

BUILDING SIMPLE FURNITURE

CATHY BAKER



Building Simple Furniture

by Cathy Baker

C O N T E N T S

Introduction	2
Wall Shelf	3
Small Bench	7
Picnic Table and Benches	10
Adirondack Chair	14
Pump Lamp	19
Step Stool	23
Storage Box	27
Side Table	30

Introduction

Look over the wood furniture projects in this bulletin. See something you need? A small table for the hallway, perhaps, or the Adirondack chair or picnic set for enjoyable outdoor living.

Here's a surprise for you.

You don't need a basement full of power tools to build them. Just the simple hand tools listed below.

And you don't have to be a master carpenter, either. Just follow the step-by-step instructions, and the illustrations. It's simple.

You'll enjoy the furniture you build, and get even deeper satisfaction from having built it yourself.

Tools

Hammer

Crosscut saw, back saw

Coping saw

Pencil

Measuring tape

Try-square

Smooth or block plane

Router Plane

Chisel

Screw Driver

Two C-clamps

Brace or hand drill

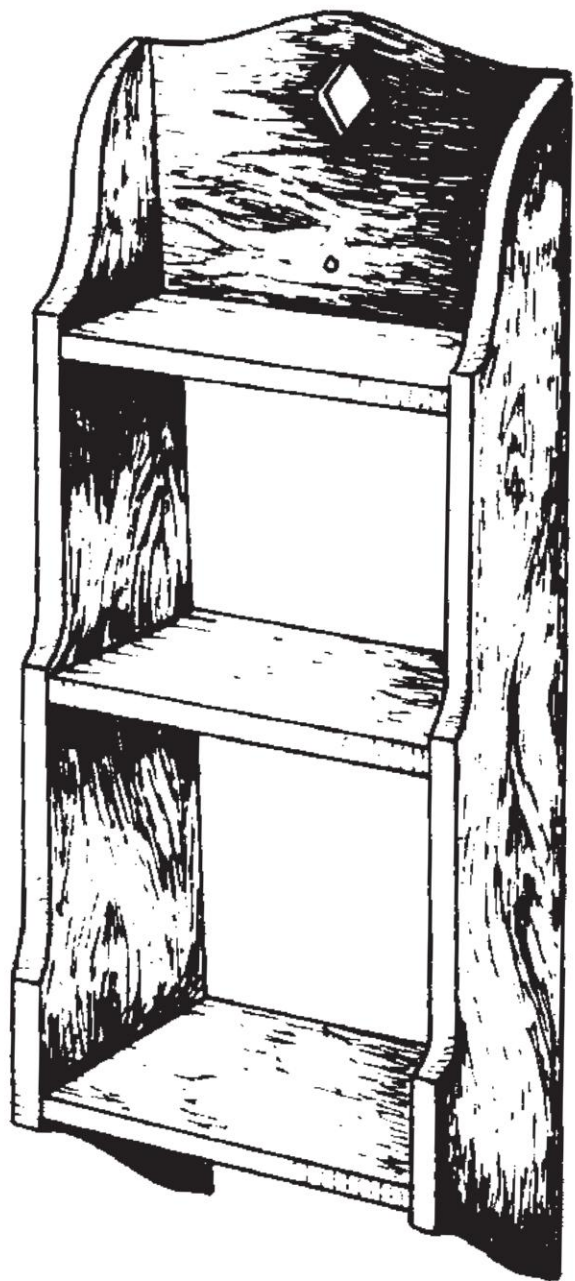
Drill bits, numbered $\frac{1}{8}$, $\frac{9}{64}$, $\frac{7}{32}$, $\frac{3}{8}$, $\frac{1}{4}$, $\frac{23}{64}$, $\frac{5}{16}$, $\frac{1}{2}$, $\frac{5}{8}$ and 1 inch.

(Materials for these projects may be purchased at hardware stores, lumberyards and building supply stores.)

Whenever there is a common stock name of the measure of an article it will be given in parentheses after the listing of the actual measurement of that article. For example, a piece of wood with the thickness of one and one-half inches commonly called a two-by-four. If you ask for an article by its common stock name, you will save time and avoid confusion.

WALL SHELF

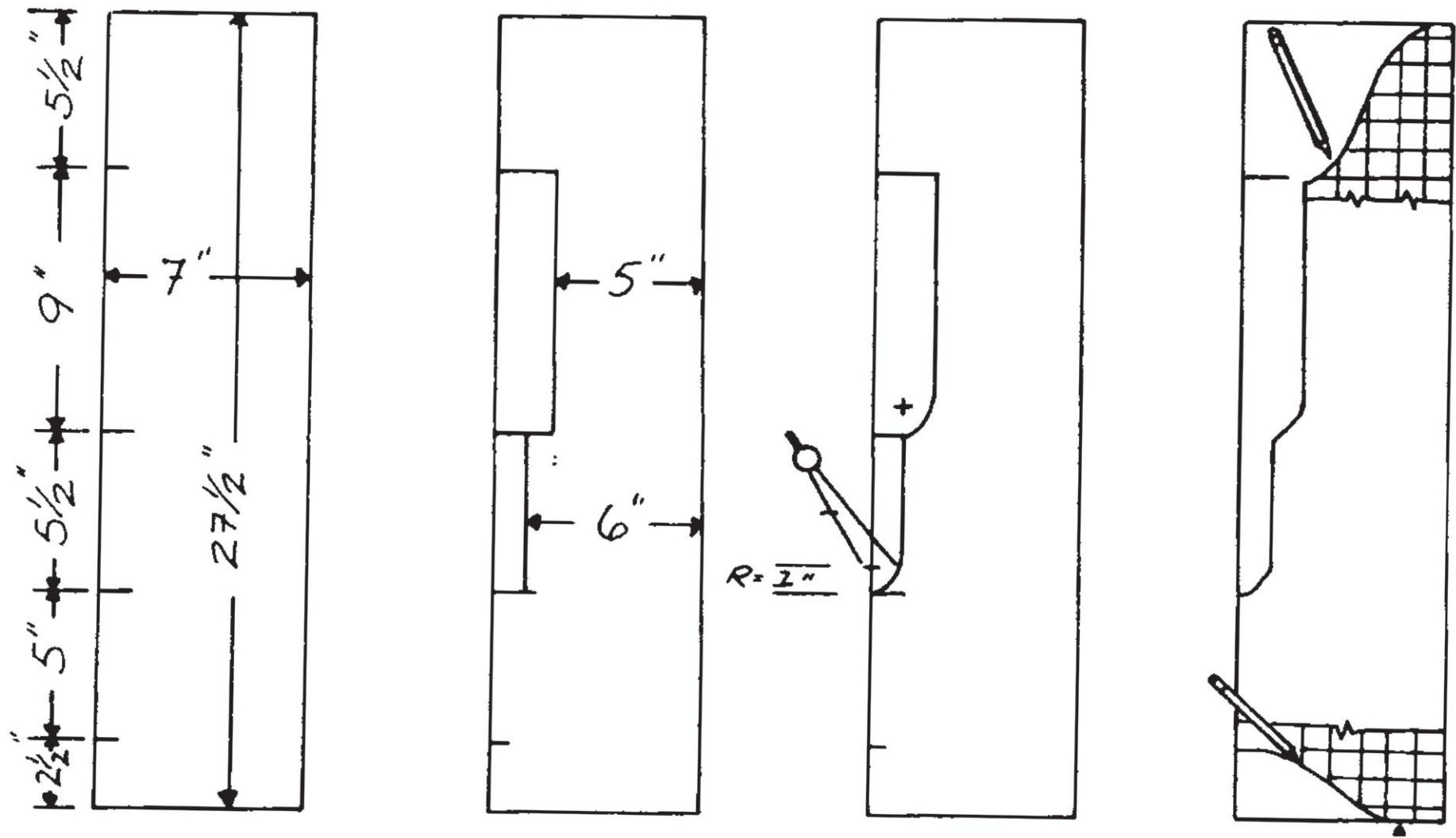
Need a place for those little, breakable items you've collected, or those spice jars? Here it is, and it's a snap to build.



Bill of Materials

Pieces	Use	Dimensions:		
		thickness	width	length
2	sides	5/8"	7"	27 1/2"
1	top	1/2"	7"	10"
1	upper shelf	1/2"	5"	10"
1	middle shelf	1/2"	6"	10"
1	lower shelf	1/2"	7"	10"
4-penny finish nails				
cardboard for patterns				

fig. 1



Procedure

1. Cut, plane and square the boards to the sizes given in the bill of materials.

2. Make a full-sized cardboard pattern of the shelf side. Lay it out on the boards as shown in *fig. 1*.

3. Saw the sides to shape with a coping saw. Start with the upper curve, then saw the two middle curves and finish with the lower end.

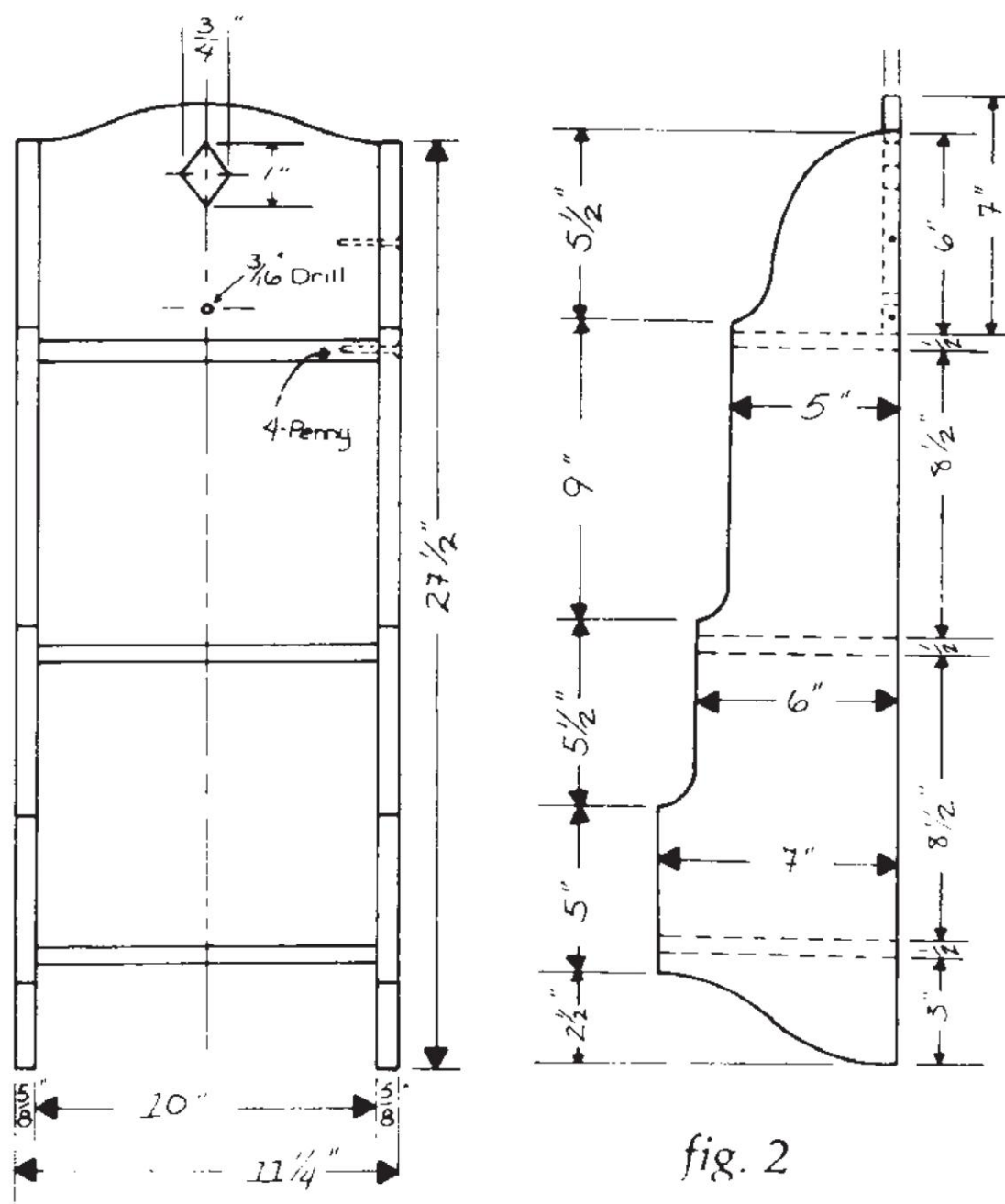
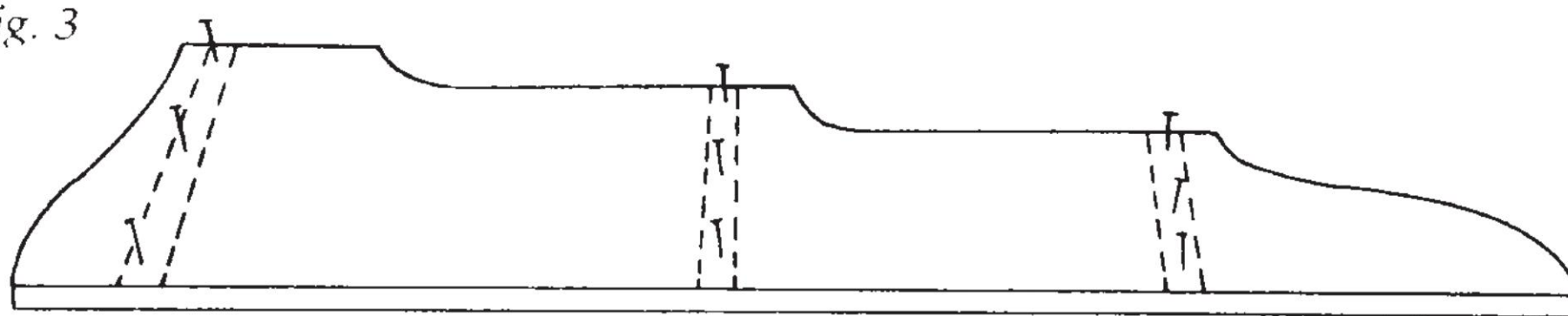


fig. 2

fig. 3



4. Sand all rough surfaces.

5. On both surfaces of the sides draw two light lines where each shelf is to be fastened. Refer to the side view of *fig. 2*.

6. Start the nails through the outside of the shelf side until the points just come through on the inside. See *fig. 3*.

7. Press the first shelf against the nail points. *fig. 4*.

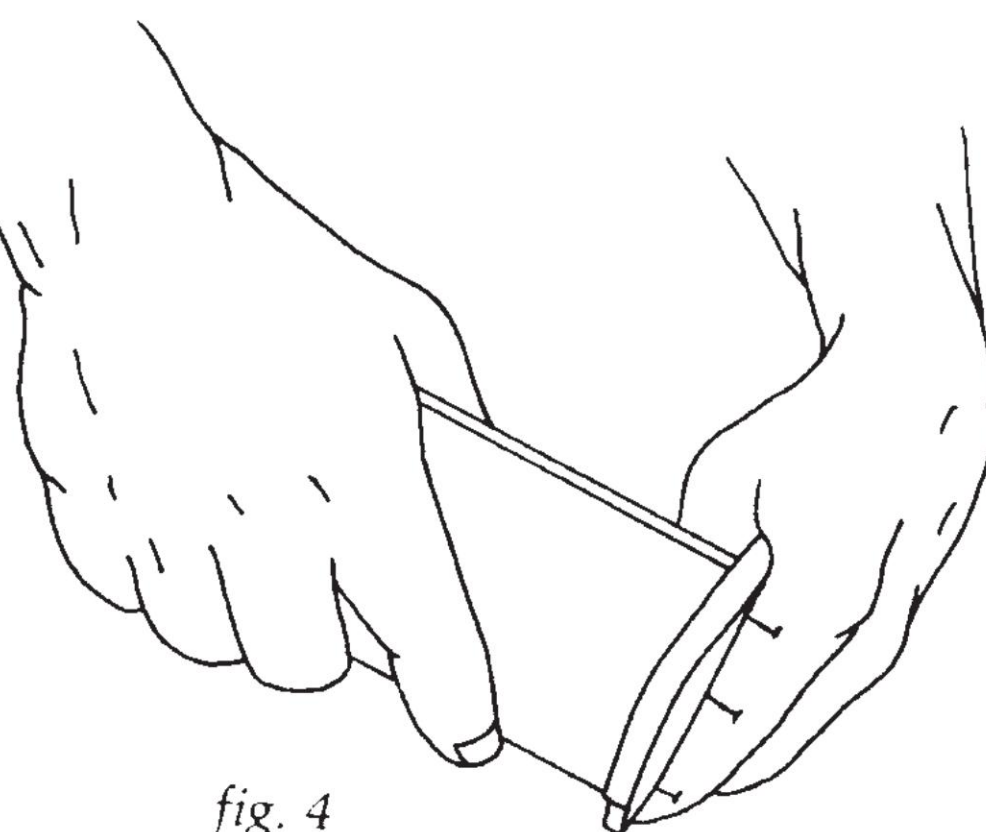
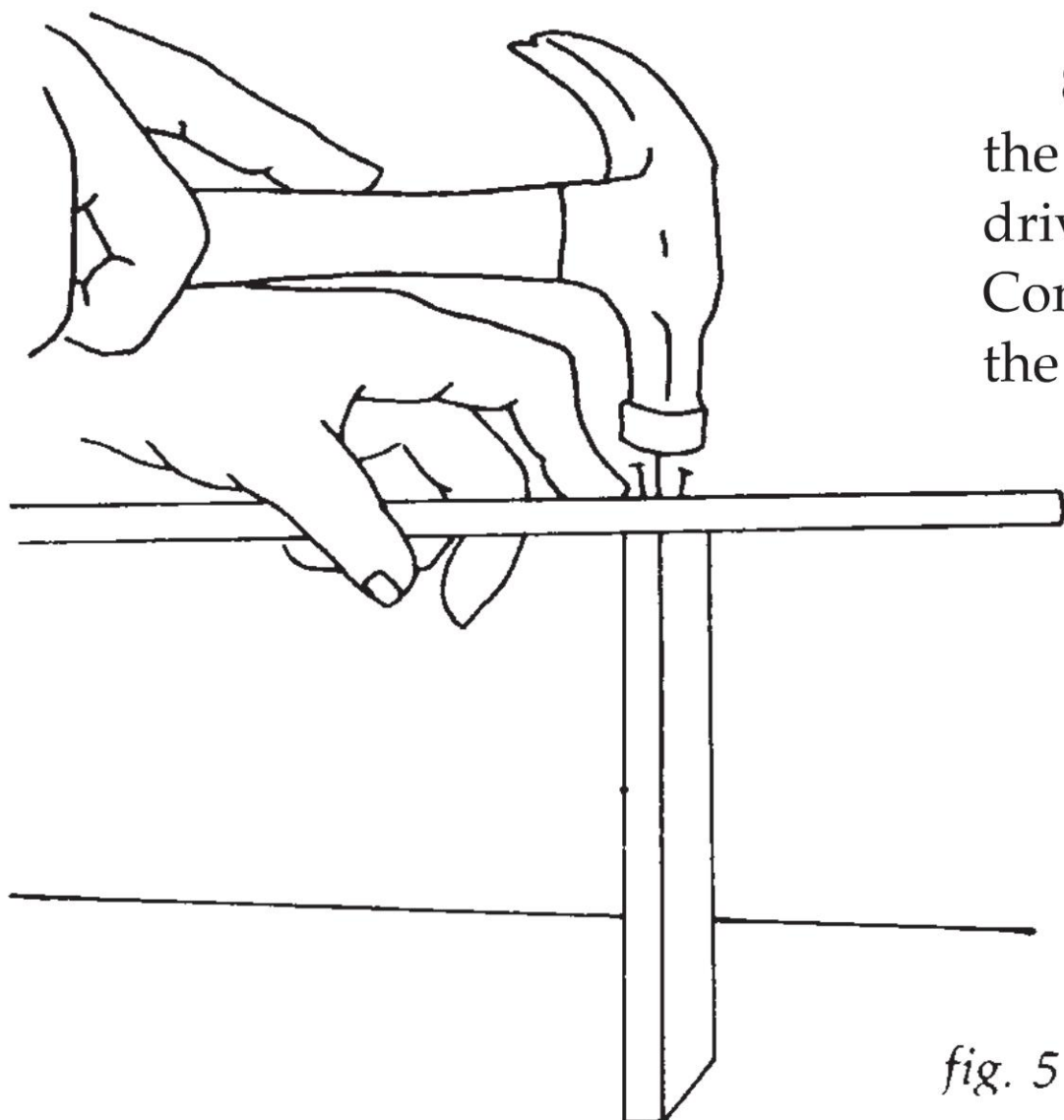


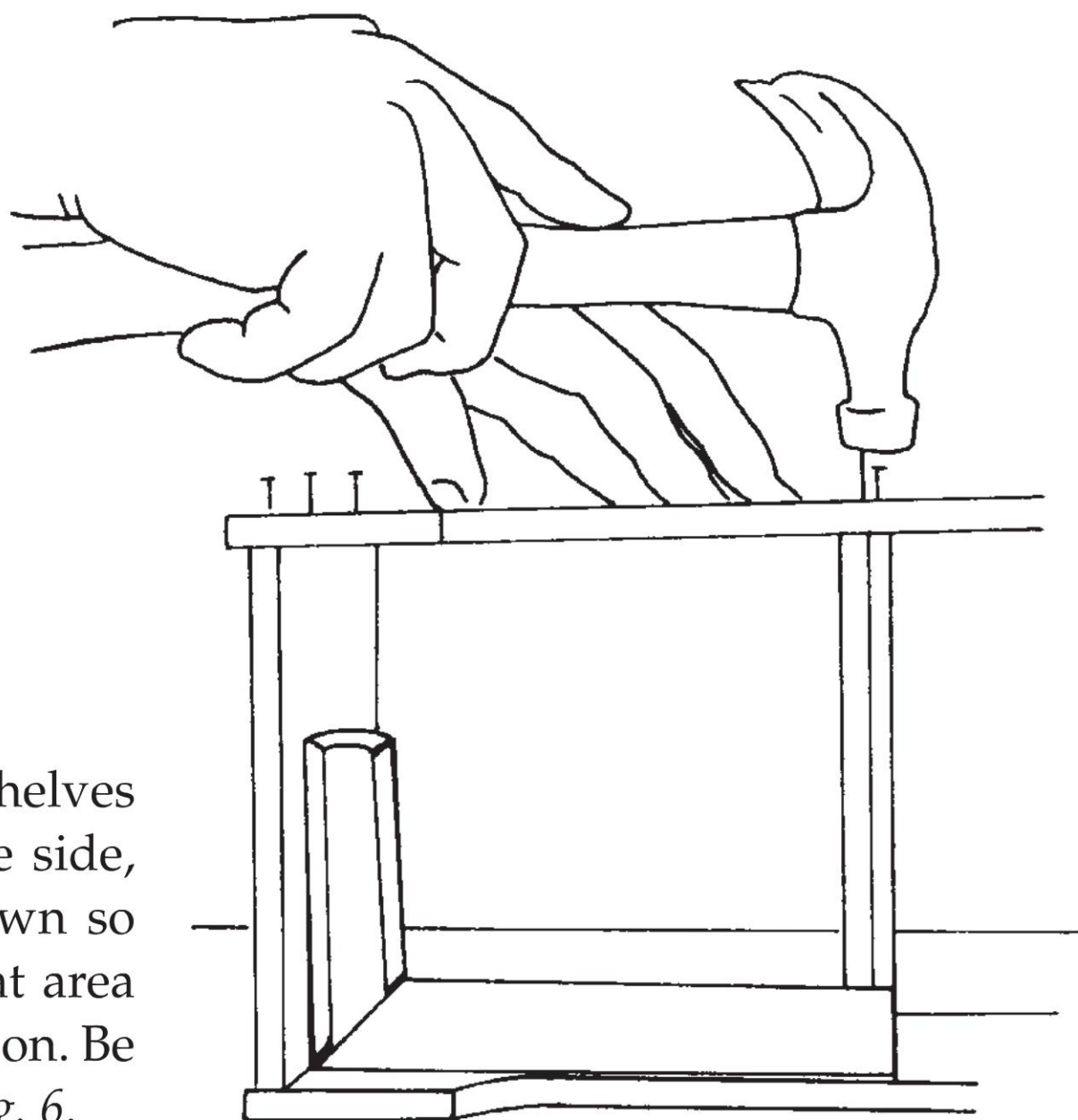
fig. 4



8. Brace the opposite end of the shelf against a flat area and drive the nails in. *fig. 5*. Continue in this manner with the other shelves.

fig. 5

fig. 6



9. When all of the shelves have been nailed to one side, turn the nailed side down so that it is resting on a flat area and nail the second side on. Be sure to keep it square. *fig. 6*.

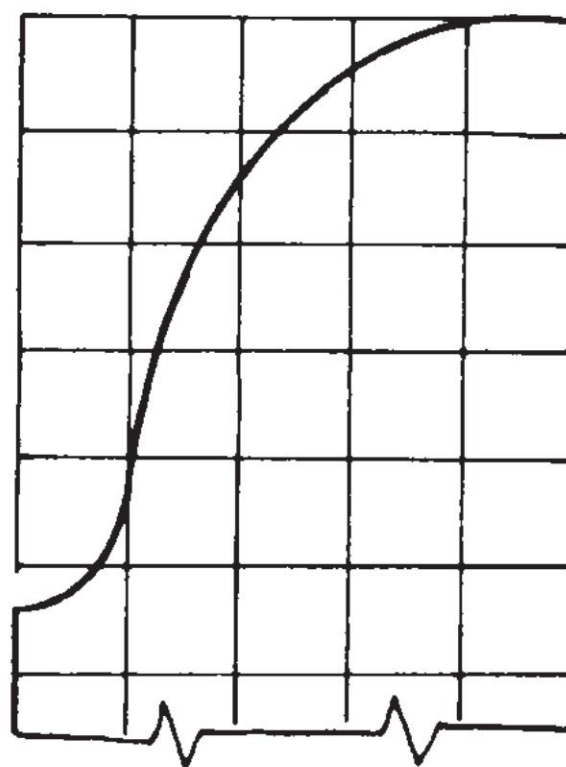
10. Make a pattern for the top piece as shown in *fig. 7*. Lay it out and saw to shape.

11. Drill a hole in the diamond, insert the coping blade and saw the diamond to shape. Sand. Refer to *fig. 2*.

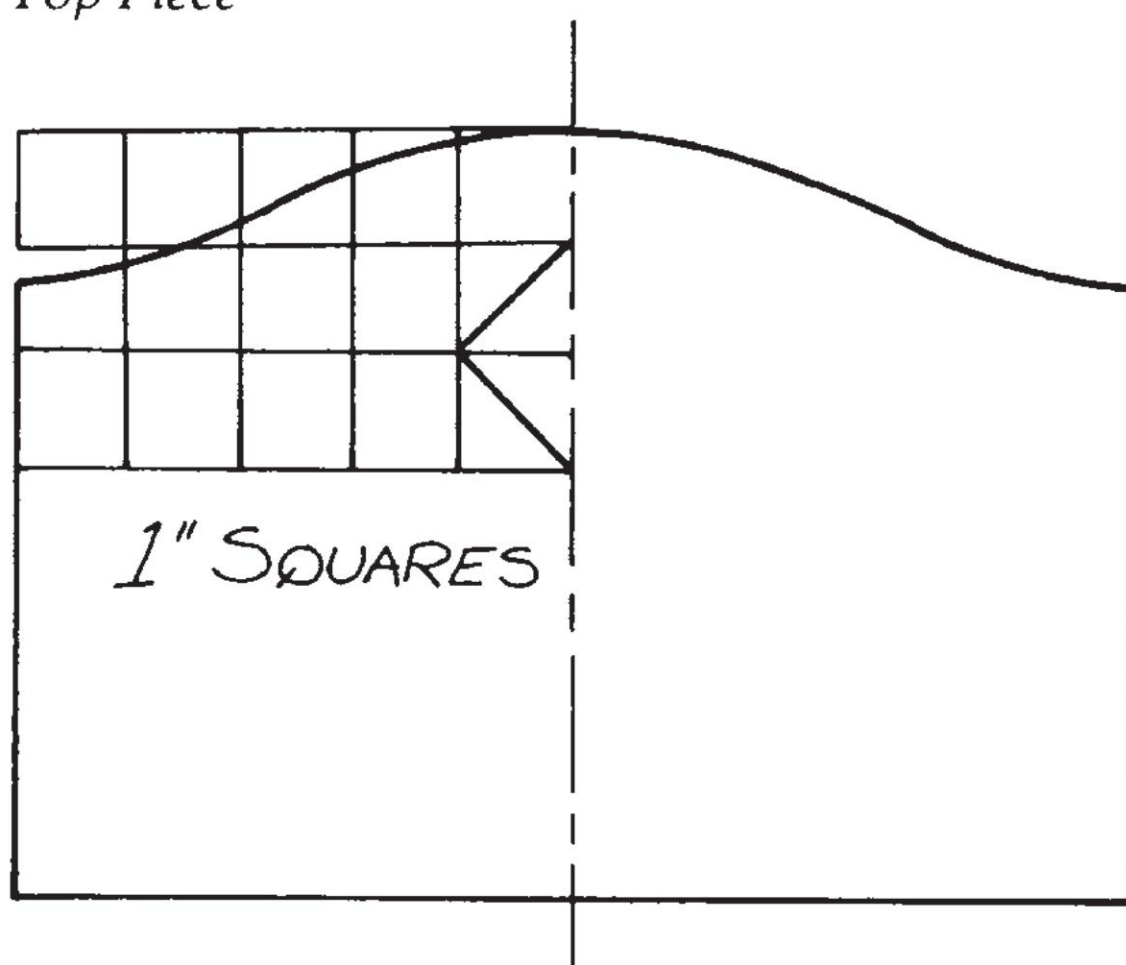
12. Nail the top to the sides and top shelf.

13. Do a final sanding and paint, stain or varnish your shelf.

Top of Sides



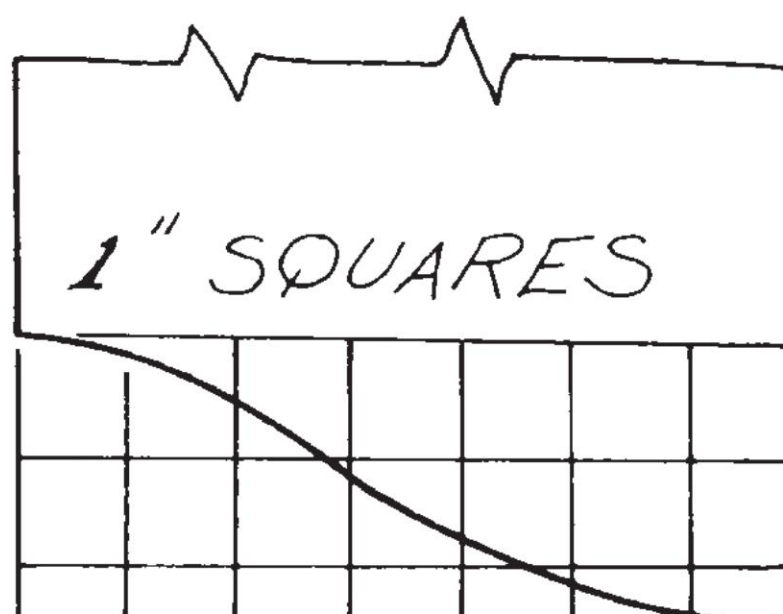
Top Piece



Patterns

fig. 7

Bottom of Sides



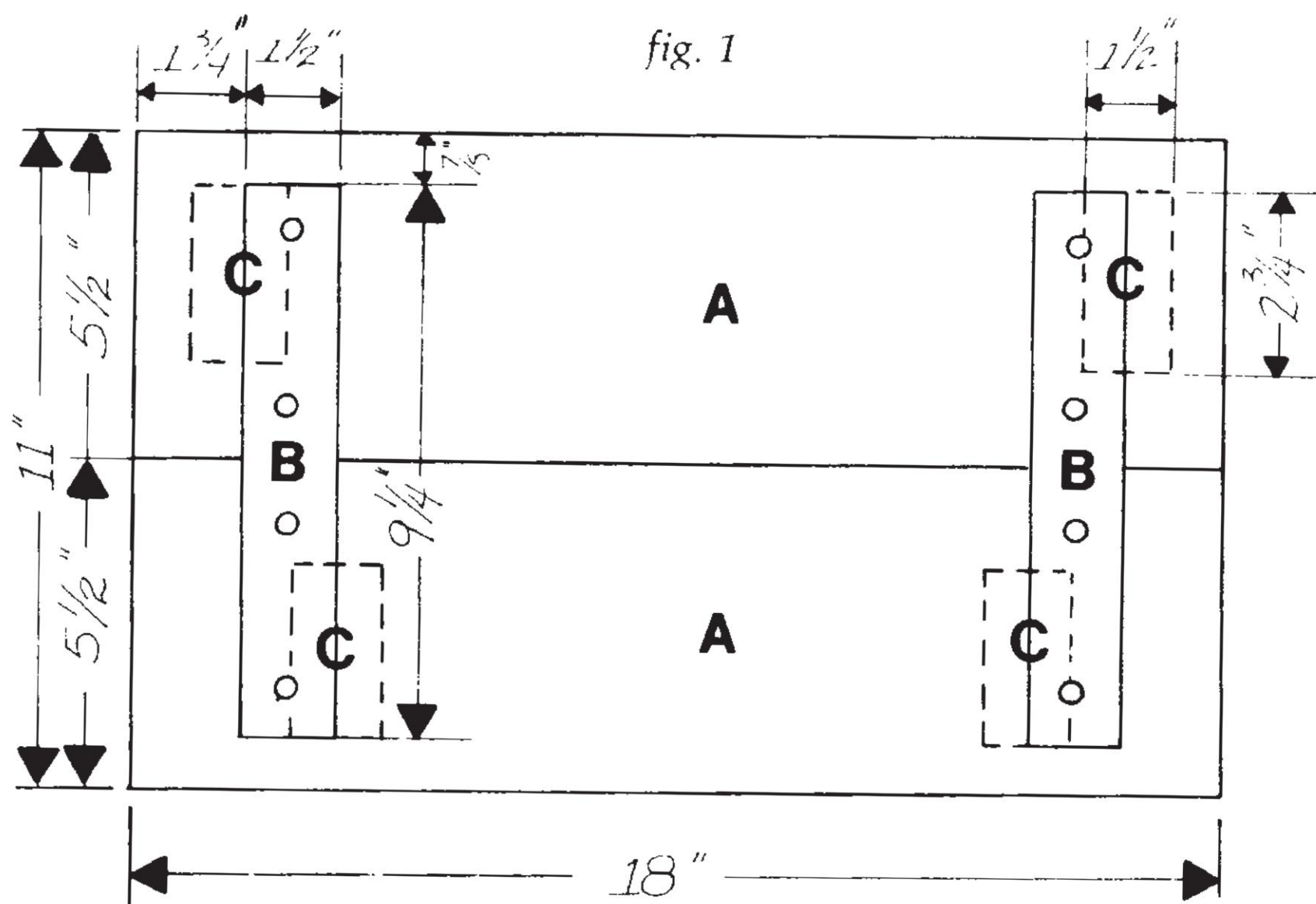


SMALL BENCH

Or call it a side table if that's what you need. It's sturdy, handy and decorative.

Bill of Materials

Pieces	Use	Dimensions:					
		thickness	width	length			
2	seat	1½"	5½"	18" (2x6)			
2	rails	1½"	1½"	9¼" (2x2)			
4	legs	1½"	2¾"	21" (2x3)			
1	dowel	⅝" round x 17¼" long					
8-penny finishing nails							
8 2" #8 flat-head screws							



Procedure

1. Cut all stock to the sizes given in the Bill of materials.

2. Nail the rails (B), to the underside of the seat pieces (A) as shown in *fig. 1*.

3. Lay out and cut the parallel angles on the ends of each leg. The finished length of each leg should be $18\frac{1}{2}"$. *fig. 2*.

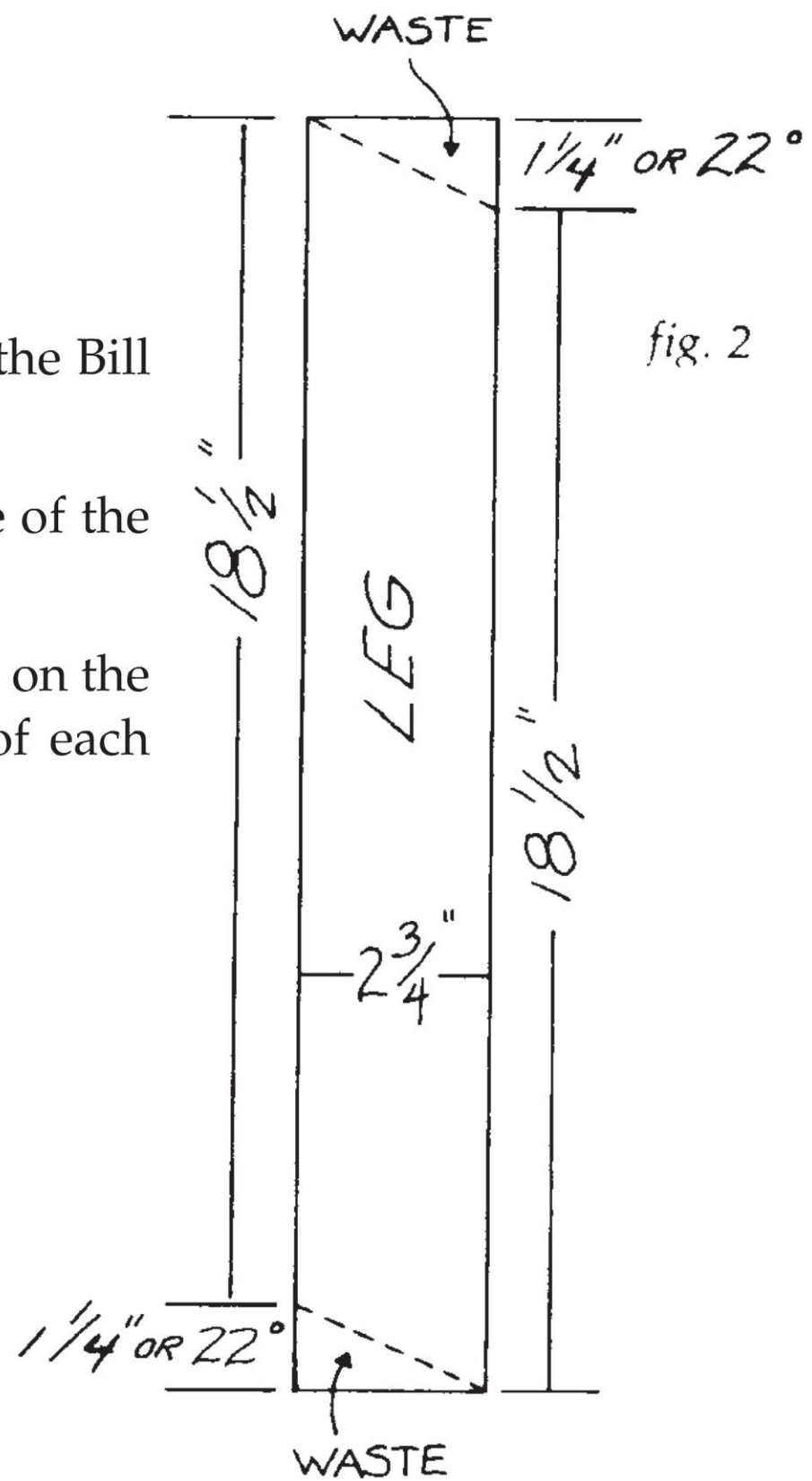


fig. 2

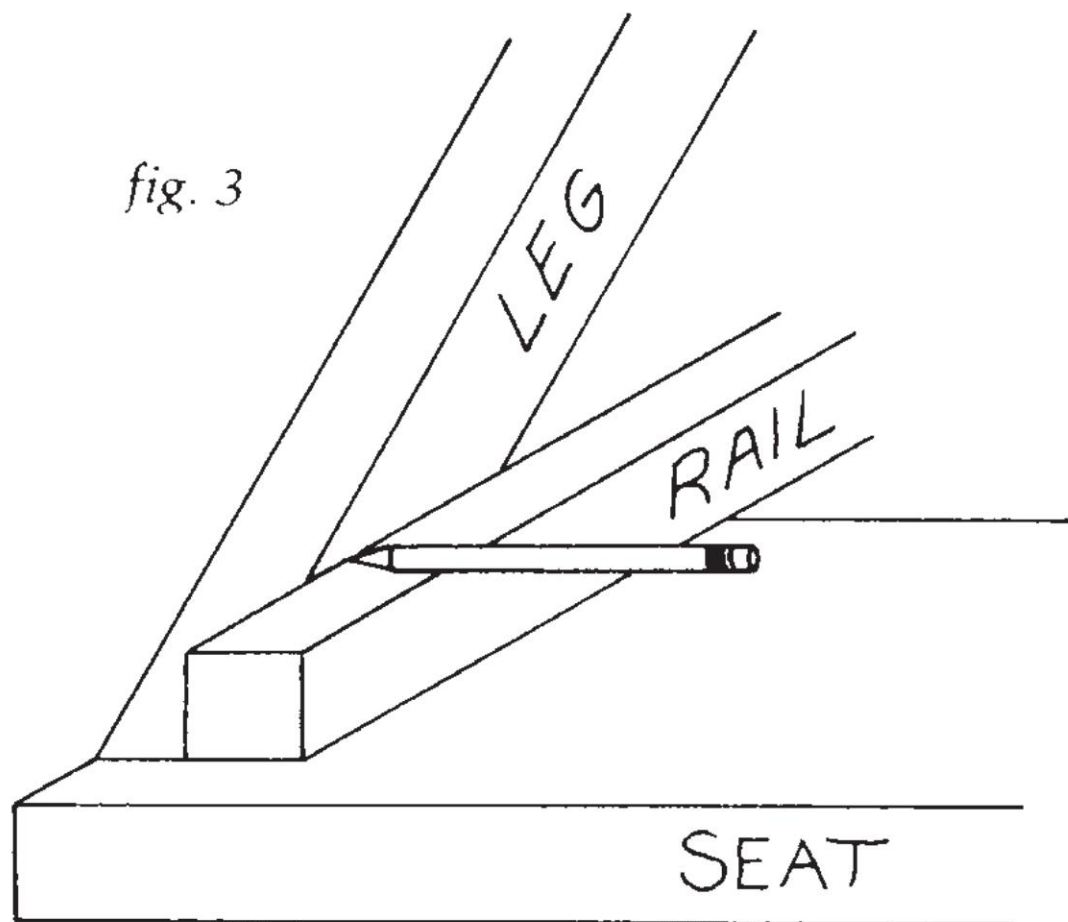


fig. 3

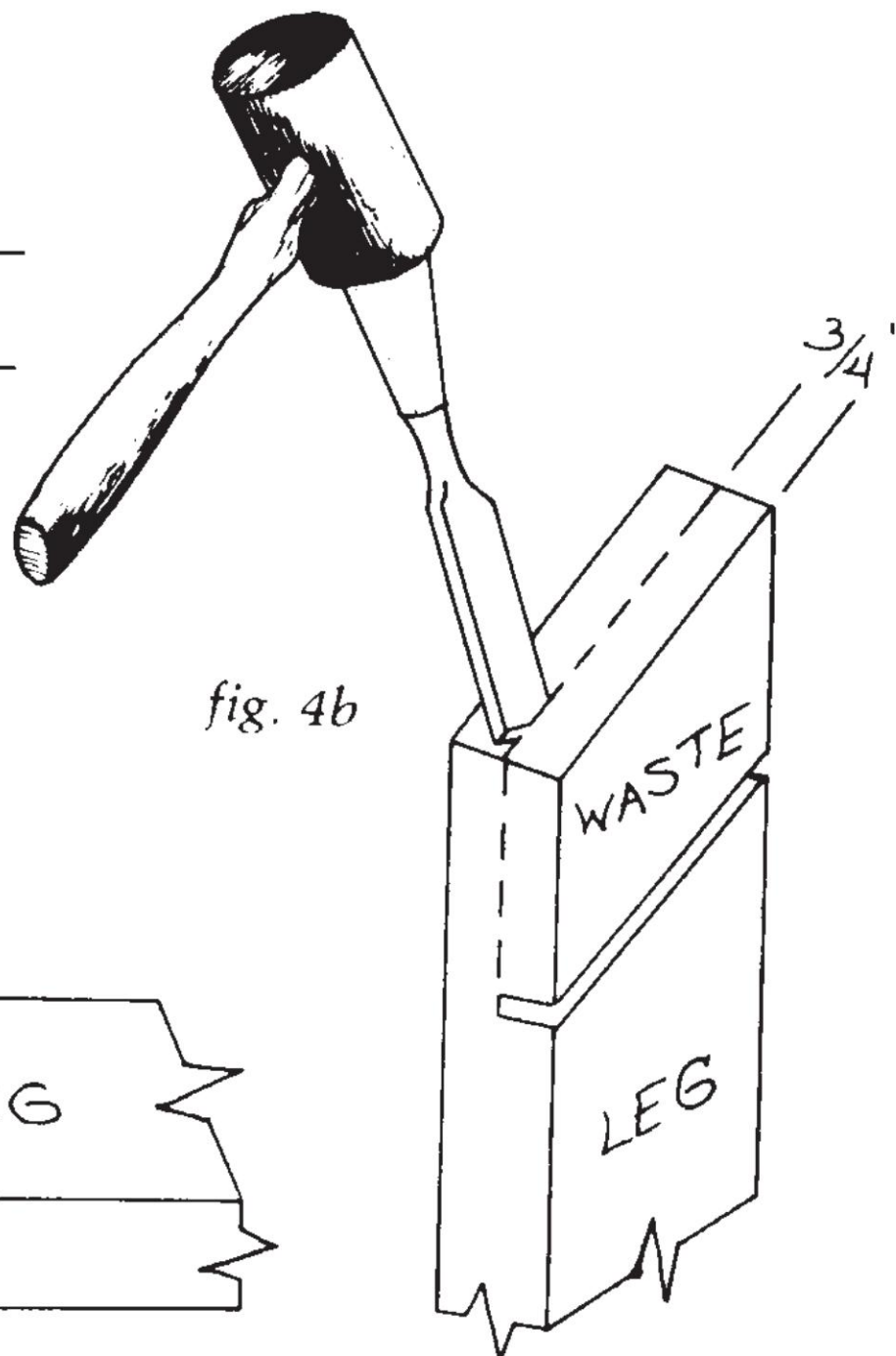


fig. 4b

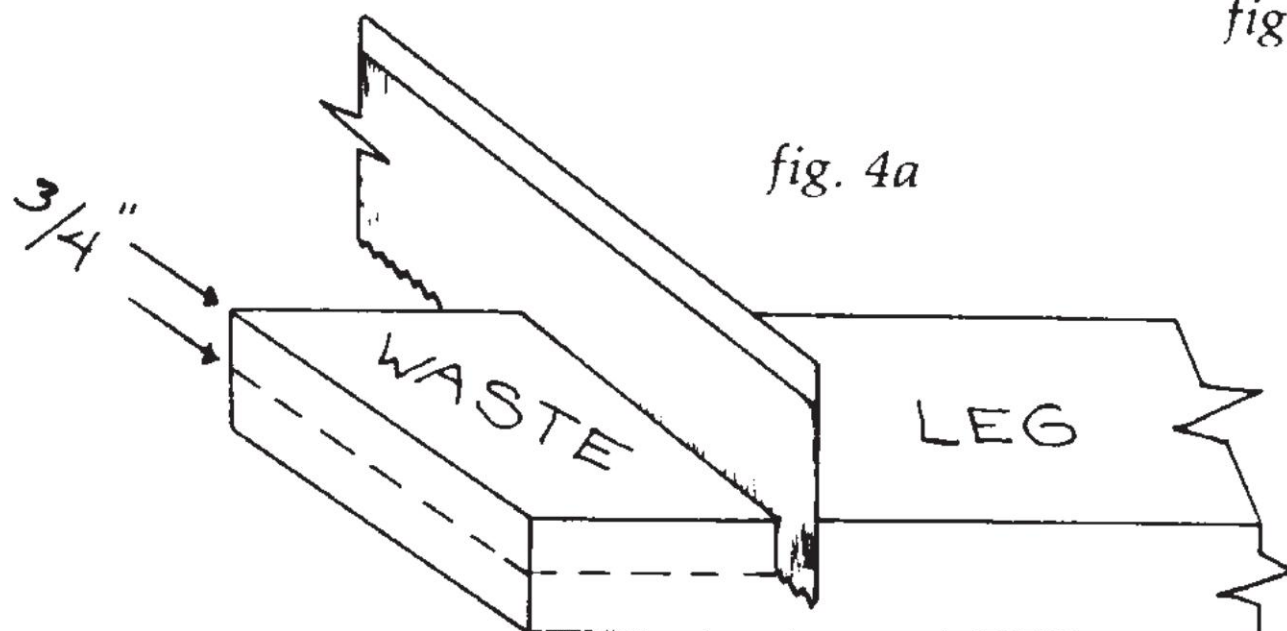
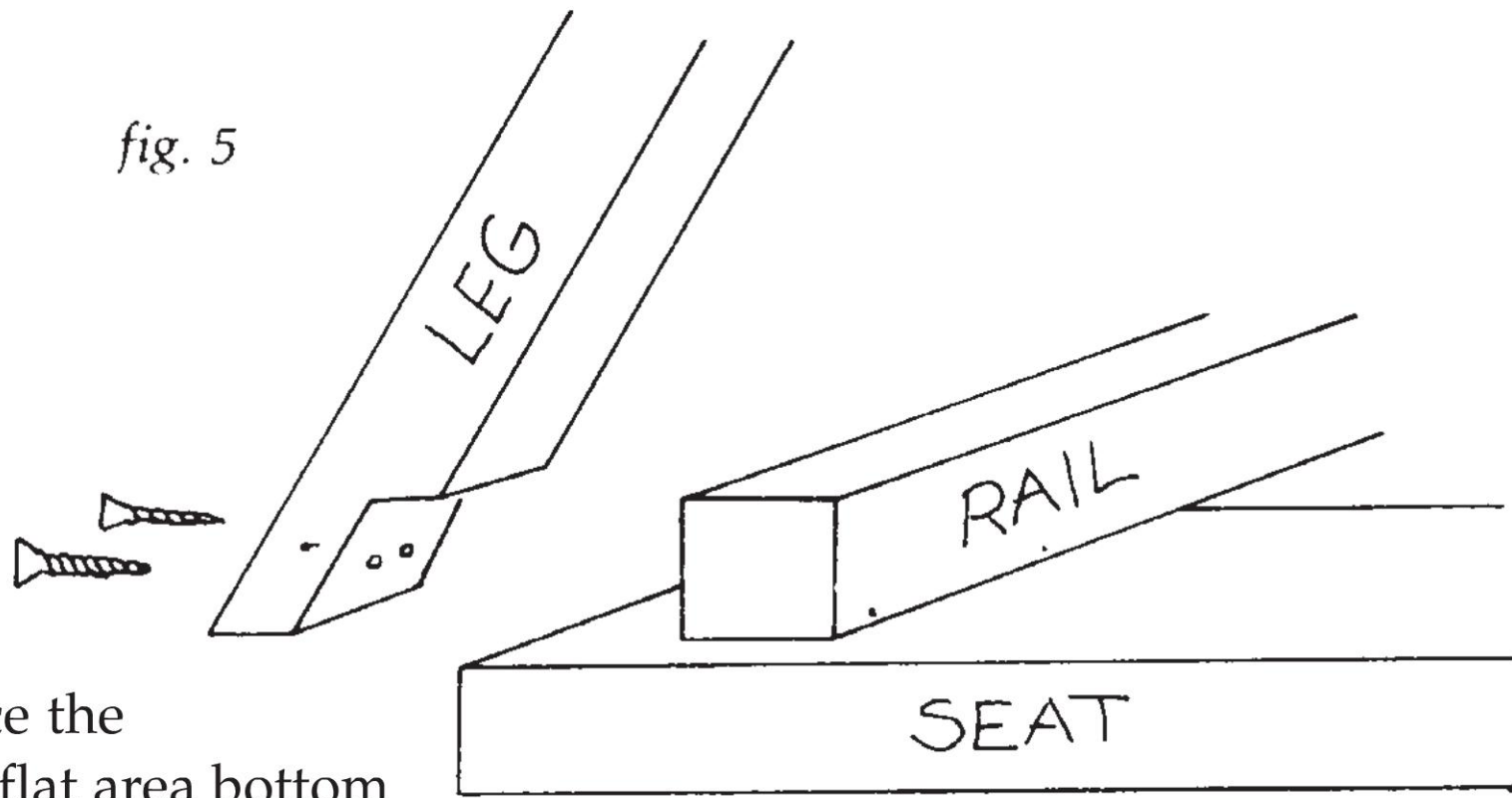


fig. 4a

fig. 5



4. Place the seat on a flat area bottom side up. The rails will be exposed.

5. Lay out the rabbet joints at the tops of the legs. Hold each leg in place in turn. Placement may be determined by the dotted lines, marked **C**, in *fig. 1*. Draw a line along the leg where the top of the leg meets the side. See *fig. 3*.

6. Cut the rabbet joint. Cut into the leg $\frac{3}{4}$ of an inch along the drawn line. Chisel out the waste. *fig. 4*.

7. After making trial assemblies of the legs, drill starter holes for the screws and attach the legs to the rails. *fig. 5*.

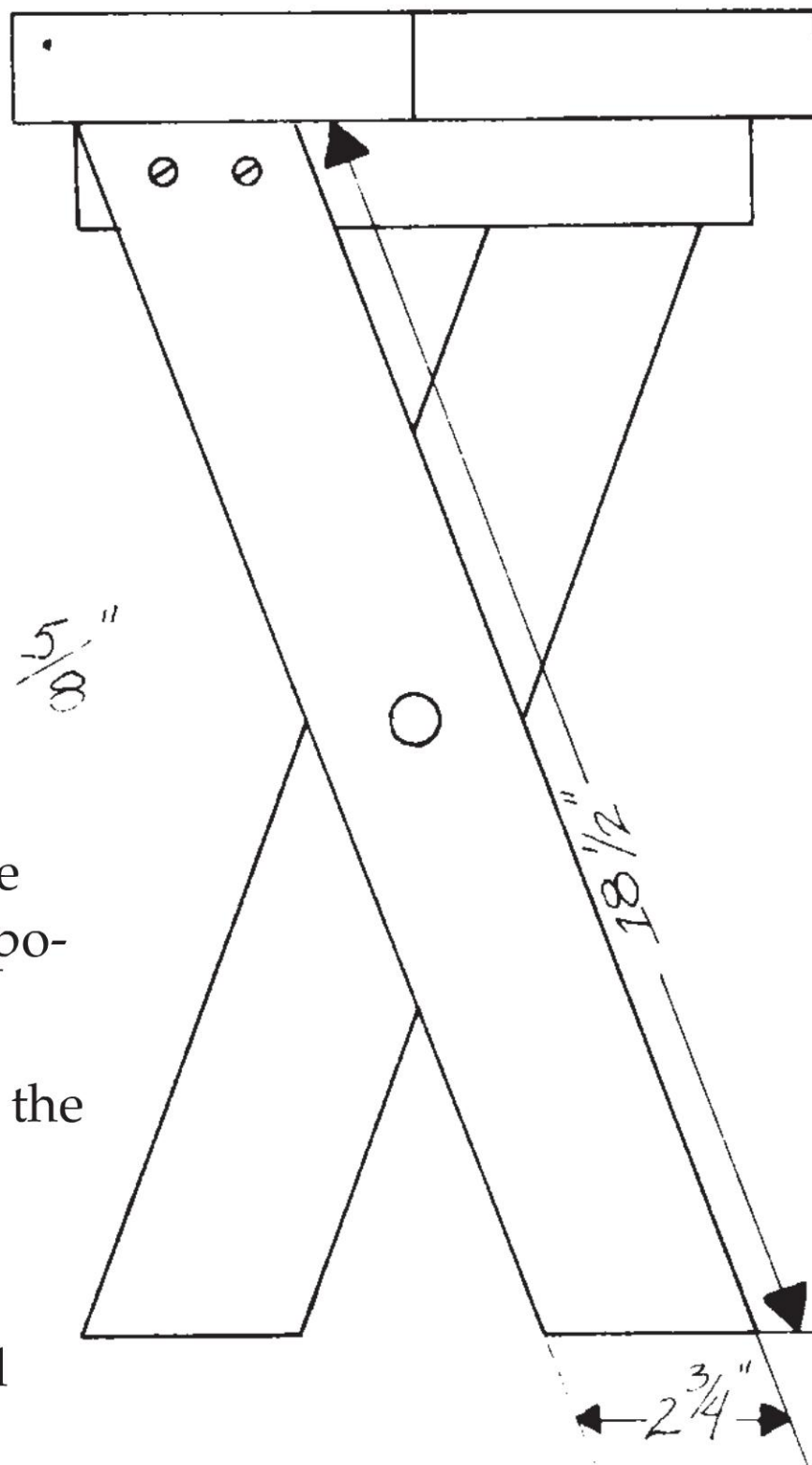
8. Drill $\frac{5}{8}$ " holes through the center of the cross formed by the legs. Be sure they are in the same position on both sides.

9. Pound the dowel through the holes. *fig. 6*.

10. Sand the bench.

11. This project may be stained or painted.

fig. 6



Two Benches

Pieces	Use	Dimensions:		
		thickness	width	length
4	bench top	1½"	5½"	70" (2x6)
6	rails	1½"	2½"	10" (2x3)
8	legs	1½"	3½"	18½" (2x4)
4	braces	1½"	2½"	12" (2x3)
20	¼" x 3½" round-head carriage bolts and nuts			
8	⅜" washers			
12	⅝" washers			
8	2½" #8 screws			

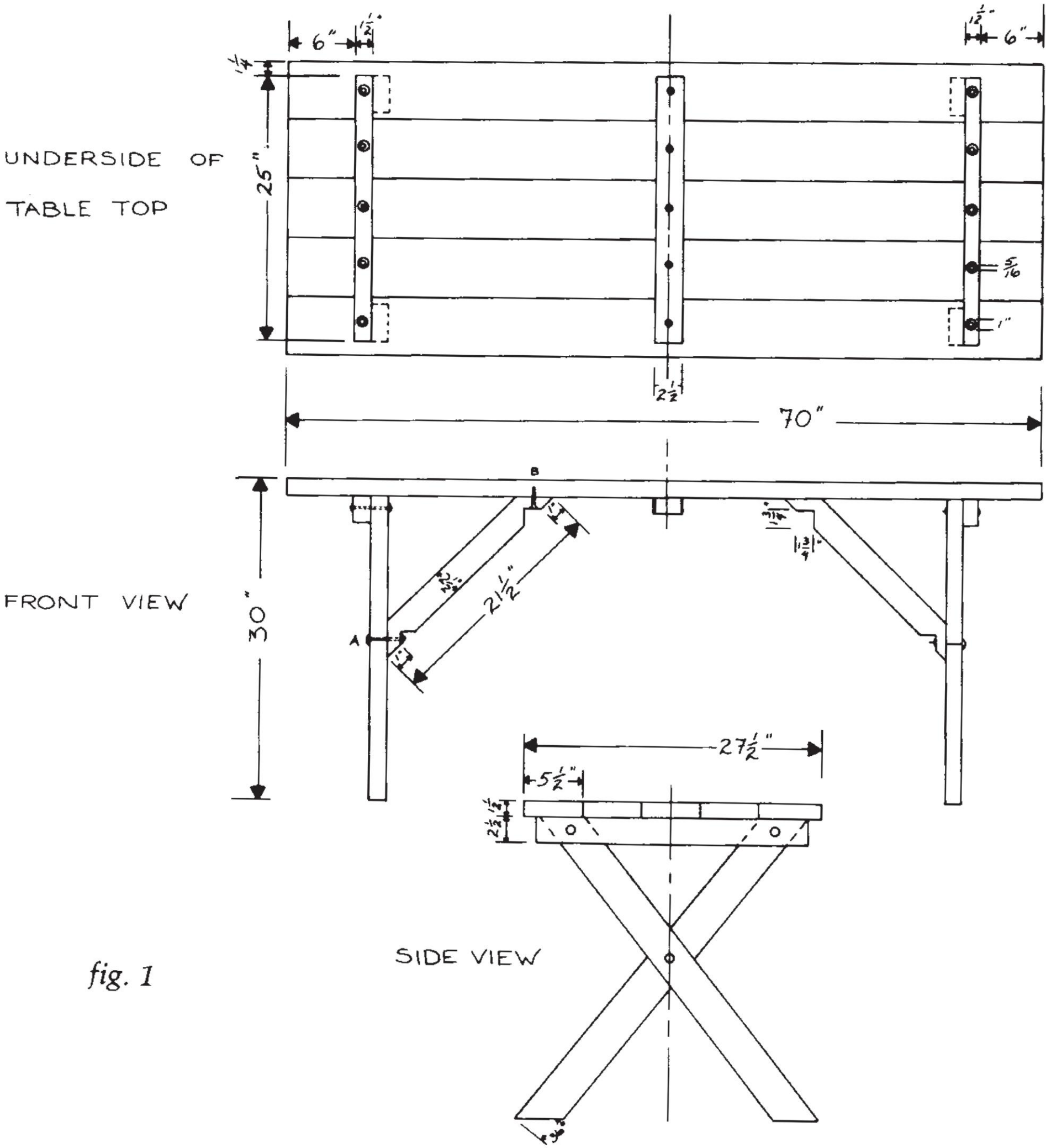
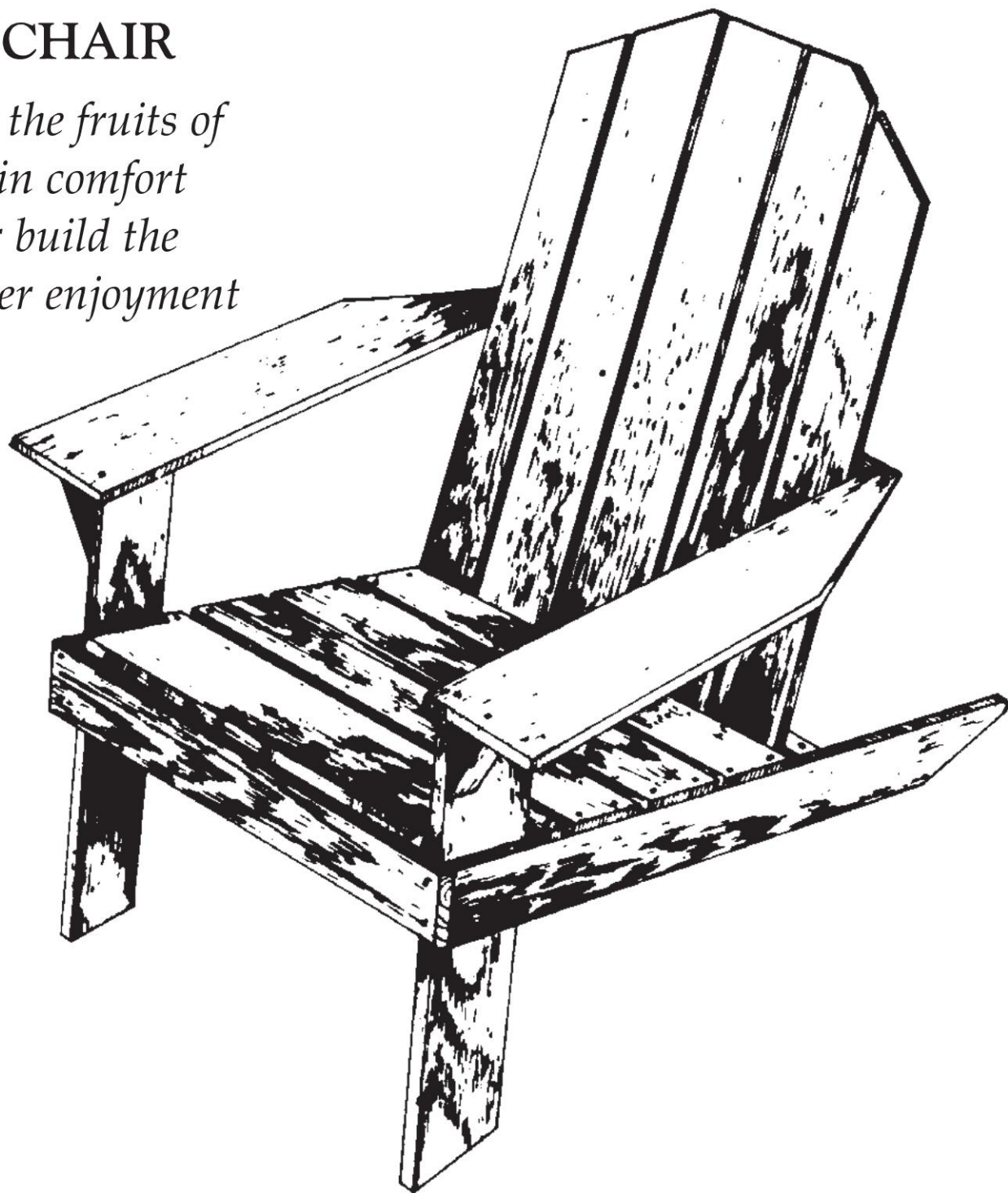


fig. 1

ADIRONDACK CHAIR

Build this, then enjoy the fruits of your labors as you relax in comfort and deep satisfaction. Or build the double chair for his 'n' her enjoyment



Bill of Materials

Single Chair

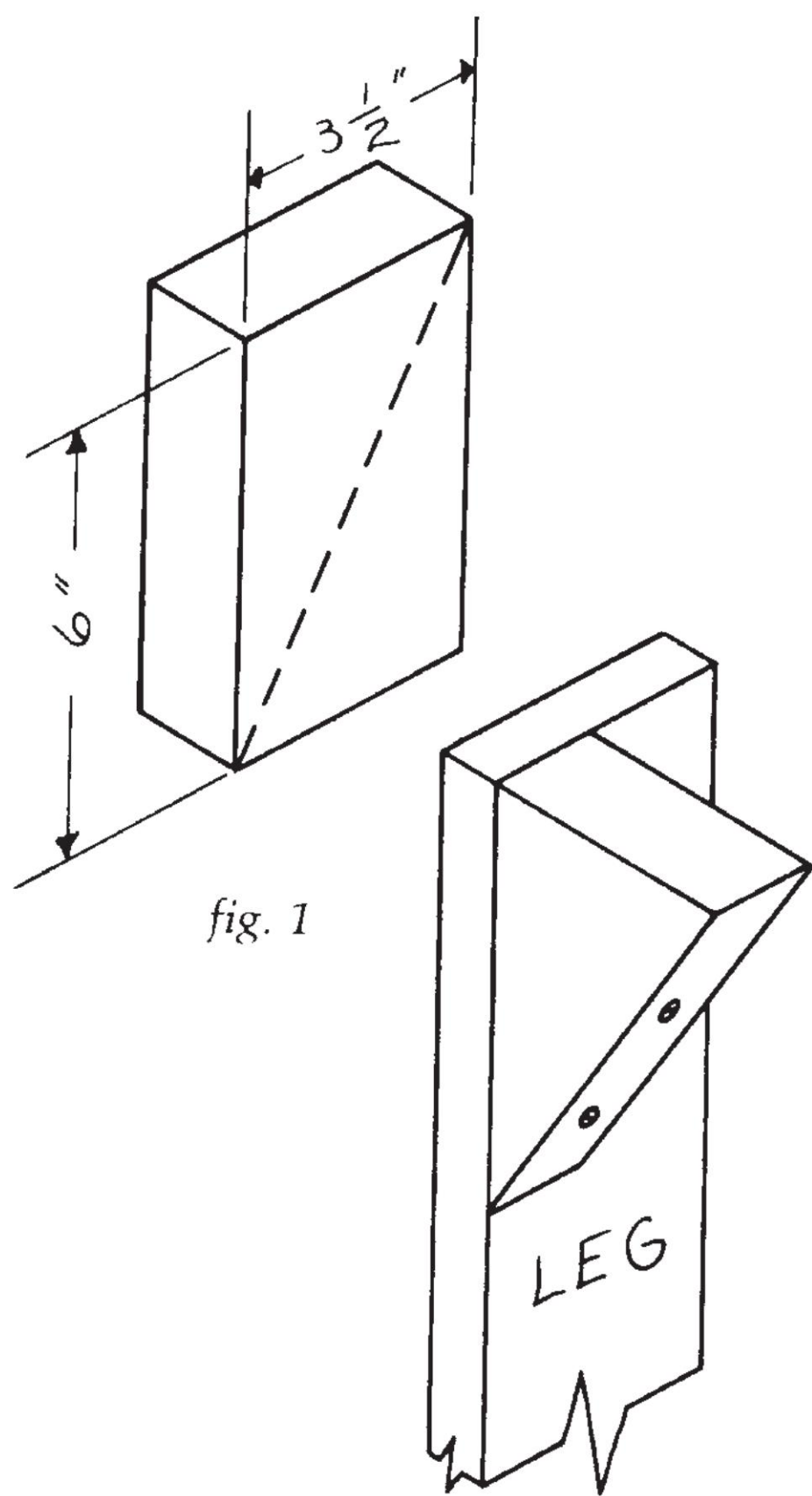
Pieces	Use	Dimensions:		
		thickness	width	length
2	front legs	3/4"	3 1/2"	20" (1x4)
2	slanted legs	3/4"	3 1/2"	30" (1x4)
1	triangles	1 1/2"	3 1/2"	6" (2x4)
1	front brace	3/4"	3 1/2"	22" (1x4)
1	back brace	3/4"	2 1/2"	22" (1x3)
1	arm brace	1 1/2"	1 1/2"	22" (2x2)
2	arms	3/4"	5 1/2"	27" (1x6)
2	back pieces	3/4"	3 1/2"	26" (1x4)
3	back pieces	3/4"	3 1/2"	28" (1x4)
1	front seat piece	3/4"	5 1/2"	22" (1x6)
3	seat pieces	3/4"	3 1/2"	22" (1x4)
1 box of 1 1/2" #8 flat head screws				
1 box of 1 1/2" #15 brads				

Double Chair

Pieces	Use	Dimensions:		
		thickness	width	length
2	front legs	3/4"	3 1/2"	20" (1x4)
2	slanted legs	3/4"	3 1/2"	30" (1x4)
1	triangles	1 1/2"	3 1/2"	6" (2x4)
1	front brace	3/4"	3 1/2"	44" (1x4)
1	back brace	3/4"	2 1/2"	44" (1x3)
1	arm brace	1 1/2"	1 1/2"	44" (2x2)
2	arms	3/4"	5 1/2"	27" (1x6)
4	back pieces	3/4"	3 1/2"	26" (1x4)
6	back pieces	3/4"	3 1/2"	28" (1x4)
1	seat piece	3/4"	5 1/2"	44" (1x6)
3	seat pieces	3/4"	3 1/2"	44" (1x4)
1	center seat brace	3/4"	3 1/2"	14" (1x4)
1 box of 1 1/2" #8 flat head screws				
1 box of 1 1/2" #15 brads				

Procedure

1. Cut all stock to the lengths given in the bill of materials.
2. Make a diagonal cut across the 1 1/2" x 3 1/2" x 6" piece of stock so that it forms two triangles 3 1/2" x 6" x 7". See *fig. 1*.
3. Put the 6" face of each triangle against the front outside corner of each front leg. Drill starter holes and screw the triangle in place. *fig. 1*.
4. Cut the angles on the



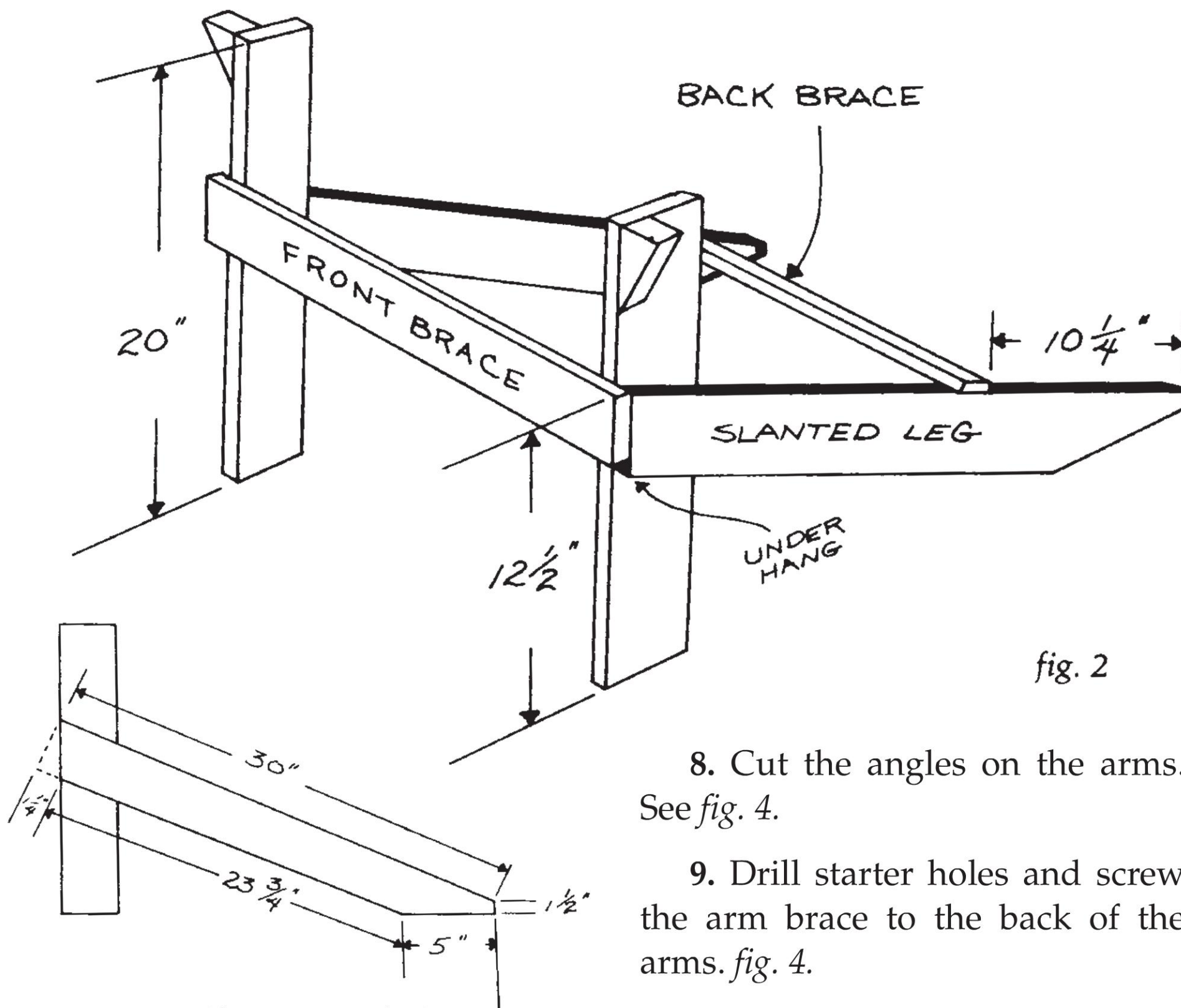


fig. 2

5. Drill starter holes and screw the slanted legs to the front legs. *fig. 2.*

6. Plane the corner of the back brace as shown in *fig. 3.*

7. Drill starter holes and screw the front and back braces in place. Refer to *fig. 2.*

8. Cut the angles on the arms. See *fig. 4.*

9. Drill starter holes and screw the arm brace to the back of the arms. *fig. 4.*

10. Cut the angles on the back pieces. See *fig. 5.*

11. Have someone hold the arm brace while you tack the arms to the front legs with the 1 1/2" brads. *fig. 6.*

12. Tack the two outside back pieces in place. *fig. 6.*

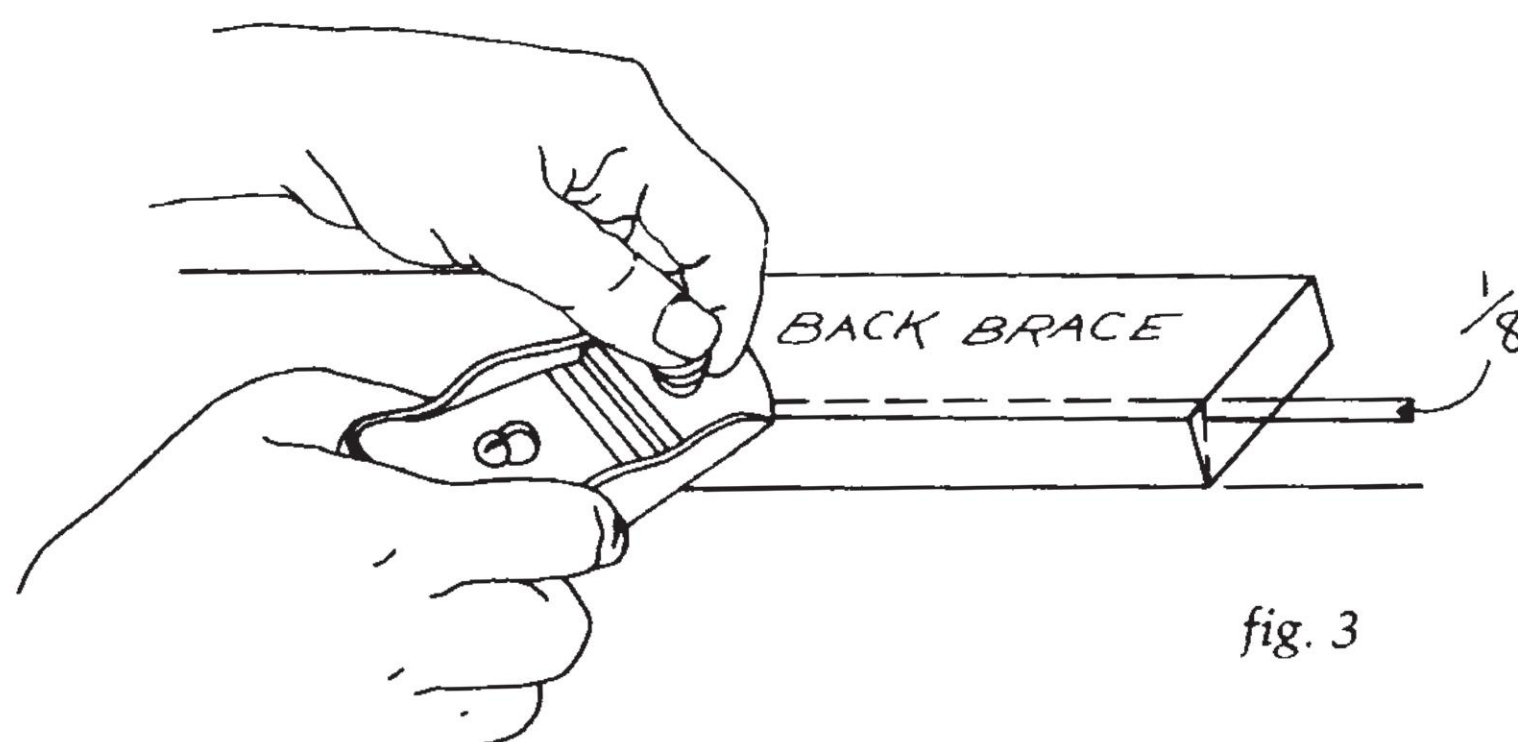


fig. 3

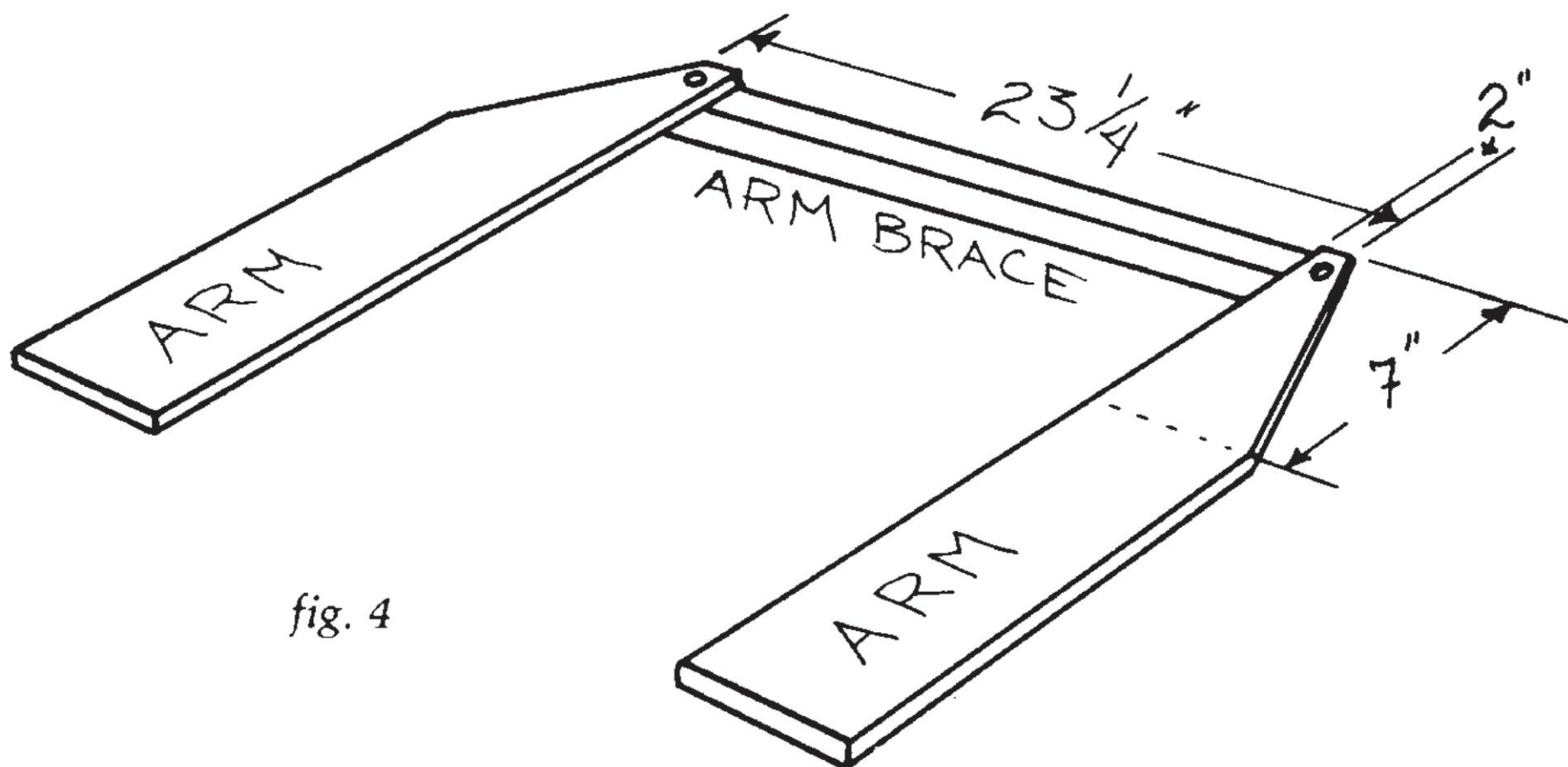


fig. 4

slanted legs. See fig. 2.

13. Drill starter holes and screw the arm to the triangles attached to the front legs. fig. 6.

14. Drill starter holes and fasten the two outside back pieces securely with the screws. Fasten the rest of the back pieces. Be sure that they are spaced evenly.

fig. 6.

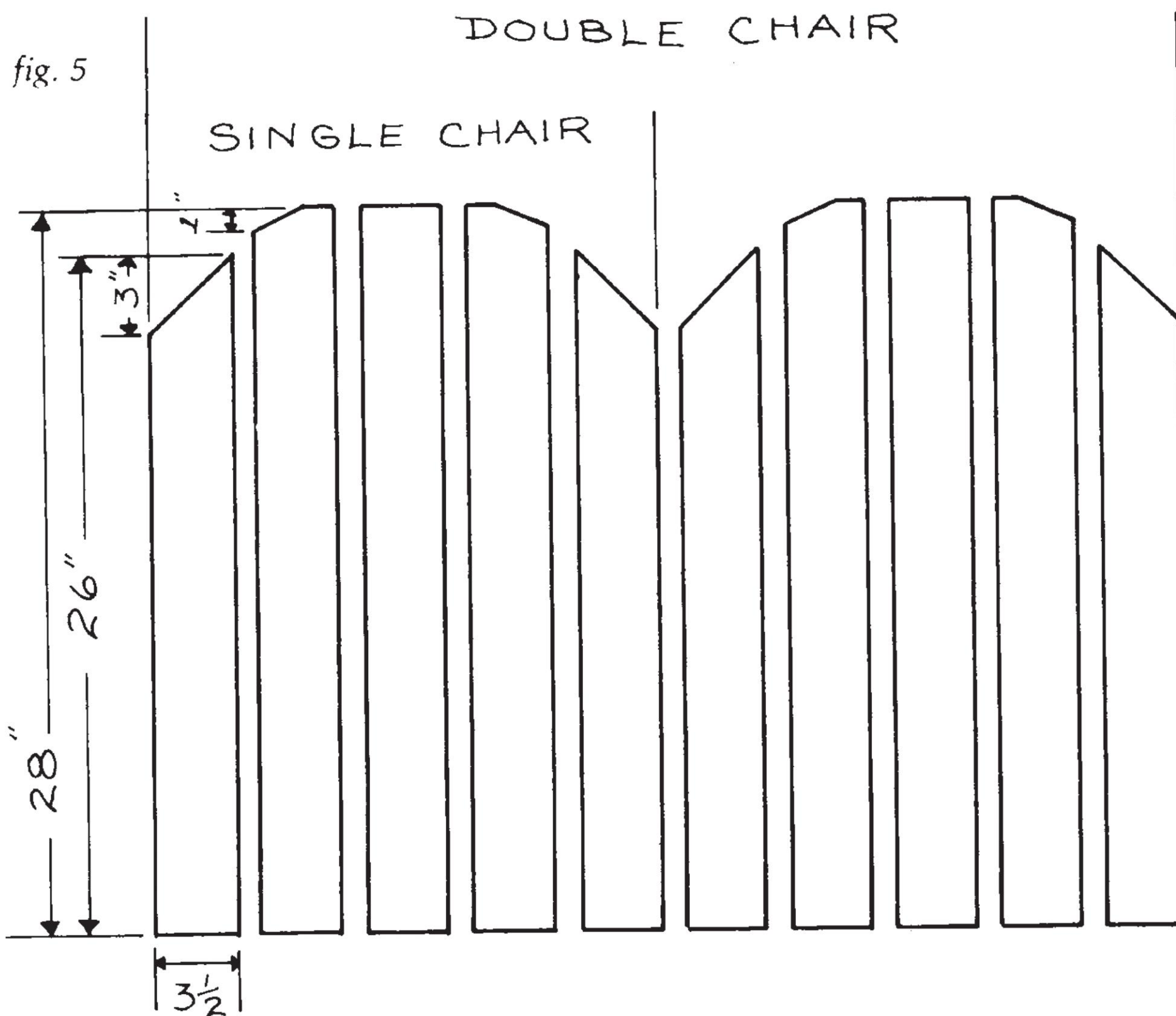


fig. 5

15. Cut out the corner notches on the $\frac{3}{4}$ " x $5\frac{1}{2}$ " x 22" front seat piece. See *fig. 7*.

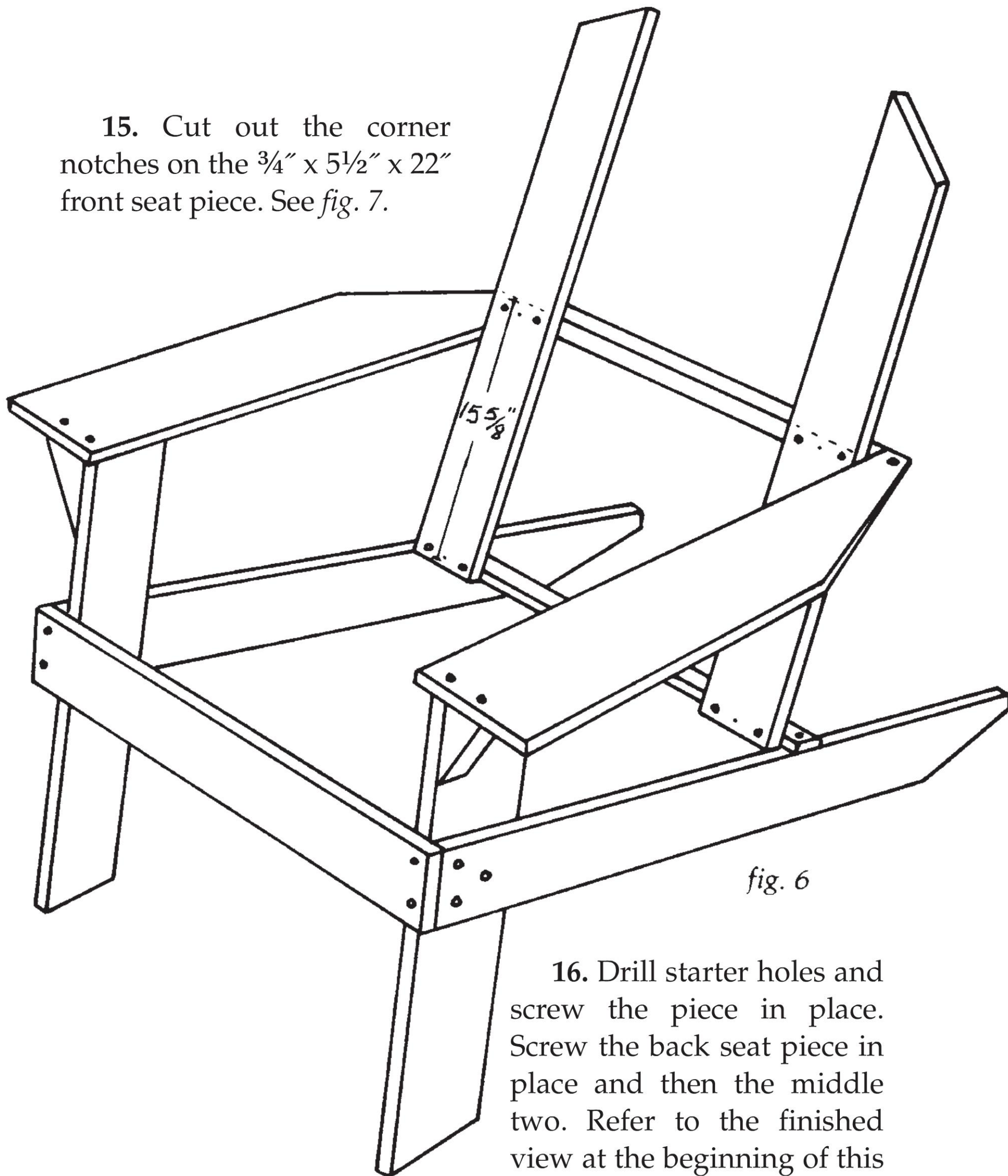


fig. 6

16. Drill starter holes and screw the piece in place. Screw the back seat piece in place and then the middle two. Refer to the finished view at the beginning of this project.

17. Sand. This chair may be stained, varnished or painted.

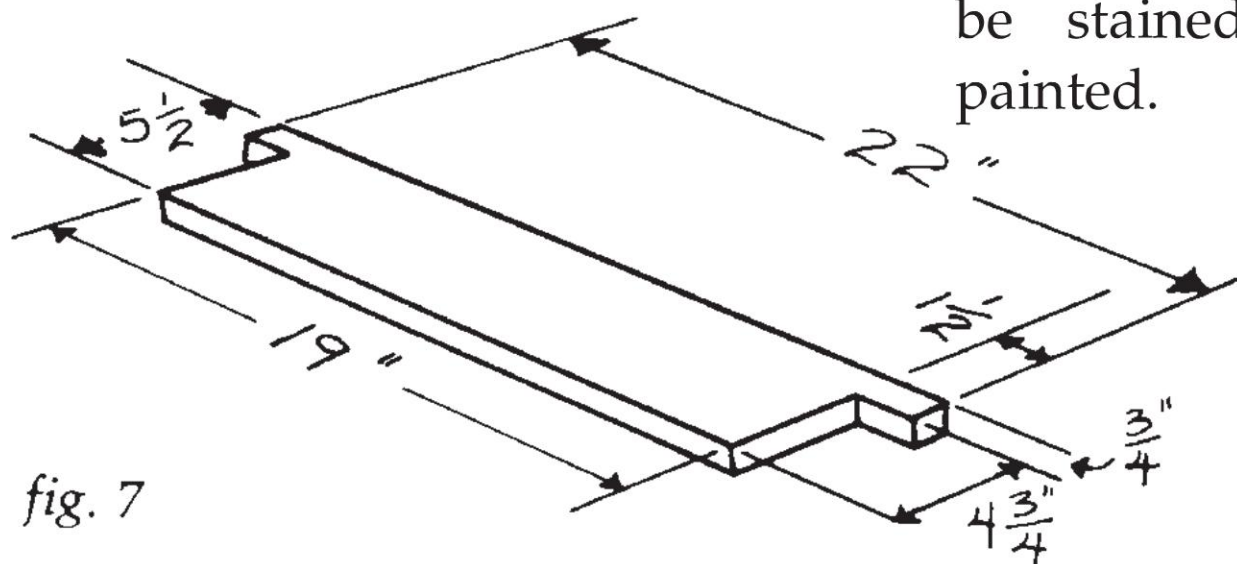
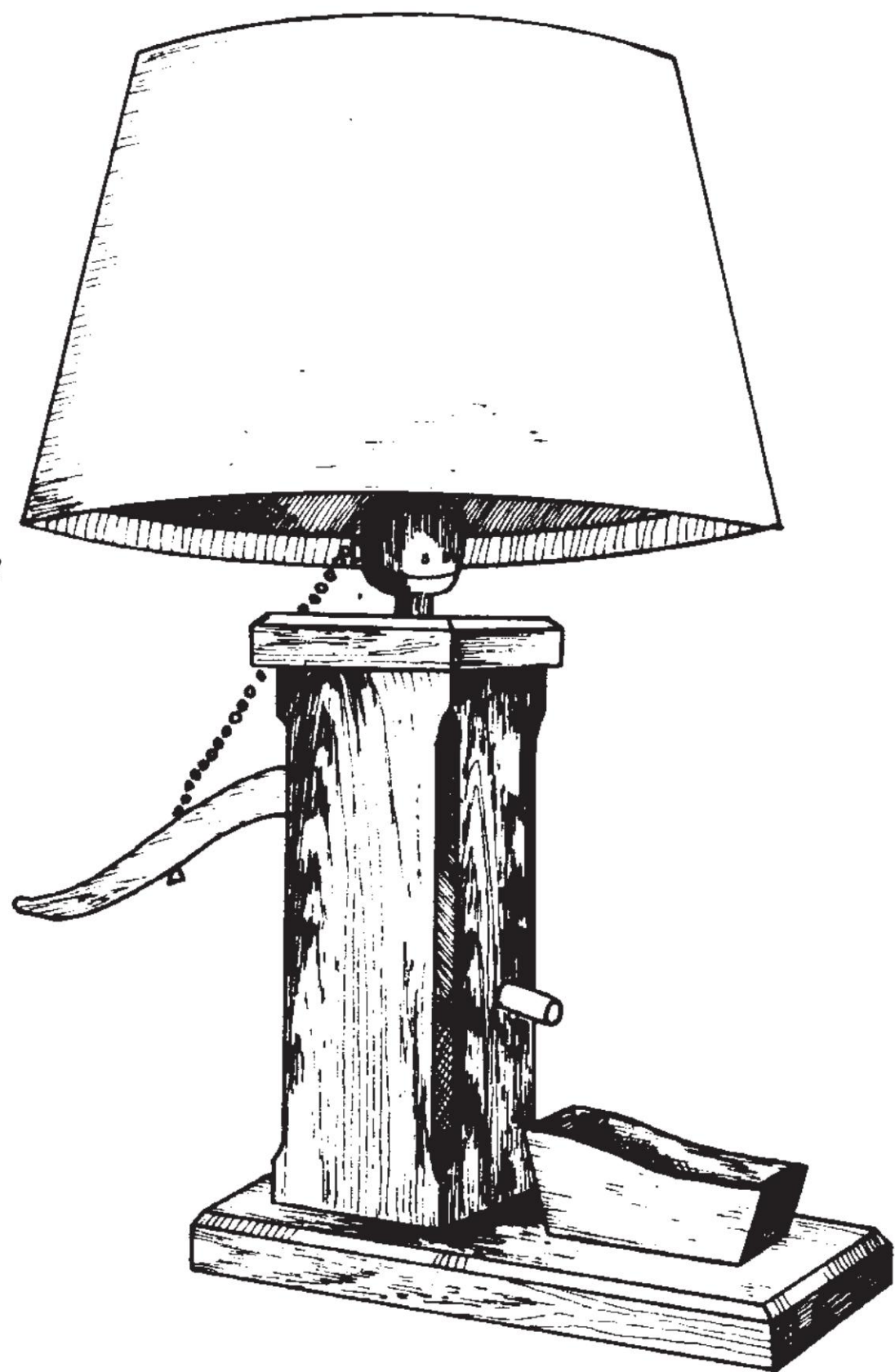


fig. 7

PUMP LAMP

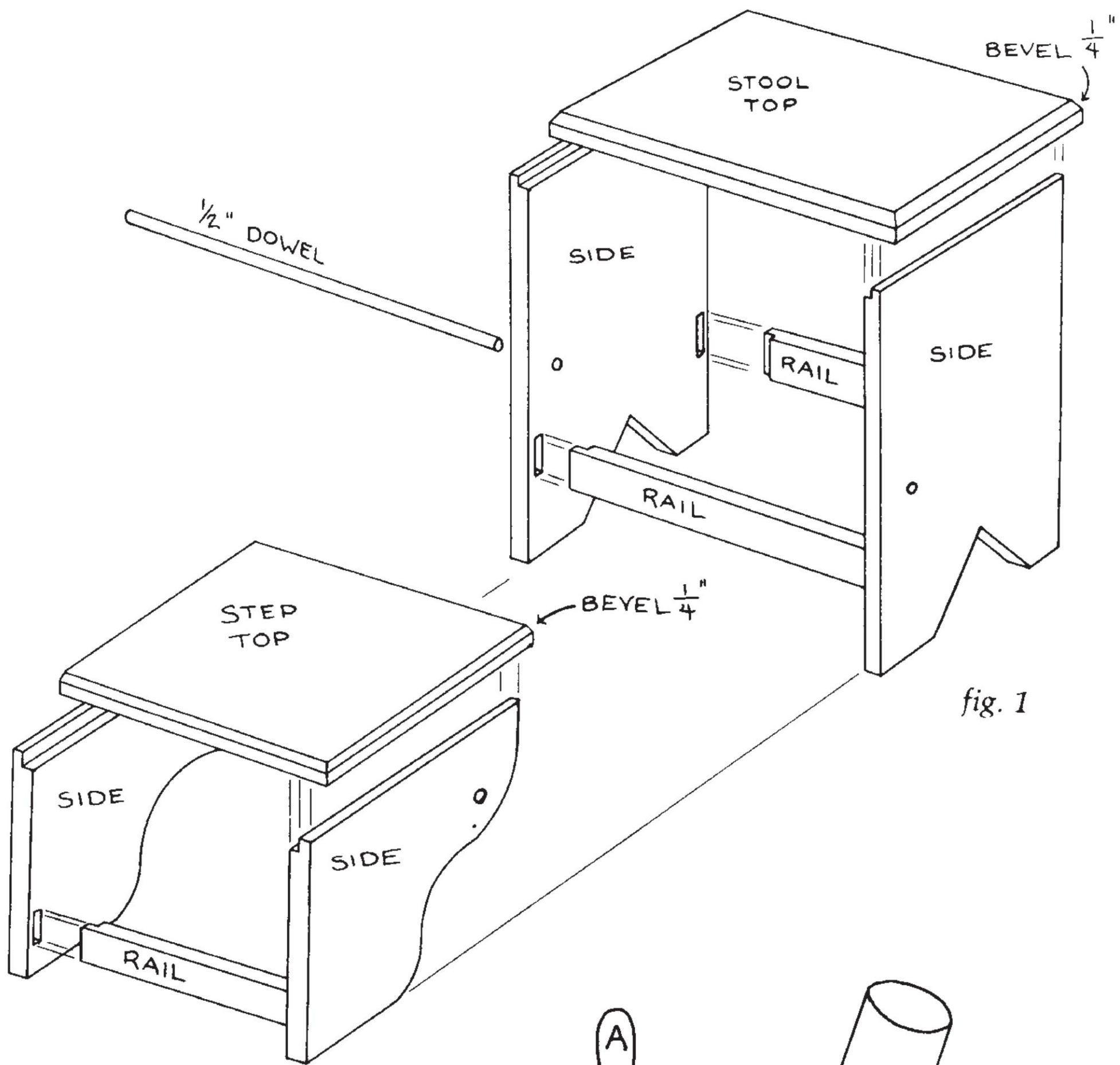
Children will love this lamp in their bedrooms, showing how the operation of the pump handle produces a flood of light.



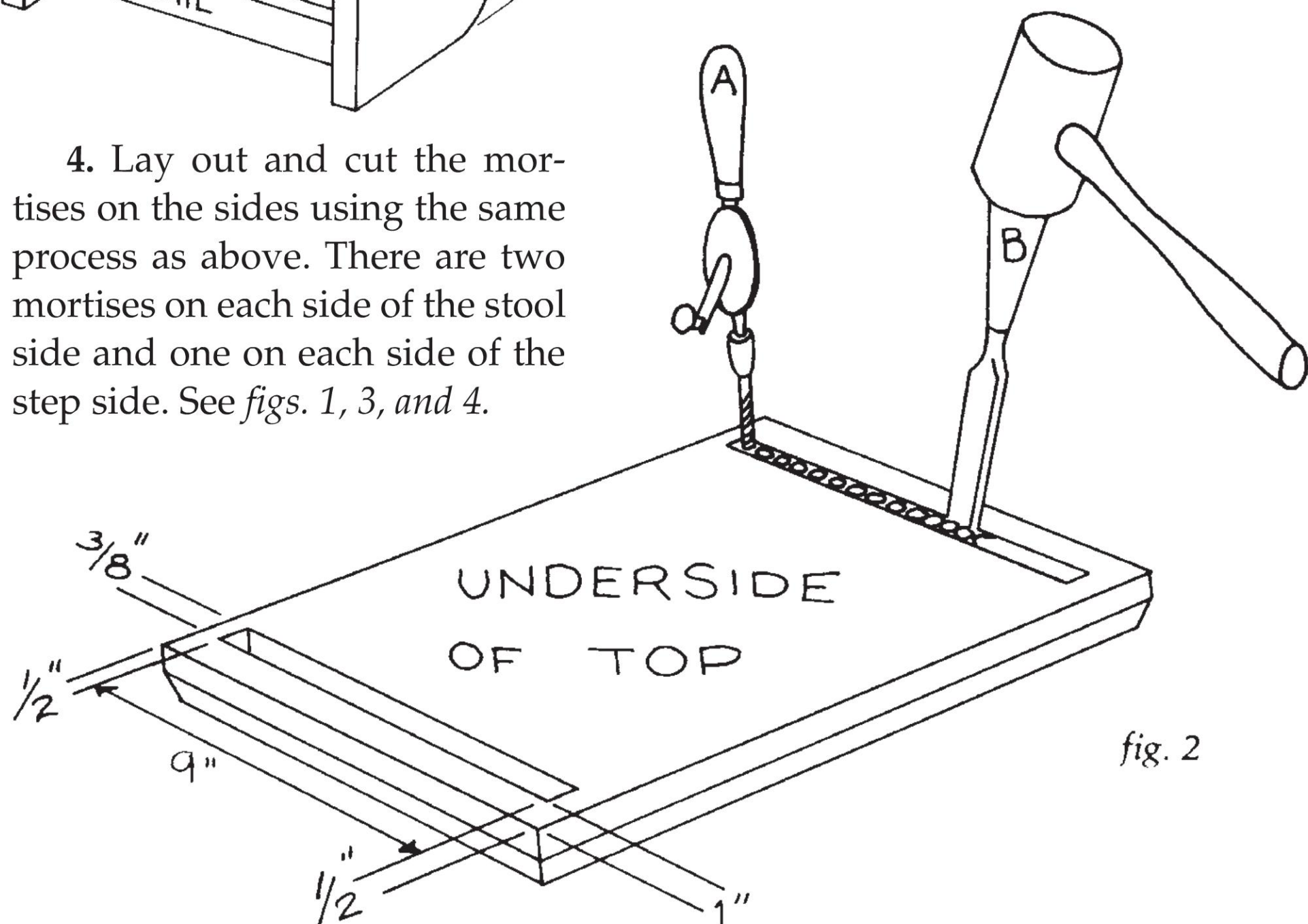
Bill of Materials

Pieces	Use	Dimensions:		
		thickness	width	length
1	base	3/4"	4 3/4"	9 1/4"
1	pump	3 1/2"	3 1/2"	8 1/4" (4x4)
1	top of pump	3/4"	4"	4"
1	pump handle	3/8"	1 1/8"	7"
2	sides of trough	1/4"	1 1/2"	4"
1	large end of trough	1/4"	1 5/8"	1 1/2"
1	small end of trough	1/4"	1 1/4"	1 1/2"
1	dowel (spout)	1/2" round x 2" long		

brass-shell pull chain socket, threaded for 1/8" pipe
continuous-threaded pipe 1/8" x 1" long
2" finish nails lamp shade
wall plug white glue
lamp cord plastic wood



4. Lay out and cut the mortises on the sides using the same process as above. There are two mortises on each side of the stool side and one on each side of the step side. See *figs. 1, 3, and 4*.



9. Glue and clamp the parts together so that they are square.

10. Lay out and drill the holes for the dowel. Drill holes in the same place on each side of the stool section first. Put the step in place checking to make sure it will fold back into the stool freely.

Mark where your holes come in on each side of the step. Drill the holes on the step side. Refer to *fig. 6*.

11. Pound the dowel through the holes.

12. Sand the project.

13. An oil, stain or paint finish is best for this project.

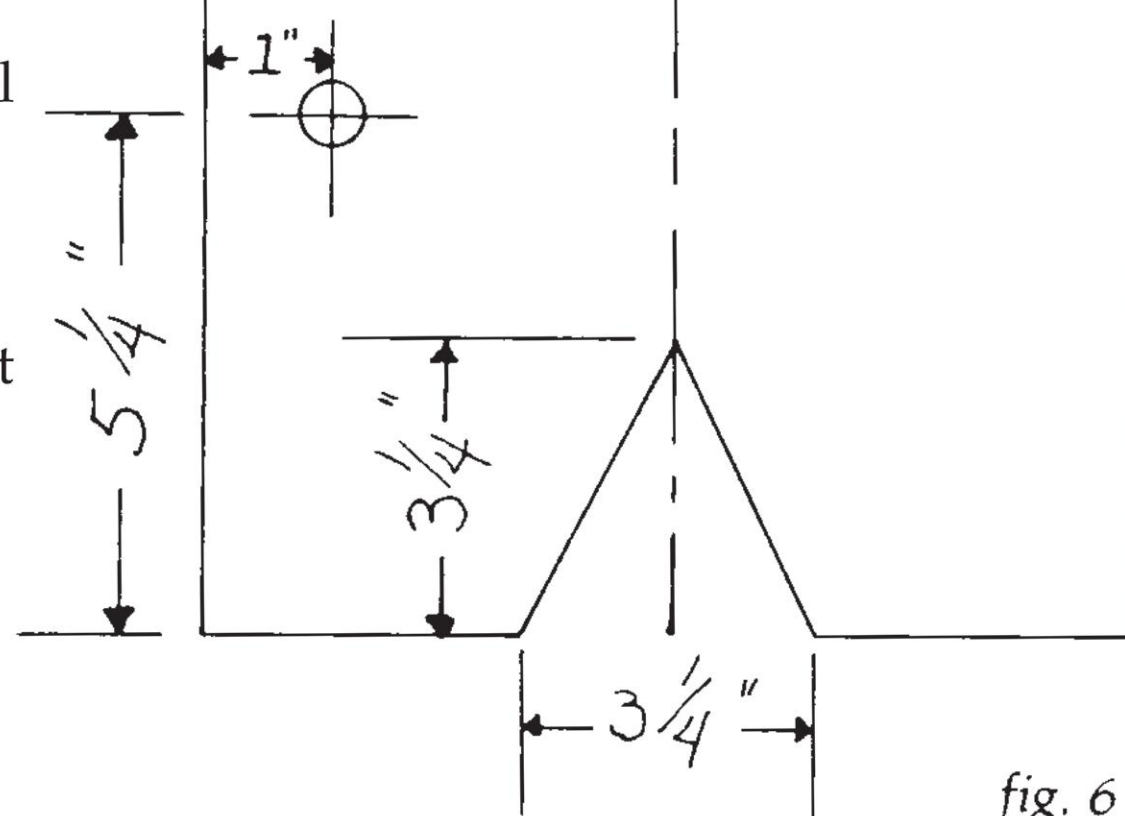


fig. 6

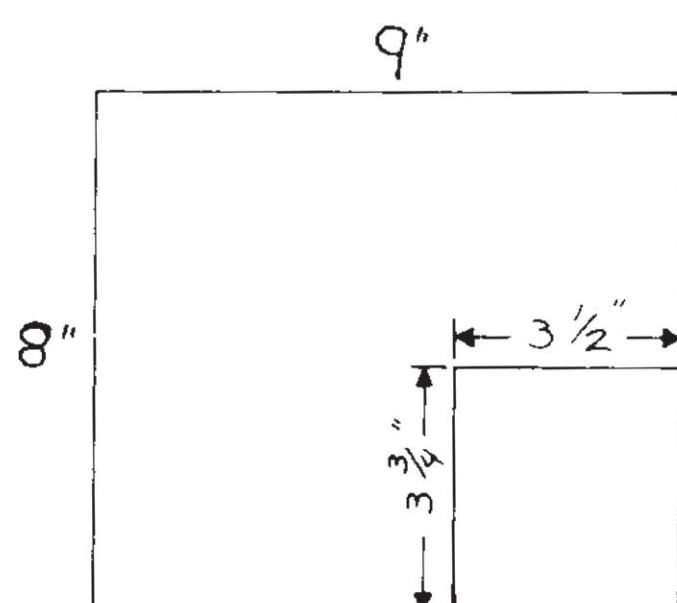


fig. 7-A

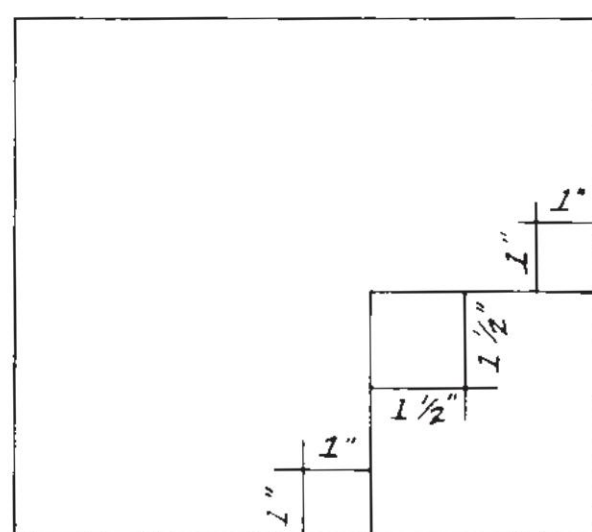


fig. 7-B

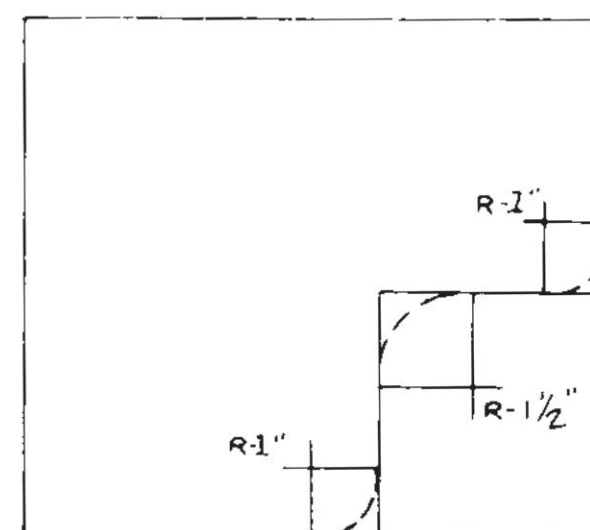


fig. 7-C

*The mission of Storey Publishing is to serve our customers
by
publishing practical information that encourages
personal independence in harmony with the environment.*

Cover design by Carol J. Jessop (Black Trout Design) and Jen Rork

© by Storey Publishing, LLC

All rights reserved. No part of this bulletin may be reproduced without written permission from the publisher, except by a reviewer who may quote brief passages or reproduce illustrations in a review with appropriate credits; nor may any part of this bulletin be reproduced, stored in a retrieval system, or transmitted in any form or by any means electronic, mechanical, photocopying, recording, or other without written permission from the publisher.

The information in this bulletin is true and complete to the best of our knowledge. All recommendations are made without guarantee on the part of the author or Storey Publishing. The author and publisher disclaim any liability in connection with the use of this information. For additional information please contact Storey Publishing, 210 MASS MoCA Way, North Adams, MA 01247.

Storey books and bulletins are available for special premium and promotional uses and for customized editions. For further information, please call 1-800-793-9396.

Printed in the United States

Baker, Cathy

Building simple furniture / by Cathy Baker

A Storey Publishing Bulletin, A-6

ISBN 0-88266-180-9

