT - - - -	120
LESSON XXXVI	MITER JOINT - - - - -	121
LESSON XXXVII	SLIP MORTISE AND MITER - - -	125
LESSON XXXVIII	GLUE JOINT - - - - -	126
LESSON XXXIX	MAKING AN OCTAGON - - - -	130
LESSON XL	MAKING A CYLINDER - - - - -	133
LESSON XLI	MAKING A POINTED - - - - -	134
LESSON XLII	MAKING A HEXAGON - - - - -	134

Part III. Description and Use of Tools
and Materials

INTRODUCTION, ALCOHOL (SEE SHELLAC), APRON, BENCH, BENCH-STOP, BENCH-HOOK (SEE LESSONS 7, 29), BITS, BIT BRACE, BRADS (SEE NAILS), BRUSHES, CHISELS, CLAMPS, COMPASSES, FILES, GAUGE, GLUE, GRINDSTONE, HAMMER, KNIFE, LUMBER, NAILS AND BRADS, NAIL SET, OIL CAN, OILSTONE, PAINTS (SEE STAINS), PENCIL, PLANES, PUTTY, RULE, SANDPAPER, SAWS, SAW SET, SCRAPER, SCREW DRIVER, SHELLAC, STAINS, SQUARE, STROP THE BEVEL, TRY-SQUARE, VARNISH, VISE, WAX 136 to 206

INTRODUCTION

These lessons take up the common tools in the order which the author has found to be best. They are so graded that the pupil should be able to execute each exercise in a satisfactory manner. The chief difficulties are carelessness and thoughtlessness. If the pupil reads carefully the entire text for each exercise before beginning it, and then re-reads the text, step by step in order, as the work progresses, he will find little difficulty in making proper progress.

As each tool is taken up, the pupil should turn to part III and study carefully what is said about that particular tool; and each day, until the lessons are mastered, review what is said in regard to the use of the tools in the lessons and also the description of the tools in part III. Each new lesson depends very largely upon those preceding. Therefore, only by a constant review will the pupil get the greatest possible benefit from his study. Although the directions are quite explicit, an abundance of opportunity is left for individuality in work.

If proper care is taken there will be no necessity for giving any pupil a second piece of material for any exercise. This method is not only more logical,

but more satisfactory to the pupils when they realize that it results in greater good to themselves. The author has many times had pupils, after a piece has been finished, voluntarily express great satisfaction at having been kept so long at the exercise, although considerable effort had been required to do so. It is conquering a difficult exercise that benefits the pupil and gives real interest in the work. The grade established on the first piece is apt to continue through the entire course. Pupils who conquer thoroughly the first difficulties, though perhaps at first dropping behind those more easily satisfied, are quite likely to work so much more rapidly later on that they will more than make up the loss of time on the first exercises.

These lessons will be found very useful when constructing complete articles. Where no model joints are made, the lessons should be studied topically, each exercise being taken up as it occurs in the article being constructed.

Personal Equipment

Each pupil must provide himself with a suitable apron, an oilstone, a pocket-knife, pocket-rule, pencil, clothes-brush, soap, and towel. Each of these articles must be plainly marked with the pupil's name. No pupil should be admitted to the class until he has his personal equipment and each article properly marked. These articles may be kept either in the bench