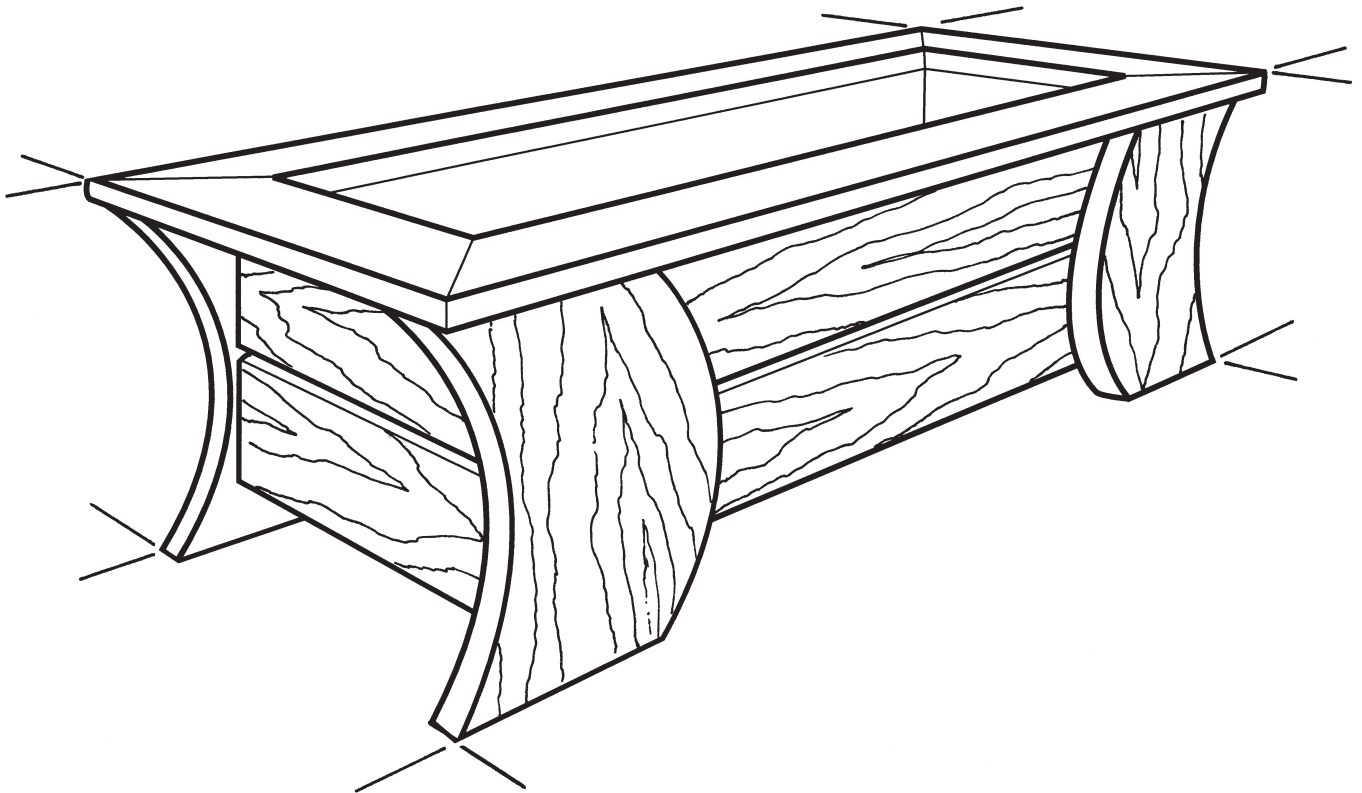


WOODWORKS: INTERMEDIATE PROJECT PATIO PLANTER



This planter is designed to make patio or deck gardening much easier. Instead of just filling the well with dirt and putting in individual flowers or plants, you can simply use pre-potted plants. That makes it easy to change plants as the seasons turn or unload the planter and move it to a new location.

- We designed this piece to hold pots up to 11" dia. and 10-1/2" high. To create the illusion of a dirt-filled planter, you can fill in around the pots with wood chips, bark or other mulch. The base or bottom of the planter has 7/8" holes drilled every 6" to drain away water. The sideboards have a 1/4" space between them to ventilate the mulch and keep it from getting soggy.
- The planters can be built in two different lengths, but you can also adapt them to meet any size requirement. You can even change the width by nailing a pressure-treated 2 x 2 to the side of the 2 x 12 base to accommodate a slightly wider pot.

This project gives intermediate woodworking students the opportunity to complete a sizeable project while employing such skills as measuring, templating, crosscutting and assembly with screws. Since these planters can be made to fit a particular space, this project is also a good exercise in custom-sizing.

TOOLS REQUIRED

Hand Tools

- 12" Speed Square (as cutting guide with circular saw)
- Block plane
- Bar clamps
- Hammer
- Tape measure

Power Tools

- Jigsaw
- Circular saw or table saw
- Electric drill with pilot/countersink bit and 7/8" wood boring bit
- Power screwdriver

Miscellaneous

- Pencil
- Safety glasses
- Exterior wood glue
- Gloves for finishing
- Sandpaper
- Masking tape
- Clean, lint-free cloths
- Mineral spirits (for oil-based finishes)
- Water-filled metal container with tight-fitting lid
- Exterior paint pad, brush or roller

SHOPPING LIST

Large Planter	
Item	Quantity
2 x 12 pressure-treated pine	1 @ 10'
2 x 6 cedar	2 @ 8', 1 @ 6'
5/4 x 6 cedar	2 @ 8'
Small Planter	
Item	Quantity
2 x 12 pressure-treated pine	1 @ 8'
2 x 6 cedar	3 @ 6'
5/4 x 6 cedar	1 @ 12'
Either Planters	
Item	Quantity
2-1/2" deck screws	24
3" deck screws	28
8d galvanized finish nails	24

NOTE: The wood for this project should be a naturally rot resistant species, such as cedar or redwood, especially for the exposed parts. Hidden parts can be less expensive pressure-treated pine or construction-grade boards.

WOOD FINISHING PRODUCTS

Recommended Finish

Thompson's® Water Seal™ Deck & House Latex or Oil Stain. Available in 117 solid and semi-transparent colors in both latex and oil formulas for the legs and apron and Thompson's® Water Seal® Clear Wood Protector for the body.

CUTTING LIST

Large Planter			
Key	Pcs.	Part	Size
A	4	Treated pine legs	1-1/2" x 11-1/4" x 13"
B	1	Treated pine base	1-1/2" x 11-1/4" x 47-1/2"
C	4	Cedar side panels	1-1/2" x 5-1/2" x 47-1/2"
D	4	Cedar end panels*	1-1/2" x 5-1/2" x 14-1/4"
E	2	Cedar side aprons*	1-1/16" x 4-1/2" x 56-3/4"
F	2	Cedar end aprons*	1-1/16" x 4-1/2" x 20-1/4"
Small Planter			
Key	Pcs.	Part	Size
A	4	Treated pine legs	1-1/2" x 11-1/4" x 13"
B	1	Treated pine base	1-1/2" x 11-1/4" x 35-1/2"
C	4	Cedar side panels	1-1/2" x 5-1/2" x 35-1/2"
D	4	Cedar end panels*	1-1/2" x 5-1/2" x 14-1/4"
E	2	Cedar side aprons	1-1/16" x 4-1/2" x 44-3/4"
F	2	Cedar side aprons*	1-1/16" x 4-1/2" x 20-1/4"

*Lengths are approximate. Cut these pieces to fit.

Alternate Finish

Thompson's® Water Seal® Tinted Wood Protector. Available in five colors: Honey Gold, Natural Cedar, Rustic Red, Nutmeg Brown and Coastal Gray.

BEFORE YOU BEGIN

Good craftsmanship begins and ends with good work habits, so make the following steps part of your routine workshop practice. If you have any doubts or questions about how to proceed with a project, always discuss them with your shop instructor.

- Carefully and fully review plans and instructions before putting a tool to the project lumber.
- Work sensibly and safely. Wear safety goggles when doing work that creates flying chips and sawdust; wear the appropriate respirator whenever making sawdust or working with thinners or other solvents.
- At the end of every work session, clean up your shop area and put away all portable tools.

CUTTING AND ASSEMBLY PROCEDURE

1. With a piece of cardboard, make a full-size template for the legs (A) from a 400% enlargement of Figure B. Trace the template outline onto the pressure-treated 2 x 12. Sand the edges with a finish or belt sander followed by 100-grit hand sanding to ease the edges.

2. To make the cedar side and end panels (C and D), make crosscuts with a circular saw using the Speed Square as a guide. Hold it firmly against the back of the 2 x 6.

3. Plane chamfers on the edges where the side and end panels meet, at the lower edge of the upper end panel (D) and the upper edge of the lower end panel (D). Similarly, plane chamfers at the lower edge of the upper side panel (C) and the upper edge of the lower side panel (C). These chamfers should be about 3/8" wide when completed.

Woodworker's Tip: *Clamp a board to the edge of your workbench to stop the work piece from drifting while you stroke the edge of the board with the block plane.*

NOTE: Before assembling the planter, you will get neater results with the recommended finish by staining the legs and apron pieces with the latex or oil stain first and then applying the Clear Wood Protector to the side and end panels. See FINISHING TIPS.

4. Cut the 2 x 12 base (B) to length, then screw the lower side panels to the edges aligning the base and sides so they're flush on the bottom face. Pre-drill for each screw using a pilot/countersink combination bit. Then screw the ends to the sides with 3" deck screws.

5. Shim the base up 1-3/4" on each side using scrap pieces of wood, then clamp the legs one at a time to the sides. Screw the lower sides to the legs from the inside with 2-1/2" deck screws. Use three screws per leg.

6. Clamp the upper sides flush to the tops of the legs. Be sure to align the upper and lower side ends before drilling and screwing these pieces in place. Again, use three 2-1/2" deck screws per leg. Next, screw the upper end panels (D) to the upper sides. Make sure the chamfers face each other on each side.

7. Rip (saw wood along the grain) the 5/4 x 6 deck boards to 4-1/2" wide to make the top apron frame. Use a table saw or a circular saw with a rip guide. Plane and sand the cut edge to match the factory-machined edges. Cut pieces (E) and (F) to length, making sure to miter the ends.

8. Glue and nail the side apron pieces (E) flush with the side panels. Then glue and nail the end apron pieces (F) to the end panels. You'll notice the inside edge of F will be about 1/4" out from the inside of the planter to adequately cover the tops of the legs. Drill the 7/8" drain holes in the planter bottom; space them apart about every 6 inches.

PROTECTING YOUR PROJECT

Any type of wood that's used outdoors needs protection from water damage. The two finishing options for this project not only provide ample protection but also liven the wood with your choice of many colors. The recommended finish combines Thompson's® Water Seal™ Deck & House Latex or Oil Stain with Thompson's® Water Seal® Clear Wood Protector; for the alternate finish you can use Thompson's® Water Seal® Tinted Wood Protector. Both exceed industry standards for waterproofing on wood and also provide optimum protection from mildew and from ultraviolet (UV) damage that comes from the sun's radiation.

Woodworker's Tip: *Be sure to choose a waterproofer that claims to exceed industry standards for waterproofing on wood.*

FINISHING TIPS

- When you apply Clear or Tinted Wood Protector, do not mix it with other waterproofing products because variations in the final appearance of the surface being treated may result. Also, do not thin these products.
- Coverage: The approximate coverage of oil or latex stain on smooth wood is 250 to 300 square feet per gallon. The approximate coverage of Clear Wood Protector on cedar is 300 to 400 square feet per gallon. A gallon of Tinted Wood Protector will cover about 250 to 300 square feet.

Recommended Finish:

If you want distinctive color along with excellent protection, use Thompson's® Water Seal™ Deck & House Latex or Oil Stain, both of which come in solid and semi-transparent formulations and are available in 117 ready- and custom-mixed colors. In this project, we chose a two-tone look by using a combination of Thompson's® Water Seal™ Deck & House Latex or Oil Stain with Thompson's® Water Seal® Clear Wood Protector, which marries color with the wood's natural beauty.

9. Before applying the latex or oil stain, read and follow the directions found on the back of the can. To ensure good penetration, do not apply in direct sunlight or on hot days. Be sure that both surface and air temperature are above 50° F and below 95° F during application and for 48 hours after application, and do not apply product if rain is forecast within 24 hours of application.

10. The surface must be free of all mildew, dust, dirt, oil, soot, grease and other contaminants. If the surface is damp or wet from cleaning or weather, allow the surface to dry completely (a minimum of 48 hours) before application. Shake or mix thoroughly before application; mechanical shaking is recommended.

11. Since in-store color samples may vary slightly when stain is applied to wood (based on color, texture, grain, porosity and type of wood), apply the stain to a small test area and let it dry to determine final color before proceeding with the entire project.

12. Apply stain with an exterior paint pad, brush or roller. When rolling, be sure to go back and brush-in stain to ensure even coverage. When using a pad or brush, keep the leading edge wet and distribute stain evenly. This will help avoid lap marks and keep color uniform.

13. Use only with adequate ventilation. Oiliness and tackiness will result if over-applied or applied to wet or damp surface or if overnight temperature falls below 50° F within 48 hours of application. Excessive oiliness caused by over-application may be removed by scrubbing wood with a concentrated degreaser.

14. Work from top to bottom or side to side in areas small enough to allow the leading edge to remain wet at all times during application. Use natural breaks as boundaries to divide large areas into more manageable work areas.

15. One coat of stain is recommended, but a second coat can be added if desired. Allow the first coat to dry thoroughly (approximately 4 hours for latex, 24 hours for oil) before second application. Drying time will vary depending on the substrate, temperature and humidity.

16. For oil-base stain, clean brushes and equipment with mineral spirits, then rinse with clean water. For latex stain, clean brushes and equipment with soap and water.

17. To apply Thompson's® Water Seal® Clear Wood Protector to the body, follow the directions given for the alternate finish.

Alternate Finish:

18. For a traditional one-tone color finish, before applying Thompson's® Water Seal® Tinted Wood Protector over the entire surface, a small trial patch is recommended to determine the desired look.

19. In most applications, only one light coat is necessary. Apply with a brush, roller or by dipping the piece into the product following directions on the can. Regardless of which application method is used, remove excess within 15 minutes by redistributing it to drier areas or wiping it off.

20. Use only with adequate ventilation. Oiliness and tackiness will result if over-applied or applied to wet or damp surface or if overnight temperature falls below 50° F within 48 hours of application. Excessive oiliness caused by over-application may be removed by scrubbing wood with a concentrated degreaser.

21. Allow at least 48 hours to dry. Drying time will vary depending on the substrate, temperature and humidity.

22. Clean brushes and equipment with mineral spirits, then rinse with clean water.

NOTE: The length of protection will vary depending on environment. Perform the splash test once a year to see whether reapplication is necessary. For maximum protection from color change and other damage caused by the sun, reapplication is recommended every year. Vertical and horizontal surfaces will experience color changes at different rates.

Woodworker's Tip: *Unsure if you need to protect? Perform the splash test. Sprinkle water on various sections of surface to be sealed. If water absorbs and darkens color of substrate within 5 seconds, the surface is porous and considered ready to be treated. If water beads up or otherwise sits on top of surface, the surface doesn't need protection at this time.*

IMPORTANT: Place rags, steel wool and waste immediately after use in a sealed, water-filled metal container.

PRODUCT SAFETY

For your safety and the safety of those you work with, always read the safety warnings, which manufacturers print on their labels, and follow them to the letter. Typical safety advice and instructions will contain information such as the following:

WARNING! Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.

Contents are **COMBUSTIBLE**. Keep away from heat and open flame.

Contains **ALIPHATIC HYDROCARBONS**.

VAPOR HARMFUL. Use Only With Adequate Ventilation. To avoid overexposure, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air supply, or wear respiratory protection (NIOSH/ MSHATC23C or equivalent) or leave the area. Avoid contact with eyes and skin. Wash hands after using. Keep container closed when not in use. Do not transfer contents to other containers for storage.

FIRST AID: In case of eye contact, flush thoroughly with large amounts of water for 15 minutes and get medical attention. For skin contact, wash thoroughly with soap and water. In case of respiratory difficulty, provide fresh air and call physician. If swallowed, get medical attention immediately.

DELAYED EFFECTS FROM LONG-TERM OCCUPATIONAL EXPOSURE.

Contains solvents that can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

DO NOT TAKE INTERNALLY. KEEP OUT OF THE REACH OF CHILDREN.

SAFE DISPOSAL OF RAGS AND WASTE.

Rags, steel wool or waste soaked in Thompson's® Water Seal® Tinted Wood Protector may spontaneously catch fire if improperly discarded. Immediately after use, place rags, steel wool or waste in sealed, water-filled metal container. Dispose of in accordance with local fire regulations.

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FIG A. PATIO PLANTER (LARGE)

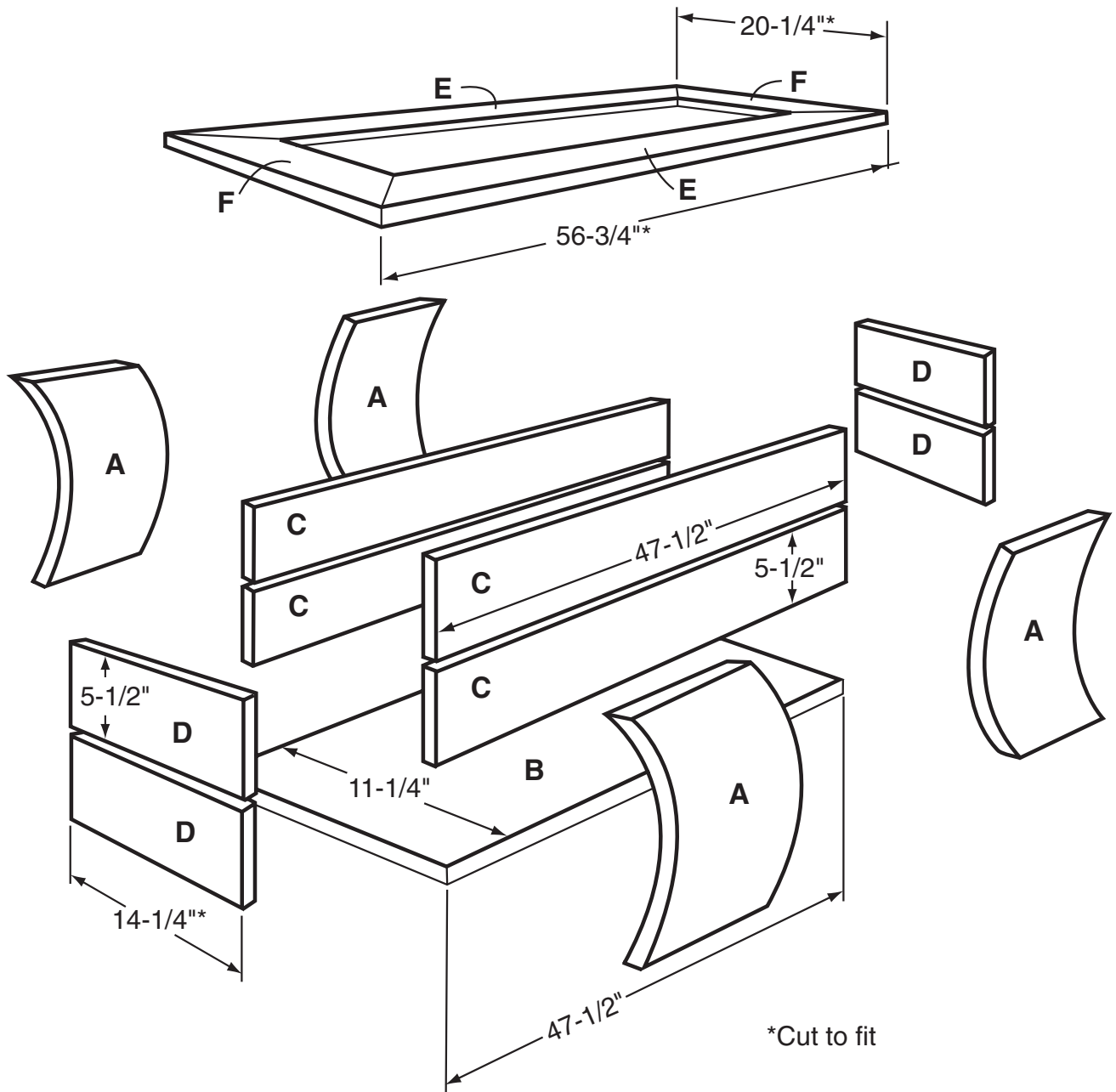
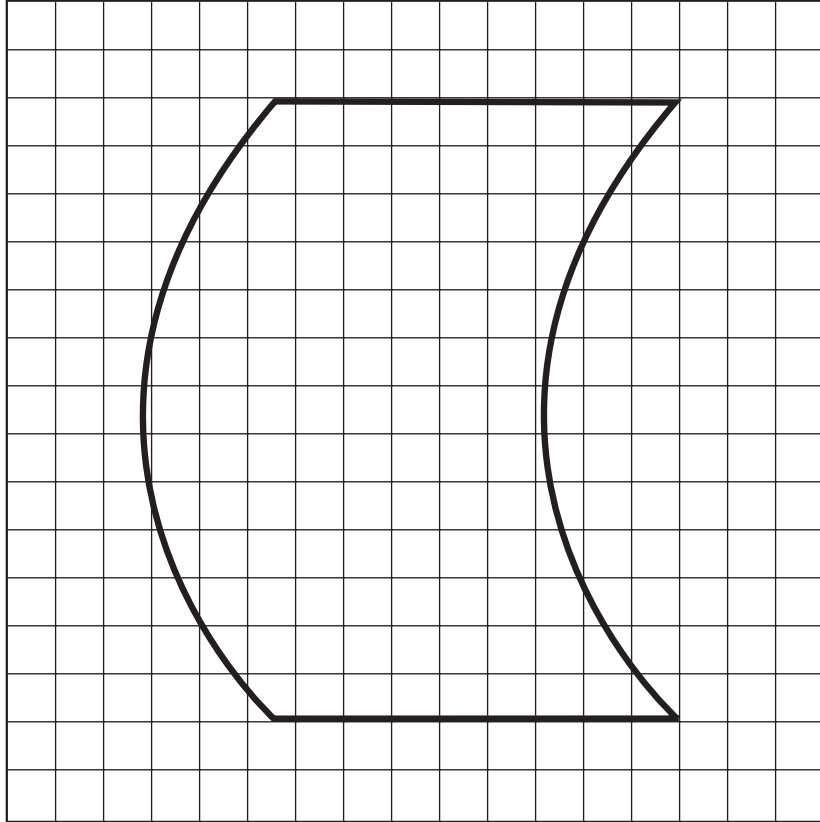


FIG B. SCALED TEMPLATE OF THE LEG



For actual size, enlarge 400%. One square equals 1 inch.