CHAPTER 7

Planning Your Work

What are you going to do next summer? Is your family going to take a trip? Will you work for your dad or some of your neighbors? Are you going to camp? Will you go to the beach or the mountains? If your summer is to be successful, whether it's work or play, you have to make plans. Before you can do anythhing that is interesting and worthwhile, you have to get ready for it.

In the working world where people are paid for their ideas and efforts, planning is a most important part of the job. Without planning, there wouldn't be much of a chance of building bridges, roads, houses, cars, or any of the thousands of products we depend on.

Plans must be made not only for the big things like buildings but also for small things. Planning is especially important when you are going to use tools and materials to make things. In fact, the job is already half done when it is well planned. A good slogan to follow is *"Plan your work; then work your plan."* Sure, you can start right out "butchering wood." But if you do, you'll waste a lot of material, do poor work, and end up with something nobody wants.

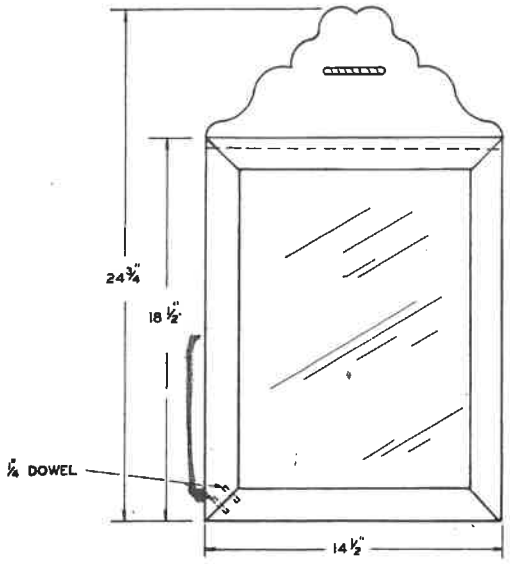
WHAT YOU WILL NEED FOR PLANNING

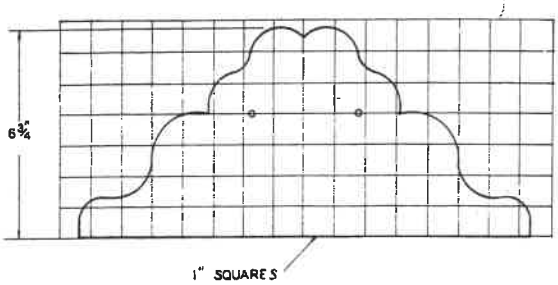
How do you plan in wood? Suppose all of you in the class and your instructor have decided on the first project. Fig. 7-1. In making your plans, you will need the following items.

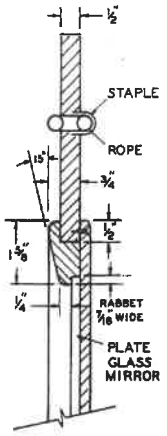
Drawing of the Project

You will need a drawing of the project or a shop sketch that you have made yourself. This drawing or sketch must have the dimensions on it. Fig. 7-2.

7-1. ***Your first project could be this mirror.***







7-2. A drawing of the mirror shown in Fig. 7-1.

Bill of Materials

This is a list of all the things you will need to build the project. Fig. 7-3. Always make out the bill of materials before you start because:

- It tells you exactly what size and kind of lumber and other materials you need.
- It helps you find out the cost of the project.
- It makes a good list to take with you if you must buy your own materials.
- It is a good checklist to use when you are getting the materials together in the shop.

A complete bill of materials includes *everything* you need to build the project. The list includes:

- Number of pieces needed.

BILL OF MATERIALS

IMPORTANT: All dimensions listed below, except for length of dowel, are FINISHED size.

No. of Pieces	Part Name	Thickness	Width	Length	Material
1	Top	½"	6¾"	14½"	Knotty Pine
2	Top and Bottom Rails	¾"	1⅝"	14½"	Knotty Pine
2	Side Rails	¾"	1⅝"	18½"	Knotty Pine
1	Back	¼"	14¼"	18¼"	Plywood or Hardboard
1	Mirror	¼"	12"	16"	Glass
1	Dowel	¼"		20"	
2	Small Screw Eyes				
As needed:	¾" #6 Flathead Wood Screws				
1	Piece Twisted Rope 6" long				
1	Small Staple				

7-3. Bill of materials for the mirror.

PROCEDURES

1. Lay out the pattern for the top on paper. Trace the design on the stock and cut on a band or scroll (jig-) saw.
2. Drill the two holes for the rope.
3. Cut the four rails and miter the ends. Cut a rabbet on the back of each rail for the mirror and cut a large rabbet in the top rail to receive the top piece.
4. Bevel the rails on a circular saw and round the edges with the router.
5. Cut the back.
6. Assemble the rails with dowels and glue.
7. Sand all parts and apply the finish.
8. Insert mirror and fasten the back to the rails and top with wood screws.
9. Insert ornamental rope and staple to the back. Mirror should be hung with picture wire fastened to two screw eyes in the back.

7-4. ***These are the steps to follow in building the mirror.***

- Thickness, width, and length of each piece.
- Name of each part.
- Kind of lumber or other building material.
- Cost.

The size of each part listed in the bill of materials is the exact, final dimension. Before you get out your materials, you can make a *stock-cutting list.* This list gives the size of each piece that you cut out of the lumber, before the finished size. To the sizes in the bill of materials you must add about 1/16 to 1/8 inch for thickness, 1/8 to 1/4 inch for width, and 1/2 inch for length. (Of course, plywood is cut from the exact thickness and as close to finished size as possible.)

7-5. ***These are the tools and machines you would need to make the mirror.***

Procedures List

This is a list of the steps you will follow in making each part, putting the project together, and applying a finish. Fig. 7-4. Each chapter in this book describes a step in making a project.

List of Tools and Machines

You should also make a list of the tools you will use and any power machines you may need. Then you can make sure that the tools are available and that you will be allowed to operate the machines. Fig. 7-5.

PLANNING SHEET

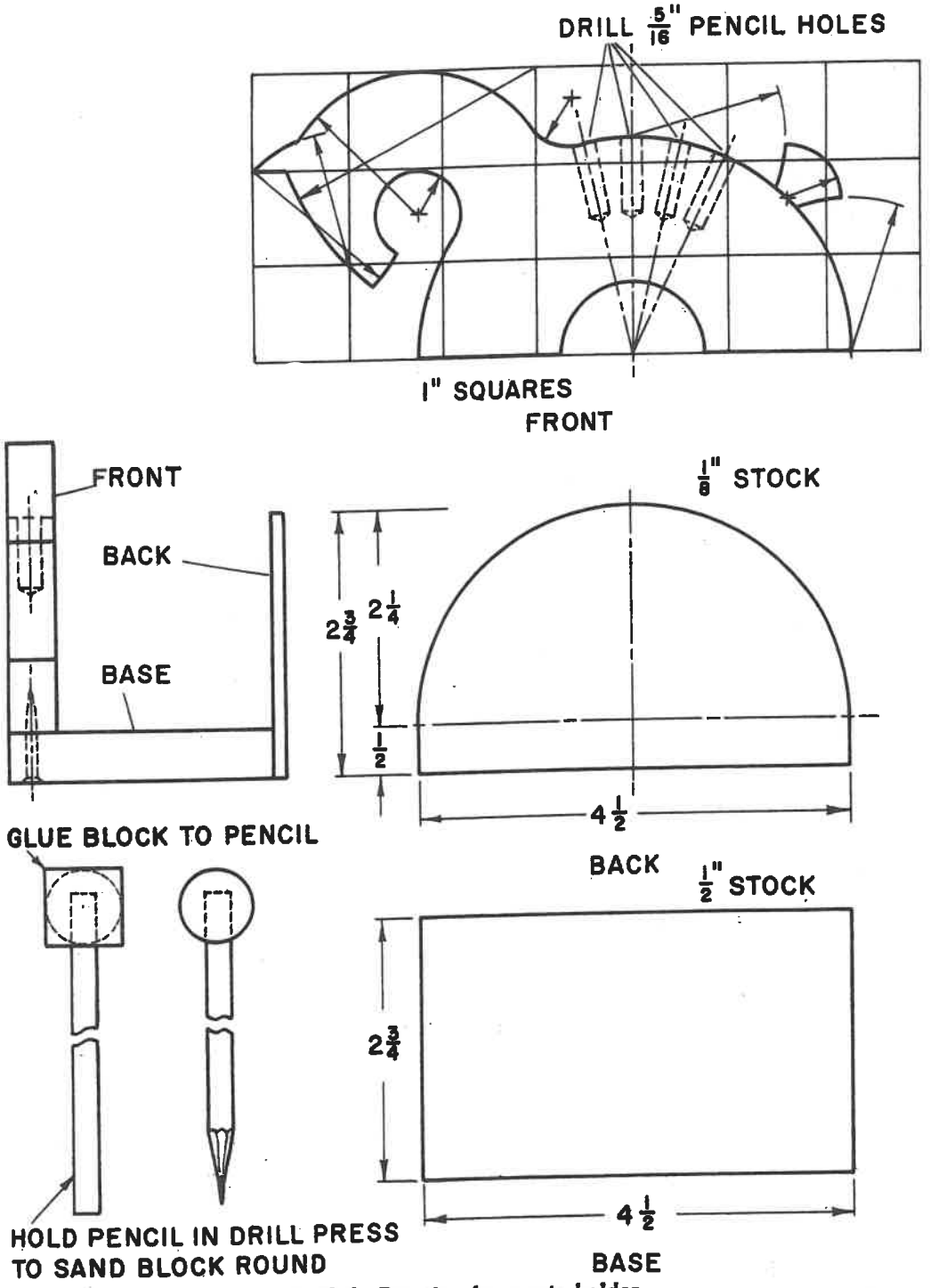
To help with your planning, use a form like the one shown in Fig. 7-6. Fill out the form as carefully as you can. Check it. Did you forget anything? When your plan is approved, you can begin to draw the project. Check off each step as you do it.

In your planning, follow the example shown in Fig. 7-6. Notice that:

(1) There is a clear, easy-to-read drawing.
(2) The bill of materials tells exactly what you need.
(3) The steps in making the project are clear and easy to follow.
(4) The list of tools includes only those really needed.

TOOLS AND MACHINES

Pencil
Rule
Try square
Band or scroll saw
Drill press or hand drill
Circular saw
Router
Screwdriver
Clamps



7-6(a). *Drawing for a note holder.*

PLANNING SHEET

Name _____ Grade _____

Note Holder

Name of the Project | Date Started | Date Completed

Bill of Materials:

No.	T	W	L	Name of Part	Material	Unit Cost	Total Cost
1	½"	3"	7"	Front	Pine		
1	⅛"	2¾"	4½"	Back	Pine		
1	½"	2¾"	4½"	Base	Pine		
1	⅝"	⅝"	⅝"	Pencil top	Pine		

TOOLS AND MACHINES:

Crosscut saw, coping saw or jigsaw, backsaw, rule, try square, pencil, jack plane, twist drill, hand drill, sandpaper, drill press, hammer, screwdriver.

PROCEDURES OR STEPS:

1. Make a stock-cutting list.
2. Lay out and cut all pieces to size.
3. Complete the front:
   - Enlarge the design.
   - Transfer the design to the wood.
   - Cut out design with coping saw or jigsaw.
   - Smooth the edges.
   - Drill the holes for the pencils.
4. Square up the base.
5. Lay out and cut the back to shape.
6. Assemble the parts with screws and nails.
7. Make the ball for the end of the pencil.
8. Apply the finish.

7-6(b). ***A planning sheet for the note holder.***

QUESTIONS

1. Why is it important to plan your work?
2. Name the four important parts of a plan. Describe each one.
3. Is a stock-cutting list the same as a bill of materials? Explain.
4. How can a plan help you do your work faster and better?
5. What could happen if you failed to plan your work? List some of the mistakes you could make.